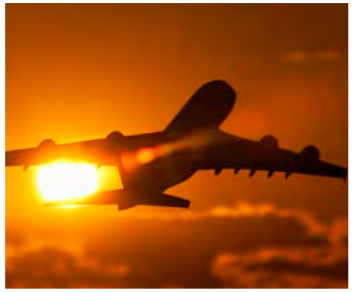
ACTIVE TRANSPORTATION APPENDIX









REGIONAL TRANSPORTATION PLAN
2012–2035
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future
RTP











Southern California Association of Governments

ADOPTED APRIL 2012

ACTIVE TRANSPORTATION

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The Southern California Association of Governments (SCAG) is the nation's largest metropolitan planning organization (MPO) representing six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 191 cities. The 2012–2035 Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS) seeks to develop a comprehensive and interconnected network of bicycle and pedestrian facilities throughout the region to increase transportation options, so that bicycling and walking become more practical and desirable choices for travel. Increasing bicycling and walking within the region will assist in reducing road congestion, enhancing public health, and improving air quality. The RTP supports Active Transportation through the development of bicycle and pedestrian policies.

Active Transportation refers to transportation such as walking or using a bicycle, tricycle, velomobile, wheelchair, scooter, skates, skateboard, push scooter, trailer, hand cart, shopping car, or similar electrical devices. For the purposes of this report, Active Transportation will generally refer to bicycling and walking, the two most common methods. Walking and bicycling are essential parts of the SCAG transportation system, are low cost, do not emit greenhouse gases, can help reduce roadway congestion, and increase health and the quality of life of residents. As the region works towards reducing congestion and air pollution, walking and bicycling will become more essential to meet the future needs of Californians

The strategies established by the Active Transportation Chapter will adhere to the following goals and objectives:

- **Goal 1:** Increase dedicated funding for bicycle and pedestrian infrastructure.
  - **Objective 1.1:** Develop a Constrained Plan that analyzes existing funding and provides quantitative support for future funding requirements.
  - **Objective 1.2:** Estimate the benefits of current investments to analyze future funding needs.
- **Goal 2:** Increase accommodation and planning for bicyclists and pedestrians.
  - **Objective 2.1:** Include a Strategic Plan that includes additional investments needed to develop a comprehensive and interconnected network of bicycle and pedestrian facilities throughout the region.
  - **Objective 2.2:** Estimate project costs associated with this vision.
  - **Objective 2.3:** Estimate the benefits of these investments.
  - **Objective 2.4:** Support local jurisdictions with the development of their local plans.
- **Goal 3:** Increase transportation options, particularly for trips less than three miles.
  - **Objective 3.1:** Increase linkages between bicycling and walking with transit.
  - **Objective 3.2:** Examine bicycling and walking as an integral part of a congestion/transportation management tool (e.g. Safe Routes to School).
- **Goal 4:** Significantly decrease bicycle and pedestrian fatalities and injuries.
  - **Objective 4.1:** Address actual and perceived safety/security concerns that prohibit biking and walking from being considered as viable mode choices.

The following sections will illustrate the existing conditions, identify potential opportunities and provide recommendations that may assist in achieving a more bicycle and pedestrian friendly region. The policies and recommendations established by this Active Transportation chapter can also assist local jurisdictions and agencies in the development of more comprehensive policies that improve public health, safety, and welfare.

Existing Conditions

Physical Setting

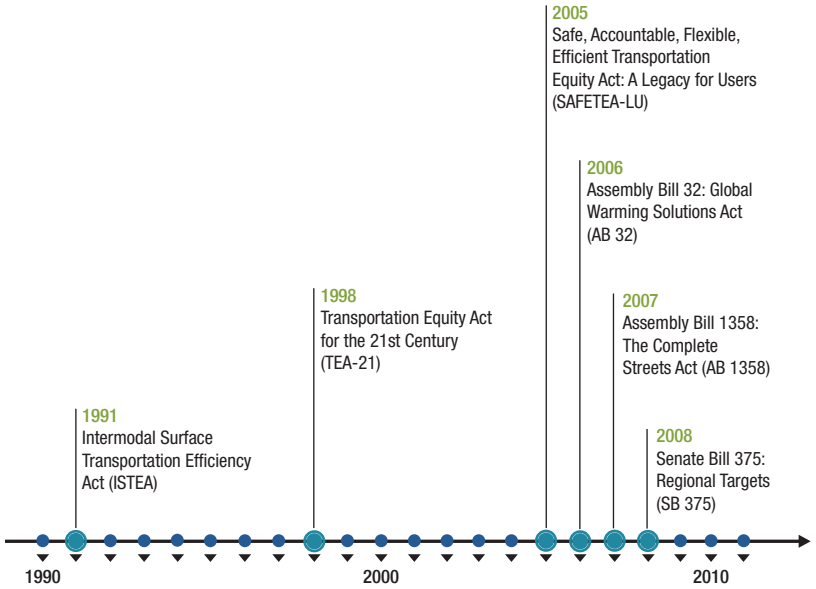
The climate in the SCAG region varies by location. The western Los Angeles Basin, Ventura County and western Orange County experience marine climates, cool ocean breezes and moderate average temperature variations. The inland areas within the region are comprised of more arid climates with more significant temperature variations throughout the day. Rainfall in the SCAG region typically averages only 30 days per year, which provides ideal conditions for walking and bicycling. The majority of the western portion of the region is highly developed with suburban areas, with some areas of dense urbanization. The inland areas of the region are becoming developed with significant suburbanization and pockets of urban development, but are primarily undeveloped or designated as national and state parkland.

Political Environment

Recent shifts in the political environment have increased support for Active Transportation (please see **FIGURE 1** Legislative Timeline). The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) challenged officials to make "bicycles a more viable part of the transportation network." The Transportation Equity Act for the 21st Century (TEA-21) provided additional Federal funds for surface transportation, such as pedestrian

walkways, until 2003. The Act also extended the Disadvantaged Business Enterprises program and created new incentives for bicycle and pedestrian safety and educational programs. TEA-21 continued to research new transportation systems and "ensure[d] the consideration of bicyclists and pedestrians in the planning process and facility design." Safe, Accountable Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) increased funding for non-motorized transportation. SAFETEA-LU also established the Safe Routes to School (SRTS) program to "enable and encourage primary and secondary school children to walk and bicycle to school" and to support infrastructure-related and behavioral projects that are "geared toward providing a safe, appealing environment for walking and bicycling that will improve the quality of our children's lives and support national health objectives by reducing traffic, fuel consumption, and air pollution in the vicinity of schools."

FIGURE 1 Legislative Timeline



At the State level, Assembly Bill 32 (AB 32) and Senate Bill 375 (SB 375) were established to reduce greenhouse gas emissions. AB 32, enacted in 2006, directed the California Air Resource Board (CARB) to develop early actions to reduce greenhouse gases and to prepare a scoping plan to identify specific strategies to meet the 2020 limit. SB 375, enacted in 2008, focuses on reducing greenhouse gas (GHG) emissions generated by cars and light trucks and requires SCAG to develop a Sustainable Community Strategies (SCS) for the region. The new law also provides incentives for local jurisdictions and developers to implement new land use development strategies that would help reduce GHGs. Some of these strategies include non-motorized transportation strategies. The Complete Streets Act of 2008 (AB 1358) required cities and counties to incorporate the concept of Complete Streets in their general plan updates to ensure that transportation plans meet the needs of all users. SCAG has also adopted similar strategies in the 2012 RTP and has the opportunity to provide information and resources to support local cities and counties as they implement Complete Streets strategies within their jurisdictions.

Existing Plans

All six of the counties within the SCAG region have developed their own bicycle and pedestrian plans. All local bicycle/pedestrian plans finalized by September 30, 2011 are considered part of the SCAG Active Transportation Plan.

IMPERIAL COUNTY

In 2003, Imperial County developed a Bicycle Master Plan, which was adopted by its Board of Supervisors in 2007. The guiding vision of the plan is to "encourage and promote bicycling as a safe and convenient form of transportation and recreation achieved through engineering, education, enforcement, and encouragement." Imperial County is currently working on updating their Bicycle Master Plan, which is anticipated to be completed by the end of 2011. The proposed plan is anticipated to implement 374.4 miles of bikeways at an estimated cost of $6.4 million.

LOS ANGELES COUNTY

The Los Angeles County Metropolitan Transportation Authority (Metro) developed a Bicycle Transportation Strategic Plan (BTSP) in 2006 to be used by "the cities, the County of Los Angeles and transit agencies in planning bicycle facilities around transit and

setting priorities that contribute to regional improvements. The goal is to integrate bicycle use in transportation projects." In addition, Metro also created a Bicycle Transportation Account Compliance Document (BTA Document) to provide an "inventory and mapping of existing and proposed facilities, and an estimate of past and future expenditures for bicycle facilities."

The Los Angeles County Department of Public Works released a draft of their revised Bicycle Master Plan in February 2011, which was developed with the over arching goal of increasing "bicycling throughout the County of Los Angeles through the development and implementation of bicycle-friendly policies, programs, and infrastructure." The plan recommends the development of an interconnected network of bicycle corridors, with approximately 695 miles of bikeway facilities at a proposed cost of $284.8 million.

In addition Metro has developed a Long Range Transportation Plan that includes all of the regional bike trail projects that were identified in the BTSP as well as the Arroyo Seco Bike Trail, Compton Creek Bike Trail, Dominquez Channel Bike Trail, and the San Jose Creek Bike Trail Phase 2B.

ORANGE COUNTY

The 2009 Orange County Transportation Authority (OCTA) Commuter Bikeways Strategic Plan was developed "to encourage the enhancement of Orange County's regional bikeways network, in order to make bicycle commuting a more viable and attractive travel option." The plan identifies approximately 116 miles of priority bikeway projects, estimating $71.5 million; and is expected to be updated for 2014.

The strategic plan of the Orange County Long Range Transportation Plan also includes advanced active transportation treatments at key intersections within the Central County Major Investment Study (MIS) study area. On January 23, 2012, the OCTA Board of Directors directed staff to work with local agencies to develop the Orange County Bikeway program for strategic corridor planning, developing detailed development implementation plans, and construction of high priority projects. The goal of the program is to take advantage of grant funding opportunities by developing shelf'ready projects along regaionl bikeway corridors.

RIVERSIDE COUNTY

The Western Riverside Council of Governments (WRCOG) and the Coachella Valley Association of Governments (CVAG) have developed Non-Motorized Transportation Plans in 2010 for their respective jurisdictions covering most of Riverside County. WRCOG's 2010 Non-Motorized Transportation Plan proposes the development of over 440 miles of bikeways in order to provide a "regional backbone network of bicycle and pedestrian facilities to provide enhanced transportation mobility options." The 2010 CVAG Non-Motorized Transportation plan recognizes the "value of providing opportunities for local residents and visitors to bicycle for work and recreation, as well as to use off-road trails for hiking, equestrians and jogging."

One innovative project is Parkway 1e11, a proposed 54-mile grade separated bicycle / pedestrian / neighborhood electric vehicle path in the Coachella Valley connecting Desert Hot Springs to Palms Springs to Coachella and the cities in-between. The Parkway, in the preliminary planning stages, will provide an alternative transportation corridor to State Route 111. In addition, by the inclusion of neighborhood electric vehicles, it provides additional mobility as well as access to activities for active senior citizens. Once completed the parkway will become part of the regional bikeway Network alignment through the Coachella Valley.

SAN BERNARDINO COUNTY

The 2011 San Bernardino County Non-Motorized Transportation Plan's goals include: 1) improving pedestrian access to transit; 2) removing existing barriers to pedestrian travel; 3) developing regional trails and pathways, which provide improved pedestrian access to destinations; and 4) improving the pedestrian environment on major regional arterials and at regional activity centers.

VENTURA COUNTY

The 2007 Ventura County Bicycle Master Plan "provides a broad vision, strategies and actions for the improvement of bicycling" by maximizing funding sources for implementation; improving safety and encouraging cycling; expanding the network and support facilities; and enhancing the quality of life in Ventura County. The combined cost of the identified projects in the Ventura County Bicycle Master Plan is approximately $93.1 million

TABLE 1 County Active Transportation Plans

County	Plan	Adopted
Imperial	Imperial County Bicycle Master Plan	2007
Los Angeles	Metro Bicycle Master Plan	2006
	Department of Public Works 2011 Bicycle Master Plan	2011
Orange	Commuter Bikeways Strategic Plan	2009
Riverside	CVAG Draft Non-Motorized Transportation Plan	2010
	WRCOG Non-Motorized Plan	2010
San Bernardino	2011 Non-Motorized Transportation Plan	2011
Ventura County	Bicycle Master Plan	2007

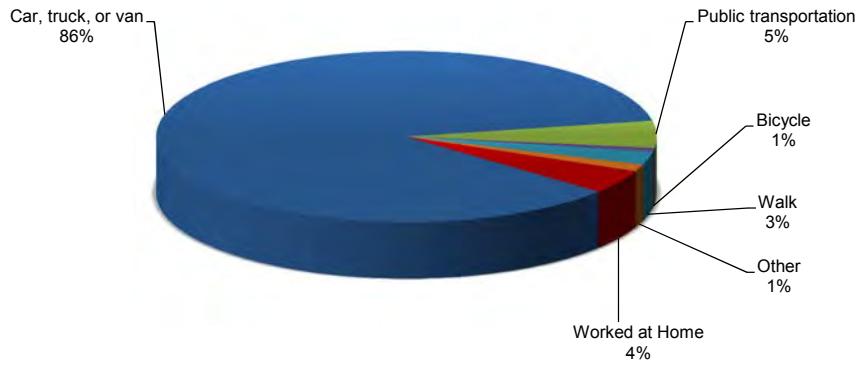
LOCAL JURISDICTIONS

In addition to county plans, many local jurisdictions have developed their own active transportation plans or include active transportation components in the Circulation Element of their General Plan. Many street enhancement projects or capital improvement projects include active transportation elements as well. For example, many street improvement projects may include the striping of bikeways or new developments may include sidewalk enhancements. By examining the annual budgets of the 20 most populous cities in the SCAG region and their expenditures associated with active transportation projects such as new sidewalks or bikeways we were able to estimate that on average cities spend $5.45 per capita on active transportation each year. Based on an average 1 percent annualized population growth and 3 percent adjustment for inflation, it is estimated that local jurisdictions would spend a total of $4.1 billion dollars between 2011 and 2035 on active transportation, which is not accounted for in the 2012–2035 RTP/SCS.

Bicycling and Walking Overview

The majority of commuters within the SCAG region commute via car, truck or van. According to the American Community Survey in 2008, more than 85 percent of all commuters traveled to work by car, truck or van; and less than 4 percent traveled to work via an active transportation mode (0.7 percent bicycled and 2.5 percent walked). The 2012 RTP/SCS allocates approximately $6.7 billion for active transportation. This is an increase of more than 270 percent over the commitments made in the 2008 RTP. Aproximately $700 million was added to the allocation provided in the Draft 2012-2035 RTP/SCS, partly in response to the overwhelming support received for higher level of funding during the comment period. This amount primarily reflects regional commitments and does not include many of the locally funded projects associated with active transportation, nor does it include projects where bicycle/pedestrian facility construction is part of a larger project. So, when the local expenditures are considered, the region is expected to spend significantly more than $10 billion in active transportation over the period of the plan.

FIGURE 2 Commuter Mode Share in the SCAG Region (2008)

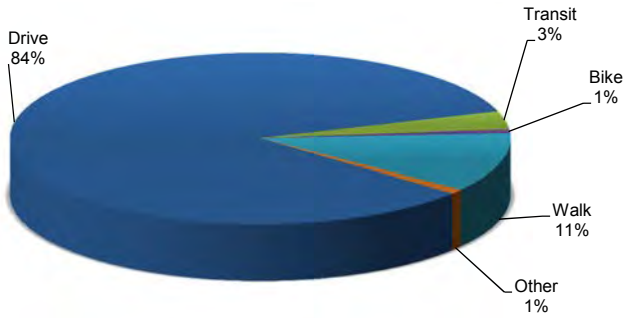


Source: American Community Survey, 2008

In 2009 the National Household Travel Survey California Travel Survey Add-On (NHTS-CA) data estimated that approximately 20.94 percent of all trips in 2009 were conducted by walking (19.24 percent) or bicycling (1.7 percent), this is an approximately 75 percent

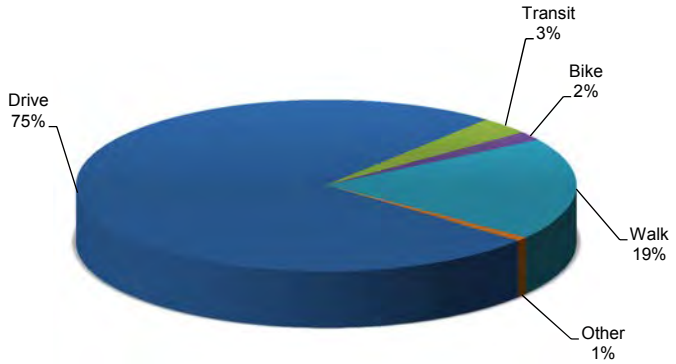
increase from the 11.9 percent active transportation mode share in 2000. The 2009 NHTS data also showed that there was a decrease in driving from 83.9 percent to 75.0 percent; this was a 10.6 percent decrease from 2000.

FIGURE 3 Mode of Travel for Total Trips (2000)



Source: National Household Travel Survey, 2000

FIGURE 4 Mode of Travel for Total Trips (2009)



Source: National Household Travel Survey California Travel Survey Add-On, 2009

However, between 2005 and 2009, the percentage of commuters that traveled by car, truck or van has decreased while the percentage of bicycling and walking to work has increased. This increase in active transportation usage may have been attributed to changes in the economic climate or increases in gas prices. This steady increase in active transportation mode share may indicate a greater demand for active transportation infrastructure and planning.

TABLE 2 Commuter Mode Share in the SCAG Region

	Car, Truck, or Van	Public Transportation	Taxicab, Motorcycle, or other	Worked at Home	Bicycle	Walked	Total
2005	87.40%	4.50%	1.30%	4.10%	0.50%	2.10%	100.00%
2006	86.70%	4.90%	1.20%	4.20%	0.60%	2.40%	100.00%
2007	86.40%	4.80%	1.20%	4.50%	0.60%	2.40%	100.00%
2008	85.90%	5.10%	1.30%	4.50%	0.70%	2.50%	100.00%
2009	85.90%	5.00%	1.10%	4.80%	0.70%	2.50%	100.00%

Source: U.S. Census, 2005-2009

Types of Bicyclists

Bicyclists have varying levels of riding experience and confidence, which influence their decision to bicycle. SCAG recognizes that there are a number of factors that motivate people to bicycle, and has identified the following three types of bicyclists:

TRANSPORTATION/COMMUTER

Individuals that use their bicycle as a form of transportation on a reasonably regular basis, particularly for traveling to work, are classified as bicycle commuters. These cyclists utilize cycling primarily for utilitarian travel, not recreation. Some riders in this group may choose to travel by bicycle in place of a car while others use bicycling because of a lack of other feasible options. Some individuals use bicycling as a method of transportation due to economic necessity or because they are restricted by law from operating a motor vehicle. These include the low income individuals, immigrants, and the young

adults. These individuals are often referred to as "invisible cyclists" and are often under counted in surveys. They may also lack proper equipment for nighttime riding, lack basic riding safety knowledge, and are more inclined to ride on sidewalks when there are no dedicated bikeways.

These riders typically fall into one of three categories: 1) adult employees, 2) students, and 3) shoppers. Transportation or commuter riders tend to travel during peak traffic hours and have increased exposure to vehicles. Routes leading to major businesses, shopping, education and other commercial areas of high importance to transportation cyclists. Transportation cyclist needs are consistent throughout the SCAG region and include: personal safety and security, safe and secure parking, infrastructure that accommodates riding in changes in weather and darkness, and fair treatment from law enforcement.

EXERCISE/RECREATION

Recreational cyclists include both competent, experienced individuals and beginner riders, including adults and children. Some weekend riders, mountain bikers, and other recreational cyclists may drive to other locations in order to ride their bicycles, and ride as a form of recreation rather than transportation.

Primary needs of recreational cyclists are similar to that of transportation cyclists except that their travel routes are less focused on access to business, shopping, and other commercial areas. They tend to travel in lower traffic and more scenic areas or seek out off-road paths and trails. Some experienced recreational cyclists may be interested in bicycling as transportation, but are concerned about safety, distances, sweat and body odor in the work environment.

SOCIAL GROUP

Social bicycle riders represent a growing group of riders, especially in Los Angeles County with its growing bicycle culture. The City of Los Angeles has been growing and supporting bicycling through a number of activities and advocacy efforts including informal and formal rides such as the Bicycle Kitchen and similar co-ops, Critical Mass, Midnight Ridazz, and C.I.C.L.E. (Cyclists Inciting Change through Live Exchange).[1]

[1] Although referencing various advocacy groups in this document, SCAG makes no endorsement of any external group's policies, goals or positions.

The State of California shows its commitment to active transportation in the following documents:

- Highway Design Manual
- Deputy Directive on Accommodating Non-motorized Transportation (DD64)
- Director's Policy on Context Sensitive Solutions (DP22)
- Main Streets: Flexibility in Design and Operations Assembly Concurrent Resolution 211
- California Supplement to the MUTCD
- California Blueprint for Bicycling and Walking
- California Bicycle Transportation Act
- California Vehicle Code
- California Streets and Highway Code
- California Access Compliance Reference Manual

Riding Styles

Just as there are different types of cyclists, there are different riding styles. While no one entirely fits into one category or another, it is an attempt to broadly explain riding styles to understand the needs of the various members of the bicycling community. The following "Four Types of Cyclists" categorization was first developed in 2005 by the City of Portland, Oregon as it began to consider what it would take to dramatically increase bicycle use in Portland. The definitions that follow have been expanded somewhat to more closely match the demographics in southern California.

FULLY CONFIDENT CYCLIST

Often called "Vehicular Cyclists," these cyclists ride their bicycles in the same manner that one would drive a motor vehicle. These individuals are confident in riding with motorized traffic in almost all conditions, and may forgo using dedicated bicycle facilities. These individuals are accustomed to riding in a variety of environments and can navigate in less space. Many of these individuals advocate for vehicular cycling because they are capable of operating their bicycles on the road in a visible, predictable manner, and follow the rules of the road, which may enable automobile drivers to be able to better predict how these bicyclists will act, and respond accordingly.

ENTHUSED AND CONFIDENT CYCLIST

These cyclists are as comfortable as the fully confident cyclists in sharing the roadway, but prefer using designated bicycle facilities. It is believed that enthused and confident cyclists comprise the majority of the tremendous growth in commuter cycling in Portland after investments were made in bicycling infrastructure.

INTERESTED BUT CONCERNED CYCLIST

Interested but concerned cyclists make up the majority of cyclists. They are curious about regular bicycling as a form of transportation, but may be inexperienced. Due to financial or immigration issues, they may also be unable to afford to own or operate a motor vehicle. Also, due to the graduated licensing program, older teenagers also fall into this group.

According to the "Four Types" categorization, those in the "Interested but Concerned" category like riding a bicycle, but they are afraid to ride. They would ride if they felt safer on the roadways, if cars were slower and less frequent, and if there were more quiet streets with few cars and paths without any cars at all.

Inexperienced cyclists tend to have minimal riding skill and little experience, and are not comfortable riding with traffic or within the roadway. These cyclists may lack confidence or knowledge of safe cycling practices and regulations. These riders tend to use sidewalks, school grounds, parks, bicycle lanes, and Class I bicycle paths as their preferred riding environments.

NO WAY, NO HOW

This group is not interested in bicycling for transportation. Some may not own a bicycle or ride at all. Others may ride for recreation only on off-road bikeways. This could be attributed to the distance between home and work, making bicycling too difficult or impossible. Shorter utilitarian trips are an option, but may also be considered difficult or impossible.

It is important to note that these are not clear cut definitions, and there is some overlap between categories, particularly as one's level of interest and confidence increases since this may shift the demand for bicycle facilities. The Portland report lists that less than one percent of bicyclists were fully confident, seven percent were enthused and confident, 60 percent were interested but concerned, and 33 percent were classified as no way, no how.

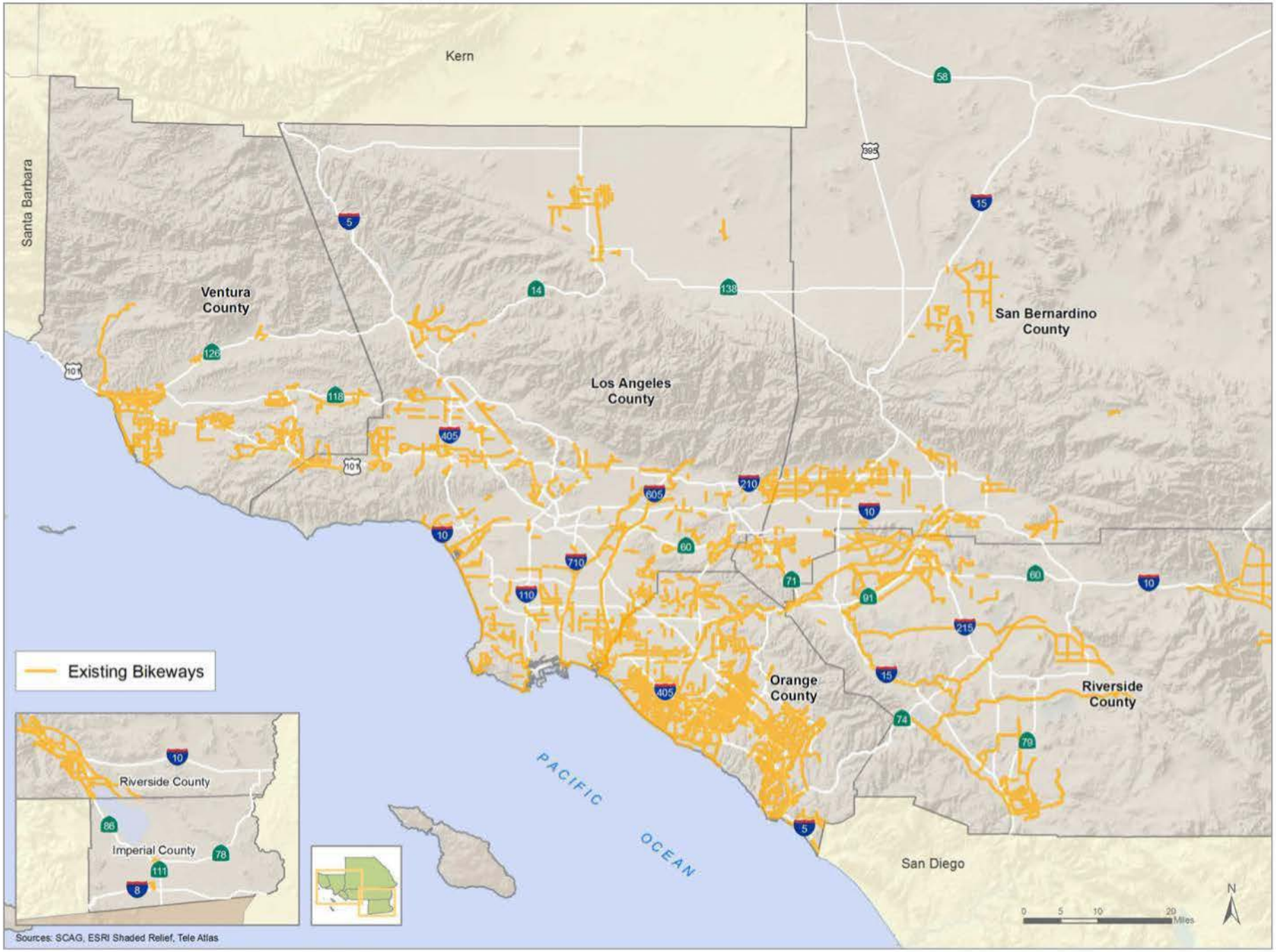
Types of Bicycle Facilities

A bicycle facility may include a variety of facilities, from bicycle lanes to bicycle parking facilities, and other related facilities. Varying types and groups of riders prefer different types of riding environments. The Caltrans Highway Design Manual currently classifies bicycle lanes, bicycle paths, and routes in the following method:

Class I Bikeways

Class I Bikeways are also known as bicycle paths, shared-use paths or bicycle trails. A Class I Bikeway provides a completely separated right-of-way designated for the exclusive use of bicycles and/or pedestrians with cross flows by motorists minimized.

EXHIBIT1 Existing Bikeways in the SCAG Region



Class II Bikeways

Often referred to as a bicycle lane, a Class II Bikeway provides a striped lane for one-way bicycle travel on a street or highway.

Class III Bikeways

Class III Bikeways are also known as bicycle routes and provide for shared use with pedestrians and/or motor vehicle traffic.

Cycletracks

Cycletracks are bicycle lanes on a street or highway physically separated from travel lanes occupied by vehicles.

Bicycle Boulevards

Bicycle Boulevards refer to low speed, mostly residential streets where bicycling and walking are considered the primary modes. Sometimes used for traffic calming, the installation of bicycle boulevards often includes discouragement of non-local vehicle traffic while allowing free flow of bicyclists. As an example, traffic diverters allow free flow for bicyclists and allow vehicle access to property for homeowners, but do not allow motorists to continue driving in the same direction. By reducing speeds and access, safety for bicyclists and pedestrians is increased.

The City of Long Beach has installed a bicycle boulevard on Vista Street in the Belmont Heights neighborhood. Methods used include traffic circles, a bicycle only signal, road narrowing and barriers forcing motorists to turn left or right while allowing bicyclists access.

TABLE 3 Existing Bikeways (in Miles)

	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Total Existing	% of Total
Class 1	2.9	264.0	204.9	925.1	77.4	56.5	1,530.8	35.5%
Class 2	4.4	484.6	638.5	235.7	275.8	203.1	1,842.1	42.7%
Class 3	38.1	518.2	102.4	103.6	116.7	62.9	941.9	21.8%
Total Existing	**45.4**	**1,266.9**	**945.8**	**1,264.3**	**469.9**	**322.5**	**4,314.8**	**100.0%**

Bicycle Boulevards

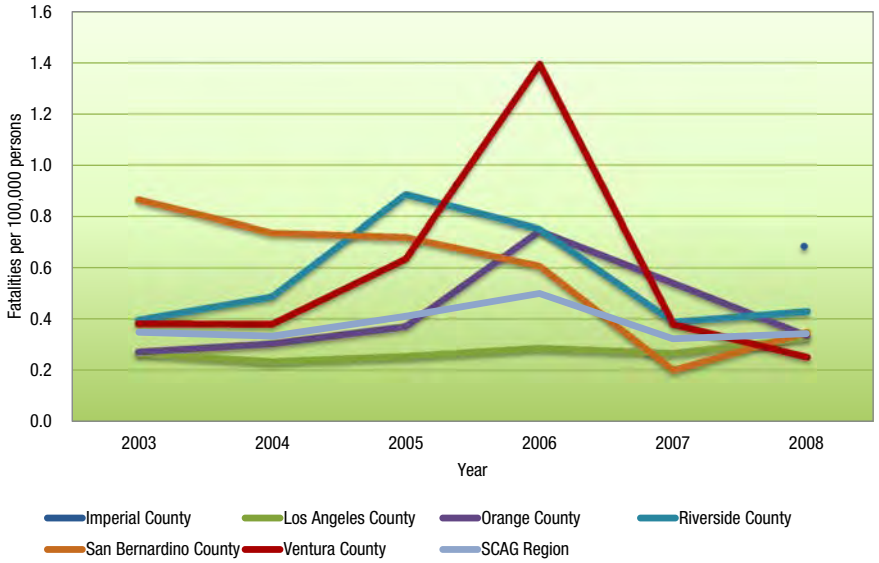
Bicycle Boulevards are low speed streets optimized for bicycle travel over vehicle travel.

Like their auto-driving counterparts, most bicyclists will most often use the fastest or most convenient route to reach their destinations. Bicyclists are legally allowed to use any public roadway in California unless specifically prohibited by State law (e.g. Freeways). Therefore, while some roadways are not designated or classified as bikeways, motorists should expect and anticipate bicyclists to share the road.

Bicycle Safety

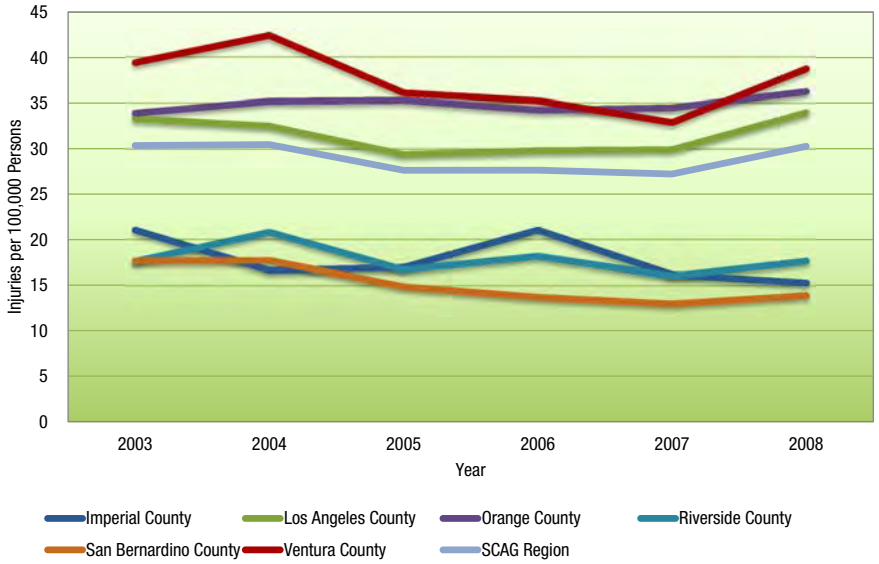
Based on data from the Statewide Integrated Traffic Records System (SWITRS), the majority of counties in the SCAG region have experienced an increase in the number of traffic-related bicyclist fatalities for every 100,000 persons between 2003 and 2006, followed by a decrease in the number of fatalities between 2006 and 2008. Most of the counties experienced a decrease in traffic-related bicycle injuries for every 100,000 persons between 2003 and 2007; followed by an increase between 2007 and 2008.

FIGURE 5 Number of Traffic Related Bicyclist Fatalities for Every 100,000 Persons



Source: State-Wide Integrated Traffic Records System (SWITRS), 2003-2008

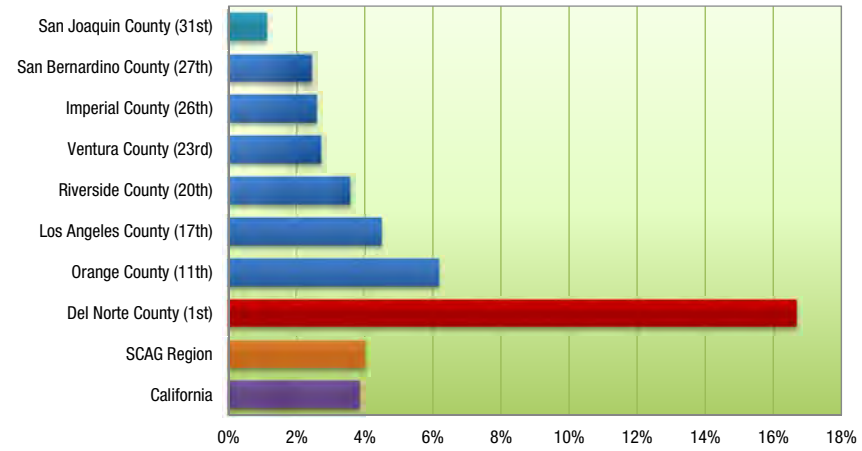
FIGURE 6 Number of Traffic Related Bicyclist Injuries for Every 100,000 Persons



Source: State-Wide Integrated Traffic Records System (SWITRS), 2003-2008

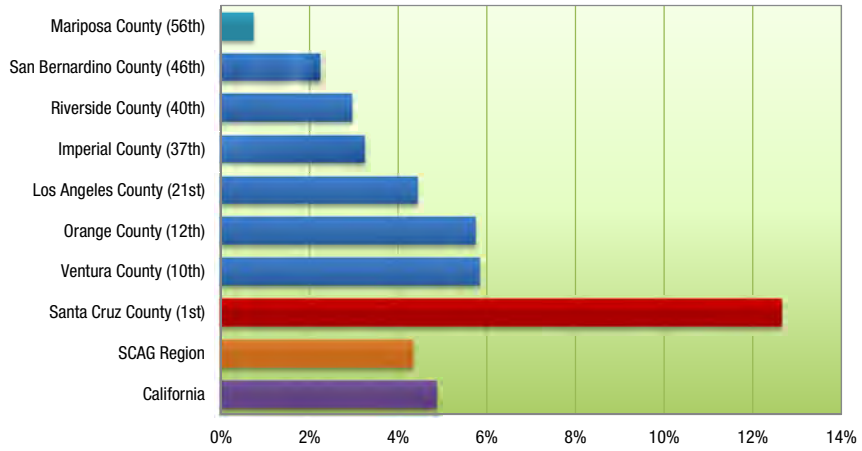
In 2008, 3.98 percent of all traffic-related fatalities in our region involved bicyclists, and 4.31 percent of all traffic-related injuries involved bicyclists. Orange County had the highest percentage of traffic-related bicyclist fatalities (6.17 percent), and Ventura County had the highest percentage of traffic-related bicyclist injuries (5.83 percent) in the SCAG region in 2008.

FIGURE 7 Percentage of Traffic-Related Fatalities Involving Bicyclists



Source: State-Wide Integrated Traffic Records System (SWITRS), 2008

FIGURE 8 Percentage of Traffic-Related Injuries Involving Bicyclists



Source: State-Wide Integrated Traffic Records System (SWITRS), 2008

The SCAG region has seen a greater percentage of traffic-related fatalities involving bicyclists than the statewide average, but had a lower percentage of traffic-related injuries involving bicyclists. Los Angeles and Orange Counties were the only counties with a higher percentage than the statewide percentage of traffic-related bicycle fatalities. Orange and Ventura Counties were the only counties with a higher percentage than the statewide percentage of traffic-related bicycle injuries.

Pedestrian Oriented Design and Access Requirements

Americans with Disabilities Act (ADA)

The ADA was signed into law in 1990 and requires that all public facilities be accessible to people with disabilities. The impact of the ADA has been far-reaching. For example, multi-level facilities including transit stations must include elevators, sidewalks must have sloped surfaces at intersections and other crossings to allow wheelchair accessibility, buses must have lifts, and signage must include Braille for the blind.

SCAG estimates that $90 million is necessary annually to maintain the existing pedestrian infrastructure in usable condition and to maintain consistency with ADA requirements, assuming a sidewalk life expectancy of 35 years. A portion of the $6.7 billion dollars allocated toward Active Transportation in the 2012 RTP will be applied toward infrastructure improvements that will maintain and improve sidewalks to ADA standards.

Schools

Pedestrian access between schools and nearby neighborhoods is a high safety priority. Clear crosswalks, signals adequately timed to allow children to cross streets, crossing guards, and school speed limit zones provide a safer environment for children on foot. Additionally, pathways and neighborhood parks can provide easier and safer access to schools by allowing children, both on foot and bicycle.

The Safe Routes to School (SRTS) program aims to increase the number of students walking or bicycling to school. Both the federal government and the State of California provide funding for SRTS programs.

Transit

Efficient and well-used public transit (busses, subway, light rail, commuter trains) contribute to improved mobility and air quality, and extends accessibility for active transportation. However, the effectiveness of transit is decreased if individuals are unable to easily access it in a safe manner. It is estimated that transit users will walk half a mile (Ohland, 2004) and bicycle two miles (Mineta Transportation Institute, 2002) to a transit stop. One of the barriers for commuters to take transit is the convenience to access transit or the distance between their starting point and final destination (first-mile/last-mile gap). Transit stations benefit from Park-and-Ride lots by expanding the pool of potential riders by bringing them to a central point. Yet, studies have shown that the effective distance for many Park-and-Ride users is 5 miles or less to these facilities. Placing adequate transit, pedestrian, and bicycle facilities within this radius may address the first-mile/last-mile gap and encourage ridership and active transportation.

The SCAG region has already taken steps to address the first mile/last mile connectivity. Metro Rail has removed some seats on the Red/Purple lines allocating that space for bicycles. Metrolink has 12 dedicated bicycle cars on their commuter trains. The cars can hold up to 18 bicycles on the lower level.

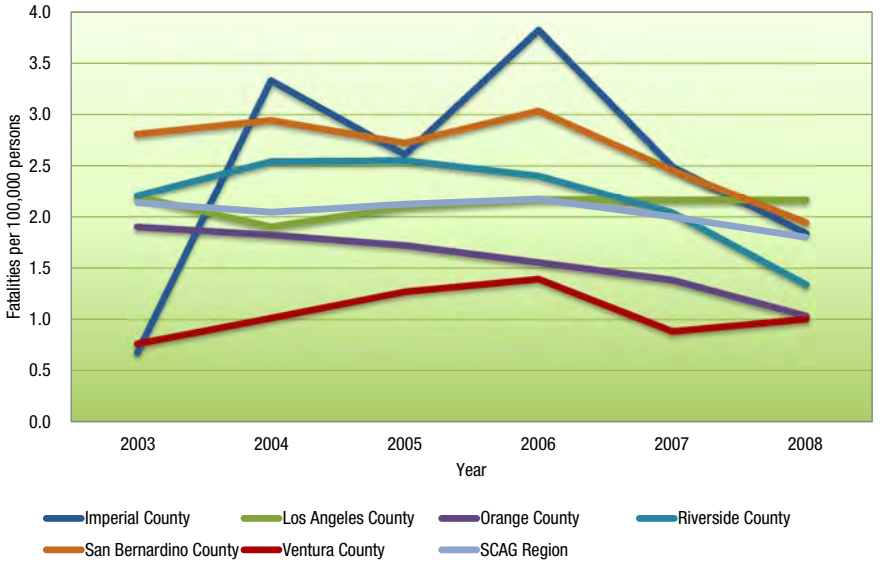
Street Design and Access to Destinations

Buildings are often set further back from the street with a large parking lot between the entrance and the sidewalk, making them more accessible to visitors that arrive by car. This form of building design can act as a deterrent to bicyclists and pedestrians. Pedestrian and bicyclist access to retail and major activity centers is an integral part of a walkable community. Research on walkability has identified that the availability and distance of potential destinations, such as grocery stores, restaurants, cafes, public spaces, and retail stores are significant variables associated with walkability. Smaller blocks with more extensive sidewalk coverage along major streets with higher densities are positively associated with walkability. Similarly, the Complete Streets Act of 2008 (AB 1358) required cities and counties to accommodate and plan for all users.

Pedestrian Safety

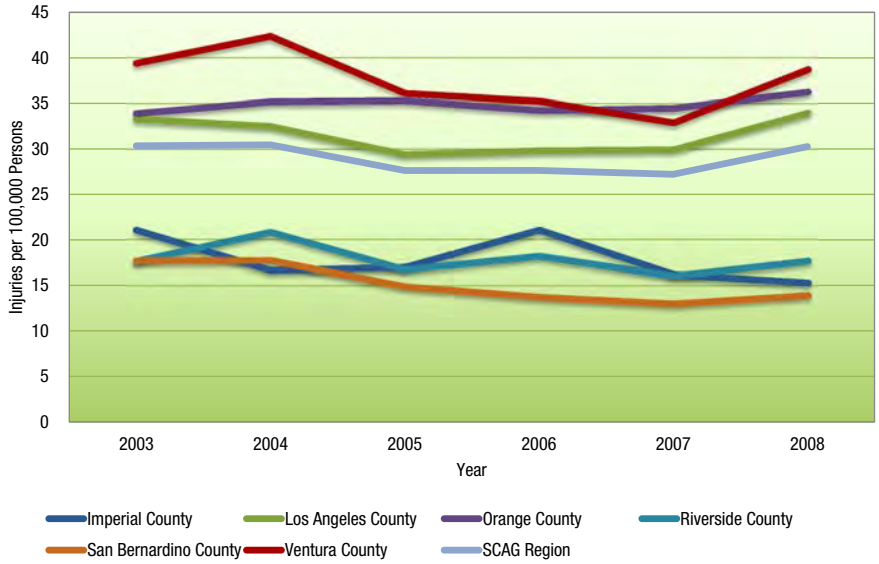
Based on SWITRS data, in 2003, San Bernardino County had the highest number of traffic-related pedestrian fatalities for every 10,000 persons, and Imperial County had the lowest. Imperial County had the highest number of traffic-related pedestrian fatalities from 2004 to 2007, while Ventura County had the lowest. In 2008, Los Angeles County had the highest number of traffic-related pedestrian fatalities for every 10,000 persons, while Ventura County had the lowest. Los Angeles County has consistently had the highest number of traffic-related pedestrian injuries for every 10,000 persons. Riverside County had the lowest number of traffic-related pedestrian injuries for every 10,000 persons in 2003. San Bernardino County has had the lowest number of traffic-related bicyclist injuries for every 10,000 persons between 2004 and 2008.

FIGURE 9 Number of Pedestrian Fatalities for Every 100,000 Persons



Source: State-Wide Integrated Traffic Records System (SWITRS), 2003-2008

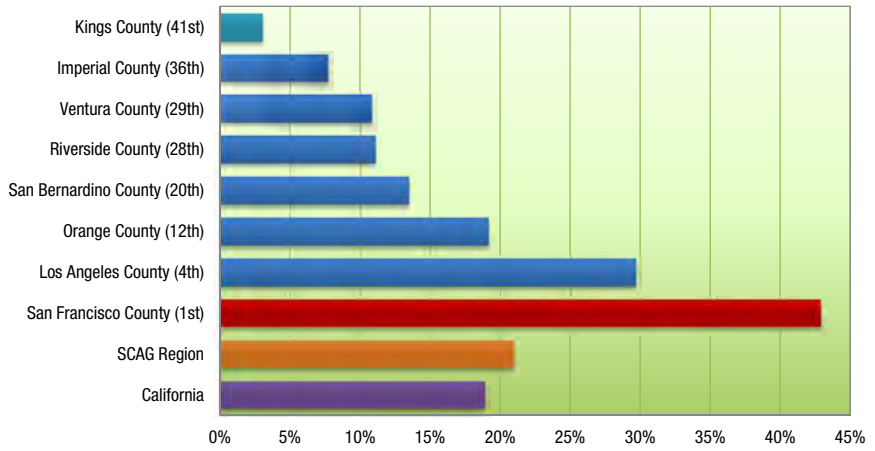
FIGURE 10 Number of Pedestrian Injuries for Every 100,000 Persons



Source: State-Wide Integrated Traffic Records System (SWITRS), 2003–2008

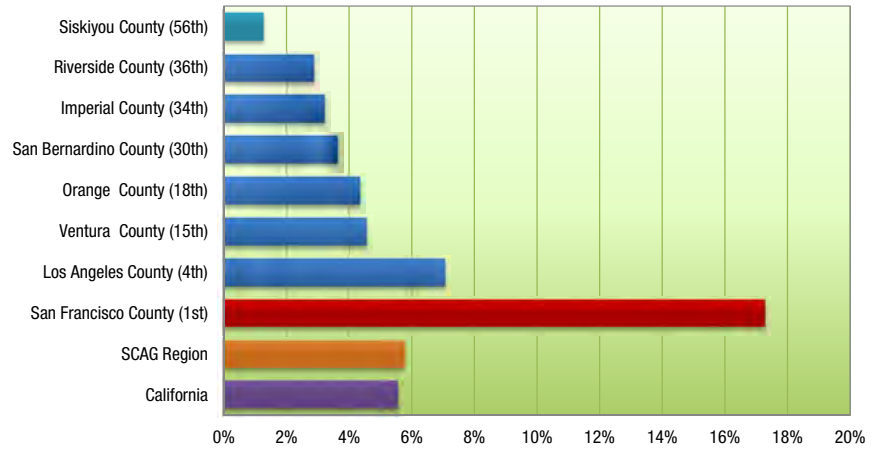
While bicycle deaths and injuries are fairly low when compared to other modes of transportation, pedestrian deaths and injuries represent a much more significant percentage of all traffic-related incidents, particularly in urban areas. In 2008, 20.94 percent of all traffic-related fatalities in the SCAG region involved a pedestrian, and 5.74 percent of traffic-related injuries involved pedestrians. Los Angeles County had the highest percentage of traffic-related pedestrian fatalities (29.65 percent) and the highest percentage of pedestrian injuries (7.05 percent) within the SCAG region in 2008.

FIGURE 11 Percentage of Traffic-Related Fatalities Involving Pedestrians



Source: State-Wide Integrated Traffic Records System (SWITRS), 2008

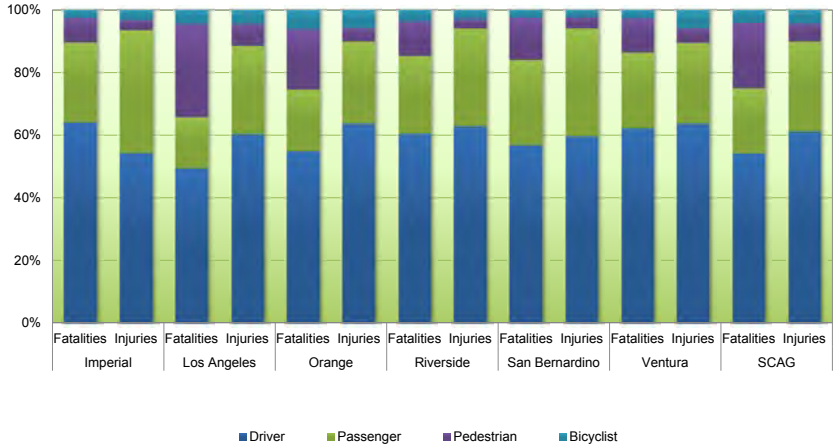
FIGURE 12 Percentage of Traffic-Related Injuries Involving Pedestrians



Source: State-Wide Integrated Traffic Records System (SWITRS), 2008

Most counties in the SCAG region have a smaller percentage of traffic-related pedestrian fatalities involving a pedestrian when compared to the statewide average; Los Angeles and Orange County were the only two counties to have a higher percentage of pedestrian-involved fatalities. Most counties also had a smaller percentage of traffic-related injuries involving a pedestrian versus the statewide average; Los Angeles County was the only county that had a higher percentage of pedestrian involved injuries.

FIGURE 13 Fatalities and Injuries by Mode (in 2008)



Source: State-Wide Integrated Traffic Records System (SWITRS), 2008

Deficiencies and Needs Analysis

The existing active transportation infrastructure may provide access for many of the residents within the region but fails to accommodate the needs of the youth, elderly, and disabled. Added consideration must be given to these populations as any of them do not currently feel secure or able to utilize the existing active transportation facilities. The population within the SCAG region is expected to expand with an additional 4 million residents within the next 25 years. This growth in population will put added strain on the existing transportation infrastructure and contribute to more congestion if no improvements are made. In addition to the population increase, the average age of our population will increase, changing the characteristics and demand on travel. The aging population will place a greater demand on transit and active transportation modes.

Pedestrian Facility Deficiencies

The 1994 AASHTO Green Book describes pedestrian facilities as “sidewalks, crosswalks, traffic control features, special walkways found on some portions of freeway rights-of-way, curb cuts (depressions), and ramps for the older walkers and persons with mobility impairments. They are also parts of bus stops or other loading areas, grade separations, and the stairs or escalators related to these facilities.”

The coordination of local plans and county/regional policies is necessary to develop a regional interconnected network of bicycle facilities. Individuals base their travel decisions based on convenience, accessibility and safety. The need for a regional approach towards bicycle and pedestrian planning is attributed to the fact that travelers are not restricted to a single jurisdiction and often cross multiple jurisdictions during their trip. Existing facilities and infrastructure, and the planning for the infrastructure are often disjointed and do not provide easy accessibility for users.

Similarly, the dominance of motorized transportation has led to a disproportionate allocation of funding and adequate planning for pedestrian accessibility. Examples include areas that are not in compliance with the Americans with Disabilities Act (ADA); areas that have long blocks between intersections and high speed limits, which all can make active transportation more difficult. The California Highway Patrol (CHP) has identified in their 2008 SWITRS that 50 percent of all pedestrian fatalities in California occurred within the SCAG region. The high percentage of pedestrian fatalities demonstrates a need for change

EXHIBIT 2 Access to Public Transit in Imperial County

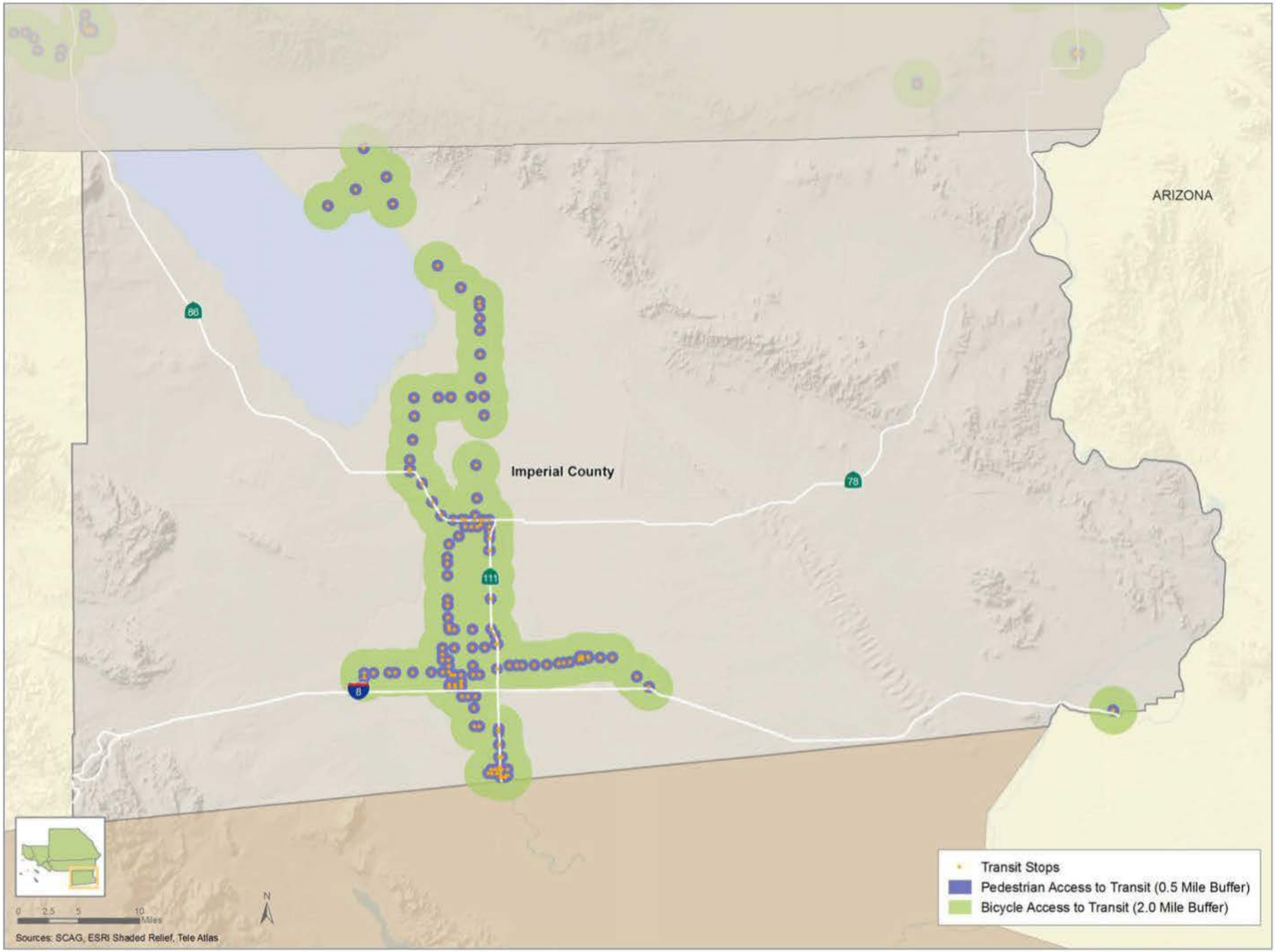


EXHIBIT 3 Access to Public Transit in Los Angeles County

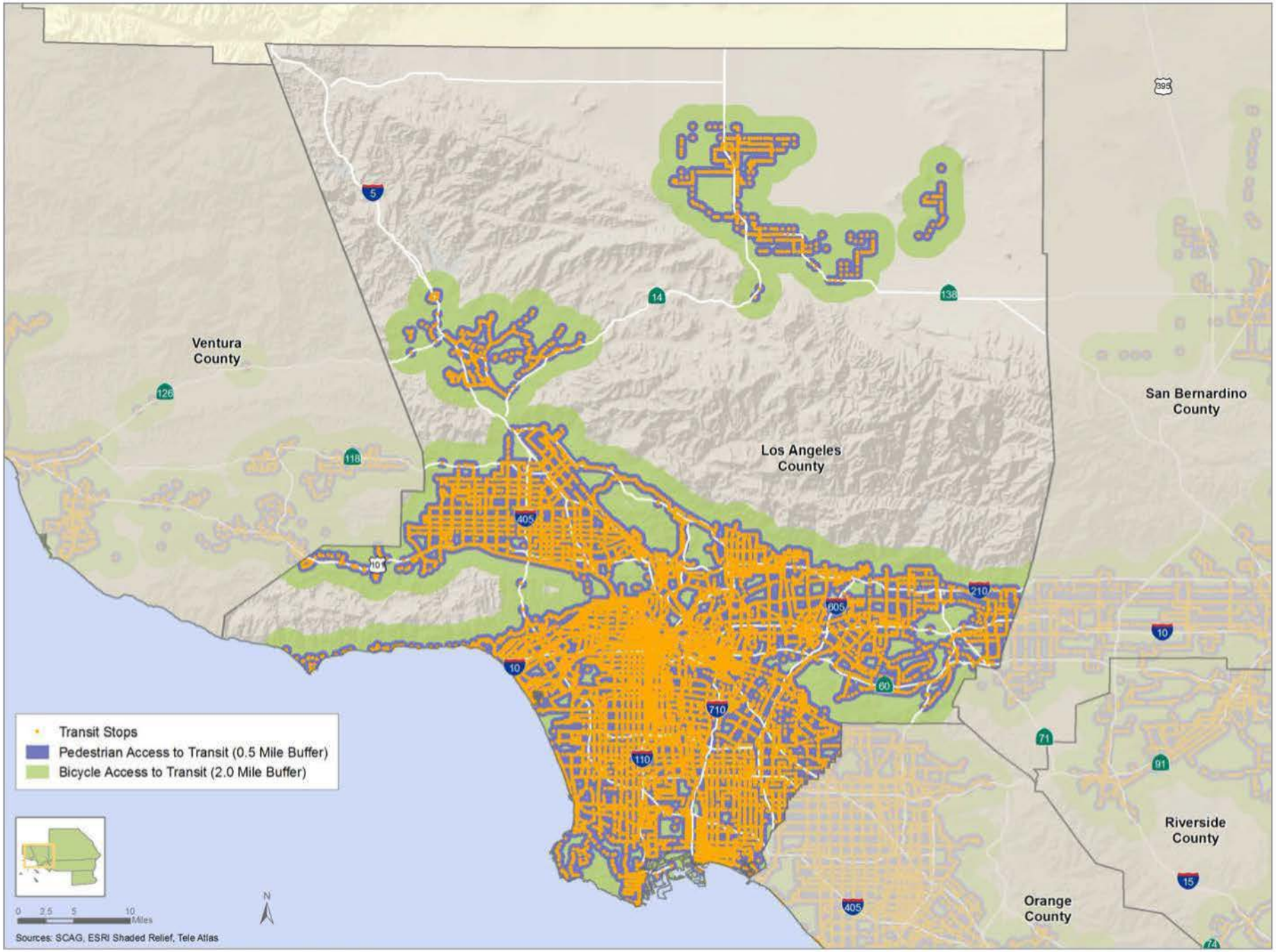


EXHIBIT 4 Access to Public Transit in Orange County

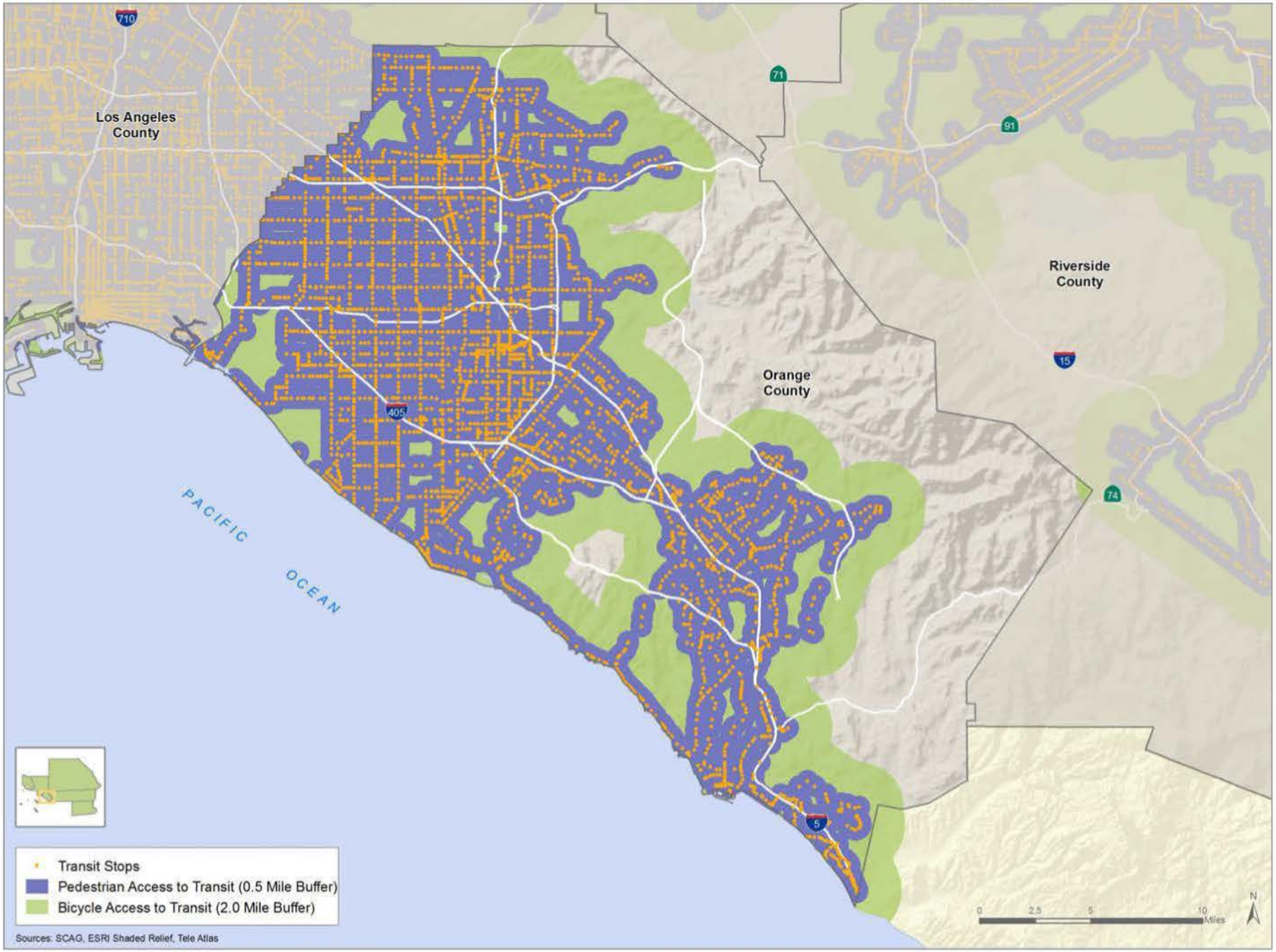


EXHIBIT 5 Access to Public Transit in Riverside County

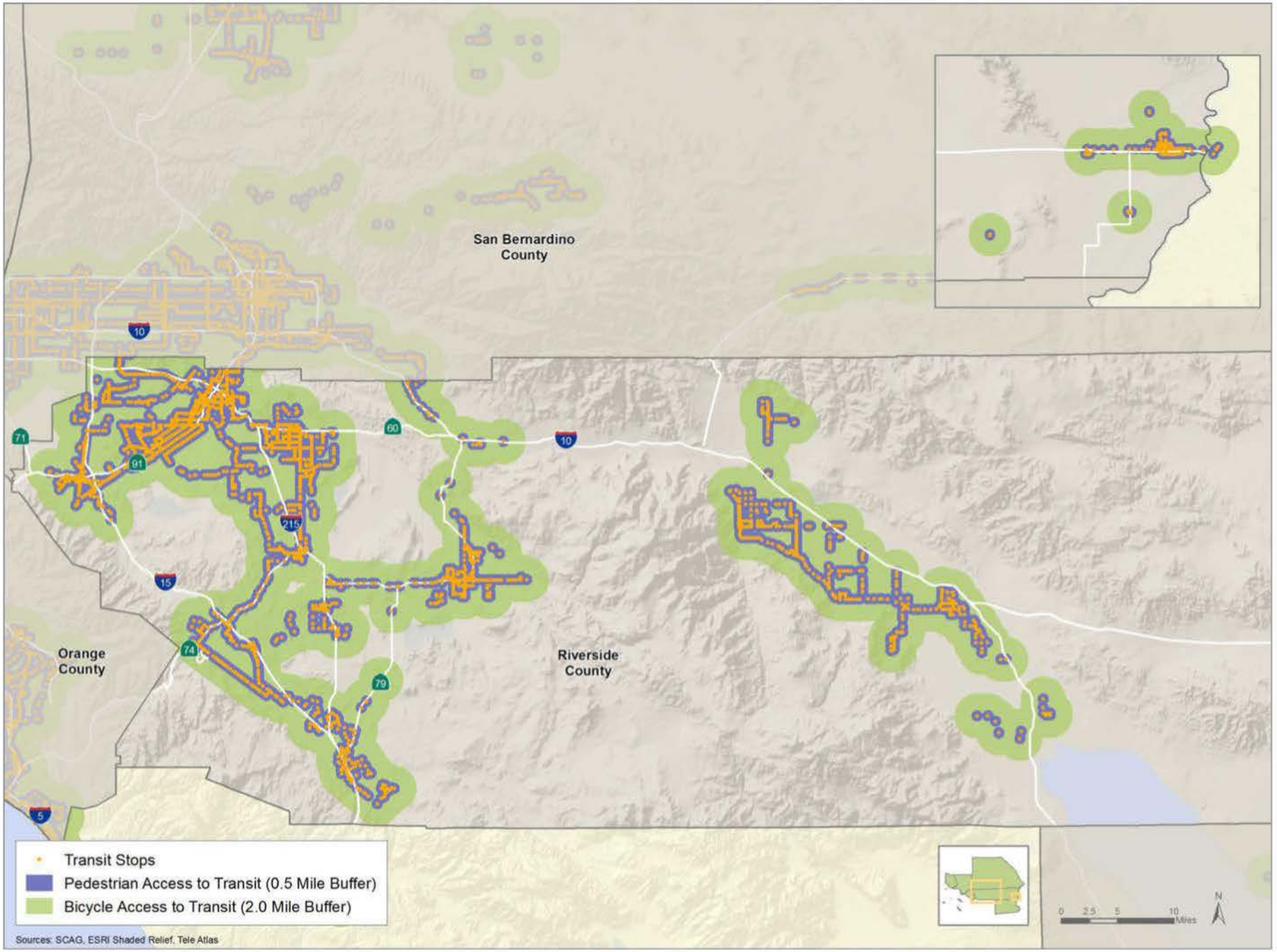


EXHIBIT 6 Access to Public Transit in San Bernardino County

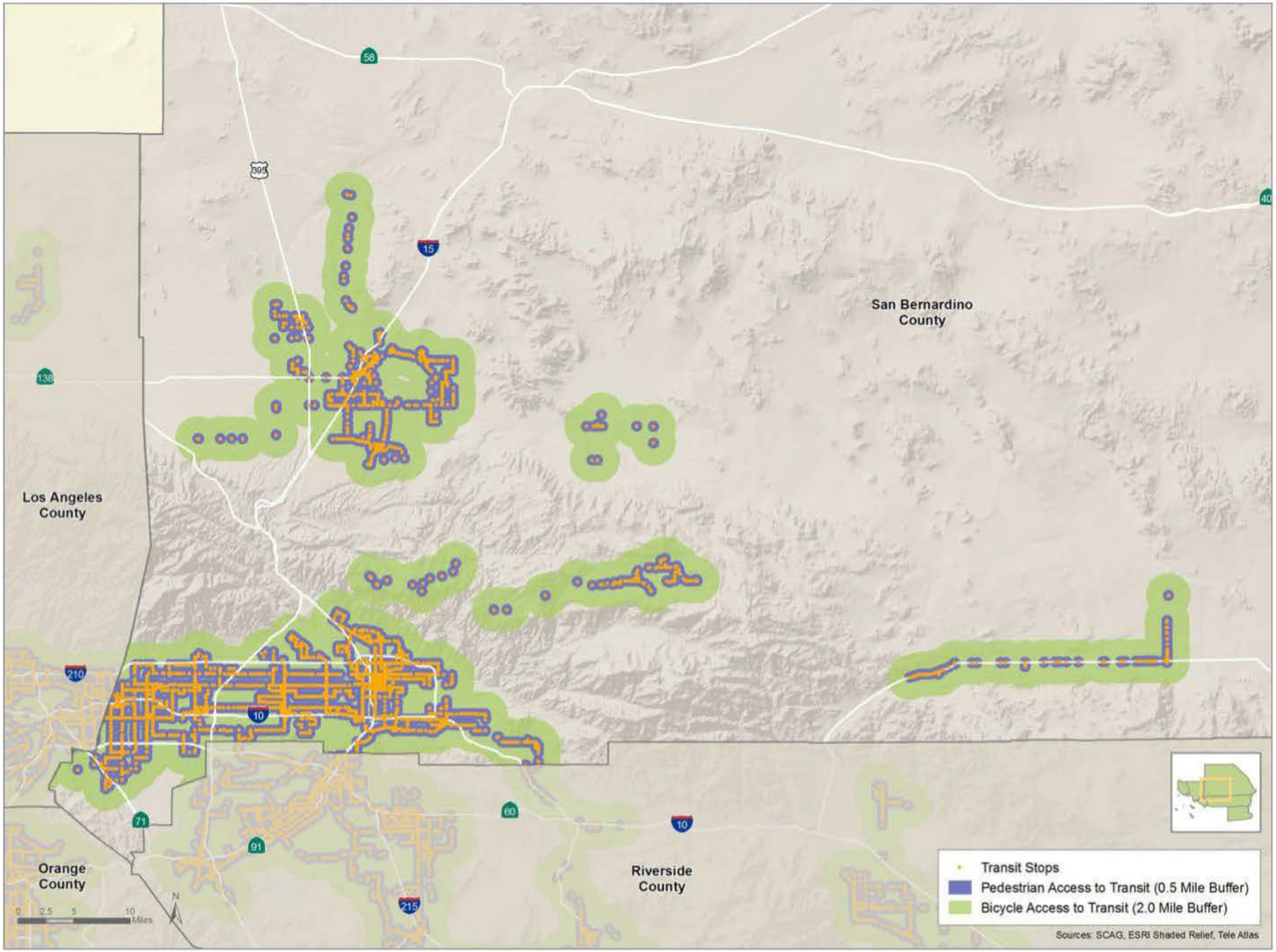


EXHIBIT 7 Access to Public Transit in Ventura County

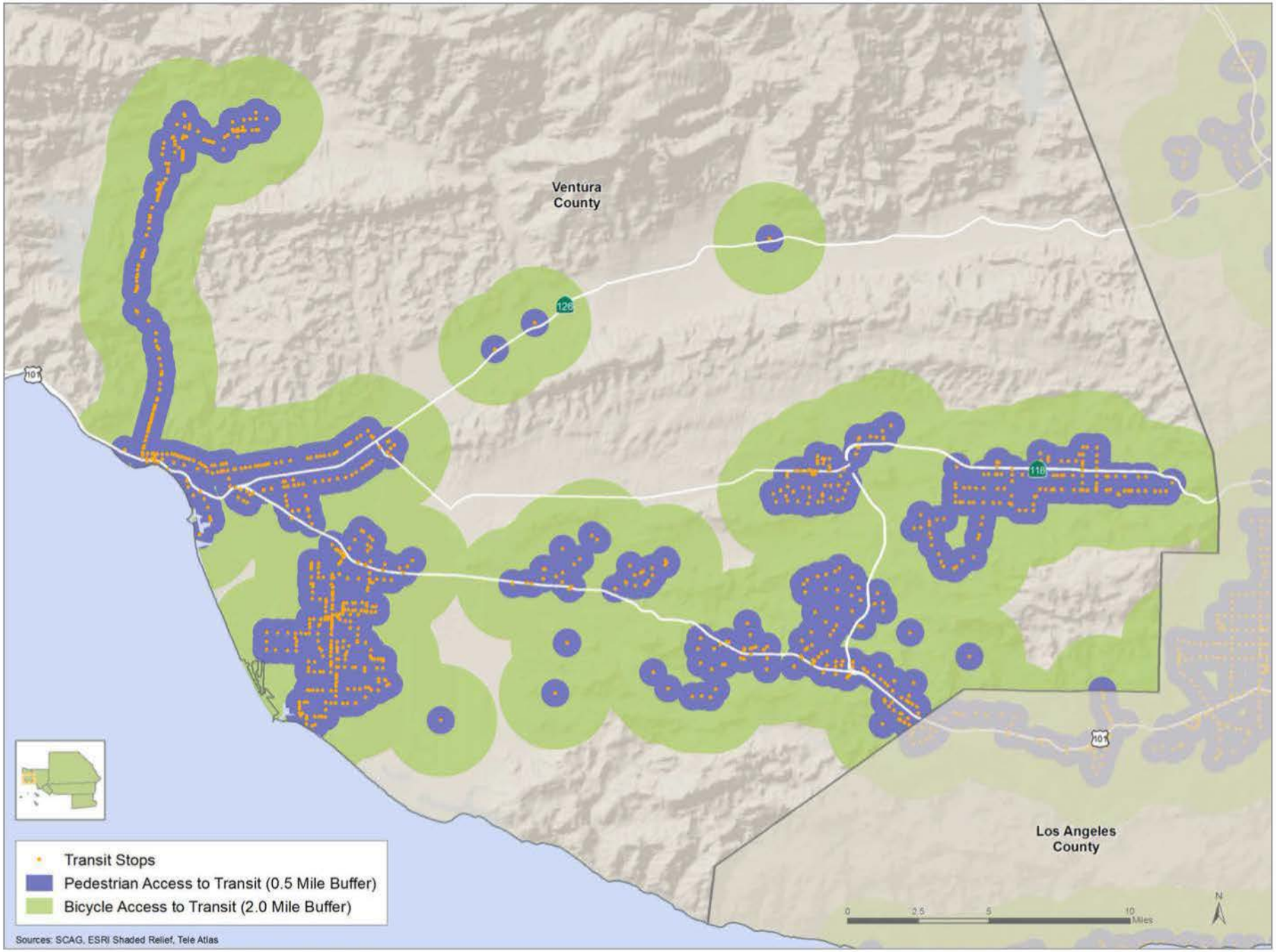
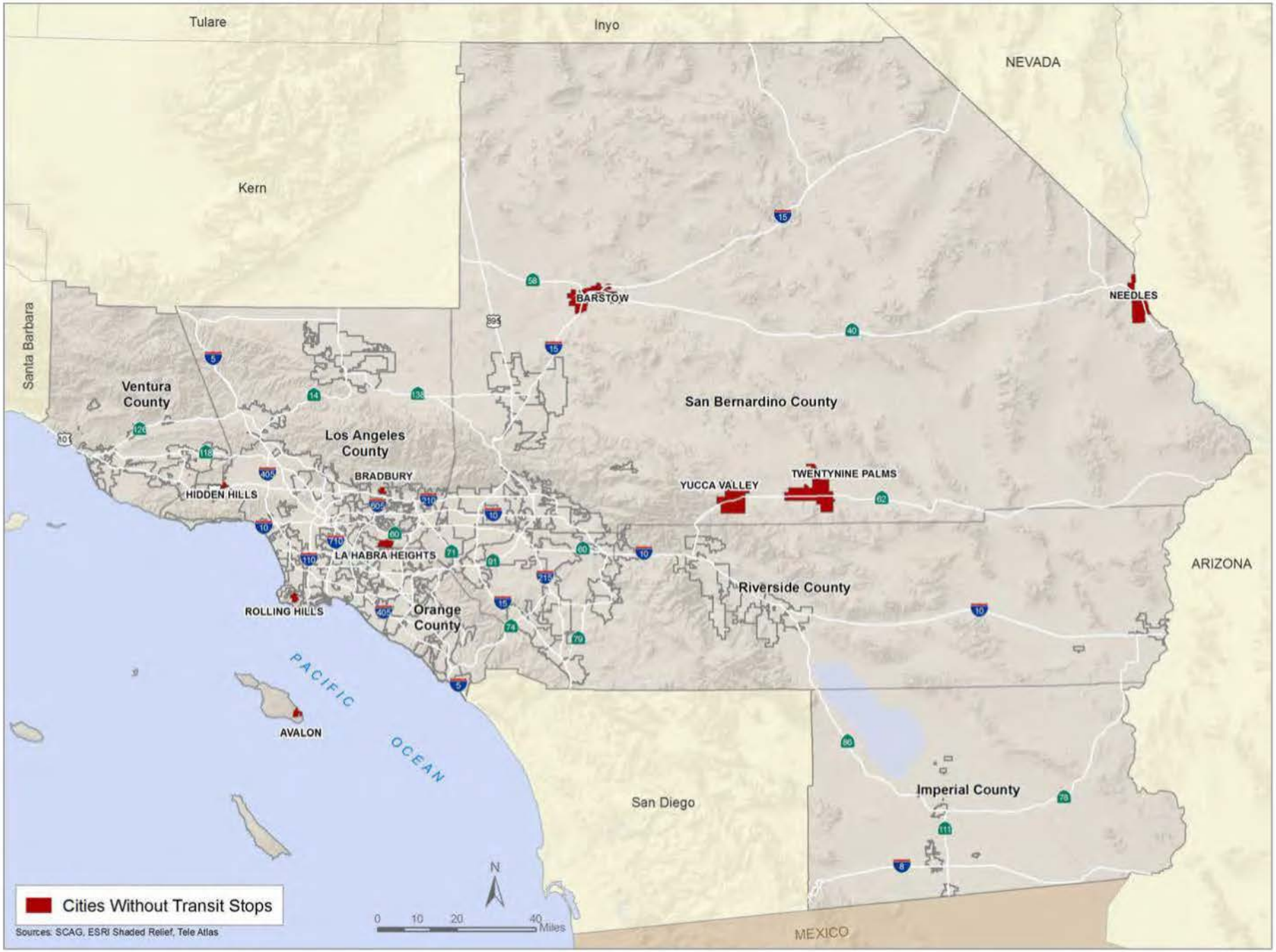


EXHIBIT 8 Cities Without Stops Within the SCAG Region



within the SCAG region. Existing facilities should be retrofitted to reduce or prevent bicycle and pedestrian accidents and new facilities should be designed to reduce known conditions that contribute to bicycle and pedestrian related accidents. Furthermore, streets should be designed to promote the use of alternative modes of transportation through the provision of bicycle parking, street landscaping and other amenities that would create a more inviting environment for all users.

Bicycle Access to Transit

Accessibility is one the primary performance measures used to evaluate active transportation. Accessibility measures how well the current infrastructure provides individuals with the opportunity to access facilities. The following provides a general analysis of the deficiencies and gaps with our region's current active transportation infrastructure.

Envisioning Neighborhoods with Transit-Oriented Development Potential (Mineta Transportation Institute, 2002) found that "bicycling distance, [is] usually approximated as less than 2 miles." By using a 2-mile buffer around the transit station, we found that the majority of residents in the SCAG region have access to transit by bicycle (97.0 percent), with Los Angeles County having the highest percentage of bicyclist access to transit (99.1 percent) and Imperial County having the lowest (87.5 percent).

TABLE 4 Percentage of Bicyclists with Access to Transit

County	Population Served	Total Population	Percentage Served
Imperial	155,254	177,448	87.50%
Los Angeles	10,243,811	10,341,602	99.10%
Orange	3,088,474	3,124,761	98.80%
Riverside	1,933,589	2,088,521	92.60%
San Bernardino	1,826,414	2,052,928	89.00%
Ventura	806,437	831,029	97.00%
SCAG Region	**18,053,980**	**18,616,290**	**97.00%**

Pedestrian Access to Transit

The New Transit Town: Best Practices in Transit-Oriented Development (Ohland, 2004) states that residents are willing to walk "between a quarter- and a half-mile" to access transit. By using a 0.5-mile buffer, we found that the majority of residents in the SCAG region have access to transit by walking (85.7 percent), with Los Angeles County having the highest percentage of pedestrian access to transit (93.5 percent) and Riverside County having the lowest (64.2 percent).

TABLE 5 Percentage of Pedestrians with Access to Transit

County	Population Served	Total Population	Percentage Served
Imperial	116,245	177,448	65.50%
Los Angeles	9,668,821	10,341,602	93.50%
Orange	2,781,863	3,124,761	89.00%
Riverside	1,341,002	2,088,521	64.20%
San Bernardino	1,417,039	2,052,928	69.00%
Ventura	628,540	831,029	75.60%
SCAG Region	**15,953,510**	**18,616,290**	**85.70%**

All 7 incorporated cities in Imperial County contain transit stops.

Of the 88 incorporated cities in Los Angeles County, 83 cities contain transit stops. The five cities that do not are Avalon, Bradbury, Hidden Hills, La Habra Heights, and Rolling Hills.

All 34 incorporated cities in Orange County contain transit stops

All 25 incorporated cities in Riverside County contain transit stops.

Of the 24 incorporated cities within San Bernardino County, 20 cities contain transit stops. The cities that do not are Barstow, Needles, Twenty-Nine Palms, and Yucca Valley.

All 10 of the incorporated cities in Ventura County contain transit stops.

Of the 181 member cities within the SCAG region in 2008, 172 contained transit stops. The remaining nine cities that do not contain transit stops are Avalon, Bradbury, Hidden

EXHIBIT 9 Bikeway Access in the SCAG Region

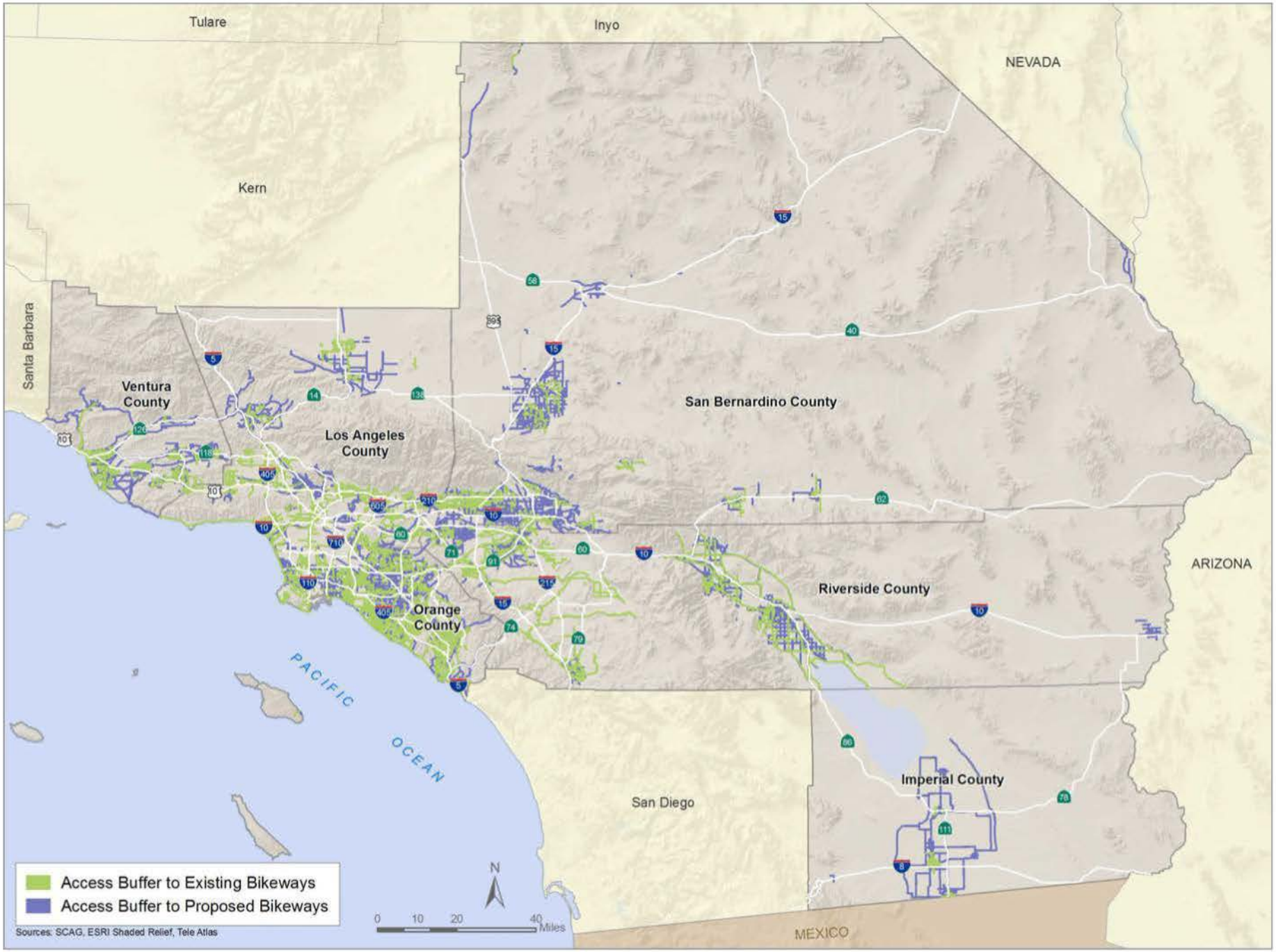
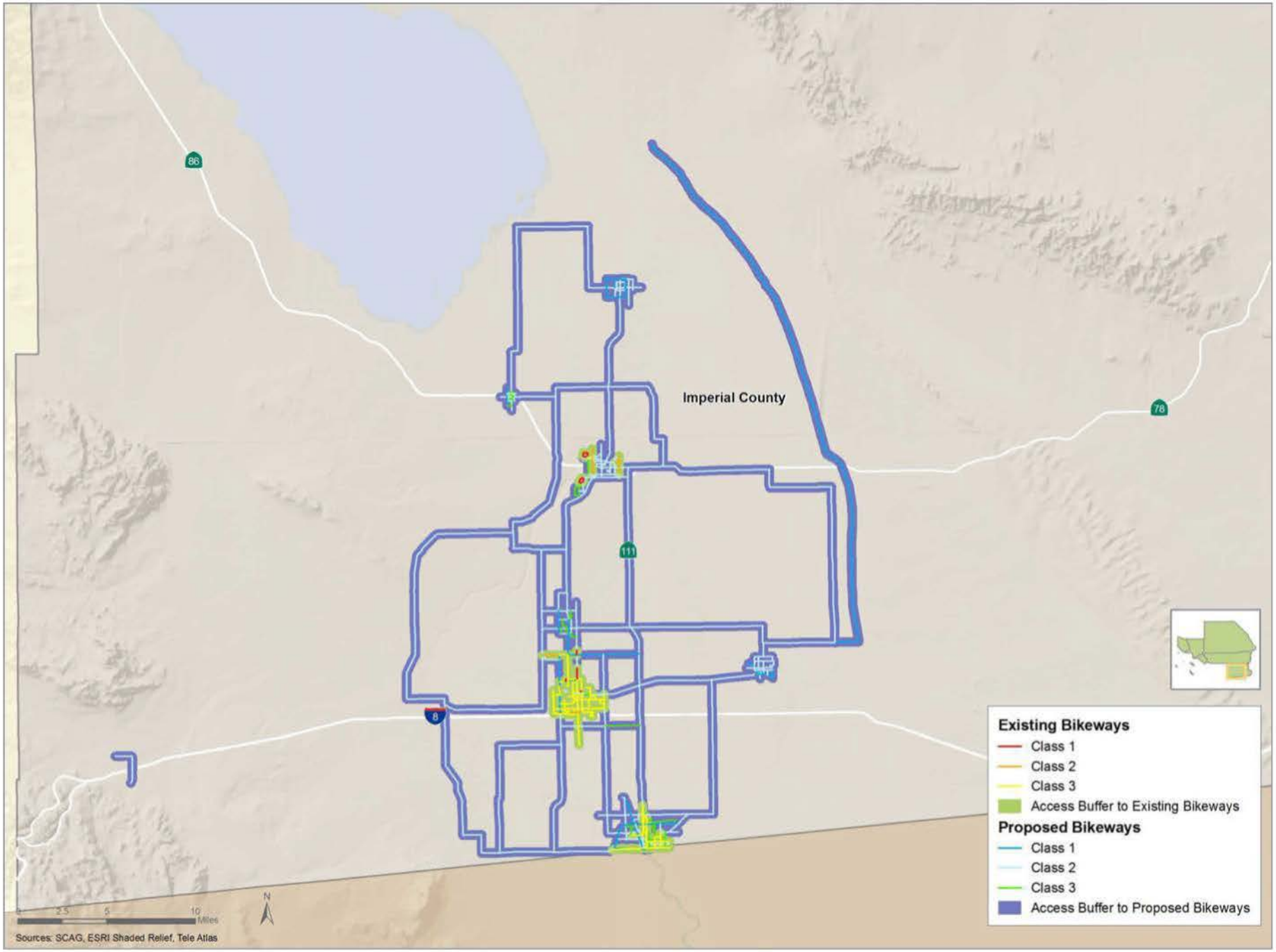


EXHIBIT 10 Existing and Proposed Bikeway Access in Imperial County



Hills, La Habra Heights, Rolling Hills, Barstow, Needles, Twenty-Nine Palms, and Yucca Valley.

While the majority of the population has access to the existing transit network, additional improvements are needed. Access to a transit stop does not ensure that individuals will utilize transit, since the transit stop that is near them may not provide them with access to their desired destination. Therefore, additional analysis is needed to ensure that individuals are being served with adequate access to transit by both walking and bicycling. Furthermore, additional analysis regarding access to the transit stops is required. This would include gaps in sidewalks, ADA compliance, and the transit network.

While access is a key topic of concern, bicycle and pedestrian facilities also need to be considered. Adequate bicycle facilities such as bicycle parking, lockers, or showers should also be evaluated in order to address the needs of bicyclists. Consideration for pedestrian access should also include adequate lighting, complete sidewalks, and ADA requirements in order to ensure the ease of access and improve pedestrian mode share.

Access to Bicycle Routes

According to a study conducted by the Oregon Transportation Research and Education Consortium (OTREC) in 2008, bicyclists would travel 0.27 miles to utilize a bikeway. By using a 0.27-mile buffer, we found that less than half of the SCAG region has access to bikeways (42.6 percent), with Ventura County having the highest percentage of residents with access to bikeways (64.0 percent) and Los Angeles County having the lowest (38.0 percent).

TABLE 6 Percentage of Population with Access to Existing Bikeways

County	Population Served	Total Population	Percentage Served	Commuter Bicyclist Mode Share
Imperial	80,170	177,448	45.2%	0.0%
Los Angeles	3,929,538	10,341,602	38.0%	0.8%
Orange	1,987,805	3,124,761	63.6%	0.9%
Riverside	832,429	2,088,521	39.9%	0.5%
San Bernardino	624,552	2,052,928	30.4%	0.4%
Ventura	531,515	831,029	64.0%	0.5%
SCAG Region	**7,933,592**	**18,616,290**	**42.6%**	**0.7%**

Source: American Community Survey, 2008

While a significant portion of the region has access to bikeways, only a small percentage utilizes the bikeways for their daily work commutes (less than 1 percent). The lack of bicycling commute trips may be attributed to the type of bikeways, confidence of the rider, adequate facilities at their destination (bicycle parking, showers, etc.) and accessibility to their desired destinations.

Once the locally proposed bikeways (projects identified by the local jurisdictions) are implemented, accessibility to bikeways will increase from 42.6 percent to 62.4 percent. Orange County would then have the highest percentage of bicyclists with access to bikeways (89.4 percent) and Riverside County would have the lowest (52.7 percent).

TABLE 7 Locally Proposed Bicycle Facilities (in Miles)

	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Total Proposed	% of Total
Class 1	63.4	197.8	172.0	172.8	285.6	142.5	1,034.1	20.8%
Class 2	294.8	509.9	499.2	693.4	798.6	248.6	3,044.5	61.1%
Class 3	16.3	318.7	61.4	136.5	248.6	119.9	901.4	18.1%
Total	**374.4**	**1,026.4**	**732.6**	**1,002.7**	**1,332.7**	**511.1**	**4,979.9**	**100.00%**

EXHIBIT 11 Existing and Proposed Bikeway Access in Los Angeles County

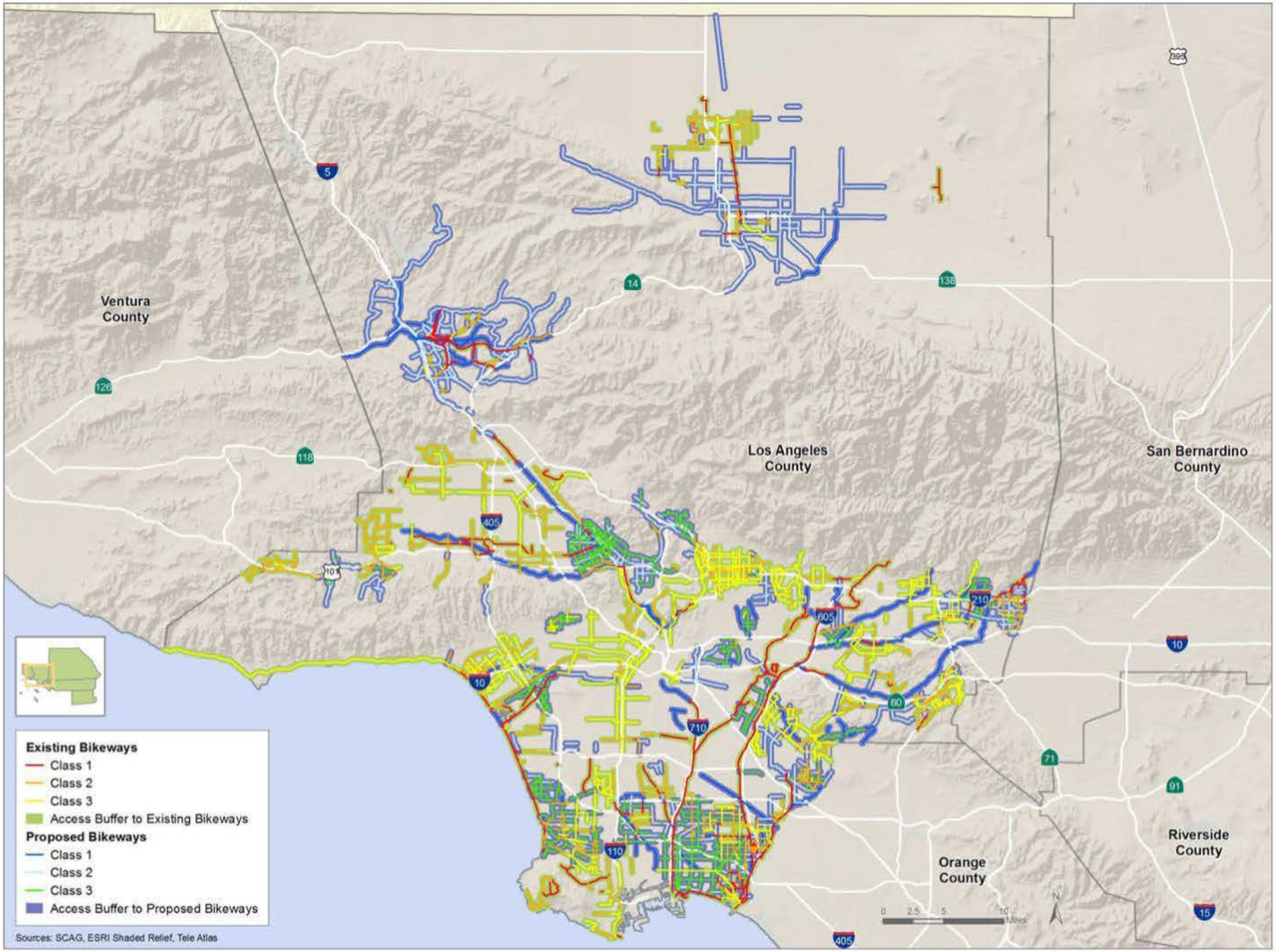


EXHIBIT 12 Existing and Proposed Bikeway Access in Orange County

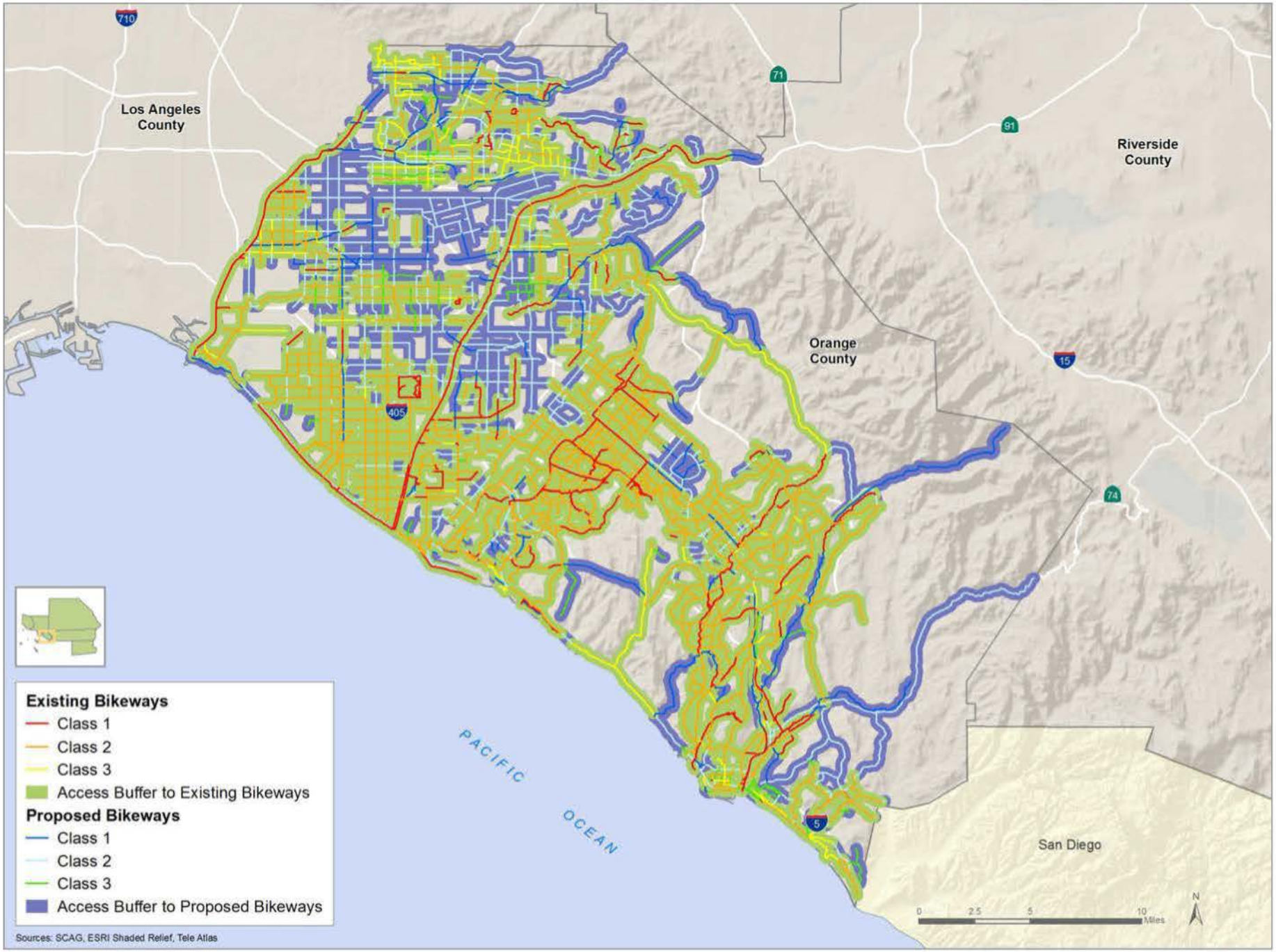


EXHIBIT 13 Existing and Proposed Bikeway Access in Riverside County

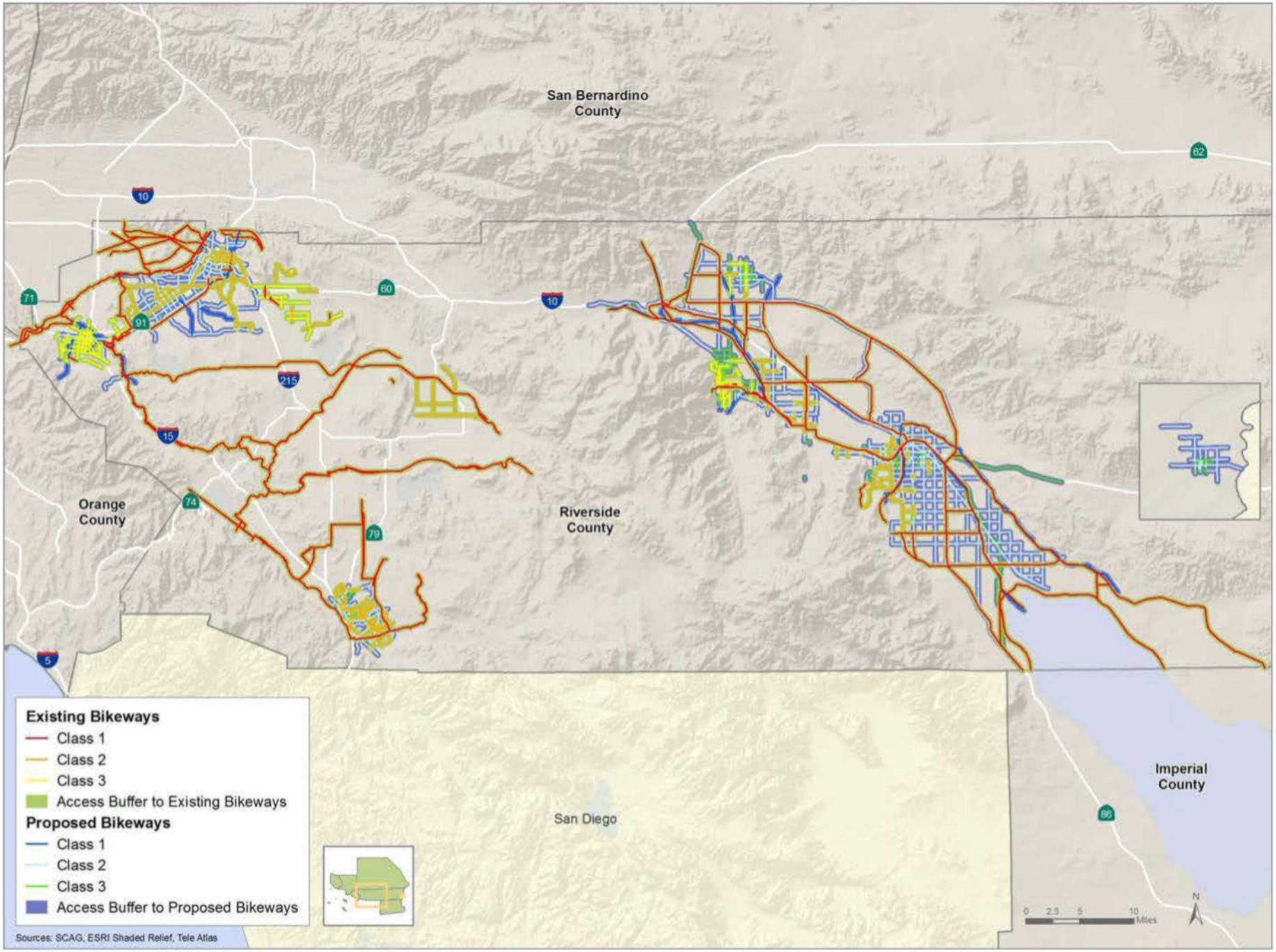


EXHIBIT 14 Existing and Proposed Bikeway Access in San Bernardino County

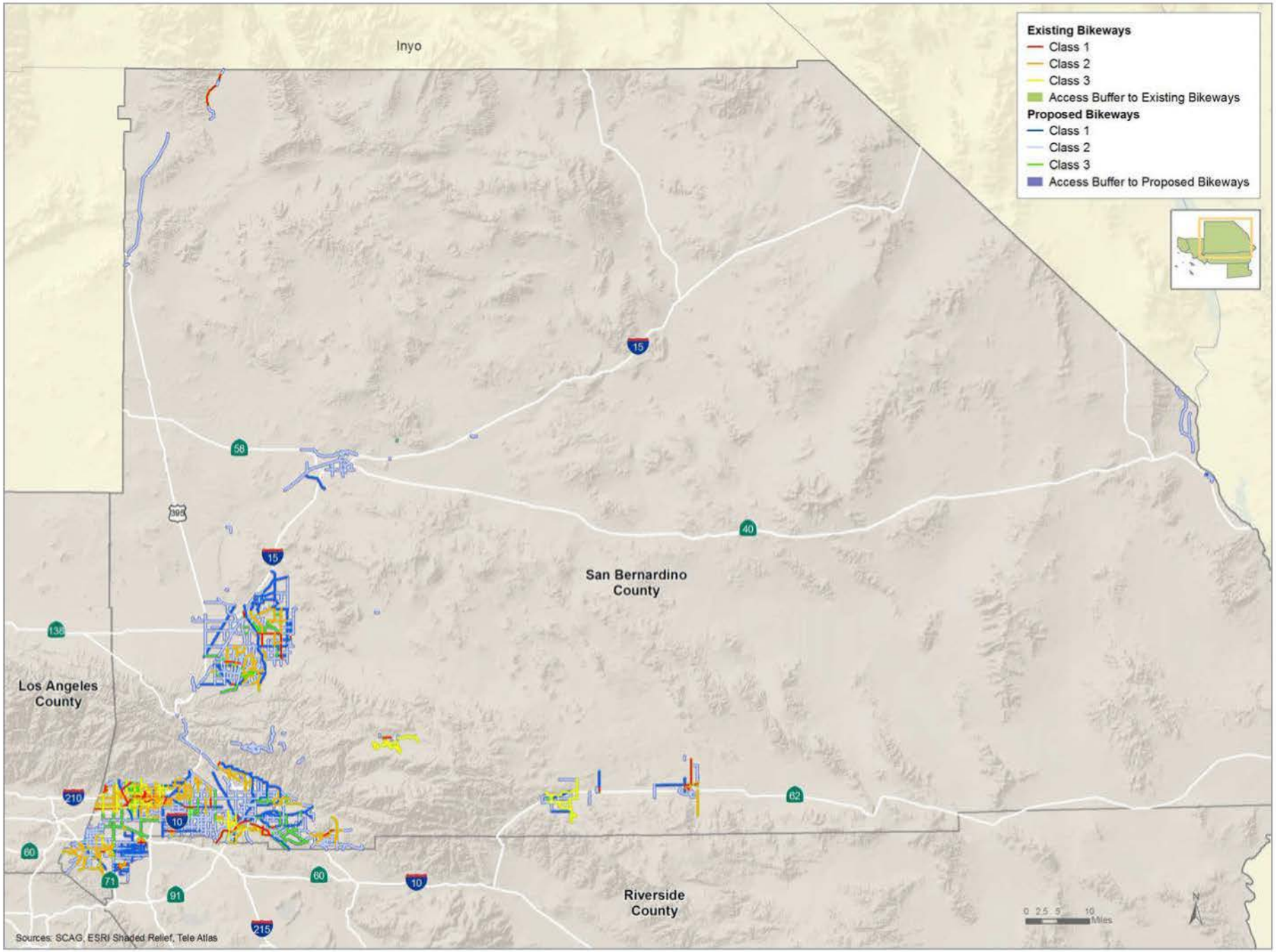


EXHIBIT 15 Existing and Proposed Bikeway Access in Ventura County

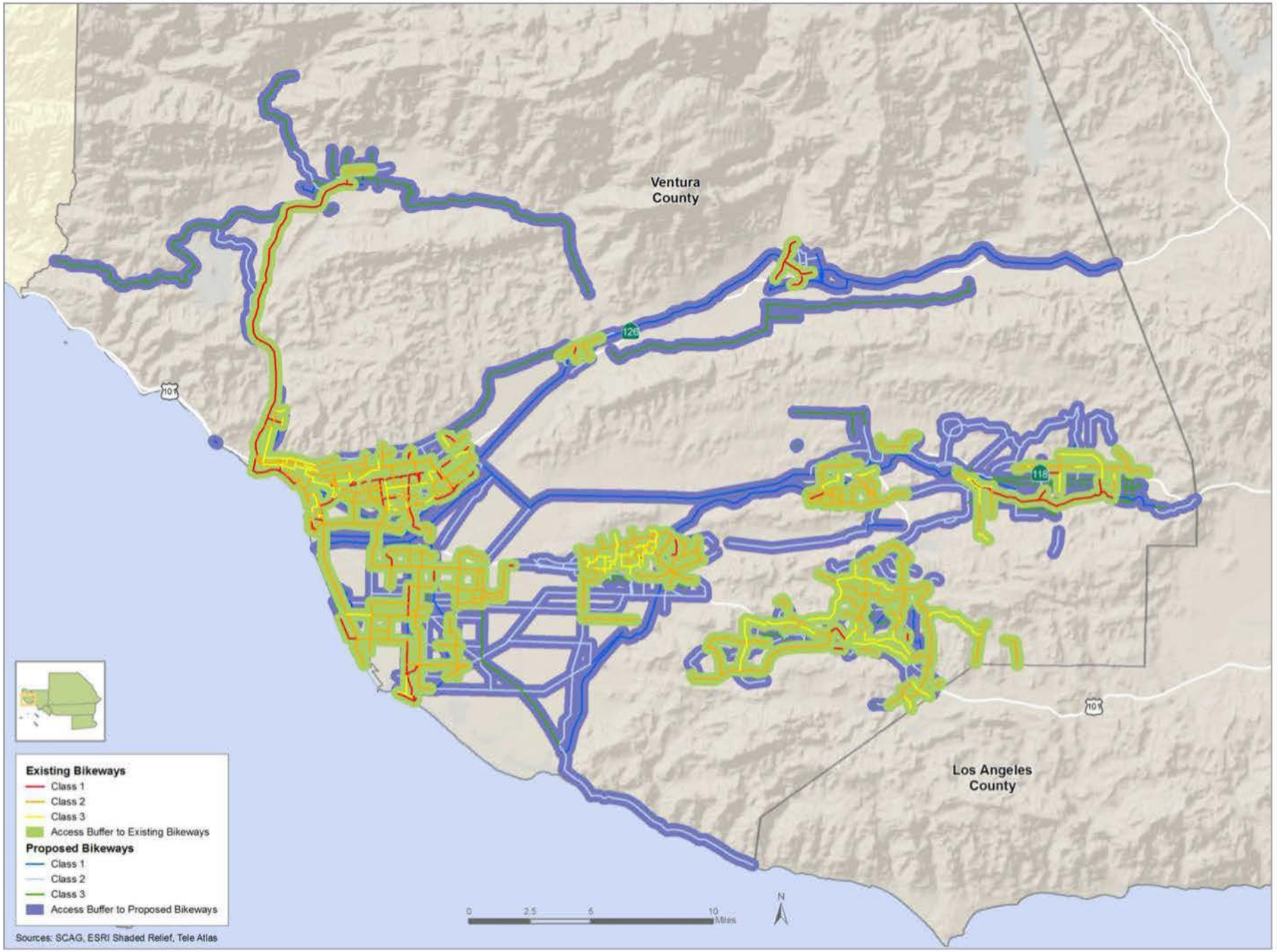


TABLE 8 Percentage of Population with Access to Existing and Proposed Bikeways

County	Population Served	Total Population	Percentage Served
Imperial	136,207	177,448	76.8%
Los Angeles	5,503,786	10,341,602	53.2%
Orange	2,794,871	3,124,761	89.4%
Riverside	1,101,478	2,088,521	52.7%
San Bernardino	1,456,946	2,052,928	71.0%
Ventura	691,812	831,029	83.2%
SCAG Region	**11,615,295**	**18,616,290**	**62.4%**

In 2008, 153 out of SCAG's 191 member cities contain bikeways. Of the 7 incorporated cities in Imperial County, 4 cities contained bikeways. Once the proposed bikeways have been developed, all 7 incorporated cities in Imperial County will contain bikeways.

Of the 88 incorporated cities in Los Angeles County, 79 cities contain bikeways. Once the proposed bikeways have been developed, only four will not contain bikeways.

All 34 incorporated cities in Orange County contain bikeways.

Of the 25 incorporated cities in Riverside County, 21 cities contain bikeways. The 4 cities that do not are Banning, Beaumont, Blythe, and Calimesa. Once the proposed bikeways have been developed, only four will not contain bikeways.

Half of the 24 incorporated cities within San Bernardino County contain bikeways.

All 10 of the incorporated cities in Ventura County contain bikeways.

In an effort to increase mobility for bicyclists in the SCAG region, a 2,012.2 mile SCAG Regional Bikeway Network (Network) has been developed. This network has identified specific regional corridors that may be used to increase bicyclist mobility and connectivity within the SCAG region. The Network includes 432.2 miles of existing bikeways. In addition, local jurisdictions have currently proposed an additional 752.5 miles of bikeways within their local plans that would contribute to the Network. As part of the 2012 Strategic Plan, SCAG has identified 827.5 miles of bikeways that may be developed to close gaps in the Network. Completion of the Network would provide approximately 570,000 additional individuals with access to bikeways.

TABLE 9 SCAG Regional Bikeway Network Route Lengths by County and Class Type

County	Class	Existing Network	Proposed Network	SCAG Corridors	Total
Imperial	Class 1	2.9	63.4	-	66.3
	Class 2	4.4	294.8	202.3	501.4
	Class 3	38.1	16.3	51.8	106.2
	Total	45.4	374.4	254.1	673.9
Los Angeles	Class 1	264.0	197.8	3.9	465.7
	Class 2	484.6	509.9	79.0	1,073.5
	Class 3	518.2	318.7	127.0	964.0
	Total	1,266.9	1,026.4	209.9	2,503.2
Orange	Class 1	204.9	172.0	-	377.0
	Class 2	638.5	499.2	0.6	1,138.3
	Class 3	102.4	61.4	-	163.8
	Total	945.8	732.6	0.6	1,679.0
Riverside	Class 1	925.1	172.8	5.3	1,103.1
	Class 2	235.7	693.4	31.9	960.9
	Class 3	103.6	136.5	198.6	438.7
	Total	1,264.3	1,002.7	235.8	2,502.8
San Bernardino	Class 1	77.4	285.6	-	363.0
	Class 2	275.8	798.6	16.6	1,091.0
	Class 3	116.7	248.6	90.2	455.4
	Total	469.9	1,332.7	106.8	1,909.4
Ventura	Class 1	56.5	142.5	4.5	203.6
	Class 2	203.1	248.6	0.4	452.1
	Class 3	62.9	119.9	15.3	198.1
	Total	322.5	511.1	20.2	853.8
Regional Total		**4,314.8**	**4,979.9**	**827.3**	**10,122.1**

EXHIBIT 16 Existing, Proposed and SCAG Regional Bikeways

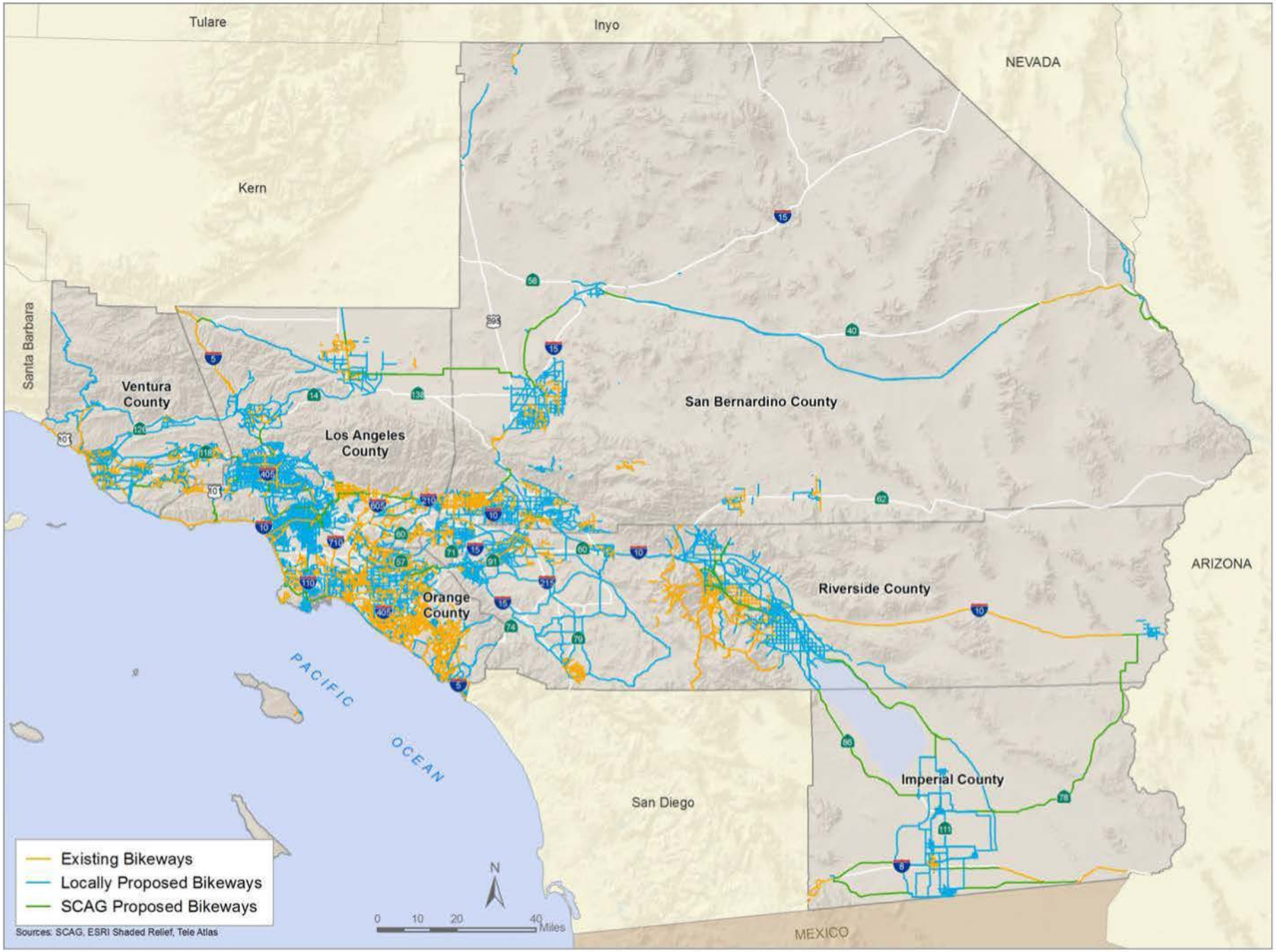


EXHIBIT 17 Existing SCAG Regional Bikeway Network

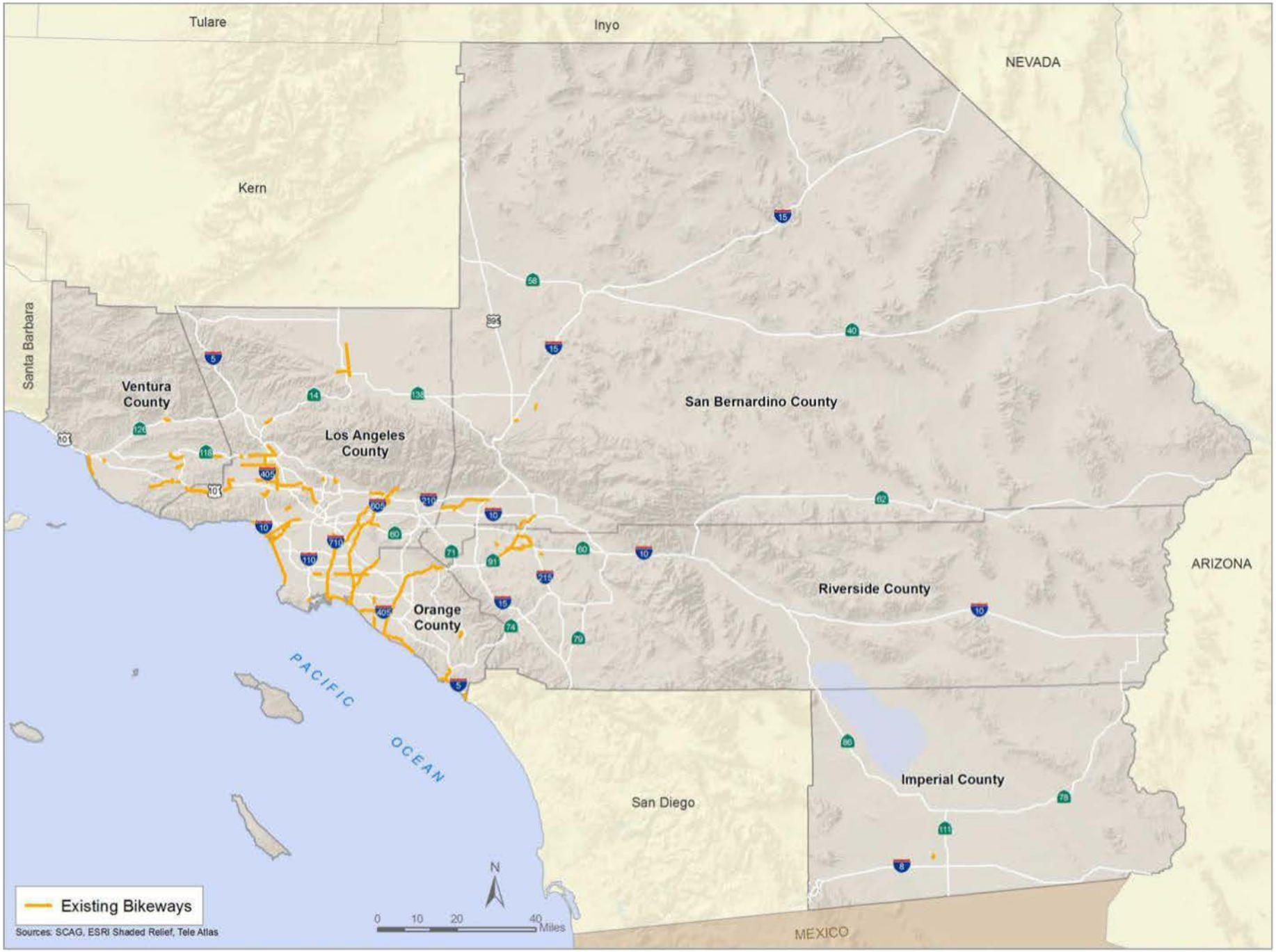


EXHIBIT 18 Proposed SCAG Regional Bikeway Network



Completion of the locally proposed projects would increase the bikeway network from 4,314.8 miles to 9,294.7 miles (4,979.9 mile increase). Completion of the Network would increase the total network system to 10,122.1 miles (an additional 827.4 mile increase).

TABLE 10 Population Served by the SCAG Regional Bikeway Network

Regional Network	Bikeway Miles	Population Served	Total Population	Percentage Served
Existing Bikeways	4,315	7,933,592	18,616,290	42.6%
Existing Bikeways + Locally Proposed Bikeways	8,439	11,615,295	18,616,290	62.4%
Existing Bikeways + SCAG Proposed Bikeways	4,286	8,225,263	18,616,290	44.2%
Existing Bikeways + Locally Proposed Bikeways + SCAG Regional Bikeway Network	**10,122**	**11,865,083**	**18,616,290**	**63.7%**

The completed system will include the existing bikeway facilities, facilities proposed by local jurisdictions (constrained plan), and the SCAG Regional Bikeway Network Projects (strategic plan).

The existing bikeways that belong to the SCAG Regional Bikeway Network are highlighted. The existing system currently includes 432.2 miles of existing bikeways.

The proposed bikeways that belong to the SCAG Regional Bikeway Network have been highlighted, of these proposed projects 752.5 miles have been proposed by local jurisdictions and 827.4 miles have been identified by SCAG as regional bikeway corridors. These corridors provide a network, linking cities and facilities throughout the SCAG region; which may provide an increase in the number of bicycle commuters as well as bicycle tourists and recreational riders.

The SCAG Regional Bikeway Network was developed using local existing and planned facilities to the greatest extent possible to develop an interconnected bikeway network that allows bicyclists to travel between multiple jurisdictions. The new corridor facilities are graphically shown to close the gaps between the existing and locally planned facilities and do not necessarily represent specific alignments or facilities. Further, analysis and collaboration with local jurisdictions is necessary to determine specific route structures. The $6.7 billion dollars allocated toward Active Transportation projects will significantly improve the existing bikeway network through the maintenance, improvement and expansion of the existing infrastructure.

California Coastal Trail

In addition to bikeways, local trails have been able to increase accessibility and provide opportunities for active transportation. Trails along the coast of California have been utilized as long as people have inhabited the region. In an effort to develop a "continuous public right-of-way along the California coastline; a trail designed to foster appreciate and stewardship of the scenic and natural resources of the coast through hiking and other complementary modes of non-motorized transportation" the California Coastal Trail (CCT) was established by Coastal Act of 1976.

The Coastal Initiative Collection (Proposition 20) of 1972 "created six regional commissions and one statewide commission to oversee the use and development of California's 1,000 mile coastline, and was designed to address the state legislature's failure to produce an acceptable compromise measure regarding coastal ecology, protection, and preservation." Four years later Costal Act established the California Coastal Trail. In 1999 the CCT was designated as California's Millennium Legacy Trail to encourage federal agencies to assist in its development. In 2001, Assembly Concurrent Resolution 20 declared the CCT an official State trail and Senate Bill 908 directed the Coastal Commission and State Parks Department to develop a plan to complete the CCT by 2008.

In 2003, the Coastal Conservancy developed the Completing the California Coastal Trail plan to provide a strategic blueprint to complete the CCT. The plan attempted to create a consistent, quality and connective trails throughout the length of the state by adhering to the following principles:

- Proximity – the CCT "should be within sight, sound or at least the scent of the sea."
- Connectivity – the CCT "should effectively link starting points to destinations."
- Integrity – the CCT "should be continuous and separated from motor traffic."
- Respect – the CCT should be "located and designed with a healthy regard for the protection of natural habitats, cultural and archaeological features, private property rights, neighborhoods, and agricultural operations along the way."

- Feasibility – the CCT alignment should identify "timely, tangible results with the resources that are available, both interim and long-term."

Government Code Section 65080.1 requires each MPO that includes a "portion of the California Coastal Trail, or property designated from the trail shall coordinate with the State Coastal Conservancy, the California Coastal Commission and Caltrans regarding the development of the trail. The trail must be identified in the RTP."

In 1976 the American Revolution Bicentennial Commission of California and the California Department of Transportation developed the "Pacific Coast Bicentennial Bike Route." The route began on Highway 101 at the California/Oregon State line, and ended near Interstate 5 at the Mexican border. This existing route is considered challenging and generally recommended for experienced bicyclists only. A pilot project to provide signage along the route in Caltrans District 1 included the installation of 19 bicycle guide signs in Mendocino County, providing cyclists with food, camping and directional information along the bikeway. This existing bikeway coincides with the CCT in some areas depending on the geographical characteristics of that area. While the CCT includes the use of all of forms of active transportation, the primary goal of the CCT is to provide hiking or pedestrian trails.

Los Angeles, Orange and Ventura County each contain a number of bikeways located along the coast, which may be contribute to the completion of the CCT. Ventura County currently contains approximately 322.5 miles of existing bikeways, roughly 23.1 miles are located along the coast. Los Angeles County currently contains approximately 1,266.9 miles of existing bikeways, roughly 63.9 miles are located along the coast. Orange County currently contains approximately 945.8 miles of existing bikeways, roughly 30.2 miles are located along the coast. Completion of the CCT in these areas will require coordination between local and state agencies. New development projects that require approval from the California Coastal Commission may include Conditions of Approvals that provide for enhancements or additions to the CCT.

Completion of the 1,200 mile trail would provide citizens with the SCAG region and the state to have increased access to the California coast through active transportation modes. Additional public benefits from completing the CCT would include:

- Economic Benefits – According to the American Hiking Society's factsheet, The Economic Benefits of Hiking, "Revenues generated from trail-related recreation and sports activities provide substantial income and employment opportunities."
- Environmental Protection and Enhancement – having an established, marked trail may help minimize human impacts on the environment by directing them away from environmentally sensitive areas or resources and encouraging the use of active transportation to reduce GHGs.
- Quality of Life Benefits – the trails may increase recreational activities by providing safe trails for hiking, and riding and may also increase accessibility to other recreational facilities such as the beach or camp grounds.
- Public Health Benefits – improved accessibility to trails may encourage individuals to participate in a more active lifestyle by utilizing active transportation for recreational or transportation purposes.

In addition to the policy initiatives, the following projects have been identified to complete significant portions of the CCT within Ventura, Los Angeles and Orange County.

VENTURA COUNTY

1. Assist Caltrans in evaluating and improving non-motorized access opportunities along the Highway 101 corridor between the County line and Mussel Shoals.
2. Design a recreational access trail along the Santa Clara River to encourage non-motorized access to the coast from inland cities.
3. Restore the pedestrian and bicycle pathway damaged by erosion at Surfers' Point (County Fairgrounds). Encourage the U.S. Navy to provide a shoreline public access connection on the Naval Construction Battalion Center, Port Hueneme, consistent with military security requirements.
4. Provide pedestrian and bicycle paths in conjunction with planning for restoration of the Ormond Beach wetlands, to connect with the trail in Port Hueneme.
5. Work with the City of Oxnard to design and construct recreational support facilities at the terminus of Arnold Road to improve beach access opportunities and avoid impacts to sensitive habitat areas.

LOS ANGELES COUNTY

1. Assist Caltrans in evaluating and improving non-motorized access along State Highway 1 corridor from Leo Carrillo State Beach to the beginning of the South Bay Bicycle Path near Temescal Canyon. Encourage Caltrans and local agencies to extend bicycle and pedestrian improvements through Malibu.
2. Facilitate continuous lateral access along the Malibu shoreline from Leo Carrillo State Beach to the city limit.
3. Link the inland portions of the Santa Monica Mountains national Recreation Area with the coast by assisting the National Park Service, State Parks, the Santa Monica Mountains Conservancy, and the City of Malibu to acquire necessary rights-of-way and develop improvements to complete the Coastal Slope Trail.
4. Extend the pedestrian/bicycle path from Washington Street to the north jetty of Marina del Rey, and support the seasonal ferry service for pedestrians and cyclists across the channel to Playa del Rey.
5. Assist the Cities of Los Angeles and Long Beach in providing a continuous pedestrian and bicycle access across the replacements for the Vincent Thomas Bridge and Gerald Desmond Bridge linking San Pedro to Long Beach.

ORANGE COUNTY

1. Implement the planned State Highway 1 improvements between Seal Beach and Anderson Street in Huntington Beach to create a separated non-motorized trail.
2. Encourage local agency efforts to work with private landowners and acquire public access rights necessary to provide a trail connection to the coast from Aliso Creek Regional Park.
3. Encourage local agency land acquisitions, trail design, and development to provide a public access connection to the coast from Laguna Coast Wilderness Park.
4. Complete improvements of "missing links" to provide safe pedestrian and bicycle access adjacent to State Highway 1 between the cities of Laguna Beach and Dana Point.
5. Support the effort by the City of San Clemente to provide a safe pedestrian and bicycle trail along the railroad right-of-way west of State Highway 1.

It is estimated that the CCT in the SCAG region would be comprised of 183 miles. Approximately 87 miles are considered adequate and an additional 96 miles are still needed in terms of highway corridor improvements, acquisition and construction on private lands, and construction on public lands. Completion of the CCT in the SCAG region is estimated to cost approximately $41,860.

TABLE 11 Improvements Needed to Complete the Coastal Trail: Estimated Linear Miles by County

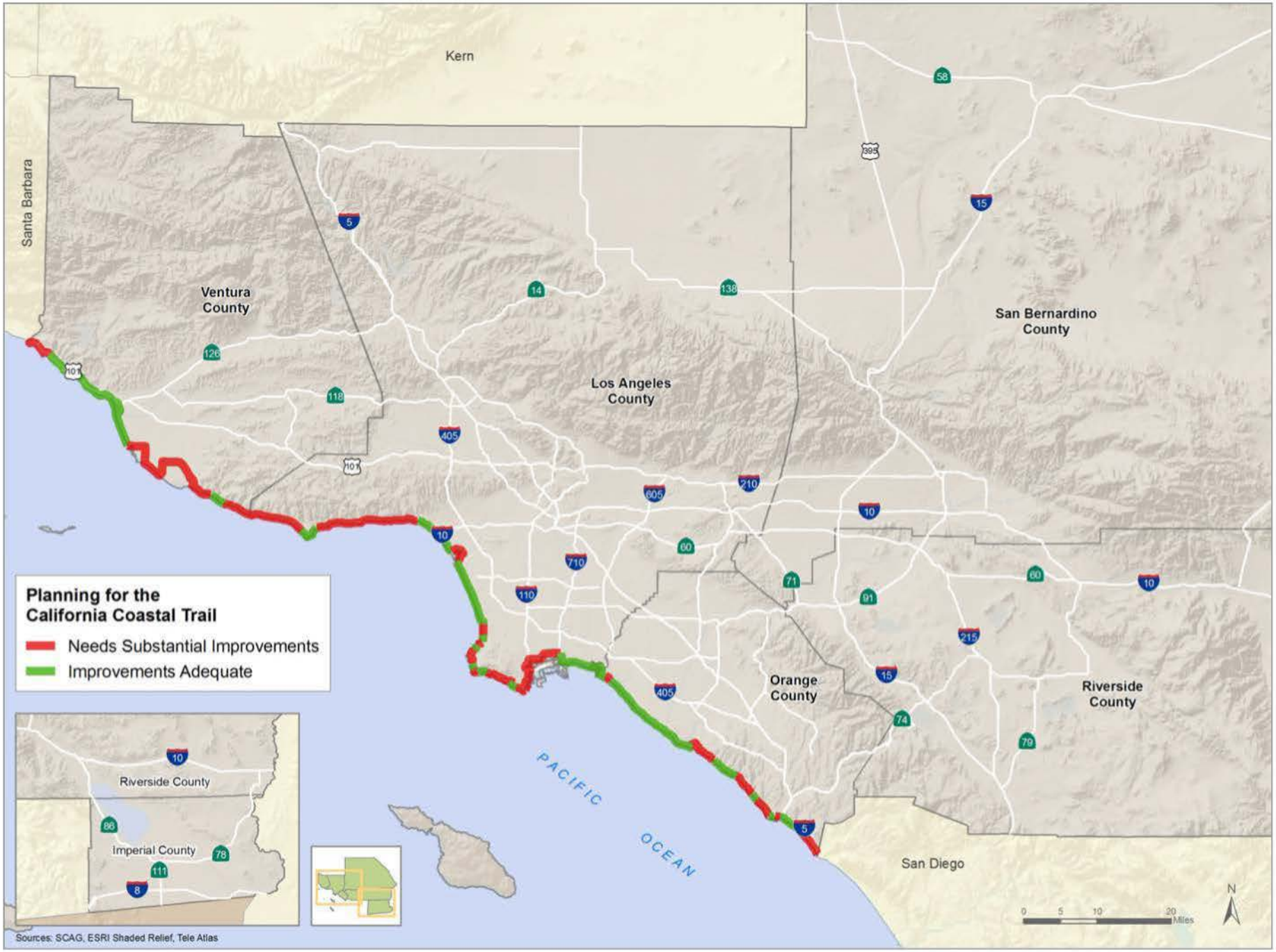
County	Highway Corridor Improvements	Acquisition/ Construction on Private Lands	Construction on Public Lands	Current Improvements Adequate	Total
Ventura	21	-	6	25	52
Los Angeles	22	5	25	34	86
Orange	11	3	3	28	45
SCAG Total	**54**	**8**	**34**	**87**	**183**
CCT Total	**245**	**269**	**245**	**548**	**1,307**

TABLE 12 Estimated Capital Outlay Costs to Complete the Coastal Trail

County	Highway Corridor Improvements	Acquisition of New Right-of-Way	Trail Construction			Total
			Hard Surface	Rural	Signing	
Ventura	$3,200	-	$2,400	-	$20	$5,620
Los Angeles	$3,400	$2,300	$20,600	$100	$100	$26,300
Orange	$1,600	$1,800	$6,700	-	$40	$9,940
Total	**$8,200**	**$4,100**	**$29,700**	**$100**	**$160**	**$41,860**
CCT Total	**$37,200**	**$121.40**	**$123,300**	**$38,450**	**$1,200**	**$321,550**

Completion of these projects would help increase bicycle and pedestrian accessibility to the coast and assist in the development of a regional bikeway network.

EXHIBIT 19 California Coastal Trail



Policy Recommendations

While SCAG is not an implementing agency SCAG may work with local jurisdictions to assist them with developing policies and projects that may improve active transportation.

Agencies, Groups and Individuals in Bicycle and Walking Planning

Federal and state regulations require SCAG to plan and accommodate for bicycle and walking transportation. As the region's MPO, SCAG develops regional planning strategies and encourages local jurisdictions to think about transportation at the regional level, since individual travel decisions are not bound by political boundaries and often transverse multiple jurisdictions. A regional approach towards transportation planning will provide increased connectivity and accessibility. The 2012 RTP has been developed in cooperation and collaboration with federal, state and local stakeholders. Each stakeholder plays a different role in the development and final adoption of the RTP.

FEDERAL GOVERNMENT

Federal statutes have mandated Metropolitan Planning Organizations (MPOs) to include pedestrian and bicycle facility strategies as part of their overall systematic approach in addressing current and future transportation demands.

STATE OF CALIFORNIA

The State of California and Caltrans has long supported active transportation planning, design policies and practices.

COUNTIES

Each county within the SCAG region has developed and maintained a bicycle and walking master plan to guide their active transportation development.

CITIES

Many of the cities within the SCAG region have developed and maintained a bicycle and/or walking plan as part of their circulation element or as a separate document. These plans are used to guide their transportation development and assist them with the implementation of their active transportation policies.

Performance Measures

In addition to the established goals and objectives the following performance measures have been identified in an effort to maximize the benefits of active transportation modes:

1. Change in Active Transportation mode share: Increase bicycling and walking in the SCAG region by creating and maintaining an active transportation system that includes well maintained bicycle and pedestrian facilities, easy access to transit facilities, and increased safety and security.
2. Change in the amount of Active Transportation facilities: Increase accommodation and planning for bicyclists and pedestrians (including persons with disabilities) for all transportation planning projects.
3. Change in the number of accidents involving Active Transportation users: Decrease bicyclist and pedestrian fatalities and injuries by increasing transportation safety.
4. Change in land use patterns and Active Transportation: Support local jurisdictions comply with the Complete Streets Act and the development of local active transportation plans. SCAG will also work with local jurisdictions in developing a regional active transportation plan.

Proposed Policies

The goals, objectives and policies in this report were derived from information gathered over the course of the planning process, including public input, review of bicycle and pedestrian master plans from local jurisdictions throughout the region.

GOAL 1: DECREASE BICYCLIST AND PEDESTRIAN FATALITIES AND INJURIES

- **Objective 1.1:** SCAG will work with local jurisdictions to support a safe transportation environment in the SCAG Region.
  - Policy 1.1.1: SCAG will work with local jurisdictions to provide comprehensive education for all road users.

- Policy 1.1.2: SCAG will work with local jurisdictions to direct enforcement agencies to focus on bicycling and walking safety to reduce multi-modal conflicts.
- Policy 1.1.3: SCAG will partner with local advocacy groups and bicycle related businesses to provide bicycle-safety curricula to the general public.

The 2006 Strategic Highway Safety Plan (SHSP) established goals to make walking and street crossing safer; and improve bicycle safety. The SHSP intended on achieving these goals by 2010, reducing the number of pedestrian fatalities attributed to vehicle collisions and the number of bicycle roadway fatalities by 25 percent from their 2000 level. These goals were established by the Legislature in the 2002 California Blueprint for Bicycling and Walking, and assumed that the Legislature's mobility goal of a 50 percent increase in bicycling and pedestrian trips by 2010 would also be achieved.

Improved data collection regarding pedestrian and bicycle trip characteristics, facility conditions and injuries and fatalities would provide local jurisdictions with a clearer understanding of the active transportation conditions within their jurisdictions. Analysis generated from this data would also provide decision makers with a better understanding of the deficiencies and needs within the existing active transportation system.

FIGURE 14 California Coastal Trail Timeline



GOAL 2: DEVELOP AN ACTIVE TRANSPORTATION FRIENDLY ENVIRONMENT THROUGHOUT THE SCAG REGION

- **Objective 2.1:** Produce a comprehensive regional active transportation plan
  - Policy 2.1.1: SCAG will work with local jurisdictions to adopt and implement the proposed SCAG Regional Bikeway Network
  - Policy 2.1.2: SCAG will work with local jurisdictions to connect all cities in the SCAG region via bicycle facilities
  - Policy 2.1.3: SCAG will work with local jurisdictions to complete the California Coastal Trail

The need for active transportation needs to be fully considered for all transportation planning projects. Increased accommodation for bicyclists and pedestrians requires increased funding, multi-modal planning, programming, and design. As planners increase accommodation for active transportation users, an increase in bicyclist and pedestrian safety should also occur.

Research by Dr. Jennifer Dill, Portland State University Associate Processor, and anecdotal evidence from New York City (NYC) indicate that increases in dedicated bicycle facilities (bicycle lanes and bicycle paths) in those cities have resulted in greater bicycle usage. In addition, in NYC, while bicycling use has doubled along with the number of bicycle facilities, bicycle fatalities have not grown, and injuries have actually declined in total. Collaborative efforts that are capable of integrating the needs of all commuters are essential to developing a safe and accessible transportation system for all users.

Adoption of the SCAG Regional Bikeway Network would increase bicycle facilities by 827.5 miles beyond existing local plans, and may further promote ridership in the SCAG region. In addition, SCAG may partner with local jurisdictions on grant opportunities such as the Caltrans Bicycle Transportation Account (BTA) or Safe Routes to School (SRTS) projects. SCAG may also provide local jurisdictions with assistance in the development of their local active transportation plans and by providing them with Pedestrian Safety Action Plan (PSAP) workshops. The SCAG Compass Blueprint program may further assist local jurisdictions with the development of innovative transportation and land-use planning projects.

Adoption of a Complete Streets Policy that would ensure that all streets are safe, comfortable, and convenient for travel for everyone, regardless of age or ability—motorists, pedestrians, bicyclists, and public transportation riders.

GOAL 3: INCREASE ACTIVE TRANSPORTATION USAGE IN THE SCAG REGION

- **Objective 3.1:** Adoption of a Safe Routes to School Policy
  - Policy 3.1.1: Enable and encourage children, including those with disabilities to walk and bicycle to school
  - Policy 3.1.2: Make bicycling and walking to school a safer and more appealing transportation method, thereby encouraging a healthy and active lifestyle from an early age
  - Policy 3.1.3: Facilitate the planning, development, and implementation of project and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity (approximately 2 miles) of primary and middle schools (Grade K-8)
- **Objective 3.2:** Adoption of a Complete Streets Policy
  - Policy 3.2.1: Encourage local jurisdictions to prioritize and implement projects/policies to comply with ADA requirements
  - Policy 3.2.2: Encourage local jurisdictions to develop and implement Complete Streets Policies.

Increasing bicycling and walking requires well maintained bicycle and pedestrian facilities, easy access to transit facilities, and increased safety and security. While pedestrian sidewalks are fairly well established in most areas, it is estimated that there are only 4,315 miles of dedicated bicycle facilities in the region, with an additional 7,154 miles planned.

Reliable data for planning is also needed to increase active transportation and investments. Active transportation data needs include, but are not limited to, comprehensive user statistics, user demographics, bicycle travel patterns/corridors, accident mapping, bikeway system characteristics, and sub-regional improvement projects and funding needs.

GOAL 4: ENCOURAGE THE DEVELOPMENT OF LOCAL ACTIVE TRANSPORTATION PLANS

- **Objective 4.1:** SCAG will assist local jurisdictions with the development and maintenance of their local active transportation plans
  - Policy 4.1.1: SCAG will work with local jurisdictions in the development of bicycle/pedestrian plans for all cities in the region
- **Objective 4.2:** Develop Pedestrian Safety Action Plans
  - Policy 4.2.1: SCAG will work with local jurisdictions in the development of PSAPs by conducting workshops
- **Objective 4.3:** Encourage the use of Intelligent Traffic Strategies
  - Policy 4.3.1: Encourage the use of Intelligent Traffic Signals that are able to detect slower pedestrians in signalized crosswalks and extend the signal time appropriately

SCAG will work with all member counties and cities to develop bicycle and walking plans and policies. Active transportation plans have been created or updated within the previous four years are eligible for BTA funds.

Air Quality Improvements

In addition to increased mobility for all users throughout the SCAG region, implementation of the 2012–2035 RTP/SCS will further improve the environment and congestion of the region through the reduction of vehicle miles traveled (VMT).

Potential VMT Reduction

As described previously, active transportation has grown dramatically in recent years. This trend is expected to continue into the foreseeable future aided by several factors. First, dramatic increase in the bicycle network, as demonstrated earlier, will result in improved access to bicycle network for the Region's residents by more than 50 percent. Second, more compact mixed use urban forms in the future will be much more conducive to biking and walking. Third, better coordination with other modes, primarily transit, will become an incentive for some to switch to biking or walking. Most importantly, a significant change in the culture that values a healthy lifestyle, bikeability and walkability will become a greater impetus in promoting active transportation as a viable means of accessing opportunities. Given this context and survey data that supports dramatic increase in bicycling and walking mode shares in recent years, it is reasonable to assume this trend will continue into the future. For example, according to the NHTS data, bicycle mode share increased for all trips from 0.8 percent in 2000 to over 1.7 percent in 2009. This is an increase of almost 9 percent on an annualized basis. The share of walk trips for all trip purposes increased by approximately 6 percent on an annualized basis during the same period.

So, if we assumed annualized increase of 9 percent in mode share of bicycle trips for all trips, the potential bicycle mode share could be as high as 4.4 percent in 2020 and as high as 16 percent in 2035. However, it is somewhat unrealistic to assume that 9 percent growth rate could be sustained over such a long period of time. On the other hand, given the significant investments proposed for active transportation and the current trends, it is reasonable to assume that at least 2/3 of all trips shorter than 3 miles or half of all trips that are 5 miles or less could be converted to active transportation by 2035.

As indicated earlier, based on NHTS-CA Survey for all trips, bicycling and walking mode share for all trips are approximately 1.7 percent and 19.24 percent respectively for 2009. This represents a little over 50 percent of all trips less than 3 miles. Assuming 2/3 of all trips under 3 miles or half of all trips under 5 miles as the upper limit of Active Transportation mode share in 2035, relative increase (from the base year of 2008) in bicycling and walking mode shares can be estimated as 1.7 percent and 3.1 percent in 2020, and 3.9 percent and 6.3 percent in 2035. Relative reduction in VMT resulting from these mode shifts are estimated at approximately 7.8 million miles and 20.4 million miles for 2020 and 2035 respectively.

REGIONAL TRANSPORTATION PLAN
2012–2035 RTP
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future

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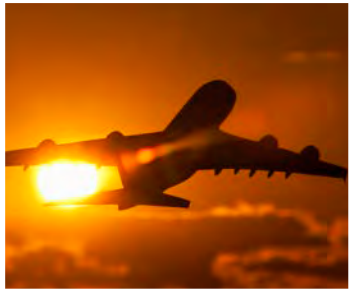
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AVIATION AND AIRPORT GROUND ACCESS APPENDIX









REGIONAL TRANSPORTATION PLAN
2012–2035
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future
RTP











Southern California Association of Governments

ADOPTED APRIL 2012

AVIATION AND AIRPORT GROUND ACCESS

Regional Air Passenger Demand Forecast Scenarios for 2012–2035 Regional Transportation Plan 1

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Regional Air Passenger Demand Forecast Scenarios for 2012–2035 Regional Transportation Plan

Background

The SCAG Aviation Technical Advisory Committee (ATAC) approved three alternative 2035 regional air passenger demand forecast scenarios for commercial airports, to be considered for potential inclusion in SCAG's 2012–2035 Regional Transportation Plan (RTP). These include baseline/medium growth, low growth, and high growth scenarios. ATAC members agreed that the scenarios present a reasonable range of possible growth rates for commercial aviation in the region over the next 25 years. This report describes these forecast scenarios, including an allocation of 2035 passenger demand to individual commercial airports for each scenario. It also presents the recommendation made by ATAC at its September 22, 2011 meeting for the Baseline Scenario to serve as the Preferred Regional Air Passenger Demand Forecast for the 2012–2035 RTP, with several caveats.

I. Comparison of Regional Air Passenger Demand Forecasts with Other Recent Forecasts

Recent aviation industry air passenger demand forecasts have been reviewed for consistency with the 2035 baseline, the high and low growth regional air passenger demand forecast scenarios, all of which were approved by the ATAC for inclusion in the 2012–2035 RTP. Those recent forecasts include ones completed by the Federal Aviation Administration (FAA), Boeing, Airbus, the San Francisco Bay Area (Regional Airport System Plan Analysis) and San Diego County (Regional Aviation Strategic Plan). A comparison of the yearly (per annum) growth rates between these forecasts can be seen below. The combined commercial activity level served by the six air carrier airports in the region in 2010 was 81.48 million annual air passengers (MAP). This is up from the 79.08 MAP they served in 2009, but it is still significantly lower than the 90.06 MAP they served in 2007.

Average Annual Growth Rates of Alternative Passenger Forecast Scenarios

1. Baseline Scenario (145.9 MAP) 2.5% p.a.
2. Low Growth Scenario (130.0 MAP) 2.1% p.a.
3. High Growth Scenario (164.0 MAP) 3.0% p.a.

Average Annual Growth Rates of Recent Industry and Regional Passenger Forecasts

1. FAA Aerospace Forecast 3.2% p.a.
2. Boeing 3.2% p.a.
3. Airbus 2.7% p.a.
4. California regional studies 1.4% to 2.8% p.a.

In general, the annual growth rates of these air passenger forecast scenarios for the SCAG region (baseline/medium growth, high growth and low growth) are somewhat lower than growth rates in forecasts developed by the FAA, Boeing and Airbus, and are generally consistent with growth rates in forecasts developed by the other two regions in California. However, the Low Growth Scenario growth rate is not as low as the lowest growth rates recently considered by the other California regions. Strategically, the upper forecast in the High Growth Scenario is more important than the lower forecast, since the upper forecast determines whether or not the region may run out of airport capacity earlier than was anticipated if it is too low. If it is too high, the forecast can just be pushed farther out into the future when it is updated by the next RTP cycle.

At several ATAC meetings, members debated the reasonableness of the growth rates in the Baseline, High Growth and Low Growth scenarios. In general, the members thought they bracketed a reasonable a reasonable range of possible growth rates for commercial aviation in the region over the next 25 years, which is consistent with other recent forecasts (although the San Francisco Bay Area and San Diego have considered even lower yearly growth rates than what is reflected in the Low Growth Scenario).

II. Descriptions and Allocations for 2035 Baseline, Low Growth and High Growth Regional Air Passenger Demand Forecast Scenarios

1. BASELINE SCENARIO (145.9 MAP)

The 2035 Baseline Scenario is essentially the same as the 2035 Constrained/No Project Scenario that was modeled and evaluated as part of the 2008 RTP. The Constrained Scenario was characterized in the 2008 RTP as a very conservative vision for the regional airport system. It assumed no intra-regional maglev high-speed rail system, no market incentives, and very conservative behavior on the part of the airlines in adding flights at new and emerging airports (although all air carrier airports that desire commercial service were allocated some passenger demand even if they currently serve none). Like the other scenarios in the 2008 RTP, the Constrained Scenario respected existing legally-enforceable policy and physical capacity constraints at urban airports.

In 2003 the legally-enforceable Settlement Agreement at John Wayne Airport was amended to allow it to expand from 8.4 MAP to 10.8 MAP, so this new policy constraint was incorporated into the 2008 RTP Constrained Scenario. A more detailed evaluation of the runway capacity constraint at Ontario Airport raised its capacity constraint from 30.0 MAP to 31.6 MAP. The Bob Hope terminal gate constraint of 10.7 MAP that was used in the 2004 RTP was lowered to 9.4 MAP since Bob Hope Airport staff determined that the four remote aircraft parking gates assumed in the 2004 plan were no longer available for aviation uses. At the request of the March Joint Powers Commission, instead of assuming that March Inland Port was unconstrained, it was considered to be constrained by the 21,000 annual civilian operations allowed in the operative joint use agreement with the Air Force. A RADAM model capacity analysis determined that this constraint equates to 2.5 MAP at March Inland Port, compared to an 8.0 MAP 2030 unconstrained forecast for March in the 2004 RTP. A refined capacity analysis of San Bernardino International's one-runway system produced a runway capacity constraint of 8.7 MAP. Neither March nor San Bernardino reached their capacity constraints in the Constrained Scenario due to its conservative assumptions about future airline air service behavior.

The assumptions and parameters used to model the 2035 Constrained Scenario for the 2008 RTP are as follows:

- LAX: Settlement Agreement: 78.9 MAP
- Bob Hope: Existing terminal/gate capacity: 9.4 MAP
- Long Beach: Flight restriction of 41 air carrier flights/day: 3.2 MAP
- John Wayne: Revised Settlement Agreement: 10.8 MAP
- Ontario: Existing runway capacity: 31.6 MAP
- San Bernardino and Palmdale: Charter, corporate & commuter/short haul
- March and Southern California Logistics: Cargo, charter and corporate
- Oxnard and Imperial: Corporate, charter and commuter only
- Planned (2008 RTP) ground access improvements
- No market incentives
- No high-speed rail (intra-regional Maglev system)
- Doubling of aircraft fuel costs

However, Long Beach Airport reached 3.0 MAP in 2010, and will likely exceed its estimated 3.2 MAP constraint in the near future since it still has most of its 25 available commuter slots yet to be filled. The Terminal Improvement EIR forecast for Long Beach Airport was 4.2 MAP, which was also the forecast for Long Beach Airport in the 2008 RTP adopted Preferred Scenario regional aviation forecast. Therefore, the allocation to Long Beach is increased to 4.2 MAP in the Baseline Scenario, and 1 MAP is subtracted from Ontario and San Bernardino airports on a proportional basis (to keep to the 145.9 MAP total). This is reasonable since the increased service at Long Beach will likely draw from the same Los Angeles County and Orange County markets that these airports would also draw from in 2035. Also, previous RADAM modeling showed that Ontario Airport barely reached its 31.6 MAP capacity constraint in the Constrained Scenario, and could easily fall below this number using different modeling assumptions. These adjustments result in a slight re-allocation of the forecast demand for the Baseline Scenario compared to the 2008 RTP Constrained Scenario.

2. LOW GROWTH SCENARIO (130 MAP)

The 130 MAP total assumed for the 2035 Low Growth scenario is not based on any past modeling, and is lower than any regional aviation scenario modeled for previous RTPs, including 2020 forecasts for the 1998 RTP. It was viewed by the ATAC as representing a reasonable low end of the range of possible regional aviation demand futures. The demand allocation for this scenario assumes that the constrained urban airports (LAX, Bob Hope, Long Beach and John Wayne) would still reach their capacity constraints, and allocation of the remaining passenger demand (26.7 MAP) to the other airports would be based on their proportional shares in the Baseline Scenario.

3. HIGH GROWTH SCENARIO (164 MAP)

The 2035 High Growth Scenario represents an extrapolation of the 2030 FAA Terminal Area Forecast (TAF) for air carrier airports in the region (3.0 percent growth rate per annum beyond 2030). The TAF is an unconstrained econometric forecast for established air carrier airports, based on historical trends as reported by the airports themselves. The 2030 TAF for LAX, Long Beach, Burbank and John Wayne airports exceeds their legally-enforceable or physical capacity constraints by significant margins. At 164 MAP, the High Growth Scenario is slightly below the 165.3 MAP forecast of the 2035 Preferred Scenario adopted for the 2008 RTP. Like all the other regional aviation demand scenarios modeled for the 2008 RTP, the Preferred Scenario respected legally-enforceable policy constraints and physical capacity constraints at the urban air carrier airports, as well as estimated capacity constraints at Ontario Airport (runway capacity) and March Inland Port (civilian operations allowed by the joint use agreement with the Air Force). It assumed much more willingness on the part of the airlines to invest in new flights at new and emerging airports than in the Constrained Scenario, and a package of market and ground access incentives. It also assumed an abbreviated version of a proposed intra-regional high-speed rail (maglev) system, running from West Los Angeles to Ontario Airport, and extending west to LAX and east to San Bernardino International. The airport demand allocations for the High Growth Scenario are not based on any modeling that incorporated these assumptions, but are based on an assumption that LAX, Bob Hope, Long Beach, John Wayne, Ontario and March will all reach their capacity constraints by 2035. The residual demand of the 164 MAP forecast (26.6 MAP) was allocated to the remaining airports based on their proportional shares in the Baseline Scenario.

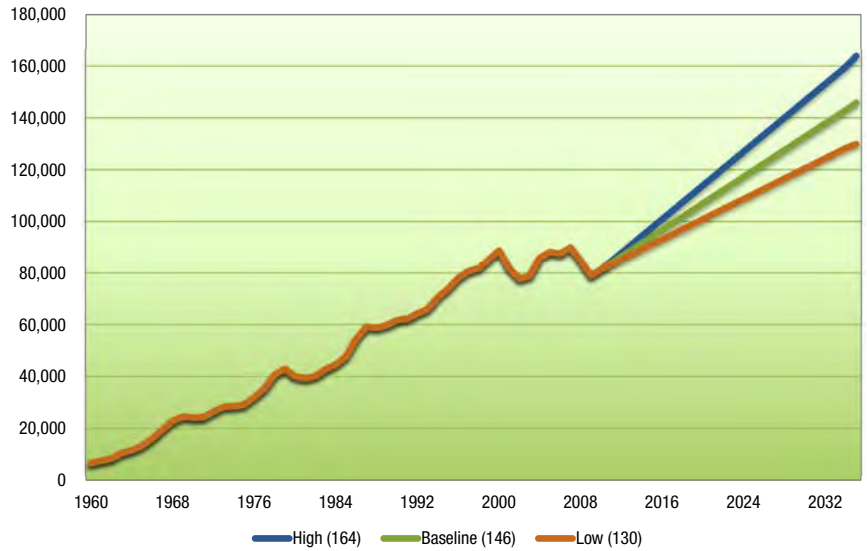
The relative airport allocations between the Baseline/Medium Growth, High Growth and Low Growth scenarios are shown in **TABLE 1** below.

TABLE 1

	Low	Baseline	High
Bob Hope	9.4	9.4	9.4
John Wayne	10.8	10.8	10.8
LAX	78.9	78.9	78.9
Long Beach	4.2	4.2	4.2
March Inland Port	0.4	0.6	2.5
Ontario	19.2	30.7	31.6
Palmdale	1.6	2.6	6.1
Palm Springs	2.3	4.1	9.6
San Bernardino	1.8	2.8	6.7
SoCal Logistics	0.4	0.7	1.6
Imperial	0.6	0.9	2.1
Oxnard	0.1	0.2	0.5
Total	**130**	**146**	**164**

FIGURE 1 below shows the three forecast scenarios in relation to historical air passenger trends in the region since 1960.

FIGURE 1 Historic and Forecast Annual Passengers (Thousands)



ATAC Recommendation

At its September 22, 2011 meeting, the SCAG Aviation Technical Advisory Committee recommended the Baseline/Medium Growth Scenario to serve as the Preferred Regional Air Passenger Demand Forecast for the 2012–2035 RTP. However, it did so only after a spirited debate over the reasonableness and feasibility of the scenario, and only after attaching the following caveats to the recommendation:

- The Baseline/Medium Growth Forecast seems to be reasonable in that it is consistent with the 2008 RTP Constrained Scenario, which is based on conservative assumptions that are consistent with recent trends. However, the forecast is based on a number of variables that history has shown can change significantly over time, and it is important to update the forecast on an ongoing basis, most importantly for the next (2016) RTP.
- The forecast does not consider the potential impacts of the California High-Speed Rail Project on future regional aviation demand generation and allocation to airports. Future forecast updates should incorporate these potential impacts if and when the project is underway, and has a reasonably achievable implementation schedule.
- The forecast recognizes defined legally-enforceable and physical capacity constraints at the constrained urban airports including LAX, Bob Hope, Long Beach and John Wayne. However, it does not recognize the fact that the settlement agreements at both LAX and John Wayne airports expire in the 2015–2020 time period. Relaxation or elimination of the settlement agreement constraints at these airports could significantly impact forecast allocations of aviation demand at other airports in the regional system. Future updates of the forecast, such as for the 2016 RTP, should incorporate any new information provided by local airport authorities on revised constraints at capacity-constrained airports.

The 2035 Baseline Scenario represents a continuation of repeated downward adjustments of annual growth rates underlying regional aviation demand forecasts prepared by SCAG over the last 14 years, in response to new and unfolding economic and market conditions. Below is a comparison of the 2035 Baseline Scenarios to adopted regional aviation demand forecasts in past SCAG RTPs.

- 1998 RTP—157.4 MAP in 2020
- 2001 RTP—167 MAP in 2025
- 2004 RTP—170 MAP in 2030
- 2008 RTP—165.3 MAP in 2035
- 2012–2035 RTP—145.9 MAP in 2035 (Baseline Scenario)

Regional Air Cargo Demand Forecast Scenarios for 2012–2035 RTP

Background

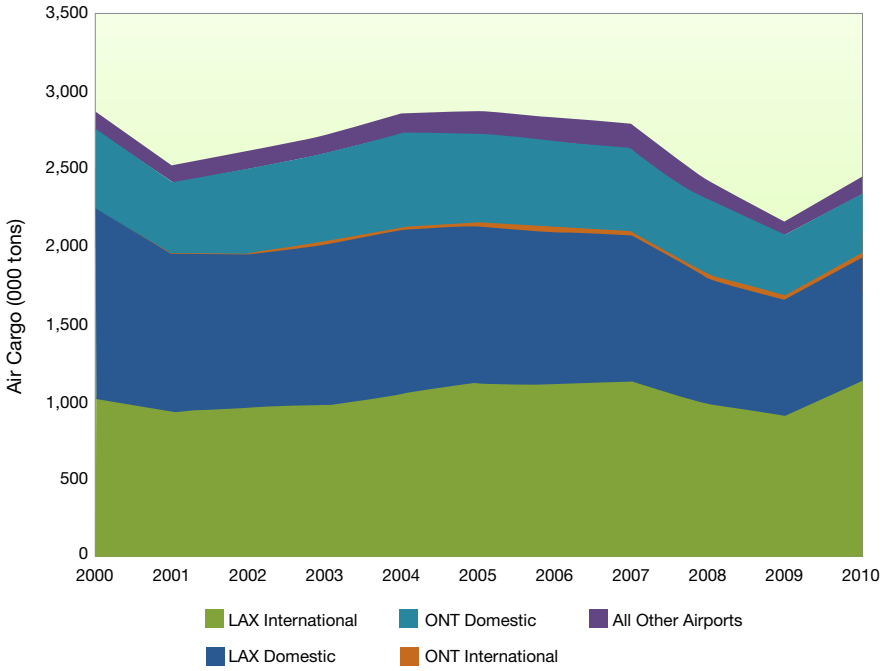
For every regional transportation plan since the 2001 RTP, SCAG has forecast regional air cargo demand in addition to regional air passenger demand. Similar to the process used to forecast air passenger demand, three alternative 2035 forecast scenarios for air cargo were considered by the SCAG Aviation Technical Advisory Committee (ATAC) for inclusion in the 2012–2035 RTP: baseline/medium growth, low growth and high growth scenarios. This report describes these forecast scenarios, including an allocation of 2035 passenger demand to individual commercial airports for each scenario. The information presented below is taken from a report prepared for SCAG by Aviation System Consulting, which developed a regional air cargo forecast methodology and allocation based on analytical work performed for SCAG by TranSystems. At its September 22, 2011 meeting, ATAC recommended that the Baseline Scenario serve as the Preferred Regional Air Cargo Demand Forecast for the 2012–2035 RTP. At 5.605 million tons in 2035, the new 2035 regional air cargo forecast is substantially lower than the adopted 2008 RTP forecast of 8.28 million tons in 2035, mainly because of a substantial downturn of regional air cargo demand over the last decade.

I. Regional Air Cargo Activity Trends

Prior to the past decade, regional growth in air cargo was extremely robust, more than tripling from 921,800 tons in 1979 to 2.87 million tons in 2000. However, there has been a downward trend since then for various reasons including the events of 9/11/2001, the steep economic recession beginning in 2007, and the increased diversion of domestic air cargo to electronic and ground transport modes. The trend in air cargo activity at the commercial service airports in the SCAG region over the past eleven years is shown in **FIGURE 2**. There are a number of aspects to the recent trend in air cargo in the region that are very apparent from the figure:

1. Overall, air cargo activity has been steadily declining over the past decade. While the declines in the 2001 and 2008/2009 recessions have been a major contributor to this, the general trend has still been downward. Following the drop in the 2001 recession, air cargo activity recovered slowly from 2001 to 2004, reaching a level slightly below that in 2000. It then slowly declined from 2004 to 2007, before dropping again in the 2008/2009 recession. However, the recovery in 2010 was stronger than that following the 2001 recession and it remains to be seen how long this continues.
2. The decline has been entirely confined to domestic air cargo. International air cargo reached a peak in 2007, declined in 2008 and 2009 with the recession, then recovered in 2010 to slightly below the 2007 peak (the difference is not apparent in the figure). It seems likely that international air cargo will continue to grow in the future, although the traffic for the first seven months of 2011 was about 3 percent below the level for the corresponding period in 2010.
3. Almost all international air cargo moves through Los Angeles International Airport (LAX). Ontario International Airport (ONT) handles a very small proportion (about 3 percent in 2010) and the other airports essentially none.
4. LAX and ONT between them handle almost all of the region's air cargo (96 percent in 2010), The share handled by the other airports combined increased slightly from 2004 to 2007, when DHL was operating a hub at March Inland Port, but has since declined to the level experienced in 2000. There is thus no evidence of a shift toward the smaller airports. In fact, the majority of the air cargo handled by the other airports moves through Bob Hope (2.1 percent in 2010), Long Beach (1.6 percent in 2010), and John Wayne (0.6 percent in 2010). The share handled by the remaining airports combined was significantly less than 0.1 percent in 2010.

FIGURE 2 Historical Air Cargo 2000–2010



Trend in Air Cargo Activity at SCAG Region Airports

The air cargo figures for the smaller secondary airports included in the top band in **FIGURE 1** are likely missing a very small amount of international cargo due to the source of the data used for those airports.

Not shown in the above figure is the extent to which the domestic air cargo at LAX and ONT is handled by the integrated carriers. At LAX, FedEx handled 46 percent of the domestic air cargo in 2010, ABX Air (which provides air service for DHL) handled 7 percent, and UPS handled 4 percent, for a 57 percent market share of the integrated carriers. At ONT, UPS handled 60 percent of the domestic air cargo in 2010 (market share data is only for January through October) and FedEx handled 32 percent, for a 92 percent market share by the integrated carriers.

Of the domestic air cargo at LAX not handled by the integrated carriers, the majority (27 percent of all domestic air cargo in 2010) was handled by five scheduled airlines: American, Continental, Delta, United and US Airways. A relatively small amount of the remainder was handled by other scheduled airlines (Alaska, Southwest, etc.).

FedEx and UPS handled a trivial share of the international air cargo at LAX in 2010 (a few tons), but UPS handled all the international air cargo at ONT, although this was fairly small as shown in **FIGURE 1**. It should be noted that the distinction between domestic and international cargo relates to the destination of the flight carrying that cargo, not the final destination of the shipment. For example, if FedEx put an international shipment on a flight from LAX to its hub at Oakland International Airport (say), where it was put on an international flight, that shipment would be counted as domestic cargo at LAX.

Over 82 percent of the international air cargo at LAX is handled by scheduled passenger airlines or their cargo divisions that operate freighter aircraft. Obviously, the cargo carried in the belly of passenger flights is not likely to be diverted to other airports, except to the extent that those airports attract additional international service. As a practical matter, the only airport where this is likely to occur to a significant extent is ONT. The other airports may be able to attract some limited international service, particularly to Mexico or Canada, but these flights are unlikely to attract much air cargo. Similarly, the cargo divisions of passenger airlines will want to serve the same airport as the passenger flights, since they share the same ground handling facilities.

Based on the air cargo activity over the past decade, the airport allocations of air cargo shown in the Preliminary 2012–2035 RTP forecasts prepared earlier in 2011 would appear to require a highly unlikely change from the current distribution pattern. There might be a small shift of international air cargo to ONT if the growth in passenger traffic there results in the addition of some long-haul international flights or if UPS expands its international service out of its ONT hub.

The bottom line is that unless FedEx or UPS decides to relocate one of their hubs, which appears quite unlikely, the only potential air cargo traffic that might be attracted to the smaller airports is that handled by the all-cargo and charter airlines. This was less than 18 percent of the international air cargo and less than 14 percent of the domestic air cargo at LAX in 2010. Obviously, not all of this is likely to be diverted to other airports.

II. TranSystems 2035 Forecast of Total Regional Air Cargo

Analysis of air cargo forecasts performed by TranSystems for the 2012–2035 RTP update suggests that the growth rates implied by the regional air cargo forecasts in the 2008 RTP are too high in light of recent trends in the industry. The 2035 forecast of regional totals for international and domestic air cargo recommended by TranSystems are shown in **TABLE 1**.

TABLE 1 Forecast Total Regional Air Cargo – 2035

	Forecast Scenario		
	Low	Baseline	High
International (000 metric tons)	1,695.40	2,302.90	2,751.20
Domestic (000 metric tons)	2,047.60	2,781.40	3,322.80
	3,743.00	**5,084.30**	**6,074.00**
International (000 tons)	1,869.10	2,538.90	3,033.20
Domestic (000 tons)	2,257.50	3,066.50	3,663.40
	4,126.60	**5,605.40**	**6,696.60**

III. Allocation of Regional Air Cargo to Airports

Air cargo handled by charter and all-cargo airlines accounted for a little over 17 percent of international cargo and about 13 percent of domestic cargo. While in principle this component of the traffic is "footloose" in the sense that it could use other airports, in practice the ability of this traffic to use other airports is limited by the presence of cargo connecting between domestic and international flights. An analysis of the tonnage of LAX air cargo handled by type of carrier in 2010 gave the following breakdown:

TABLE 2 LAX Air Cargo by Type of Carrier – 2010

	International Freight & Mail	Domestic Freight & Mail
Passenger Airlines	70.70%	29.80%
Cargo Divisions	11.90%	0.00%
Charter Airlines	0.40%	1.60%
Integrated Carriers	0.00%	57.10%
All-Cargo Airlines	17.00%	11.50%

Even if only some of the cargo on a domestic flight by an all-cargo or charter airline is connecting to or from an international flight, if the flight uses another airport that cargo would have to be trucked to or from LAX. Similarly, some of the international cargo on all-cargo or charter flights is connecting to or from domestic flights, and therefore those flights are likely to be primarily at LAX. Although all-cargo and charter airlines are cost-sensitive, any cost advantage of using a different airport would have to be offset against the cost of trucking the international cargo between the airports. Another constraint on the choice of airport by all-cargo and charter airlines is the location of freight forwarders, which tend to be concentrated in the vicinity of LAX for obvious reasons. In the case of international cargo moving on all-cargo or charter flights, there is also the constraint of needing to clear customs.

In the case of international air cargo on all-cargo or charter flights, a further consideration is that some of this cargo may be moved by truck or rail to or from locations outside the Southern California region. From cargo moving by truck or rail into or out of the region, secondary airports outside the urban core may have some advantages as a transshipment location.

Without more detailed analysis that is beyond the scope of the analysis undertaken for the 2012-2035 RTP/SCS update, it is unclear how much of the cargo on all-cargo or charter airlines that used LAX in 2010 could potentially be diverted to other airports, but the amount is likely to be fairly small for the foregoing reasons. It is also unclear to what extent the split of air cargo by type of carrier at LAX might change in the future. If air cargo grows faster than passenger traffic, the passenger airlines may not have sufficient belly cargo capacity, leading to an increased use of all-cargo and/or charter airlines.

On the other hand, the introduction of larger wide-body aircraft, such as the Airbus A-380, will increase the belly cargo capacity of passenger flights. It is also possible that the integrated carriers will expand their market share of international freight.

In the absence of any clear basis for assuming a change in the relative market share of different types of carrier, it is assumed that the market shares shown in **TABLE 2** remain in effect in 2035. It is also assumed that only 25 percent of the domestic cargo handled by all-cargo or charter airlines is potentially divertible to other airports and that in practice only half of the potentially divertible cargo is actually diverted. The basis for the assumption of 25 percent is that half the domestic cargo is assumed to be connecting to or from international flights and that half of the cargo that is not connecting to or from international flights is moving on flights that include connecting cargo. Because of the potential transshipment advantages of secondary airports outside the urban core for international air cargo, it is assumed that the proportion of international cargo handled by all-cargo or charter flights that is potentially divertible to other airports is somewhat higher than for domestic cargo and that 30 percent of this cargo is potentially divertible, with only half of this actually diverted.

Of the cargo traffic that is diverted to the smaller secondary airports outside the urban core, those closer to the urban core will have some advantages for cargo that has a shipment origin or destination within the urban area. San Bernardino International Airport (SBD) and March Inland Port (MIP) are sufficiently close to each other that neither appears likely to have a significant locational advantage over the other. However, Ontario International Airport is even closer to the urban core than either SBD or MIP and will have the further advantage for international cargo of a much larger number of domestic passenger flights for cargo connecting to domestic flights. Therefore the market shares shown in **TABLE 3** have been assumed for the cargo diverted from LAX:

Since the other airports in the region would already have attracted any air cargo that might be diverted from LAX, it is assumed that they would not attract any additional cargo from LAX. All three airports (Bob Hope, John Wayne, and Long Beach) have significant night noise constraints or curfews that would make them unattractive to air cargo operators. Palm Springs International Airport is too far from the urban area to attract any significant amount of cargo that might be diverted from LAX.

TABLE 3 Market Shares of Air Cargo Diverted from LAX – 2035

	International Cargo	Domestic Cargo
Ontario International	45%	35%
San Bernardino International	20%	25%
March Inland Port	20%	25%
Southern California Logistics	10%	10%
Palmdale Regional	5%	5%

IV. Revised 2035 Air Cargo Forecasts

Based on the revised projections of the total level of regional air cargo traffic and the assumed diversion of air cargo from LAX to ONT and the smaller secondary airports, the forecast level of air cargo activity at each airport has been revised as shown in **TABLE 4**.

TABLE 4 Revised Air Cargo Forecasts by Airport – 2035

(000 tons)	Scenario		
	Low Growth	Baseline	High Growth
Bob Hope	80	108	130
John Wayne	34	46	55
Los Angeles International	2,685	3,647	4,358
Long Beach	69	94	112
March Inland Port	108	147	176
Ontario International	968	1,314	1,570
Palmdale Regional	25	34	40
Palm Springs International	Note 1	Note 1	Note 1
San Bernardino Int'l	108	146	175
So. California Logistics	50	68	81
	4,127	**5,605**	**6,697**

Note: 1. Less than 100 tons

Regional General Aviation Forecast

Introduction

This report documents the results of the first phase of a two-phase study for the Southern California Association of Governments (SCAG) to prepare a regional general aviation demand forecast for the six-county Southern California region. The report reviews recent trends in the size and composition of the Southern California pilot community, the numbers of general aviation aircraft based in the region, and the numbers of general aviation and other aircraft operations at airports in the region, as well as prior studies that have examined changes in the size and composition of the pilot community and general aviation aircraft fleet. The report also reviews prior studies that have addressed techniques for forecasting future general aviation activity and presents the forecasting approach that has been used in the current study, as well as recent forecasts of general aviation activity by the Federal Aviation Administration. This is followed by a discussion of the analysis of likely future changes in the size and composition of the Southern California pilot community and the implications for future levels of general aviation activity, as well as changes in the general aviation fleet based at airports in the region. The report then describes the development of a set of alternative regional general aviation demand forecasts that take these factors into consideration and provide a range of potential future changes in the size of the Southern California pilot community, based aircraft fleet, and resulting levels of general aviation activity. Finally the report summarizes the conclusions from the current phase of the project and discusses the work to be undertaken in the remainder of the study.

THE SOUTHERN CALIFORNIA AIRPORT SYSTEM

The airport system serving the six counties of the Southern California region currently comprises 44 public use general aviation airports, nine air carrier airports, one of which is a joint use military airfield, and two airports that currently serve or recently served regional airline flights, often referred to as commuter airports, all of which accommodate general aviation operations. In addition there is one military airfield, Palmdale Regional Airport/U.S. Air Force Plant 42 that formerly allowed joint-use civilian operations and currently allows general aviation operations with prior permission, and a number of smaller private-use airports. Several of the smaller public-use airports are privately owned. One of these airports, Roy Williams Airport in the town of Joshua Tree, recently closed and is currently for sale. Another airport, Rialto Municipal Airport, is planned to be closed at some point in the future but is currently open. The 54 airports currently open for public-use general aviation activity represent the largest general aviation airport system of any metropolitan region in the United States (and in fact the world), both in terms of airports and the number of general aviation aircraft operations.

The locations of the airports that comprise the Southern California public-use airport system are shown in **FIGURE 1.1**, with the definition of the airport identifier codes for each airport assigned by the Federal Aviation Administration shown in the map given in **TABLE 1.1**. The airports are classified into four categories on the map based on the size of the largest aircraft that they can typically accommodate. Of the nine air carrier airports and Palmdale Regional Airport, all of which have runway facilities that can accommodate large commercial aircraft, six currently have scheduled airline service:

- Bob Hope Airport, Burbank (BUR)
- John Wayne Orange County Airport (SNA)
- Long Beach Airport (LGB)
- Los Angeles International Airport (LAX)
- Ontario International Airport (ONT)
- Palm Spring International Airport (PSP)

Of the other three airports capable of handling air carrier activity, San Bernardino International Airport (SBD), and Southern California Logistics Airport (VCV) currently handle a small amount of nonscheduled air cargo flights, as well as some general aviation activity. March Inland Port operates under a joint use agreement with March Air Reserve Base (RIV) and currently has no based general aviation aircraft apart from aircraft belonging to the March Field Aero Club and aircraft kept at the March Field Air Museum, located on the airfield. Other general aviation use of the airfield requires prior permission. The integrated air express operator DHL formerly maintained a sorting hub at the airport and generated a moderate volume of air cargo aircraft operations.

Of the two commuter airports, Imperial County Airport currently has regional airline service by United Express between the airport and LAX. Oxnard Airport also had service to LAX by United Express until June of 2010, when the service was discontinued. The airport currently only serves general aviation activity although the County of Ventura, which owns the airport, is hoping to attract regional airline service in the future.

EXHIBIT 1 Regional Airport System

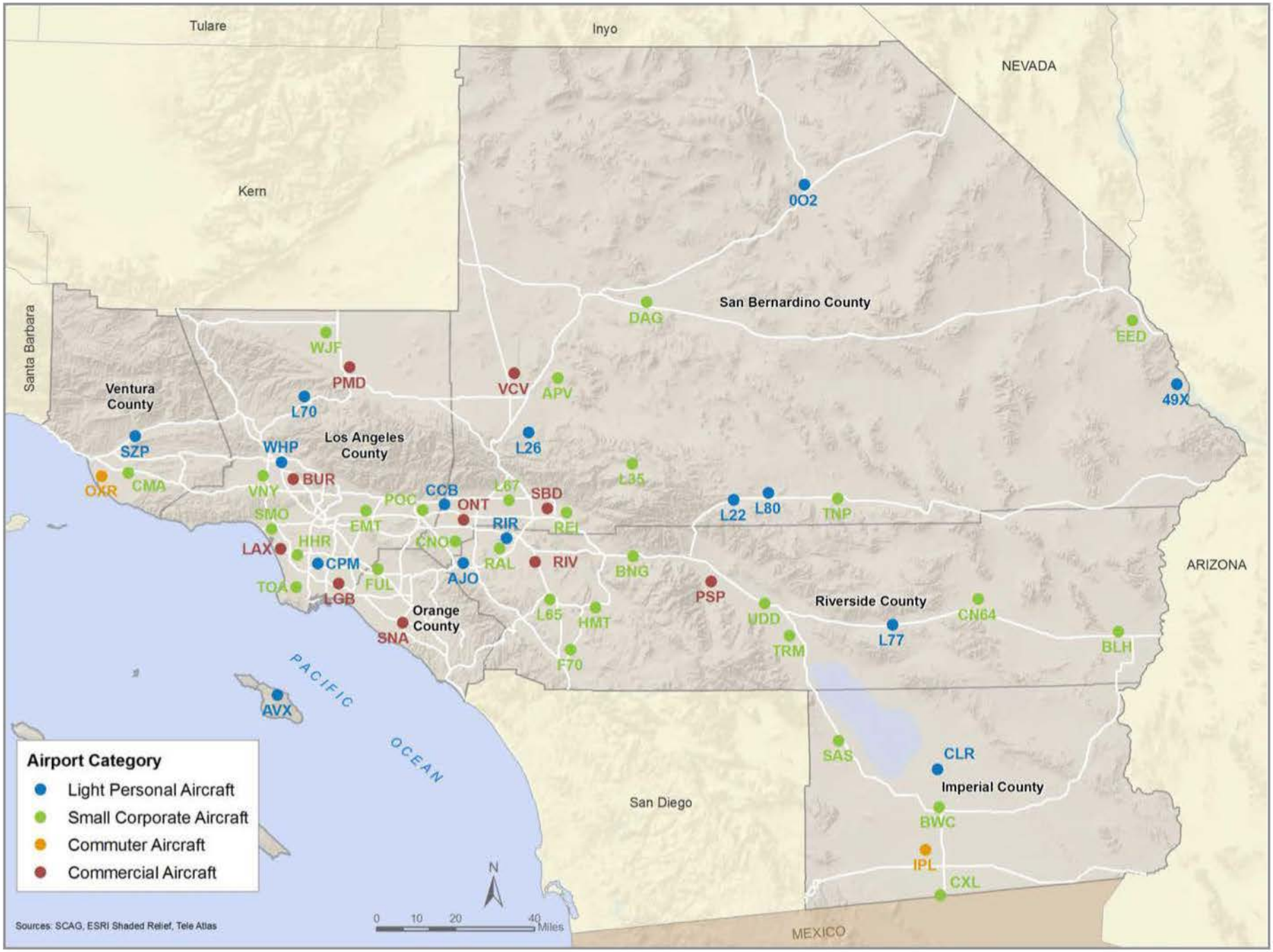


TABLE 1.1 Airport Identifier Codes

Identifier	Airport
002	Baker Airport
49X	Chemehuevi Valley Airport
AJO	Corona Municipal Airport
APV	Apple Valley Airport
AVX	Catalina Airport
BLH	Blythe Airport
BNG	Banning Municipal Airport
BUR	Bob Hope Airport, Burbank
BWC	Brawley Municipal Airport
CCB	Cable Airport
CLR	Cliff Hatfield Memorial Airport, Calipatria
CLX	Calexico International Airport
CMA	Camarillo Airport
CN64	Desert Center Airport, Palm Desert
CNO	Chino Airport
CPM	Compton/Woodley Airport
DAG	Barstow-Daggett Airport
EED	Needles Airport
EMT	El Monte Airport
F70	French Valley Airport
FUL	Fullerton Municipal Airport
HHR	Hawthorne Municipal Airport
HMT	Hemet-Ryan Airport
IPL	Imperial County Airport
L22	Yucca Valley Airport
L26	Hesperia Airport
L35	Big Bear City Airport
L65	Perris Valley Airport
L67	Rialto Municipal Airport
L70	Agua Dulce Airpark
L77	Chiriaco Summit Airport
L80	Roy Williams Airport, Joshua Tree
LAX	Los Angeles International Airport
LGB	Long Beach Airport
ONT	Ontario International Airport
OXR	Oxnard Airport
POC	Brackett Field, La Verne
PMD	Palmdale Regional Airport
PSP	Palm Springs International Airport
RAL	Riverside Municipal Airport
REI	Redlands Municipal Airport
RIR	FlaBob Airport, Riverside
RIV	March Air Reserve Base (March Inland Port)
SAS	Salton Sea Airport
SBD	Sam Bernardino International Airport
SMO	Santa Monica Airport
SNA	John Wayne Orange County Airport
SZP	Santa Paula Airport
TNP	Twenty Nine Palms Airport
TOA	Zamperini Field, Torrance
TRM	Jacqueline Cochran Regional Airport, Thermal
UDD	Bermuda Dunes Airport
VCV	Southern California Logistics Airport, Victorville
VNY	Van Nuys Airport
WHP	Whiteman Airport, Pacoima
WJF	General William J. Fox Airfield, Lancaster

COMPOSITION OF GENERAL AVIATION ACTIVITY

General aviation (GA) flight activity comprises a wide range of different types of flying including:

- Flight training
- Personal and recreational flying
- Business and corporate flying
- On-demand charter flying
- Aerial work, including observation, firefighting, agricultural spraying and other purposes

Historically, flight training has accounted for a large proportion of the aircraft operations at smaller airports due to the large number of takeoffs and landings involved in learning to fly. However, with the recent decline in the number of active student pilots, this segment of general aviation activity has become a smaller proportion of overall activity. At the same time, the introduction of new business models for corporate and business aviation, including fractional ownership and purchase of blocks of flight time from on-demand air charter operators such as Netjets, as well as the availability of smaller, less expensive jet aircraft, has resulted in business and corporate flying becoming a growing share of general aviation activity.

For the purposes of the regional general aviation demand forecast, the general aviation sector is considered to also include on-demand flight activity operated under Federal Aviation Regulations (FAR) Part 135, commonly referred to as air taxi operations, since these operations also use general aviation airports and for many purposes are often virtually indistinguishable from true general aviation operations, operating under FAR Part 91. The difference between the two types of operations is whether the operations are being performed "for hire." Thus if a corporation owns its own aircraft and employs the pilots, the aircraft would operate under Part 91, whereas if it charters an aircraft from an air taxi charter company, the aircraft would operate under Part 135. The introduction of fractional ownership has complicated this situation, but for statistical purposes the Federal Aviation Administration (FAA) counts such operations as part of general aviation. Unless indicated otherwise, the term "general aviation" in this working paper includes Part 135 operations.

Data on the range of activities that fall within the general aviation sector is available from the most recent FAA General Aviation and Part 135 Activity Survey, which covers operations in the United States in 2009, as shown in **TABLE 1.2**. This survey classifies GA and Part 135 activity into 14 different purposes, which clearly show the wide range of activities covered by the GA sector

TABLE 1.2 General Aviation and Part 135 Activity – United States 2009

	Primary Use	Actual Use		
Category of Aircraft Use	Active Aircraft	Hours Flown 000	Percent	Avg Hours Flown (see note)
General Aviation				
Personal	152,272	8,540	35.90%	56.1
Business	22,445	2,532	10.70%	112.8
Corporate	10,498	2,444	10.30%	232.8
Instructional	14,130	3,440	14.50%	243.4
Aerial application	3,161	960	4.00%	303.9
Aerial observation	5,288	1,211	5.10%	229.0
Aerial other	849	162	0.70%	190.7
External load	157	88	0.40%	562.3
Other work	1,177	222	0.90%	188.5
Sightseeing	849	119	0.50%	139.8
Air medical	486	174	0.70%	358.0
Other	4,005	970	4.10%	242.3
Total GA	**215,317**	**20,862**	**87.80%**	**96.9**
On Demand FAR Part 135				
Air taxi	6,992	2,198	9.20%	314.3
Air tours	367	223	0.90%	608.2
Air medical	1,200	480	2.00%	399.6
Total Part 135	**8,559**	**2,901**	**12.20%**	**338.9**
Total GA & Part 135	**223,876**	**23,763**	**100.00%**	**106.1**

The largest single type of activity is personal flying, which accounts for about 36 percent of all flight hours, followed by instructional activities, which account for about 15 percent of all flight hours. Operations under Part 135 account for about 12 percent of all flight hours, of which the largest proportion is air taxi operations, with air medical flights under Part 135 accounting for about 2 percent of all flight hours. Business and corporate flying under Part 91 together account for about 21 percent of all flight hours, divided approximately equally between the two purposes, which the FAA defines as follows:

- Business Transportation: Individual or group use for, or in the furtherance of, a business without a paid flight crew
- Corporate/Executive Transportation: Individual or group business transportation with a paid flight crew (includes fractional ownership)

TABLE 1.2 also shows the average number of hours flown per year by aircraft used for the different purposes. Because a given aircraft may be used for multiple purposes, this average may be somewhat misleading and is not strictly the average flight hours for aircraft primarily used for each purpose, but assumes that the flight hours for each purpose are all flown by the aircraft for which that purpose is the primary use. However, to the extent that many aircraft are in fact used mainly for a single purpose, this gives an indication of the differences in average use across the different purposes. Aircraft primarily used for personal flying have the lowest average utilization of 56 flight hours per year, while aircraft used primarily for air tours have the highest average utilization of about 608 flight hours per year, although this may be somewhat overstated since there are relatively few aircraft used primarily for air tours and many of the actual flight hours reported for air tours are likely performed by aircraft used primarily for other purposes. In general, aircraft used primarily for Part 135 operations are utilized for about 339 flight hours per year on average.

Aircraft used primarily for instructional flying have an average utilization of about 243 flight hours per year, while those used primarily for corporate transportation have an average utilization of about 233 flight hours per year. It may be worth noting that these utilization rates are considerably less than one hour per day. Clearly there is a wide range of utilization rates across the fleet, since many aircraft in these categories are far more heavily used than this. Aircraft primarily used for business transportation have an average utilization of only 113 flight hours per year although this may be somewhat understated since this category involves flying without a paid crew. In most cases this means flight operations by the owner of the aircraft, who most likely also uses the aircraft for personal flying. Thus the average utilization of aircraft used primarily for personal flying is probably overstated, since some of the actual flight hours for personal flying are performed in aircraft used primarily for business flying. Of course, the reverse is also true, with some business flying being performed in aircraft used primarily for personal flying. Whether these effects cancel each other out is unclear.

In any case, an average utilization of only 56 flight hours per year represents about one flight hour per week. As with business flying, there is clearly a wide range of utilization rates across the fleet, with some aircraft being used very infrequently.

While these are national average utilization rates, it is likely that the pattern of aircraft utilization in the Southern California region is not significantly different. As part of the second phase of this study, an effort will be undertaken to obtain more specific data from the FAA covering aircraft in the Southern California region to see how their utilization may differ from that for the United States in total.

RECENT TRENDS IN THE SOUTHERN CALIFORNIA PILOT COMMUNITY

In addition to the composition and utilization of the general aviation aircraft fleet, the other major factor that needs to be considered in developing forecasts of future aviation activity is the size and composition of the pilot community. **TABLE 1.3** shows the recent trend in the number of active pilots in the six-county SCAG region by type of pilot certificate, from airmen registration data obtained from the FAA. The distinctions between the various types of pilot certificate are discussed further below, but the names of the different types of certificate are generally self-explanatory.

Active pilots are defined as airmen holding a pilot certificate and a valid medical certificate where required (student pilots only require a medical certificate for solo flight, glider and balloon pilots do not require a medical certificate, and sport pilots do not require a medical certificate if they hold a valid driver's license). It can be seen from **TABLE 1.3** that there has been a slow decline in the total number of active pilots in the region over the past nine years, although an apparent increase in the number of student pilots, particularly since 2006 (however this appears to be an artifact of changes to the validity of student pilot medical certificates in July 2008) . The implications of this for the future pilot community in the region are discussed further below.

TABLE 1.3 Recent Trend in the Southern California Pilot Community

	Active Pilots as of December 31		
Type of Pilot Certificate	2001	2006	2010
Student pilot	3,642	4,106	5,093
Private pilot	11,272	11,050	9,970
Commercial pilot	4,906	5,254	5,119
Airline transport pilot	4,926	4,604	4,439
Recreational or sport pilot	1	12	70
Rotorcraft or glider	1,263		
Total	**26,010**	**25,026**	**24,691**

Source: FAA, Active Airmen Certificate Totals by Region, State, County, Airmen Certification Branch, Oklahoma City, OK, Personal communication.

Notes 1: Active airmen holding rotorcraft or glider certificates only were counted separately in 2001, but included in the other categories for 2006 and 2010.
Notes 2: The validity of student pilot certificates for pilots under 40 years of age was changed from 36 months to 60 months effective July 24, 2008.

The distribution of the active pilots among the six counties in the region is shown in **TABLE 1.4**.

TABLE 1.4 Recent Trend in the Southern California Pilot Community by County

	Active Pilots as of December 31		
County	2001	2006	2010
Imperial County	258	197	183
Los Angeles County	11,584	10,842	10,878
Orange County	5,981	5,495	5,303
Riverside County	3,011	3,458	3,447
San Bernardino County	2,788	2,744	2,632
Ventura County	2,388	2,290	2,248
Total	**26,010**	**25,026**	**24,691**

Source: FAA, Active Airmen Certificate Totals by Region, State, County, Airmen Certification Branch, Oklahoma City, OK, Personal communication.

It can be seen that Los Angeles County accounts for a little less than half the active pilots in the region (44 percent in 2010), with Orange County having the second highest proportion (22 percent in 2010). Riverside County has the third highest proportion (14 percent in 2010), followed by San Bernardino County (11 percent in 2010) and Ventura County (9 percent in 2010). The number of active pilots has declined from 2001 to 2010 in all counties except Riverside County, where it increased from 2001 to 2006, but declined slightly from 2006 to 2010. Los Angeles County showed a slight increase in active pilots from 2006 to 2010.

KEY ISSUES AND CONCERNS

The future level of general aviation activity in the Southern California region will depend on a large number of factors that cannot be known with any certainty, and the further into the future the activity is being forecast the less certain these factors are likely to become. The more critical factors include:

- The price and availability of aviation fuel, particularly how much longer leaded aviation gasoline (avgas) will be available.
- Future trends in the percentage of the population that decide to learn to fly, the proportion of student pilots that complete their flight training and obtain a private pilot certificate, how long they remain an active pilot, and how much flying they do while they are still active.
- The future demand for professional pilots, particularly airline pilots, since this has a major influence on how many people decide to pursue flying as a career.
- The long-term prospects for economic growth in the light of rising Federal and State deficits, a major trade imbalance, rising energy costs and the eventual need to address global warming, an aging population, and increasing costs of health care, since this affects corporate profits and individual disposable income, both of which will influence aircraft ownership and use, as well as how many people can afford to learn to fly or remain active.
- Persistent concerns and opposition by some surrounding communities to GA activities at local airports. These concerns arise primarily from aircraft noise, particularly from jet aircraft, a perceived health risk from aircraft emissions and aviation fuel, and the risk of accidents from aircraft over-flights. Some local municipalities have placed or attempted to place restrictions on flight operations and have also requested risk assessment studies to determine ways to address these issues. The

future demand for general aviation activity in the region and particularly how it is distributed among the airports in the region could be influenced by these concerns, to the extent that they affect the type and level of operations that can occur at various airports, or result in airports being closed.

- The airspace utilization in Southern California is also a consideration in the light of the conflict that sometimes exists between commercial and GA operations in parts of the SCAG region. The introduction of the FAA's Next Generation air traffic control system may also have an impact on how air traffic operates at many GA airports. The extent to which these factors could influence future general aviation demand in the region will require discussion with the FAA and SCAG staff to identify the constraints and opportunities for greater flexibility in the new air traffic control system.

While some insight into these issues may be obtained from an analysis of recent trends in general aviation activity, it is far from clear whether general aviation activity will recover from its recent decline as the economy continues to recover and if so, at what rate. Although it is likely that business and corporate flying will resume their growth as the economy recovers, changing recreational preferences and shifts in the distribution of household incomes could limit the number of people who decide to take up flying. This effect may be compounded by public concerns about global warming and the perception that general aviation flying consumes a large amount of fuel in relation to the distance flown. This may translate into a reduced number of people deciding to take up flying, as well as political pressure to limit the amount of general aviation flying or require general aviation users to purchase carbon offsets.

FORECAST METHODOLOGY

The methodology to be used in preparing the Regional General Aviation Demand Forecast for the Southern California region is based on the recognition that the general aviation sector comprises a range of different activities that are each influenced by different factors. Therefore, the development of the forecasts was based on a detailed analysis of the way in which these factors determine the growth (or decline) of each type of activity, as well as the interrelationships between them.

LITERATURE REVIEW ON FORECASTING GENERAL AVIATION ACTIVITY

In spite of the large number of general aviation airports in the United States and the recurring need to prepare forecasts of future general aviation activity as part of studies to update airport master plans, prepare statewide and regional airport system plans, and for other purposes, development of improved techniques for forecasting general aviation activity have received surprisingly little attention in the airport planning literature. None the less, a review of relevant recent literature was undertaken to identify prior studies addressing changes in the composition and activity levels of the pilot community and dynamics of the general aviation fleet, as well as forecasting approaches for general aviation activity more generally.

One of the earliest reviews of forecasting methodology for general aviation was undertaken by Gosling & Cao (1994) as part of a larger study of aviation forecasting techniques performed for the California Department of Transportation. A more recent report prepared for the FAA Office of Aviation Policy and Plans (GRA, 2001a) presented a summary of different methods for forecasting aviation activity by airport, including general aviation activity. However, the descriptions of the techniques are very general and some of the techniques are fairly simplistic (although widely used). The report mentions cohort analysis, although the term is used in a different sense from that used in the forecast approach used in the curent study, and a better term would have been market segmentation analysis. The following year a Transportation Research E-Circular (TRB, 2002) presented a survey of aviation demand forecasting methodologies, including those for general aviation. This included a description of a model for estimating general aviation operations at non-towered airports, discussed further below, and forecasting techniques for business jet and rotorcraft deliveries and fleet size. Although these techniques involve assessments of the demand for business jet or rotorcraft flying, the approaches to these assessments are only described in very broad terms due to the proprietary nature of the analysis. The description of one approach mentioned that a given year's production of business jets is generally fully retired from the aircraft fleet in about 40 years, with about 50 percent of the year's production retired from the fleet in about 33 years.

A subsequent synthesis report prepared for the Airport Cooperative Research Program (Spitz & Golaszewski, 2007) updated the information in the earlier report for the FAA

Office of Aviation Policy and Plans, although the description of airport activity forecasting methods is no more detailed and does not explicitly address general aviation activity apart from a reference to the earlier study that developed a model for estimating general aviation operations at non-towered airports.

General Industry Trends

The FAA and various industry organizations supporting general aviation produce annual statistical reports that examine changes in the general aviation sector over time. The FAA produces an annual summary of U.S. civil airmen statistics and an annual activity survey of general aviation and Part 135 (on-demand commercial operations) aircraft, as well as forecasts of future levels of pilot population and general aviation activity, which include time series data for past years. These FAA data are discussed in more detail in the section on Data Requirements and Sources below.

Summaries of industry trends are published by the Aircraft Owners and Pilots Association (AOPA, 2011), the General Aviation Manufacturers Association (GAMA, 2011), and the National Business Aviation Association (NBAA, 2011). While much of the data presented in these statistical reports is derived from FAA sources, it is typically presented in a more user-friendly format and combines the information from multiple sources into a single document. The GAMA General Aviation Statistical Databook & Industry Outlook provides data on general aviation shipments that is not available from other sources, while the NBAA Business Aviation Fact Book presents information on uses of business aircraft that is derived from surveys performed by the NBAA.

Pilot Population and Aircraft Fleet Composition

A number of studies have examined changes in the characteristics of the pilot population over time, although these have most commonly addressed the influence of pilot characteristics on accident risk (e.g. Li, Baker, et al., 2003; Rebok, Qiang, et al., 2009). A study in the early 1970s (Booze, 1972) examined pilot attrition by age and a more recent study (Rogers, Véronneau, et al., 2009) examined changes in the pilot population over time from 1983 to 2005 in order to examine the effect of changes in the regulations that raised the age limit for pilots to perform the duties of pilot or co-pilot of a commercial passenger or cargo aircraft with ten or more passenger seats or 7,500 payload-pounds of cargo capacity from age 60 to 65. The latter study showed that the average age of pilots has been steadily increasing, and with it the average number of flight hours experience.

A study in the mid-1970s (Rocks, 1976) examined the pattern of attrition of the general aviation aircraft fleet, but this issue does not appear to have been subject to more recent study, apart from analysis undertaken for the 1994 San Francisco Bay Area Regional Airport System Plan (MTC, 1994), discussed further below.

General Aviation Forecasting Studies

A study performed for the FAA and published in 2001 developed a model for estimating general aviation operations at non-towered airports (i.e. those without a control tower) (GRA, 2001b). However, because the model is based on data from a combination of towered and non-towered airports, it is equally applicable to smaller towered GA airports. The study assessed a number of alternative model formulations, but found that the best fit to the observed data was given by the following relationship:

OPS = -571 + 355 x BA - 0.46 BA2 - 40,510 x percentin100mi + 3,795 x VITFSnum

+ 0.001 x Pop100 - 8,587 x WACAORAK + 24,102 x Pop25/100

+ 13,674 x TOWDUM

where OPS = Annual general aviation operations

BA = Based aircraft

percentin100mi = Airport's percentage of all based aircraft within 100 miles

VITFSnum = Number of Part 141 certificated flight schools at airport

Pop100 = Population within 100 miles of airport

WACAORAK = Airport in CA, OR, WA, AK (1 = yes, 0 = no)

Pop25/100 = Ratio of population within 25 miles of airport to population within 100 miles

TOWDUM = Control tower at airport (1 = yes, 0 = no)

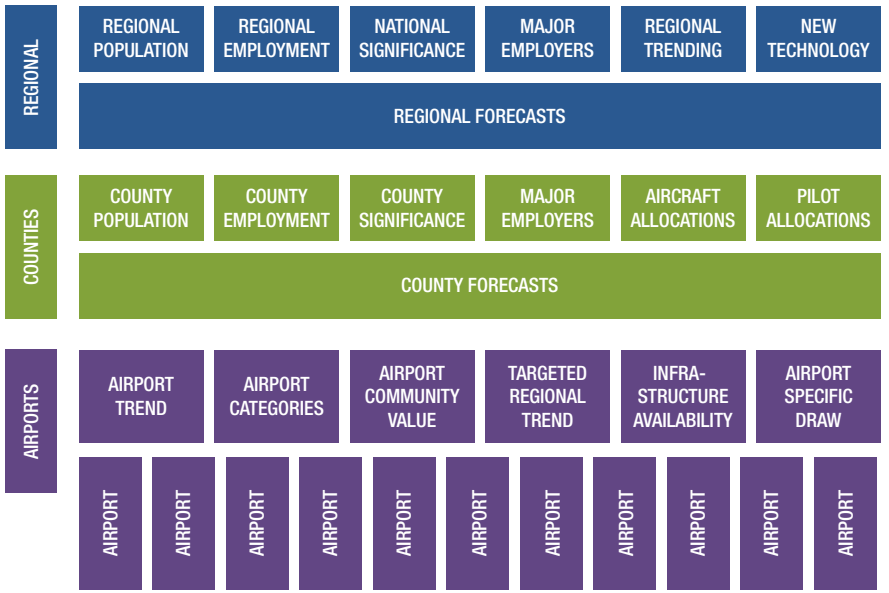
The estimated model coefficients show that a towered airport would have more GA operations that a non-towered airport, other things being equal, as expected (although the causality may flow the other way, in that busier airports are more likely to have towers than less busy airports). Since the number of based aircraft is included in the model, the population in the surrounding area presumably accounts primarily for operations by visiting aircraft. Even so, there is likely to be a high degree of correlation between population of the surrounding area and the number of based aircraft. The model does not explicitly distinguish between local and itinerant operations, although the number of flight schools at the airport will clearly influence the number of local operations.

As part of a study for the National Aeronautics and Space Administration to explore the potential demand for a conceptual Small Aircraft Transportation System (SATS) based on advanced technology general aviation aircraft, researchers at Virginia Tech university developed a sophisticated modeling system termed the Transportation Systems Analysis Model (TSAM) (Trani, Baik, et al., 2003; Baik, Ashiabor & Trani, 2006; Ashiabor, Baik & Trani, 2007; Baik, Trani, et al., 2008). This modeling system predicts passenger flows between counties in the U.S. and then performs a mode choice analysis that assigns the passenger flows to commercial airlines, air taxi, or automobile travel. Because the modeling system does not distinguish between true air taxi and general aviation more broadly, the model can be considered as predicting passenger flows by general aviation. Indeed the authors refer to this mode as general aviation in some of their papers. The modeling system includes an airport choice model that assigns the GA passenger trips to airports and estimates the resulting number of aircraft operations, divided into single-engine propeller, multi-engine propeller and turbojet aircraft.

About the same time, Rohacs (2006) was formulating a modeling framework to analyze the potential for advanced small aircraft flights in Europe. However, the model appears designed to predict system level values, rather than airport- or region-specific activity, and details of the implementation of the model are rather vague.

As part of preparing a Regional General Aviation and Heliport System Plan, the North Central Texas Council of Governments (the metropolitan planning organization for the Dallas/Fort Worth region) is in the process of developing a regional demand forecasting process that is broadly similar in scope to the planned approach for the current study. The proposed analysis approach for the NCTCOG study is documented in a white paper (NCTCOG, 2009) that describes three levels of analysis: regional demand, allocation of regional demand to counties, and allocation of county demand to airports, as illustrated in **FIGURE 2.1**. However, the details of how this analysis approach will be implemented do not appear to have been fully worked out yet.

FIGURE 2.1 Proposed Forecasting Approach for North Central Texas Region.



APPROACH TO FORECASTING REGIONAL GENERAL AVIATION ACTIVITY

The future demand for general aviation activity in the Southern California region will obviously depend on the size and composition of the pilot community, as well as the amount of flying done by the various categories of pilots. Pilots begin their flying career as student pilots. Some never progress beyond this stage but others gain their private pilot certificate and continue flying as private pilots. For many pilots the private pilot certificate may be the most advanced certificate they ever obtain, but others progress to hold commercial pilot or airline transport pilot certificates, where the commercial pilot certificate is a required step to obtaining an airline transport pilot (ATP) certificate. Generally, those

pilots progressing to holding commercial pilot or ATP certificates intend to seek employment as a pilot or flight instructor, although some pilots obtain their commercial pilot certificate for the satisfaction of achieving a higher level of certification without any intention of using their pilot certification for gainful employment.

Future Composition of the Pilot Community and Level of Flying Activity

Of course, as pilots gain flying experience and progress through the various levels of certification, they are also getting older. Therefore one can study the composition of the pilot community using techniques from demographic cohort analysis. Pilots take up flying at some point in their lives, progress through various certificates, and eventually cease flying. From data on the distribution of the age of pilots when they first take up flying and the time it takes them to reach the highest level of certification they achieve, projections of the future composition of the pilot community can be made based on assumptions about future levels of new pilot starts as a percentage of the population in the relevant age ranges.

Future levels of general aviation activity will depend not only on the number of pilots with each type of certificate but the amount of flying that these pilots do. This varies by the type of certificate held and the age of the pilot. It is also likely that the average number of hours flown per year by pilots with a given type of certificate and a given age will also change over time in response to general economic factors and the cost of flying, as well as such factors as restrictions on the use of airspace or changes in pilot certification requirements. In the case of business aviation and corporate flying, as distinct from flight training and personal flying, the level of flight activity is less a function of the number of pilots than the demand for this type of flying, which is largely determined by the state of the economy and the cost of owning and operating aircraft, which in turn is affected by such factors as the cost of aviation fuel, interest rates, and corporate tax rules. Indeed, the demand for professional pilots, and hence the amount of flying by those pilots, is determined by the level of business and corporate flying, rather than the other way round.

It should be clear from this discussion that the future size of the pilot community in the Southern California region and the amount of flying done by those pilots depends on many factors that cannot be known with any certainty. Developing a general aviation demand forecast based on a single set of highly conjectural assumptions is of limited value for aviation planning purposes and is almost certain to be wrong. What is much more useful is an assessment of the range within which future values of general aviation activity might lie and the likelihood that the values might exceed various levels. In short, rather than a single point forecast, what is needed is an assessment of the projected probability distribution of the forecast values. The development of such probability distributions is commonly referred to as risk analysis, and commercial computer simulation software exists to perform the necessary calculations to estimate the probability distributions (strictly these are likelihood distributions rather than probability distributions, but the distinction is not important for this study and therefore the more commonly understood term will be used). Although initially the regional general aviation demand forecast for 2035 was developed using a simpler approach based on defining a range of input assumptions reflecting alternative growth assumptions, the analysis approach will be designed so that future work could extend this to the use of a more formal risk analysis approach.

Future Based Aircraft Fleet

The second major consideration in developing a regional general aviation demand forecast is projecting the future number of aircraft based at airports in the region. While the number of aircraft is obviously influenced by the level of flying activity, this is not a simple relationship. Aircraft do not disappear when the level of flying reduces nor do new aircraft suddenly appear when the level of flying increases. Rather, the aircraft fleet evolves in an analogous way to the pilot community. New aircraft are purchased or imported into the region, while other aircraft are exported from the region or older aircraft are scrapped. The level of utilization of a given aircraft also changes as the aircraft gets older, since this is generally associated with higher maintenance costs and poorer fuel efficiency. When the level of flying increases, it can be expected that new aircraft purchases and imported aircraft will tend to exceed the number of aircraft exported or scrapped and the total fleet will grow. Conversely, if the level of flying decreases, under-utilized or unused aircraft will be retired from the fleet at a higher rate than new aircraft will be added and the total fleet will decline. However, the average levels of aircraft utilization will also change with changing levels of flying activity, and so the changes in the aircraft fleet will tend to lag behind the changes in flight activity. Furthermore these changes will not be uniform across the fleet, but will vary with the age and type of the aircraft.

Cohort analysis can also be applied to projecting changes in the aircraft fleet in a similar way to the analysis of the pilot community discussed above. As aircraft get older, their

average level of utilization declines and they become more likely to be retired from the fleet by being exported or scrapped, unless they become so old that they become of historic interest or attractive to collectors and get restored to flying condition. However, this is a special case that typically only affects a few aircraft. It should also be noted that some aircraft are lost each year to flying accidents, although the improvement in general aviation safety has reduced this effect in recent years.

Projecting Future Levels of Airport Activity

Once the size and composition of the future aircraft fleet based in the region has been forecast, it is necessary to project the allocation of this fleet to airports in order to forecast the number of based aircraft and associated activity levels at each airport in the region. The decision by an aircraft owner of where to base the aircraft depends on a number of factors, including the proximity of alternative airports to the owner's residence or place of business, the facilities and services available at each airport, including whether the runway is long enough to accommodate the aircraft, and the availability and cost of hangar or tie-down space. Apart from the proximity of alternative airports, the other factors can change in the future, and indeed a major objective of the aviation system planning process is to determine future needs for such changes. Therefore the aircraft allocation process should be based on a formal model of the airport choice process by aircraft owners, referred to in the remainder of this section as the based-aircraft choice model.

Such a model can be estimated from existing data on the location of aircraft owners in the region and the airport where they base their aircraft and would be structured as a standard disaggregate behavioral choice model, analogous to a travel mode choice model in surface transportation planning. A common form for such a model is the multinomial logit model, which can incorporate utility functions for each airport that include variables describing the facilities and services available at each airport. This allows the based aircraft allocation process to be responsive to potential changes at each airport, as well as changes in the distribution of aircraft owners throughout the region due to changes in the regional distribution of the population and the locations of users of business or corporate aviation, as well as changes in the composition of the pilot community and the use of business or corporate aviation.

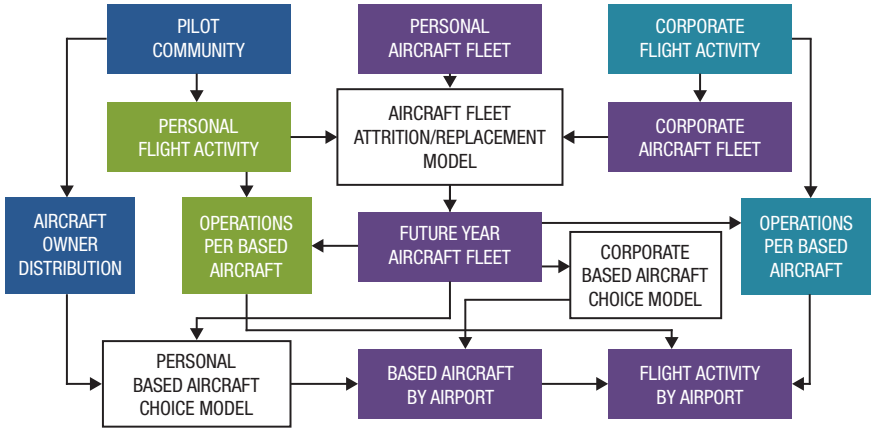
This use of a formal model to establish a logical and consistent basis for allocating the projected future regional based aircraft fleet to airports is necessary for several reasons. Perhaps the most important is to provide a means to study the effect of changing facilities and services at regional airports on the distribution of based aircraft. The second is that a large proportion of the aircraft fleet in 2035 (25 years hence) will be owned by different people from the current fleet and the locational distribution of those people is likely to be different from the current distribution of aircraft owners. Thirdly, to the extent that the demand for hangar or tie-down space at certain airports may exceed the available facilities, it can be expected that hangar space or tie-down rental rates will rise to balance demand with capacity and this will also affect the allocation. Finally, the allocation of regional based aircraft demand to airports is likely to be politically sensitive, particularly if some airports are forecast to experience increased numbers of based aircraft and levels of activity while others are forecast to experience a reduction in based aircraft and activity. It is therefore important that the allocation process is transparent and can be justified on the basis of empirical experience and agreed assumptions.

It should be recognized that just as forecasts of future levels of regional activity are subject to a wide range of uncertainties, so any process to allocate that activity to specific airports is also subject to similar, or even greater, uncertainties. There is no crystal ball that can predict what will happen at a given airport. Rather, the purpose of developing demand allocation models is to suggest what might happen under various assumptions and provide a tool to explore how changing those assumptions could change the resulting forecast activity levels at different airports.

ANALYSIS FRAMEWORK

The analysis approach used in developing the regional general aviation demand forecasts comprises a number of separate but interrelated components shown in **FIGURE 2.2**. These components distinguish between personal flight activity by individual pilots and owners of personal aircraft on the one hand and flight activity by corporately owned aircraft on the other, where the corporate aircraft fleet includes aircraft owned by government agencies, educational institutions, nonprofit organizations, and similar organizations that typically employ professional pilots to operate the aircraft.

FIGURE 2.2 Demand Forecast Analysis Approach



The analysis framework shown in **FIGURE 2.2** distinguishes between the composition and location of the pilot community and owners of personal aircraft (highlighted in dark blue), the associated personal flight activity (highlighted in green), business and corporate flight activity (highlighted in light blue), and the composition and activity of the aircraft fleet (highlighted in purple). Flight training is treated as a category of personal flight activity, since it is largely determined by the composition of the pilot community. Aerial work is treated as a category of corporate flight activity, since it is performed for corporate or governmental entities by professional pilots. The figure shows three key analytical modules, the aircraft fleet attrition and replacement model, the personal based-aircraft airport choice model, and the corporate based-aircraft airport choice model.

FIGURE 2.2 also shows that the number of operations per based aircraft is derived in the analysis from the forecast level of flight activity and the size and composition of the aircraft fleet, rather than being an input assumption. This avoids the difficulty inherent in basing general aviation activity forecasts on assumed future levels of operations per based aircraft, which are likely to vary with the composition of the pilot community, changes in the levels of flight activity by different categories of pilot, and changes in aircraft fleet, making estimates of future changes in the number of operations per based aircraft extremely challenging without undertaking the type of detailed analysis shown in **FIGURE 2.2**.

Each of the other analysis components shown in color in **FIGURE 2.2** utilize various analytical techniques to generate the projected future values of regional general aviation activity that form the inputs to the other components of the analytical framework. These components and their associated analytical techniques are described in the following sections.

PILOT COMMUNITY COHORT ANALYSIS

The future pilot community module utilizes a cohort analysis to forecast the future size and composition of the pilot community, and the associated level of flight activity. This projects the change in the number of pilots holding different levels of pilot certificate over time in five-year age cohorts, as pilots grow older and transition from student pilot to private pilot, from private pilot to commercial pilot, and from commercial pilot to airline transport pilot (ATP), or become inactive and drop out of the active pilot population. Obviously, not all pilots progress to a higher level of certificate, particularly to ATP. Some student pilots never complete their training and obtain a private pilot certificate.

The number of pilots in each age range holding each type of certificate in a given year is given by the following relationships:

$$Ns,a,y = Ns,a\text{-}5,y\text{-}5 \times (1 - As,a,y - Tsp,a,y) + Es,a\text{-}5,y\text{-}5$$

$$Np,a,y = Np,a\text{-}5,y\text{-}5 \times (1 - Ap,a,y - Tpc,a,y) + Ns,a\text{-}5,y\text{-}5 \times Tsp,a,y$$

$$Nc,a,y = Nc,a\text{-}5,y\text{-}5 \times (1 - Ac,a,y - Tct,a,y) + Np,a\text{-}5,y\text{-}5 \times Tpc,a,y$$

$$Nt,a,y = Nt,a\text{-}5,y\text{-}5 \times (1 - At,a,y) + Nc,a\text{-}5,y\text{-}5 \times Tct,a,y$$

where Ns,a,y = The number of student pilots in age group a in year y

Np,a,y = The number of private pilots in age group a in year y

Nc,a,y = The number of commercial pilots in age group a in year y

Nt,a,y = The number of airline transport pilots in age group a in year y

Es,a,y = The number of new student pilot starts in age group a over the five-year period starting in year y

As,a,y = The net attrition rate of student pilots in age group a in the five-year period ending in year y

Ap,a,y = The net attrition rate of private pilots in age group a in the five-year period ending in year y

Ac,a,y = The net attrition rate of commercial pilots in age group a in the five-year period ending in year y

At,a,y = The net attrition rate of airline transport pilots in age group a in the five-year period ending in year y

Tsp,a,y = The transition rate of student pilots in age group a to private pilots in the five-year period ending in year y

Tpc,a,y = The transition rate of private pilots in age group a to commercial pilots in the five-year period ending in year y

Tct,a,y = The transition rate of commercial pilots in age group a to airline transport pilots in the five-year period ending in year y

The net attrition rates for a given age group include those pilots moving out of the region (positive) and into the region (negative), as well as those pilots who become inactive. The definition of an inactive pilot requires some care, because pilots do not report their actual flying in a given year, only when they apply for a new medical certificate. In the case of private pilots under age 40, a medical certificate is valid for five years. A pilot holding a valid medical certificate is considered to be active, even if in fact that pilot has done no flying for several years. While the medical certificates for commercial and airline transport pilots have shorter validity periods, pilots can exercise the privileges of a lower class of medical certificate for the period that class of medical certificate would have been valid. Thus an airline transport pilot with an expired first-class medical certificate (which is valid for 6 months for pilots age 40 and over) can continue to fly as a private pilot for the period that a third-class medical certificate would have been valid.

It is of course quite likely that some pilots make the transition through more than one certificate level in a five-year period. For example, a student pilot may gain both the private pilot certificate and commercial pilot certificate within five years. This is covered by the combination of the attrition rate and transition rate. Such a pilot would be included in the transition rate from student to private pilot and the transition rate from private pilot to commercial pilot, but also in the attrition rate for private pilots, in order to ensure the correct number of private pilots at the end of the five-year period. It would also be possible to account for multiple transitions in a five-year period in the above formulae, but given the limitations of the data and the granularity of the analysis (five-year increments), such a refinement does not appear to be worth making.

The foregoing analysis does not consider pilots holding recreational and sport pilot certificates. Given the relatively small number of pilots in these categories, the type of cohort analysis discussed above would not be supported by the data, nor would it make much difference to the resulting estimate of the size of the pilot population. Instead, these pilot categories can be included by a separate analysis based on the current trend in the number of such pilot certificates issued.

The above equations allow for pilot attrition and transition rates to vary over time. While the available data on the composition of the pilot community may not allow a detailed analysis of how these rates have varied in the past, allowing these rates to vary in the cohort analysis provides a way to reflect projected changes from current rates in the future, as discussed below in the section on Key Assumptions.

Once the number of pilots in each age group with a given level of pilot certificate has been calculated, the total number of flight hours per year performed by those pilots can be calculated from the average number of flight hours per pilot for a pilot in that age and certificate category. Estimates of the average number of flight hours per year for pilots in a given age group and certificate category can be derived from the number of flight hours reported by pilots when they renew their medical certificates or from pilot surveys, as discussed further below in the section on Data Requirements and Sources.

In the case of airline transport pilots, their reported flight hours include all types of flying, the majority of which is likely to be airline flying. Indeed many airline pilots may not do any GA flying at all. Since they do not report flight hours for GA flying separately, it will be necessary to estimate the proportion of their flight hours spent in GA flying from pilot survey data or other sources.

AIRCRAFT OWNER DISTRIBUTION

The current geographic distribution of aircraft owners in the region can be determined from the aircraft ownership data maintained by the County Assessors. These data provide

the registered address of the aircraft owner, allowing the distribution of aircraft owners by zip code to be determined. In the case of some corporately owned aircraft, the registered address may be outside the region, such as a corporate head office. In these cases, it will be necessary to determine the location of the local office of the aircraft owner, which in some cases may be the airport where the aircraft is based.

As the composition of the aircraft fleet ownership changes over time, the distribution of the aircraft owners may change, reflecting the geographic locations of new owners and relocation of existing owners. An ownership distribution model will be developed from the current ownership pattern that predicts the proportion of the regional aircraft owners located in each zip code area. Separate models will need to be developed for personally owned aircraft and corporately owned aircraft. In the case of personally-owned aircraft, the distribution of owner locations is likely to be most influenced by the number of high-income households in a zip code area, but the influence of other variables will be explored as part of the model estimation.

The geographic distribution of owners of corporately-owned aircraft is likely to reflect the distribution of the types of businesses owning aircraft. As a general rule larger firms are more likely to own aircraft, so employment by different industry sectors may be the most appropriate explanatory variables. Exploratory analysis will be performed to identify those sectors that account for the greatest proportion of aircraft ownership and to select the most appropriate explanatory variables to predict the distribution of aircraft owners. This may require some compromise between the extent to which a given variable accounts for the current distribution of aircraft owners and the availability of forecasts of that variable for future years.

PERSONAL FLIGHT ACTIVITY

The number of flight hours by different categories of pilot certificate has been discussed above. In order to translate these estimates into forecasts of personal flight activity, it is necessary to determine the proportion of flight hours devoted to personal flight activity (personal and recreational flying, flight training, and business flying by individual aircraft owners). This can be done based on an analysis of FAA survey data of annual general aviation flight hours by aircraft type (FAA, 2011c). Since there is generally only one pilot in an aircraft being used for most personal flying, there is a one-to-one correspondence between pilot hours and aircraft hours. The one exception to this is dual flight instruction, in which both the student pilot and the flight instructor will be counting the flight time. It will therefore be necessary to estimate the proportion of instructional flight time that is spent in dual instruction and the proportion where the student pilot is solo. In general, for most student pilots this is approximately equal over the course of their flight training.

The data on aircraft flight hours by purpose does not of course indicate the type of certificate held by the pilot, and while student and private pilots are precluded from serving as pilots for corporate flying and other flight activity where the flight crew is paid, pilots holding commercial and airline transport certificates can and do engage in personal flying. It will therefore be necessary to estimate the amount of compensated flying from the aircraft survey data for different use categories, and hence estimate the proportion of flight time by commercial and airline transport pilots that is spent in personal flight activity.

CORPORATE FLIGHT ACTIVITY

In contrast to personal flight activity, the level of corporate flight activity is not determined by the size and composition of the regional pilot community but by the need for transportation or other aviation activity by the organizations generating the corporate flight activity, whether through the use of their own aircraft or by chartering aircraft operated by others. As shown by the various categories of aircraft use shown in **TABLE 1.2** above and the descriptions of the different categories in Appendix A, corporate flight activity encompasses a wide range of flight purposes, including:

- Corporate/executive transportation
- Aerial application or observation
- Other aerial work and external load activity
- Sight-seeing under FAR Part 91
- Air medical services (under both FAR Part 91 and Part 135)
- Air taxi services
- Air tours.

Some activities under Other Work Use or Other use (e.g. aerial advertising, positioning flights, and proficiency flights) could also be most appropriately considered part of corporate flight activity. In the Southern California region, some categories of aircraft use, such

as aerial application, external load, sightseeing and air tours, are likely to occur extremely infrequently relative to other categories and can be combined into a single category of Other use.

Since the aircraft involved in corporate flight activity are generally quite different from those used for personal flying, the estimates of flight hours for these purposes by different types of aircraft can be applied to the data on the composition of the Southern California based aircraft fleet to estimate the amount of corporate flying by that fleet.

Accounting for Fractional Ownership

The recent growth in fractional ownership plans requires an adjustment to the analysis approach. From an operational standpoint, fractional ownership is no different from an air taxi charter. It is only the way that the service is paid for that differs. However, because the user has purchased a share of the ownership of the aircraft rather than chartering the aircraft for a specific flight, this activity is counted as part of general aviation corporate flight activity rather than as a Part 135 air taxi flight. Because aircraft used in fractional ownership plans are likely to achieve higher utilization that those operated exclusively by the aircraft owner, adjustments to the average number of flight hours per aircraft are likely to be required, for both aircraft used in fractional ownership plans and those operated exclusively by the aircraft owners.

The FAA survey data of annual general aviation flight hours by aircraft type (FAA, 2011c) includes estimates of the annual hours flown in fractional ownership by aircraft type. These data can be used to estimate the proportion of corporate GA flying that should be classified as fractional ownership activity and used to adjust the average flight hours per aircraft assumed for aircraft used in fractional ownership. Unfortunately the published results of the FAA survey do not include an estimate of the number of aircraft involved in fractional ownership plans. Therefore this number will need to be estimated from other sources (e.g. J.P. Morgan's Business Jet Monthly newsletter (J.P. Morgan, 2011)).

OPERATIONS PER BASED AIRCRAFT

The number of operations per based aircraft is a metric that is commonly used in forecasting general aviation activity at airports, primarily because it is easily calculated from aircraft operations counts and based aircraft counts, both of which are routinely collected or estimated at all airports. However, in the aggregate this measure fails to capture the effects of the widely different level of utilization of different types of aircraft used for different purposes. It also assumes that the ratio of operations by visiting aircraft to those by based aircraft remains constant. If the composition of the aircraft fleet at a given airport or the level of activity by visiting aircraft relative to that of based aircraft changes over time, it can be expected that the number of operations per based aircraft will also change.

Therefore what is needed instead is a way to determine the number of operations by based aircraft as a function of the level of flight activity by the owners of those aircraft, which can then be combined with an estimate of the number of operations by visiting aircraft determined in a separate step. Given the number of flight hours for personal and corporate flight activity as discussed in the previous sections, these can be translated into aircraft operations based on estimates of the number of landings per flight hour and the proportion of those landings that occur at the airport where the aircraft is based. The average number of landings per flight hour for different aircraft types is available from FAA survey data of annual general aviation flight activity by aircraft type (FAA, 2011c). The average for each aircraft type covers all purposes for which that aircraft type is used, so some adjustments will be required to reflect the different uses of each type of aircraft. For example, flight training will generate far more landings per flight hour than recreational flying, although both flight purposes may use similar aircraft types.

These adjustments can be made on the basis of data for aircraft types that are typically not used extensively for flight training, although an attempt will be made to obtain more detailed data from the FAA general aviation activity survey to perform a more explicit analysis of these differences.

Estimates of the proportion of landings that are performed at the airport where the aircraft is based requires assumptions about the proportion of flight hours involved in local operations (those where the aircraft remains in the traffic pattern or returns to the airport without landing elsewhere), the average number of landings per flight hour for local operations compared to itinerant operations, and the average number of flight segments for an itinerant trip. This information can be obtained for a representative set of flights from surveys of airport users, such as the 1990 FAA General Aviation Pilot and Aircraft Activity Survey (Executive Resource Associates, 1991). Although this survey is now over 20 years old, the underlying patterns of general aviation activity are not anticipated to have changed all that much, although of course the total level of activity has.

AIRCRAFT FLEET ATTRITION/REPLACEMENT MODEL

This model component is designed to predict the changes in the general aviation aircraft fleet based in the region over time in order to generate a projected future year (2035) aircraft fleet. The model considers the attrition of the current aircraft fleet as aircraft age and become uneconomical to maintain in airworthy condition or are lost due to accidents, together with replacement due to new aircraft purchases and net imports of aircraft to the region less exports of aircraft from the region. From the perspective of the regional based aircraft fleet, the only difference between new aircraft purchases and imports is the age of the new aircraft being added to the regional based aircraft fleet.

The model is based on a Markov process, in which the probability of an aircraft of type i and age a in the regional fleet in year t being lost to the fleet (whether through attrition or export) in year t+1 is given by Pi(a). As a practical matter, aircraft are grouped into a limited number of similar types (e.g. single-engine piston, multi-engine piston, etc.) in order to calculate the probabilities Pi(a) from national aircraft fleet data. The total number of registered aircraft of a given type and age at the national level over time provides the probability of attrition, while the corresponding number of registered aircraft of a given type and age in the region, after adjusting for attrition, provides the probability of net export (exports less imports).

Since the analysis is only attempting to predict the size of the fleet by aircraft type, and not track individual aircraft, only net exports (or net imports) matter. There is a national market for used aircraft (indeed even an international market), so if a specific aircraft based in the Southern California region is sold to a purchaser outside the region but another aircraft of the same type that is based outside the region is purchased by a buyer in Southern California and moved to the region, there is no net change in the regional based aircraft fleet (although of course the location of the owners within the region has most likely changed).

Accounting for new aircraft purchases is complicated since the decision to purchase a new aircraft depends not only on the available fleet of used aircraft, but the overall demand for aircraft. Therefore, a separate sub-model can be developed based on recent trends in national data for new aircraft sales by type. Since someone choosing between purchasing a new aircraft and a used aircraft is only likely to consider relatively new used aircraft, the number of new aircraft added to the Southern California aircraft fleet in a given year will depend on the overall level of general aviation activity in the region and the size of the existing aircraft fleet that is relatively new (perhaps up to five years old). The exact age criterion is probably not all that important, although of course the relationship between the number of new aircraft purchased in a given year and the size of the existing fleet that is considered relatively new will vary with the age criterion used. An analysis of the age profile of aircraft in Southern California over recent years can be undertaken to identify the most suitable criterion.

Although the approach is based on an analysis of the composition of the registered aircraft fleet over time, there is no guarantee that the historical rates of attrition and new aircraft acquisition will persist in the future, particularly over a period as long as 25-years. Therefore the resulting attrition and acquisition rates should be reviewed with the Aviation Technical Advisory Committee and adjusted as necessary to reflect Committee input on factors that appear likely to modify those rates in the future.

Aircraft Data Considerations

An analysis of aircraft attrition and new aircraft acquisition rates can be undertaken based on the national data on the registered aircraft fleet maintained by the Federal Aviation Administration, although potential difficulties could arise from inaccuracies in the registered aircraft data. Because aircraft registrations do not currently need to be renewed on an annual basis (in the way that automobile registrations do), there is a concern that the current registered aircraft database includes a large number of aircraft that are no longer active or whose owners may have moved, although efforts are currently underway within the FAA to improve the accuracy of the aircraft registration database. However, California County Assessors also maintain databases of aircraft based within the county for tax purposes. These data are likely to be reasonably accurate because aircraft owners will notify the County Assessor if their aircraft have been disposed of. By basing the attrition analysis on the County Assessor data, it should be possible to obtain a reasonably accurate picture of the evolution of the aircraft fleet in the Southern California region.

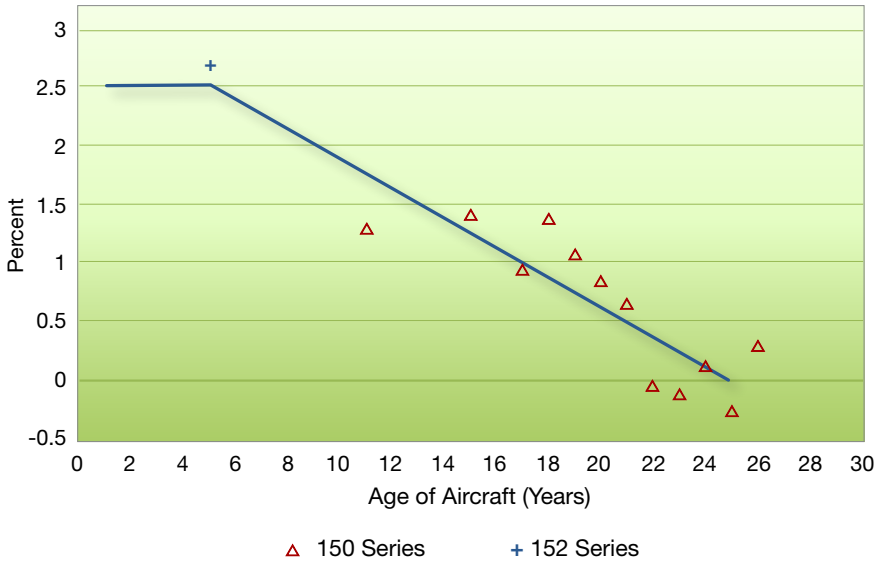
Aircraft Fleet Attrition Models

An early model of attrition in the general aviation fleet was developed by Rocks (1976). Although the data on which this study is based is now quite dated, the underlying

relationship between the age of an aircraft and the likelihood that it will cease to be used or scrapped that is described by the model may not have changed all that much over the past three and a half decades. Aircraft have very long lives if properly maintained and much of the existing general aviation aircraft fleet is not significantly different from the fleet studied by Rocks. Indeed, many of the aircraft in the current fleet were already in the fleet that was studied by Rocks.

A representative aircraft fleet attrition model was developed for the 1994 update of the San Francisco Bay Area Regional Airport System Plan (MTC, 1994). Using data for the Cessna 150/152 series aircraft, it was found that the annual fleet attrition rate declined from about 2.5 percent per year for relatively new aircraft to around zero for aircraft 25 years old or older, as shown in **FIGURE 2.3**. Negative attrition rates beyond 20 years observed in the data could be due to data errors or inactive aircraft being returned to operation.

FIGURE 2.3 Representative General Aviation Fleet Attrition Rates (Cessna 150/152 Series)

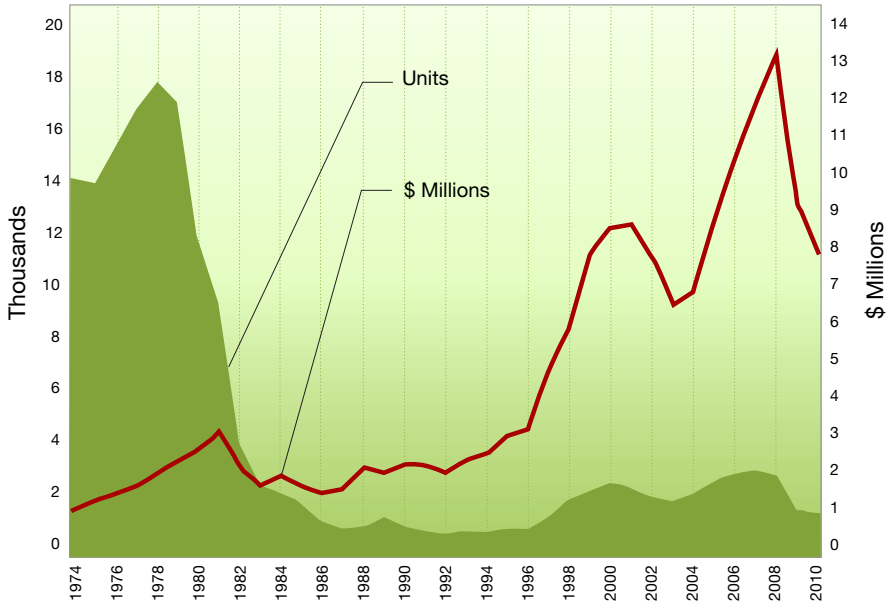


Source: MTC, Regional Airport System Plan Update – San Francisco Bay Area, Oakland, Calif., Nov. 1994, Exhibit 5-64.

It was found at the time that new aircraft were being added to the fleet at a rate of only about 0.2 percent per year. This is likely to have changed significantly in recent years, particularly for turbojet aircraft. **FIGURE 2.4** shows the trend in GA aircraft shipments over the past 37 years. In recent years shipments of new aircraft have been running at about 2,000 units per year, although this has declined sharply since the onset of the recession in 2008. Even so, the average rate over the previous 10 years was still only about one percent of the active GA fleet per year, well under the average attrition rate. Furthermore, many of the U.S. manufactured aircraft are exported.

FIGURE 2.4 also shows the total value of the new aircraft shipments. It is clear that the average value per unit shipped has increased significantly since the late 1970s. In 1975, when over 14,000 units were shipped, the average sale price per aircraft was around $73,000. By 2007, when about 3.300 units were shipped, the highest number in recent years, the average sale price per aircraft had increased to about $3.6 million. By 2010, when the number of units shipped had declined to about 1,300, the average sale price had increased to $5.9 million. Clearly, not only has the number of GA aircraft produced declined significantly, but the nature of the aircraft entering the fleet has also changed. This has profound implications for the long-term composition of the aircraft fleet and the type of flying that is done, as the number of older, less expensive aircraft declines, and these aircraft are replaced by more modern, more capable, and much more expensive aircraft.

FIGURE 2.4 Shipments of General Aviation Airplanes Manufactured in the U.S. (1974–2010)



Source: GAMA

The analysis performed for the Bay Area Regional Airport System Plan (RASP) analysis did not consider the net effect of imports and exports to and from the region, although it noted that these are likely to be fairly small in relation to the size of the total fleet and will tend to offset each other. A more explicit accounting of net exports will be undertaken as part of the project, as discussed above.

The attrition pattern developed for the Bay Area RASP is now over 15 years old, and will need to be updated and expanded for the current study. The literature review has not identified any more recent application of a formal general aviation fleet attrition model, although the FAA includes assumptions about GA fleet attrition in its annual forecasts of the future GA fleet.

Aircraft Owner Distribution

In addition to the size of the future regional based aircraft fleet, it is also necessary to consider whether the geographic distribution of aircraft owners will change in the future. Although this is not part of the Aircraft Fleet Attrition/Replacement Model, it is a necessary step before allocating the projected future aircraft fleet to airports within the region. Data on the current distribution of aircraft owners by zip code can be obtained from the registered address of the aircraft owner and aggregated to suitable sub-regional analysis zones that are selected to contain a similar number of current aircraft owners.

In the case of corporately owned aircraft, it may be necessary to make adjustments to the registered location, since the aircraft registration may use the address of a corporate office that bears little relationship to the operating units using the aircraft, and may even be outside the region. For example, an aircraft may be registered using the address of a corporate flight department that is located at the airport where the aircraft is based, although the choice of airport at which to locate the flight department was influenced by the location of the principal corporate offices in the region.

Rather than simply assume that the geographic distribution of aircraft owners will remain unchanged, an aircraft owner distribution model will need to be developed using analysis techniques such as linear regression. In the case of personally owned aircraft, the independent variables that are most likely to provide a reasonable fit to the data are population and average household income, although other socioeconomic factors can also be explored. Identifying suitable independent variables in the case of corporately owned aircraft is likely to be more difficult and will require some exploratory analysis. The challenge is not so much identifying measures of business activity that are correlated with aircraft ownership but selecting measures for which long-term forecasts are available at a sub-regional level. It may therefore be necessary to use a more general measure of business activity, such as employment, for which forecasts are available but is not particularly well correlated with aircraft ownership and then apply sub-regional adjustment factors that reflect the current distribution of aircraft owners. This will at least ensure that projected future regional changes in the distribution of employment will be reflected in the forecast distribution of aircraft owners.

Although the resulting regression models will not necessarily produce the correct number of aircraft owners for a future year based on the projected size of the aircraft fleet, since

aircraft ownership levels may change over time due to factors other than changes in household income or business activity, this is not a major concern since all that is needed is the geographic distribution of those owners, so the model projections can be factored to give the correct totals.

The other major advantage of developing aircraft owner distribution models of this type is that they provide a means to allocate the forecast number of aircraft owners to smaller geographic zones (such as regional travel analysis zones), in a consistent way. This becomes important in applying the based airport choice models, since the relative proximity to alternative airports is a major consideration in the choice of airport and the analysis zones for this need to be relatively small in order to properly account for differences in airport proximity.

PERSONALLY OWNED AIRCRAFT BASED AIRPORT CHOICE MODEL

This model (referred to in **FIGURE 2.1** as the Personal Based Aircraft Choice Model for brevity) predicts the choice of airport at which to base a personally owned aircraft, considering the geographic distribution of aircraft owners and the facilities and services available at the different airports in the region. The general form of the model is a multinominal logit discrete choice model that predicts the probability of a given aircraft owner k choosing airport j as a function of the proximity of each of the set of N alternative airports and the facilities and services at those airports. The number of based aircraft at each airport, as well as the geographic distribution of their owners, is them obtained by summing up the probabilities for each aircraft in the regional fleet.

Mathematically, the model takes the following form:

$$P_k(j) = U_k(j) \Big/ \sum_{i=1}^{N} U_k(i)$$

where the perceived utility Uk(i) provided by airport i is given by:

$$U_k(i) = a_0 + a_1 * d_{ki} + \sum_{l=1}^{L} a_{l+1} * x_{li}$$

and dki = distance from location of owner k to airport i

xli = value of airport-specific variable l for airport i

a's = estimated coefficients

The airport-specific variables for each airport can be continuous (e.g. hangar rental rates) or dummy variables (e.g. the presence of a control tower). Exploratory model development will be required to determine which variables are statistically significant. It is likely that owners of different types of aircraft may value airport facilities and services differently. For example, owners of larger aircraft that are used primarily for business may be more concerned that an airport has a control tower and an instrument landing system than owners of aircraft used primarily for recreation. Therefore it may be possible to obtain a better fit to the data by estimating separate models for different classes of aircraft. Although the primary use of the aircraft may be most important determining factor, this information is not generally available at the level of specific aircraft. It will therefore be necessary to use aircraft type as a surrogate criterion for primary use. In any case, the forecast of the future GA fleet only provides information on aircraft type, so future levels of primary use have to be assigned to the aircraft fleet anyway based on the current pattern of use by aircraft type.

One important consideration in airport choice is the limitation imposed on owners of larger aircraft by runway length or other airfield design criteria at particular airports. Rather than attempt to account for this through the independent variables in the choice model, it is simpler and more reliable to restrict the choice set of alternative airports available to those owners.

A related consideration is the large number of GA airports in the region, many of which will be so far from a given aircraft owner that they are not likely to enter into the choice set. In order to avoid having too many alternatives for a given owner, which will tend to place too much reliance on the distance variable to avoid unrealistic choices, it is likely that restricting the choice set on the basis of some distance criterion will produce more reliable model estimations. An analysis of the current geographic distribution of aircraft owners for each airport can be undertaken to identify a suitable distance threshold for different aircraft categories.

CORPORATELY OWNED AIRCRAFT BASED AIRPORT CHOICE MODEL

This model (referred to in **FIGURE 2.1** as the Corporate Based Aircraft Choice Model for brevity) predicts the choice of airport at which to base a corporately owned aircraft, considering the geographic distribution of the primary aircraft users and the facilities and services available at the different airports in the region. The general form of the model is the same as that for personally owned aircraft, although the model coefficients will most likely be different and some independent variables for airport facilities and services that are not found to be statistically significant for personally owned aircraft may turn out to be important for corporately owned aircraft. For example, the presence of a control tower may not be an important factor in airport choice for personally owned aircraft but may be very important for corporately owned aircraft.

Because many of the facilities and services are necessarily represented by dummy variables (either an airport has a control tower or it does not) and many are likely to be highly correlated across different airports (e.g. all airports with instrument landing systems also have control towers), it may not be possible to identify different coefficients for some airport variables that it would appear reasonable to assume would influence the choice of airport. This does not affect the reliability of the model, since the effect of the omitted variable is accounted for by the coefficient of the correlated variable that this included in the model, unless a situation arises in the future in which an airport has one feature but not the other (e.g. an instrument landing system is installed at an airport without a control tower). This situation can be handled through the inclusion of an additional variable, with the coefficient value of the correlated variable included in the estimated model split between the two variables on the basis of judgment or separate analysis (e.g. past surveys of aircraft owners on the relative importance of different factors in their choice of airport).

FLIGHT ACTIVITY BY AIRPORT

The number of aircraft operations at a given airport result from activity by based aircraft and itinerant operations by transient (or visiting) aircraft that are based elsewhere. The aircraft operations by based aircraft can be estimated from the forecast number of flight hours and the number of operations per flight hour. These parameters are likely to vary considerably by aircraft type and can be estimated from survey data on aircraft activity levels.

Local operations largely result from flight training activities and some proficiency flights, as well as aerial activity and observation. There may also be a fairly small number of local operations by visiting aircraft. Thus the number of local and itinerant operations can be projected by estimating a relationship between the tower count data and the operations estimates derived from the flight hour analysis. The coefficients of this relationship perform two functions. First they adjust the number of operations derived from the flight hour analysis to achieve consistency with the tower count data. Second, they account for the varying split between local and itinerant operations by different aircraft uses.

Itinerant Operations by Transient Aircraft

Projecting itinerant operations by transient aircraft needs to utilize a different approach, since the number of such operations is not directly related to the number of based aircraft. Rather these operations can be expected to increase from current levels at each airport in proportion to the growth in the regional total of itinerant operations by based aircraft, reflecting the changes in the underlying factors driving the demand for general aviation activity. This assumes that these factors change elsewhere in the country in the same way that they do in Southern California. Since many of these factors, such as the price of aviation fuel, the general state of the economy, and corporate tax policies, are largely determined at a national level anyway, this does not seem an unreasonable

assumption. Even if the Southern California economy is assumed to grow at a different rate from the national economy, to reflect that difference in the relative growth of itinerant operations by based aircraft and visiting aircraft would require a model of the demand for itinerant operations that incorporates separate measures of economic activity at both the origin and destination end of the trip.

The only known example of such a model is the Virginia Tech Transportation Systems Analysis Model. However, this model forecasts total person-trips on a county-to-county basis divided into five household income groups, where the highest income group has a household income greater than $150,000 in 2000 dollars. While different economic growth assumptions in different regions of the country would change the number of households in this income category, this is likely to be a fairly poor measure of the effect on the use of general aviation. In the first place, most users of general aviation for business or corporate travel are likely to have a household income significantly higher than $150,000, so changes in the number of households in this category do not necessarily reflect changes in the number of trips made by travelers likely to consider using general aviation rather than commercial airlines. Secondly, most such travel decisions to use general aviation are made by businesses or government agencies, rather than individual travelers, and the number of households in the highest income category does not really reflect the considerations that would lead to decisions to use general aviation for specific trips.

Thus, while the planned approach ignores the effect of possible factors that could change the ratio of the number of itinerant operations by visiting aircraft to Southern California airports to the number of itinerant operations by based aircraft, a more detailed analysis of the pattern of itinerant GA operations to and from the region is beyond the resources of the current study.

DATA REQUIREMENTS AND SOURCES

Implementation of the forecasting approach described in this section required extensive data on:

- Pilot population and flight activity
- Based aircraft and aircraft ownership
- Airport characteristics and fees
- Airport activity by based and transient aircraft
- Regional socioeconomic data

These data requirements and available data sources are discussed in more detail in the remainder of this sub-section. While much of the required data is available from FAA and other government sources, information on the flight hours of individual pilots is not publicly available (the FAA collects this information when pilots renew their medical certificates, but it is not releasable for privacy reasons). Furthermore, without identifiable data on individual pilots, it is not possible to link the flight activity of the pilot community to the flight activity of the aircraft fleet, obtained from aircraft activity surveys. In order to address this missing link in the data, a survey of AOPA members was undertaken as part of the current study, as described in more detail below.

Pilot Population and Activity

Statistical data on the U.S. pilot population is available from the annual FAA U.S. Civil Airmen Statistics (FAA, 2011e). Data on individual pilots from the FAA Airmen Registration Database, including their address, pilot certificates, and date of their most recent medical certificate, can be downloaded from the FAA website (FAA, 2011d). However these data do not include the pilot's age or flight experience and exclude the records of airmen who have requested that their address not be released. Totals of active airmen by county (including those who have requested their address not be released) are also available online (FAA, 2011f). Unfortunately, the FAA updates the downloadable data monthly and does not formally archive these data. Only the most recent version is shown on the FAA website, although prior versions remain on the server for some time and can still be accessed by entering the correct URL for the files. However the data available in this way only goes back about two years. Luckily, an earlier version from October 2004 was found on a web archive (http://www.archive.org). The totals of active airmen by county are presented in a PDF report that is generated by an application program from the underlying data tables that are updated even more frequently than the downloadable data. Thus these totals can change continuously and there is no way to access the data for a prior date.

However the FAA Airmen Certification Branch maintains internal reports on past totals of active airmen by county, and the relevant pages of these reports for California counties were obtained from the Branch staff for a selection of prior years.

The FAA active airman registry does not contain data on the flight time experience of each airman. However, pilots are required to provide their total flight hours to date and the flight hours in the prior six months on their application form to obtain or renew their medical certificate. The flight experience data is maintained in a separate database by the FAA Civil Aerospace Medical Institute (Peterman, Rogers, et al., 2008) and has been used in a recent study of U.S. pilot characteristics (Rogers, Véronneau, et al., 2009). However, an attempt to gain access to these data for use in the current study has thus far proved unsuccessful. Failing this, the change in average flight hours for holders of different classes of medical certificate over time is given by Rogers Véronneau, et al. (2009) and these data can be combined with data on the changing age distribution of the pilot population from the U.S. Civil Airmen Statistics to estimate the average annual flight hours for different age groups and class of pilot certificate. In addition, data on pilot flight experience can be obtained from the survey of AOPA members discussed below.

The AOPA Member Survey

With the assistance of the Aircraft Owners and Pilots Association an online survey was performed of the California AOPA membership by SCAG and the California Department of Transportation (Caltrans) Division of Aeronautics. The AOPA agreed to invite its California members to participate in the survey and provide them with the web address of the survey website where they could complete the survey. Survey respondents were not asked to provide identifying information, but they were asked to provide their zip code of residence and (if they are an aircraft owner) the airport where they base their aircraft. They were also asked to provide the following information:

- Whether they have flown general aviation aircraft in the past six months
- How long ago they last flew as a general aviation pilot (if no longer active)
- The highest level of pilot certificate that they currently hold (or have held)
- Their total flight hours in all types of aircraft
- Their flight hours in general aviation aircraft in the past year
- Whether they are a current or former aircraft owner
- The type(s) of aircraft that they own (or owned), if any
- Their age range (in ten year intervals)

In addition, the survey asked a number of questions about services that the respondents have used or would like to see at airports that they use, as well as issues that they believe should be addressed at the airport where they base their aircraft or use most frequently, or that should be considered in developing a general aviation demand forecast.

The findings of the survey thus provide a more detailed profile of the pilot population in the SCAG region than can be obtained from the more aggregate data available from the FAA.

Aircraft Ownership and Based Airport

Detailed data on the composition and ownership of the current aircraft fleet is available from the aircraft registration data maintained by the County Assessors. These data provide the registered location of the aircraft owners by zip code, the type and age of each aircraft, and in most cases the airport where the aircraft is based. In general it is possible to determine whether an aircraft is owned by one or more individuals, a business, a government agency, an educational institution, or some other type of organization, such as a nonprofit association, from the name of the registered owner. In the case of aircraft owned by businesses, it is also necessary to classify the business by industry sector for use in developing the aircraft owner distribution models discussed above. In some cases this is obvious from the name of the owner. In other cases, some research will be needed to classify the owner into the appropriate industry sector.

Data on the total number of based aircraft at each airport is available from the FAA Form 5010, available online for each airport on the Caltrans Division of Aeronautics website, as well as other online aviation data sources, such as AirNav.com (http://www.airnav.com). While the FAA Form 5010 data is updated each year and the online sources do not provide historical data, the Caltrans Division of Aeronautics maintains an historical data file of based aircraft counts for every airport in the state.

Airport Characteristics and Fees

Airport facilities and fees are likely to be factors in the decisions of aircraft owners on where to base their aircraft. Information on airport facilities, such as runway length and the presence of a control tower, is available from the FAA Form 5010. Additional information on airport businesses, including fuel prices, is available online from AirNav.com.

Hangar and tiedown rental rates are available for some airports on the airport websites. In other cases it may be necessary to survey airport managers to determine current fees.

Airport Activity by Based and Transient Aircraft

Airport operations counts for towered airports are available from the FAA Air Traffic Activity Data System (ATADS) at http://aspm.faa.gov. This provides daily, monthly, and annual traffic counts, distinguishing between air carrier, air taxi, general aviation, and military operations, with separate counts for local and itinerant operations, Estimates of annual operations at non-towered airports are available from the FAA Form 5010 data, separated into air carrier, air taxi, GA local ,GA itinerant, and military operations.

However, these airport activity counts do not distinguish between itinerant operations by based aircraft and transient (visiting) aircraft. In some cases, airport management may be able to provide an indication of the amount of activity by transient aircraft from records such as fuel sales receipts, overnight aircraft parking fees, or airport noise monitoring systems (which can generate reports of airport operations by tail number). As part of the current study, a survey of airport managers has been undertaken to identify the availability of information on activity by transient aircraft at each airport.

Data on average flight hours for different purposes by different types of aircraft are available from annual FAA General Aviation Activity and Part 135 Activity Surveys (FAA, 2011c). While these are national data, the utilization rates for different aircraft types can be applied to the aircraft fleet in the Southern California region. Some adjustment factors may be necessary to generate a level of activity that is consistent with the airport operations counts after making allowances for operations by visiting aircraft and the number of landings made outside the region by aircraft based at Southern California airports.

Regional Socioeconomic Data

SCAG has developed forecasts of households, population and employment at the travel analysis zone (TAZ) level. These forecasts give the number of households in four income ranges (less than $25,000, $25,000 to $49,999, $50,000 to $99,999, and $100,000 and over, in 1999 dollars) and the total population in the zone, as well as the number of households with no children, one child, two children, and three or more children. The employment forecasts give the total employment in the zone in three income ranges (less than $25,000, $25,000 to $49,999, and $50,000 and over, also in 1999 dollars), as well as the total employment in 13 industry sectors, based on the two-digit North American Industry Classification System (NAICS) codes.

Although the SCAG data on employment by industry sector does not include information on the number of businesses in a given zone, the current distributions of businesses by industry sector and size are available at the zip code level from the U.S. Census Bureau data on County Business Patterns. These data provide the number of businesses in each zip code by industry sector and size, expressed in terms of number of establishments by employment size ranges, using the NAICS codes.

KEY ASSUMPTIONS

Although the forecasting approach described in this section is based on an analysis of current trends in the pilot population, the composition and use of the general aviation fleet, and patterns of aircraft ownership, there are a number of key assumptions that will drive the forecasts.

The most significant of these is the future rate at which student pilots take up flying. This has a profound effect on the size of future pilot cohorts. While recent trends in the number of student pilot certificates issued can give an indication of the likely future rate of new pilot starts, these trends have changed over time and will most likely do so again. Thus establishing the assumptions for the future trend in new student pilot certificates issued involves a judgment about how many people will decide to take up flying in the future. This is likely to be influenced in part by the demand for airline and commercial pilots, as well as the general state of the economy and the cost of flying relative to other recreational pursuits or means of transportation.

A second set of key assumptions involves the rates at which pilots transition to higher levels of certificates, or become inactive, as well as the average number of hours that they fly each year at different stages of their life-cycle as a pilot. While data exists on the recent trends in these rates, there is an open question how long these trends will continue or how they will change in the future. Therefore assumptions must be made about how these rates will change over the forecast period.

Because aircraft have quite long operational lives and the average utilization in flight hours per year is quite low for a large part of the fleet, the aircraft fleet can continue to grow for a time, even if the level of flying activity is reducing. However, eventually older

aircraft will be scrapped or sold outside the region and not replaced. Therefore assumptions are needed on how the current trends in both aircraft attrition and new aircraft acquisition are likely to evolve in the future.

Since the level of activity by corporately-owned aircraft is driven by the transportation or operational needs of the aircraft owners or customers, rather than being determined by the size of the pilot population, assumptions are also needed on how the use of general aviation by businesses may change in the future. The introduction of fractional ownership has made the use of general aviation more affordable to a range of companies, which may eventually decide to acquire their own aircraft. Thus it will also be necessary to make assumptions about future trends in the use of general aviation by different types of businesses in response to changing economic conditions, including those that currently operate aircraft directly or use chartered aircraft as well as those that do not currently make use of general aviation.

These key assumptions have been documented and reviewed with the SCAG Aviation Technical Advisory Committee for suggested changes prior to being used to develop the Regional General Aviation Demand Forecast.

SUMMARY AND IMPLEMENTATION

The forecast approach adopted for this study is based on an analysis of the underlying factors that will influence the future levels of aircraft ownership and general aviation activity, including changes in the composition and activity of the pilot population, attrition of the current aircraft fleet based in the region and addition of new aircraft to the fleet, and the future level of general aviation activity by businesses and other organizations in the region. The planned approach considers the geographical distributions of aircraft owners and the factors that influence where those aircraft owners choose to base their aircraft. The approach is thus sensitive to a range of assumptions about how these factors may change in the future and by varying these assumptions can generate alternative scenarios for the future size and composition of the general aviation fleet and activity in the region, and how that activity is likely to be distributed among the counties and airports in the region.

The analytical framework to support this forecasting approach has been implemented through a series of linked worksheets in a Microsoft Excel workbook. An input and control worksheet provides a dashboard approach to varying the model assumptions and displaying a summary of the forecast results for the current scenario. Additional sheets display more detailed results and provide a “drill-down” capability to examine the changes in forecast activity at a county and airport level. The various analytical modules are implemented in additional linked worksheets. While it is not anticipated that users will modify the way that the calculations are performed on these sheets, they will provide users with the ability to examine how the analytical modules function and review the intermediate calculations, thus providing a high level of transparency to the forecast process.

Federal Aviation Forecasts of General Aviation Activity

The Federal Aviation Administration (FAA) prepares two annual forecasts that address future levels of general aviation (GA) activity: the FAA Aerospace Forecast, which provides projections of future GA activity at a national level, and the FAA Terminal Area Forecast, which provides projections of GA activity at the level of individual airports, from which projections of future GA activity in the Southern California region can be derived.

FAA NATIONAL AEROSPACE FORECAST

The FAA Aerospace Forecast is updated annually and provides projections for a wide range of aviation system metrics at a national level, for both commercial and general aviation. The most recent forecast (FAA, 2011a) provides projections to 2031, using a base year of 2010. The forecast includes the following metrics for the GA system:

- Active GA and air taxi aircraft by category of aircraft
- Active GA and air taxi hours flown by category of aircraft
- Active pilots by type of certificate
- GA aircraft fuel consumption by category of aircraft
- GA aircraft operations at FAA and contract control towers
- GA operations at Terminal Radar Approach Control (TRACON) facilities
- Instrument flight rules (IFR aircraft handles at FAA Air Route Traffic
- Control Centers

The forecast report includes a brief discussion of recent trends in the GA sector, with particular reference to the effect of the most recent recession on shipments of new GA

aircraft and the decade-long declining trend in GA aircraft operations at FAA and contract control towers. However, it noted that GA activity at TRACONs in fiscal year 2010 declined by less than the decline at the control towers, while GA aircraft handled at en route centers (Air Route Traffic Control Centers) rose by 3.4 percent. This appears to reflect the continuing growth in the number of higher-end GA aircraft (business jet aircraft), which tend to make much greater use of en route and terminal control facilities than smaller GA aircraft. Higher-end GA aircraft typically operate under an FAA flight plan, which requires then to be under the control of TRACONs and en route centers, while much of the smaller GA aircraft activity operates under visual flight rules (VFR), and only uses control tower facilities.

The forecast report mentions that the forecasts of GA activity are primarily based on information from the FAA General Aviation and Part 135 Activity Survey (FAA, 2011c), which has been significantly improved and expanded in recent years. The survey results are used as a baseline to which assumed growth rates are applied. There is no discussion in the report of the source or justification of these assumed growth rates. Although the survey results distinguish between activity by aircraft in GA and air taxi (Federal Aviation Regulations Part 135) operations, the forecast projections combine these categories for both active aircraft and hours flown by category of aircraft.

Outlook for General Aviation Activity

The FAA projections show the recent decline in the number of active single-engine piston aircraft (the largest category of GA aircraft) continuing until about 2018, with a slow growth thereafter. This category of aircraft experienced an average annual decline of about 0.7 percent from 2000 to 2010. The projections indicate that the number of active aircraft will further decline by about 2 percent from 2010 to 2018 (an average annual rate of about 0.1 percent per year), with an average annual growth rate from 2018 to 2031 of about 0.6 percent per year. The combined effect results in a projected increase in the number of active aircraft in this category of about 6 percent from 2010 to 2031. Given the recent trend in the number of active aircraft in this category, this projection appears rather optimistic. The projection implies a net increase in the active U.S. single-engine piston aircraft fleet over the 21-year period between 2010 and 2031 of about 8,000 aircraft. Given the average age of this segment of the U.S. GA aircraft fleet and the likely attrition rates over the next two decades, an increase of this size implies a significant increase in production over current levels. Over the past decade U.S. aircraft manufacturers have produced about 12,300 single-engine piston aircraft, net of exports. During this period the active single-engine aircraft fleet declined by about 9,400 aircraft, giving an overall attrition (net of imports) of about 21,700 aircraft. Thus an increase of 8,000 aircraft over the next 20 years implies more than a doubling of production compared to the past decade.

The number of multi-engine piston aircraft is projected to continue its recent decline through 2031, as this category of aircraft is becoming superseded by turboprop and turbojet aircraft, with a further decline in active aircraft of about 17 percent from 2010 to 2031.

In contrast, the number of active turboprop and turbojet aircraft has been increasing at an average annual growth rate of about 5 percent per year from 2000 to 2010. This growth rate is projected to slow considerably to an average annual rate of about 3 percent per year from 2010 to 2020, increasing slightly thereafter to an average annual rate of 3.1 percent per year from 2020 to 2031. The number of active rotorcraft has also been increasing steadily in recent years, with piston-powered rotorcraft increasing at an average annual rate of 2.9 percent per year from 2000 to 2010 and turbine-powered rotorcraft increasing at a higher average annual rate of 4.0 percent per year over the same period. The growth rate for turbine-powered rotorcraft is projected to slow over the forecast period, to an annual average rate of about 2.4 percent per year, while that for piston-powered rotorcraft is projected to increase slightly over the period 2010 to 2020 and slow thereafter, giving an average annual growth rate from 2010 to 2031 of about the same as the past ten years.

The numbers of both experimental and sport aircraft are projected to continue their recent growth, with the number of active experimental aircraft increasing at an average growth rate of 1.4 percent per year between 2010 and 2031 and the number of active sport aircraft increasing at a higher average annual rate of about 3.3 percent per year.

The number of hours flown by single-engine piston aircraft are projected to decline more rapidly between 2010 and 2018 than the decline in the number active aircraft, at an average annual rate of 0.5 percent per year, and increase thereafter at a higher rate than the number of active aircraft, at an average annual rate from 2018 to 2031 of 1.8 percent per year. The combined effect is to increase the number of hours flow by this category of aircraft between 2010 and 2031 by about 19 percent. The number of hours flown by turbojet aircraft and rotorcraft are projected to increase faster than the projected increase in

active aircraft, implying an increase in aircraft utilization. Hours flown by turbojet aircraft are projected to almost triple from 2010 to 2031 (an increase of 195 percent), while hours flown by rotorcraft over the same period are projected to increase by about 85 percent.

The number of active student pilots are projected to decline by about eight percent from 2010 to 2016 before growing slowly to return to slightly above the 2010 level in 2031. The numbers of active private and commercial pilots are projected to follow a similar trend, with the number of private pilots ending up in 2031 about 6 percent above the 2010 level and the number of commercial pilots increasing by about 10 percent from 2010 to 20131. This of course implies that a higher proportion of student pilot progress to obtain private and commercial pilot certificates. The number of active airline transport pilots is projected to steadily increase from 2010 to 2031, ending up about 15 percent above the 2010 level by 2031. While most flying by airline transport pilots is not general aviation, training the increased numbers of airline pilots does involve general aviation, and of course some airline pilots do engage in general aviation flying as well as airline flying.

Although the number of active student, private, and commercial pilots are projected to decline from 2010 to 2016, this is not reflected in the projected numbers of hours flown by different categories of aircraft or the associated projections of GA aircraft operations handled by FAA and contract control towers, TRACONs, or en route centers, most of which increase steadily from 2010 (or 2011 in the case of the control towers). While the number of hours flown by single-engine piston aircraft is projected to decline by about 6 percent from 2010 to 2017, the number of active student pilots is projected to decline by about 8 percent over the same period, while the number of active private pilots is projected to decline by about 7 percent. While these differences are not large, they imply a small increase in the average number of hours flown per pilot at a time when the number of active pilots is declining.

FAA TERMINAL AREA FORECAST

The 2011 FAA Terminal Area Forecast (TAF) provides projections at the airport level for the period from 2010 to 2030 using a base year of 2009 for the following general aviation metrics:

- Itinerant aircraft operations
  - Air taxi
  - General aviation
  - Military
- Local aircraft operations
  - Civil (general aviation)
  - Military
- Based aircraft:
  - Single-engine propeller fixed wing
  - Multi-engine propeller fixed wing
  - Jet fixed wing
  - Helicopters
  - Other

The category of air taxi operations is ambiguous, because in the case of commercial service airports it includes regional airline (also termed commuter airline) operations, as well as true air taxi (Part 135) operations.

The forecast covers 42 of the 54 airports in the region that are currently available for public use, as well as Palmdale Regional Airport, which is currently operating as a military airfield and may only be used by civilian flights on a pre-arranged basis. The following airports are not included in the TAF data:

Imperial County
- Cliff Hatfield Memorial Airport, Calipatria (CLR)
- Holtville Airport (L04) (closed)
- Salton Sea Airport, Salton City (SAS)

Los Angeles County
- Agua Dulce Airpark (L70)
- Catalina Airport, Avalon (AVX)

Riverside County
- Bermuda Dunes Airport (UDD)
- Chiriaco Summit Airport (L77)
- Desert Center Airport, Palm Desert (CN64)
- FlaBob Airport, Riverside (RIR)
- Perris Valley Airport, Perris (L65)

San Bernardino County

Baker Airport (0O2)
Hesperia Airport (L26)
Roy Williams Airport, Joshua Tree (L80) (closed)
Yucca Valley Airport (L22)

Ventura County
Santa Paula Airport (SZP)

The forecast general aviation activity for each county and the region as a whole for 2010 and 2030 is shown in **TABLE 3.1**.

TABLE 3.1 Forecast Aircraft Operations – FAA Terminal Area Forecast

County		Itinerant Operations				Local Operations		
		Air Taxi	GA	Military	Total	GA	Military	Total
Imperial	2010	2,287	46,280	1,720	50,287	53,134	0	53,134
	2030	2,287	46,280	1,720	50,287	53,134	0	53,134
	Growth	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%
Los Angeles	2010	147,189	730,634	11,939	889,762	597,667	10,572	608,239
	2030	206,125	867,105	11,717	1,084,947	692,125	10,572	702,697
	Growth	40.0%	18.7%	-1.9%	21.9%	15.8%	0.0%	15.5%
Orange	2010	10,423	154,510	67	165,000	100,807	58	100,865
	2030	10,702	205,488	67	216,257	117,628	58	117,686
	Growth	2.7%	33.0%	0.0%	31.1%	16.7%	0.0%	16.7%
Riverside	2010	19,938	208,893	2,590	231,421	236,780	218	236,998
	2030	30,793	223,468	2,590	256,851	245,208	218	245,426
	Growth	54.4%	7.0%	0.0%	11.0%	3.6%	0.0%	3.6%
San Bernardino	2010	21,059	203,901	24,446	249,406	323,848	9,257	333,105
	2030	23,354	228,751	24,446	276,551	342,145	9,257	351,402
	Growth	10.9%	12.2%	0.0%	10.9%	5.6%	0.0%	5.5%
Ventura	2010	8,531	95,408	136	104,075	111,108	73	111,181
	2030	9,968	100,888	136	110,992	116,136	73	116,209
	Growth	16.8%	5.7%	0.0%	6.6%	4.5%	0.0%	4.5%
SCAG Region	2010	209,427	1,439,626	40,898	1,689,951	1,423,344	20,178	1,443,522
	2030	283,229	1,671,980	40,676	1,995,885	1,566,376	20,178	1,586,554
	Growth	35.2%	16.1%	-0.5%	18.1%	10.0%	0.0%	9.9%

The projected growth in itinerant and local GA operations at a regional level (16 percent and 10 percent respectively) are somewhat lower than the forecast growth in total hours flown by single-engine piston aircraft in the national FAA Aerospace Forecasts, which are projected to grow by 19 percent between 2010 and 2031. Since this category of aircraft accounts for the majority of local operations, this suggests that either that the FAA is projecting future growth in general aviation activity in the Southern California region to be well below the national average or that there is a significant disconnect between the TAF projections and the FAA Aerospace Forecast projections.

While the projected growth in itinerant GA operations at a regional level is somewhat higher, these operations include almost all the activity by jet aircraft, the flight hours for which are projected to almost triple between 2010 and 2031 in the FAA national Aerospace Forecast. Although the FAA airport operations counts do not distinguish between operations by piston aircraft and those by jet aircraft, the hours flown by turbine aircraft in 2010 are about half those flown by piston aircraft, according to the data presented in the FAA Aerospace Forecast. If the average flight duration of turbine aircraft is twice that of piston aircraft, this suggests that turbine aircraft account for about 20 percent of airport itinerant GA operations in 2010. Thus a tripling of flight hours by turbine aircraft, assuming that average flight duration remains about the same, would increase the total number of itinerant operations by about 55 percent, or about three times the increase in flight hours projected for single-engine piston aircraft.

The results for each county shown in **TABLE 3.1** suggest that growth rates vary widely across the counties, with Orange County having by far the highest growth in GA aircraft operations for both itinerant and local operations, followed by Los Angeles County, with the airports in Imperial County projected to have no growth in aircraft operations at all. This is largely a consequence of the fact that none of the airports in Imperial County have a control tower, and the TAF forecast methodology generally assumes no growth at airports without a control tower.

The forecast growth in the number of based aircraft at a regional level is shown in **TABLE 3.2**. Generally the number of based aircraft increases by more than the number of GA itinerant and local aircraft operations, which implies a reduction in aircraft utilization. While this could occur if new aircraft are added to the fleet without replacing the older ones, which then experience a dramatic reduction in utilization and pull down the fleet average utilization, this is also inconsistent with the national forecasts of aircraft flight hours. In particular, the 18 percent increase in the number of jet aircraft based in the region is entirely inconsistent with the forecast tripling of aircraft flight hours.

TABLE 3.2 Forecast Based Aircraft – FAA Terminal Area Forecast

	Single engine Piston	Multi engine Piston	Jet	Helicopter	Other	Total
SCAG Region						
2010	6,399	814	687	338	225	8,463
2030	7,759	1,053	810	407	225	10,254
Growth	21.3%	29.4%	17.9%	20.4%	0.0%	21.2%

RECENT TRENDS IN BASED AIRCRAFT AND AIRCRAFT OPERATIONS IN SOUTHERN CALIFORNIA

In order to put the FAA forecasts into context, it is worth considering the trends in the number of based aircraft and GA aircraft operations at airports in the Southern California region over the past ten years.

Data on the number of general aviation aircraft based at each airport are given on the FAA Form 5010 Airport Master Record, divided into the following categories:

- Single-engine propeller aircraft
- Multi-engine propeller aircraft
- Jet aircraft
- Helicopters
- Gliders
- Ultra-light aircraft
- Military aircraft

Although the FAA Form 5010 only provides the most recent count of based aircraft at each airport, the Caltrans Division of Aeronautics (DOA) maintains a database of historical data from the FAA Form 5010 for each airport in the state. Using the Caltrans database, the based aircraft counts for each airport were assembled for the period 2001 to 2010, and the total for the Southern California region calculated, as shown in **TABLE 3.3**.

TABLE 3.3 Trend in Based Aircraft – Southern California Region

Year	Single Engine Propeller	Multi Engine Propeller	Heli-copter	Glider	Jet	Military	Ultra-light	Total
2001	8,752	1,068	216	138	329	35	149	10,687
2002	8,649	1,227	248	134	631	44	149	11,082
2003	8,668	1,227	248	134	362	44	147	10,830
2004	8,668	1,227	248	134	362	44	147	10,830
2005	8,669	1,230	248	134	362	44	147	10,834
2006	8,778	1,090	276	102	449	63	156	10,914
2007	8,757	1,055	267	103	549	64	154	10,949
2008	8,463	1,062	269	104	623	64	152	10,737
2009	8,116	993	286	101	627	45	150	10,318
2010	7,919	935	314	103	776	47	178	10,272

The total number of based aircraft in the region increased from 2001 to 2002 then remained fairly stable until 2007, since when it has declined steadily to a level in 2010 about 6 percent below that of 2007. However, this overall trend conceals significant differences among the various categories of aircraft. Over the ten year period the number of based jet aircraft and helicopters has increased significantly, by 136 percent and 45 percent respectively, while the numbers of single-engine and multi-engine propeller aircraft have declined. The number of single-engine propeller aircraft, which comprised 82 percent of the fleet in 2001, has declined by about 10 percent over the ten-year period and by 2010 comprised only about 77 percent of the fleet, while the number of multi-engine propeller aircraft has declined by about 12 percent over the period. The number of gliders has declined by about 25 percent over the ten-year period, while the number of ultra light aircraft has increased by about 20 percent.

Data on the number of general aviation aircraft operations at each airport are available from two different sources. Airport operations counts for towered airports (those with a control tower) are available from the FAA Air Traffic Activity Data System (ATADS) and are summarized in the TAF database, together with estimates of operations at non-towered airports included in the TAF that are derived from FAA Form 5010 data. Estimates of annual operations at airports not included in the TAF (typically non-towered airports) are also available from the FAA Form 5010 data, separated into air carrier, air taxi, GA local, GA itinerant, and military operations.

Aircraft operations counts for each airport were obtained from the TAF database, supplemented with data from the Caltrans DOA Form 5010 database for airports not included in the TAF database or where the TAF database was missing data for particular years. The resulting counts for each airport were summed to give the regional totals shown in **TABLE 3.4**.

TABLE 3.4 Trend in Aircraft Operations – Southern California Region

	Itinerant Operations					Local Operations		
Year	Air Carrier	Air Taxi	General Aviation	Military	Total Itinerant	General Aviation	Military	Total Operations
2001	816,749	378,194	2,064,481	47,643	3,307,067	1,836,982	22,174	5,166,223
2002	706,603	351,509	2,101,140	46,248	3,205,500	1,841,830	17,283	5,064,613
2003	709,012	351,419	2,064,131	46,004	3,170,566	1,810,344	16,771	4,997,681
2004	733,320	367,024	1,999,926	47,094	3,147,364	1,783,320	21,003	4,951,687
2005	730,556	385,531	1,978,467	48,070	3,142,624	1,774,894	22,024	4,939,542
2006	735,023	367,870	1,895,914	46,066	3,044,873	1,669,023	30,417	4,744,313
2007	747,948	381,418	1,844,919	43,464	3,017,749	1,695,764	30,123	4,743,636
2008	734,353	363,596	1,692,746	41,269	2,831,964	1,644,991	23,650	4,500,605
2009	687,430	243,001	1,551,533	40,778	2,522,742	1,574,560	21,127	4,118,429
2010	697,089	219,693	1,551,208	40,968	2,508,958	1,571,944	20,178	4,101,080

Overall, total operations, including air carrier and air taxi, have declined by about 21 percent from 2001 to 2010. This decline has occurred in all categories of operation, but the decline in general aviation (GA) and air taxi has been steeper than for air carrier operations. While air carrier operations declined by about 15 percent over the period, air taxi operations declined by over 40 percent. However, the decline in air taxi operations has occurred mostly in the two-year period from 2008 to 2010. Over the ten-year period, GA itinerant operations declined by about 25 percent and GA local operations declined by about 16 percent.

Therefore, in contrast to the growth projected in the TAF for airports in the Southern California region, the number of based aircraft has been fairly stable until recent years, when it has started to decline, while the number of aircraft operations has been declining steadily for the past decade.

Pilot Cohort Analysis

A key element of the forecast approach is an analysis of expected future changes in the composition of the pilot community in Southern California and the implications for the amount and type of flying that this pilot community will perform.

This section summarizes previous studies into characteristics of the general aviation pilot community and recent trends in the composition and activity levels of the GA pilot community, available data on the composition and activity levels of the GA pilot community, and the results of the analysis of those data undertaken as part of the current study. In addition the section presents the relevant findings from the results of a survey of members of the Aircraft Owners and Pilots Association (AOPA) that was conducted by SCAG and the California Department of Transportation (Caltrans) Division of Aeronautics with the support of the AOPA.

PREVIOUS STUDIES

In spite of the large amount of general aviation activity and the number of general aviation airports in the United States and the recurring need to prepare forecasts of future general aviation activity as part of studies to update airport master plans, prepare statewide and regional airport system plans, and for other purposes, recent trends in the composition of the GA pilot community and the flying activity undertaken by those pilots has received surprisingly little attention in the aviation planning literature.

A small number of studies have examined changes in the characteristics of the pilot population over time, although these have most commonly addressed the influence of pilot characteristics on accident risk (e.g. Li, Baker, et al., 2003; Rebok, Qiang, et al., 2009). A study in the early 1970s (Booze, 1972) examined pilot attrition by age and a more recent study (Rogers, Véronneau, et al., 2009) examined changes in the pilot population over time from 1983 to 2005. The latter study was undertaken in order to examine the effect of changes in the regulations that raised the age limit for pilots to perform the duties of pilot or co-pilot of a commercial passenger or cargo aircraft with ten or more passenger seats or 7,500 payload-pounds of cargo capacity from age 60 to 65, although the analysis in the study addressed broader trends. This study showed that the average age of pilots has been steadily increasing, and with it the average number of flight hours experience.

Pilot Attrition

Pilot attrition refers to the percentage of active pilots holding a given pilot certificate who stop flying for whatever reason. Reasons for a pilot to become inactive include age, medical reasons, loss of interest, or financial limitations. Pilots report the number of hours they have flown in the previous six months as well as their total flight time to date when they apply to renew their medical certificate. If a pilot fails to renew his or her medical certificate when it expires, the FAA classifies that pilot as inactive until such time as the pilot again applies for a medical certificate. In July 2008 the FAA extended the validity of a third class medical certificate (required for pilots holding a private pilot or recreational pilot certificate, or for student pilots flying solo) for pilots under age 40 from three years to five years from the date of issue. A third class medical certificate for pilots age 40 and over is valid for two years from the date of issue. Thus the first indication in the FAA pilot registration database that a student, private or recreational pilot under age 40 is no longer active is five years after their most recent medical certificate was issued, although of course they could have stopped flying well before that. This is particularly true for student pilots, who may have effectively given up learning to fly fairly soon after receiving their medical certificate.

In spite of the obvious importance of the extent of and trends in pilot attrition to the future size and composition of the GA pilot community, a review of the literature on the composition of the GA pilot community failed to identify any studies on recent trends in pilot attrition. Indeed the only formal study on the topic by Booze (1972) is now very dated, although the basic pattern of the attrition rates found in that study may still be reasonably valid. Although the study by Booze was primarily intended to explore the effect of the occurrence of medical problems on attrition from active airman status, it found that these only accounted for less than one percent of the overall attrition rate of active airmen, which Booze stated amounted to approximately 17 percent annually (although the data presented in the report suggest a somewhat higher figure of about 21 percent annually).

At the time of the study, a third class medical certificate was valid for 24 months. The study classified all airmen who obtained a medical certificate of any class in 1968 but did not hold a valid medical certificate 24 months later in 1970 to have become inactive. These airmen were termed the “attrition group,” which comprised 151,917 airmen. The report presents a breakdown of the attrition group by age (in five-year increments) and class of medical certificate. The report gives the total active airman population at the end of 1970, but does not show the age breakdown or how this was divided among the various levels of pilot certificate. Although the report refers to “airmen” throughout, the data for the population of active airmen indicates that the study only considered those holding pilot certificates, and not those holding non-pilot airman certificates. The report does provide the average age for the active airman population holding the various classes of medical certificate, as well as the corresponding average ages for the attrition group. The report also provides data on the total flight time and flight time in the six months prior to the last medical examination for the attrition group, but not for the population.

The average age for airmen in the attrition group and the active airman population holding each class of medical certificate is shown in **TABLE 4.1**.

TABLE 4.1 Average Age of Active Airmen Population and the 1970 Attrition Group

	Class of Medical Certificate		
	Third	Second	First
Airmen Population	35.4	35.1	35.1
Attrition Group	34	35.2	30.9

Source: Booze, 1972.

The average age for airmen in the attrition group holding a third class medical certificate is somewhat lower than for the corresponding population of active airmen, as could be expected since attrition is likely to be higher among younger airmen, particularly student pilots who do not progress to a private pilot certificate or become inactive soon after gaining their private pilot certificate. The average age for airmen in the attrition group holding a second class medical certificate is almost the same as the corresponding population of active airmen (actually slightly higher), suggesting that the attrition rate in this category of airmen is fairly constant across the different age ranges. The average age for airmen in the attrition group holding a first class medical certificate is significantly lower than the average age of the corresponding population of active airmen, again as could be expected due to younger pilots obtaining a first class medical certificate in the hope of pursuing a career as an airline pilot but giving up for a variety of reasons.

The number of airmen in the attrition group by age, class of medical certificate, and whether they had a previous medical examination to the one for the certificate that had just expired is shown in **TABLE 4.2**.

TABLE 4.2 Age Distribution of the 1970 Attrition Group

Attrition Group 1968–1970 by Medical Certificate Class

	Third Class		Second Class		First Class	
Age Group	Prev Exam	No Prev Exam	Prev Exam	No Prev Exam	Prev Exam	No Prev Exam
<20	65	4,861	23	260	13	132
20–24	3,362	16,908	2,435	3,494	727	1,122
25–29	4,867	13,903	5,086	4,206	1,382	1,000
30–34	5,305	8,791	4,567	2,085	1,143	400
35–39	5,778	6,573	4,435	1,377	536	177
40–44	7,076	5,182	3,206	842	278	72
45–49	5,906	3,496	3,882	1,033	309	81
50–54	3,649	1,833	2,493	531	234	35
55–59	2,165	799	831	114	96	12
60–64	1,051	283	299	22	93	
65–69	465	99	151	11	4	1
70–74	133	18	38	1	1	
75–79	47	7	9	1		
80–84	10	1		1		
>84	3					
Total	**39,882**	**62,754**	**27,455**	**13,978**	**4,816**	**3,032**

Airmen with no previous medical examination can be assumed to be mostly student pilots, although it would be possible for a fairly determined student pilot to advance to private pilot or even commercial pilot within the 24-month validity period of the initial medical certificate. The number of pilots holding a second-class or first-class medical certificate with no previous medical examination is initially surprising, although this could result from student pilots who intended to progress to a commercial or airline transport pilot certificate and obtained the appropriate medical certificate on their first medical examination.

As could be expected, the largest component of the attrition group is airmen holding a third class medical certificate with no previous medical examination, since this group largely comprises student pilots who become inactive within the first two years of their initial medical certificate. The age distribution of airmen holding a first class medical certificate who become inactive is surprising for the relatively small number of this group who become inactive at age 60. At the time of the study, airmen holding an airline transport pilot certificate (which requires a first-class medical certificate) could no longer exercise the privileges of that certificate after they reached age 60. They could continue to fly as a private or commercial pilot as long as they held a valid medical certificate appropriate for the type of flying they were doing, so it is possible that many airline pilots continued to maintain a valid medical certificate after they reached age 60, and therefore were not included in the attrition group.

Although the report by Booze does not provide a comparable age distribution of the active airmen population, a copy of the 1969 U.S. Civil Airmen Statistics (FAA, 1970) was located in the library of the Institute of Transportation Studies at the University of California, Berkeley, which included the age distribution of active pilots by type of pilot certificate, as shown in **TABLE 4.3**.

TABLE 4.3 Active U.S. Pilots by Age Group, 1969

	Active Pilots, as of December 31, 1969				
Age Group	Student	Private (Note 1)	Commercial (Note 2)	Airline Transport	Total
<20	24,995	7,508	627		33,130
20–24	50,498	33,036	15,662	164	99,360
25–29	42,490	42,693	38,057	1,712	124,952
30–34	28,157	42,076	29,309	3,735	103,277
35–39	21,675	44,767	26,155	5,480	98,077
40–44	16,139	49,387	18,559	5,030	89,115
45–49	10,287	38,817	30,103	8,134	87,341
50–54	5,411	23,212	15,879	4,818	49,320
55–59	2,464	12,211	5,348	1,648	21,671
60+	1,404	8,411	3,249	721	13,785
Total	**203,520**	**302,118**	**182,948**	**31,442**	**720,028**

Source: FAA, 1970.
Notes 1 Includes Gliders (only)
Notes 2 Includes Helicopters (only) and other

Because the data on the age distribution of the attrition group were expressed in terms of medical certificate held while the data on active pilots were expressed in terms of the pilot certificate, it was necessary to make a number of assumptions in order to relate the two datasets:

- All pilots in the attrition group with no previous medical examination were assumed to be student pilots
- All pilots in the attrition group holding a third-class medical certificate with a previous medical examination were assumed to hold a private pilot certificate
- All pilots in the attrition group holding a second-class medical certificate with a previous medical examination were assumed to hold a commercial pilot certificate

- The attrition rate for pilots holding a first-class medical certificate with a previous medical examination and between the ages of 20 and 34 was assumed to be the same for pilots holding a commercial pilot certificate or an airline transport certificate
- All pilots in the attrition group holding a first-class medical certificate with a previous medical examination and aged 45 or above were assumed to hold an airline transport certificate.

The fourth assumption shown above implies that the number of pilots in the attrition group holding a first-class medical certificate with a previous medical examination and holding either a commercial pilot or an airline transport pilot certificate was proportional to the number of active pilots holding those pilot certificates. The fifth assumption shown above is based on the underlying assumptions that pilots holding a commercial pilot certificate with the intention of becoming an airline pilot or taking a job that requires an airline transport pilot certificate will have done so by age 45 and that since the first-class medical certificate requires more frequent medical examinations (every six months), a pilot holding a commercial pilot certificate who does not require a first-class medical certificate will choose to obtain a second-class medical certificate instead. In addition, it was assumed that the attrition rate for pilots holding an airline transport pilot certificate aged 35 to 44 is the same as for those aged 30 to 34.

These assumptions allow the number of pilots in the attrition group in each age range holding the different classes of medical certificate to be assigned to an assumed type of pilot certificate and the resulting attrition rate by age group and type of pilot certificate calculated, as shown in **TABLE 4.4**. Since the attrition group was defined as the number of pilots who obtained a medical certificate in 1968 but did not hold a valid medical certificate two years later, the annual attrition rates are approximately half those shown in **TABLE 4.4**.

TABLE 4.4 Two-Year Attrition Rates of Active U.S. Pilots by Age Group, 1968–1970

	Attrition Rate by Pilot Certificate			
Age Group	Student	Private	Commercial	Airline Transport
<20	21.0%	0.9%	5.7%	
20–24	42.6%	10.2%	20.1%	4.6%
25–29	45.0%	11.4%	16.8%	3.5%
30–34	40.0%	12.6%	19.0%	3.5%
35–39	37.5%	12.9%	18.3%	3.5%
40–44	37.8%	14.3%	17.8%	3.5%
45–49	44.8%	15.2%	12.9%	3.8%
50–54	44.3%	15.7%	15.7%	4.9%
55–59	37.5%	17.7%	15.5%	5.8%
60+	31.7%	20.3%	15.3%	13.6%
Total	**39.2%**	**13.2%**	**16.9%**	**4.1%**

Source: Author calculations as discussed in text.

As can be expected, the estimated attrition rates for student pilots are significantly higher than for the other types of pilot certificate, although apart from those student pilots under 20 do not vary greatly with age. Attrition rates for student pilots increase through their twenties, then decline through their thirties, increase again through their forties, then decline thereafter. In contrast, attrition rates for private pilots increase steadily with age. Attrition rates for commercial pilots also do not vary greatly with age, being highest in their early twenties, as could be expected as those initially seeking a career as a commercial pilot are unable to find a job or find the career less attractive than they had expected and give up. The attrition rate drops slightly in their late twenties before rising again in their early thirties, then declining until their late forties and remaining fairly constant from their early fifties on. Attrition rates for airline transport pilots remain fairly

low until their mid-forties then increase steadily until their sixties, when airline transport pilots (at the time) were no longer allowed to fly airline aircraft.

While the variation of these estimated attrition rates by age seem inherently plausible, they should be viewed with some caution due to the assumptions required to combine the data on the size of the attrition group by class of medical certificate with the number of active pilots by type of pilot certificate.

Weighting the attrition rates for each type of pilot certificate by the number of active pilots holding that type of certificate gives an overall attrition rate over two years of 21.1 percent of all active pilots, or an average attrition rate per year of about 10.5 percent.

Since the number of active pilots in each age range holding a given type of pilot certificate changes from year to year, reflecting the number of new pilot certificates issued as well as those pilots becoming inactive, the estimated annual attrition rates are only approximate. However, the growth in the size of the pilot population during the period of the study was slowing fairly rapidly, as shown in **TABLE 4.5**, increasing by only about one percent from 1969 to 1970, suggesting that attrition rates based on the active pilot population at the end of 1969 (two thirds of the way through the attrition period used in the study) provide a reasonable estimate of the average attrition rate.

TABLE 4.5 U.S. Active Pilot Population, 1968–1970

	Active Pilot Population	
	as of December 31	Growth
1967	617,931	
1968	691,695	11.90%
1969	720,028	4.10%
1970	727,430	1.00%

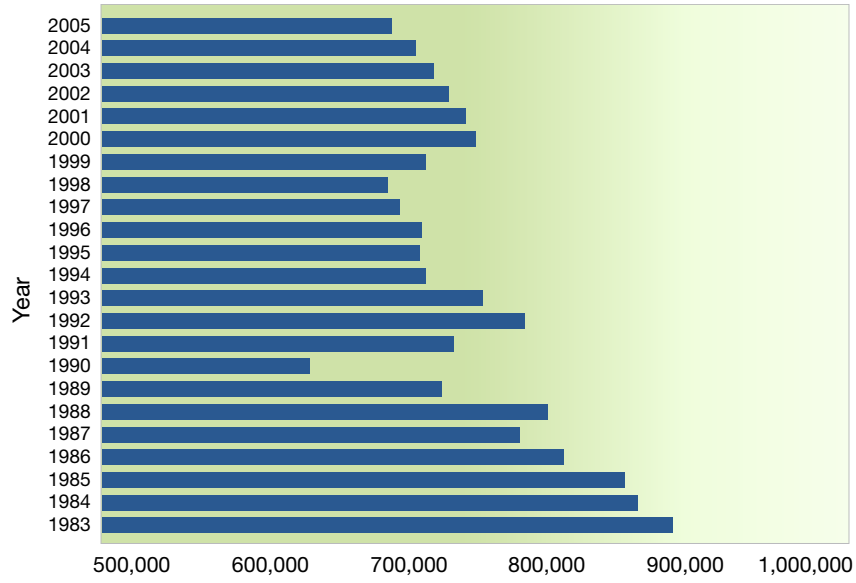
Source: FAA, 1970; Booze, 1972.

Recent Trends in the Pilot Community

The recent study of the U.S. pilot population by the FAA Civil Aerospace Medical Institute (Rogers, Véronneau, et al., 2009) combined data on the number of pilot certificates held and airmen medical certificates issued to analyze changes in the size and composition of the pilot community as well as the average flight hours reported by pilots at the time of their most recent medical examination (pilots report their total flight hours to date on the application form for a medical examination). Although the authors frequently refer to "active airmen" in the report, the description of the study makes it clear that the analysis only considered active pilots and not non-pilot airmen (such as flight engineers).

The study showed that the number of active pilots has been steadily declining each year since 1983, as shown in **FIGURE 4.1**, although with some apparent short-term increases in several years.

FIGURE 4.1 Number of Active Pilots per Year



Source: Rogers, Véronneau, et al., 2009

The authors note that the apparent drop in the number of active pilots in 1990 is a data anomaly due to a technical problem in the entry of the results of medical examinations conducted in 1989 into the electronic records at the time that resulted in data for a large number of the medical examinations being omitted from the electronic records. This impacted the estimate of the number of active pilots for 1989 and the following two years, because those pilots whose medical examination results were omitted from the electronic records were erroneously counted as having become inactive until the results of their next medical examination caused them to be counted as active again. This effect persisted for two years because third class medical certificates at the time were valid for 24 months, so even pilots who had a first-class medical certificate, which was only valid for six months, were considered active for two years from the date of their last medical since they could continue to exercise the privileges of a third-class medical certificate for two years.

The authors also note that the drop in the number of active pilots in 1986 and 1987, and again in 1993 and 1994, were due to unexplained missing records for medical examinations in 1986 and 1993, which resulted in a number of pilots being incorrectly classified as inactive for up to two years.

A change in the rules governing the validity of medical certificates in September 1996 contributed to the apparent increase in active pilots in 1999 and 2000. The rule change extended the validity of third-class medical certificates for pilots under the age of 40 at the time of their medical examination to three years. This resulted in pilots who would otherwise have been counted as inactive two years later being counted as active for an additional year.

The number of active pilots shown in **FIGURE 4.1** for a given year is significantly higher than the number reported in the annual FAA U.S. Civil Airmen Statistics (FAA, 2011e) for the same year. The report does not comment on or explain this discrepancy, but it appears to result from a different way of counting active pilots for a given year. The U.S. Civil Airmen Statistics counts active airmen for a given year as those holding a valid medical certificate as of December 31 of that year. The authors mention that for each pilot in their database they calculate a variable called "months contributed" which measures the number of months in the year that the pilot held a valid medical certificate. Although the report does not state how the number of active pilots in a given year is determined, it seems plausible that pilots who become inactive during the year are counted as a fraction of an active pilot based on the number of months they were considered active (since otherwise there would be no reason to calculate the variable "months contributed"). This would give a higher total of active pilots for a given year than the U.S. Civil Airmen Statistics, since pilots becoming inactive during the year are not counted in the total for that year using the approach adopted in the U.S. Civil Airmen Statistics.

Assuming this to be the case, this has an interesting side effect that the difference between the number of active pilots for a given year given in the report and that given in the U.S. Civil Airmen Statistics provides a direct measure of the attrition rate for that year. Unfortunately, since the more detailed data on active pilots in the report are presented in terms of the class of medical certificate held, while the data in the U.S. Civil Airmen Statistics are presented in terms of the type of pilot certificate held, estimating differences in attrition rate by type of pilot certificate, which as suggested by the earlier study by Booze (1972) are likely to be significant, would require assumptions about the proportion of active pilots holding a given class of medical certificate who also hold a given type of pilot certificate. Furthermore, the authors only present the results of their analysis graphically in the report, and do not provide the underlying numerical data, so it is necessary to measure the values from the figures, which introduces some inaccuracy in any analysis.

Even so, the resulting estimates of the overall attrition rate of active pilots shown in **TABLE 4.6** provide a useful check on the earlier estimates by Booze (1972), as well as providing an indication of the extent to which attrition rates appear to have been changing over time.

The calculated attrition rates vary from 9 percent per year to about 21 percent per year, and appear to have been declining from 2001 to 2005, the last year of data in the study. No attrition rate could be calculated for 1990 due to the data anomaly in 1990 discussed above, and the attrition rates for 1989 and 1991 appear to be unreasonably low, possibly for reasons related to the 1990 data anomaly. Excluding these three years, the average attrition rate for the period from 1998 to 2005 is 14.5 percent per year. This rate is somewhat higher than the average annual attrition rate across all active pilots of 10.8 percent found by Booze (1972), but not greatly so and the average value found by Booze lies within the range of values estimated from the data in the study.

Based on the total number of active pilots in each year, the authors developed a regression model of the total number of active pilots in each year that includes a dummy

variable to account for the change in duration of the validity of third-class medical certificates in 1996, but otherwise assumes a linear decline in the total number of active pilots over time. The dummy variable was applied to years from 1999 on, assuming that the effect of the rule change did not appear in the estimated number of active pilots until 1999.

This gave the following regression equation:

$$P = 25{,}136{,}097 - 12{,}238.38 \times Y + 85{,}691 \times D$$

where P = the total number of active pilots in a year

Y = the year

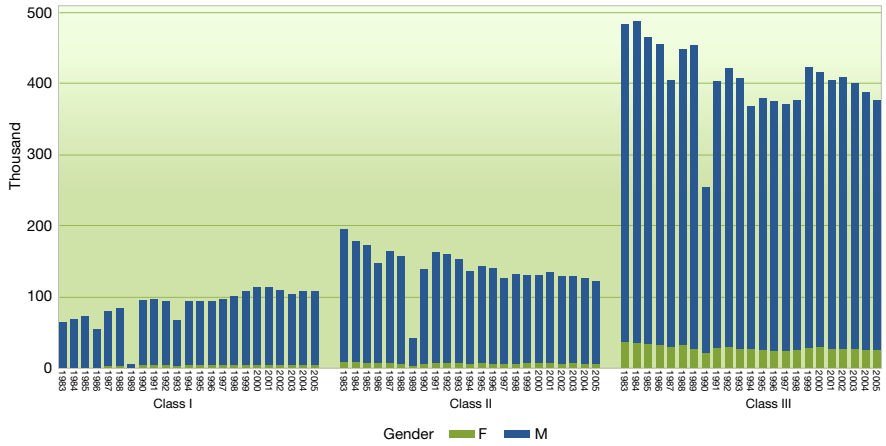
D = a dummy variable set to 1 for years from 1999 on, 0 otherwise

This model suggests that if the trend over the period from 1983 to 2005 continues, the total number of active pilots will decline by about 12,200 per year. This would give an estimated number of active pilots in 2010 of 622,646. In fact the number of active pilots at the end of 2010 according to the U.S. Civil Airmen Statistics was 627,588. However, the regression model is based on the definition of active pilots used in the study, which gives a higher estimate of active pilots than that given by the U.S. Civil Airmen Statistics by about 15 percent, for the reasons discussed above, as shown in **TABLE 4.6**. In addition, a further change in the rules governing the duration of the validity of medical certificates in July 2008 increased the duration of the validity of third-class medical certificates for pilots under age 40 to five years, which would have the effect of increasing the number of pilots considered to be active. From 2009 to 2010 the number of active student pilots reported in the U.S. Civil Airmen Statistics increased by about 47,000 (or about 7 percent of all active pilots in 2010) at a time when the number of active pilots holding most other categories of pilot certificates declined. The combined effect of these two factors suggests that the decline in the number of active pilots since 2005 has been somewhat slower than predicted by the regression model.

In addition to the total number of active pilots, the report provides a breakdown of the number of active pilots by the class of the medical certificate held at the end of each year, as well as by gender, as shown in **FIGURE 4.2**. As expected, the data is dominated by the number of pilots holding a third-class medical certificate (student and private pilots). The decline in the number of active pilots over time occurred for pilots holding a second-class medical certificate (primarily those holding a commercial pilot certificate) as well as a third-class medical certificate. The data in **FIGURE 4.2** for active pilots holding a third-class medical certificate clearly shows the increase in the number of active pilots in 1999 due to the change in the validity of a third-class medical certificate for pilots under age 40 that became effective in September 1996 and extended the period of validity from two to three years. This did not begin to affect the number of active pilots until late 1998 when pilots who would otherwise have been considered inactive if they had not renewed their medical certificate were not now counted as inactive for another year.

In contrast to the declining trend for pilots holding a third-class or second-class medical certificate, the number of active pilots holding a first-class medical certificate (primarily those holding an airline transport pilot certificate) shows an increasing trend until 2001, followed by a decline through 2003 and a modest recovery in 2004 and 2005. The changes since 2001 would appear to reflect the contraction of the airline industry in the aftermath of the 9/11 terrorist attacks in 2001, followed by the modest recovery beginning in 2004. As airlines reduced capacity and furloughed pilots after September 2001, this would have had two effects on the number of active airline pilots. First, some furloughed pilots may have decided not to renew their medical certificate when it expired until it became clear whether they would be able to return to flying, and some may have decided to give up flying permanently. The second effect would have been a significant drop in the number of commercial pilots seeking positions as airline pilots, since with a large number of furloughed pilots there were very few entry-level positions available. As older airline pilots were forced to stop flying by their age, they were not being replaced by younger pilots transitioning from jobs as a commercial pilot, resulting in a decline the number of pilots holding a first-class medical certificate.

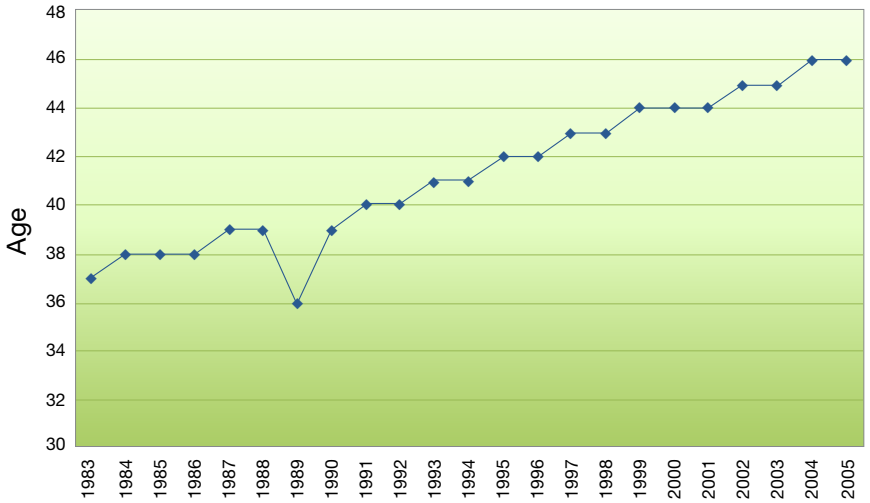
FIGURE 4.2 Number of Active Pilots by Medical Class and Gender



Source: Rogers, Véronneau, et al., 2009

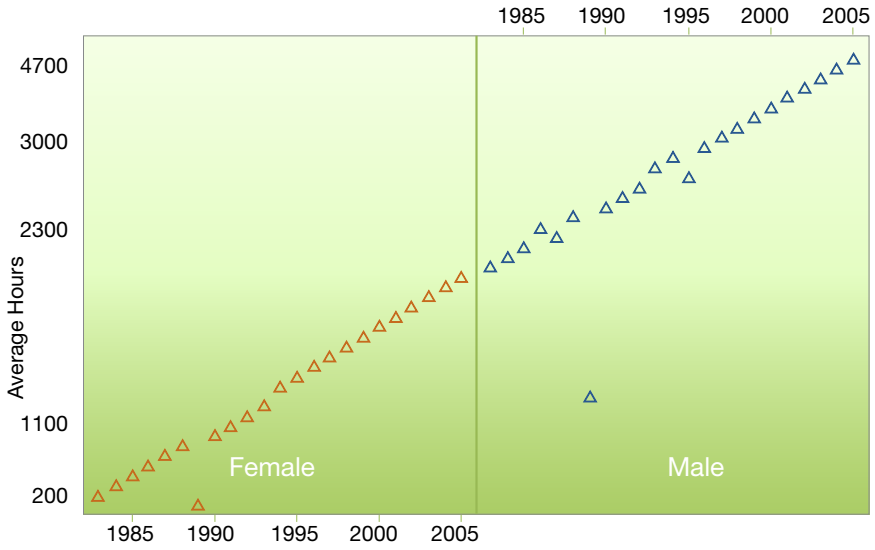
As the number of new pilot starts declined, the median age of active pilots steadily increased, apart from the 1989 data anomaly, as shown in **FIGURE 4.3**. Since pilots accumulate more flight time as they get older, the average total hours flown reported by applicants for a medical examination increased steadily from 1983 to 2005, as shown in **FIGURE 4.4**, in which the left panel shows the average total flight hours for female pilots and the right panel shows the average total flight hours for male pilots.

FIGURE 4.3 Median Age of Pilots Who Received a Medical Examination.



Source: Rogers, Véronneau, et al., 2009

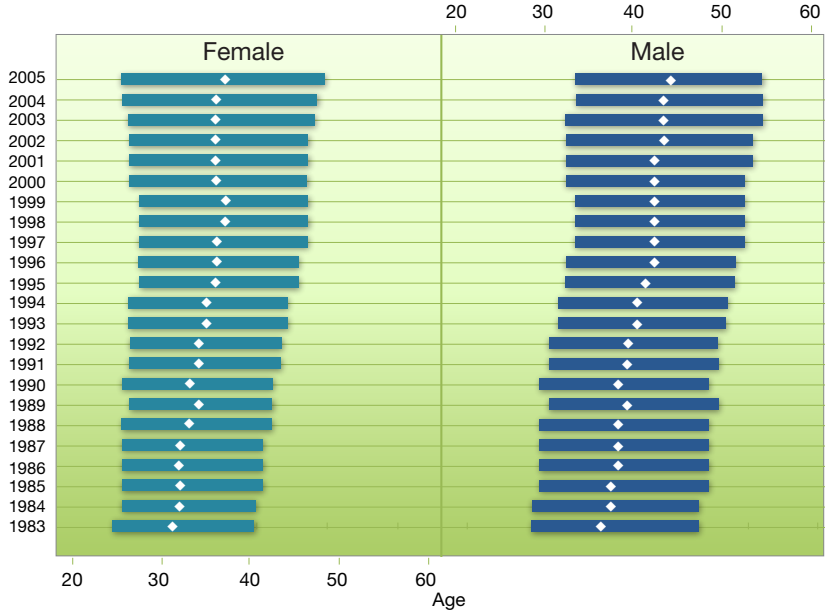
FIGURE 4.4 Average Hours Flown Reported by Pilots at Time of Medical Examination



Source: Rogers, Véronneau, et al., 2009

As can be seen from **FIGURE 4.4**, the average total hours flown by female pilots are significantly lower than those of male pilots, as can be expected since the age distribution of female pilots is somewhat younger than that of male pilots, as shown by **FIGURE 4.5**. In addition a smaller proportion of female pilots hold commercial pilot or airline transport pilot certificates than male pilots, pilot categories that generally have much higher levels of flight experience.

FIGURE 4.5 Median Age of Active Airmen by Gender



Source: Rogers, Véronneau, et al., 2009

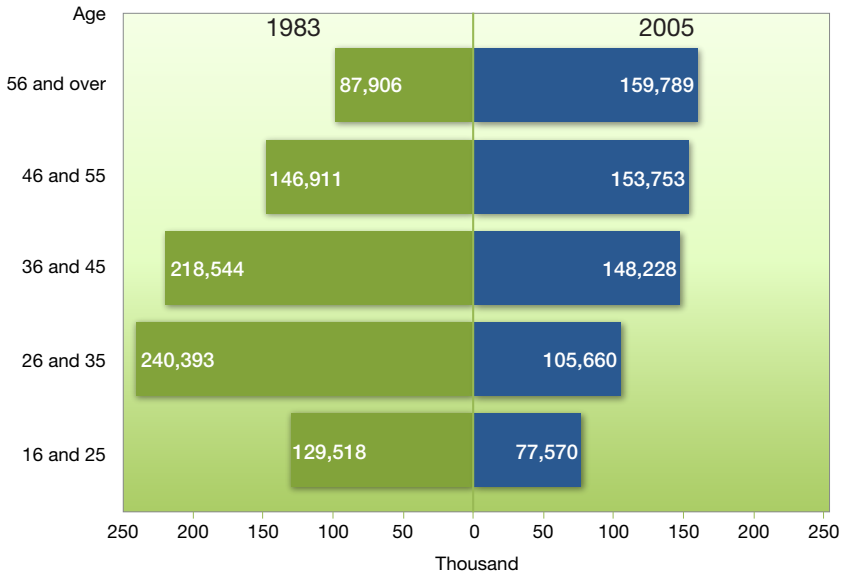
The report provides similar figures for the average flight experience of pilots holding third-class, second-class and first-class medical certificates. These generally show a similar pattern, although the average number of total hours flown for a given year differs between the classes of medical certificates, as could be expected, with holders of first-class medical certificates reporting the highest average flight experience for a given year, followed by the holders of second-class medical certificates. The average number of hours flown by holders of first-class medical certificates also shows the greatest amount of variability from year to year, for reasons that are not entirely clear.

While the report shows the change in average hours flown over time, it does not provide a breakdown of the average hours flown per year by pilots in a given age group, nor numerical values for the average flight hours shown in the figures. In addition, it is clear

from **FIGURE 4.4** (and from the other figures in the report for the average flight hours for different classes of medical certificate) that the vertical scale on the figures is non-linear (or the values shown on the vertical axis of the figures are wrong). Either way, this makes it effectively impossible to measure the values from the figures.

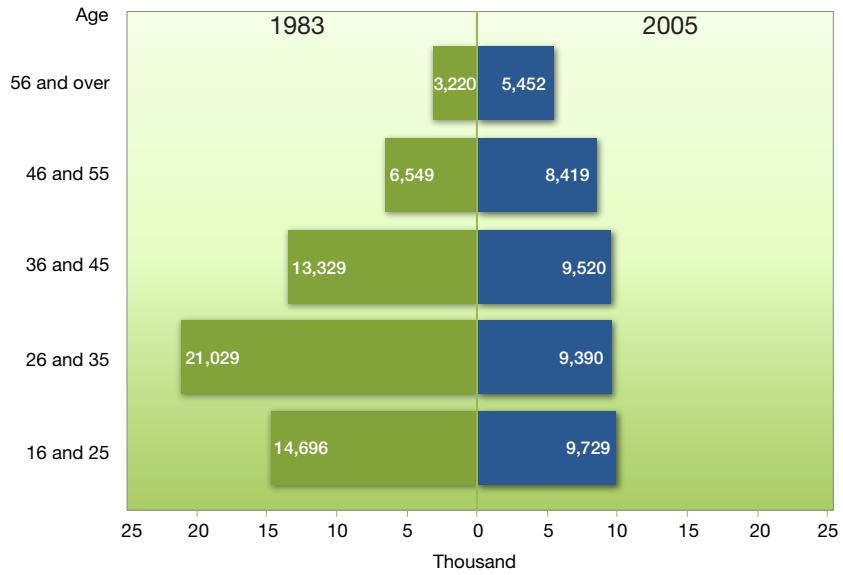
The report also presents the data on the age distribution for male and female pilots as population pyramids, as shown in **FIGURES 4.6** and **4.7**. The shift in age distribution of male pilots (by far the largest proportion of the pilot community, as shown in **FIGURE 4.2**) between 1983 and 2005 is striking. It is clear that as those pilots aged 36 and above in 2005 move into older age cohorts and become inactive they will not be replaced by younger pilots, because there simply are not enough of them in the younger age cohorts. The inevitable conclusion is that the population of active pilots in the U.S. is almost certain to collapse over the next 20 years.

FIGURE 4.6 Age Pyramid of Active Male Airmen



Source: Rogers, Véronneau, et al., 2009

FIGURE 4.7 Age Pyramid of Active Female Airmen



Although the age pyramid of female pilots in 2005 does not show a similar decline in the proportion of younger pilots that is shown in **FIGURE 4.6** for male pilots, it also does not show the high proportion of active pilots in the age cohort from 26 to 25 shown in the data for 1983. Given the inevitable attrition that is likely to occur in the number of active female pilots as they move into older age cohorts, the number of active female pilots in the age cohorts aged 26 and younger is not sufficient to sustain the existing female pilot population in the older age cohorts.

Thus while the decline in active female pilots over the next 20 years is not likely to be as severe as for male pilots, it too will decline.

Data on Pilot Characteristics

As discussed in Section 2, statistical data on the U.S. pilot population is available from the annual FAA U.S. Civil Airmen Statistics (FAA, 2011e), while data on individual pilots can be downloaded from the FAA Airmen Registration Database (FAA, 2011d), including

their address, pilot certificates, and date of their most recent medical certificate, although these data do not include the pilot's age or flight experience and exclude the records of airmen who have requested that their address not be released. Although the FAA updates the downloadable data monthly and does not formally archive these data, prior versions remain on the server for about two years and can still be accessed by entering the correct URL for the files and an earlier version from October 2004 was found on a web archive (http://www.archive.org).

As discussed in Section 2, the FAA Airmen Certification Branch maintains internal reports on past totals of active airmen by county, and the relevant pages of these reports for California counties were obtained from the Branch staff for a selection of prior years. In addition, in response to a special data request the Airmen Certification Branch staff performed an analysis run that generated the number of active pilots by California county and age range as of December 31, 2010.

COMPOSITION OF THE SOUTHERN CALIFORNIA PILOT COMMUNITY

Based on the data on the number of active airmen by California county from the FAA Airmen Certification Branch, the recent trend in the number of active pilots resident in the six-county Southern California region is shown in **TABLE 4.6**.

The total number of active pilots shows a steady decline from 2001 to 2009. The apparent increase in the number of active pilots holding a student or commercial pilot certificate from 2001 to 2006 is most likely an artifact of the change in the way that pilots holding rotorcraft or glider certificates only were counted in 2001 compared to 2006. The increase in the total number of active pilots from 2009 to 2010 is attributable to the apparent increase in active student pilots. This resulted from a change in the duration of the validity of third-class medical certificates on July 24, 2008 from three to five years for pilots under age 40, as discussed above. The FAA Airman Certification Branch began to reflect the effect of this change in the way that active student pilots are counted by changing the validity of student pilot certificates from 36 to 60 months on July 1, 2010. This increased the assumed number of active student pilots on December 31, 2010 since some pilots whose medical certificate would have expired between July and December under the former rules were still considered active.

It should be noted that the change in validity of a third-class medical certificate from 36 to 60 months with effect from July 2008 also affects private and recreational pilots under age 40 who hold a third-class medicate certificate (the majority of such pilots), although this does not appear to have been taken into account in the FAA data for active airmen as of December 31, 2010.

Because of the changes in the way that FAA counted rotorcraft and glider pilots between 2001 and 2006 and counted active student pilots in 2010, the changes in the number of active pilots between 2006 and 2009 provide the best indication of recent trends in the number of active pilots. The changes in the number of active pilots with each type of certificate over the three-year period are shown in **TABLE 4.6**. In the case of pilots holding private, commercial and airline transport certificates, for whom the FAA did not change the way that active pilots were counted, the changes in the number of active pilots from 2009 to 2010 are also shown in **TABLE 4.6**.

Over the three year period from 2006 to 2009, the number of active student pilots declined by about 25 percent, while the number of active private pilots declined by about 5 percent and the number of active airline transport pilots declined by 0.8 percent. However, the number of active private and airline transport pilots increased slightly from 2006 to 2008, with a correspondingly greater decrease from 2008 to 2009. While the number of active commercial pilots increased by 0.5 percent from 2006 to 2009, this was the result of a 2.2 percent increase from 2006 to 2008, followed by a decrease in the each of the following two years. The large percentage increases in the number of sport pilots, particularly from 2006 to 2008, resulted from the small number of such pilots in 2006. The sport pilot certificate was created in September 2004 and by December 2006 there were only 11 such pilots in Southern California. By December 2010 there were only 70 sport pilots in the whole region.

The data provided by the FAA Airmen Certification Branch also included the number of active pilots in each of the six Southern California counties by type of pilot certificate held and age group as of December 31, 2010. The totals for the six-county region are shown in **TABLE 4.7** and **FIGURE 4.8**.

TABLE 4.6 Recent Changes in the Southern California Pilot Community

Type of Certificate	Change 2006–09	2006–08	2008–09	2009–10
Student pilot	-25.30%	-11.00%	-16.10%	(note 1)
Private pilot	-5.00%	0.60%	-5.60%	-5.00%
Commercial pilot	0.50%	2.20%	-1.60%	-3.10%
Airline transport pilot	-0.80%	0.40%	-1.20%	-2.80%
Recreational pilot	(note 2)	(note 2)	(note 2)	(note 2)
Sport pilot	491%	336%	35.40%	7.70%
Total	**-6.20%**	**-0.90%**	**-5.40%**	**(note 1)**

Source: Author analysis based on FAA, Active Airmen Certificate Totals by Region, State, County, Airmen Certification Branch, Oklahoma City, OK.

Notes: 1 Percentage change distorted by change in validity of third-class medical certificates for pilots under age 40.
Notes: 2 Insufficient data for meaningful measure of percent change..

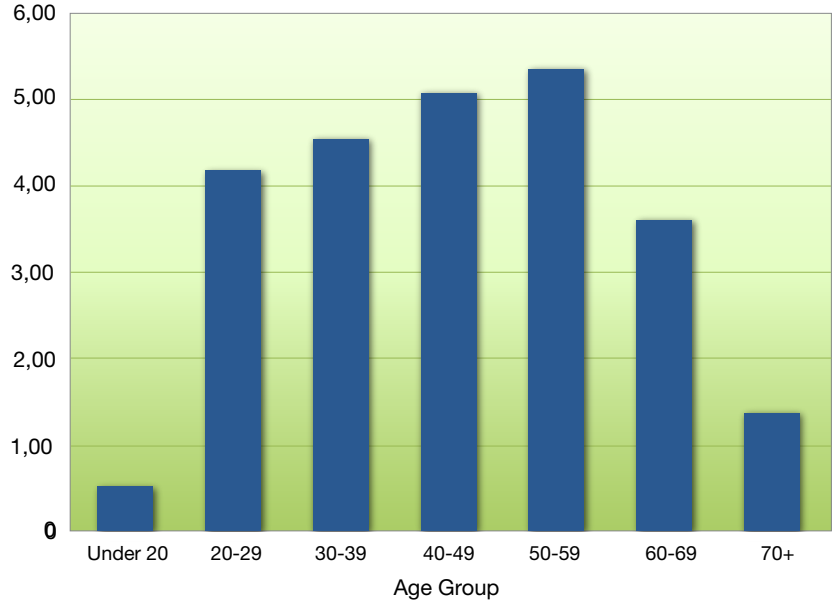
Generally the age profile of active pilots shows a somewhat higher proportion of active pilots in the younger age cohorts than the national data for male pilots in 2005 shown in **FIGURE 4.6**. However, it should be noted that the effect of the change in validity of a third-class medical certificate for pilots under age 40 in 2008 would increase the number of pilots in this category counted as active by the FAA, distorting the comparison. The age distribution of active student and private pilots is shown in **FIGURE 4.9**. This shows that the majority of student pilots are in the age range between 20 and 39. Although there appear to be to more active student pilots in the age range 29 and below than active private pilots, there is a significant attrition of student pilots who never progress to gaining their private pilot certificate. In addition, the number of active student pilots below age 40 is likely inflated by the change in validity of third-class medical certificate, as discussed above.

TABLE 4.7 Active Pilots in Southern California by Age Group

Age	Student Pilot	Recre-ational or Sport Pilot	Private Pilot	Commercial Pilot	Airline Transport Pilot	Total
Under 20	407	0	127	8	0	542
20–29	1,907	4	1,262	896	110	4,179
30–39	1,388	2	1,466	1,013	677	4,546
40–49	825	19	1,902	939	1,389	5,074
50–59	397	26	2,674	954	1,305	5,356
60–69	131	15	1,833	901	736	3,616
70+	38	4	706	408	222	1,378
Total	**5,093**	**70**	**9,970**	**5,119**	**4,439**	**24,691**

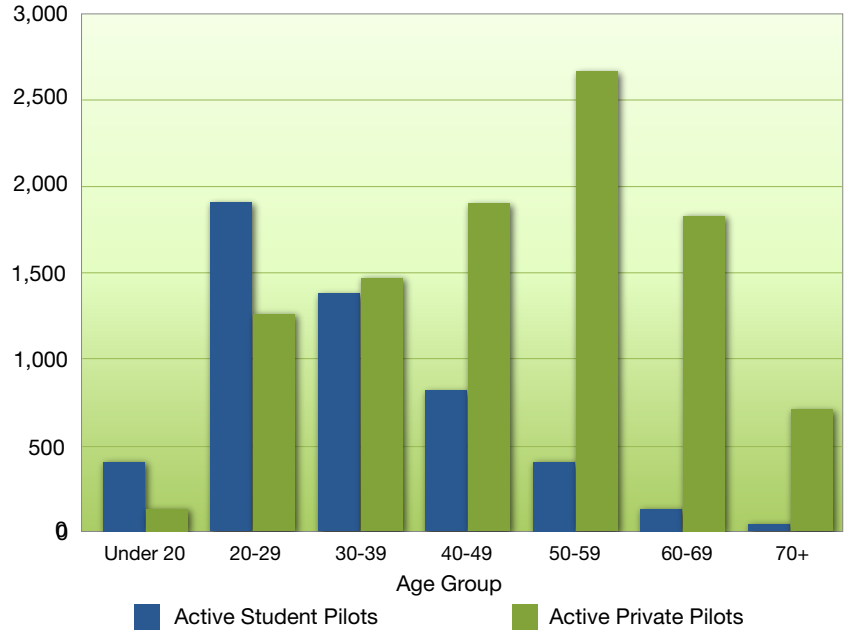
Source: FAA, Active Airmen Certificate Totals by Region, State, County, Airmen Certification Branch, Oklahoma City, OK, Personal communication.

FIGURE 4.8 Active Pilots in Southern California by Age Group as of December 31, 2010



Source: FAA, Active Airmen Certificate Totals by Region, State, County, Airmen Certification Branch, Oklahoma City, OK, Personal communication

FIGURE 4.9 Active Student and Private Pilots in Southern California by Age Group as of December 31, 2010



Source: FAA, Active Airmen Certificate Totals by Region, State, County, Airmen Certification Branch, Oklahoma City, OK, Personal communication

However, the implications for the future numbers of active private pilots in the region is complicated by several other factors, including the time that a student pilot takes to obtain his or her private pilot certificate and the number of student pilots who progress beyond the private pilot certificate to become commercial pilots or airline transport pilots. Therefore a more detailed cohort analysis is required that takes these factors into account in order to predict the likely number of active pilots in the region in future years. What is clear from **FIGURE 4.9** is that the largest age cohort of active private pilots is in the age group from 50 to 59 and the younger age cohorts of active private pilots are significantly smaller. Unless the number of student pilots in those younger age cohorts who become private pilots is large enough to not only offset the attrition in the private

pilot community but to make up the difference between the number of active private pilots in the 50 to 59 age group and that in the age group 40 to 49, the total number of active private pilots will decline rapidly once those in the age group from 50 to 59 start to experience the attrition shown in **FIGURE 4.9** for the older age cohorts.

Recent Trends in New Pilot Starts

A key factor in the future composition of the Southern California pilot community is the number of new pilots who take up flying for the first time, commonly referred to as new pilot starts. This can be measured by the number of student pilot certificates issued. While the FAA reports the number of new student pilot certificates issued each year in the U.S. Civil Airmen Statistics (FAA, 2011e), what matters more than the recent trend is the future numbers of new student pilot certificates issued. This is likely to be influenced by a variety of factors, the most important of which are likely to comprise:

- The general state of the economy
- The demand for professional pilots
- The cost of flying
- The ease or difficulty of flying as a GA pilot in the regional airspace environment.

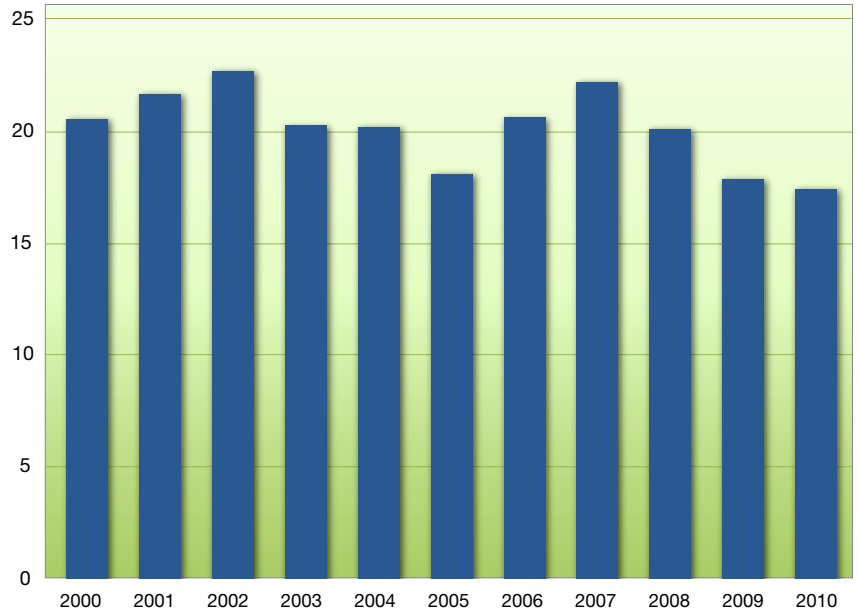
The latter consideration is likely to be of particular concern in the Southern California region, much of which consists on an extremely complex airspace environment, with a large number of commercial service airports and their associated flight arrival and departure routes, even more GA airports, often challenging visibility conditions in the central part of the Los Angeles basin, and high surrounding terrain. Apart from the difficulties that these factors pose to those learning to fly, they also restrict the ease with which GA pilots can take advantages of their ability to exercise their flying privileges. It is increasingly common for those who are seeking a future career as a professional pilot to attend one of the universities and colleges that offer an aviation curriculum that includes flight training. For understandable reasons, these tend not to be located in dense urban areas with complex airspace. Thus someone growing up in Southern California who decides to attend a college or university aviation program with the goal of pursuing a career as a professional pilot is quite likely to enroll in a program elsewhere in the country. Of the 97 U.S. member institutions of the University Aviation Association (the industry association of collegiate aviation), only one is located in the SCAG region, Mount San Antonio College in Walnut, a two-year college with approximately 600 students enrolled in aeronautics courses (http://www.mtsac.edu/instruction/tech-health/aeronautics/). However, not all these students are learning to fly as part of their program.

At a national level, the changes in the number of new student pilot certificates issued per 100,000 population are shown in **TABLE 4.8** and **FIGURE 4.10**.

TABLE 4.8 Number of Student Pilot Certificates Issued per 100,000 Population

Year	Student Pilot Certificates Issued	U.S. Population (000)	New Student Pilots per 100,000 Population	Real Gross Domestic Product (b 2005$)	GDP per Capita (2005$)
2000	58,042	282,166	20.6	11,226.00	39,785
2001	61,897	285,050	21.7	11,347.20	39,808
2002	65,421	287,746	22.7	11,553.00	40,150
2003	58,842	290,242	20.3	11,840.70	40,796
2004	59,202	292,936	20.2	12,263.80	41,865
2005	53,576	295,618	18.1	12,638.40	42,752
2006	61,448	298,432	20.6	12,976.20	43,481
2007	66,953	301,394	22.2	13,228.90	43,892
2008	61,194	304,177	20.1	13,228.80	43,490
2009	54,876	306,656	17.9	12,880.60	42,003
2010	54,064	309,051	17.5	13,248.20	42,867

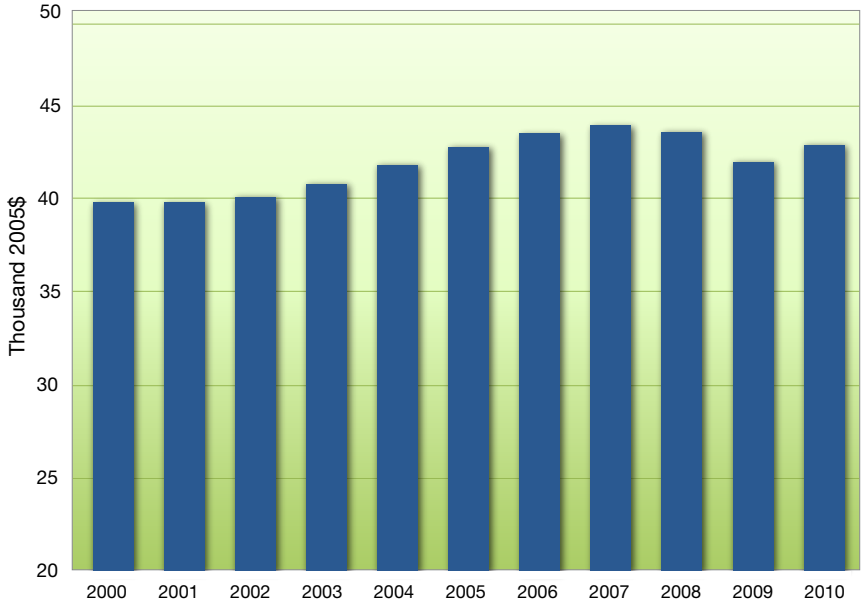
FIGURE 4.10 U.S. Student Pilot Certificates Issued per 100,000 Population



Source: See Table 4.8

The number of new pilot starts shows both a cyclical fluctuation with a slowly declining overall trend. The cyclical changes do not appear to be particularly correlated with the overall level of the economy, which grew steadily from 2002 to 2007 as shown in **FIGURE 4.11**, suggesting that the fluctuations in the number of new pilot starts appear to be mainly driven by other factors.

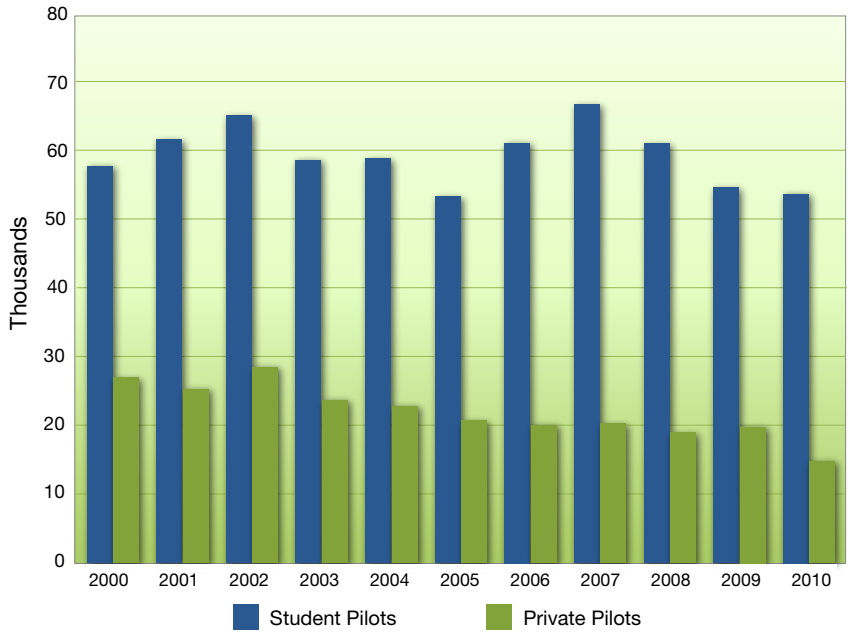
FIGURE 4.11 Gross Domestic Product Per Capita



Source: See Table 4.8

FIGURE 4.12 shows the number of new student pilot certificates issued each year compared to the number of new private pilot certificates issued with an airplane rating (this does not count those private pilot certificates issued with only a glider or rotorcraft rating). It can be seen that the cyclical fluctuation in new student pilot certificates does not appear to be reflected in the number of new private pilot certificates, which shows a generally declining trend from 2000 to 2010, apart from a short-lived increase from 2001 to 2002 and a small increase from 2008 to 2009. Those fluctuations do not appear to be related to the cyclical fluctuations in the number of new student pilot certificates issued in any obvious way. While the number of new student pilot certificates issued also increased from 2001 to 2002, it increased by approximately the same amount from 2000 to 2001, when the number of new private pilot certificates issued declined.

FIGURE 4.12 New Student Pilot and Private Pilot Certificates Issued per Year



Similarly, the small increase from 2008 to 2009 in new private pilot certificates issued occurred during a period when the number of new student pilot certificates issued was declining steeply.

The data on new student pilot and private pilot certificates issued each year shown in **FIGURE 4.12** indicate that by 2010 only about a third of new student pilots progress to earn a private pilot certificate with an airplane rating. While some student pilots take longer than a year to obtain their private pilot certificates, those obtaining their private pilot certificates in subsequent years are offset by those obtaining their private pilot certificate in the current year who received their student pilot certificate in prior years. For the three-year period from 2008 to 2010 the number of private pilot certificates with an airplane rating that were issued was about 32 percent of the number of student pilot certificates issued.

Some student pilots progress to obtain a private pilot certificate with only a glider rating or only a rotorcraft rating. The count of new certificates issues with only a glider or rotorcraft rating in the U.S. Civil Airman Statistics does not distinguish between whether those certificates were for private, commercial or airline transport pilots. Presumably the majority of new certificates with only a glider rating were for private pilots (the only reason for someone who only flies gliders to obtain a commercial pilot certificate would be if they planned to work as a flight instructor and such a pilot would first have to obtain a private pilot certificate). The number of new certificates issued with only a glider rating in the period from 2008 to 2010 was only about 0.4 percent of new student pilot certificates issued in the same period.

Considerably more new certificates are issued each year with only a rotorcraft rating. Presumably, the majority of these pilots intend to progress to a commercial pilot certificate, since there are relatively few helicopters used for private flying, although some pilots undoubtedly obtain their private pilot certificate but then give up flying before obtaining their commercial pilot certificate. There are relatively few situations in which FAA regulations require a pilot who is only flying rotorcraft to obtain an airline transport pilot certificate, since there are very few, if any, helicopters flown in scheduled airline service (which requires an airline transport pilot certificate). However, a helicopter operator may require its pilots to hold an airline transport pilot certificate because of the greater level of training and experience required for such a certificate. If 20 percent of pilots who obtain their private pilot certificate with only a rotorcraft rating do not progress to obtain their commercial pilot certificate, and 10 percent of those obtaining a commercial pilot certificate with only a rotorcraft rating subsequently obtain an airline transport pilot certificate, then about 53 percent of the new pilot certificates with only a rotorcraft rating are private pilot certificates and the remainder are either commercial pilot certificates or airline transport pilot certificates. During the three-year period from 2008 to 2010, the number of new pilot certificates issued with only a rotorcraft rating was about 5.9 percent of the number of new student pilot certificates issued. This suggests that about 3 percent of student pilots progress to holding a private pilot certificate with only a rotorcraft rating. Thus in total, only about 35 percent of all student pilots eventually obtain a private pilot certificate.

California Data on New Pilot Starts

In addition to national statistics, data on the number of new pilot certificates issued to California pilots for the past three years were obtained from the FAA Airmen Certification Branch staff, as shown in **TABLE 4.9**.

TABLE 4.9 Number of New Pilot Certificates Issued per 100,000 Population – California

	Original Certificates Issued			per 100,000 Population		
Type of Certificate	2008	2009	2010	2008	2009	2010
Student pilot	191	205	176	0.52	0.55	0.47
Recreational pilot	2	0	1			
Sport pilot	49	53	42	0.13	0.14	0.11
Airplane						
Private pilot	1,834	1,788	1,496	4.98	4.82	4.00
Commercial pilot	824	763	611	2.24	2.06	1.63
Airline transport pilot	349	207	209	0.95	0.56	0.56
Rotorcraft (only)	405	318	237	1.1	0.86	0.63
Glider (only)	15	37	33	0.04	0.1	0.09
	3,669	**3,371**	**2,805**			
Calif. Population (000)	36,856	37,077	37,371			

Source: FAA, Original Airmen Certificates Issued by Category – California, Airmen Certification Branch, Oklahoma City, OK, Personal communication, California Department of Finance, Population Estimates and Components of Change by County – July 1, 1999–2010, Series E-6, August 2011

Unfortunately, the data on new student pilot starts are not comparable to the national data because the California data excludes student pilot certificates issued by the Civil Aerospace Medical Institute as part of issuing the initial medical certificate, which accounts for the majority of new student pilot certificates issued in a given year. However, the data for new private pilot, commercial pilot, and airline transport pilot certificates with an airplane rating, new sport pilot certificates, as well as new pilot certificates with only a rotorcraft or glider rating, can be compared to the national data when adjusted for the difference in population.

The number of pilot certificates issued in California relative to population is generally lower than for the U.S. in total. The difference varies from year to year and also by type of pilot certificate, as shown in **TABLE 4.10**. The ratios for new student pilot certificates are omitted due to the missing data and those for new recreational pilot certificates have not been calculation due to the small number of such certificates.

TABLE 4.10 New Pilot Certificates Issued per 100,000 Population – California Relative to the U.S. in Total

	Percent of U.S. Ratio			
Type of Certificate	2008	2009	2010	Average
Sport pilot	64%	64%	67%	65%
Airplane				
Private pilot	79%	74%	83%	79%
Commercial pilot	64%	56%	63%	61%
Airline transport pilot	55%	55%	56%	56%
Rotorcraft (only)	92%	72%	73%	79%
Glider (only)	61%	123%	123%	102%

Author calculations from Tables 4.8 and 4.9 and FAA, U.S. Civil Airmen Statistics, 2010.

On average across the three years, the number of new private pilot certificates issued per 100,000 population is about 79 percent of the national ratio. This proportion declines for new commercial pilot certificates to 61 percent of the national ratio and decreases further for new airline transport pilot certificates to 56 percent of the national ratio. The number of new pilot certificates with only a rotorcraft rating per 100,000 population relative to the national ratio is similar to that for private pilots, although the variation from year to year is greater.

Therefore it appears that not only is California producing fewer new private pilots relative to its population than the national ratio but fewer of those pilots progress to holding a commercial pilot certificate and even fewer progress to holding an airline transport pilot certificate. Thus transition rates between categories of pilot certificate calculated from national data will have to be adjusted to reflect the lower transition rates in California.

Unfortunately, the missing data for new student pilot certificates issued to California pilots mentioned above prevents calculation of the corresponding proportion of the national ratio for new student pilot certificates per 100,000 population. However, it seems reasonable to assume that the California proportion of the national ratio for new student pilot certificates would be similar to that for new private pilot certificates. This is somewhat higher than the California proportion of the national ratio for new sport pilot certificates, which seems reasonable given that the complex airspace environment in the larger metropolitan regions in the state is likely to make flying with a sport pilot certificate rather more limiting than in many other areas of the country.

Projecting Future Student Pilot Starts

It is clear from the trend shown on **FIGURE 4.10** that the number of new student pilot starts per 100,000 population has been tending to decline for the past ten years. In order to quantify this trend and provide a basis for forecasting future new student pilot starts, the following regression model was estimated from the data shown in **TABLE 4.8**:

S = (0.542 – 0.01192 x Y) x GDP/Cap (28.2) (-3.7)

where S = New student pilot certificates issued per 100,000 population

GDP/Cap = U.S. Gross Domestic Product per capita (000 2005 $)

Y = Years after 2000

t-statistics shown in parentheses

Adjusted R square = 0.88

The coefficients of the regression model are highly statistically significant and the fit of the model to the data (as measured by the adjusted R square) is quite good, although the model does not fully reflect the cyclical variation in the data, as would be expected from **FIGURES 4.8** and **4.9**. The signs of the terms are intuitively reasonable, with the number of new student pilot certificates issued increasing with real Gross Domestic Product (GDP) per capita, as would be expected, and giving a decreasing trend with time, as the data shows.

An initial version of this model included a term that expressed the new student pilot rate as a constant times the real GDP per capita and a second term that decreased the new student pilot rate linearly by year. This model fitted the general trend in new student pilot starts for the period from 2000 to 2010 fairly well. However, it became apparent that reducing the new student pilot rate by a constant amount per year, irrespective of the value of predicted new student pilot rate, would tend to overestimate the reduction for areas with lower student pilot rates and underestimate the reduction for areas with higher rates. Therefore the model was modified to reduce the coefficient of the GDP per capita term by a constant rate per year, rather than the new student pilot rate itself, as shown above. This resulted in a reduction that was proportional to the value of the new student pilot rate, which resolved the problem.

A comparison was made between the number of active student pilots in California per 100,000 population and the national data for the years 2008 to 2010. The new student pilot model was applied to California population and GDP and the projected new student pilot rate given by the model was compared to the number of new student pilots in California per 100,000 population, assuming that the California rate of new student pilots relative to the national rate is proportional to the ratio of active student pilots per 100,000 population in California to the active student pilots per 100,000 population for the United States. This suggested that the new student pilot rate in California, after controlling for differences in real GDP per capita, is about 80 percent of the national rate, and this adjustment was applied to the model in developing the forecast.

If the GDP per capita remains constant in real terms at the 2010 level, the annual number of new student pilot certificates issued per 100,000 population would decline from 17.5 in 2010 to 5.4 in 2035. However, if the real GDP per capita grows at an average rate of 1.5 percent per year over the period, the predicted annual number of new student pilot certificates issued per 100,000 population would only decline to 7.8 in 2035. Even if the real GDP per capita grows at an average rate of 3 percent per year over the period, the predicted annual number of new student pilot certificates issued per 100,000 population given by the relationship would still decline significantly to 11.2 in 2035. Thus while the future strength of the economy will have a major influence on the number of new pilot

starts, assuming that the relationship between the changes in the economy over the past ten years and the changes in the number of student pilot certificates issued continue into the future, the effect of the declining trend in new pilot starts per 100,000 population is not likely to be reversed by any plausible future growth in the strength of the economy. Of course, there are undoubtedly other factors not included in the model such as the cost of flying or the demand for commercial pilots that will also have an important influence.

The AOPA Member Survey

In order to provide more detailed information on the characteristics and flying activity of general aviation pilots in Southern California, an online survey of California members of the Aircraft Owners and Pilots Association (AOPA) was performed by SCAG and the California Department of Transportation (Caltrans) Division of Aeronautics with the assistance of the AOPA, as discussed in an earlier section.

In addition to information on respondents' general aviation flying and aircraft ownership, the survey asked a number of questions about services that respondents have used or would like to see at airports that they use, as well as issues that they believe should be addressed at the airport where they base their aircraft or use most frequently, or that should be considered in developing a general aviation demand forecast. Since these issues are not germane to the analysis of the composition and activity levels of the pilot community, they are not addressed further in this report, but will be reported in a separate document.

It should be noted that the definition of an active GA pilot used in the survey is considerably narrower than the definition of an active pilot used by the FAA. The FAA defines an active pilot by whether a pilot has a valid medical certificate, not by when they have last flown. Since medical certificates can be valid for as long as five years (in the case of a student or private pilot under age 40), pilots can be counted as active by the FAA long after they have in fact stopped flying. In addition, the FAA does not distinguish between the types of flying performed. In the case of active pilots holding an airline transport pilot certificate, they may or may not engage in general aviation flying.

In invitation to participate in the survey was distributed by e-mail to potential respondents on June 6, 2011 and 1,991 responses were obtained by June 19, at which point the survey website was closed to further responses. Of the 1,991 responses, 1,901 reported GA flight activity in the past six months.

An analysis was preformed of the zip code of residence reported by survey respondents in order to identify those respondents resident in Southern California. A certain amount of data cleaning of the reported zip codes was required to resolve invalid zip codes or zip codes outside of California that on examination of the responses to other questions were most likely typographic errors. After correcting the errors in the data 1,831 responses (96 percent) had valid zip codes, of which 764 (42 percent) were residents of the six-county Southern California region.

Findings from the AOPA Member Survey

The distribution of the type of pilot certificate held by active GA pilot respondents in the six Southern California counties is shown in **TABLE 4.11**, together with the corresponding distribution of active pilots holding each type of certificate in the region.

It can be seen that the survey tended to oversample pilots holding private pilot and commercial pilot certificates, under-sample those holding airline transport pilot certificates and significantly under-sample student pilots. This is entirely to be expected, since student pilots are much less likely to be AOPA members until they obtain at least their private pilot certificate.

TABLE 4.11 Southern California AOPA Survey Respondents by Pilot Certificate

	Highest Level of Pilot Certificate Held					
County	Student	Sport or Recre-ational	Private	Commer-cial	Airline Transport	Total
Imperial	0	0	3	0	0	3
Los Angeles	15	2	198	82	45	342
Orange	10	1	80	44	20	155
Riverside	2	0	53	18	10	83
San Bernardino	3	0	44	21	8	76
Ventura	0	0	31	25	11	67
Total	**30**	**3**	**409**	**190**	**94**	**726**
Percent of region	4.1%	0.4%	56.3%	26.2%	12.9%	100%
Active pilots (as of 12/31/10)	5,093	70	9,970	5,119	4,439	24,691
Percent of region	20.6%	0.3%	40.4%	20.7%	18.0%	100%
Sampling ratio	0.20	1.46	1.40	1.26	0.72	

Source: Author analysis of AOPA member survey results

Similarly, not all airline transport pilots are involved in general aviation flying and are thus less likely to be AOPA members than private or commercial pilots. It follows that if student and airline transport pilots are under-sampled, the other categories must be oversampled. It also seems reasonable that private pilots would be oversampled to a greater extent than commercial pilots, since many pilots holding commercial pilot certificates are flying for firms or other organizations that own the aircraft and thus may be less inclined to be members of the AOPA.

It is also possible that AOPA members who hold private pilot certificates had a greater interest in the issues addressed by the survey and thus the high response rate of these pilots relative to the pilot population as a whole is more a reflection of their willingness to participate in the survey rather than a reflection of the composition of the AOPA membership.

Respondents holding sport pilot or recreational pilot certificates were also oversampled by about the same amount as those holding private pilot certificates. However, due to the small number of respondents in this category, this result is quite possibly coincidental.

The number of active GA pilot survey respondents in Southern California by county compared to the population of active pilots in each county from FAA pilot certificate data is shown in **TABLE 4.12**. Generally the geographic distribution of survey respondents corresponds to the distribution of active pilots. Pilots in Riverside County are somewhat oversampled while those in Los Angeles County are under-sampled by a similar amount, although the difference in each case is only about 3 percent of regional pilots. Other differences are well within normal sampling error.

TABLE 4.12 Southern California AOPA Survey Respondents by County

County	Survey Respondents	Percent	Active Pilots (12/31/10)	Percent
Imperial	3	0.4%	183	0.7%
Los Angeles	342	47.1%	10,878	44.1%
Orange	155	21.3%	5,303	21.5%
Riverside	83	11.4%	3,447	14.0%
San Bernardino	76	10.5%	2,632	10.7%
Ventura	67	9.2%	2,248	9.1%
Total	**726**	**100%**	**24,691**	**100%**

Source: Author analysis of AOPA member survey results

The age distribution of the Southern California survey respondents who are active GA pilots compared to the age distribution of active pilots in the six Southern California counties from FAA pilot certificate data is shown in **TABLE 4.13**.

TABLE 4.13 Age Distribution of Southern California AOPA Survey Respondents by Pilot Certificate – Active General Aviation Pilots

	Highest Level of Pilot Certificate Held					
Age Group	Student	Sport or Recre-ational	Private	Commer-cial	Airline Transport	Total
Under 20	1	0	3	0	0	4
20–29	8	0	26	10	1	45
30–39	5	0	50	16	8	79
40–49	7	0	57	34	21	119
50–59	6	3	130	54	22	215
60–69	3	0	101	49	27	180
70+	0	0	42	27	15	84
Total	**30**	**3**	**409**	**190**	**94**	**726**
Under 20	3.3%		0.7%	0.0%	0.0%	0.6%
20–29	26.7%		6.4%	5.3%	1.1%	6.2%
30–39	16.7%		12.2%	8.4%	8.5%	10.9%
40–49	23.3%		13.9%	17.9%	22.3%	16.4%
50–59	20.0%	100%	31.8%	28.4%	23.4%	29.6%
60–69	10.0%		24.7%	25.8%	28.7%	24.8%
70+	0.0%		10.3%	14.2%	16.0%	11.6%
	100%		**100%**	**100%**	**100%**	**100%**
Active Pilots (as of December 31, 2010)						
Under 20	8.0%	0.0%	1.3%	0.2%	0.0%	2.2%
20–29	37.4%	5.7%	12.7%	17.5%	2.5%	16.9%
30–39	27.3%	2.9%	14.7%	19.8%	15.3%	18.4%
40–49	16.2%	27.1%	19.1%	18.3%	31.3%	20.5%
50–59	7.8%	37.1%	26.8%	18.6%	29.4%	21.7%
60–69	2.6%	21.4%	18.4%	17.6%	16.6%	14.6%
70+	0.7%	5.7%	7.1%	8.0%	5.0%	5.6%
	100%	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Author analysis of AOPA member survey results

Perhaps not surprisingly, survey respondents are somewhat older than the active pilot community in general. This could reflect a number of factors. It is likely that the AOPA membership tends to be somewhat older than the pilot community in general, since younger pilots are less likely to be able to afford to own an aircraft. While the AOPA membership includes pilots who do not own aircraft, aircraft owners are more likely to perceive a benefit in being a member of the association. In addition, older pilots have generally been flying longer and thus have had greater opportunity to decide to join the AOPA. It is also possible that older members had greater opportunity to respond to the survey, although the level of survey participation was not noticeably higher for those respondents in an age range where they are likely to be retired.

The most applicable findings from the survey for the pilot cohort analysis relate to the average hours flown per year in general aviation activity, and how this varies by type of pilot certificate and age, since this information is not readily available from data published by the FAA. **TABLE 4.15** shows the average number of GA flight hours in the past year reported by survey respondents.

TABLE 4.15 Average GA Flight Hours per Year by Southern California AOPA Survey Respondents by Pilot Certificate and Age Range

	Highest Level of Pilot Certificate Held					
Age Group	Student	Sport or Recre-ational	Private	Com-mercial	Airline Transport	All Pilots
Under 20	40		81.7			71.3
20–29	24.8		52.2	196	800	95.9
30–39	20.2		63.4	335.3	227.8	132.4
40–49	31.9		62.1	134.6	256.4	115.3
50–59	47.5	33.3	66.1	120.8	131.5	85.6
60–69	25		64.7	96.7	116.6	80.5
70+			60	98.5	64.1	73.1
Average	**30.7**	**33.3**	**63.5**	**135.9**	**159.7**	**93.4**

Source: Author analysis of AOPA member survey results

Some caution is warranted for the data for student and sport or recreational pilots, private pilots below age 20, and airline transport pilots below age 30, due to the small sample size in those categories as shown in **TABLE 4.13**. In other categories, the change in average flight hours between different categories of pilot certificate and age ranges seems reasonable. On average student pilots fly about 30 hours per year, which suggest that it would take between one and two years to obtain a private pilot certificate. On average private pilots fly slightly more than twice the number of hours per year than student pilots, while commercial pilots and airline transport pilots fly between two and three times the number of GA hours per year than private pilots, not surprisingly since many of the pilots holding commercial or airline transport certificates are flying professionally.

The survey also asked in which year respondents holding a student or sport/recreational pilot certificate were issued their student pilot certificate or respondents holding higher levels of pilot certificate obtained their private pilot certificate. The average number of years since respondents obtained their student or private pilot certificate (as the case may be) is shown in **TABLE 4.15**. As expected, older respondents holding private, commercial or airline transport pilot certificates have been flying longer. However, the interesting finding is the average number of years that older pilots holding a student pilot certificate have been flying since obtaining that certificate. This suggests that many older student pilots remain student pilots for a long time before finally obtaining their private pilot certificate, if they ever do.

TABLE 4.15 Average Years Since Obtaining a Student/Private Pilot Certificate

	Highest Level of Pilot Certificate Held					
Age Group	Student	Sport or Recre-ational	Private	Commer-cial	Airline Transport	All Pilots
Under 20	5		1.7			2.5
20–29	2.1		2.7	4.4	7	3.1
30–39	5		3.6	9.1	15.8	6.1
40–49	5.4		10	17.6	22.5	14.1
50–59	7.8	11.7	18.2	24.1	33.9	20.9
60–69	3		23.8	37.5	40.4	29.7
70+			34.5	46.9	53.3	41.9
Average	**4.7**	**11.7**	**17.2**	**27.3**	**34.5**	**21.5**

Source: Author analysis of AOPA member survey results

ANALYSIS OF PILOT COHORT CHARACTERISTICS

An analysis of pilot age cohort attrition and transition to higher levels of pilot certificate was performed using two different data sources: statistical data on national totals of active pilots by age group and number of original pilot certificates issued each year from the annual U.S. Civil Airmen Statistics (FAA, 2011e) and detailed data from the Airmen Registration Database (FAA, 2011d) for selected years. While the U.S. Civil Airmen Statistics provide data on totals by age group, the Airmen Registration Database does not

provide the age of the individual pilots, although since this is disaggregate data, it allows more detailed analysis.

In the course of this analysis it became clear that there are a number of apparent inconsistencies in the U.S. Civil Airmen Statistics data that will require further research to resolve. Some of these inconsistencies may arise from the way that the FAA Airmen Registry staff accounted for the change in the validity of third-class medical certificates that occurred in July 2008. Because the only way that the FAA knows when pilots are no longer active is when they fail to renew their medical certificate, this change distorted the way that active student pilots were counted.

Based on data for California pilots for 2004 and 2010 from the Airmen Registration Database, the six-year attrition and transition rates shown in **TABLE 4.14** were calculated. These rates express the percent of active pilots holding a given pilot certificate at the start of the period who were either no longer active at the end of the period (attrition) or had progressed to a higher level of pilot certificate (transition).

TABLE 4.16 California Pilot Attrition and Transition Rates – 2004 to 2010

	Pilot Certificate Held at Start of Period			
Pilot Certificate Held at End of Period	**Student**	**Private**	**Commercial**	**Airline Transport**
Student	5.10	0.0%	0.0%	0.0%
Private	14.9%	47.5%	0.0%	0.0%
Commercial	4.0%	3.8%	50.1%	0.0%
Airline Transport	0.1%	0.3%	6.9%	66.9%
Recreational	0.0%	0.0%	0.0%	0.0%
Sport	0.1%	0.0%	0.0%	0.0%
Attrition	75.8%	48.5%	43.0%	33.0%
	100%	**100%**	**100%**	**100%**

Source: Author analysis of FAA Airman Registration Database records.

The above transition and attrition rates suggest that of the pilots holding student pilot certificates at the start of the six-year period, about 5 percent were still active student pilots (or at least still holding a valid medical certificate) at the end of the period. Some 15 percent had progressed to hold a private pilot certificate by the end of the six year period, while only about 4 percent held a commercial pilot certificate at the end of the period. About 76 percent had become inactive.

The attrition rates shown in **TABLE 4.16** are surprisingly high, particularly for pilots holding a private, commercial, or airline transport certificate. It would be surprising if a third of those holding an airline transport certificate became inactive every six years. Therefore more detailed analysis of the underlying data was undertaken to determine the reason for these apparently high attrition rates. One factor that affects the apparent attrition rates is pilots who move from California during the six-year period and change their registered address. These would be counted as becoming inactive, since they would have been dropped from the California records. However, on the other hand, those who move to California during the period would appear in the data at the end of the period but not the beginning. Therefore an analysis of individual pilot data for California was undertaken to quantify the extent of these effects on the attrition and transition rates.

Summary and Conclusions

The trends in the size and composition of the pilot community over the past decade, as indicated by previous studies and the analysis undertaken as part of the current study, suggest that not only is pilot community getting steadily older on average, but the number of new student pilots who are taking up flying is not enough to maintain the size of the overall pilot community as the older pilots reach an age where they no longer fly or significantly reduce the amount of flying that they do. This in turn has important implications for the number of hours that are flown each year and the associated number of aircraft operations.

The detailed attrition and transition rates for pilots in a given age cohort is not a straightforward issue, since these rates not only vary by age, but also by the time that a given pilot has held his or her current pilot certificate. Many student pilots obtain their private pilot certificate within a year of taking up flying. Others take many years to do so. The transition rate from student to private pilot for student pilots in their first year since

starting flying is likely to be significantly different from that for pilots who have been learning to fly for several years.

Similarly, when looking at transition rates over a period as long as six years, these will include pilots who have progressed through several levels of pilot certificate, such as from student pilot to commercial pilot or even airline transport pilot. While this does not matter from the perspective of performing a pilot cohort analysis over a comparable period of time (say in five year steps), it does make it difficult to compare the resulting transition and attrition rates with those obtained from annual data, such as the U.S. Civil Airmen Statistics.

Therefore more detailed analysis of the registered airmen data should be undertaken in the future to better understand and quantify the pilot attrition and transition rates for use in improving the application of the pilot cohort model to general aviation demand forecasts.

Forecasts of Active Pilots, Hours Flown and Aircraft Operations

The FAA Terminal Area Forecast for future general aviation activity at airports in the Southern California region described previously represents a fairly optimistic scenario of likely future trends in general aviation demand in the region in the light of recent trends. For some purposes, such as determining whether the current airport system provides sufficient capacity to handle potential future demand, it may be appropriate to consider a forecast based on fairly optimistic assumptions regarding the factors that will shape future demand for GA activity. However, for other purposes, such as considering whether there will be sufficient future demand for GA activity to allow the large number of airports in the region to remain financially viable, it is necessary to consider a number of alternate scenarios that are based on less optimistic assumptions. These assumptions include such factors as the number of new student pilots who decide to take up flying, the rate at which they transition to higher levels of pilot certificate, the attrition rates of pilots holding different types of certificate in different age groups, the average number of GA flight hours per year by pilots holding different types of certificate in different age groups, the attrition rates of the current based aircraft fleet, and the rate at which new aircraft are purchased. The forecast approach provides a framework to consider these factors in a structured way and work through their implications for the resulting forecasts of regional GA activity.

This sub-section presents three alternative forecasts of active pilots, hours flown and aircraft operations by county and for the Southern California region as a whole. These forecasts differ in the assumed relationship between new student pilot starts and the change in the economy, expressed in terms of real Gross Domestic Product (GDP) per capita.

- The Baseline Forecast assumes a continuation of the relationship observed over the past ten years, in which this relationship has shown a steady decline in the number of new student pilots per 100,000 population after accounting for the change in the real GDP per capita.
- The Reduced Decline Forecast assumes that the decline in this relationship observed over the past ten years slows between 2010 and 2025, with the relationship remaining constant thereafter.
- The Arrested Decline Forecast assumes that the decline in the relationship observed over the past ten years ceases after 2010.

Baseline Forecast

Applying the pilot cohort model with the baseline assumptions gives the forecast for active pilots by county shown in **TABLE 5.1**.

TABLE 5.1 Baseline Forecast of Active Pilots by County

	2010	2015	2020	2025	2030	2035
Imperial County						
Student	33	37	38	36	31	25
Private /1	89	69	53	48	41	36
Commercial	48	34	26	20	16	15
Airline Transport	13	11	8	7	7	6
	183	**151**	**125**	**111**	**95**	**82**
Los Angeles County						
Student	2,419	4,392	4,222	3,962	3,500	2,806

	2010	2015	2020	2025	2030	2035
Private /1	4,513	5,283	4,925	4,520	3,998	3,320
Commercial	2,263	2,295	2,002	1,736	1,460	1,167
Airline Transport	1,683	1,483	1,189	945	714	521
	10,878	**13,453**	**12,338**	**11,163**	**9,672**	**7,814**
Orange County						
Student	1,009	1,659	1,580	1,460	1,270	1,002
Private /1	2,042	2,161	1,931	1,716	1,482	1,205
Commercial	1,072	985	819	688	560	434
Airline Transport	1,180	944	707	526	382	261
	5,303	**5,749**	**5,037**	**4,390**	**3,694**	**2,902**
Riverside County						
Student	674	522	450	428	392	330
Private /1	1,413	1,039	752	600	498	413
Commercial	683	503	368	274	212	163
Airline Transport	677	510	375	270	191	128
	3,447	**2,574**	**1,945**	**1,572**	**1,293**	**1,034**
San Bernardino County						
Student	593	480	412	382	341	286
Private /1	1,092	860	643	518	430	355
Commercial	606	446	325	241	185	139
Airline Transport	341	283	219	160	117	80
	2,632	**2,069**	**1,599**	**1,301**	**1,073**	**860**
Ventura County						
Student	365	431	397	370	326	262
Private /1	891	736	580	481	405	329
Commercial	447	352	264	204	157	121
Airline Transport	545	412	296	211	147	94
	2,248	**1,931**	**1,537**	**1,266**	**1,035**	**806**
Regional Total						
Student	5,093	7,521	7,099	6,638	5,860	4,711
Private /1	10,040	10,148	8,884	7,883	6,854	5,658
Commercial	5,119	4,615	3,804	3,163	2,590	2,039
Airline Transport	4,439	3,643	2,794	2,119	1,558	1,090
	24,691	**25,927**	**22,581**	**19,803**	**16,862**	**13,498**

Note 1. Includes pilots holding a Sport Pilot certificate

The pilot cohort model is based on the model of new student pilot starts each year together with five-year transition relationships between different classes of pilot certificate derived from the analysis of a large sample of individual pilot data for California obtained from the Federal Aviation Administration (FAA) Airmen Registry.

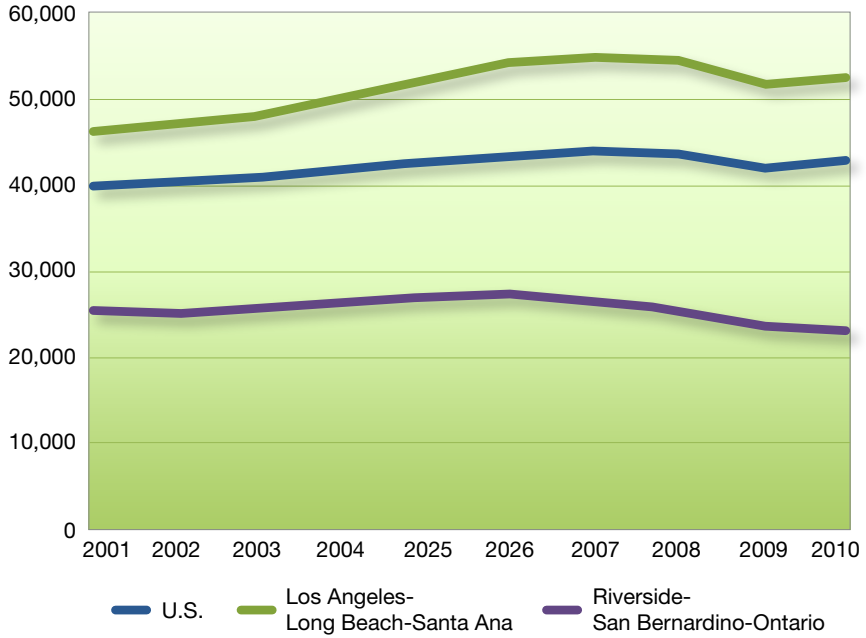
Since the new student pilot starts model predicts the number of new student pilots in terms of population and GDP per capita, it can be applied to smaller geographic areas, such as counties.

In order to apply the model to generate a forecast of future new student pilots, it was necessary to make assumptions about the future growth in real GDP per capita in each of the six counties in the Southern California region. An analysis was undertaken of the trend in real GDP per capita in the Los Angeles-Long Beach-Santa Ana and Riverside-San Bernardino-Ontario Standard Metropolitan Statistical Areas (SMSAs), using data from the U.S. Bureau of Economic Analysis for the period 2001 to 2010. Based on this trend the future growth in real GDP per capita in each of the two SMSAs was assumed. The GDP for each SMSA in 2009 was allocated to the two counties that comprise each SMSA on the basis of the total personal income of the counties, and the ratio of the real GDP per capita in each county to the real GDP per capita for the SMSA was estimated. This allowed different values of future real GDP per capita to be projected for each county. Since Imperial County and Ventura County are not included in the two SMSAs, the GDP for those counties was estimated on the basis of the total personal income in each county relative to that in the closest SMSA (Riverside-San Bernardino-Ontario in the case of Imperial County and Los Angeles-Long Beach-Santa Ana in the case of Ventura County).

The trend in the real GDP per capita for the two SMSAs over the past ten years is shown in **FIGURE 5.1**. It is clear than the real GDP per capita in the Riverside-San

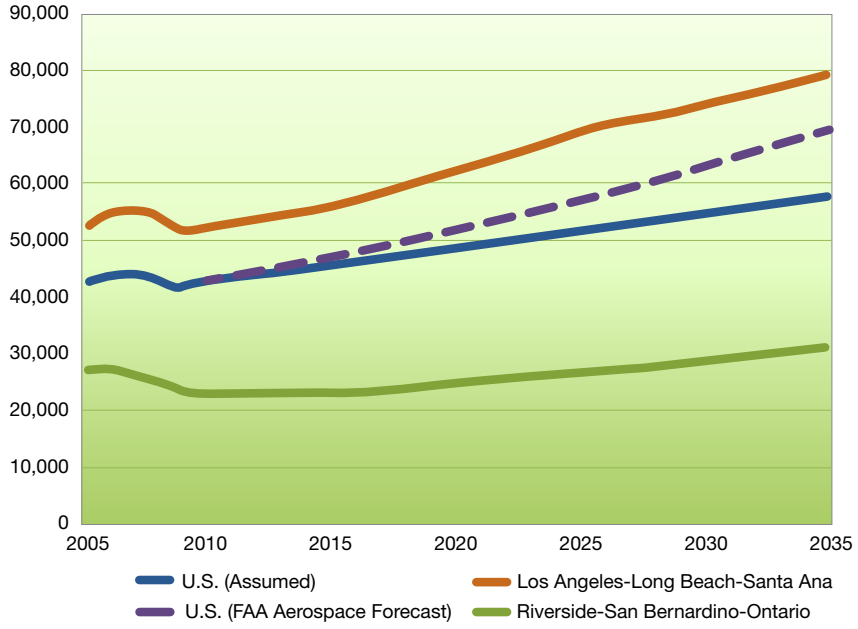
Bernardino-Ontario SMSA is not only significantly lower than in the Los Angeles-Long Beach-Santa Ana, but that the decline during the recent recession started earlier and the recovery had not yet begun by the end of 2010, although the rate of decline had slowed.

FIGURE 5.1 GDP Per Capita (2005$)



The assumed growth in real GDP per capita in each of the two SMSAs is shown in **FIGURE 5.2**, compared to two assumptions for the U.S. economy overall. The first assumption for the future growth in the U.S. real GDP per capita for the U.S. was based on the average of the relatively high average annual growth rate experienced during the period from 2001 to 2007 and the lower average annual growth rate experienced from 2001 to 2010, which included the latest recession. This avoids biasing the assumed growth rate by choosing a period that ends in the immediate aftermath of a fairly deep recession. This gave an assumed average annual growth in real GDP per capita of 1.2 percent. **FIGURE 5.2** also shows the assumed future growth implied by the economic assumptions in the latest national FAA Aerospace Forecast. This assumed an average annual growth in real GDP per capita of about 1.9 percent, somewhat higher than the average annual growth during the most recent expansion period from 2001 to 2007.

FIGURE 5.2 Assumed GDP Per Capita (2005$



It was assumed that the annual growth rate of real GDP per capita for the Los Angeles-Long Beach-Santa Ana SMSA would continue the average annual growth rate of 1.4 percent experienced from 2001 to 2010 until 2015, then would increase to the average of the relatively high average annual growth rate experienced from 2001 to 2007 and the average over the period 2001 to 2010, which gave an annual growth rate of 2.1 percent. From 2025 to 2035 it was assumed that the annual growth rate would drop back to the average annual growth rate experienced from 2001 to 2010.

In the case of the Riverside-San Bernardino-Ontario SMSA, it was assumed that the decline in the real GDP per capita would end in 2010 and the real GDP per capita would

remain constant until 2015, when the annual growth rate would increase to the average annual growth rate of 1.5 percent experienced during the last expansion period from 2001 to 2006.

The transition relationships between different categories of pilot certificate that form the second key component of the pilot cohort model were estimated from the disaggregate data for individual California pilots from the FAA Airman Registry for May 2010 and May 2011. This gave one-year transition percentages, from which five-year transition rates were calculated assuming that the one-year transition rates apply to each year of the five-year period. Unfortunately, the individual pilot data does not include the pilot's age, due to privacy reasons. However, it is possible to classify each pilot as either under age 40 or age 40 and over on the basis of the validity of the pilot's medical certificate, which is included in the data, since medical certificates have different validity periods for pilots under age 40 from those for pilots age 40 and over. It was determined that pilots in the two age groups have different transition rates. The corresponding rate was then applied to each of the five-year age ranges used in the cohort analysis.

Although of course these transition rates and the relationship incorporated in the new student pilot model could change in the future, it was assumed that the current relationships would remain in effect for the entire forecast period.

Pilot Hours Flown

Once the number of active student pilots in each age range have been projected for each future year, it is fairly straightforward to calculate the number of hours flown per year by those pilots from data on the average number of hours flown per year by pilots holding a given certificate in a given age range, obtained from the survey of Aircraft Owners and Pilots Association members performed earlier this year as part of the current project. The results of this calculation are shown in **TABLE 5.2**

TABLE 5.2 Baseline Forecast of Hours Flown by County

	2010	2015	2020	2025	2030	2035
Imperial County	16,459	12,100	9,321	7,661	6,382	5,655
Los Angeles County	1,047,596	1,090,087	937,680	814,885	691,948	555,120
Orange County	549,943	495,865	396,978	327,876	267,401	207,685
Riverside County	342,418	234,899	163,751	121,288	94,621	73,458
San Bernardino County	254,018	185,154	132,030	98,733	78,155	61,396
Ventura County	230,658	176,000	125,738	96,223	75,213	57,684
Regional Total	2,441,092	2,194,105	1,765,498	1,466,666	1,213,720	960,998

It should be noted that the number of hours flown for each county is the total flight time for pilots resident in that county, which is not necessarily the county in which the flying takes place. Obviously many of the flight hours in question involve flights to and from airports outside the county in which the flight originates, and in many cases outside Southern California.

It should also be noted that the flight hours by pilots holding an airline transport pilot certificate only includes general aviation flight hours and not flight time in airline operations.

Aircraft Operations

Finally, the forecast of general aviation aircraft operations for each county was projected from the number of aircraft operations at airports in each county for 2010 on the basis of the change in flight hours by pilots resident in the county. Separate forecasts were made for local and itinerant operations, with local operations being projected on the basis of the change in flight hours by student and private pilots, while itinerant operations were projected on the basis of the change in flight hours by commercial and airline transport pilots. While student and private pilots also make itinerant flights, and pilots holding commercial and airline transport pilot certificates also make local flights, the majority of local aircraft operations are made by student and private pilots, while a high proportion of itinerant flights involve the use of professional pilots and are thus are most likely made by pilots holding a commercial or airline transport pilot certificate. Unfortunately, there is very little information readily available on the composition of the general aviation activity at each airport in terms of the pilot certificate held by the pilot operating the aircraft.

The resulting forecast of general aviation operations is shown in **TABLE 5.3**. With the exception of Los Angeles County from 2010 to 2015, the number of aircraft operations in each county shows a steady decline, with the total number of general aviation operations in the region in 2035 projected to have declined to only 42 percent of the 2010 level.

TABLE 5.3 Baseline Forecast of General Aviation Aircraft Operations by County

	2010	2015	2020	2025	2030	2035
Imperial County						
Local	53,134	43,208	35,584	32,564	27,669	23,841
Itinerant	48,230	32,951	23,993	17,715	14,430	13,195
	101,364	**76,159**	**59,577**	**50,279**	**42,099**	**37,036**
Los Angeles County						
Local	600,192	770,713	724,023	668,487	590,561	484,914
Itinerant	745,066	682,654	548,514	451,792	369,104	289,062
	1,345,258	**1,453,367**	**1,272,537**	**1,120,278**	**959,666**	**773,976**
Orange County						
Local	100,807	115,656	105,098	94,347	81,594	65,744
Itinerant	154,510	123,905	91,412	70,805	54,852	41,126
	255,317	**239,561**	**196,509**	**165,152**	**136,446**	**106,870**
Riverside County						
Local	297,905	217,263	162,541	134,564	114,243	94,770
Itinerant	266,043	177,193	118,959	82,274	60,370	44,364
	563,948	**394,456**	**281,500**	**216,839**	**174,612**	**139,134**
San Bernardino County						
Local	336,048	260,498	200,601	166,809	140,790	116,444
Itinerant	217,701	153,510	104,528	72,580	54,544	40,904
	553,749	**414,008**	**305,129**	**239,389**	**195,333**	**157,348**
Ventura County						
Local	183,858	159,474	129,864	110,729	94,152	76,019
Itinerant	119,658	86,255	57,429	40,962	30,018	22,019
	303,516	**245,729**	**187,293**	**151,691**	**124,170**	**98,039**

	2010	2015	2020	2025	2030	2035
Regional Total						
Local	1,571,944	1,566,812	1,357,710	1,207,499	1,049,009	861,731
Itinerant	1,551,208	1,256,467	944,835	736,128	583,318	450,671
	3,123,152	**2,823,279**	**2,302,545**	**1,943,627**	**1,632,327**	**1,312,402**

REDUCED DECLINE FORECAST

This forecast assumes that the annual decline in the coefficient of the new student pilot relationship remains the same as that observed over the past ten years until 2015, then slows to half the annual rate of decline until 2025, then remains constant until 2035.

The resulting forecast of active pilots by county is shown in **TABLE 5.4**.

TABLE 5.4 Reduced Decline Forecast of Active Pilots by County

	2010	2015	2020	2025	2030	2035
Imperial County						
Student	33	37	39	41	46	52
Private /1	89	69	54	54	53	56
Commercial	48	34	26	23	21	22
Airline Transport	13	11	8	7	7	8
	183	**151**	**127**	**125**	**127**	**138**
Los Angeles County						
Student	2,419	4,392	4,403	4,571	4,879	5,367
Private /1	4,513	5,283	5,055	4,989	5,118	5,471
Commercial	2,263	2,295	2,042	1,888	1,817	1,846
Airline Transport	1,683	1,483	1,198	985	814	708
	10,878	**13,453**	**12,698**	**12,433**	**12,628**	**13,392**
Orange County						
Student	1,009	1,659	1,650	1,685	1,772	1,912
Private /1	2,042	2,161	1,981	1,887	1,891	1,973
Commercial	1,072	985	834	743	687	677
Airline Transport	1,180	944	712	541	417	327
	5,303	**5,749**	**5,177**	**4,856**	**4,767**	**4,889**
Riverside County						
Student	674	522	466	490	545	631
Private /1	1,413	1,039	766	650	624	664
Commercial	683	503	371	291	248	240
Airline Transport	677	510	376	273	202	150
	3,447	**2,574**	**1,979**	**1,704**	**1,619**	**1,685**
San Bernardino County						
Student	593	480	425	435	476	541
Private /1	1,092	860	653	558	538	569
Commercial	606	446	326	256	221	203
Airline Transport	341	283	219	165	124	99
	2,632	**2,069**	**1,623**	**1,414**	**1,359**	**1,412**
Ventura County						
Student	365	431	414	428	454	499
Private /1	891	736	594	527	506	527
Commercial	447	352	268	217	189	182
Airline Transport	545	412	298	215	155	109
	2,248	**1,931**	**1,574**	**1,387**	**1,304**	**1,317**
Regional Total						
Student	5,093	7,521	7,397	7,650	8,172	9,002

	2010	2015	2020	2025	2030	2035
Private /1	10,040	10,148	9,103	8,665	8,730	9,260
Commercial	5,119	4,615	3,867	3,418	3,183	3,170
Airline Transport	4,439	3,643	2,811	2,186	1,719	1,401
	24,691	**25,927**	**23,178**	**21,919**	**21,804**	**22,833**

Note 1. Includes pilots holding a Sport Pilot certificate

The revised assumptions result in a doubling in the number of active student pilots in Los Angeles and Orange Counties by 2035, with a more modest growth in Ventura County. Active student pilots in Riverside and San Bernardino Counties decline from 2010 to 2020, then increase to levels in 2035 slightly below those of 2010. There is a modest increase in active private pilots in Los Angeles County from 2010 to 2035, but otherwise active private, commercial and airline transport pilots decline in all counties.

The effect of this is to give an increase in total active pilots in Los Angeles County from 2010 to 2035, with a decline in all the other counties. For the region as a whole, total active pilots decline by about 7.5 percent from 2010 to 2035.

Pilot Hours Flown

The corresponding forecast for pilot hours flown is shown in **TABLE 5.5**.

Aircraft Operations

The resulting forecast of aircraft operations is shown in **TABLE 5.6**. The revised assumptions result in a decline in the number of aircraft operations in all counties from 2010 to 2035 by about 30 percent. The decline is obviously less in Los Angeles County, due to the greater increase in active student pilots, where aircraft operations decline by only about 3 percent from 2010 to 2035.

TABLE 5.5 Reduced Decline Forecast of Hours Flown by Pilots in Each County

	2010	2015	2020	2025	2030	2035
Imperial County	16,459	12,100	9,403	8,645	8,647	9,437
Los Angeles County	1,047,596	1,090,087	961,154	900,321	891,849	932,932
Orange County	549,943	495,865	406,359	358,818	339,702	342,200
Riverside County	342,418	234,899	165,919	130,217	116,415	117,188
San Bernardino County	254,018	185,154	133,375	106,843	97,058	98,424
Ventura County	230,658	176,000	128,142	104,189	93,090	91,265
Regional Total	2,441,092	2,194,105	1,804,352	1,609,033	1,546,761	1,591,446

TABLE 5.6 Reduced Decline Forecast of General Aviation Aircraft Operations by County

	2010	2015	2020	2025	2030	2035
Imperial County						
Local	53,134	43,208	36,246	36,739	37,418	40,495
Itinerant	48,230	32,951	23,993	19,995	19,595	21,591
	101,364	76,159	60,239	56,734	57,012	62,086
Los Angeles County	600,192	770,713	746,729	748,009	776,743	838,158
Local	745,066	682,654	559,343	493,180	465,870	471,086

	2010	2015	2020	2025	2030	2035
Itinerant	1,345,258	1,453,367	1,306,072	1,241,189	1,242,613	1,309,244
	600,192	770,713	746,729	748,009	776,743	838,158
Orange County						
Local	100,807	115,656	108,385	105,289	107,026	112,875
Itinerant	154,510	123,905	93,072	76,218	67,585	64,932
	255,317	239,561	201,457	181,507	174,611	177,807
Riverside County						
Local	297,905	217,263	166,180	148,232	148,163	161,973
Itinerant	266,043	177,193	119,921	86,782	71,142	66,332
	563,948	394,456	286,101	235,014	219,305	228,306
San Bernardino County						
Local	336,048	260,498	204,540	182,463	182,284	197,411
Itinerant	217,701	153,510	104,963	77,893	65,261	62,001
	553,749	414,008	309,502	260,356	247,544	259,412
Ventura County						
Local	183,858	159,474	133,679	123,289	121,813	129,150
Itinerant	119,658	86,255	58,177	43,460	35,762	32,502
	303,516	245,729	191,855	166,749	157,576	161,652
Regional Total						
Local	1,571,944	1,566,812	1,395,758	1,344,021	1,373,446	1,480,062
Itinerant	1,551,208	1,256,467	959,468	797,528	725,215	718,444
	3,123,152	2,823,279	2,355,227	2,141,549	2,098,662	2,198,506

ARRESTED DECLINE FORECAST

This forecast assumes that the annual decline in the coefficient of the new student pilot relationship ends in 2010 and the relationship between new student pilots per 100,000 population and real GDP per capita remains constant until 2035. While this is obviously a more optimistic scenario than the other two, since it will generate more student pilots, and eventually other categories of pilot as those student pilots transition to higher levels of certificate, it begs the question what would cause the decline in the new student pilot relationship to suddenly flatten out. The resulting forecast of active pilots by county is shown in **TABLE 5.7**.

TABLE 5.7 Arrested Decline Forecast of Active Pilots by County

	2010	2015	2020	2025	2030	2035
Imperial County						
Student	33	41	48	54	61	70
Private /1	89	70	63	65	68	74
Commercial	48	34	29	26	25	26
Airline Transport	13	11	8	10	12	12
	183	156	148	155	166	182
Los Angeles County						
Student	2,419	4,715	5,294	6,019	6,753	7,457
Private /1	4,513	5,516	5,757	6,222	6,816	7,472
Commercial	2,263	2,368	2,266	2,277	2,350	2,480
Airline Transport	1,683	1,502	1,265	1,092	960	877
	10,878	14,101	14,582	15,610	16,879	18,286
Orange County						
Student	1,009	1,775	1,976	2,219	2,451	2,659
Private /1	2,042	2,247	2,239	2,343	2,508	2,692
Commercial	1,072	1,009	916	885	884	901
Airline Transport	1,180	949	736	581	469	390
	5,303	5,980	5,867	6,028	6,312	6,642

	2010	2015	2020	2025	2030	2035
Riverside County						
Student	674	557	560	648	753	879
Private /1	1,413	1,063	838	781	811	897
Commercial	683	513	394	337	310	313
Airline Transport	677	513	383	284	216	166
	3,447	2,646	2,175	2,050	2,090	2,255
San Bernardino County						
Student	593	514	511	574	658	756
Private /1	1,092	884	720	679	704	772
Commercial	606	453	347	293	275	267
Airline Transport	341	287	225	176	142	113
	2,632	2,138	1,803	1,722	1,779	1,908
Ventura County						
Student	365	458	496	562	628	694
Private /1	891	755	657	642	667	713
Commercial	447	360	290	254	241	242
Airline Transport	545	414	304	227	167	126
	2,248	1,987	1,747	1,685	1,703	1,775
Regional Total						
Student	5,093	8,060	8,885	10,076	11,304	12,515
Private /1	10,040	10,535	10,274	10,732	11,574	12,620
Commercial	5,119	4,737	4,242	4,072	4,085	4,229
Airline Transport	4,439	3,676	2,921	2,370	1,966	1,684
	24,691	27,008	26,322	27,250	28,929	31,048

Note 1. Includes pilots holding a Sport Pilot certificate

This forecast gives an increase in active student pilots in all counties, with a higher growth of active private pilots in Los Angeles County, and a growth of active private pilots in Orange County and active commercial pilots in Los Angeles and Orange Counties. Active private and commercial pilots decline in all other counties and active airline transport pilots decline in all counties. The net effect gives an overall increase in total active pilots in the region of about 26 percent from 2010 to 2035.

Pilot Hours Flown

The corresponding forecast for pilot hours flown is shown in **TABLE 5.8**.

TABLE 5.8 Arrested Decline Forecast of Hours Flown by Pilots in Each County

	2010	2015	2020	2025	2030	2035
Imperial County	16,459	12,301	10,960	10,961	11,896	12,739
Los Angeles County	1,047,596	1,132,893	1,088,037	1,116,095	1,183,260	1,271,978
Orange County	549,943	510,538	452,813	438,495	445,749	463,442
Riverside County	342,418	240,160	178,957	154,403	148,532	156,065
San Bernardino County	254,018	189,488	145,204	127,722	126,444	132,218
Ventura County	230,658	179,717	140,044	124,953	120,541	123,514
Regional Total	2,441,092	2,265,097	2,016,015	1,972,629	2,036,422	2,159,956

Aircraft Operations

The resulting forecast of aircraft operations is shown in **TABLE 5.9**. Aircraft operations increase from 2010 to 2035 in Los Angeles County from 2010 to 2035 by about 33 percent. For the region as a whole, aircraft operations decline from 2010 to 2025 then increase thereafter to reach a level on 2035 about 4 percent below the level in 2010.

TABLE 5.9 Arrested Decline Forecast of General Aviation Aircraft Operations by County

	2010	2015	2020	2025	2030	2035
Imperial County						
Local	53,134	44,832	42,950	45,324	48,531	53,756
Itinerant	48,230	32,951	27,542	26,112	28,738	29,695
	101,364	77,782	70,492	71,436	77,268	83,451
Los Angeles County						
Local	600,192	811,277	864,797	949,485	1,048,187	1,152,198
Itinerant	745,066	702,934	620,830	597,306	606,912	636,307
	1,345,258	1,514,211	1,485,627	1,546,790	1,655,099	1,788,506
Orange County						
Local	100,807	121,237	124,584	133,134	143,915	155,055
Itinerant	154,510	126,228	101,341	90,363	86,519	86,575
	255,317	247,465	225,925	223,497	230,434	241,630
Riverside County						
Local	297,905	224,146	186,218	183,315	196,847	221,820
Itinerant	266,043	180,331	126,471	99,791	87,553	85,821
	563,948	404,477	312,688	283,106	284,401	307,641
San Bernardino County						
Local	336,048	270,189	230,575	227,735	243,245	270,992
Itinerant	217,701	155,908	111,646	89,916	83,100	81,361
	553,749	426,097	342,221	317,651	326,345	352,353
Ventura County						
Local	183,858	164,961	151,219	153,932	163,555	176,887
Itinerant	119,658	87,519	62,232	50,523	44,777	43,434
	303,516	252,480	213,451	204,455	208,332	220,321
Regional Total						
Local	1,571,944	1,636,642	1,600,342	1,692,926	1,844,279	2,030,708
Itinerant	1,551,208	1,285,870	1,050,062	954,011	937,599	963,192
	3,123,152	2,922,512	2,650,404	2,646,937	2,781,878	2,993,901

Summary

The total numbers of forecast aircraft operations for the region as a whole for each of the three forecast scenarios are shown in **TABLE 5.10**. For comparison, the regional total from the latest FAA Terminal Area Forecast is also shown.

TABLE 5.10 Comparison of Alternative Forecasts of General Aviation Aircraft Operations for the Southern California Region

	2010	2015	2020	2025	2030	2035
Baseline Forecast						
Local	1,571,944	1,566,812	1,357,710	1,207,499	1,049,009	861,731
Itinerant	1,551,208	1,256,467	944,835	736,128	583,318	450,671
	3,123,152	2,823,279	2,302,545	1,943,627	1,632,327	1,312,402
Reduced Decline Forecast						
Local	1,571,944	1,566,812	1,395,758	1,344,021	1,373,446	1,480,062
Itinerant	1,551,208	1,256,467	959,468	797,528	725,215	718,444
	3,123,152	2,823,279	2,355,227	2,141,549	2,098,662	2,198,506
Arrested Decline Forecast						
Local	1,571,944	1,636,642	1,600,342	1,692,926	1,844,279	2,030,708
Itinerant	1,551,208	1,285,870	1,050,062	954,011	937,599	963,192
	3,123,152	2,922,512	2,650,404	2,646,937	2,781,878	2,993,901
FAA Terminal Area Forecast /1						

	2010	2015	2020	2025	2030	2035
Local	1,423,344	1,425,724	1,469,893	1,516,718	1,566,376	/2
Itinerant	1,439,626	1,448,200	1,517,703	1,592,170	1,671,980	/2
	2,862,970	2,873,924	2,987,596	3,108,888	3,238,356	/2

Note: 1 Excludes non-TAF airports
Note: 2 Latest Terminal Area Forecast only extends to 2030

Under the Baseline Forecast, total aircraft operations decline to 42 percent of 2010 levels by 2035. However, the projected decline is greater for itinerant operations, which are projected to decline to only 29 percent of 2010 levels by 2035. Local operations are projected to decline to 55 percent of 2010 levels by 2035, reflecting the larger share of student and private pilots in the pilot community by 2035, as the inflow of new student pilots transitioning to higher levels of certificate are not sufficient to replace the numbers of older commercial and airline transport pilots becoming inactive. The number of total aircraft operations in the Baseline Forecast for 2030 is only 50 percent of that projected in the FAA Terminal Area Forecast (TAF) for that year. However, the TAF projects a slight increase in the proportion of itinerant operations from 50 percent 2010 to 52 percent in 2030. Because of the slower decline in local operations than itinerant operations in the Baseline Forecast the number of local operations in 2030 only declines to 67 percent of the number forecast in the TAF while the number of itinerant operations declines to 35 percent of the number forecast in the TAF.

Under the Reduced Decline Forecast, total aircraft operations decline to 70 percent of 2010 levels by 2035. Itinerant operations are projected to decline to 46 percent of 2010 levels by 2035, while due to the assumed greater inflow of student pilots than in the Baseline Forecast local operations are projected to decline to only 70 percent of 2010 levels by 2035. The number of total aircraft operations in the Reduced Decline Forecast for 2030 is 65 percent of that projected in the TAF for that year, with the number of local operations only declining to 94 percent of the number forecast in the TAF while the number of itinerant operations is projected to decline to 46 percent of the number forecast in the TAF.

Under the more aggressive Arrested Decline Forecast, total aircraft operations only decline to 96 percent of 2010 levels by 2035. Itinerant operations are projected to decline to 62 percent of 2010 levels by 2035, while the even greater assumed inflow of student pilots compared to the Baseline Forecast results in an increase in local operations to 129 percent of 2010 levels by 2035. The number of total aircraft operations in the Arrested Decline Forecast for 2030 is 86 percent of that projected in the TAF for that year, with the number of local operations 18 percent higher than the number forecast in the TAF and the number of itinerant operations projected to decline to 56 percent of the number forecast in the TAF.

It should be noted that the greater decline in forecast itinerant operations compared to local operations in all three forecast scenarios is a consequence of the interaction of two effects:

- The more rapid forecast decline in the number of active commercial and airline transport pilots compared to student and private pilots
- The assumption that the change in the number of local operations is proportional to the change in hours flown by student and private pilots, while the change in the number of itinerant operations is proportional to the change in the hours flown by commercial and airline transport pilots.

However the first result could change if the demand for commercial pilots in the general aviation sector (some of whom are required by their employers to hold an airline transport pilot certificate) causes a higher proportion of student and private pilots to transition to higher levels of pilot certificate. A shortage of commercial pilots could also cause those commercial pilots who are active to fly more, leading to an increase in flight hours by commercial and airline transport pilots and the associated aircraft operations.

Since student and private pilots do perform itinerant operation as well as local operations, although typically not as many, an increase in the proportion of student and private pilots relative to commercial and airline transport pilots should contribute to an increase in the number of itinerant operations, rather than these being determined solely by the change in the number of flight hours by commercial and airline transport pilots. Further research is needed to better understand the relative proportions of local and itinerant operations flown by pilots holding different levels of pilot certificate, as well as any trends in these proportions over time.

Forecasts of Based Aircraft and Associated Aircraft Operations

The forecasts of active pilots in Southern California and the hours flown by those pilots provides one perspective on the future levels of general aviation activity in the region. However, the size and composition of the based aircraft fleet is only indirectly related to the level of flying activity. Aircraft do not disappear when the amount of flying declines; rather they tend to be flown less and the percentage of the fleet that is inactive increases. Even so, some new aircraft will be added to the fleet each year and some aircraft will be sold and relocated outside the region, or even outside the country. Eventually older aircraft that are no longer airworthy or no longer economic to maintain and operate will be sold or scrapped. From the perspective of the Southern California based aircraft fleet, it does not matter whether an aircraft is sold to a new owner located outside the region or scrapped. In any year there will of course be some used aircraft that are purchased by new owners in Southern California and imported into the region. Therefore what matters is the net attrition of aircraft of a given age due to the balance between those aircraft that are sold and exported from the region or scrapped and the addition of used aircraft that are imported in to the region from elsewhere.

Thus a forecast of the potential size and composition of the future based aircraft fleet in the region can be developed by considering the net attrition rate of the current aircraft fleet and the future addition of newly manufactured aircraft to the fleet.

APPROACH

The based aircraft forecast is based on the list of registered aircraft in each county for 2010 prepared by the County Assessor and obtained from the California Department of Transportation, Division of Aeronautics. The County Assessor record for each aircraft includes the Federal Aviation Administration (FAA) aircraft registration number (tail number) and in principle includes the year of manufacture and the aircraft make and model. However, the year of manufacture is missing for many records and the terminology used for the aircraft make and model is not standardized, making it extremely difficult to classify each aircraft into a consistent set of aircraft categories. Therefore additional data for each aircraft was obtained from the FAA Aircraft Registration Database using the aircraft tail number to search for the aircraft in the FAA data. The additional data included the aircraft type (fixed-wing, rotorcraft, etc.), number of engines, and type of engines, as well as the year of manufacture.

This allowed each aircraft in the County Assessor data to be classified into the following categories:

- Single-engine piston (SEP)
- Single-engine turboprop (SET)
- Multi-engine piston (MEP)
- Multi-engine turboprop (MET)
- Jet aircraft (JET)
- Helicopter (HELI)
- Glider (GLI)
- Balloon (BAL)
- Other (OTH)

In addition, missing data on the year of manufacture in the County Assessor records was filled in where possible from the FAA aircraft registration data. Many of the FAA records are also missing the year of manufacture, but with some effort this could be determined in many cases from other data in the FAA aircraft registration record, such as the airworthiness date, the date when the aircraft was first certificated, or the serial number of the aircraft. Aircraft manufacturers generally assign serial numbers for each aircraft model sequentially, so the year of manufacture can be determined from that for other aircraft of the same model with adjacent serial numbers for which the year of manufacture is given.

A number of aircraft records in the County Assessor data turned out to be duplicate entries for the same aircraft, such as cases where an aircraft had been assigned a new tail number after a sale. Quite a few of the aircraft in the County Assessor data did not appear in the FAA database of currently registered aircraft. Further investigation established that these were often explained by the following situations:

- The aircraft had been exported or sold to a new owner who had registered the aircraft under a different tail number
- The aircraft owner had cancelled the registration, presumably because the aircraft was no longer being used

- The aircraft tail number had been issued to an owner who was building a homebuilt aircraft which had not yet been registered (presumably because it was still under construction)

Based Aircraft Forecast Methodology

The forecast of based aircraft needs to consider two effects. The first is the attrition of the current (2010) based aircraft fleet over time. The second is the addition of new aircraft to the fleet in the future. Those aircraft will also experience attrition over the period of the forecast. Therefore the forecast requires two sets of assumptions:

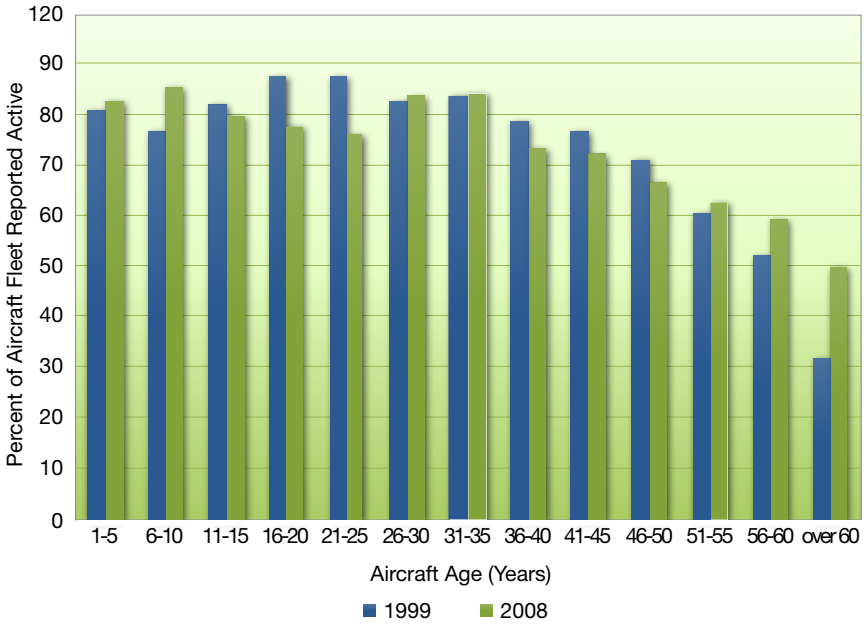
1. An attrition function that predicts the percentage of aircraft in the based aircraft fleet in a given year that will remain in the fleet one year later.
2. The number of aircraft of each type that will enter the fleet in each future year.

Given these two sets of assumptions, it is a fairly simple matter to calculate the change in the size of the based aircraft fleet over time. However, neither assumption is a simple matter, since both the attrition rate and the rate of new aircraft entering the fleet are likely to change over time in response to changing conditions in the general aviation sector.

For the purposes of the current forecasts, the aircraft fleet attrition relationship developed in a study for the FAA by Optimum Computer Systems, Inc. (OCS) in the mid 1970s (Rocks, 1976) has been adopted. While this study is now somewhat dated, the underlying factors that determine the rate at which aircraft are withdrawn from the aircraft fleet may not have changed that much over the past 35 years, although this is a subject that is deserving of future research. The attrition relationship developed in the OCS report expresses the attrition rate per year as a function of the age of the aircraft. This attrition rate initially increases as the aircraft becomes older, reaching a maximum of 2.7 percent per year at 18 years, then declines in subsequent years to a rate of 1.75 percent per year at 25 years. Unfortunately, the OCS study did not analyze the change in attrition rates for aircraft older than 25 years, but simply grouped all aircraft older than 25 years into a single category, for which they suggested an attrition rate of 1.0 percent per year.

This is potentially problematical for developing forecasts of the based aircraft fleet from 2010 to 2035, since a large proportion of the aircraft fleet is already well over 30 years old, and by 2035 the majority of these aircraft (if they are still in service) will be over 60 years old. However, the annual FAA General Aviation and Part 135 Activity Survey (FAA, 2011c) provides estimates of the number of registered and active aircraft in five-year age ranges for aircraft 60 years old or less, with older aircraft grouped into a single category. It is apparent from these data that attrition of older aircraft from the fleet does indeed occur at about 1 percent per year. However, the percent of the registered aircraft fleet that was reported as being actively flown reduces steadily with age, as shown in **FIGURE 6.1**. The trend shown in **FIGURE 6.1** points out the need to distinguish between registered aircraft and active aircraft in forecasting based aircraft, since registered aircraft determine the size of the based aircraft fleet, while the number of active aircraft determines how much flying those aircraft do.

FIGURE 6.1 Change in Aircraft Utilization with Age – 1999 and 2008



The analysis of the FAA survey data shown in **FIGURE 6.1** used the data from the 1999 and 2008 surveys because the aircraft age ranges used in those two surveys gave the number of registered and active aircraft grouped by aircraft manufactured in the same

five-year periods. This therefore allowed a direct measure of the attrition of aircraft by age. For example, the aircraft in the age range 36 to 40 years old in the 1999 survey are the same aircraft in the age range 46 to 50 years old in 2008. Therefore the change in the number of aircraft in this cohort from 1999 to 2008 measures the net attrition over the nine-year period, from which the annual attrition rate can be derived.

It was found that for aircraft over about 25 years old, the attrition rate of registered aircraft was around 1 percent per year, which is consistent with the value estimated in the earlier OCS study. An attrition rate of 1 percent per year is relatively slow and implies that about 78 percent of the aircraft that were more than 25 years old in 2010 will still be in the fleet in 2035. However, the percentage of this fleet that is actively flown also declines with the age of the aircraft, as shown in **FIGURE 6.1**, which indicates than less than half the aircraft in the fleet that are over 60 years old are still actively flown.

Obviously aircraft cannot continue to be flown forever, although many of the older aircraft that are still in the based aircraft fleet have been restored and in effect given a new lease of life. This is particularly true for what have come to be viewed as vintage aircraft dating from the 1930's and 1940's. It remains to be seen what percentage of aircraft built between the late 1960's and the early 1980's, that forms by far the largest proportion of the current aircraft fleet, will eventually be restored. The number of such aircraft and their relative lack of historic interest to collectors suggests that the majority will probably be scrapped when they reach an age where it is no longer economic to continue to keep them in flying condition.

Furthermore, it is unclear from the FAA aircraft activity survey data whether the attrition rates observed for aircraft aged between 25 and 60 years continue to apply to aircraft significantly older than 60 years, since the results of the aircraft activity surveys group aircraft over 60 years old into a single age group. While this was less important in the past, since a relatively small proportion of the aircraft fleet was over 60 years old, this will change over the coming 25 years. By 2035 aircraft built between 1965 and 1975 that are still in the aircraft fleet will be between 60 and 70 years old. In the absence of more detailed information about the attrition rates of aircraft older than 60 years, it was assumed that the average attrition rate for aircraft over 60 years old calculated from the results of the FAA activity survey remains constant for all aircraft older than 60 years.

Examination of changes in the composition of the based aircraft fleet in Southern California over the past ten years has shown that the rates at which different aircraft types have been entering the fleet has varied widely, with the numbers of jet aircraft and helicopters growing significantly over the period, while the number of single-engine propeller aircraft has remained fairly static and the number of multi-engine propeller aircraft has declined. In the absence of any formal models of the rates at which different aircraft types are likely to be added to the based aircraft fleet in the future, assumed values for these rates can be based on an analysis of recent trends in the fleet composition and size, as discussed in the next sub-section.

CURRENT COMPOSITION OF THE BASED AIRCRAFT FLEET

Los Angeles County contains the largest number of based aircraft of any of the six counties in the Southern California region, accounting for about 46 percent of the total based aircraft in the region. The next two counties with the largest numbers of based aircraft are Riverside County with 17 percent of the total based aircraft in the region and San Bernardino County with 15 percent of the regional based aircraft fleet. The following discussion compares the composition of Los Angeles County aircraft fleet given by the County Assessor data to that given by the based aircraft counts in the FAA Form 5010 Airport Master Record data for the same year. While these comparisons differ somewhat from county to county, the pattern observed in Los Angeles County is generally true for the other counties.

After the data cleaning, the 4,370 aircraft records in the County Assessor database for Los Angeles County were classified as follows:

- 4,296 valid records with a year of manufacture and aircraft type
- 28 records missing the year of manufacture, mostly homebuilt single-engine piston aircraft (possibly still under construction)
- 28 aircraft destroyed, exported or transferred out of the county
- 6 records with an invalid tail number and insufficient information to identify the aircraft
- 2 tail numbers reserved with no aircraft information
- 10 duplicate entries

The number of aircraft of each type in the valid records with year of manufacture and aircraft type, together with the corresponding FAA Form 5010 based aircraft data for Los Angeles County airports for 2010 are shown in **TABLE 6.1**. Compared to the County

Assessor data, the FAA Form 5010 counts overstate single-engine propeller aircraft by about 6.5 percent, or some 200 aircraft. For the other aircraft types, the Form 5010 counts are considerably less than the County Assessor data. Jet aircraft are understated by about 9 percent, the multi-engine propeller aircraft are understated by about 12 percent, and helicopters are understated by about 35 percent. The low number of helicopters in the Form 5010 data could be due to a large number of helicopters being kept at locations other than the airports included in the FAA 5010 data.

TABLE 6.1 Comparison of County Assessor Data with FAA 5010 Based Aircraft Counts for Los Angeles County

Aircraft Type	County Assessor Data	FAA Form 5010 Counts	Percent Difference
Single-engine Piston	3,011		
Single-engine Turboprop	59		
	3,070	**3,269**	**106.5%**
Multi-engine Piston	362		
Multi-engine Turboprop	67		
	429	**376**	**87.6%**
Jet Aircraft	418	381	91.1%
Helicopter	284	185	65.1%
Glider	70	7	10.0%
Balloon	17		0.0%
Other	8		0.0%
	4,296	**4,218**	**98.2%**

The low number of gliders and the absence of balloons and other aircraft in the FAA Form 5010 counts is not surprising, since many gliders, balloons and ultralight aircraft are typically stored at locations other than airports. In addition some of the gliders and ultralight aircraft in the county may be stored at private airports that are not included in the FAA Form 5010 data.

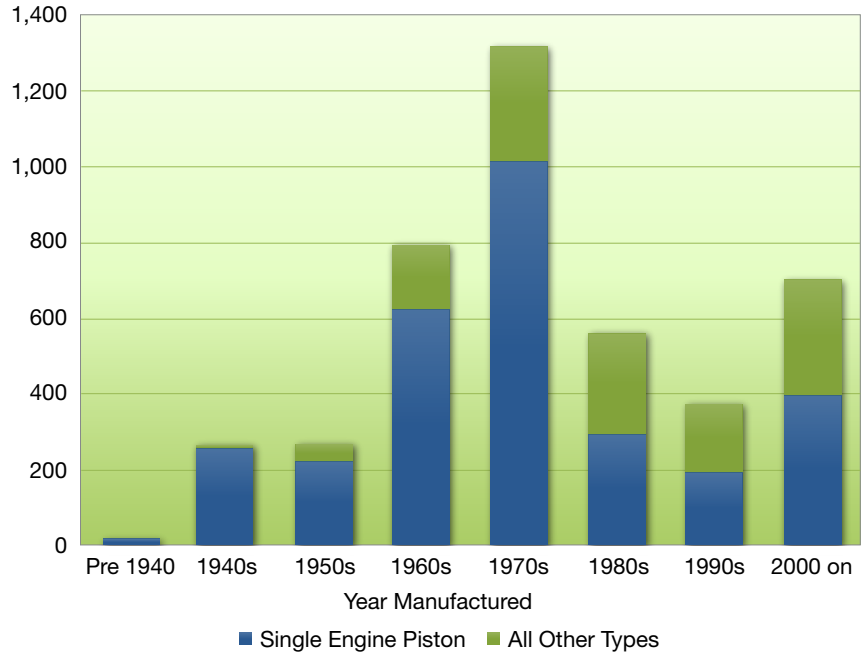
The lower number of single-engine propeller aircraft in the County Assessor data may partly be accounted for by those aircraft that did not have a year of manufacture identified, and were omitted from the data shown in **TABLE 6.1**. However, this would only account for about 25 of the 199 aircraft difference. It is clear from the FAA Form 5010 data for individual airports that these data are not always updated on an annual basis, particularly at smaller airports. Therefore the counts may tend to lag behind the decline in the actual number of single-engine propeller aircraft. Conversely, in the case of jet aircraft and helicopters, where the fleet has been growing in recent years, the counts may lag behind this growth.

However, notwithstanding these differences, the County Assessor data and the FAA Form 5010 data are broadly consistent, and it appears that the County Assessor data provides a reasonable basis for developing forecasts of based aircraft, particularly given the inherent uncertainty involved in such forecasts over more than a few years.

AGE PROFILE OF THE CURRENT AIRCRAFT FLEET

FIGURE 6.2 shows the age profile of the current aircraft fleet in Los Angeles County, distinguishing between single-engine piston aircraft and other aircraft types. Single-engine piston aircraft constitute the largest fraction of the fleet, but this proportion has been dropping over time, largely due to the high proportion of single-engine piston aircraft among aircraft older than 30 years.

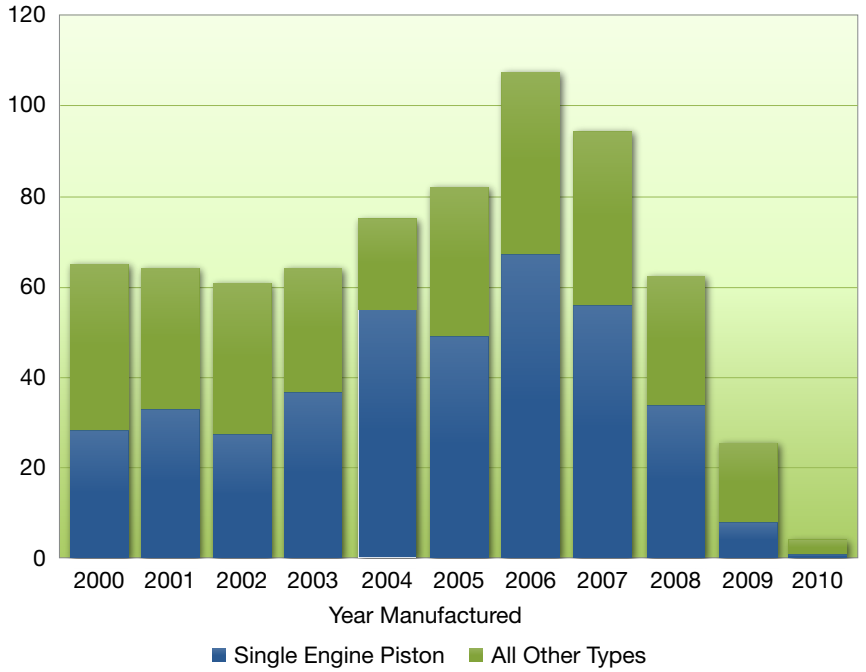
FIGURE 6.2 Age Profile of 2010 Based Aircraft Fleet in Los Angeles County



Aircraft manufactured during the 1970's constitute the largest age cohort of the fleet, accounting for 31 percent of all aircraft, followed by those manufactured during the 1960s, which account for 19 percent of the fleet. The newest aircraft, those manufactured during the past 10 years, form the third highest age cohort, accounting for 16 percent of the fleet. Of these relatively new aircraft, single-engine piston aircraft comprise 56 percent of the aircraft in this age cohort, due in large part to the growing number of homebuilt aircraft.

The age profile of aircraft manufactured since 2000 is shown in **FIGURE 6.3**. Since there has been relatively low attrition of these aircraft (the OCS study cited above found that 93 percent of the aircraft manufactured in a given year are still registered 10 years later, with correspondingly higher proportions for newer aircraft), the number of the aircraft manufactured in each year gives a good indication of the rate at which new aircraft have been added to the fleet. As can be seen, this was fairly constant from 2000 to 2003 then rose steadily to 2006, since when it has declined sharply.

FIGURE 6.3 Age Profile of 2010 Based Aircraft Fleet in Los Angeles County Manufactured Since 2000

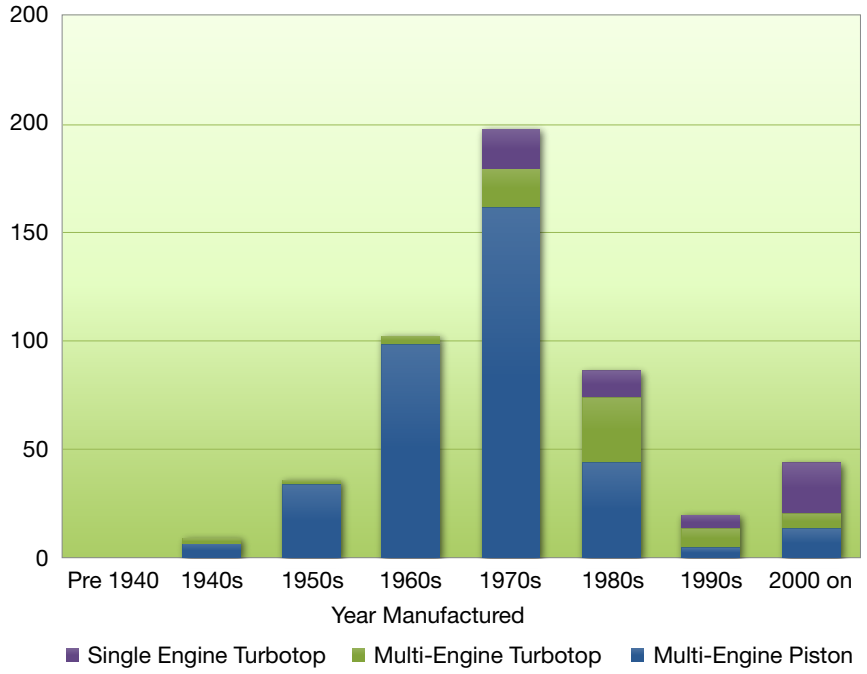


The data for 2010 should be viewed with caution, since the County Assessor data was assembled during the year and so almost certainly have missed aircraft added to the fleet later in the year. Even so, the decline in new aircraft being added to the fleet since 2006 is dramatic.

The age profile of the single-engine turboprop and multi-engine piston and turboprop aircraft in the fleet is shown in **FIGURE 6.4**. This shows that the great majority of these aircraft are over 30 years old, while the proportion of turboprop aircraft relative to multi-engine piston aircraft has increased steadily over time, as has the proportion of

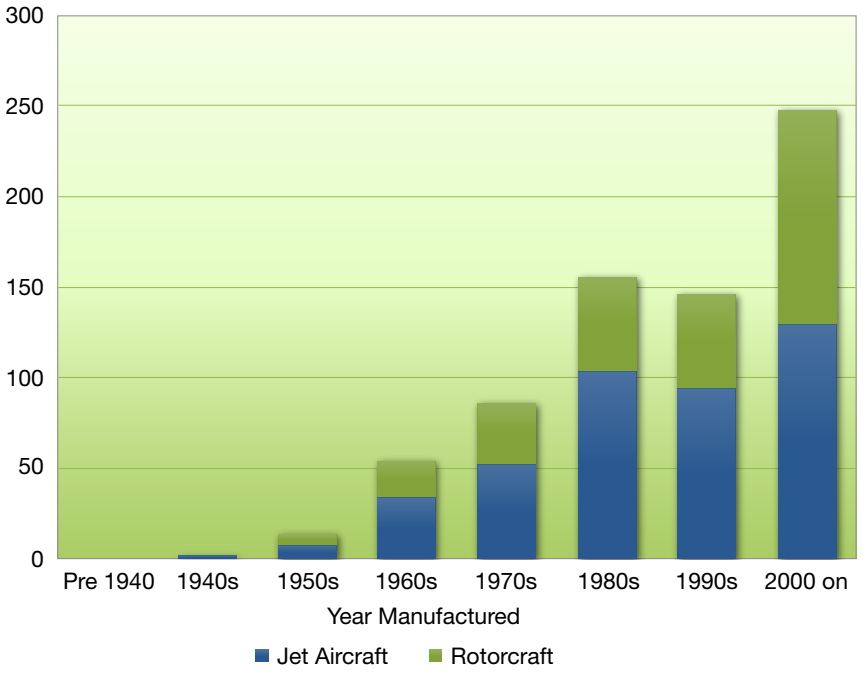
single-engine turboprop aircraft. Indeed, over the past 10 years more single-engine turboprop aircraft were added to the fleet than multi-engine turboprop and piston aircraft combined. The decline in the numbers of multi-engine turboprop and piston aircraft added to the fleet over the past 30 years in part reflects a shift to jet aircraft for corporate and business flying.

FIGURE 6.4 Age Profile of 2010 Based Aircraft Fleet – Turboprop and Multi-Engine Piston Aircraft in Los Angeles County



The corresponding age profile for rotorcraft and jet aircraft is shown in **FIGURE 6.5**. In contrast to the age profile of piston and turboprop aircraft shown in **FIGURES 6.2** and **6.4**, the number of both rotorcraft and jet aircraft added to the fleet has increased steadily over time, with those manufactured over the past 10 years comprising the largest age cohort and accounting for 42 percent of the rotorcraft fleet and 31 percent of the jet aircraft fleet.

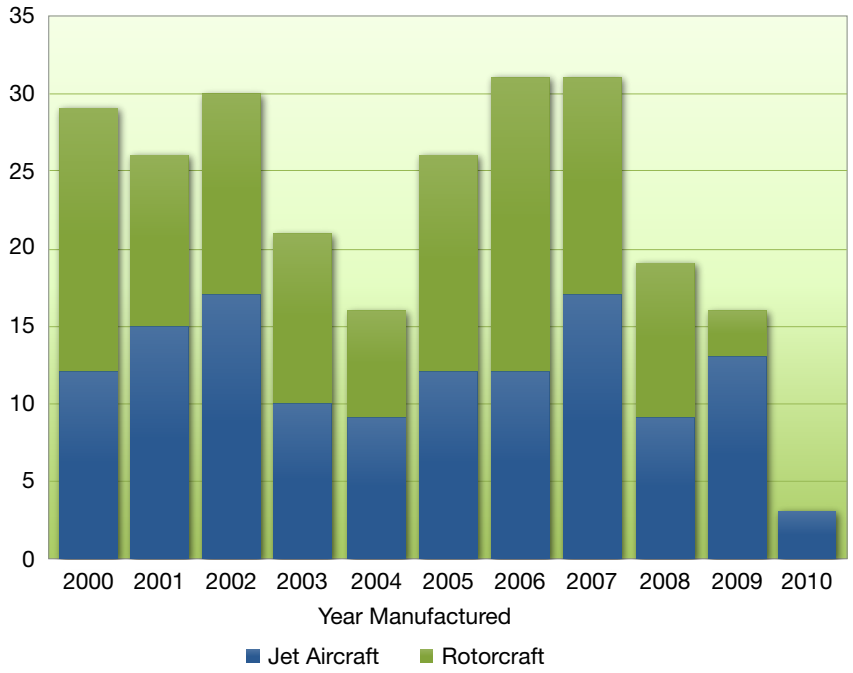
FIGURE 6.5 Age Profile of 2010 Based Aircraft Fleet – Rotorcraft and Jet Aircraft in Los Angeles County



The age profile for rotorcraft and jet aircraft manufactured since 2000 is shown in **FIGURE 6.6**. The steady increase in the number of such aircraft added to the fleet in each decade shown in **FIGURE 6.5** appears to have leveled out, with marked fluctuations over the decade. Following a sharp decline in the number of both types of aircraft added to the fleet from 2002 to 2004, there was a strong growth to 2006 in rotorcraft added to the fleet and to 2007 in jet aircraft added to the fleet. This was followed by a steady decline in the number of rotorcraft added to the fleet from 2006 to 2009 and a similar decline in jet aircraft added to the fleet from 2007 to 2008, followed by a modest growth to 2009.

However, it should be noted that the differences from year to year are typically less than five aircraft and never more than seven aircraft, so year to year fluctuations are likely to be heavily influenced by the timing on individual owner decisions on aircraft acquisition.

FIGURE 6.6 Age Profile of 2010 Based Aircraft Fleet in Los Angeles County – Rotorcraft and Jet Aircraft Manufactured Since 2000



It is very likely that the decline in the addition of new rotorcraft and jet aircraft to the fleet from 2007 to 2009 was heavily influenced by the recession that started in 2007 as well as subsequent restrictions on the availability of business credit that occurred. As the economy recovers from the recession, it is seems likely that acquisition of new rotorcraft and jet aircraft will return to pre-recession levels.

FORECAST ASSUMPTIONS FOR FUTURE ADDITIONS TO THE FLEET

Based on the previous analysis, it seems reasonable to assume as a baseline case that over the next 25 years, additions of rotorcraft and jet aircraft to the fleet will correspond to the average rate experienced during the period from 2000 to 2009. In the case of Los Angeles County this implies net additions of about 12 new rotorcraft and 13 new jet aircraft per year. These additions do not count imports to and exports from the region of older aircraft. It is assumed that the net effect of these imports and exports is accounted for in the assumed attrition rates for aircraft of a given age and the current age profile of aircraft of a given type. Of course, attrition rates calculated on national data (as rates estimated in the OCS study were) do not consider movement of aircraft between different regions of the country, although they do account for exports from and imports to the United States. Thus the use of national fleet attrition data assumes that for a given region, such as Southern California, sales of aircraft to new owners outside the region are balanced by purchases of aircraft of a similar age that are moved to the region (although not generally by the same owners).

The number of single-engine piston aircraft added to the fleet each year during the past decade in Los Angeles County showed an increasing trend from 2000 to 2006, followed by a rapid decline to 2009, as shown in **FIGURE 6.3**. It is assumed that these trends reflect the general economic growth prior to 2006 and the effect of the 2007 recession, although the decline from 2006 to 2009 is so great that there may be other factors involved. Therefore as a baseline case it seems reasonable to assume that future additions of new single-engine piston aircraft to the aircraft fleet each year will correspond to the average rate in each county over the period from 2000 to 2009, or about 39 aircraft per year in the case of Los Angeles County. This implicitly assumes that future changes in various factors that are likely to influence aircraft owner decisions to purchase a new aircraft or construct a homebuilt aircraft offset each other. These factors are likely to include:

- An increase in real disposable income due to improvement in the economy, which would tend to increase the rate at which new aircraft are acquired or older aircraft are replaced by new aircraft
- A decline in the number of active private pilots as the private pilot community ages, which would reduce the overall demand for aircraft and put more used aircraft on the market, reducing the demand for new aircraft

- Increases in the cost of flying, particularly fuel costs, which would discourage potential new aircraft owners from acquiring new or used aircraft
- Changes in the number of new student pilots, which would affect aircraft acquisition decisions by flying schools and other flight training programs

The combined effect of these factors is likely to be quite complex and difficult to predict, although developing a better understanding of their influence on aircraft purchase decisions would be a very useful topic for future research.

Recent trends in the addition of other aircraft types to the based aircraft fleet are less clear, due to the relatively small number of such aircraft that have been added to the fleet over the past decade. The average numbers of aircraft added to the fleet in Los Angeles County each year from 2000 to 2009 are as follows:

- 2.3 single-engine turboprop
- 0.6 multi-engine turboprop
- 1.4 multi-engine piston
- 1.2 gliders
- 0.5 balloons and other aircraft

Given the small number of aircraft involved, the number of each type of aircraft added to the fleet in each year varied widely (in an extreme case, six of the 14 multi-engine piston aircraft added to the fleet from 2000 to 2009 were manufactured in 2007). Therefore as a baseline case it seems reasonable to assume that future additions of each of these aircraft types in a given year in each county will correspond to the average rate over the period 2000 to 2009 for that county.

The resulting assumptions for annual additions to the based aircraft fleet in each county are shown in **TABLE 6.2**.

TABLE 6.2 Assumed Annual Additions to the Based Aircraft Fleet by County

Aircraft Type	Imperial County	Los Angeles County	Orange County	Riverside County	San Bernardino County	Ventura County
Single-engine Piston	0.4	39.3	11.8	16.4	9.9	8.4
Single-engine Turboprop		2.3	0.4	0.7	0.4	0.4
	0.4	**41.6**	**12.2**	**17.1**	**10.3**	**8.8**
Multi-engine Piston		1.4	0.2		0.1	0.5
Multi-engine Turboprop	0.1	0.6	0.2	0.2	0.1	0.4
	0.1	**2.0**	**0.4**	**0.2**	**0.2**	**0.9**
Jet Aircraft		12.6	3.0	0.8	1.4	1.2
Helicopter	0.2	11.9	1.2	1.0	1.1	0.9
Glider		1.2		0.3	0.1	0.1
Balloon		0.1		1.8	0.2	
Other		0.4		0.6	0.2	
	0.7	**69.8**	**16.8**	**21.8**	**13.5**	**11.9**

BASELINE FORECAST

Using the assumptions discussed above for fleet attrition rates and addition of new aircraft to the fleet, the attrition of the current (2010) aircraft fleet was projected to 2035. To this was added the projected number of new aircraft that are assumed would be added to the fleet each year from 2011 through 2035, with appropriate adjustments for attrition between the year they are added to the fleet and 2035. This gave the based aircraft forecasts for each county presented in the following sections.

It should be noted that the Balloon/Other category are not strictly based aircraft, since they are typically not stored at airports, as noted above.

In addition to the forecast of based aircraft for each county, forecasts were prepared of active aircraft and hours flown by the active aircraft, based on national data for average utilization for aircraft of a given category and age obtained from the FAA General Aviation and Part 135 Activity Survey (FAA, 2011c).

One important caveat that should be noted when considering the forecast based aircraft fleet for different aircraft types is that the same attrition relationship was assumed for each aircraft type. The OCS study for the FAA from which this relationship was obtained did not develop separate relationships for different aircraft types. At the time the relationship was developed, single-engine piston aircraft accounted for the great majority of the aircraft fleet, so it would have been difficult to develop attrition relationships for different aircraft types. In addition, the factors that influence future changes in the number of new aircraft added to the fleet per year for different aircraft types are also likely to differ by aircraft type. Thus while future additions of some aircraft types may continue at the average rate observed during the period from 2000 to 2009, the rates for other aircraft types may change.

However, in the absence of any basis for projecting different attrition rates for different aircraft types, applying the same rate to each aircraft type seems reasonable. Since the assumed rates at which new aircraft are added to the fleet are based on the average observed rates over the period from 2000 to 2009, alternative scenarios could easily be defined if there was any agreed basis for doing so.

Imperial County

The forecast of based aircraft in Imperial County in 2035 is shown in **TABLE 6.3**.

TABLE 6.3 Baseline Forecast of Based Aircraft in 2035 – Imperial County

Aircraft Type	Current 2010 Fleet	Remaining Aircraft from Current Fleet 2035	New Aircraft Additions to Fleet 2035	Forecast Based Aircraft Fleet 2035
Single-engine Piston	116	89	9	98
Single-engine Turboprop	1	1	0	1
	117	**90**	**9**	**99**
Multi-engine Piston	6	5	0	5
Multi-engine Turboprop	2	1	2	3
	8	**6**	**2**	**8**
Jet Aircraft	0	0	0	0
Helicopter	4	3	4	7
Glider	1	1	0	1
Balloon/Other				
	130	**100**	**15**	**115**

The total based aircraft fleet is forecast to decline by 12 percent from 2010 levels. The number of single-engine piston aircraft is projected to decline by 15 percent, with the number of single-engine turboprop and multi-engine propeller aircraft projected to remain unchanged from 2010 levels. The number of helicopters is projected to increase from 4 to 7 aircraft. The one glider in the 2010 County Assessor data is projected to remain in the based aircraft fleet with no additions. There were no jet aircraft in the 2010 County Assessor data, so the forecast approach did not generate any additions of jet aircraft to the 2035 based aircraft fleet.

The associated forecast of active aircraft in Imperial County in 2035 and the hours flown by those aircraft is shown in **TABLE 6.4**. By 2035 only 44 percent of the based aircraft fleet is projected to be actively flown and these aircraft are projected to be flown for a total of about 4,900 hours per year. The relatively low percentage of active aircraft is a consequence of the increase in the average age of the aircraft fleet as new aircraft additions do not keep up with attrition. The low number of flight hours by the active aircraft fleet is partly a result of the average age of the fleet and partly due to the low proportion of higher-end aircraft in the fleet, in particular the absence of jet aircraft, which are flown significantly more hours per year than single-engine piston aircraft.

TABLE 6.4 Baseline Forecast of Based Aircraft Activity in 2035 – Imperial County

Aircraft Type	Forecast Based Aircraft Fleet 2035	Forecast Active Aircraft 2035	Percent of Aircraft Fleet Active 2035	Forecast Hours Flown 2035
Single-engine Piston	98	43	43.5%	2,368
Single-engine Turboprop	1	0	0.0%	72
	99	43	43.1%	2,439
Multi-engine Piston	5	0	0.0%	42
Multi-engine Turboprop	3	3	88.5%	701
	8	3	37.40	743
Jet Aircraft	0	0		
Helicopter	7	5	76.4%	1,719
Glider	1	0	0.0%	6
Balloon/Other				
	115	**51**	**44.4%**	**4,907**

Los Angeles County

The forecast of based aircraft in Los Angeles County in 2035 is shown in **TABLE 6.5**. The total based aircraft fleet is forecast to increase by 10 percent from 2010 levels, due principally to the additions of higher-end aircraft to the fleet between 2010 and 2035. The number of single-engine turboprop aircraft is projected to increase by 56 percent, with the number of helicopters increasing by 61 percent, and the number of jet aircraft increasing by 36 percent. The number of single-engine piston aircraft is projected to increase by just 4 percent, with the number of multi-engine turboprop aircraft projected to decline by 5 percent and the number of multi-engine piston aircraft projected to decline by 14 percent. The number of gliders is projected to increase by 11 percent, with the number of balloons and other aircraft types projected to increase by 17 percent.

TABLE 6.5 Baseline Forecast of Based Aircraft in 2035 – Los Angeles County

Aircraft Type	Current –2010 Fleet	Remaining Aircraft from Current Fleet 2035	New Aircraft Additions to Fleet 2035	Forecast Based Aircraft Fleet 2035
Single-engine Piston	3,011	2,265	854	3,119
Single-engine Turboprop	59	42	50	92
	3,070	**2,307**	**904**	**3,211**
Multi-engine Piston	362	280	30	310
Multi-engine Turboprop	67	50	13	63
	429	**330**	**43**	**373**
Jet Aircraft	418	296	274	570
Helicopter	284	198	259	457
Glider	70	52	26	78
Balloon/Other	25	18	11	29
	4,296	**3,200**	**1,517**	**4,717**

The associated forecast of active aircraft in Los Angeles County in 2035 and the hours flown by those aircraft are shown in **TABLE 6.6**. By 2035 61 percent of the based aircraft fleet is projected to be actively flown and these aircraft will be flown for a total of about 394,000 hours per year. Jet aircraft and helicopters are projected to account for the majority of the hours flown, 28 percent and 27 percent respectively. However, single-engine propeller aircraft are projected to account for 39 percent of the hours flown, the majority of which (34 percent of the total hours flown) is accounted for by single-engine piston aircraft.

TABLE 6.6 Baseline Forecast of Based Aircraft Activity in 2035 – Los Angeles County

Aircraft Type	Forecast Based Aircraft Fleet	Forecast Active Aircraft 2035	Percent of Aircraft Fleet Active 2035	Forecast Hours Flown 2035
Single-engine Piston	3,119	1,814	58.1%	134,687
Single-engine Turboprop	92	76	82.9%	19,791
	3,211	1,890	58.8%	154,477
Multi-engine Piston	310	117	37.7%	11,980
Multi-engine Turboprop	63	39	61.5%	8,153
	373	156	41.8%	20,134
Jet Aircraft	570	432	75.8%	111,823
Helicopter	457	340	74.4%	106,159
Glider	78	35	45.1%	1,153
Balloon/Other	29	14	49.4%	476
	4,717	**2,867**	**60.8%**	**394,223**

Orange County

The total based aircraft fleet is forecast to increase by 15 percent from 2010 levels, due principally to the additions of higher-end aircraft to the fleet between 2010 and 2035. he forecast of based aircraft in Orange County in 2035 is shown in **TABLE 6.7**

TABLE 6.7 Baseline Forecast of Based Aircraft in 2035 – Orange County

Aircraft Type	Current 2010 Fleet	Remaining Aircraft from Current Fleet 2035	New Aircraft Additions to Fleet 2035	Forecast Based Aircraft Fleet 2035
Single-engine Piston	655	488	256	744
Single-engine Turboprop	16	11	9	20
	671	**499**	**265**	**764**
Multi-engine Piston	67	52	4	56
Multi-engine Turboprop	43	32	4	36
	110	**84**	**8**	**92**
Jet Aircraft	64	44	65	109
Helicopter	35	24	26	50
Glider	8	6	0	6
Balloon/Other				
	888	**657**	**364**	**1,021**

The number of jet aircraft is projected to increase by 70 percent, while the number of helicopters is projected to increase by 44 percent. The number of single-engine piston aircraft is projected to increase by 14 percent, with a small increase in the number of single-engine turboprop aircraft from 16 to 20 aircraft. The number of multi-engine piston and turboprop aircraft is projected to decline by 17 percent and 16 percent respectively. The number of gliders is projected to decrease slightly due to attrition from the fleet, with

no additions of new aircraft. There were no balloons or other aircraft types in the 2010 County Assessor data, and no additions of these aircraft types have been projected.

The associated forecast of active aircraft in Orange County in 2035 and the hours flown by those aircraft are shown in **TABLE 6.8**. By 2035 65 percent of the based aircraft fleet is projected to be actively flown and these aircraft will be flown for a total of about 83,400 hours per year. Jet aircraft and helicopters combined are projected to account for slightly less flight activity than single-engine piston aircraft, which are projected to account for 45 percent of the hours flown. Jet aircraft and helicopters are projected to account for 30 percent and 14 percent of the total hours flown respectively.

TABLE 6.8 Baseline Forecast of Based Aircraft Activity in 2035 – Orange County

Aircraft Type	Forecast Based Aircraft Fleet	Forecast Active Aircraft 2035	Percent of Aircraft Fleet Active 2035	Forecast Hours Flown 2035
Single-engine Piston	744	471	63.3%	37,140
Single-engine Turboprop	20	16	78.8%	3,884
	764	487	63.7%	41,024
Multi-engine Piston	56	21	37.6%	1,966
Multi-engine Turboprop	36	21	57.9%	4,274
	92	42	45.6%	6,240
Jet Aircraft	109	93	85.5%	24,788
Helicopter	50	37	74.3%	11,269
Glider	6	2	34.5%	67
Balloon/Other				
	1,021	**661**	**64.7%**	**83,389**

Riverside County

The forecast of based aircraft in Riverside County in 2035 is shown in **TABLE 6.9**. The total based aircraft fleet is forecast to increase by 6 percent from 2010 levels, due principally to the additions of jet aircraft and helicopters to the fleet between 2010 and 2035, the numbers of which are projected to increase by 33 percent and 25 percent respectively. The number of single-engine piston aircraft is projected to increase by 5 percent, with a small increase in the number of single-engine turboprop aircraft from 13 to 24 aircraft. The numbers of multi-engine piston and turboprop aircraft are projected to decline by 21 percent and 6 percent respectively. The number of gliders is projected to decrease by about 6 aircraft, while the number of balloons and other aircraft types is projected to increase by 75 percent.

TABLE 6.9 Baseline Forecast of Based Aircraft in 2035 – Riverside County

Aircraft Type	Current 2010 Fleet	Remaining Aircraft from Current Fleet 2035	New Aircraft Additions to Fleet 2035	Forecast Based Aircraft Fleet 2035
Single-engine Piston	1,226	926	356	1,282
Single-engine Turboprop	13	9	15	24
	1,239	**935**	**371**	**1,306**
Multi-engine Piston	140	111	0	111
Multi-engine Turboprop	22	17	4	21
	162	**127**	**4**	**131**
Jet Aircraft	29	21	17	38
Helicopter	42	31	22	53
Glider	50	37	7	44
Balloon/Other	48	32	52	84
	1,570	**1,184**	**473**	**1,657**

The associated forecast of active aircraft in Riverside County in 2035 and the hours flown by those aircraft are shown in **TABLE 6.10**. By 2035 54 percent of the based aircraft fleet is projected to be actively flown and these aircraft will be flown for a total of about

81,500 hours per year. Single-engine piston aircraft are projected to account for 65 percent of the hours flown, with helicopters and jet aircraft accounting for 12 percent and 8 percent of the total hours flown respectively and single-engine turboprop aircraft accounting for 7 percent of the hours flown.

TABLE 6.10 Baseline Forecast of Based Aircraft Activity in 2035 – Riverside County

Aircraft Type	Forecast Based Aircraft Fleet	Forecast Active Aircraft 2035	Percent of Aircraft Fleet Active 2035	Forecast Hours Flown 2035
Single-engine Piston	1,282	712	55.5%	53,272
Single-engine Turboprop	24	21	88.8%	5,714
	1,306	733	56.1%	58,986
Multi-engine Piston	111	25	22.8%	1,493
Multi-engine Turboprop	21	11	54.1%	2,358
	131	36	27.8%	3,851
Jet Aircraft	38	26	68.0%	6,861
Helicopter	53	32	61.0%	9,612
Glider	44	16	37.1%	544
Balloon/Other	84	49	58.9%	1,629
	1,657	**894**	**53.9%**	**81,484**

San Bernardino County

The forecast of based aircraft in San Bernardino County in 2035 is shown in **TABLE 6.11**. The total based aircraft fleet is forecast to decline by 2 percent from 2010 levels, due to a 4 percent decline in single-engine piston aircraft, which accounted for 83 percent of the total aircraft fleet in 2010, despite an increase in the jet aircraft and helicopter fleets between 2010 and 2035, the numbers of which are projected to increase by 30 percent and 38 percent respectively.. The number of single-engine turboprop aircraft is projected to increase slightly from 10 to 16 aircraft, while the numbers of multi-engine piston and turboprop aircraft are projected to decline by 11 and one aircraft respectively. The number of gliders is projected to decrease by about 7 aircraft, while the number of balloons and other aircraft types is projected to increase by about 4 aircraft.

TABLE 6.11 Baseline Forecast of Based Aircraft in 2035 – San Bernardino County

Aircraft Type	Current 2010 Fleet	Remaining Aircraft from Current Fleet 2035	New Aircraft Additions to Fleet 2035	Forecast Based Aircraft Fleet 2035
Single-engine Piston	1,202	934	215	1,149
Single-engine Turboprop	10	7	9	16
	1,212	**941**	**224**	**1,165**
Multi-engine Piston	76	63	2	65
Multi-engine Turboprop	14	11	2	13
	90	**74**	**4**	**78**
Jet Aircraft	58	45	30	75
Helicopter	40	31	24	55
Glider	36	27	2	29
Balloon/Other	12	8	8	16
	1,448	**1,127**	**292**	**1,419**

The associated forecast of active aircraft in San Bernardino County in 2035 and the hours flown by those aircraft are shown in **TABLE 6.12**. By 2035 only 48 percent of the based aircraft fleet is projected to be actively flown and these aircraft will be flown for a total of about 66,500 hours per year. Single-engine piston aircraft are projected to account for 57 percent of the hours flown, with jet aircraft and helicopters accounting for 18 percent and 15 percent of the total hours flown respectively and single-engine turboprop aircraft accounting for 5 percent of the hours flown.

TABLE 6.12 Baseline Forecast of Based Aircraft Activity in 2035 – San Bernardino County

Aircraft Type	Forecast Based Aircraft Fleet	Forecast Active Aircraft 2035	Percent of Aircraft Fleet Active 2035	Forecast Hours Flown 2035
Single-engine Piston	1,149	554	48.3%	37,817
Single-engine Turboprop	16	13	80.5%	3,403
	1,165	567	48.7%	41,220
Multi-engine Piston	65	13	20.6%	1,123
Multi-engine Turboprop	13	6	42.8%	1,185
	78	19	24.4%	2,308
Jet Aircraft	75	47	62.5%	12,277
Helicopter	55	32	58.4%	10,045
Glider	29	10	33.6%	324
Balloon/Other	16	9	55.3%	298
	1,419	**684**	**48.2%**	**66,472**

Ventura County

The forecast of based aircraft in Ventura County in 2035 is shown in **TABLE 6.13**. The total based aircraft fleet is forecast to increase by 1 percent from 2010 levels, due primarily to increasing numbers of jet aircraft and helicopters, which are projected to increase by 81 percent and 27 percent respectively and largely offset a projected decline in the number of single-engine piston aircraft of 2 percent. The number of single-engine turboprop aircraft is projected to increase slightly from 17 to 21 aircraft, with the number of multi-engine turboprop aircraft projected to increase from 15 to 20 aircraft. These increases almost exactly offset a projected decline in the number of multi-engine piston aircraft from 80 to 73 aircraft. The number of gliders is projected to remain constant, while the number of balloons and other aircraft types is projected to decline slightly from 6 to 4 aircraft.

TABLE 6.13 Baseline Forecast of Based Aircraft in 2035 – Ventura County

Aircraft Type	Current 2010 Fleet	Remaining Aircraft from Current Fleet 2035	New Aircraft Additions to Fleet 2035	Forecast Based Aircraft Fleet 2035
Single-engine Piston	827	625	183	808
Single-engine Turboprop	17	12	9	21
	844	**638**	**192**	**830**
Multi-engine Piston	80	62	11	73
Multi-engine Turboprop	15	11	9	20
	95	**73**	**20**	**93**
Jet Aircraft	23	16	26	42
Helicopter	37	27	20	47
Glider	8	6	2	8
Balloon/Other	6	4	0	4
	1,013	**763**	**260**	**1,023**

The associated forecast of active aircraft in Ventura County in 2035 and the hours flown by those aircraft are shown in **TABLE 6.14**. By 2035 55 percent of the based aircraft

fleet is projected to be actively flown and these aircraft will be flown for a total of about 60,300 hours per year. Single-engine piston aircraft are projected to account for 51 percent of the hours flown, with jet aircraft and helicopters accounting for 16 percent and 14 percent of the total hours flown respectively. Single-engine and multi-engine turboprop aircraft and multi-engine piston aircraft each account for a similar proportion of the hours flown, about 6 percent of the total hours flown.

TABLE 6.14 Baseline Forecast of Based Aircraft Activity in 2035 – Ventura County

Aircraft Type	Forecast Based Aircraft Fleet	Forecast Active Aircraft 2035	Percent of Aircraft Fleet Active 2035	Forecast Hours Flown 2035
Single-engine Piston	808	431	53.4%	30,926
Single-engine Turboprop	21	16	75.0%	3,906
	830	447	53.9%	34,832
Multi-engine Piston	73	31	41.9%	3,589
Multi-engine Turboprop	20	15	78.0%	3,446
	93	46	49.5%	7,034
Jet Aircraft	42	36	85.5%	9,604
Helicopter	47	29	62.1%	8,658
Glider	8	3	40.8%	104
Balloon/Other	4	2	36.8%	53
	1,023	**563**	**55.0%**	**60,286**

Regional Total

The forecast regional total of based aircraft in 2035 is shown in **TABLE 6.15**. he total based aircraft fleet in the region is forecast to increase by about 7 percent from 2010 levels, due primarily to increasing numbers of jet aircraft and helicopters, which are projected to increase by 41 percent and 51 percent respectively. The size of the based single-engine piston aircraft fleet is projected to increase slightly by about 2 percent, as new additions to the fleet offset attrition, while the number of single-engine turboprop aircraft is projected to increase by 50 percent. However, the number of multi-engine piston aircraft is projected to decline by 15 percent, with the number of multi-engine turboprop aircraft declining by 4 percent. The number of gliders is projected to decline slightly by about 7 aircraft, while the number of balloons and other aircraft types is projected to increase by 86 percent.

TABLE 6.15 Baseline Forecast of Based Aircraft Activity in 2035 – SCAG Region

Aircraft Type	Current 2010 Fleet	Remaining Aircraft from Current Fleet 2035	New Aircraft Additions to Fleet 2035	Forecast Based Aircraft Fleet 2035
Single-engine Piston	7,037	5,328	1,873	7,201
Single-engine Turboprop	116	82	92	174
	7,153	**5,410**	**1,965**	**7,375**
Multi-engine Piston	731	572	47	619
Multi-engine Turboprop	163	123	34	157
	894	**694**	**81**	**775**
Jet Aircraft	592	422	412	834
Helicopter	442	313	355	668
Glider	173	129	37	166
Balloon/Other	91	63	71	134
	9,345	**7,031**	**2,921**	**9,952**

TThe associated regional forecast of active aircraft in 2035 and the hours flown by those aircraft are shown in **TABLE 6.16**. By 2035 58 percent of the based aircraft fleet is projected to be actively flown and these aircraft will be flown for a total of about 691,000 hours per year. Single-engine piston aircraft are projected to account for 43 percent of the hours flown, with jet aircraft and helicopters accounting for 24 percent and 21 percent of the total hours flown respectively. Single-engine turboprop aircraft are projected to account for about 5 percent of the total hours flown, while multi-engine turboprop aircraft and multi-engine piston aircraft each account for a similar proportion of the hours flown, about 3 percent of the total hours flown.

TABLE 6.16 Baseline Forecast of Based Aircraft Activity in 2035 – SCAG Region

Aircraft Type	Forecast Based Aircraft Fleet	Forecast Active Aircraft 2035	Percent of Aircraft Fleet Active 2035	Forecast Hours Flown 2035
Single-engine Piston	7,201	4,025	55.9%	296,209
Single-engine Turboprop	174	142	81.7%	36,770
	7,375	4,167	56.5%	332,979
Multi-engine Piston	619	207	33.5%	20,193
Multi-engine Turboprop	157	95	60.8%	20,117
	775	302	39.0%	40,310
Jet Aircraft	834	634	76.0%	165,354
Helicopter	668	476	71.2%	147,463
Glider	166	66	40.1%	2,198
Balloon/Other	134	74	55.7%	2,456
	9,952	**5,720**	**57.5%**	**690,761**

The Baseline forecast of the total hours flown in 2035 by the based aircraft fleet is broadly consistent with the Baseline forecast of annual hours flown by active pilots in Southern California presented in Section 5 and shown in **TABLE 5.2**, which gave a regional total of about 961,000 hours per year. While this is some 39 percent higher than the forecast of aircraft hours flown, many commercial flight operations require two pilots and of course dual instructional flying involves two pilots (the student and the instructor). In these cases both pilots will count the flight time. The higher number of pilot flight hours implies that about 39 percent of the flights involve two pilots, which does not appear an unreasonable amount given the proportion of total pilot flight hours accounted for by student pilots and the proportion of the higher-end aircraft flight hours flown by jet aircraft, which typically require two pilots.

Summary and Conclusions

This section of the report has presented a review of recent trends in the size and composition of the pilot community in Southern California, as well as changes in the size and composition of the based aircraft fleet and aircraft operations at airports in the region, together with alternative forecasts of how these measures of general aviation activity may evolve in the future. The size of the active pilot community has been slowly declining over the past ten years, and if current trends continue it appears that the number of new student pilots who progress to higher levels of pilot certificate and continue as active pilots will not be sufficient to offset the natural attrition of the existing active pilot community, which is largely comprised of older pilots. At the same time, the size of the based aircraft fleet at airports in the region, which has been fairly stable for most of the past decade, has recently also started to show signs of declining. However, the apparent stability in the size of the aircraft fleet for most of the decade concealed a pattern of changes in the composition of the fleet, in which the number of jet aircraft and helicopters has been increasing, while the number of single-engine propeller aircraft, which comprise the majority of the based aircraft fleet, has been steadily declining. In recent years the number of multi-engine propeller aircraft, which had grown somewhat during the first part of the past decade has also begun to decrease.

While the total size of the based aircraft fleet has been fairly stable until the past few years, the number of total aircraft operations across all airports in the Southern California region has been declining steadily throughout the past decade. This decline has been greatest for air taxi and itinerant general aviation operations, but has also occurred for general aviation local operations and even air carrier operations. The fact that the decline in general aviation aircraft operations has been greater than that for the number of active pilots in the region or for the number of based aircraft suggests that not only is the number of active pilots declining, but that those pilot are flying less and the average utilization of the based aircraft fleet is also declining. Since the composition of the based aircraft

fleet has also been changing, with the number of jet aircraft and helicopters, which are generally used more intensively than single-engine propeller aircraft, increasing and the number of single-engine propeller aircraft declining more slowly that general aviation aircraft operations, this suggests that the average utilization of single-engine propeller aircraft has been declining quite steeply.

These findings are broadly consistent with the results of recent FAA surveys of general aviation aircraft owners that have collected data on aircraft utilization. These data show quite clearly that average aircraft utilization declines with the age of the aircraft, both in terms of the percent of the registered aircraft fleet that is actively flown and the average number of hours flown per year by active aircraft. Furthermore there is some evidence from the survey data that in addition to the decline in average utilization as the average age of the aircraft fleet is increasing, the average utilization of aircraft of a given age is also declining.

In contrast to the recent decline in the size of the pilot community and general aviation aircraft operations in the Southern California region, the most recent FAA forecast for general aviation activity at the airports in the region projects that this decline in GA activity will reverse in 2012 and be followed by a steady growth to 2030, increasing the number of GA itinerant operations by 16 percent above 2010 levels and the number of GA local operations by 10 percent above 2010 levels. The FAA forecast also projects that based aircraft in the region will increase by 21 percent from 2010 to 2030. Surprisingly, the forecast projects that the number of single-engine and multi-engine propeller aircraft based in the region will increase more rapidly than the number of jet aircraft and helicopters, whereas the trend over the past decade has been quite the reverse, with the numbers of jet aircraft and helicopters increasing, while the numbers of propeller aircraft have declined.

This fairly rosy view of the future of general aviation activity in the Southern California region is not supported by recent studies of the demographics of the pilot community, or the pilot cohort analysis undertaken as part of the current study. Of course, the future is inherently unknown, and there may well be factors that cause the recent trends in new student pilot starts to reverse and the size of the pilot community to begin to grow again, and with it the number of aircraft operations and new aircraft purchases. However, against this has to be set possible future trends in such factors as the cost of flying and the potential demand for airline and commercial pilots, which is likely to influence the number of people who decide to take up flying as a career.

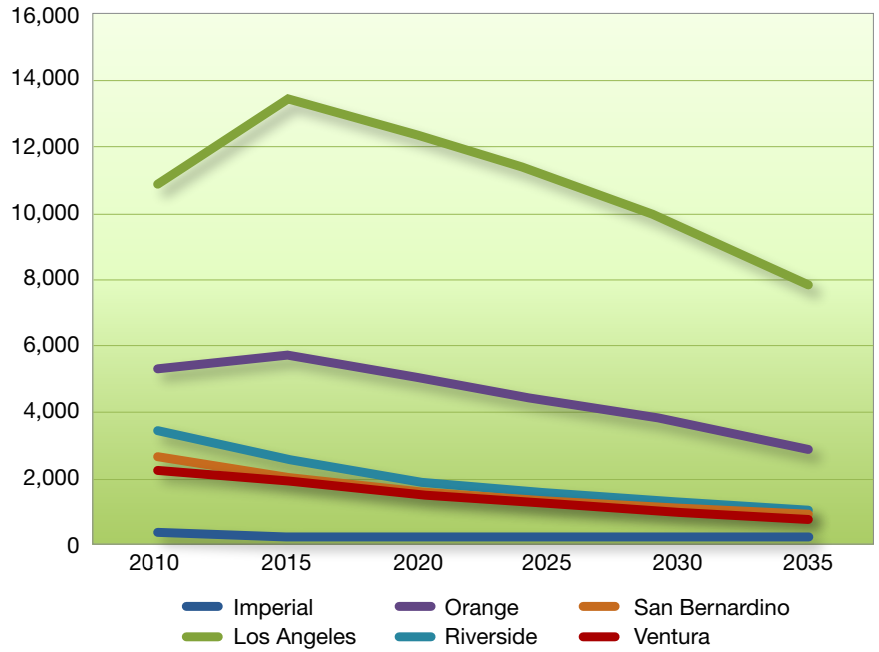
In order to provide a counterpoint to the FAA forecast of future GA activity in Southern California, this study has prepared a set of alternative forecasts based on the application of the forecast approach described in this section, using a range of assumptions addressing such factors as the number of new pilot starts, the rate at which pilots transition to higher levels of pilot certificates, the average number of flight hours per year by pilots with different levels of pilot certificate in different age ranges, the number of new aircraft purchases and the average attrition rates of the current general aviation aircraft fleet.

FORECAST RESULTS

The application of the pilot cohort analysis described in Chapter 4 to the Baseline Forecast assumptions regarding future trends in new pilot starts and rates of pilot attrition and transition to higher levels of certificate gave the results shown in **FIGURE 7.1** for pilots resident in each of the six counties within the Southern California region.

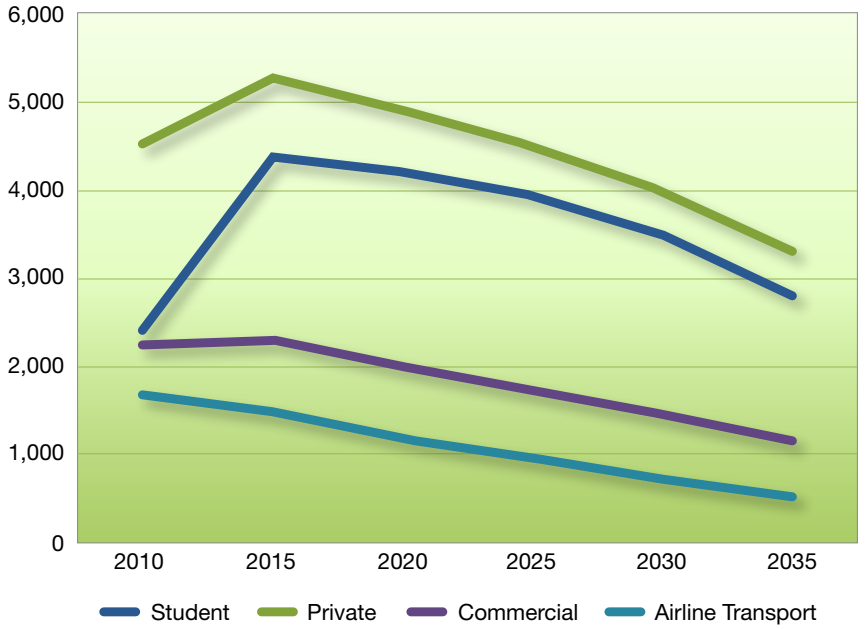
The increase in projected active pilots in Los Angeles and Orange Counties from 2010 to 2015 results from a transition from the FAA data for active pilots in 2010 to a forecast of active pilots in 2015 based on the trend in the relationship between new pilot starts and socioeconomic factors over the period from 2000 to 2010. The number of active student pilots in 2010 in both counties appeared to be depressed below the long-term trend by the current economic conditions, which it was assumed would have improved by 2015. However, beyond 2015, the assumed growth in population and the economy were not enough to offset the declining trend in the historical relationship between new pilot starts and socioeconomic factors. With an insufficient number of new student pilots taking up flying to replace the attrition of older pilots as they age, the size of the total pilot community is projected to steadily decline in the future. This effect is apparent in all six counties, as shown in **FIGURE 7.1**.

FIGURE 7.1 Baseline Forecast of Active Pilots



A more detailed perspective on the changes in the pilot community is provided by **FIGURE 7.2**, which shows the forecast trend in the number of pilots holding different levels of pilot certificate for the Baseline Forecast scenario. The increase in student pilots from 2010 to 2015 leads to an initial increase in private pilots and even a slight increase in commercial pilots as some of those student pilots transition to higher levels of pilot certificate. However, although the number of active student pilots each year remains above 4,000 until almost 2025, this is not sufficient to prevent the number of pilots holding other categories of pilot certificate from declining steadily.

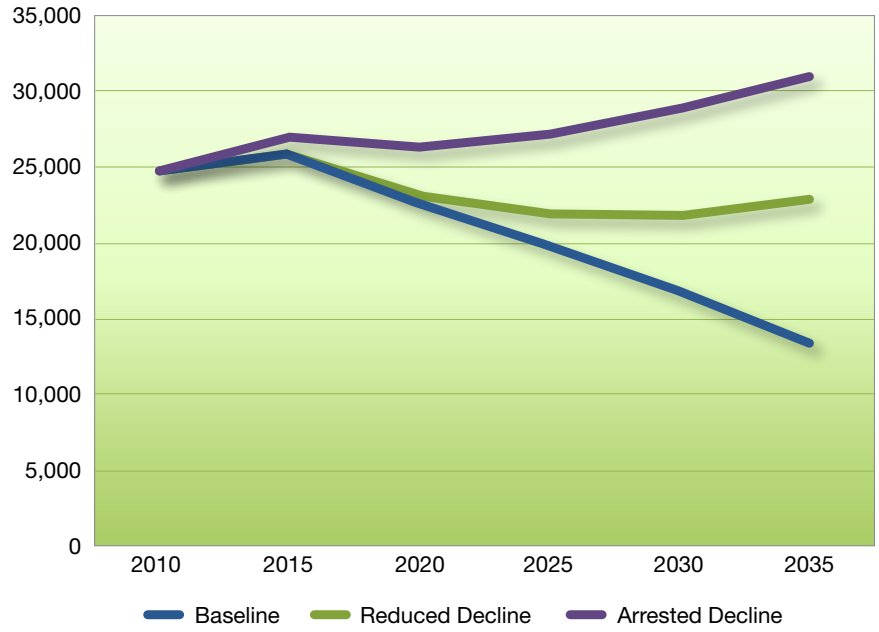
FIGURE 7.2 Baseline Forecast of Active Pilots – Los Angeles County



In order to explore the potential effect of factors that might cause a change in the historical declining trend in the number of new pilot starts, two additional forecast scenarios were defined. The Reduced Decline Forecast scenario assumed that the declining relationship between the number of new student pilot starts and the underlying socioeconomic factors observed over the past ten years reduces to half the historical rate of decline from 2015 to 2025 then remains constant thereafter. This results in a higher number of new student pilots each year that in turn reduces the rate of decline of the number of pilots holding higher categories of pilot certificate. A more aggressive Arrested Decline Forecast scenario assumes that the decline in the relationship between the number of new student pilot starts and the underlying socioeconomic factors ceases after 2010 and the relationship remains constant thereafter. It is unclear what policies or actions could cause this to occur, but the purpose of the scenario is to provide a more optimistic forecast scenario that might correspond more closely to the expectations of the FAA regarding future growth of the general aviation sector.

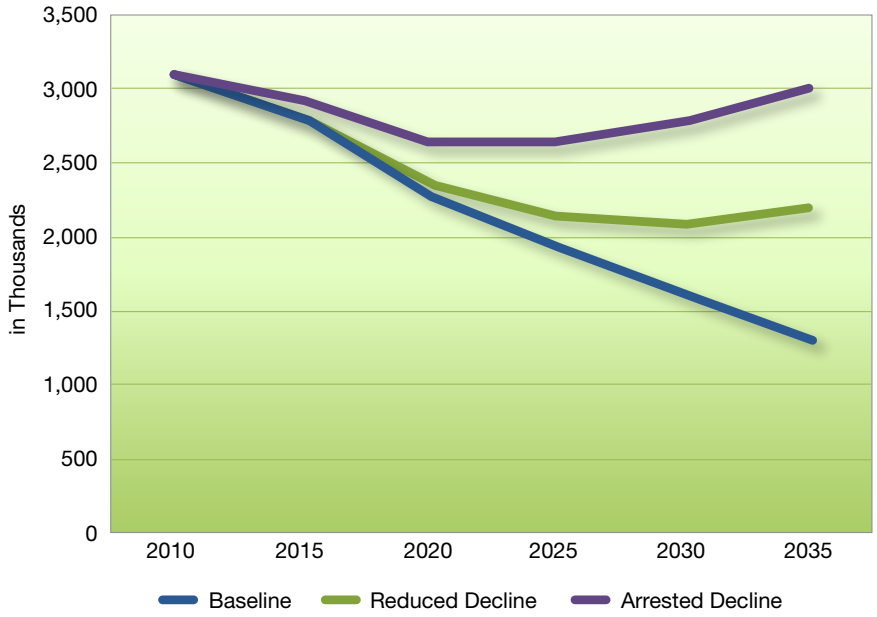
The projected number of active pilots in Southern California under each of the three forecast scenarios is shown in **FIGURE 7.3**. The Reduced Decline scenario results in the historical decline in the number of active pilots in the region being forecast to stabilize around 2025 with a modest growth after 2030. The Arrested Decline scenario results in a progressively increasing number of active pilots in the region forecast for the period from 2020 to 2035.

FIGURE 7.3 Alternative Forecasts of Active Pilots in Southern California



In addition to projecting the number of active pilots, the cohort analysis also estimates the number of annual hours flown by those pilots and the resulting change in aircraft operations in the region. The estimated number of aircraft operations for each of the three alternative forecast scenarios is shown in **FIGURE 7.4**. Not surprisingly, this broadly reflects the number of active pilots in the region, with some minor differences from the pattern shown in **FIGURE 7.3** due to the changing composition of the pilot community and the implications for the average number of hours flown per pilot across the pilot community.

FIGURE 7.4 Alternative Forecasts of Aircraft Operations in Southern California



Under the Arrested Decline Forecast scenario aircraft operations decline from 2010 to 2020, remain relatively constant until 2025, then grow to a level just below the level in 2010. The other two scenarios project a significant decline in the number of aircraft operations in the region from 2010 to 2035, particularly in the Baseline Forecast, with the Reduced Decline Forecast showing the decline in the number of aircraft operations ending by 2030 with a modest growth in operations from 2030 to 2035.

Forecast of Based Aircraft

In addition to the forecast of active pilots and pilot flight activity developed using the pilot cohort analysis, a separate forecast of based aircraft in the region was prepared by

applying an aircraft attrition model to the existing aircraft fleet and making assumptions about the number of new aircraft added to the fleet each year in the future. For the based aircraft forecast described in this section, termed the Baseline Forecast since the underlying assumptions reflect those adopted in the Baseline Forecast of active pilots and pilot activity, the average rate at which new aircraft have been added to the aircraft fleet over the past ten years was assumed to continue in the future. The attrition rates at which existing aircraft leave the fleet in any year were based on an the findings of an aircraft fleet attrition study prepared for the FAA in the mid 1970s, supplemented with an analysis of recent data from a survey of aircraft owners performed every year by the FAA.

This analysis suggested that the region's based aircraft fleet might grow by about 7 percent between 2010 and 2035, as newer aircraft are added to the fleet somewhat faster than older aircraft are retired. While the number of single-engine piston aircraft is projected to grow by about 2 percent, the numbers of jet aircraft and helicopters are projected to grow by 41 percent and 51 percent respectively. However, while the number of based aircraft may increase over time, assuming that the recent rate at which new aircraft have been added to the fleet continues unabated until 2035, the number of active aircraft will tend to drop as much of the current fleet grows progressively older. By 2035 the forecast suggests that only about 58 percent of the based aircraft fleet will still be actively flown.

The based aircraft forecast also used data on the average utilization of the current aircraft fleet given by FAA surveys of general aviation aircraft owners to make estimates of the number of hours flown per year in 2035 by the based aircraft fleet. These projections are broadly consistent with the estimates of annual flight hours by the region's pilot community, after making an allowance for the proportion of flight activity that is performed with two pilots on board.

Implications of the Forecast Results

Two of the three alternative forecasts for active pilots and pilot flight activity imply a significant reduction in general aviation activity in the region by 2035, while the third scenario is based on a premise that there is no obvious way to implement. Any such reduction in general aviation activity is likely to have significant consequences for the region's general aviation airports that derive the majority of their operating revenue from activity-related fees. The combination of declining flight activity and a slowly growing based aircraft fleet will result in a significant reduction in average aircraft utilization, particularly for single-engine piston aircraft.

As average aircraft utilization reduces, some aircraft owners may decide that it is simply too expensive to maintain their aircraft in an airworthy conditions if they are not being flown much, if at all. However, whether they are able to sell their aircraft on the used aircraft market will depend on the overall demand for used aircraft nationally and abroad. Since the decline in the number of active pilots and associated general aviation activity is a national phenomenon, other regions are likely to also experience a growing pool of underutilized aircraft, reducing the opportunities to sell aircraft that are no longer needed by their current owners. In any case, from the perspective of the size of the regional based aircraft fleet it does not really matter whether an unused aircraft is scrapped or sold and exported outside the region. In either case it disappears from the fleet.

The other important implication for regional airport system planning is the increasing role in regional general aviation activity of higher-end aircraft, particularly jet aircraft and helicopters. These aircraft tend to be based at a limited number of airports in the region and consume much larger quantities of fuel than single-engine piston aircraft, both because they burn more fuel per flight hour and tend to fly more hours per year. Therefore those airports where these aircraft are based are likely to be in fairly good shape financially, and may even find that demand for aircraft storage facilities exceeds the available resources. However, those airports that predominantly serve smaller general aviation aircraft and support flight training activity may find that they become the home to an increasing pool of inactive aircraft and experience a steady decline in airport revenues that derive from flight activity.

Sources of Uncertainty in the Forecasts

As with any forecast, there are many aspects that can influence future levels of general aviation activity and the likely size of the based aircraft fleet that cannot be known with any certainty or may change in unexpected ways due to unforeseen occurrences or factors. One example of such factors is the future availability of leaded aviation gasoline (avgas). At present the majority of general aviation aircraft engines use leaded avgas. However, there are growing concerns about the air quality impacts of continued use of leaded fuel for aircraft and the U.S. Environmental Protection Agency has begun moves to prohibit the use of this fuel in the future. In response the FAA has convened a national

working group to examine options to replace leaded avgas. If any replacement fuel requires relatively expensive modifications to aircraft engines or costs more per gallon, this may cause a large number of owners of older aircraft to decide that these aircraft are not worth modifying or continuing to operate, with implications for the aircraft fleet attrition rates.

In the other direction, a growing demand for airline pilots as many current airline pilots approach retirement could stimulate a renewed interest in careers as a professional pilot, leading to a surge in new student pilots taking up flying. Continued growth in business aviation could exacerbate the demand for commercial pilots as many of the current commercial pilots also approach retirement or are unable to maintain their medical certificate as they grow older.

Beyond these larger trends that may affect the underlying dynamics of the industry, there are other sources of uncertainty that arise from limitations of current data sources and a lack of recent studies that have examined underlying issues in any detail. A good example of this is that fact that most recent formal study of aircraft attrition rates was performed in the mid-1970s when the general aviation sector was very different. There have been no studies that have looked at how aircraft attrition rates vary across different categories of aircraft, such as between single-engine piston aircraft, jet aircraft, and helicopters. Similarly, data on the average number of hours flown per year by pilots of difference ages and holding different types of pilot certificate, or even the type of flying that they do, is extremely limited. For example, while the FAA provides detailed data on the certificates held by individual pilots on its website, the data contain no information on the number of hours those pilots fly or the type of flying that they do. While the FAA knows the age of every pilot, for privacy reasons this information is not made public.

It is thus unclear how many pilots holding a commercial pilot or airline transport pilot certificate are in fact working as a profession pilot or flight instructor, or obtained the certificate with the intention of working as a professional pilot but are not currently doing so. Similarly it is not clear how many individuals holding a student pilot certificate are actively progressing to obtaining a private pilot certificate and how many have long since given up learning to fly or are keeping the medical certificate valid in the hope of one day resuming their flight training but are not currently actively doing so.

NEXT STEPS

The regional general aviation demand forecasts presented in this report complete the first phase of a two-phase study for the Southern California Association of Governments. The second phase, not currently funded, is intended to develop a based airport choice model that can be used to examine how the forecast regional demand is likely to be distributed among the airports in each county and how this allocation of general aviation activity may be influenced by actions that SCAG or others could take.

As part of this modeling work, the second phase of the study could revisit some of the issues identified in the analysis performed to date and refine the assumptions used in the pilot cohort analysis and the based aircraft forecast. These issues could include a more detailed study of general aviation aircraft attrition rates using the data from the FAA general aviation aircraft activity surveys and further analysis of pilot attrition rates and transition to higher levels of pilot certificate.

A large amount of data has been assembled in the course of the current phase of the study and a number of extremely complex spreadsheet models have been developed to implement the pilot cohort analysis and the based aircraft forecast model. It would be highly desirable for SCAG to devote some resources to organizing and documenting these data and models so that they can be easily updated and reused in the future without having to invest a large amount of money and time reinventing this particular wheel.

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Regional Aviation Policies and Action Steps

Recommended by the SCAG Aviation Technical Advisory Committee for the 2012 Regional Transportation Plan.

Background

The SCAG Aviation Technical Advisory Committee (ATAC) participated in a series of round table discussions over a six month period to identify regional aviation policy issues that merited further evaluation for inclusion in the 2012 Regional Transportation Plan (RTP). The end result of these discussions and debates was a recommended list of high-priority regional aviation policies and implementing action steps for inclusion in the 2012–2035 RTP. The intent of these policies and action steps is to set a future agenda for the SCAG Aviation Program, to be used in supporting new aviation-related legislation and identifying and carrying out new projects for future RTPs. The recommended regional aviation policies and action steps are listed below, grouped in four categories: (1) Regional Aviation Demand, Airport Infrastructure and Airport Ground Access; (2) Airport Economics, Finance and Funding; (3) Airport Land Use Compatibility and Environmental Impacts; and (4) Airspace Planning and New Technologies.

I. REGIONAL AVIATION DEMAND, AIRPORT INFRASTRUCTURE AND AIRPORT GROUND ACCESS

A. Policies

- The capability of uncongested secondary airports in the region to accommodate future aviation demand, where such growth is desired, should be preserved during periods of declining or stagnant air traffic
- Uncongested secondary airports in the region, where additional activity is desired, should be supported through appropriate incentives, marketing, and projects that enhance their capacity and regional accessibility
- The factors that most influence the growth in demand for air travel and the composition of the market should be identified
- A regional consensus should be developed on how best to support the development of new air services at uncongested secondary airports, where such growth is desired
- State-of-the-art aviation demand forecast methodologies should be employed to accurately forecast future aviation demand in the region's complex multi-airport system, and regional aviation demand forecasts should be regularly updated to address changing conditions
- Existing and planned regional highway and high-occupancy transit improvements should be leveraged to the extent possible to increase the regional accessibility of uncongested secondary airports, where traffic is desired, while minimizing improvement needs

B. Action Steps

- SCAG should work with the region's airport operators to conduct a region-wide air passenger survey on an ongoing basis, designed to enhance and inform regional aviation demand forecasting and airport marketing efforts
- SCAG should develop an in-house aviation demand forecasting model that can support the development of future forecasts and allocation of forecast demand to airports in a complex multi-airport regional system. The model should be fully integrated with SCAG's regional transportation model, and should have airport ground access modeling capabilities
- SCAG should work with the region's airport operators and business community to define a region-wide marketing effort to promote alternatives to increased use of congested urban airports, consistent with the policy directions of airport operators
- SCAG should identify and define incentives that airports can effectively use to encourage airlines to provide new air service
- SCAG should establish a Regional Airport Ground Access Task Force to define potential projects and programs to improve airport accessibility to secondary airports, and reduce vehicular traffic generated by the large urban airports. The Task Force would help plan and promote rail and express bus service improvements and extensions to airports in the region, as well as an integrated regional system of remote air terminals ("FlyAways")

II. AIRPORT ECONOMICS, FINANCE AND FUNDING

A. Policies

- New funding mechanisms should be identified for implementing regional infrastructure and airport ground access improvements
- Efforts by airport operators to develop strategic financial plans and explore non-aeronautical revenue-generating use of underutilized airport property should be supported
- Strategies that enhance the economic contribution of aviation to the regional economy should be identified and implemented

B. Action Steps

- SCAG should sponsor and support new legislation that allows for more flexible use of airport revenues for off-airport ground access projects when requested by airport operators
- The Airport Ground Access Task Force should explore and develop potential new funding sources to support specific projects they have identified for improving regional airport accessibility
- SCAG should coordinate with the region's County Transportation Commissions and other transportation agencies to include joint funding of airport ground access projects identified in SCAG's Regional Transportation Plan in those agencies' plans
- SCAG should sponsor new legislation to allow for underutilized airport property to be used for revenue-generating non-aeronautical uses, and should coordinate with the Federal Aviation Administration to make appropriate changes in their guidelines concerning non-aeronautical uses
- SCAG should conduct regional aviation economic impact studies that identify the economic benefits to the region of different types and levels of regional aviation activity, and the likely economic impacts of implementing alternative strategies for serving future regional aviation demand

III. AIRPORT LAND USE COMPATIBILITY AND ENVIRONMENTAL IMPACTS

A. Policies

- Increased coordination between airport planning and land use planning on both regional and local levels should be promoted
- Regional support and coordination should be extended to the region's Airport Land Use Commissions
- Information on aviation environmental "best practices" should be shared and disseminated on a regional level
- Mechanisms for promoting cleaner and quieter aircraft at the region's airports should be identified and supported

B. Action Steps

- SCAG should continue to conduct airport "smart growth" projects, using the Airport Smart Growth Framework developed for the Chino Airport Smart Growth Demonstration Project and applying it to different airport settings
- SCAG should incorporate airport "smart growth" land use principles in land use forecasts used by future regional transportation plans
- SCAG should periodically conduct information sharing forums for the region's Airport Land Use Commissions in cooperation with the Caltrans Division Aeronautics on "best practices" for airport land use compatibility planning
- SCAG should serve as a clearinghouse for information on aviation environmental "best practices" by airports for mitigating air, noise and water pollution and reducing greenhouse gas emissions
- SCAG should sponsor and support new legislation for creating substantial incentives for airlines to upgrade their aircraft fleets to cleaner, quieter aircraft and NextGen-compatible aircraft

IV. AIRSPACE PLANNING AND NEW TECHNOLOGIES

A. Policies

- Modifications to the regional airspace system that reduce potential airspace conflicts, increase passenger safety, reduce costs to airlines, and reduce noise and air quality impacts should be identified and promoted
- Opportunities should be pursued for increasingly the region's airspace capacity, reducing potential future airspace conflicts and increasing airline efficiencies through new navigation and air traffic control technologies
- Existing and potential future airspace constraints should be incorporated into regional aviation planning

B. Action Steps

- SCAG should continue to coordinate and provide input to the FAA's Optimization of Airspace and Procedures in the Metroplex (OAPM) Program for Southern California, and similar airspace modernization activities, including updated operational forecasts
- The SCAG Aviation Technical Advisory Committee (ATAC) should continue and enhance its coordination with the Southern California Airspace Users Working Group (SCAUWG) on airspace issues of regional importance
- SCAG should continue to advocate that the region should serve as an early "test bed" for the phased implementation of new airspace technologies, including new satellite-based NextGen technologies developed by the FAA, that have the potential to reduce airspace conflicts and reduce noise and air quality impacts on local communities
- SCAG should explore how new navigation and air traffic control technologies can contribute to the region's airspace capacity, and should incorporate potential airspace constraints in aviation demand forecasts developed for future regional transportation plans.

Airport Ground Access Report

Objective of the Study

This report has been prepared for the Southern California Association of Governments (SCAG) in support of the 2012 update of Regional Transportation Plan for Southern California. The report reviews the ground access and egress system serving the region's commercial service airports and identifies highway, arterial, local street and public transportation projects that have the potential to improve airport ground access and egress in the region. Although the report generally refers to airport ground access for simplicity, this should be understood to include egress travel from airports as well as access trips.

FIGURE 1.1 Regional Commercial Service Airports



The SCAG region supports the nation's largest regional airport system in terms of number of airports and aircraft operations, operating in a very complex airspace environment.

The system has six established air carrier airports including Los Angeles International (LAX), Bob Hope (formerly Burbank), John Wayne, Long Beach, Ontario and Palm Springs. There are also four new and emerging air carrier airports in the Inland Empire and North Los Angeles County. These include San Bernardino International Airport (formerly Norton AFB), March Inland Port (joint use with March Air Reserve Base), Southern California Logistics Airport (formerly George AFB) and Palmdale Regional Airport (joint use with Air Force Plant 42). **FIGURE 1.1** shows the SCAG regional air carrier airport system. The regional system also includes 45 general aviation airports and two commuter airports, for a total of 57 public use airports.

Southern California airports play a crucial role in international trade, particularly with Pacific Rim countries, and to the regional economy. The value of airborne commodity exports out of the Los Angeles Customs District are about equal to waterborne exports, and airborne export values would be significantly greater if service exports, including impacts from tourism, were added to total export values.

A minimal amount of high occupancy public transportation connections to airports were included in the airport ground access projects in the 2008 RTP because a high speed regional transportation system was assumed to provide connections to airports and between airports. Because this system is no longer being considered for the 2012–2035 RTP, one objective of this report is to identify planned or conceptual new high occupancy public transportation projects serving airports that have the potential to influence the ground access mode share distribution of air passengers and airport employees, thereby reducing vehicle trips to airports, and to assess the impact on airport traffic of identified high occupancy public transportation projects.

The following airports are included in the ground access analysis:

BUR – Burbank/Bob Hope Airport
SNA – John Wayne-Orange County Airport
LAX – Los Angeles International Airport
LGB – Long Beach Airport
MIP – March Inland Port/Air Reserve Base (IATA Code RIV)
ONT – Ontario International Airport
PMD –Palmdale Regional Airport
PSP – Palm Springs International Airport
SBD – San Bernardino International Airport
SCL – Southern California Logistics Airport (IATA Code VCV)

Evolution of the RTP Airport Ground Access Element

The latest regional aviation demand forecasts and policies developed for the 2012–2035 RTP represent an evolution and refinement of aviation planning work that SCAG has conducted over the last two decades. They also reflect a regional consensus that has developed around key regional aviation issues.

2.1 2008 REGIONAL TRANSPORTATION PLAN

Two different 2035 regional aviation demand forecast scenarios for air passengers and cargo at commercial airports in the regional aviation system were developed for the 2008 RTP (constrained plan) and the 2008 Strategic Plan. The adopted regional aviation demand forecasts for the 2008 RTP were 165.3 MAP and 8.28 million tons of air cargo, while the regional demand forecasts for the 2008 Strategic Plan were 173 MAP and 8.31 million tons of air cargo. Several variations of the 2035 Preferred regional aviation demand scenarios that were modeled varied by the different configurations of the planned High Speed Regional Transport (HSRT) system that were assumed. The regional aviation demand forecasts for the 2008 RTP and 2008 Strategic Plan assumed differences in the HSRT systems that were assumed to be included in these plans. For the 2008 RTP, the 2035 regional aviation demand forecast was based on a Preferred Scenario that assumed the extended Initial Operating Segment (IOS) of the HSRT system, and for the 2008 Strategic Plan the forecast was based on a Preferred Scenario that assumed the full HSRT system.

Airport ground access projects were identified for each of the commercial airports based on a number of considerations. However, the overriding goal of these projects was to improve airport access to the greatest degree possible to improve the efficiency of the proposed 2035 decentralized airport system and its competitiveness with airports outside of the SCAG region.

Traffic flows generated by the various passenger and cargo trips were used individually and cumulatively to identify roadway capacity deficiencies. Baseline projects that were already funded were included in the 2035 roadway system. The identified improvement projects were in addition to the HSRT system assumed in the Preferred Aviation Plan.

Projects were based on standard traffic engineering methods and criteria including intersection capacity utilization (ICU), mid-block volume/capacity ratios (as generated the SCAG Transportation Model), freeway weaving area analysis, interchange ramp analysis, passenger-car-equivalents for truck traffic as well as refined (level of service) airport parking demand analysis. Essentially, all these techniques examined the relationship between the forecast traffic volumes and nominal roadway capacities. The capacities for different roadway categories used in the modeling were consistent with SCAG's regional transportation model.

Efforts were also made to mitigate congestion in the vicinity of airports by providing alternate routes for background and through traffic. The development of projects for the ten commercial service airports was facilitated by the synchronized modeling of airports, flight schedules and HSRT in conjunction with conventional ground access. In synchronized modeling of several airports in the system, ground access times were an important factor affecting airport forecasts in terms of air passenger and cargo demand. Consequently, major ground access improvements could reduce travel times to certain airports and make them more attractive to passengers and cargo. This would result in increased forecasts for airports with substantially improved ground access and reduced forecasts for the remaining airports with fewer ground access improvements. Since the Aviation Task Force adopted specific airport forecasts, as well as the regional total of 165.3 MAP, the improvement projects were balanced to achieve consistency with these forecasts and the regional total in the Preferred Aviation Plan.

Improvement projects were developed based on (a) severity of capacity deficiency as expressed by volume/capacity ratios; (b) effectiveness in alleviating congestion on principal ground routes; (c) ability to relieve background and through traffic to free up capacity for air passenger and air cargo truck traffic; and (d) ability to forestall the loss or diversion of passengers and cargo to other competing regions.

The airport ground access project list in the 2008 RTP was very similar to the list in the 2004 RTP since their demand forecasts were also very similar. The main difference was that several airports required fewer projects to alleviate forecast congestion because of lower demand forecasts and airport-related ground access congestion. Major projects that were deleted from the 2008 RTP ground access project list because they had been initiated or completed since the 2004 RTP was issued, or were no longer needed.

2.2 REGIONAL AVIATION DEMAND MODELING

The 1998, 2004 and 2008 Aviation element of the RTP updates all utilized the Regional Aviation Demand Allocation Model (RADAM) to forecast vehicular traffic on the roadway network serving the airports. These results were one of the major tools used to identify the ground access projects identified in the RTP updates, generally based on volume to capacity ratios of roadway links.

The model integrates forecasts for airport operations and the regional roadway and transit networks. As explained in the 2008 RTP report:

The modeling of the Preferred Aviation Plan was based on a complex airport system and an intricate set of behavioral assumptions, which could not be addressed by statistically based models. Therefore, the ground access modeling utilized a model that integrates all aspects of airport operations from arriving aircraft (by aircraft type, engine type, seating and load factor), through the airport runways, gates and terminals, all the way to the nearest cross-streets comprising the passenger's final destination. In essence, this modeling combined airport passenger and truck forecasts with behavioral aspects of passengers, truck surveys, SCAG demographic and background traffic forecasts, and airport portfolios and flight schedules, to generate the resulting airport ground access impacts.

One of the advantages of this integrated methodology is its high sensitivity for testing of projects from different perspectives. For example, modeling can quantify how a minor change in a load factor on a single flight, or a change in the ratio of business-to-non-business passengers on the same flight will individually and cumulatively affect traffic at a particular intersection at a given time. Or, conversely, how many passengers will be delayed by congestion at a certain intersection on their way to a specific flight and how that will affect the airplane's departure time and load factor. This sensitivity was highly useful for generating a realistic evaluation and ranking of improvement projects for all airports under the Preferred Aviation Plan.

In order to achieve consistency with SCAG's transportation planning, total regional traffic (combined airport and background traffic) was imported from the SCAG's regional model into the regional demand model for the year 2035. Airport trips were deducted from total traffic in the SCAG model to yield background or ambient traffic. This background traffic was then combined in the regional demand model with airport traffic stemming from the Preferred Aviation Plan.

The regional demand model factored in a number of conditions specifically tied to the planned high speed regional transport (HSRT) system. These include:

- Availability of high-speed, reliable service to and from airports would result in more connecting passengers leaving the airport by HSRT and then returning for their scheduled departures.
- The HSRT system was expected to significantly impact land use and development, with transit oriented development assumed to occur in proximity to stations. The model has land use modeling capabilities. However, the socioeconomic data inputs used for modeling the Preferred Aviation Plan for the Aviation element of the RTP did not specifically address land uses in the vicinity of HSRT stations.

2.3 2012 REGIONAL TRANSPORTATION PLAN PROCESS

The 2012–2035 RTP Ground Access analysis, as well as the airport forecasts, did not include as extensive data analysis and modeling as the recent previous updates. However, this update does build upon the analysis and recommendations performed in those previous updates. In addition, this update relied heavily on a review of available transportation study elements prepared by the airports and surrounding communities as well as input from the airport staff and local agencies.

2.3.1 Airport and Local Agency Input

Contacts were made with all of the airports as well as some of the local agencies surrounding the airports. Appendix I shows a list of the agencies contacted. Where a specific contact is listed, feedback on airport ground access needs was received. For the other contacts, information on the RTP projects was provided, but no specific ground access needs were indicated by staff. These are generally communities in the vicinity of the airports but not the city in which the airport is located. In some cases, the airport is operated by the city in which it is located, so combined feedback from the airport and city was provided. The California Department of Transportation (Caltrans) was also contacted regarding current planning around the airports.

2.3.2 Role of California High-Speed Rail System in Regional Airport Ground Access

The planned California HSR system that is currently being developed by the California High-Speed Rail Authority (CHSRA) is intended to serve both intra-regional and longer-distance inter-regional travel. As such, it may serve airport ground access trips to and from those airports that are connected to adjacent or nearby HSR stations by other transportation links. Even if a HSR station is located adjacent to an airport, engineering constraints will in most cases preclude locating the station within walking distance of the airport terminal itself and therefore some form of transportation link, such as a shuttle bus or a moving walkway, will be required between the HSR station and the airport.

The second consideration that arises in considering the use of the HSR system for airport access or egress trips is that travelers will have to get to or from the HSR station at the non-airport end of their trip. Since there will be relatively few HSR stations in the region, most potential users of the HSR system for airport access or egress trips will need to use another form of transportation to get to or from the HSR station. Although HSR stations are likely to be reasonably well-served by public transportation and provide parking facilities for HSR users, the relative attractiveness of the HSR service to airport travelers compared to other ground access and egress options will depend on the HSR fare as well as the cost of parking at the HSR station relative to the cost of parking at the airport.

The current plans for the California HSR system, as documented in the CHSRA's California High Speed Rail Program Draft 2012 Business Plan (November 1, 2011), envisage the system being developed in multiple phases. The first phase will consist of investment in an Initial Construction Segment (ICS) within the Central Valley. This will be further developed into an Initial Operating Segment (IOS), thought this step may involve linking the ICS with either San Jose or the San Fernando Valley. Initial operations will then be extended to a "Bay to Basin' scenario, where high speed trains will operate between San Jose and the San Fernando Valley. The eventual completion of Phase I of the program will involve extending High Speed Rail Service between San Francisco and Anaheim. The second phase will include a link from Merced to Sacramento and from Union Station to San Diego via the Inland Empire. Several alternative routes are currently under consideration for both phases, although it is envisaged that all the alternative routes between the Central Valley and Union Station would include a station in the vicinity of Bob Hope Airport and all the alternative routes between Union Station and San Diego would include a station in the vicinity of Ontario International Airport. None of the alternative routes go anywhere near Los Angeles International Airport (LAX), although there is already a FlyAway express bus service between Union Station and LAX.

The CHSRA intends to complete the ICS by 2017, and to begin IOS operations by 2022. The Bay to Basin section is intended to be complete by 2027, and the full completion of Phase I by 2034. The funding to complete these segments is by no means assured at the present time and there are a number of environmental and engineering challenges that are not yet resolved and that could well delay completion of the first phase. The second phase will be operational well after 2035, and the planning horizon of the 2012–2035 RTP.

More details on the potential contribution of the planned California HSR system to ground access and egress at the region's airports are discussed in Appendix II.

2.3.3 Approach to High Occupancy Public Transportation Projects

Public transportation systems in the United States have often been developed to accommodate commuters with traditional work schedules from Monday through Friday between 8 a.m. and 6 p.m. Public transportation hours of operation and frequency of service are built around peak departure and arrival times, with lower frequencies in the middle of the day and before and after peak commuting times, and typically with minimal or no service for a period of time after midnight and before the start of peak morning service. Weekend service typically operates at lesser frequencies and for shorter hours of operation. Furthermore, more public transportation options are available to accommodate travel to concentrated employment centers, such as the downtown area. This is true for the public transportation system in Southern California.

Because one objective of this report is to identify high occupancy public transportation projects that have the potential to influence the air passenger and airport employee mode shares for their airport trips, it is important to understand the factors that are important to air passengers and airport employees when they make decisions on how to travel to and from an airport. Appendix III presents a discussion of the characteristics of air passengers and airport employees that influence their airport ground access choices and the service characteristics of high occupancy public transportation services that make them viable choices for each customer group. In addition to their role in changing air passenger

mode use for travel to and from airports, high occupancy public transportation services can play a role in the choice of airport selected by an air passenger.

Considering the characteristics and ground transportation needs of airport users, a list of high occupancy public transportation projects was developed for each airport by reviewing documents and having conversations with staff at SCAG, the airports and transit agencies. In addition to projects identified in planning documents or discussions with agency staff, other projects were identified based on the knowledge and experience of the consultant team that appear worth being considered for analysis to determine their potential for shifting air passengers and airport employees from low occupancy modes to high occupancy public transportation.

To provide a comprehensive picture of high occupancy public transportation services that have the potential to influence ground access mode choice to the airport, the high occupancy public transportation projects listed in section IV are categorized into existing projects anticipated to be operating in 2035, funded projects for the strategic plan, and projects suggested for analysis to determine their potential to influence airport ground access mode choice.

2.3.4 Highway, Arterial and Local Street Projects

For highway, arterial and local street projects, the 2012–2035 RTP Ground Access analysis, as well as the airport forecasts, did not include as extensive of data analysis and modeling as the recent previous updates. However, this update does build upon the analysis and recommendations performed in those previous updates. In addition, this update relied heavily on review of available transportation study elements prepared by the airports and surrounding communities as well as input from the airport staff and local agencies.

Updated Airport Demand Forecasts

3.1 SUMMARY OF AIRPORT FORECASTS

3.1.1 Passenger Forecasts

The SCAG Aviation Technical Advisory Committee (ATAC) has reviewed three alternative 2035 regional air passenger demand forecast scenarios for commercial airports, for potential inclusion in SCAG's 2012 Regional Transportation Plan (RTP). These include baseline/medium growth, low growth, and high growth forecast scenarios, at 145.9 million annual air passengers (MAP), 130 MAP, and 164 MAP, respectively. ATAC members agreed that the scenarios present a reasonable range of possible growth rates for commercial aviation in the region over the next 25 years. At its September 22, 2011 meeting, ATAC recommended the Baseline Scenario to serve as the Preferred Regional Air Passenger Demand Forecast for the 2012–2035 RTP, with several caveats. These caveats include:

- The Baseline/Medium Growth Forecast seems to be reasonable in that it is consistent with the 2008 RTP Constrained Scenario, which is based on conservative assumptions that are consistent with recent trends. However, the forecast is based on a number of variables that history has shown can change significantly over time, and it is important to update the forecast on an ongoing basis, most importantly for the next (2016) RTP.
- The forecast does not consider the potential impacts of the California High-Speed Rail Project on future regional aviation demand generation and allocation to airports. Future forecast updates should incorporate these potential impacts if and when the project is underway, and has a reasonably achievable implementation schedule.
- The forecast recognizes defined legally-enforceable and physical capacity constraints at the constrained urban airports including LAX, Bob Hope, Long Beach and John Wayne. However, it does not recognize the fact that the settlement agreements at both LAX and John Wayne airports expire in the 2015–2020 time period. Relaxation or elimination of the settlement agreement constraints at these airports could significantly impact forecast allocations of aviation demand at other airport in the regional system. Future updates of the forecast, such as for the 2016 RTP, should incorporate any new information provided by local airport authorities on revised constraints at capacity-constrained airports.

The recommended 2035 Baseline Forecast is essentially the same as the 2035 Constrained/No Project Scenario that was modeled and evaluated by the 2008 RTP. In the 2008 RTP the Constrained Scenario was characterized as a very conservative vision of the regional airport system. It assumed no intra-regional high-speed rail system, no market incentives, and very conservative behavior on the part of the airlines in adding flights at new and emerging airports (although all air carrier airports that desire commercial

service were allocated some passenger demand even if they currently serve none, which in reality is unlikely, but this scenario did not seek to choose winners and losers). Like the other scenarios in the 2008 RTP, the Constrained Scenario respected existing legally-enforceable policy and physical capacity constraints at urban airports. The approved Baseline Forecast is summarized in **TABLE 3.1** and compared with forecast scenarios modeled for the 2004 and 2008 RTPs.

TABLE 3.1 Passenger Forecasts (Million Annual Passengers)

	Historical Data			2004 RTP (2030 Forecasts)			2008 RTP (2035 Forecasts)				2012–2035 RTP (2035 Forecast)
Airport	**2000**	**2006**	**2009**	**Constrained No HSR**	**Preferred**	**Preferred No HSR**	**Constrained**	**Preferred No HSR**	**Preferred w/ HSR Initial**	**Preferred w/ HSR Full**	**Approved Forecast**
BUR	4.7	5.7	4.6	9.6	10.7	10.7	9.4	9.4	9.4	9.4	9.4
SNA	7.8	9.6	8.7	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
LAX	67.3	61	56.5	78	78	78	78.9	78.9	78.9	78.9	78.9
LGB	0.6	2.8	2.9	3	3.8	3.8	3.2	4.2	4.2	4.2	4.2
MIP	-	-	-	1	8	5	0.6	2.5	2.5	2.5	0.6
ONT	6.8	7	4.9	30	30	28.8	31.6	28.8	31.6	31.6	30.7
PMD	-	-	-	2.2	12.8	7.2	2.6	6.3	6.3	12.9	2.6
PSP	1.3	1.5	1.5	2.9	3.2	3.2	4.1	4.1	4.1	4.1	4.1
SBD	-	-	-	2.5	8.7	5.7	2.9	3.3	9.4	9.4	2.8
SCL	0.1	-	-	0.8	4	1.8	0.7	2.4	2.9	4	0.7
Total	**88.6**	**87.9**	**79.1**	**140.8**	**170**	**155**	**144.8**	**150.7**	**160.1**	**167.8**	**144.8**
Imperial	-	-	-				0.9	3.5	3.5	3.5	0.9
Oxnard	-	-	-				0.2	1.7	1.7	1.7	0.2
Total	**88.6**	**87.9**	**79.1**	**140.8**	**170**	**155**	**145.9**	**155.9**	**165.3**	**173**	**145.9**

Source: SCAG 2011

The forecasts adopted for the 2004 and 2008 RTPs assumed much higher annual passenger growth rates than the Baseline Forecast, and also assumed an intra-regional high speed rail system that effectively decentralized demand to outlying/secondary airports. As noted in Section 2 of this report, the configuration of the high-speed rail system envisaged for the region in 2035 is based on the proposed California High-Speed Rail Project. It is no longer focused on providing intra-regional service between airports, and provides no high-speed rail service to LAX. However, the extensive modeling of airport demand included in previous RTP updates was not performed for this update so there was no analytical basis to reallocate the demand between airports to reflect these changes in assumptions.

Because of constraints at many of the urban airports where demand is high, growth in passenger traffic at those airports is capped. Therefore, in order to accommodate the regional demand, most of the growth has to be allocated to the outlying airports regardless of whether there would be demand at those airports if the capacity constrained airports were able to continue to accommodate the growth in passenger demand. This also assumes that airlines will be willing to add service to additional airports in the region. A shift of demand to outlying airports will require extensive ground access improvements including new transit initiatives to implement the decentralization of demand to the underutilized suburban airports inherent in the forecast.

3.1.2 Air Cargo Forecasts

Air cargo forecasts for 2035 have been significantly reduced for the 2012–2035 RTP compared to the 2008 forecasts, from 8.1 million tons annually (an average annual growth rate of 3.7 percent from 2.8 million tons in the 2006 base year) to around 5.6 million tons (an average annual growth rate of 2.4 percent). This downward revision is based on the actual performance of air cargo since the 2008 RTP base year (2006) and the economic outlook to 2035.

International air cargo is expected to grow relative to domestic traffic, but export/import data for the U.S. and Southern California indicate that since the 2006 base year air cargo growth has been anemic relative to economic growth and the Southern California share has fallen. Between 2006 and 2010, total U.S. international air cargo increased only 4.5 percent, or an average growth rate of 1.11 percent per year. All of this growth has come from exports, up 12.5 percent. By contrast, imports declined by 1.5 percent, despite a growth in U.S. real disposable income over this 4-year period of 6.2 percent. The growth of Southern California international air cargo from 2006 to 2010 was even lower: up 8.1 percent percent for exports and down 9.3 percent for imports. At these rates of growth in relation to domestic economic growth or world economic growth since the 2008 RTP forecast, there is little likelihood that Southern California air cargo will reach the growth path for air cargo implied in the 2008 RTP projected rates. **TABLE 3.2** shows the previous and current forecasts.

TABLE 3.2 Air Cargo Forecasts (000 tons)

	Historical Data			2004 RTP (2030 Forecasts)			2008 RTP (2035 Forecasts)				2012–2035 RTP (2035 Forecast)
Airport	**2000**	**2006**	**2009**	**Constrained No HSR**	**Preferred**	**Preferred No HSR**	**Constrained**	**Preferred No HSR**	**Preferred w/ HSR Initial**	**Preferred w/ HSR Full**	**Approved Forecast**
BUR	41	58	47	83	87	87	86	86	86	86	108
SNA	18	24	15	43	43	43	45	45	45	45	46
LAX	2,248	2,103	1,664	3,268	2,340	2,379	2,621	2,574	2,496	2,496	3,647
LGB	54	50	27	123	137	137	109	139	134	134	94
MIP	-	24	1	825	1,117	1,104	988	1,009	1,130	1,131	147
ONT	511	545	391	2,605	2,252	2,188	2,086	2,117	1,959	1,959	1,314
PMD	-	-	-	143	1,024	866	463	658	781	812	34
PSP	-	-	-	146	128	128	131	130	129	129	-
SBD	-	-	-	821	1,092	1,050	831	1,072	1,290	1,290	146
SCL	-	-	-	283	504	476	266	270	230	228	68
Total	**2,873**	**2,804**	**2,144**	**8,340**	**8,724**	**8,458**	**7,626**	**8,100**	**8,280**	**8,310**	**5,605**

Source: TranSystems 2011

Compared with the airport-specific projections in the 2008 RTP, the "outer" airports—March Inland Port, Palmdale Regional, San Bernardino International, and Southern California Logistics—have significantly less share of the total and bear the brunt of the reduction in the overall projections. It is assumed that these airports only begin to handle a significant amount of cargo after the major airports, LAX and ONT, start to experience capacity constraints.

3.1.3 Forecast Impacts on Ground Access

There are a number of ways to evaluate the impact of future passenger growth at the airports on ground access. These include the impact that the added vehicular traffic the airports will generate on the surrounding street network, and conversely, the impact that congestion on the surrounding street network has on the ability of passengers to get to the airport (or on their decision of which airport to use).

3.1.4 Air Passenger Access/Egress Traffic

While detailed traffic modeling was not performed for this update of the RTP, some general assumptions can be used to show the relative impact of the projected passenger traffic increases on the roadways surrounding the airports. **TABLE 3.3** shows an approximate amount of traffic generated by each airport based on the recent and forecast levels of air passenger traffic.

TABLE 3.3 Traffic Volume Forecasts

Airport	Passenger Traffic (MAP)		Approximate Daily Vehicle Trips Generated		
	2009 Existing	2035 Baseline	2009 Existing	2035 Baseline	Growth
BUR	4.6	9.4	15,000	31,000	16,000
SNA	8.7	10.8	34,000	43,000	9,000
LAX	56.5	78.9	269,000	391,000	122,000
LGB	2.9	4.2	12,000	18,000	6,000
MIP	-	0.6	-	3,000	3,000
ONT	4.9	30.7	43,000	186,000	143,000
PMD	-	2.6	-	11,000	11,000
PSP	1.5	4.1	6,000	18,000	12,000
SBD	-	2.8	-	12,000	12,000
SCL	-	0.7	-	3,000	3,000
Total	**79.1**	**144.8**	**379,000**	**716,000**	**337,000**

Source: Air passenger survey data for SCAG region airports, Transit Cooperative Research Program Reports 62 and 83, LAX Master Plan EIR/EIS, and Airport Cooperative Research Program Report 40: Airport Curbside and Terminal Area Roadway Operations

These estimates are based on a number of assumptions listed below the table. One of the key assumptions is that 3 percent of the passengers use high occupancy public transportation modes to travel to and from the airport. High occupancy modes such as large busses or rail transit generate relatively few vehicle trips, so almost all passengers using these modes can be deducted from the traffic generation. ACRP Report 40 indicates that currently about 4 percent of LAX passengers use high occupancy modes; it is likely substantially less at many of the other area airports.

To put these traffic estimates into perspective, a two lane roadway has a capacity of about 12,000 vehicle trips per day. So for most of the airports in the region, two additional lanes of roadway would serve the projected growth. Note that some of this growth can be accommodated by unused capacity on existing roadway and that, for the most

part, the demand would be spread out over the many roadways that serve the airports. Many of the capacity improvements around these airports are likely to be "spot" improvements—adding turn lanes at intersections, grade separations at railroad crossings, access management along key roadways, etc.

However, for the high growth airports such as LAX and Ontario, the forecast increase in passenger traffic may result in over 100,000 additional vehicle trips per day on the adjacent roads. If concentrated onto one roadway, this would require a new eight to ten-lane road. It may be difficult to add this level of capacity to the surrounding roads (as well as the capacity to accommodate growth in non-airport related traffic on these roads). Therefore, it is essential that increased public transportation service be provided at these airports.

3.1.5 Freight Traffic

As with passenger traffic, a simplified estimation process was used to gauge the magnitude of the impact of projected freight traffic on the roadways surrounding the airports. Based on 2009 freight truck data available for six of the airports in the region (BUR, SNA, LAX, LGB, MIP and ONT), truck trip generation rates were developed as shown in **TABLE 3.4**.

The data showed about 0.5 daily truck trips per 1,000 annual tons of air cargo at LAX and 0.6 at ONT and MIP. At the other airports, the rate was higher, at about 1.6 truck trips per 1,000 tons. This is due to the fact that much more of the cargo at the high freight airports is either "through" freight being transferred from one aircraft to another (and thus never onto a truck) or moved using larger trucks (some semi-trailer trucks versus small trucks or vans).

TABLE 3.4 Air Cargo Truck Volume Forecasts

Cargo (000 tons)		Approximate Daily Truck Trips Generated		
2009 Existing	2035 Baseline	2009 Existing	2035 Baseline	Growth
47	108	75	173	98
15	46	24	74	50
1,664	3,647	832	1,824	992
27	94	43	150	107
1	147	1	88	88
391	1,314	235	788	554
-	34	-	54	54
-	-	-	-	-
-	146	-	234	234
-	68	-	109	109
2,144	5,605	1,210	3,494	2,284

Source: TranSystems 2011

Assumptions: 0.5 daily trips per 1,000 tons at LAX, 0.6 trips/1,000 tons at ONT and MAFB, 1.6 trips/1,000 tons at other airports, 312 days/year (6 days/week).
Assumptions derived from data in "Air Cargo Mode Choice and Demand Study – Final Report" CalTrans (prepared by TranSystems Corp.), July 2, 2010, page 7, Table 1.2

The resulting calculations show that the forecast increase in cargo traffic will generally result in between 100 and 600 new truck trips per day at each airport. As with the passenger vehicle traffic estimates, the same capacity rules apply for roadways—a two lane road accommodates about 12,000 passenger vehicles per day. From a roadway capacity standpoint, a truck is equivalent to between about 1.5 and 3.0 passenger vehicles, depending on the size of the truck (e.g. panel van versus semi-trailer truck) and roadway characteristics (width, grade, etc.). Therefore, the projected increase in truck traffic due to air cargo operations has an impact of generally less than about 1,000 passenger vehicles per day. This level of impact typically would not require construction of new roadways or major roadway widening projects. Instead, it would likely require spot improvements near freight access points to the airports—e.g. intersection improvements or added gate capacity at entrances to the airport cargo areas.

3.1.6 Forecast Change Impacts on Ground Access Needs

Based on these projections, the level of evaluation needed for the ground access needs can generally be placed into three categories: airports with a high passenger/freight forecast of vehicle trips and a significant forecast change; airports with a high passenger/freight forecast of vehicle trips but similar to the 2008 RTP projections; and airports with a low passenger/freight forecast of vehicle trips. Those airports with high traffic and a significant projected change in vehicle trips versus the 2008 RTP would require a more detailed analysis of ground access needs. However, this was not the case with any of the airports. The high passenger traffic airports, LAX, ONT, SNA and BUR all have similar MAP projections in this RTP as in the 2008 RTP. With regard to freight projections at the high freight volume airports, the forecast increased about 40 percent at LAX, decreased about 40 percent at ONT and decreased by more than 85 percent at MIP, PMD and SBD, but these changes are not expected to have a major impact on ground access needs. Therefore, in general, the long term ground access needs for these airports remain similar as to 2008.

For the lower volume airports, in terms of passenger traffic, none of the airports showed an increase in 2035 projections in this RTP versus the 2008 RTP. Several showed a significant decrease—MIP, PMD and SCL. For air cargo, the forecasts at all of these airports either stayed about the same in this RTP or showed significant decline. While the declining forecasts would decrease the need for ground access improvements at these airports, generally the projects identified are to support basic airport operations such as terminal roadways, or are projects to improve general accessibility to the airport, so significant changes in the ground access recommendations are not expected.

3.2 IMPLICATIONS OF AIRPORT FORECASTS FOR AIRPORT GROUND ACCESS

The forecasts of air passenger demand at the region's commercial service airports in 2035 shown in **TABLE 3.1** imply a significant increase in the number of regional airport ground access trips compared to 2009 air passenger activity levels. However, the growth in air passenger demand is not forecast to occur at an equal rate at each airport in the region. The four primary airports that serve the urban core of the region, Bob Hope Airport in Burbank (BUR), John Wayne Airport in Orange County (SNA), Long Beach Airport (LGB), and Los Angeles International Airport (LAX), have policy or physical capacity constraints that restrict the growth in passenger traffic that they can handle. As a result, the more outlying or suburban airports are forecast to handle an increasing share of the regional passenger traffic, as shown on **TABLE 3.1**.

Changes in the distribution of the regional air passenger demand among the airports in the region are likely to affect the composition of the air passenger traffic at each airport, and hence the relationship between air passenger volumes and the number of ground access trips generated by that activity. However, the approach to allocating the regional air passenger demand to airports taken in this RTP precludes a detailed analysis of this effect. Therefore it is been assumed that the level of ground access trips generated at each airport varies in proportion to the air passenger activity at each airport.

3.2.1 Constrained Urban Airports

Although each of the four constrained urban commercial service airports will experience an increase in airport ground access traffic by 2035, the increase in air passenger activity over 2009 levels varies from 1.3 million annual passengers (MAP) at LGB to 22.4 MAP at LAX. Air passenger activity at SNA will increase by 2.1 MAP, while that at BUR will increase by 4.8 MAP. As a percent of 2009 activity, the air passenger traffic is projected to increase by about 24 percent at SNA and more than double at BUR (an increase of about 105 percent). The percentage increase at LAX is about 40 percent, while that at LGB is about 44 percent.

Clearly, increases of these magnitudes will have significant implications for ground access vehicle traffic at all airports, although the increases at BUR and LAX are likely to have the greatest impacts, at BUR because of the large proportional increase and at LAX because of the absolute magnitude of the increase. However, it should be noted that all four airports have experienced higher passenger activity levels prior to 2009, so the projected increases over the highest air passenger activity levels experienced to date are somewhat lower. Compared to the highest passenger activity levels experienced in recent years, the forecast air passenger growth at BUR is about 59 percent, while that at LAX is about 26 percent. The forecast growth at SNA compared to the highest passenger activity levels experienced in recent years is only about 8 percent, while that at LGB is about 38 percent.

3.2.2 Unconstrained Suburban Airports

As can be seen from **TABLE 3.1**, the constraints at the urban airports will result in significant growth in passenger activity at the outlying unconstrained suburban airports, several of which do not currently have commercial air service. The greatest growth is projected to occur at Ontario International Airport (ONT), for which the passenger traffic is projected to increase to more than five times the 2009 level from 2009 to 2035 under the current forecast, an increase of 25.8 MAP, or about 527 percent. Palm Springs International Airport (PSP) is projected to experience an increase in passenger activity to nearly three times its 2009 level, an increase of 2.6 MAP, or about 173 percent. Two of the suburban airports that do not currently have commercial air service are projected to experience a combined level of passenger activity by 2035 under the forecast that is similar to the current passenger activity at ONT (4.9 MAP in 2009). San Bernardino International Airport (SBD) is projected to handle 2.8 MAP, while Palmdale Regional Airport is projected to handle 2.6 MAP. March Inland Port (MIP) and Southern California Logistics Airport (SCL) are projected to handle somewhat lower levels of passenger traffic by 2035. Under the 2035 forecast, MIP is projected to handle only 0.6 MAP, while SCL is projected to handle 0.7 MAP.

Other than ONT, none of the suburban airports are projected to experience levels of passenger activity that could not be handled by the existing arterial and street system, with some local improvements.

3.2.3 Regional Airline and General Aviation Airports

Until recently, two smaller airports in the region, Imperial County Airport (IPL) and Oxnard Airport (OXR), had regional airline service by United Express to LAX. The service from OXR was discontinued in June 2010 but United Express continues to operate two flights a day each way between IPL and LAX. The air passenger demand forecast assumes that limited service would be restored to OXR by 2035, while air service at IPL would expand significantly. Under the approved forecast, IPL is projected to handle 0.9 MAP in 2035 and OXR, 0.2 MAP. These activity levels could easily be handled by the existing arterial and street system.

In addition to the airports with current and projected future commercial air service, there are currently 44 public use general aviation airports in the region. None of these airports have a level of aviation activity that would generate a volume of ground access traffic that cannot be adequately handled by the existing arterial and street system serving the airport.

Summary of Projects by Airport

4.1 BOB HOPE AIRPORT/BURBANK (BUR)

Bob Hope Airport in Burbank, California is a very convenient airport for its local service area comprising the cities of Burbank, Glendale and Pasadena, with good access to and from Los Angeles and the San Fernando Valley. Service is provided by Alaska, American, Delta Connection, JetBlue, Southwest, United Express, and US Airways, with frequent schedules along the West Coast and connecting flights across the entire country.

Passenger and Cargo Trends and Constraints: Air passenger and cargo activity are expected to increase steadily, with air passenger traffic growing from 4.6 MAP to 9.4 MAP prior to 2035. The airport is contractually limited to 14 gates, which has been estimated by SCAG to limit passenger capacity to 9.4 MAP. Bob Hope Airport does not handle a significant amount of cargo traffic and is not projected to carry a substantial amount in the future (86,000 annual tons).

Studies and Major Planned Projects: Ground Access Study – A 1987 $4.3M STURAA grant remains active and is available for a Bob Hope Airport Ground Access Study. Including the local match totals $5.5 million that is available for the study. The Airport Authority has retained the Orangeline Development Authority (OLDA) as its Project Manager for this study, planned to begin in 2012. Three fundamental objectives have been established by the Airport Authority for this study: Develop linkages to Santa Clarita to Union Station Corridor; reduce north/south traffic on Hollywood Way; evaluate the feasibility of an airport rail station along the Antelope Valley Line in the vicinity of Hollywood Way; and explore east/west connectivity to Pasadena. Results from this study are likely to identify new projects for inclusion in future Airport RTPs.

RITC – The Airport Authority will initiate construction in May/June of 2012 of a new Regional Intermodal Transportation Center (RITC) northwest of the intersection of Hollywood Way and Empire Ave. The RITC will include additional parking, a consolidated car rental facility, an enclosed pedestrian linkage between the adjacent train station and parking facilities, and a moving sidewalk connection to the airport terminal. Another element of the RITC will be intermodal bus layover center to enhance destination bus service

to the airport and facilitate bus passenger linkage to the terminal. The Environmental Assessment for Proposed Construction of a Regional Intermodal Transportation Center and Runway 33 Runway Safety Area Restoration was completed in December 2010. As is typical with an environmental assessment, this report had a horizon year of 2012 focusing on the impacts of the planned improvements only, so it did not look at long term ground access needs. **FIGURE 4.1** *shows the RITC.*

FIGURE 4.1 Bob Hope Airport



Source: Bob Hope Airport Authority 2011

Empire Interchange – This project, identified in prior RTP's, includes reconfigured access to I-5 at the Empire Avenue interchange and the Burbank Boulevard interchange as well as railroad grade separation project at Buena Vista/San Fernando all of which will facilitate improved access to the airport. This project is scheduled to begin construction in 2012.

High Speed Rail – The California High Speed Rail Commission is studying potential station locations along the San Fernando Road/Metrolink Line at either Hollywood Way or Buena Vista Street that would be in close proximity to the airport and include potential direct linkages to the airport and the Empire Avenue Metrolink Line. This would be part of the Palmdale-Los Angeles High Speed Rail segment. It should be noted that the Los Angeles County Transportation Authority (Metro) is studying improvements to the rail service along the Antelope Valley Metrolink Line, including the construction of a Bob Hope Airport Station in the vicinity of Hollywood Way. Construction of these improvements may be feasible many years in advance of the High Speed Rail Project.

Orange Line Extension – a project is planned to extend the MTA Orange Line from its current terminus at the North Hollywood Red Line station to either the Bob Hope Metrolink station or the RITC.

4.1.1 Highway, Arterial, and Local Street Projects

Recommended Ground Access Projects: Three projects from the 2008 RTP list were deleted, as they have been completed.

- BUR-01 Upgrade internal BUR terminal area circulation system including ingress/egress to parking facilities.
- BUR-04 Upgrade capacity of Hollywood/Alameda intersection (additional turning lanes and storage).
- BUR-12 Burbank Transit Station project. Improve access, parking and platforms at BUR Metrolink Station. Provide better linkage to the Empire Area Transit Center (Combined with BUR-05).

Another project was deleted from the 2008 RTP list since it has been supplanted by a new project with a similar function and location, the Regional Intermodal Transportation Center (RITC) previously described. The deleted project is:

- BUR-5 Empire Transit Center – construct a multi-modal bus transit center in the vicinity of Empire Ave. and Hollywood Way adjacent to the BUR Metrolink/Amtrak station.

The description of project BUR-10 was modified based on input from the City of Burbank and the description of project BUR-05 was modified to incorporate deleted project

BUR-12 since both of these projects are part of the Regional Intermodal Transportation Center (RITC).

In addition, one project was added (BUR-12) as identified in the Environmental Assessment for Proposed Construction of a Regional Intermodal Transportation Center and Runway 33 Runway Safety Area Restoration, December 2010 (page C-37).

Ground access improvements included in the 2012–2035 RTP Airport Vicinity Ground Access

Element are summarized below in **TABLE 4.1**.

TABLE 4.1 BUR Highway, Arterial and Local Street Projects

Project (Year Added)	Description
BUR-03 (08)	Add 1 additional lane in each direction on Hollywood Way (from San Fernando to Empire).
BUR-05 (08)	Empire Area Transit Center: Construct a multi-modal bus transfer center in the vicinity of Empire Ave and Hollywood Way adjacent to BUR Metrolink/Amtrak station. Improve access, parking and platforms at Metrolink Station. Provide better linkage between airport and Transit Center.
BUR-06 (08)	Construct a Clybourn Ave. Grade Separation west of BUR to directly connect Vanowen St. to Empire Ave. (to provide and continuous arterial from SR-5 and the new Empire Ave. interchange to North Hollywood and improve east-west access in the Golden State area of Burbank.
BUR-07 (04)	Construct a modified interchange at Empire Ave. and I-5 interchange. Add N/B and S/B (auxiliary) lanes at I-5/Empire (from Burbank Bl. To Empire).
BUR-08 (04)	Add auxiliary lanes on I-5 (from Burbank Blvd. To Buena Vista).
BUR-09 (04)	Add HOV lanes (from 8-10 lane configuration) on I-5 (from SR-134 to SR-170).
BUR-10 (08)	Intersection flarings at 35 major intersections for additional turn lanes. Includes Hollywood Way, Buena Vista St., Victory Blvd., Empire Ave., and Vanowen St. (No widening of Hollywood Way south of Empire).
BUR-11 (04)	Construct HOV lanes on I-5 (between SR-110 and SR-14). HOV lanes from SR-134 to SR-170 only included as part of the SR-5 HOV/Empire Ave. Interchange project.
BUR-14 (12)	Install signal at North Avon St. & Empire Ave.

4.1.2 Public Transportation Projects

TABLE 4.2 shows the projects anticipated to be in place by 2035, or recommended for inclusion in the strategic plan, that have the potential to influence the air passenger and employee mode share distribution to BUR.

The potential for the first three projects will be analyzed as part of the Bob Hope Airport Ground Access Plan that will begin in the fall of 2011. The study will include extensive data collection to understand the travel patterns of air passengers and employees using Bob Hope Airport, as well as modeling various transportation alternatives. The study will provide better information for the 2016 RTP.

TABLE 4.2 Potential High Occupancy Public Transportation Projects Serving BUR, 2035

Status	Project	Source	Notes
Funded	Regional Intermodal Transit Center (RITC)	Bob Hope Airport Authority	Groundbreaking anticipated in May/June 2012
Funded	Extend fixed guideway rapid transit from North Hollywood Red Line Station to the Bob Hope Airport RITC and a proposed high-speed rail station to the north of the airport	1. 2008 RTP, LA County Metro Strategic Plan Projects	To be studied as part of the two-year Bob Hope Airport Ground Access Study to begin in the fall of 2011
		2. Conversation with Bob Hope Airport and OLDA Staff, June 2011	
For Consideration in Strategic Plan	Antelope Valley Metrolink Line: construction of new station north of Bob Hope Airport station in the vicinity of Hollywood Way and San Fernando Road, with transit connections to the airport, nearby Red Line stations, the Orangeline, and the California High-Speed Rail Project	Conversation with Bob Hope Airport and OLDA Staff, June 2011 and November 2011	To be studied as part of the two-year Bob Hope Airport Ground Access Study to begin in the fall of 2011. Improvements along the Antelope Valley Metrolink line will be identified in an ongoing Los Angeles Metro sponsored study

Amtrak and Metrolink service is provided between Bob Hope Airport, downtown Burbank, Glendale and Union Station at frequent intervals in the morning until about 10:00 a.m. and in the late afternoon/early evening from Monday through Friday. Two early morning trips were recently added to better accommodate airport customers. The service is not included in the table because it does not provide sufficient midday service, and no service is provided on Saturdays and Sundays. Staff at Bob Hope Airport and the Orange Line Development Authority would like to see more service added throughout the day.

It should be noted that the Bob Hope Airport Authority has placed a high priority on actions to improve access and linkage to the regional transportation system, which will be the focus of the Authority's Airport Ground Access Study. Consistent with this priority, the Airport Authority supports SCAG's inclusion in the Draft RTP of significant improvements to the Los Angeles-San Diego-San Luis Obispo Rail Corridor (LOSSAN), as well as to the Metrolink system, to achieve higher speed operations.

4.2 JOHN WAYNE AIRPORT (SNA)

John Wayne Airport is operated by the County of Orange and is the only commercial airport in Orange County. The service area includes 3 million people within the 34 cities and unincorporated areas of Orange County. In addition, it is only one of two airports in Orange County to accommodate general aviation. The airport is served by two fixed-based operators and is home to more than 500 general aviation aircraft.

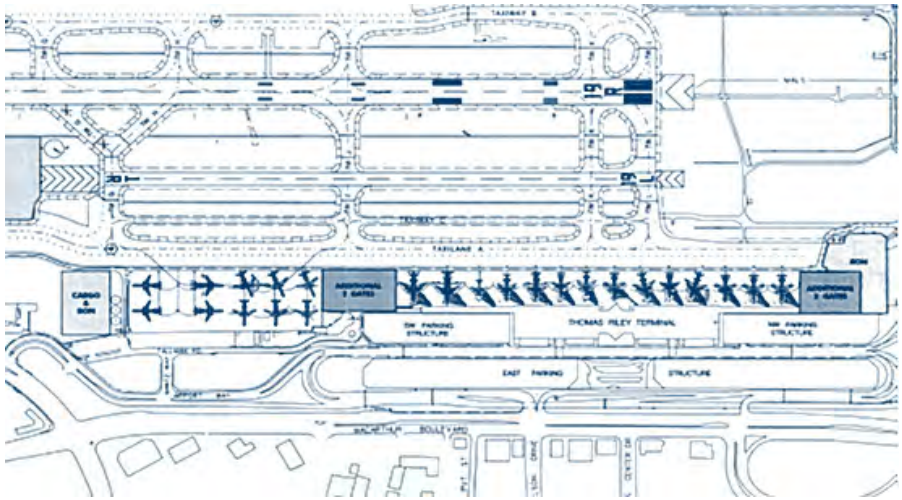
Passenger and Cargo Trends and Constraints: John Wayne Airport served 8.7 MAP in 2009, but is limited to 10.8 MAP by agreements (see below), so only modest additional growth is expected at the airport. Service is currently provided by Alaska, American, Continental, Delta, Frontier, Southwest, United, US Airways and WestJet Airlines. Cargo traffic is not significant at the airport, with existing and future projected activity to remain below 50,000 tons per year.

A Federal court settlement was signed in 1985 by the County of Orange, the City of Newport Beach, the Airport Working Group (AWG), and Stop Polluting Our Newport (SPON) to formalize the consensus reached between the County of Orange and the local communities on the nature and extent of airport improvements and defined operational and capacity limitations on those improvements. The 2003 Amendments of the 1985 Agreement allow John Wayne Airport to increase passenger levels to 10.3 MAP (through 12/31/10) then to 10.8 MAP (through 12/31/15) with a maximum of 85 flights per day. In addition, the amendment allowed for the addition of new Jet bridges (not to exceed 20 total).

The Orange County General Aviation Noise Ordinance (GANO) establishes single event noise limits and other restrictions for aircraft operating at SNA.

Studies and Major Planned Projects: The Final Environmental Impact Report 582 – John Wayne Airport Settlement Agreement (November 2001) and amendment (December 2002) evaluated the impact of various operating alternatives on environmental conditions, including ground access traffic (Appendix E, November 2001) and is the basis for the current 10.8 MAP operating level through 2015. Roadway improvements related to the EIR are summarized on **TABLE 3.2–14** on page 3.2–19 of the EIR (Scenario 2). **FIGURE 4.2** shows the conceptual plan. As is typical with an EIR, this report had a horizon year of 2006 focusing on the impacts of the planned improvements only, so did not look at long term ground access needs.

FIGURE 4.2 EIR Conceptual Plan, Scenario 2 (Exhibit 2.4 from EIR)



Passenger Terminal – In November 2011, a new terminal building south of existing Terminal A and B was completed that provides six new passenger-loading bridges. Two of the six new passenger-loading bridges are equipped to allow Federal Inspection Services (FIS), including Customs. The combined SNA terminal facility now provides 20 commercial aircraft passenger-loading gates and two commuter facilities accommodating a total of six commuter aircraft with ground-level boarding. The footprint of the entire terminal complex comprises approximately 730,505 feet.

Parking Structure – Phase I of a new multi-story parking structure also opened in November 2011, replacing a parking structure previously located in the new Terminal C footprint. The new parking structure provides up to 2,200 additional parking spaces. The second phase of this parking structure will occur after 2012, based on demand and funding availability, and would provide an additional 1,000 spaces.

Campus Drive and Bristol Street North Intersection – Provision of an additional right-turn lane on westbound Campus Drive to Bristol Street North, as required with Mitigation Measure T-1 in Final Program EIR 582. This turn lane would increase the number of turn lanes on Campus Drive to a total of three. The turn lane addition would be approximately

250 feet long and 15 feet wide. This improvement would require the relocation of the existing airport maintenance building, from the southeast corner of the Airport to an undeveloped parcel on the west side of the Airport in the vicinity of the existing airport administration building. The proposed maintenance facility is proposed to be located on a 2.4-acre site west of Aircraft Rescue and Fire Fighting (ARFF) Station 33.

4.2.1 Highway, Arterial, and Local Street Projects

Recommended Ground Access Projects: Recommended changes to the ground access project list include the following:

Three projects from the 2008 RTP list were deleted.

- SNA-01 Improve capacity of SNA terminal internal circulation system. Upgrade SNA-ingress at Michelson/MacArthur intersection. While the airport plans to proceed with this project, it is not included in the SNA EIR and thus the airport requested its removal from the RTP.
- SNA-03 Add 1 lane in each direction on MacArthur (from I-405 to Michelson). This project was deleted at the request of the City of Irvine.
- SNA-04 Add 1 lane in each direction on Michelson (from MacArthur to Von Karman). This project was deleted at the request of the City of Irvine.
- SNA-10 Upgrade the Sand Canyon/I-405 interchange (add 1 lane to each on- and off-ramp). This project was related to access for the long-range Maglev system that is no longer being considered.
- SNA-13 Widen Von Karman overcrossing by 1 lane in each direction. This project was deleted at the request of the City of Irvine.

In addition, eight projects (SNA-17–SNA-24) were added as identified in EIR Report 582 for Scenario 2.

Ground access improvements included in the 2012–2035 RTP Airport Vicinity Ground Access Element are summarized below in **TABLE 4.3**.

TABLE 4.3 SNA Highway, Arterial and Local Street Projects

Project (Year Added)	Description
SNA-02 (04)	Construct an internal HSR station roadway system at the Irvine Spectrum (to accommodate 1,510 peak hour vehicle trips).
SNA-05 (04)	Add 1 lane in each direction on I-405 (from Bristol to SR-133); Add auxiliary lane (from MacArthur to Culver).
SNA-06 (04)	Upgrade the Bristol/I-405 interchange (add 1 lane to all on and off-ramps)
SNA-07 (04)	Add 1 lane in each direction on SR-55 (from SR-73 IC to I-405 IC);
SNA-08 (04)	Add S/B auxiliary lane (from MacArthur on-ramp to Jamboree Bl. interchange to Culver Dr. off-ramp.
SNA-09 (04)	Add 1 lane in each direction on SR-73 (from Jamboree to SR-55); Add auxiliary N/B auxiliary lane to SR-73 (from Birch to SR-55).
SNA-10 (04)	Upgrade the Sand Canyon/I-405 interchange (add 1 lane to each on and off-ramp).
SNA-11 (04)	Add 1 lane to the southbound off-ramp and the north-bound on-ramp at Irvine Center Dr./I-405 interchange.
SNA-12 (04)	Add 1 N/B ramp and W/B right-turn lane on Paularino at SR-55.
SNA-14 (04)	Add HOV lanes in each direction near SR-55 interchange (98 STIP).
SNA-15 (04)	I-405/SR-55 interchange south Transitway existing 4 MF 1 HOV on SR-55 and I-405 existing 5 MF and 1 HOV, add HOV direct Transitway from SR-55 to I-405.
SNA-16 (04)	SJHC, 15 mile Toll Road I-5 (in San Juan Capistrano and SR-73 in Irvine, existing 3 MF each direction, add 1 MF in each direction, plus auxiliary and PCE traffic climbing lanes (reference: SCAG/TCA MOU 4/5/01).
SNA-17 (12)	Campus & Bristol North. Add 3rd Southbound Right-Turn Lane.
SNA-18 (12)	I-405 at MacArthur NB On-Ramp. Add 2nd Lane to On-Ramp (including Mainline Auxiliary Lane).

Project (Year Added)	Description
SNA-19 (12)	I-405 at MacArthur SB On-Ramp. Add 2nd Mixed Flow Lane at Meter (Transition to 1 Lane before Mainline).
SNA-20 (12)	I-405 at MacArthur NB Off-Ramp. Add 2nd Lane to Off-Ramp (w/o 2nd Mainline Auxiliary Lane).
SNA-21 (12)	SR-73 at Campus/Irvine NB On-Ramp. Add 2nd Lane to On-Ramp (including Mainline Auxiliary Lane).
SNA-22 (12)	SR-73 at Campus/Irvine SB On-Ramp. Add 2nd Auxiliary Lane on Mainline (for existing 2nd Off-Ramp Lane.

4.2.2 Public Transportation Projects

OCTA has expanded the track capacity between Fullerton and Laguna Niguel to allow for increased Metrolink headways. There is single track capacity south of Laguna Niguel since they cannot expand at Laguna Niguel or San Clemente. OCTA anticipates a significant increase in Metrolink service by 2035. There are two Metrolink lines that serve the Tustin Station, the Inland Empire/Orange County Line that travels between Riverside and Irvine, and the Orange County Line, which travels between Oceanside and Union Station in Los Angeles. The Tustin Metrolink station is located approximately seven miles from John Wayne Airport, and the Irvine Transportation Center is located approximately nine miles away.

TABLE 4.4 shows a project anticipated to be in place by 2035 that may influence mode share with an added connection to the airport, and another project that is recommended for study.

TABLE 4.4 Potential High Occupancy Public Transportation Projects Serving SNA, 2035

Status	Project	Source	Notes
1. Funded	Increased Metrolink Service to Tustin Station	1. OCTA Staff Summer 2011 Telephone Conversation	1. By 2030, weekday trains serving Tustin station anticipated to increase from 39 to 70, and there could be 20 trains per day serving Tustin on weekend days.
2. Recommended for Analysis		2. Consultant Recommendation for Study	2. A good shuttle connection between Tustin Station and SNA could attract air passengers and employees
Recommended for Analysis	Express bus service, ARTIC/Anaheim to John Wayne Airport	Consultant Recommendation	ARTIC Concept allows for this connection.

The City of Irvine operates two shuttle routes called The i Shuttle. The i Shuttle has been in operation for approximately three years. It operates from Monday through Friday, and travels between the Tustin Metrolink station and major employment sites. Route A travels between the Tustin Station and John Wayne Airport. The trips are timed to Metrolink train service during peak commuting hours. The trip to the airport takes approximately a half hour, and the shuttle route was not designed to meet airport needs.

Since The i Shuttle is not a connection that is attractive to airport customers, it is recommended that an analysis should be conducted to determine the potential for operating a non-stop shuttle between either the Tustin or the Irvine Transportation Center, to estimate the level of ridership that might be attracted, and to determine which station makes the most sense for provision of a shuttle. Amtrak serves the Irvine Transportation Center, but not the Tustin Station, however the Tustin station is slightly closer to the airport.

A study is recommended to determine the potential for a frequent bus link between John Wayne and ARTIC with no stops or limited stops. ARTIC will accommodate regional and local bus and rail connections, and will include parking for autos. It has a projected opening date of 2014. ARTIC will include space for a bus connection to SNA in anticipation of a service being provided in the future, although no agency or company has made a commitment to do so. Since it is also anticipated that there will be a fixed guideway connection by 2018, called the Anaheim Rapid Connection, between ARTIC, Disneyland, the hotels in the Disneyland area, and the Anaheim Convention center, it is a logical boarding point for non-resident air travelers who are destined for Anaheim. Residents and airport employees can access ARTIC to make the airport trip by driving and parking or using the various transportation connections that will be offered at ARTIC.

At the time this study was conducted, neither the County of Orange, which operates the airport, nor OCTA had plans to provide the type of high occupancy public transportation service to John Wayne Airport that has the potential to influence air passenger or employee mode choice to the airport. OCTA has included the Bristol Street/State College Blvd. BRT line in their 2010 LRTP. It is described as a 28 mile fixed route BRT which will travel between the Brea Mall and the Irvine Transportation Center, but it is unclear what level of service will be provided, and if it will travel into the airport terminal area

4.3 LONG BEACH AIRPORT (LGB)

LGB offers direct flights throughout the U.S. with convenient domestic and international connections. LGB offers easy access to the surrounding business centers and massive consumer markets. LGB is one of the world's busiest general aviation airports that serve privately-owned aircraft. With substantial general aviation activity LGB is an important reliever airport for LAX. Very strict noise regulations on commercial air operations have been put into place at LGB to protect the surrounding residential land uses. Boeing Co. builds C-17 military airlifter aircraft at LGB and Gulfstream has a completion/service center at LGB.

Passenger and Cargo Trends and Constraints: Commercial passenger service is currently provided by Jet Blue, US Airways, Delta and Alaska Airlines with almost 50 departures per day to 14 cities. The airport served about 2.8 MAP in 2009 and 3.0 MAP in 2010. According to the LGB Terminal Improvement EIR, terminal area improvements are being designed to accommodate 41 airline flights and 25 commuter flights per day. This flight level is anticipated to result in approximately 4.2 million annual passengers (MAP) being served at the Airport. There are provisions in the Airport Noise Compatibility Ordinance allowing the number of flights to be increased if the air carrier flights and commuter flights operate below their respective Community Noise Equivalent Level ("CNEL") limits, however, the 4.2 MAP limit has been used in the growth forecasts.

Air cargo forecasts show an increase from 40,000 tons in 2009 to a still modest level of 109,000 tons in 2035. This level is not expected to have a significant impact on ground access needs.

Studies and Major Planned Projects: *Long Beach Airport Terminal Area Improvement Project Draft Environmental Impact Report No. 37-03, November 2005.* The proposed projects provides improvements to the existing Airport Terminal Building and related facilities at the Airport in order to accommodate recent increases in flight activity at the Airport consistent with operational limitations of the Airport Noise Compatibility Ordinance and the 1995 Settlement Agreement. The Proposed Project includes construction of, or alteration to, the terminal building, vehicular parking and traffic and pedestrian circulation at the airport as shown on **FIGURE 4.3**. The Terminal Area Improvement Projects are included for reference only and are not part of the RTP.

FIGURE 4.3 Long Beach Airport Terminal Area Improvement Project (DEIR Exhibit 2.4)



The Proposed improvements are summarized below.

- The provision of a new parking structure that would ultimately accommodate 4,000 vehicles.
- With the construction of the parking structure, existing surface parking would be displaced.
- The extension of the south side of the Donald Douglas Drive loop to exit onto Lakewood Boulevard, with eastbound right turn only to southbound access on to Lakewood Boulevard.
- In conjunction with the allocation of additional flights in accordance with the Airport Noise Compatibility Noise Ordinance, when average daily peak month passenger levels reach 12,700, the Airport Manager shall develop a traffic monitoring program. The traffic monitoring program shall evaluate the LOS at the Spring Street and Lakewood Boulevard and the Willow Street and Lakewood Boulevard intersections.

In conjunction with the allocation of additional flights in accordance with the Airport Noise Compatibility Ordinance, when the annual passenger levels reach 4.2 MAP, the Airport Manager shall identify and develop additional on-site parking opportunities.

4.3.1 Highway, Arterial, and Local Street Projects

Recommended Ground Access Projects: Recommended changes to the ground access project list include the following:

Three projects from the 2008 RTP list were deleted.

- LGB-01 Widen Lakewood by 1 lane in each direction (from I-405 to Carson) has been completed.
- LGB-02 Upgrade capacity of Lakewood/Wardlow intersection has been completed.
- LGB-05 was modified to delete the portion referring to upgrading Spring Street as requested by the airport since they felt it did not impact airport traffic.
- LGB-06 Capacity improvements to I-405 including HOV lanes was deleted since it is a repeat of project LAX-18.

Ground access improvements included in the 2012–2035 RTP Airport Vicinity Ground Access Element are summarized below in **TABLE 4.5**.

TABLE 4.5 LGB Highway, Arterial and Local Street Projects

Project (Year Added)	Description
LGB-03 (04)	Upgrade ramps at I-405 interchange/Lakewood interchange (Add 1 lane to the S/B Lakewood to N/B Rte.405 on-ramp; Add 1 lane to S/B I-405 to Lakewood Off-ramp).
LGB-04 (04)	Widen Wardlow by 1 lane in each direction (from Lakewood to Bellflower).
LGB-05 (12)	Upgrade Spring/Lakewood intersection.

4.3.2 Public Transportation Projects

The City of Long Beach is served by the Metro Rail Blue Line, with service between the Long Beach Transit Mall in downtown Long Beach, and 7th Street/Metro Center in downtown Los Angeles. Blue Line customers may transfer at the Long Beach Transit Mall to Long Beach Transit Line 111, and make the 30 to 40 minute trip to Long Beach Airport between 5 a.m. and 12:30 a.m., 7 days per week. The bus runs at 40 minute intervals for most of the schedule, with some service also provided in 30 minute and 60 minute intervals. The Long Beach Transit mall is served by additional bus routes provided by Long Beach Transit and other public transportation providers.

The Blue Line Willow station is served by Long Beach Transit routes 102/104, which allows customers to make the 20 minute trip to Long Beach Airport from Monday through Friday between 6 a.m. and 8 p.m. at 30 minute intervals. Willow station is served by additional bus routes provided by Long Beach Transit and Metro.

In the future, depending on the distribution of air passenger origins in the vicinity of the Blue Line, consideration should be given to offering higher frequencies on routes 102/104 and 111, and providing Saturday and Sunday service on routes 102/104.

4.4 LOS ANGELES INTERNATIONAL AIRPORT (LAX)

LAX is the sixth busiest airport worldwide in terms of passengers and 13th worldwide in air cargo tonnage, and is served by approximately 80 passenger airlines and 20 cargo airlines. LAX handles 70 percent of the passengers, 75 percent of the air cargo, and 95 percent of the international passengers and cargo traffic in the surrounding five counties. According to recent economic impact studies prepared for the Los Angeles World Airports (LAWA), LAX contributes more than $60 billion annually to the Southern California economy and approximately 408,000 jobs, or one in twenty jobs in Southern California, are attributed to LAX operations.

Passenger and Cargo Trends and Constraints: In 2010, 59.1 million passengers traveled through LAX. A passenger limit of 78.9 MAP was established as the “practical capacity” of LAX in a Settlement Agreement between Los Angeles World Airports and surrounding communities and other parties arising from lawsuits over the latest update of the LAX Master Plan, and is used for planning purposes in related studies. The passenger demand at LAX is expected to grow to the 78.9 MAP planning limit prior to 2035.

Once the 78.9 MAP limit is reached, a significant portion of additional growth in regional demand is projected to spill over to other airports in the region. LAX has the highest rate of connecting passengers of all airports in the region, so on a per passenger basis, its impact on ground traffic is reduced. However, as noted in section 3.1, the projected growth of around 19 MAP will create significant demands on the ground access system and will likely require a greater emphasis on high-occupancy modes (e.g. transit) for airport access and egress travel.

LAX is also a major cargo center with 1,000 daily cargo flights linking Los Angeles with the world. Its cargo handling facilities include the 98-acre Century Cargo complex, the 57.4-acre Imperial Cargo complex, the Imperial Cargo Center and a number of terminals on the south side of the airport. In 2009, the airport handled 1.66 million tons of air cargo, down from a peak of 2.14 million tons in 2005. However, long term growth is forecast to pick up with around 2.8 million tons in the 2035 projection. A large portion of the air cargo at LAX is “pass through”, being shifted from one airplane to another, thus the “per ton” impact of air cargo in terms of truck traffic on the adjacent street network is lower than at the other airports in the region.

Studies and Major Planned Projects: Several major studies have been completed over the past 10 years focusing on terminal expansion and the related ground access improvements needed to support this expansion. On-Airport improvement projects/plans are included for reference only and are not considered part of the RTP.

Initial plans for a new “West Terminal” would have included a new major access point to the airport from the west side, off Pershing Drive. Many of the highway and street improvements associated with this plan were included in the 2008 RTP. However, the 2005 LAX Master Plan EIS/EIR added “Alternative D”, which would maintain terminal access from the east, supplemented by a variety of ground access improvements. This became the preferred alternative of LAWA. Subsequent studies have focused on variations of this general concept, including the 2009 Bradley West Project Draft EIR (DEIR) and the on-going Specific Plan Amendment Study (SPAS).

Final Environmental Impact Statement, Los Angeles International Airport Proposed Master Plan Improvements, January, 2005: According to the EIS, the purpose of the LAX Master Plan is to help provide a level of airport passenger and freight improvements that will support the future economic growth and vitality of the five-county Los Angeles region. Master Plan project objectives are to:

- Respond to local and regional demand for air transportation during the period 2000–2015, taking into consideration the amount, type, location, and timing of such demand.
- Ensure that new investments in airport capacity are efficient and cost-effective, maximizing the return on existing infrastructure capital.
- Sustain and advance the international trade component of the regional economy and the international commercial gateway role of the City of Los Angeles.

As noted above, this study included three alternatives with primary ground access from a new entrance on Pershing Blvd. on the west side of the airport. The fourth, and preferred, alternative maintained access to the terminals from the east side, but eliminated all private vehicle access from the main terminal area, and instead included new major transportation facilities between the airport and I-405 including a multimodal transportation center with bus and rail access, a consolidated car rental facility, and parking garages. All access to the terminals would be via a people mover.

Draft Environmental Impact Report (DEIR), Los Angeles Airport Bradley West Project, May 2009. As one of the airfield improvements included in the LAX Master Plan, the "Bradley West Project," provides for the addition of aircraft gates along the west side of the Tom Bradley International Terminal, which will reduce the existing need for, and use of, remote aircraft gates located at the west end of the airport. New gates include several gates specifically designed to accommodate new generation aircraft such as the Airbus A380, Boeing 747-8, and Boeing 787. The central core of the terminal would also be modified to provide additional floor area and improvements to better serve existing and future passengers at terminal.

As a result of lawsuits challenging the Master Plan, a settlement was reached that requires LAWA to proceed with a Specific Plan Amendment Study (SPAS) to identify potential alternative designs, technologies, and configurations for the Master Plan that would provide solutions to the problems that certain controversial projects (designated as "Yellow Light Projects") were designed to address. Yellow Light Projects included many of the ground access elements in the Master Plan such as a Ground Transportation Center and an automated people mover to link ground transportation facilities to the passenger terminals. While the SPAS is being undertaken, LAWA may continue to process and develop projects that are not Yellow Light Projects, such as the Bradley West Project.

The traffic analysis for the Bradley West DEIS used the year 2013 for future planning. It assumed that traffic generation would be essentially the same for both the build and no build conditions, only the peaking conditions would change. The study looked at on-airport traffic circulation and operations as well as at 71 off-site intersections. The study assumed a number of planned improvements in the area would also be completed by others as listed on **TABLE 4.6** below. Many of these projects were included in the 2008 Airport RTP and many have been completed.

TABLE 4.6 Major Transportation Network Improvements in Study Area of the Bradley West DEIR

Street/Freeway	Limits	Improvement
Arbor Vitae St [2]	Airport Blvd to La Cienega Blvd	Widen to provide continuous left-turn channelization
Culver Blvd [1]	At Sawtelle Blvd and al Sepulveda Blvd	Intersectional improvements
Douglas St [1]	Imperial Highway to El Segundo Blvd	Convert from one-way to two-way; 3 lanes in each direction
La Cienega Blvd [2]	At Centinela Avenue	Add second northbound left-turn lane
La Tijera Boulevard	At I-405 Freeway	Widen the bridge structure over the freeway and add double left-turn lanes on La Tijera Blvd at the on-ramps
Lincoln Blvd. [2]	La Tijera Blvd to LMU Dr	Widen to 7 total lanes (4 NB, 3 SB)
Lincoln Blvd.[2]	LMU Dr to Jefferson Blvd.	Widen to 4 lanes in each direction
Lincoln Blvd.[2]	Ballona Creek Bridge to Fiji Way	Widen to 3 lanes in each direction
Nash St. [2]	Imperial Highway to El Segundo Blvd	Convert to two-way traffic; 2 lanes in each direction
Sepulveda Blvd. [2]	Manchester Avenue to Lincoln Blvd	Widen to provide 3 full-time lanes NB and SB
Sepulveda Blvd.	Jefferson/Playa to Green Valley Circle	Widen to provide third southbound lane
I-105 [1]	WB off-ramp at NB Sepulveda Blvd	Widen to provide three lanes on off-ramp
I-405 [1]	SR-90 to I-10	HOV
I-405 [2]	I-10 to SR-101 NB; portion of SB	HOV

Source: Table 4.2–4 from Bradley West DEIR

[1] Completed since project notice of preparation in 2008
[2] Under construction as of January 2012

The study identified improvements needed to mitigate impacts relative to the Bradley West terminal project at 19 intersections; however, it found that 13 of them were infeasible, leaving 6 mitigation projects. The improvements are tied to MAP increases at the airport, with all improvements being required at the 5 MAP increase level. These have been added to the 2012 Airport RTP project list and are outlined in the recommended projects section below.

Los Angeles Airport Specific Plan Amendment Study (SPAS): As discussed above regarding the Bradley West DEIS, a number of controversial projects in the Master Plan were identified for additional study. These projects are commonly referred to as the "Yellow Light Projects," and include the following:

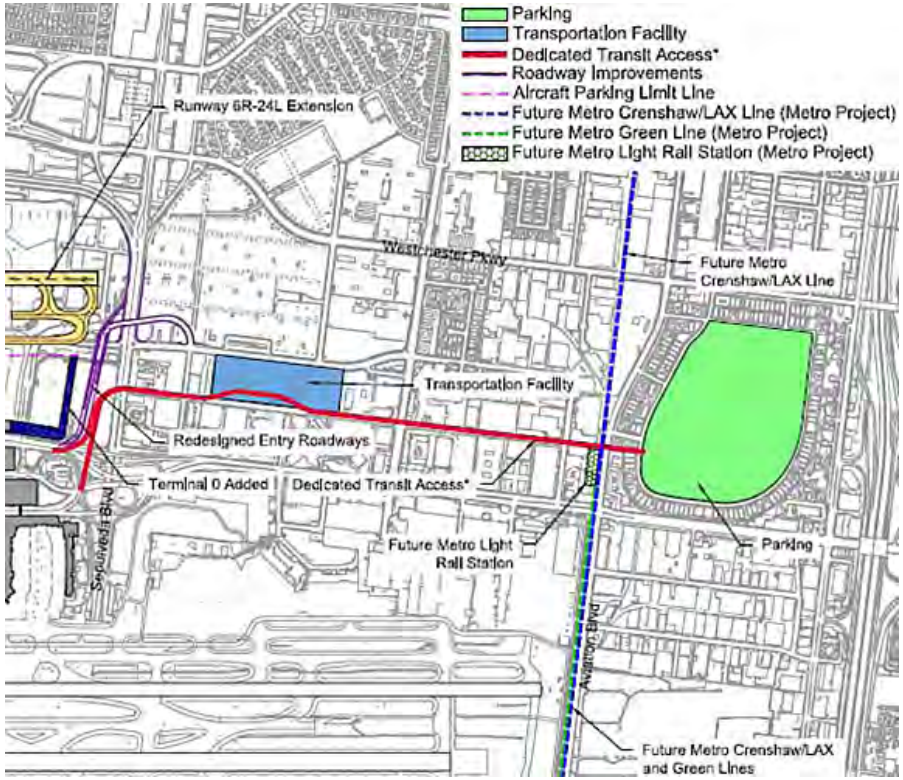
- Ground Transportation Center (GTC);
- Automated People Mover (APM) from the GTC to the Central Terminal Area (CTA);
- Demolition of CTA Terminals 1,2, and 3;
- North Runway re-configuration, including center taxiways; and
- On-site road improvements associated with the GTC and APM.

The LAX Specific Plan Amendment Study (SPAS) is to identify potential alternative designs, technologies, and configurations for the LAX Master Plan Program that would provide solutions to the problems that the Yellow Light Projects were designed to address, consistent with a practical capacity of LAX at 78.9 million annual passengers.

Several alternatives have been formulated for possible consideration in the SPAS EIR. The alternatives represent a reasonable range of how the various options might be combined to form complete potential scenarios for consideration in the EIR. The EIR will also evaluate whether there are other alternatives that could avoid or substantially reduce significant impacts identified in the EIR analysis.

The improvement alternatives have evolved over time through the study process. A presentation to the Airport Board of Commissioners in May 2011 provided two alternatives. While these two alternatives had different variations of runway and taxiway improvements, the ground access elements appear the same in both and are shown on **FIGURE 4.4**.

FIGURE 4.4 Ground Access Elements of SPAS Alternatives 1 and 2



Source: LAX Specific Plan Amendment Study Update, Board of Airport Commissioners, May 2, 2011

Note that these are just possible alternatives to the existing adopted plan that LAWA is studying. Alternative D in the LAX Master Plan EIS/EIR is currently still the official preferred alternative.

4.4.1 Highway, Arterial, and Local Street Projects

Recommended Ground Access Projects: Based on input from LAWA staff, many of the projects in the 2008 RTP project list were not carried forward to the 2012–2035 RTP project list for a variety of reasons.

The following projects were deleted since they have been completed:

- LAX-01 (04) Widen Sepulveda (from Manchester to Lincoln) to 5 lanes in each direction plus left-turn lanes except for the Sepulveda Tunnel. (More likely should read 3 lanes in each direction, reflecting recently completed City of Los Angeles project)
- LAX-04 (04) Construct I-105 westbound to Sepulveda northbound off-ramp to 3 lanes plus an emergency lane configuration.
- LAX-18 (04) Add Northbound HOV Lane (over Sepulveda Pass from I-10 US-101. (South-bound HOV from I-101 to Waterford Opened in Feb., 2002; Southbound HOV from Waterford to I-10 is in the Baseline Project ID# LA195900).
- LAX-22 (04) Near Marina Del Rey at Culver Blvd. - Overcrossing Demolish Existing Over-crossing & Replace with New 6-Lane Overcrossing with Longer Span - Widen from 4 to 6 Lanes.
- LAX-27 (08) Grade Separation on Douglas (between El Segundo and Rosecrans for Green Line)

The following projects were deleted since they related to the west airport access in previous Master Plans (LAX-06, LAX-07, LAX-17)

- LAX-06 (04) Construct major intersection at Imperial and Pershing with 3-lane turning lanes in each direction.
- LAX-07 (04) Construct Pershing to new West Terminal interchange to a major arterial standard with 3 lanes in each direction and dual turning lanes.
- LAX-17 (08) Construct Pershing to new West Terminal interchange to a major arterial standard with 3 lanes in each direction and dual turning lanes.

The following projects were deleted at the request of LAWA staff as they are inconsistent with the capacity of adjacent roadway section or their construction appears impractical due to physical constraints or public opposition.

- LAX-03 (04) Widen Imperial (from Del Mar to I-405 interchange) from 3 to 4 lanes in each direction.
- LAX-05 (04) Reconfigure Pershing to a divided major arterial standard with 4 lanes in each direction and turning lanes (from Imperial to Manchester).

- LAX-10 (04) Widen Aviation (from Arbor Vitae to Century) to 4 lanes in each direction. Widen Aviation from Century to Manhattan Beach Blvd. to 3 lanes in each direction.

The following projects were deleted in response to comments from LAWA staff. The location of LAX-08 does not exist. LAX-25 does not appear related to LAX traffic. LAX-28 appears to be a duplicate of LAX-26.

- LAX-08 (08) Improve intersection at Aviation Bl. And Airport Blvd.
- LAX-25 (04) Alameda Street from SR-1 to Henry Ford, Widen from 4 to 6 Lanes (CAT2, CFP 2144).
- LAX–28 (08) Additional left-turn lanes on La Cienega (Northbound) and Centinela (Southbound)

Project LAX-19 in the 2008 RTP project list was modified to clarify that the project is on Lincoln Blvd. and to change the southern limits from Hughes Blvd. to Jefferson Blvd. as the section between these intersections is complete.

Ground access improvements to be included in the 2012–2035 RTP Airport Ground Access Element are summarized below in **TABLE 4.7**.

TABLE 4.7 LAX Highway, Arterial and Local Street Projects

Project (Year Added)	Description
LAX-10 (04)	Widen Aviation Blvd (from Century Blvd to Manhattan Beach Blvd) to 3 lanes in each direction.
LAX-11 (04)	Upgrade Florence/I-405 interchange. Add 2 lanes to each on- and off-ramp.
LAX-12 (04)	Widen Arbor Vitae (from I-405 to Sepulveda) to 3 lanes in each direction.
LAX-13 (04)	Upgrade La Tijera/Sepulveda intersection. Add 1 additional turning lane from southbound La Tijera to southbound Sepulveda and from northbound Sepulveda to northbound La Tijera.
LAX-14 (04)	Reconstruct I-405 southbound off-ramp to La Cienega southbound to a major arterial 4-lane standard.
LAX-15 (04)	Widen La Cienega from Arbor Vitae to Century Blvd. to 3 lanes in each direction.
LAX-16 (04)	In Inglewood construct south half of I-405 interchange at Arbor Vitae.
LAX-26 (08)	Add a 2nd left-turn lane northbound and southbound at Centinela Ave.
LAX-29 (12)	Airport Blvd. & Manchester Ave. intersection. Restripe eastbound approach to provide one left-turn lane, two through lanes and a through/right lane.
LAX-30 (12)	Arbor Vitae St. & Aviation Blvd. intersection. Widen eastbound approach to provide one left-turn, two through lanes and a right-turn lane.
LAX-31 (12)	Imperial Hwy. & Sepulveda Blvd. intersection. Restripe northbound approach to provide one left-turn lane, three through lanes and two right-turn lanes.
LAX-32 (12)	La Cienega Blvd & I-405 ramps north of Century Blvd. Widen northbound approach to provide two left-turn lanes ant two through lanes.
LAX-33 (12)	La Tijera Blvd. & Sepulveda Blvd. intersection. Restripe westbound approach and modify signal to provide two left-turn lanes, on through lane and a through/right lane.
LAX-34 (12)	La Tijera Blvd. & Sepulveda Blvd. intersection. Restripe eastbound approach to provide two left-turn lanes, a through/left lane and one right-turn lane.

4.4.2 Public Transportation Projects

TABLE 4.8 shows the public transportation projects anticipated to be in place by 2035, recommended for inclusion in the strategic plan, or recommended for study, that have the potential to influence the air passenger and employee mode share distribution to LAX.

The Union Station FlyAway and the Van Nuys FlyAway buses, sponsored by LAWA have been very successful in attracting air passengers and airport employees away from lower occupancy ground access modes. The Westwood and Irvine FlyAways are not included in the project list because they have attracted low ridership and therefore do not meet the criteria for inclusion. The LAWA Board of Airport Commissioners recently considered discontinuing the Westwood service, although it continues to operate. LAWA is currently studying the potential for partnerships on some existing publicly and privately operated bus routes serving LAX, with LAWA including these in the FlyAway Program, and providing FlyAway branding and promotion to boost ridership.

There is currently a privately operated bus that provides non-stop hourly service between Disneyland and LAX. Customers are picked up and dropped off at Disneyland by a shuttle that serves the area hotels. The bus is primarily used by non-resident air passengers because resident air passengers do not have a place to park their autos to use the bus, reducing the accessibility of the boarding point.

Data from the 2006 air passenger survey indicated that there are quite a few resident air passengers in the Anaheim market area, although there may not be enough to justify a new express bus service. LAWA is not currently considering operating a service between Anaheim and LAX because it would compete with the privately operated service. It is recommending that this market be studied further to determine the options for a bus service that would better accommodate both resident and non-resident air passengers, as well as any airport employees in the market area. An air passenger survey is currently being conducted at LAX, so fresh data for such an analysis would likely be available by the end of 2011. Potentially the existing non-stop bus service could be modified by the private operator, or a partnership could be formed between the private operator and LAWA or the private operator and another public entity.

The Anaheim Regional Transportation Intermodal Center (ARTIC) will accommodate regional and local bus and rail connections, and will include parking for autos. It has a projected opening date of 2014. ARTIC will include space for a bus connection to LAX in anticipation of a service being provided in the future. Since it is also anticipated that by 2018 there will be a fixed guideway connection, called the Anaheim Rapid Connection, between ARTIC, Disneyland, the hotels in the Disneyland area, and the Anaheim Convention Center, ARTIC should be considered in any market analysis as a potential boarding point for a future express bus service that would accommodate resident and non-resident air passengers and airport employees.

The funded transit projects in **TABLE 4.8** should collectively improve the transit mode share to LAX. However, ridership forecasts are not currently available to determine how the individual projects or the combination of projects will improve the transit mode share and reduce the air passenger and airport employee trip generation rate.

TABLE 4.8 Potential High Occupancy Public Transportation Projects Serving LAX, 2035

Status	Project	Source	Notes
Existing	Union Station FlyAway	Sponsored by LAWA	Ridership may improve with High Speed Rail Connections to Union Station
Existing	Van Nuys FlyAway	Sponsored by LAWA	
Existing	Silver Line, El Monte to Union Station		Frequent Connection for Union Station FlyAway
Existing	Green Line serving Aviation Station, connecting to LAX Shuttle		
Being Studied by LAWA	Long Beach FlyAway	LAWA Staff, and Report to LAWA BOAC 5/16/11	May be Implemented in near future
Funded	Exposition Light Rail Phase I	Under Construction	1. 2011 Opening
			2. Will share a station with Crenshaw Line

Status	Project	Source	Notes
Funded	Exposition Light Rail Phase II	2008 RTP, 2008 RTIP, 2009 Metro LRTP, Measure R Project	1. Planned for 2015
			2. Will extend Exposition Light Rail Phase I
Funded	Crenshaw/LAX Transit Corridor	2009 Metro LRTP, Measure R Project	Planned for 2018
Funded	Regional Connector	2009 Metro LRTP, Measure R Project	Will reduce number of light rail transfers in downtown Los Angeles. Planned for 2019.
Partially Funded	Green Line Extension to LAX	2009 Metro LRTP, Measure R Project	Metro study underway in Spring 2011. Anticipated 2028 opening depending on LAWA contribution.
Funded	South Bay Metro Green Line Extension	2009 Metro LRTP, Measure R Project	1. Redondo Beach Blvd. to South Bay Corridor
			2. Planned for 2035
Partially Funded	Metro Green Line Extension between Norwalk and Metrolink Station	2009 Metro LRTP - Strategic Unfunded	
Strategic Plan	Green Line from LAX to Santa Monica	2009 Metro LRTP - Strategic Unfunded; 2008 SCAG RTP - LA County Strategic Plan Projects	
Recommended for Analysis	Express Bus Service, ARTIC/ Anaheim Arctic to LAX	Consultant recommendation	1. Potentially from ARTIC
			2. Potential enhancement of an existing privately operated service
Strategic Plan	Slausen Light Rail, Crenshaw Corridor to Metro Blue Line - Slausen Station	2009 Metro LRTP Strategic Unfunded; 2008 SCAG RTP - LA County Strategic Plan Projects	1. Planned for 2035

4.5 MARCH AIR FORCE BASE/MARCH INLAND PORT (MIP)

MARB currently accommodates military operations by the Air Force, Air Force Reserve, Air National Guard and other governmental-related entities. MIP currently operates limited civilian operations on a prior approval basis including domestic and international air cargo services. Upon announcement in 1993 by BRAC of realignment of March AFB to an air reserve base, the adjoining jurisdictions formed the March Joint Powers Authority (JPA) to address base reuse at March AFB. The March JPA, in addition to being designated as the federally recognized reuse authority for the former active duty base, has also assumed other responsibilities. These responsibilities are carried out by governing bodies under the governance umbrella of the March JPA and include:

- The March Joint Powers Redevelopment Agency – responsible for the redevelopment of 6,500 acres of the former active base and approximately 450 acres adjacent to the base in the industrial area of the City of Moreno Valley.
- A streamlined development process with the transferred of land use authority to March JPA from the County of Riverside.
- The establishment of building codes and standards by the March JPA.
- Management of airport development and operation through March Inland Port Airport Authority (MIPAA).

Passenger and Cargo Trends and Constraints: The Joint Use Agreement between the U.S. Air Force and the March JPA, signed in May, 1997, limits the joint use airport to 21,000 annual civil operations and 51,426 annual military operations. In 2008, cargo users accounted for approximately 5,000 of the 21,000 allowable annual civilian operations.

March Inland Port has over 600,000 square footage of future ramp area planned for construction. All planned facilities will be engineered to meet or exceed load requirements and to be fully stressed to accommodate aircraft up to 900,000 pounds. The airport is currently not accommodating commercial passenger operations. However, general aviation (GA) support facilities are planned for 2013. In 2008, the joint use agreement was amended and restrictions on GA operations were removed. Environment studies are expected to be complete in 2012 and if the GA project is approved, construction could begin in late 2012. The 2035 forecast for this RTP forecasts a small amount of passenger traffic for MIP–0.6 MAP.

DHL is a major cargo carrier that began operations at MIP in 2005. However, they discontinued service out of MIP in 2009. MIP is positioning itself as a diversified airport, with cargo, maintenance, charter service and general aviation activities. The 2012–2035 RTP cargo forecast for 2035 is 244,000 tons. At this level, MIP might become the third largest cargo airport in the region behind LAX (2.8m tons) and ONT (1.4m tons) in 2035.

Studies and Major Planned Projects: The General Plan of the March Joint Powers Authority is a long range comprehensive plan, completed in 1999, designed to outline and delineate use and development of a Planning Area known formerly as March AFB, prior to the base realignment in April 1996 to March ARB. The General Plan defines reuse and development opportunities of the Planning Area, while preserving the environmental quality. The General Plan contains goals, policies, and programs to guide future development and change in the Planning Area. The goals and policies of the General Plan serve as the constitutional framework for March JPA, provide planning direction for JPA operations and programs and function as guidelines for all decision-making concerning use and development of the area.

The plan includes a transportation element that includes goals and specific recommendations to accommodate traffic growth generated by the former Air Force base site through the year 2030. Projects identified to support background traffic growth around the base (excluding traffic generated by the base development) included:

- Widening Alessandro Blvd. to six lanes west of I-215 (complete)
- Widening Van Buren Blvd. to six lanes from Barton Street westerly.
- Reconstructing the Van Buren Boulevard interchange with I-215.
- Widening Barton Street south of Van Buren Blvd.
- Widening the intersection of Barton Street with Van Buren Blvd.
- Widening Nandina Ave. and extending it easterly to connect with the Oleander interchange on I-215.
- Widening Harley Knox Blvd. to four lanes east of I-215 and extending it easterly.
- Widening existing ramps at the I-215 interchanges with Alessandro Blvd. and Cactus Ave.

In addition to these needed improvements in the vicinity of the March JPA Planning Area, I-215/SR-60 was projected to be significantly over capacity between Riverside and Moreno Valley even with the HOV and truck climbing lane improvements implemented as part of Measure A.

The traffic forecasting model was subsequently used to identify additional roadway improvements needed to accommodate the planned development of the March JPA Planning Area. The analysis determined that the following improvements would be needed in addition to those identified above:

- Widening Cactus Ave. to, six lanes from I-215 to Graham St. (consistent with the Moreno Valley General Plan).
- Widening Van Buren to six lanes from I-215 to Banon St.
- Additional widening of the Van Buren bridge over I-215.
- Construction or widening of internal March JPA Planning Area roads.
- Widening of several key intersections to provide additional turn lanes.

Note that many of these improvements are related to the overall redevelopment of the Base and are not specific to airport operations.

Vision 2030: March JPA General Plan, March 2010 Draft: Per the plan, “Changing economic, social, and natural environment factors have made it apparent that it is time to update the current General Plan and EIR, to fine-tune the direction of development within its jurisdiction, and in short, to implement the Vision that has been set forth by the

public and the March JPA decision-makers." The vision of the 2030 plan includes creating 38,000 jobs through development of the Planning Area, and reducing inter-regional traffic through utilizing the planned Metrolink station and land use decisions that promote the development of a multi-modal passenger facility.

While Vision 2030 provides mostly general goals related to improving traffic circulation, there are some specific transportation related needs identified:

- Support development of limited-access roadway facilities and other regional traffic improvements such as the Mid-County Parkway or the Cajalco/Ramona Corridor.
- Work with the County of Riverside to identify and develop a north-south arterial roadway linking Van Buren Blvd. and Cajalco Corridor on the west side of the Planning Area.
- The March JPA shall support and participate in the creation of adequate regional transportation systems and linkages and promote mass transit and alternative transportation modes.
- Work with the City of Perris to plan for an arterial roadway on the east frontage of I-215 between Van Buren Blvd. and Harley Knox Blvd., tying in with existing street improvements at Western Way, in order to preserve future options for developing aviation facilities on the west side of the runway.
- Incorporate a traffic circle/round-about near the convergence of the Van Buren extension and Western Way to control traffic, encourage safe street speeds and provide a safe transition.
- Work closely with Caltrans to implement the freeway ramp/arterial roadway interchange improvements at Van Buren Blvd., Cactus Ave. and Harley Knox Blvd. while minimizing the short-term impacts associated with construction.
- Work with RCTC to expedite the development of the proposed Metrolink line and station that will serve as an intra- and inter-county public transportation system.

As with the original General Plan, many of these improvements are related to the overall redevelopment of the Base and are not specific to airport operations.

Meridian Specific Plan Amendment (SP-5), July 2010 – This plan amendment relates to the industrial park development on a portion of the base west of I-215 and in the northeast corner of the base and not the airport itself, although due to the size of the development (up to 15 million square feet of industrial and commercial development), it impacts many of the same roadways and interchanges that will be utilized by airport traffic. These include improvements to the I-215 interchanges at Alessandro Blvd., Cactus Ave. and Van Buren Blvd.

4.5.1 Highway, Arterial, and Local Street Projects

Recommended Ground Access Projects: Recommended changes to the ground access project list include the following:

Five projects from the 2008 RTP list were deleted at the request of the airport. Projects MIP-06 and MIP-07 were mistakenly included in the 2008 RTP for MIP, and are therefore being deleted from this section. MIP-02 is essentially the same as MIP-01 so it has been deleted. Other deleted projects include:

- MIP-08 (04) Upgrade I-215/Cactus interchange (additional turning lane from W/B Cactus to S/B Rte. 215)
- MIP-12 (04) Improve Cactus (add 1 lane in each direction from I-215/Cactus IC to Perris Bl.)

MIP-08 has been completed. MIP-12, Cactus Ave., is identified as needing widening to 3 lanes in each direction in the Meridian SPA traffic study. However, this is related to industrial and commercial development and not airport-related traffic.

The Airport also requested the following changes:

- The description of MIP-01 was revised to change the name of the development and to specify 2 lanes in each direction, plus turning lanes. This project will begin construction in 2013.
- The description of MIP-04 was modified to remove references to numbers of lanes on the freeway ramps. This project has been designed and is scheduled to be constructed in 2012.

Ground access improvements included in the 2012–2035 RTP Airport Vicinity Ground Access Element are summarized below in **TABLE 4.9**.

TABLE 4.9 MIP Highway, Arterial and Local Street Projects

Project (Year Added)	Description
MIP-01 (04)	Construct connector road from I-215/Van Buren interchange east to new March Inland Port Civil Development Parcel D-2 (Divided major arterial configuration, 2 lanes in each direction, plus turning lane, emergency shoulder).
MIP-03 (04)	Construct internal air cargo terminal 6-lane roadway system including truck parking and ramp access facilities for higher PCE truck traffic movements.
MIP-04 (04)	Reconstruct the I-215/Van Buren interchange.
MIP-09 (04)	Construct connector between I-215/Harley Knox (Oleander) interchange and new air cargo terminal at MIP (major arterial, capable of higher PCE truck traffic, 2 lanes in each direction).
MIP-10 (04)	Add 2 lanes in each direction on Harley Knox (from I-215 to Perris).
MIP-15 (04)	Improve SR-60 (Caltrans: add 2 lanes from 215/60 interchange to Redlands).

4.5.2 Public Transportation Projects

The Riverside County Transportation Commission (RCTC) owns the San Jacinto Branchline, which is a lightly used rail freight line that parallels the I-215 and runs approximately 19 miles from Riverside to Perris and Romoland via March Air Reserve Base. RCTC purchased the San Jacinto Branchline from Burlington Northern Santa Fe (BNSF) in 1993, recognizing its potential to alleviate growing congestion in the corridor, with the possible provision of Metrolink service at a future date. As part of the agreement, BNSF retained operating rights on the San Jacinto Branchline, but future Metrolink service would receive priority. In 2002, RCTC began the process of evaluating potential transportation solutions in the I-215/San Jacinto Branchline Corridor, referred to as the Perris Valley Line project, with the intent of providing Metrolink service as an extension of the Metrolink 91 Line. The Metrolink 91 Line provides service between Riverside and downtown Los Angeles via Fullerton. As a result of subsequent studies and community meetings, a locally preferred alternative was selected. The proposed Perris Valley Metrolink Line would provide six round trips per day, with proposed stations in Riverside, Moreno Valley/March Field, downtown Perris and South Perris. If commercial air service is provided at March in the future, the six trips per day on the Metrolink Perris Valley Line may serve some of the air passenger and employee demand in the corridor.

4.6 ONTARIO INTERNATIONAL AIRPORT (ONT)

ONT is well situated to serve the future aviation needs of the Inland Empire and the Southern California Region for both cargo and passengers. Demand for air transportation will be created by the Inland Empire's rapid population growth; as well as its growth as a manufacturing and distribution center and the limited potential for expansion at LAX and other regional airports. The airport is the centerpiece of one of the fastest-growing transportation regions in the U.S. ONT is a medium-hub, full-service airport with commercial jet service to major U.S. cities and through service to many international destinations.

According to the Notice of Preparation for the airport master plan update, ONT currently consists of about 1,700 acres. The airport has two parallel runways with a 700 foot separation. The runways can handle simultaneous arrivals during visual meteorological conditions, but they are too closely spaced to permit independent aircraft arrivals during instrument meteorological conditions. The airport has two 265,000 square foot passenger terminals with a total of 26 aircraft gates available, and 8,775 available public parking spaces. LA/ONT has approximately 96,000 square feet of cargo building and office space to support all-cargo, airline belly cargo and air mail. United Parcel Service (UPS) also has a 156-acre West Coast Distribution Center adjacent to the airport with access to the LA/ONT airfield. Property is available for passenger terminal development or redevelopment between and adjacent to the existing terminals. Developable property is also available on the south side of the airport and on the east side of the airport across Haven Ave. A 94 acre site in the northwest corner of the airport is proposed for an air cargo development.

Passenger and Cargo Trends and Constraints: ONT offers over 380 daily flights to cities across the U.S. In the early 2000's the airport experienced significant growth in passenger traffic, peaking at 7.2 MAP in 2005. However, with the downturn in the economy, passenger traffic has dropped off, with a level of 4.8 MAP in 2010. The 2035 forecast still envisions significant growth at 30.7 MAP. Note that SCAG has estimated that two runway configuration at the airport to have a physical capacity of 31.6 MAP. As discussed in section 3.1, a major contributing factor to the growth at Ontario is the limitations at the

urban airports in the region. Ontario is expected to pick up a large portion of the spillover traffic once these airports reach capacity as it currently has operations for many of the major airlines. However, growth at Ontario could be limited if growth at the urban airports is slower than anticipated.

Ontario is the second busiest airport in terms of freight traffic in the region, with 455,000 tons handled in 2009. LAX and ONT carry a combined 95 percent of the cargo in the region, with Ontario representing about 20 percent of the total. Freight flows have been fairly constant at the airport since 2000, ranging between 455,000 and 600,000 tons per year. ONT is projected to see major growth in air cargo, growing to around 1.4m tons by 2035

Studies and Major Planned Projects: Planned facility and ground access improvements around the airport include:

- When passenger traffic at ONT reaches 10 MAP in two consecutive years, a third terminal will be constructed.
- Planned grade separations at North Grove and San Antonio
- Planned interchange improvements at I-10 and Grove, Vineyard and Euclid, and SR 60 at Mountain, Archibald, Euclid and Haven
- Planned extension of Metro Gold Line to airport

Notice of Preparation of a Draft Environmental Impact Report, LA/Ontario International Airport Master Plan, August 2007 – The description of the proposed project in the Notice is as follows:

The proposed Project includes airside, landside and roadway improvements at LA/ONT. The improvements would be built in phases keyed to passenger and cargo growth. It is assumed that all improvements will be in place by 2030. Project phases may include demolition of existing facilities, site preparation, and construction of new facilities. Reasonable and feasible mitigation measures may be phased to correspond to the phases of project development. The proposed Project includes the following elements.

- Linear expansion of existing passenger terminals and aircraft apron (gates) on the north side of the airport.
- Relocation of both runways to the south and east to create additional area for aircraft movement in the passenger terminal area.
- Separation of the runways and construction of a center taxiway between north and south runways to improve airfield efficiency and safety.
- Construction of a new apron pushback taxilane.
- Construction of a new apron edge taxiway.
- Relocation of existing parallel taxiways.
- Construction/relocation of connector taxiways.
- Taxiway/Runway improvements to accommodate New Large Aircraft.
- Construction of terminal area structured auto parking lots.
- Construction/expansion of terminal access roads.
- Relocation and/or expansion of the existing ground transportation center (rental car facility).
- Construction of additional economy parking lots.
- Relocation and/or expansion of employee parking lot.
- Expansion and/or relocation of general aviation facilities.
- Expansion and/or relocation of airport maintenance area.
- Relocation and/or expansion of an airport administration facility.
- Expansion/construction/relocation of the aircraft rescue and firefighting (ARFF) facility.
- Impact to some existing south side facilities.
- An airport people mover (APM) system may be constructed.
- Land acquisition of approximately 35 acres for the Runway Protection Zones as a result of relocating and reconfiguring the runway and taxiway system.

(On-Airport improvement plans/projects are included in this report are for reference purposes only)

The Project may also include surface transportation improvements in addition to the improvements to immediate airport access. Analysis completed for the Master Plan indicates that the roadway system in proximity to LA/ONT will require enhancement due to regional growth with or without the Project's proposed improvements. The impacts of airport expansion on the highway and arterial system serving LA/ONT will be considered

as part of the EIR and a Transportation Improvement Mitigation Plan will be developed to be included in the Master Plan.

The Ontario Plan Environmental Impact Report, July 2009 – The City of Ontario completed a city-wide master plan/EIR which includes an element on transportation. The Plan addresses both the potential for high-speed rail access at the airport and transportation needs around the airport.

With regard to the airport, the Report notes "LAWA is in the process of developing a new airport master plan for ONT, which would support an annual passenger activity level of 32 MAP, as well as a high volume of air freight service. The associated economic activity represents a major potential economic boon for the City, but the ground access study for the airport master plan found that the circulation improvements that would be needed to support the region's growth and the airport's growth would be extensive and very costly, and at best would only keep up with current congestion levels. The potential growth of the airport and the region necessitates visionary solutions for future transportation in Ontario and the surrounding region (see discussion below). To facilitate circulation around a major airport and surrounding activity center, the City should develop a high volume non-automobile circulation/distribution system (for example, a frequent minibus shuttle or an automated people mover) for the airport area."

4.6.1 Highway, Arterial, and Local Street Projects

Recommended Ground Access Projects: Four projects from the 2008 RTP list were deleted at the request of the City. ONT-11, ONT-14a and ONT-19 have been completed. ONT-20 was removed from the City's general plan.

- ONT-11 Grade Separation North Milliken Ave. at Airport Dr. (UPRR Alhambra Line).
- ONT-14 Add 1 lane in each direction on Guasti Rd. (east of Haven) and on Euclid (at SR-83).
- ONT-19 South Milliken Ave. Railroad Grade Separation at Mission.
- ONT-20 State St. Railroad Grade Separation at Bon View.

The descriptions of the following projects were modified at the request of the City:

- ONT-02 changed from roadways related to HSRT station to the planned multi-modal transit center.
- ONT-06 the crossing is on the LA line, not the Alhambra line.
- ONT-09 changed limits of the project from between Airport and I-10 to between Holt and I-10.
- ONT-14b revised project description.
- ONT-18 revised project description.
- ONT-24 deleted "Airport and Airport Dr." interchange, this location does not exist.

Ground access improvements included in the 2012–2035 RTP Airport Vicinity Ground Access Element are summarized below in **TABLE 4.10**.

TABLE 4.10 ONT Highway, Arterial and Local Street Projects

Project (Year Added)	Description
ONT-01 (04)	Upgrade ONT internal circulation system to accommodate 30 MAP, curbside, parking ingress/egress inclusive.
ONT-02 (04)	Construct multi-modal transit center and supporting roadways at a site generally located between the I-10 Fry, Archibald Ave, UPRR Alhambra Line and Holt Blvd to include BRT, CHSRA, Metro Gold Line and/or Metrolink.
ONT-05 (04)	Add 2 lanes to on-, off-ramps at I-10/Archibald interchange.
ONT-06 (08)	Construct a Grade Separation at Milliken/Union Pacific LA Line.
ONT-07 (08)	Upgrade SR-60: Grove interchange to 6 lanes.
ONT-08 (08)	Widen Holt by 2 lanes in each direction (from I-10 ramps west City Limits).
ONT-09 (04)	Widen Vineyard by 2 lanes in each direction (from Holt to I-10 interchange).
ONT-10 (08)	Widen Grove by 1 lane in each direction, including turning lanes, (from I-10 to Holt Blvd. Add W/B and E/B off-ramps on I-10 at Grove. Configure all ramps to 3-lane configuration.
ONT-12 (08)	Grade Separation North Grove Ave. and Holt intersection widening (UPRR Alhambra Line).
ONT-13 (08)	Add 1 lane in each direction on Mission (from Grove to Archibald) and from Archibald to Haven.

Project (Year Added)	Description
ONT-14b (08)	Widen Euclid Ave. (SR-83) from 4 to 8 lanes, SR-60 to Merrill Ave.
ONT-15 (04)	Add 1 lane in each direction on I-15 (from Rte. 60 to I-10).
ONT-17 (08)	SR-60: Upgrade Vineyard interchange, widen Vineyard from 4 to 6 lanes.
ONT-18 (08)	San Antonio Ave. Railroad Grade Separation (UPRR LA and Alhambra Lines).
ONT-21 (08)	Campus Ave. Railroad Grade Separation at State (UPRR LA and Alhambra Lines).
ONT-22 (08)	North Vineyard Ave. Railroad Grade Separation at Holt (UPRR Alhambra Line).
ONT-23 (08)	South Archibald Ave. Railroad Grade Separation at Mission (UPRR LA Line).
ONT-24 (08)	Interchange Upgrades at Sr-60 and Mountain; I-10 at Vineyard Ave.; SR-60 at Archibald and at Euclid; I-10 at Euclid.
ONT-25 (08)	Airport Dr. improvements: Rochester Ave. to Wineville Ave., signalization of Kettering/Airport Dr.

4.6.2 Public Transportation Projects

TABLE 4.11 shows the projects anticipated to be in place by 2035, recommended for inclusion in the strategic plan, or recommended for study that has the potential to influence the air passenger and employee mode share distribution to ONT.

TABLE 4.11 Potential High Occupancy Public Transportation Projects Serving ONT, 2035

Status	Project	Source	Notes
Funded	Gold Line Foothill Extension Phase 2a: Pasadena to Azusa	2009 Metro LRTP, Measure R Project, 2008 RTP, 2008 SCAG RTIP - LA County Transit Projects (Amendments to 54)	Pasadena to Azusa (Phase 2A) under construction. Scheduled to open in 2015.
Strategic Plan	Gold Line Foothill Extension Phase 2b: Azusa to Montclair	2008 RTP, 2008 SCAG RTIP - LA County Transit Projects (Amendments to 54)	Project is in environmental review
Strategic Plan	Gold Line Foothill Extension Phase 2c: Montclair to ONT	2008 RTP Regional Strategic Plan Projects, 2009 LRTP Long Range Strategic Plan Supplement 1	
Strategic Plan	CA High Speed Rail: Los Angeles to San Diego via the Inland Empire with Stop at ONT	2009 LRTP Long Range Strategic Plan; www.cahighspeedrail.ca.gov	Included in Phase 2, currently unfunded; Corridor between San Bernardino County and San Diego not yet determined.
Recommended for Analysis	Express Bus Service , East of ONT: I-10 /I-215	Recommendation for Study	+/- 18 miles from ONT. Market analysis required.
Recommended for Analysis	Express Bus Service, West of ONT: I-10 /SR-57	Recommendation for Study	+/- 15 miles from ONT. Market analysis required.
Recommended for Analysis	Express Bus Service, Anaheim/ ARTIC to ONT	Recommendation for Study	1. Service has not been planned 2. ARTIC Concept allows for this connection.

It is unclear if and when the Gold Line Foothill Extension will be extended to ONT. Depending on when it is extended to Montclair in relation to air passenger growth at ONT, an analyses should be conducted to determine the potential for a non-stop or limited stop bus service that travels between the Gold Line and ONT, to accommodate the demand for airport travel until the Gold Line serves ONT, or to accommodate the demand for airport travel in place of the Gold Line connection to ONT.

The consultant recommends that analyses is conducted to determine the potential for non-stop express bus service between ONT and the general locations along the I-10 listed in **TABLE 5.5**, and to ARTIC. This will require information on the distribution of air passenger origins by resident status at the demand levels assumed in this study. In general, for a non-stop frequent airport bus service to be economically viable, the airport should serve a minimum of 20 million origin and destination air passengers. Details are provided in Appendix III, Characteristics of Successful Airport Express Buses.

4.7 PALM SPRINGS AIRPORT (PSP)

Palm Springs Airport is expected to continue growing in relation to the forecasted growth in the Coachella Valley. The PSP market is somewhat isolated geographically and unique because of its seasonality during the winter months. As the Coachella Valley population continues to grow, it is anticipated that PSP will play an integral part in the local and regional aviation demands.

Passenger and Cargo Trends and Constraints: Palm Springs Airport carried 1.5 MAP in 2009 and is projected to grow to 4.1 MAP by 2035, although, as with the other smaller airports in the region, this is tied in some part to spillover from the major airports when they reach capacity in addition to handling growth in its own subregion.

Airlines serving the airport include Virgin America (seasonal) Allegiant Air, Alaska, U.S. Airways, American, Delta/Delta Connection, Horizon Air, Sun Country (seasonal), United/United Express, WestJet, Continental (seasonal) and Frontier (seasonal) with a total of about 50 flights per day.

Cargo traffic is modest at the airport, with 27,000 tons in 2006. The 2035 projection is less than 100,000 tons.

Studies and Major Planned Projects: Planned facility and ground access improvements include:

- New FAA control tower, construction underway, expected completion 2013
- New consolidated rental car facility expected to be completed in the next three years
- Terminal expansion of the baggage claim and ticketing areas as supported by the new 2012 Master Plan Update
- Landside public parking and rental car ready lot expansion

(On-Airport improvement plans/projects are included in this report are for reference purposes only)

The Master Plan Update is complete and is not yet in the environmental analysis phase. The final document is due sometime in mid-2012.

City of Palm Springs General Plan, 2007: Specifically referring to airport transportation, the plan states “Currently, SunLine Route 24 provides public transportation service to the airport. In addition, several resorts and hotels offer courtesy shuttle service to the airport. Additional transportation services including limousine, taxi, shuttle, and disabled and senior services are available at the airport. As the airport expands to satisfy air passenger demands, additional public transportation services should be considered to serve resident and visitor air passengers. Additional courtesy shuttles could be considered or integrated to provide efficient service to popular destinations, such as the Downtown area.” One of the planning goals related to aviation is to “Establish multimodal circulation linkages (busses, trams, bicycle infrastructure, etc.) to and from the airport to relieve parking and traffic loads at the airport.”

4.7.1 Highway, Arterial, and Local Street Projects

Recommended Ground Access Projects: Recommended changes to the ground access project list include the following:

- PSP-04 (04) Add 1 lane in each direction on Farrell (from Ramon Rd. to Vista Chino).
- PSP-05 (04) Upgrade intersection of Indian Canyon and Tahquitz Canyon Rd.
- PSP-07 (04) Add 1 additional left and right turning lanes from Tahquitz to Palm Canyon.
- PSP-08 (04) Upgrade I-10/Gene Autry Trail interchange ramps to a 2-lane configuration. Modify Gene Autry Trail from 2 to 6 lanes (from I-10 interchange to Salvia Rd.).

- PSP-10 (04) Modify Gene Autry Trail from Salvia Rd. to Vista Chino to a 6-lane configuration.

In addition, PSP-11 (04) was modified to delete the Bridge over the UPRR as it is currently under construction.

Ground access improvements included in the 2012–2035 RTP Airport Vicinity Ground Access Element are summarized below in **TABLE 4.12**.

TABLE 4.12 PSP Highway, Arterial and Local Street Projects

Project (Year Added)	Description
PSP-01 (04)	Upgrade internal PSP terminal area circulation system including parking facilities (to accommodate 3.2 MAP). Upgrade terminal area ingress/egress from Tahquitz Canyon.
PSP-02 (04)	Add 1 lane in each direction on Ramon Rd (from Sunrise to El Cielo) to a continuous 4-lane major arterial configuration.
PSP-03 (04)	Upgrade El Cielo/Ramon Rd. intersection for air cargo truck traffic.
PSP-06 (04)	Upgrade I-10/Date Palm interchange ramps to a 2-lane configuration.
PSP-11b (04)	Construct bridge on Gene Autry Trail at Whitewater River.
PSP-12 (04)	Widen Indian Canyon Drive to a 6-lane configuration (from Union Pacific Rail Road to I-10).

4.8 PALMDALE AIRPORT (PMD)

PMD is located in the Antelope Valley, in the northeast portion of the city of Palmdale, on a 60-acre site within the 5,800 acre United States Air Force Plant 42. PMD is approximately 60 miles northeast of Downtown Los Angeles off State Highway 14. The airport has two 12,000 foot runways.

PMD was one of four airports owned and operated by Los Angeles World Airports (LAWA), a City of Los Angeles department which also owns and operates Los Angeles International, Ontario International and Van Nuys. The City of Los Angeles also acquired approximately 17,500 acres of land east and south of the airport with the goal of providing a regional alternative to LAX. However, demand for passenger service has not developed and in 2011 operation of the airport was transferred back to the City of Palmdale. The City of Los Angeles retains the land it owns adjacent to the airport. The airport terminal, on the Plant 42 leasehold, has direct public access from Avenue P and is in a newly expanded redevelopment area.

The City of Palmdale formed a Palmdale Airport Authority on May 6, 2009 that is currently functioning. The Airport Authority is responsible for the transfer of the airport from LAWA. The lease with the Department of Defense for the leasehold terminal is in the process of being assigned to the Palmdale Airport Authority for ownership and operation of Palmdale Airport, which will be completed next year. The airport has been operationally relinquished by LAWA and is no longer part of the LAWA system. However, the joint use agreement with the Air Force is still operative and includes LAWA since it allows for the access and use of Plant 42 runways by Palmdale Airport and by LAWA as a weather diversion for LAX.

Passenger and Cargo Trends and Constraints: Regional Jet (RJ) Service to San Francisco International began in June, 2007, but was terminated in 2009 and there is currently no commercial service at the airport. The 2035 projection for the airport is 2.6 MAP, however, as discussed previously, this is in part due to the lack of capacity at the urban airports to meet regional demand, so the assumption has been made that spillover will be distributed to the other regional airports.

LAWA's Joint Use Agreement with the Air Force allowed up to 50 commercial operations per day but provides for a process to increase that limit to as high as 400 operations per day with the permission of the military.

Palmdale does not currently support any cargo service. The 2035 projection is 115,000 tons. Similar to with passenger service, cargo service at the airport may be contingent on drawing a large cargo carrier.

Studies and Major Planned Projects: Space is available on the 61.75 acre leased site for expansion of the passenger terminal facility and for development of future cargo facilities. There is also land available to the south of the terminal area to expand the leasehold with Air Force approval. The Joint Use Agreement with the U.S. Air Force (USAF) sets forth procedures for the use of AF Plant 42 as a joint military/civilian use airport, defines the

level of commercial operations that can take place by domestic civilian operators, and specifies guidelines for the use of the acreage owned by LAWA. The USAF has determined that at least 50 civilian commercial operations per day can be accommodated without detriment to the military mission of AF Plant 42. The JUA allows for incremental growth of operations levels up to 400 civilian operations per day with the approval of the USAF. The lease site itself can be expanded to accommodate at least the 1 Million Annual Passengers forecasted to use the facility in 2030. Prior to transfer of operation of the airport operations back to the City, LAWA was working with the City of Palmdale, the MTA and Caltrans to identify needed ground access improvements. These considered enhanced Metrolink service to the airport.

Airport Master Plan: LAWA started a master plan update for the airport, but terminated it when control was transferred back to the City of Palmdale.

Three alternative improvement concepts were developed to expand PMD facilities to meet the forecasted demand. All alternatives assumed that PMD continues to share the AF Plant 42 airfield, but propose expansion of passenger and cargo facilities on and off AF Plant 42. All alternatives also included airside, landside and roadway improvements built in phases keyed to passenger and cargo growth. Improvements would have included passenger terminal expansion; additional aircraft gates for passenger and cargo operations; expansion of airside facilities such as aprons and taxiways; expansion of automobile parking lots; construction or expansion of access roads; construction of air cargo facilities; and construction of support facilities.

Alternative 1, the Proposed Action, included expansion of the terminal and apron within the existing terminal area on AF Plant 42 and development or expansion of additional facilities on AF Plant 42 outside the current leasehold. Alternative 2 included development of a terminal building, apron and cargo facilities within an area on LAWA property called Site 9, with a connecting taxiway to the AF Plant 42 airfield. Alternative 3 included development of a terminal building, apron and cargo facilities east of AF Plant 42, entirely on vacant LAWA property. All alternatives included a commercial/ industrial development on LAWA property south of Avenue P. Commercial development of non-aviation property would help finance future infrastructure development.

LAWA was also developing a long-range strategic plan for PMD to show how the airport would accommodate passenger demand beyond 2030 or demand generated by the development of a high-speed rail system to PMD as suggested in the SCAG Aviation Plan in the 2008 RTP. The plan proposed a phased move to LAWA property as passenger volumes approached about 3 MAP. At that point, further investment in expansion on the Plant 42 leasehold would not be cost effective. Phased development of a new airport on LAWA owned property would be initiated, beginning with passenger terminal development. At build-out, the strategic plan would have proposed an airport that can handle at least the 12.8 MAP suggested by the 2008 SCAG plan, with two runways developed on LAWA property and connections to the AF Plant 42 airfield for additional capacity.

(On-Airport improvement plans/projects are included in this report are for reference purposes only

City of Palmdale Master Plan: The City's current master plan includes stakeholder comments regarding expansion of PMD to encourage more travelers from the Santa Clarita and San Fernando Valleys to use the airport and for development of the High Desert Corridor to promote development and use of the airport. Transportation related goals in the master plan include:

- Coordinate and collaborate with Caltrans and Metro to promote the design and construction of the High Desert Corridor. Completing of the project will require the preparation of an Environmental Impact Report (EIR), design of the project, funding the project, obtaining right-of-way (R/W), preparation of the Project a study and Estimate (PS&E), and construction.
- Continue to support air service at LA/Palmdale Regional Airport

Both are identified as high priority items.

High Desert Corridor: Access to the rest of the Los Angeles region is currently restricted to one primary route, SR 14 shown in **FIGURE 4.5**. The High Desert Corridor would open up a route from Palmdale to the east to Victorville and I-15. The alignment would pass along the south side of the airport and terminate at a new interchange on SR 14. The Environmental Impact Statement is being prepared for the project and is expected to be completed in 2013. There is currently no funding for construction.

FIGURE 4.5 High Desert Corridor Alignment Alternatives



4.8.1 Highway, Arterial, and Local Street Projects

Recommended Ground Access Projects: The projects below from the 2008 RTP list were deleted at the direction of the City. PMD-01 was combined with PMD-02 and the reference to Ave. P removed since the location and circulation layout for the proposed terminal is not known. PMD-04 and PMD-05 were deleted as the SR-14/Avenue P interchange will be removed when the High Desert Corridor interchange is constructed on St. Route 14.

- PMD-01 (04) Construct airport terminal connector road from Ave P to the new PMD passenger terminal.
- PMD-04 (04) Add on-ramps from W/B Ave P to N/B St. Route 14 (2-lane on-ramps with shoulder) capable of carrying higher PCE truck traffic.
- PMD-05 (04) Add S/B off-ramp from SR-14 to Ave P (2-lane off-ramp with shoulder) capable of higher PCE truck traffic.
- Ground access improvements included in the 2012–2035 RTP Airport Vicinity Ground Access Element are summarized below in **TABLE 4.13**.

TABLE 4.13 PMD Highway, Arterial and Local Street Projects

Project (Year Added)	Description
PMD-02 (04)	Construct internal airport circulation system based on an 8-lane configuration (with shoulders and emergency lanes) including internal parking facilities). Provide connector roads to the adjacent regional arterial roadway network.
PMD-03 (04)	Widen Ave. P to 4 lanes in each direction including turning lanes (from St. Route. 14 to 50th St. East, east of PMD). Configure Ave. P as a major arterial capable of high volume truck traffic .
	Improve Ave. P intersection capacity at 8th St. East, 10th St. East, 15th St. East, 20th St. East, 25th St East., 30th St East, 50th St. East and Sierra Highway, by adding two turning lanes in each direction.
PMD-08 (04)	Add 1 lane in each direction on Sierra Highway (between Palmdale Blvd. and Ave. M).
PMD-09 (04)	Add 1 lane in each direction on Ave. M including turning lanes (from St. Route 14 to 50th St. East).
PMD-10 (04)	Widen 50th St. East by 2 lanes in each direction (from Ave. M to Ave. R); improve 50th St. East/Ave. R intersection capacity.
PMD-11 (04)	Widen 30th St. East (from Palmdale Bl. to Ave P) including 2-lane turning lanes at Ave. P.
PMD-12 (04)	Add 2 lanes in each direction on St. Route. 14 from Pearblossom Hwy to Ave. M including HOV lanes (heavy directional AM/PM traffic volumes hampering peak period airport access from LA Basin).
PMD-13 (07)	Rancho Vista Blvd. (Ave. P) grade separation at Sierra Highway/ Railroad tracks (Union Pacific & Metrolink) 7th Ranking out of 120 projects by LA County.
PMD-14 (08)	Construct a connector from PMD to Palmdale Transportation Center at Clock Tower Plaza Dr. near Sierra Hwy, or Rancho Vista Blvd./Ave. P and Division St. (which can serve as a future HSRT station).

4.9 SAN BERNARDINO INTERNATIONAL AIRPORT (SBD)

SBD provides an optimal location for air cargo and logistics management for companies conducting businesses in Los Angeles, Southern California, Mexico and the US inter-mountain regions of Denver, Salt Lake City, Las Vegas and Phoenix. Centrally located just 60 miles east of the Los Angeles International Airport (LAX), SBD is surrounded by major interstate freeways (I-10, I-215 and SR-330/SR-210), enjoys an excellent local surface transportation access, is in a congestion-free air corridor and is located within two miles of a major intermodal BNSF Railway facility. SBD is well positioned as a consolidation/ distribution center for both air cargo and ground shipments.

The San Bernardino International Airport Authority (SBIAA) is a joint powers authority comprised of the County of San Bernardino and the Cities of San Bernardino, Colton, Loma Linda and Highland. Formed in 1992, the SBIAA Commission oversees the aviation portion of the former Norton Air Force Base of approximately 1300 acres.

The Inland Valley Development Agency (IVDA) is a joint powers authority comprised of the County of San Bernardino and the Cities of San Bernardino, Colton and Loma Linda. Formed in 1990, the IVDA is responsible for the redevelopment of the non-aviation portion of the former Norton Air Force Base. In addition to the approximately 600 acres on the former base, the IVDA also has a redevelopment project area of approximately 13,000 acres of surrounding properties. The land use designations within the project area include: light and heavy industrial, office, commercial and residential.

Passenger and Cargo Trends and Constraints: SBD does not currently provide commercial passenger service; however, the airport has an existing passenger terminal that can be utilized if air carriers can be attracted to the airport. The 2035 projection for the airport is 2.8 MAP, however, as discussed previously, this is in part due to the lack of capacity at the constrained urban airports to meet regional demand, so the assumption has been made that spillover will be distributed to the other regional airports including SBD.

Although the airport does not currently handle a significant amount of cargo, SBD is aggressively marketing itself as a cargo facility and can offer expedited Customs clearance, abundant aircraft ramp space, ample room for new development opportunities and expansion potential in a secure and modern business environment, including Foreign Trade Zone and LAMBRA tax incentives. With a newly reconstructed 10,000' x 200' runway and available hangar facilities, SBD claims the region's lowest airport user fees and has the ability to accommodate Stage 2 aircraft. The 2035 projection is 166,000 tons of cargo, which would be 4th highest in the region.

Studies and Major Planned Projects: Planned facility and ground access improvements include: (On-Airport improvement plans/projects are included in this report are for reference purposes only

- There is no near term plan by the San Bernardino Airport Authority for constructing a passenger terminal on the north end of the airfield--the existing terminal is being expanded and refurbished. The cargo terminal construction is listed on the Airport Capital Improvement Plan, but funding has not been programmed.
- 40 new small hangars and several large hangars on the runway's east side are to be constructed.

4.9.1 Highway, Arterial, and Local Street Projects

Recommended Ground Access Projects: Three projects from the 2008 RTP list were deleted since the Airport indicated they are complete.

- SBI-01 (04) Upgrade internal circulation system to the SBI passenger terminal at Leland Norton Way and Rialto. Construct 6-lane major arterial configuration with double turning lanes and emergency lanes.
- SBI-08 (04) Upgrade Harry Sheppard Blvd. (from Leland Norton Way to Tippecanoe).
- SBI-09 (04) Upgrade the I-215/Mill interchange (add 1 lane to each on-, and off-ramp designed for higher PCE truck traffic).

The descriptions of three projects were revised based on input from the Airport.

- SBI-03, SBI-06 and SBI-07 were changed to reflect a different number of lanes for widening.
- SBI-07 was also modified to change the project limits

In addition, three projects (SBI-11 – SBI-13) were added at the request of the Airport.

Ground access improvements included in the 2012–2035 RTP Airport Vicinity Ground Access Element are summarized below in **TABLE 4.14**.

TABLE 4.14 SBI Highway, Arterial and Local Street Projects

Project (Year Added)	Description
SBI-02 (04)	Construct a truck traffic access road (4-lane major arterial configuration with shoulder) to the SBI Air Cargo Terminal at Perimeter Road. Upgrade Perimeter Road-3rd Street/Leland Norton Way for high PCE truck traffic.
SBI-03 (04)	Add 1 lane in each direction on Waterman (from 9th St. to Rialto and from Vanderbilt to Redlands Blvd. through the I-10 interchange).
SBI-04 (04)	Upgrade Rialto to a continuous, divided 6-lane configuration (from Waterman to I-215).
SBI-05 (04)	Upgrade the I-10/Waterman interchange (add 1 additional on-, and off-ramp in each direction designed for higher PCE truck traffic).
SBI-06 (04)	Add 1 lane in each direction on 3rd Street (from Waterman to Alabama/Palm) to a 4-lane configuration; Construct diagonal 2-lane connection form 3rd St. to 5th St. east of Alabama.
SBI-07 (04)	Upgrade 5th St. to a 4-lane major arterial configuration with turning lanes and improved capacity intersections at 3rd Street diagonal connector and all intersections with cross streets.
SBI-10 (08)	New Gateway to SBD project: Construct a 4-lane bridge on Mountain View over the Santa Ana River (extension of Mountain View from Central Ave. to I-10).
SBI-11 (12)	Widen Tippecanoe Bridge over Santa Ana River from four lanes to six lanes by constructing bridge structure on west side of existing bridge.
SBI-12 (12)	Construct new interchange on SR-210 at Victoria Avenue with two lanes each ramp and modifications to existing Arden Avenue interchange.
SBI-13 (12)	Upgrade Del Rose Dr. from 2-lane configuration to 4-lane configuration.

4.9.2 Public Transportation Projects

If commercial air service is provided in the future, the consultant recommends conducting an analysis to determine the potential for providing a transportation connection between SBD and the proposed San Bernardino Intermodal Transit Center at E St. and Rialto in downtown San Bernardino. Potential services for the transit center include a light rail line, and a Metrolink extension from the Santa Fe Depot in San Bernardino.

4.10 Southern California Logistics Airport (SCL)

The Southern California Logistics Airport specializes in goods movement and is a potential world class facility for serving international and domestic air cargo needs. The airport provides ground, air and rail transportation for the "fastest-to-market" delivery. The airport is capable of accommodating both military and commercial aircraft. The Southern California Logistics Airport facility features two intercontinental runways including a 15,050 foot runway, allowing the heaviest aircraft direct, non-stop access to any destination in the world and a 10,000 foot runway. The air control tower operates 24 hours a day and has emergency response capabilities that are comparable to the world's largest airports.

Passenger and Cargo Trends and Constraints: Recent passenger and cargo trends a. PAX (military personnel for the National Training Center (NTC) and Twenty Nine Palms) board aircraft on the open ramp through the NTC leasehold.

Carriers such as Cargolux, Federal Express, ASB Air, Atlas Air, MK International and the U.S. Armed Services have utilized SCL facility for timely, cost-effective goods movement. From 1999 to present, SCL has received more than 15,310 tons of air cargo, around 1,000 tons per year.

Studies and Major Planned Projects: The circulation element of the General Plan has a section on the airport and refers most of the transportation elements for the area around the airport to the SCLA Specific Plan:

"SCLA is located in the northwest corner of the City of Victorville and is within 30–40 minutes of driving from the Ontario International Airport. It is planned to be a domestic and international air cargo facility, with a 4,740-acre business complex integrating manufacturing, industrial multimodal and office facilities. The SCLA Specific Plan was adopted by the City to provide a planning tool for implementing the reuse plan established by the

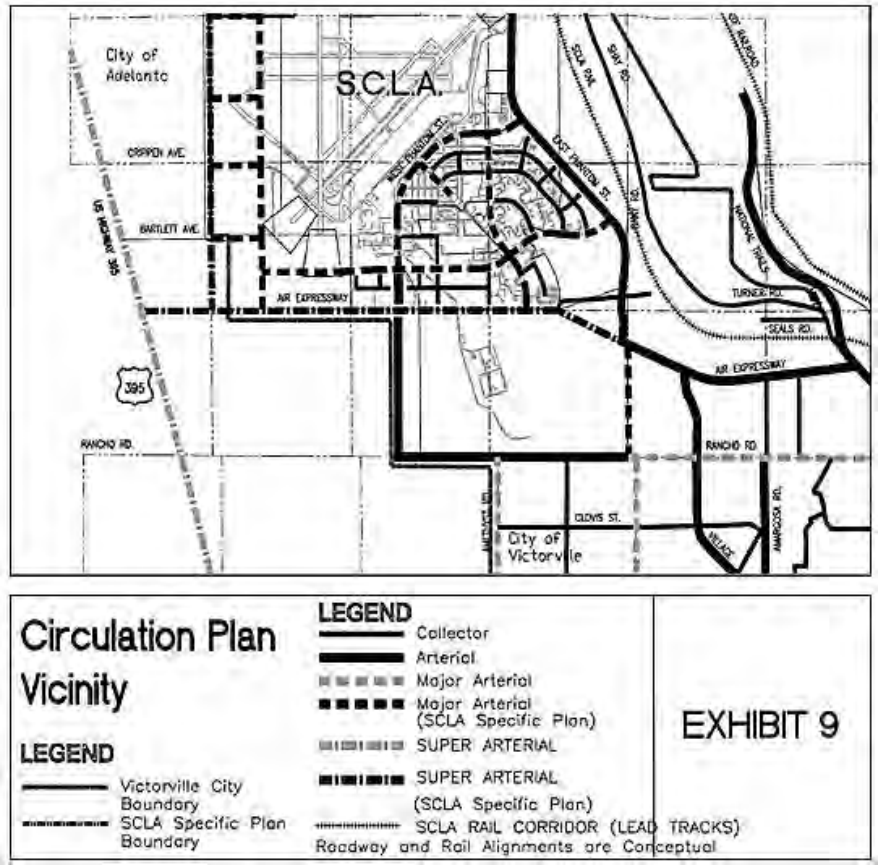
Victor Valley Economic Development Authority (VVEDA) pursuant to the Base Closure Realignment Act (BCRA), and to implement related policies of the General Plan Land Use, Noise and Safety Elements. The SCLA Specific Plan is designed to accommodate airport and aviation uses as well as industrial and commercial land uses. Its circulation plan includes establishing a mass transit system to serve the site; designating Phantom Road as a minimum six-lane Super Arterial to connect to Air Expressway; introducing a new north/south road, 'Perimeter Road' which will connect future Colusa Road from the north to Phantom East Street to the South; and upgrading several roads to arterials, which will eventually connect Phantom East and West Street to the rest of the site."

SCLA Specific Plan, 2004 – The circulation element of the Specific Plan states:

National Trails Highway and Village Drive, which currently connect Air Expressway to I-15 are also designated Arterials. Rancho Road and El Evado Road to the site will be four-lane major Arterials. Air Expressway, which traverses and is off-site of the property is also planned as a minimum four-lane major arterial from U.S. Highway 395 to its connection to Rancho Road. Given the regional nature of the Specific Plan and increased traffic levels, the City will work with the Victor Valley Transit Authority and private developments/users on-site to establish a mass transit system to serve the site and connect it to population and employment centers in the Victor Valley (See Figure below).

Anticipated traffic levels will necessitate improvements on existing roads on-site. Phantom Road is proposed as a minimum four-lane Super Arterial to connect to Air Expressway. A new north/south road will be introduced, "Perimeter Road", which will connect future Colusa Road from the north to Phantom East Street to the south. Several roads connecting Phantom East and West Street to the rest of the site will be upgraded to Arterials. These include Cory Boulevard, Mustang Street, Sabre Boulevard, Starfighter Street and Nevada Street. Additional on-base roadways have been introduced to improve traffic distribution on the base. **FIGURE 4.6** shows the existing and proposed on-base roadways along with their roadway designation. They have been added to the City's General Plan Circulation Plan to ensure consistency between the SCLA Specific Plan and the General Plan.

FIGURE 4.6 SCLA Specific Plan Roadway Classifications



Source: SCLA, Specific Plan 2004

Initial Study for US-395 Realignment Right-of-Way Preservation, 2007 – This study for SANBAG looks at potential alignments for a new US 395 facility between I-15 and Purple Sage Street. An Environmental Impact Statement is also being prepared by Caltrans.

4.10.1 Highway, Arterial, and Local Street Projects

Recommended Ground Access Projects: Five projects from the 2008 RTP list were deleted as the City indicated they are complete.

- SCL-01 (04) Construct airport terminal connector road from Air Base to terminal building (along Cory to Phantom); Construct connector road from Air Base to air cargo terminal in the southwest corner of the base.
- SCL-02/03 (04) Improve and upgrade existing internal circulation system (Cory from base to Phantom; Cory segment from Starfighter to Sabre; intersection Worley/ Phantom) including access to on-site HSRT terminal.
- SCL-04 (04) Widen Air Base (add 2 lanes in each direction from US-395 to National Trails intersection).
- SCL-07 (04) Improve National Trails/Air Base intersection in conjunction with National Trails/ Rancho intersection (part of Construction of Rancho extension project from Adelanto to National Trails)
- SCL-09 (04) Widen National Trails/RR underpass (approx. 3.49 mi north of Air Base) to 2 lanes in each direction.

Ground access improvements included in the 2012–2035 RTP Airport Vicinity Ground Access Element are summarized below in **TABLE 4.15**.

TABLE 4.15 SCL Highway, Arterial and Local Street Projects

Project (Year Added)	Description
SCL-05 (04)	Add 2 lanes to southbound on-ramps and northbound off-ramps at I-15/National Trails IC. Add 1 additional lane to southbound off-ramps and northbound on-ramps at I-15/National Trails IC.
SCL-06 (04)	Add 2 additional turning lanes in each direction on National Trails at I-15.
SCL-08 (04)	Add 1 lane in each direction to National Trains from I-15 to Barstow.
SCL-10 (04)	Add N/B mixed flow lane w. aux lane (from N/) Mojave Dr. IC to Stoddard Wells Rd.
SCL-11 (04)	Relocate US-395 as a 6 lane freeway from the I-15 junction to SR-18/Palmdale Road plus a 4 lane expressway from SR-18 to Purple Sage Rd.
SCL-12 (04)	Widen El Evado Rd, Palmdale Rd to Air Base Rd., Palmdale to Hopland, Hopland to Air Base (from 2 to 4 lanes with LT lanes)

V. Challenges to Implementing High Occupancy Public Transportation Projects

This section provides a summary of the challenges encountered and the efforts undertaken to develop high occupancy public transportation at major airports in the SCAG region. The LAX Master Plan program has identified a number of high occupancy public transportation options some which have been funded. These included Flyways service between LAX and Downtown Los Angeles and the Westside. In the case of Bob Hope Airport, as part of their ground access program, they have identified major transit projects that are currently being studied. Further discussion is presented in Appendix II which describes the California High Speed Rail development program and Appendix III which describes the challenges in implementing express bus services at major airports. Some of the challenges to implement high occupancy public transportation projects are discussed below.

5.1 SPONSORSHIP AND FUNDING OF EXPRESS BUSES

If the analyses recommended in this study are undertaken and show there will be a need for airport express buses from ARTIC to serve Southern California airports, or from various areas in the ONT market area, sponsorship and funding of the services are issues that will need to be addressed.

It is not typical for an airport operator to sponsor an airport express bus or system of express buses to accommodate the ground access trip of the airport user, since the airport operator is primarily concerned with operating the airport safely and efficiently, and the airport operator is not a public transportation operator. The airport operator is concerned with maintaining and improving the airport, and keeping fees reasonable for the airlines, compared to fees being assessed at comparable airports. The two airport express bus systems sponsored by airport operators in the United States are the FlyAway network serving LAX, sponsored by Los Angeles World Airports, and the Logan Express, a system of non-stop buses sponsored by the Massachusetts Port Authority, serving Boston Logan International Airport.

Transit operators are currently struggling with maintaining existing levels of service due to funding cuts. In addition, the transit operator is concerned with serving the entire population and may have difficulty justifying the provision of service that the airport customer needs at the exclusion of the rest of the population. The transit operator often feels the airport operator should provide such service and the airport operator believes it is the responsibility of the transit operator.

In addition to airport operators and transit agencies not having funds available for high occupancy public transportation modes serving the airport customer, or not considering it a priority compared to other projects, there are funding regulations for airport operators and transit operators that can make it difficult to justify operating such a service. Airport operators are concerned with complying with the revenue diversion regulation, as well adhering to the allowable uses of various sources of revenue, such as Passenger Facility Charges (PFCs) and Airport Improvement Program (AIP) funds. Transit operators are concerned with complying with the federal charter regulations. In certain circumstances, a bus service tailored to the airport customer could be construed as a charter service, and the FTA prohibits transit agencies that accept federal funds from operating charter service because it is considered to be in competition with the private sector .

5.2 INSUFFICIENT DATA

Ridership forecasts of airport customers were generally not available for the high occupancy public transportation services identified in this study. Up to date air passenger origin destination survey data was also not available for BUR, LAX, ONT and SNA. A 2011 air passenger origin destination survey is currently being conducted at LAX by LAWA, and the data should be available toward the end of 2011.

5.3 COMMUNITY RESISTANCE

In some instances, the community surrounding an airport may be opposed to new high occupancy public transportation services to the airport, because they are concerned the services will attract more customers to the airport. This seems to be the case at John Wayne Airport.

VI. Recommendations to Assist Future RTP Updates

The review of proposed and potential airport ground access projects and analysis of airport ground access needs undertaken as part of the current update of Airport Ground Access Element of the Regional Transportation Plan has identified a number of areas where additional information or analysis capabilities would be helpful for future updates of the RTP. The following recommendations address future work or studies that SCAG could undertake or encourage airports or other agencies to undertake.

6.1 PERFORM AIRPORT SPECIFIC GROUND ACCESS STUDIES

While the existing regional modeling approach to identifying needed ground access projects or services provides critical information about the impact of vehicle traffic generated by the airports in the region on traffic flows around the airports, it is not always “fine grained” enough to fully identify either the need for or the potential contribution of specific ground access projects at some airports. In particular, for those where major growth is forecast, it is recommended that supplemental ground access studies be performed that provide more detail on the needs around the airports.

While existing environmental studies and airport master plans can provide some of the information needed for the RTP, in many cases they either don’t fully address ground

access needs at the level of detail needed for the RTP or were performed long enough ago that the information they contain is now out of date. In particular:

- Many airport master plans focus only on needs within the airport property. Typically many of the ground access needs are on the surrounding roadways outside of airport property.
- Environmental impact studies and reports have a lot of detailed information and analysis but focus only on the impacts of the specific project being evaluated, so may not consider all of the transportation needs and issues around the airport. In addition, the horizon of these studies tends to be at the completion of the project, often 5 to 10 years out. This is not sufficient to do long-term ground access planning for the airports.
- General Plans prepared for the surrounding municipalities can also provide valuable information on identifying ground access needs. However, for most airports, particularly those not operated by the surrounding city, airport ground access is not the focus of the study and analysis of the transportation needs and priorities around the airports is limited.

Therefore, it would greatly aid the process of updating the ground access element of the RTP if detailed ground access studies were prepared for high growth airports such as LAX and ONT.. These studies would include the following:

- Evaluation of all modes of transportation to and from the airports.
- A study area including major roadways into and out of the airport. At a minimum this would include roadways around the airports extending out to major highways/interstates that feed the airport.
- A horizon year of 20 to 30 years
- Intersection and peak hour specific traffic data collection and analysis.
- Identification of projects needed to facilitate all areas of ground access, including terminal roadways and circulation, parking facilities, entrance gates and facilities, transit and shuttle access, pedestrian linkages between transit and parking facilities and terminal areas, air cargo access, etc.
- Prioritization of project needs.

Because such studies extend beyond the boundaries of the airports, this effort may need to be a combined pursuit of the airport, surrounding communities and other relevant agencies, such as transit providers.

These studies would not be a replacement for the regional planning and analysis that has been done for past airport ground access elements of the RTP. Regional aviation modeling built on robust airport origin-destination data must also continue.

6.2 DEVELOP REGION-WIDE AIR PASSENGER SURVEY

There is a critical need to develop and conduct a regionwide air passenger survey to cover users of all commercial service airports in the region on a consistent and comparable basis that would provide SCAG and the airports with information on the area from which their passenger traffic originates.. This is something that the airports may be willing to contribute toward, if they could add questions of interest to them (perhaps on an airport-specific basis). Where airports are planning to perform their own surveys anyway (as LAWA does from time to time at LAX), SCAG could work with those airports to make sure that questions of interest to SCAG are included and get asked in a way that allows the results to be compared with data from other airports.

6.3 PERFORM A REGION-WIDE STUDY OF AIRPORT EMPLOYEE TRIPS

Analysis of airport employee trips is generally included as part of airport master planning studies and airport ground access planning studies, although the level of detail of those studies varies widely and the results from different airports are difficult to compare due to differences in the timing of the studies. The volume, timing, and mode use of airport employee trips are usually of great interest to the airports and local transportation agencies to determine the impact of employee trips on local streets in the airport environs. Aside from their use for the airport ground access planning, SCAG needs to better understand airport employee travel in order to address this in the regional transportation model. In order to integrate the available data from individual airports and provide a basis for projecting future airport employee travel resulting from projected future changes in airport activity, it would be helpful for SCAG to undertake a region-wide study of airport employee trips.

6.4 DEVELOP NEW REGIONAL AIRPORT GROUND ACCESS MODEL

There is a need for the development of an airport ground access modeling capability that can be integrated with SCAG's regional transportation model. While the regional aviation demand allocation model used in previous RTP updates models airport ground access trips, exactly how it does so is unclear and anyway SCAG does not have access to the model unless it retains the model developers to run the model for it. Therefore SCAG needs to develop its own in-house modeling capability. Exactly what this modeling capability would involve needs further thought, as does the level of resolution that would be practical. For example, a model that can produce peak-period volume/capacity ratios at the intersection level will require a very different level of data and model resolution than one that simply estimates mode splits on an average day basis.

6.5 ANALYSIS OF POTENTIAL FOR AIRPORT EXPRESS BUS SERVICES

The airport ground access project list for the current update of the RTP has identified a number of potential airport express bus services which could benefit from a more detailed analysis of likely ridership, financial feasibility and implementation issues. One such analysis would examine the potential for non-stop airport express buses to serve ONT air passengers, including service between ONT and 1) a station on the Metro Goldline Foothill Extension, 2) a location along the I-10 at least 15 miles east of the airport, 3) a location along the I-10 at least 15 miles west of the airport, and 4) the Anaheim Regional Transportation Intermodal Center (ARTIC). A second study would analyze the potential for a non-stop airport express bus service between ARTIC and LAX. Alternatives for consideration would include exploring how the existing privately operated express bus service between LAX and Anaheim, which primarily serves non-resident air travelers, could be enhanced to serve resident air passengers. A third study would undertake a market analysis of the potential for high occupancy public transportation options to serve SNA customers, including the exploration of bus links between SNA and 1) the Irvine Transportation Center or Tustin Metrolink Station to serve as a connection between Metrolink service, Amtrak service and the airport, and 2) a bus service between SNA and ARTIC. The foregoing studies will require origin destination air passenger survey data for ONT and SNA, or a comprehensive survey of air passenger travel patterns in the region.

6.6 AIRPORT CHOICE ANALYSIS

There is a need to better understand how passengers in Southern California make airport choices and how these choices might change with capacity constraints at the smaller airports or availability of additional high occupancy public transportation services for the airport user. Furthermore, to understand the relationship and overlap between the market areas of the commercial airports serving Southern California, ideally comparable survey data for air passengers with trip origins or destinations in the region would be collected for all of the airports during the same time frame. SCAG would be the most appropriate agency for sponsoring a study of air passenger airport choice behavior, since each airport operator is generally only concerned with the characteristics and travel patterns of its own customers.

6.7 ANALYSIS OF FUNDING OPPORTUNITIES AND CONSTRAINTS

There is a need for further study of the funding constraints and regulatory barriers that limit the provision of high occupancy public transportation services designed to accommodate the airport customer, and how these constraints can be overcome in the Southern California region through different sponsorship models, such as public-private partnerships, partnerships among public agencies, or a regional body.

APPENDIX I: Airport and Agency Contacts

TABLE I.1 Highway, Arterial and Local Street Projects

Airport	Agency	Contact	Title
BUR	Burbank/Glendale/ Pasadena Airport	Mark Hardyment	Director, Environmental Programs
	City of Burbank	David Kriske	Community Development
	City of Glendale	Jano Baghdanian	Traffic Engineer
	City of Pasadena	Bill Trimble	Planner
JWA	John Wayne Airport	Kari Rigoni	Planning Manager
	City of Irvine	Tran Tran	Engineer
	City of Newport Beach	Patrick Alford	Planning Manager
		Fern Nueno	Assistant Planner
	City of Santa Ana	Karen Haluza	Planning Manager
		Melanie McCann	Assistant Planner
LAX	LAWA	Pat Tomcheck	Senior Transportation Engineer
	LAWA	Diego Alvarez	Regional Transportation Coordinator
LGB	Long Beach Airport	Jeff Sedlak	Senior Civil Engineer
MIP	MAFB Airport	Gary Gosliga	Airport Director
	MAFB Airport/March JPA	Dan Fairbanks	Planning Director
	Riverside County TLMA	John Marcinek	NO INFO
	City of Riverside	NO CONTACT	
	City of Moreno Valley	Eric Lewis	City Traffic Engineer
	City of Perris	NO CONTACT	
	March Global Port	Matt Denham	Director of Land Use Services
ONT	LAWA	Kim Ellis	Assistant Airports Manager
	City of Ontario	Tom Danna	Traffic/Transportation Manager
PMD	City of Palmdale	Mike Behen	NO INFO
PSP	PS Int'l Airport/City of Palm Springs	Tom Nolan	Executive Director
	City of Palm Springs	George Farago	Associate Civil Engineer
SBI	SBD Airport	Bill Ingraham	Aviation Director
SCL	City of Victorville	Victor Fajardo	Traffic

Also contacted Damon Davis, Planning, Caltrans D12 and Ty Schuiling, Director of Planning, SANBAG, but no input received.

TABLE I.2 High Occupancy Public Transportation

LAX	▪ Pat Tomcheck, Los Angeles World Airports
	▪ Bob Burlingham, Transportation Planning Associate, Los Angeles World Airports
	▪ Diego Alvarez, Los Angeles World Airports
BUR	▪ Mark Hardyment, Director, Environmental Programs, Bob Hope Airport
	▪ Michael Kodama, Executive Director, OLDA
	▪ Bob Huddy, OLDA
SNA	▪ Kari Rigoni, Planning Manager, John Wayne Airport, County of Orange
	▪ Gordon Robinson, Project Manager, Strategic Planning, OCTA
	▪ Kurt Brotcke, OCTA
	▪ Michael Litschi, OCTA
	▪ Shohreh Dupuis, Manager of Transit and Transportation, City of Irvine
ONT	▪ Pat Tomcheck, Los Angeles World Airports
	▪ Bob Burlingham, Los Angeles World Airports
	▪ Tom Danna, City of Ontario
ARTIC	▪ Jamie Lai, City of Anaheim
Metrolink	▪ Gray Crary, Metrolink
SCAG	▪ Michael Armstrong
	▪ Matt Gleason
	▪ Alan Thompson
	▪ Stephen Fox

Airport plans, community general plans and major project environmental studies were also collected for each of the airports and are discussed with each of the airports in Section IV.

APPENDIX II: High Occupancy Public Transportation and High Speed Rail

II.1 High Speed Regional Transport System

A high speed regional transport system has been a consideration in a number of the recent RTP updates, although the details of the proposed system have evolved over time. In the 2004 RTP a regional magnetic levitation (Maglev) high-speed transportation system was envisioned, with one of its primary goals being to provide interconnectivity between the regional airports, allowing passengers to make connections between the airports or to more effectively use an airport that might not be the closest airport to their home or destination. The 2008 RTP included a similar system, although designated High Speed Regional Transport (HSRT) instead of Maglev. The network was essentially the same. This proposed system has since been dropped from consideration.

The state of California is now planning a statewide high-speed rail (HSR) system. While it includes some of the same segments, the focus is more on long-distance travel and the number of stops would be limited. In addition, Los Angeles International Airport (LAX) is not directly served. While planning for the statewide system is ongoing, funding has only been identified for the Fresno to Bakersfield segment, with no current funding for extension into the Los Angeles area.

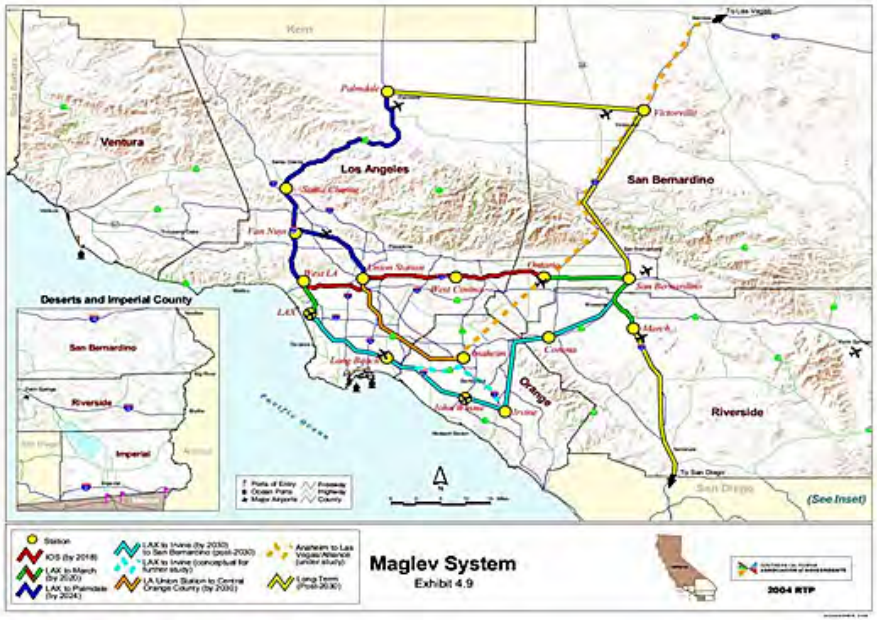
It should be noted that in both the 2004 and 2008 RTPs, the Maglev and HSRT systems were not assumed to occur in the low air travel demand growth scenarios; only the high air travel demand growth scenarios envisioned the development of such a system.

2004 MAGLEV SYSTEM

According to the 2004 RTP, the planned Maglev system was included as a component of the transportation network, in part to "facilitate the development of a regional airport system, and connect to major activity and multi-modal transportation centers in Los Angeles, Riverside, San Bernardino, and Orange Counties. Without a regional airport in El Toro, the Region needs to further decentralize its future growth in air passenger traffic and air cargo to its regional airports in the northern and eastern portions of the Region. Therefore, the Maglev system becomes more important and critical to the success of SCAG's decentralized regional aviation system."

The Maglev system was to be an elevated monorail system operating at speeds up to 310 mph and included an extensive network within the region as depicted on **FIGURE II.1** below.

FIGURE II.1 2004 RTP Maglev System



Source: SCAG, 2004 RTP

2008 HSRT SYSTEM

In the 2008 RTP, the term High Speed Regional Transport (HSRT) was used in lieu of Maglev, but the network maintained many of the same characteristics and goals, including decentralization of airport demand. The Initial Operating Segment (IOS) was envisaged to extend from West Los Angeles to Ontario International Airport, with subsequent extensions to LAX and March Inland Port.

CURRENT HIGH-SPEED RAIL PLANNING

Although the proposed HSRT system is no longer being pursued by SCAG, planning efforts are currently in progress by the California High-Speed Rail Authority (CHSRA) to develop a statewide high-speed rail system that would include segments in the SCAG region. Following the completion of a Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) in August 2005, a series of Alternatives Analysis studies have been prepared that have explored the various segments of the planned statewide network in more detail. The proposed segments in Southern California broadly follow some of the corridors proposed for the HSRT, including lines from Palmdale to Los Angeles, from Los Angeles to Anaheim, and from Los Angeles to Murrieta via Ontario and Riverside, as shown in **FIGURE II.2**. However, the other regional HSRT routes are no longer under consideration as part of the HSR network.

FIGURE II.2 Alternative Alignments for the California High-Speed Rail System in Southern California



Source: California High Speed Rail Authority Website

The Palmdale to Los Angeles line would serve the following airports:

- Palmdale Regional Airport – The HSR station would be approximately four miles from the airport, near the Palmdale Transportation Center, or slightly closer at Palmdale West Station, but could be accessed from the airport by a transit connector route proposed in the 2008 Airport RTP (PMD-14-08).
- Burbank/Bob Hope Airport – The HSR line would stop at the Burbank Buena Vista Station adjacent to the airport.
- The segment would terminate at Union Station in downtown Los Angeles and would not connect directly to LAX, approximately 12 miles southwest of downtown (or about 20 miles via the freeway system). Other public transportation services, including FlyAway busses operated by Los Angeles World Airports, currently provide service between LAX and Union Station.

The Los Angeles to Anaheim segment would originate at Union Station and extend to the proposed Anaheim Regional Transportation Intermodal Center (ARTIC) in Anaheim. This line was originally planned to extend to Irvine, but the current (July 2010) Supplemental Alternatives Analysis Report shows the line ending in Anaheim. No airports would be directly served but indirect access could be provided by connector service to the following airports:

- John Wayne Airport-Orange County – Located about 10 miles south of ARTIC. A connector service could be provided to ARTIC.
- Long Beach Airport – Located about 8 miles southwest of the planned Norwalk station on the Los Angeles to Anaheim segment. A connector service would be required to serve the airport.

The Los Angeles to San Diego segment has a number of alternative alignments through the SCAG region. There are a variety of alternative routes between Union Station and Ontario International Airport, but all would converge near the Ontario Airport. Between Ontario and San Diego, there are also multiple alternatives, generally following either I-15 or I-215. One of the I-215 sub-alternatives loops into San Bernardino, the other remains on the I-10 and I-215 alignments. Airports served along these alignments include:

- Ontario Airport – An HSR station would be provided immediately adjacent to the airport in all of the alternatives.

- San Bernardino Airport – One alignment swings east near the airport, with a station located about 2 miles west of the airport adjacent to I-215. The I-10/I-215 alignment would have a station about 10 miles west of the airport on I-10. Either of these would require some sort of connector service.
- March Inland Port – The I-215 alignment would have a station near the south side of the present March Air Reserve Base, but not directly adjacent to the planned passenger terminal area at MIP. The I-15 alignment would not provide access to MIP.

The planned California High Speed Rail network would not provide service in the proximity of the Southern California Logistics Airport or Palm Springs Airport.

Further details of the planned HSR system in the SCAG region are provided in Section 2.3 below.

II.2 High Occupancy Public Transportation

When the term high occupancy transportation is used in the airport environment, it sometimes includes transportation services that do not operate on a schedule, such as shared ride van or high occupancy limousine. For the purposes of this report, the term high occupancy public transportation service refers to scheduled bus, rail and light rail services.

For the airport user to consider using a high occupancy public transportation service to travel to and from the airport instead of their preferred mode, it must be available, accessible, and offer competitive travel times. At most airports, the majority of air passengers use modes that provide door to door service when the air passenger is ready to make the ground access trip. **TABLE II.1** shows the mode share for resident air passengers at LAX and ONT using door to door unscheduled (on-demand) ground transportation modes to travel to the airport.

TABLE II.1 Resident Air Passenger Mode Choice, Door to Door On-Demand Ground Transportation Options

Mode	ONT (2001)	LAX (2006)
Auto	92%	71%
Taxi/Limousine	1%	11%
Total	93%	82%

Source: LAWA: 2001 Ontario Passenger Survey Report, Table 44, Page 43; 2006 LAX Air Passenger Survey Report, Figure 20, Page 30.

This section begins by discussing the travel characteristics of air passengers by customer group, and the characteristics of airport employees. It is followed by a presentation of the most important service characteristics for a high occupancy public transportation service that has the potential to attract air passengers and airport employees.

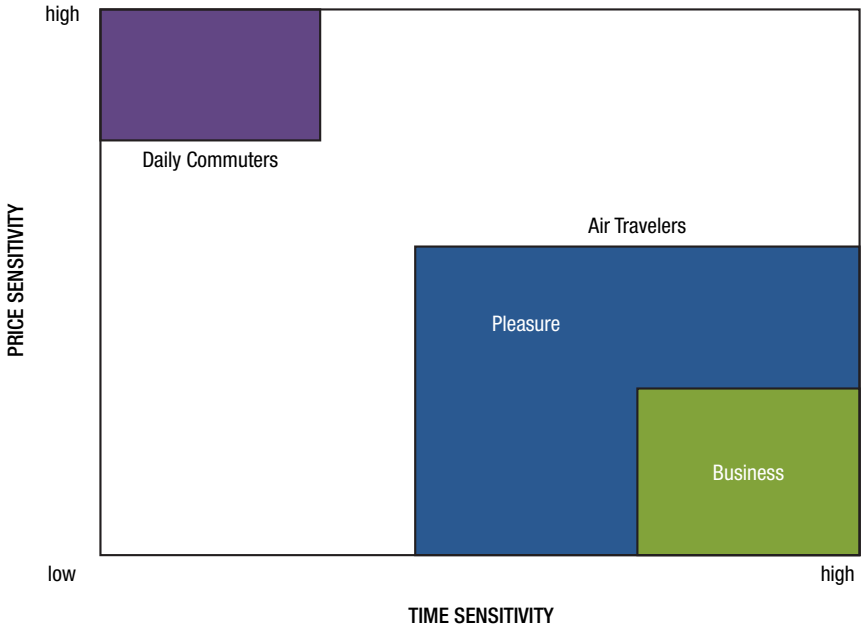
II.2.1 CUSTOMER GROUPS

II.2.1.1 Air Passengers

The ground transportation trip to the airport is a means to an end; the passenger is concerned with arriving at the airport with enough of time to check luggage (if necessary), be processed through the security line, and board the flight. The air passenger will make a decision on how to travel to and from the airport based on available ground transportation options, travel time tolerances, and budget. In general, the purpose for the air travel and the resident status of the air passenger in relation to the airport market area will influence the ground access decision.

Trip Purpose: Often the air traveler who is traveling primarily for business will be reimbursed for travel by their employer. In general the business traveler will be less price sensitive and more time sensitive when developing a trip itinerary, including the choice of ground transportation mode to and from the airport, compared to the non-business traveler, who will be more cost conscious and less concerned about total travel time. Both travel groups will be more time sensitive and less price sensitive when choosing a ground transportation mode to the airport than a commuter who is selecting a mode to travel to work on a regular basis. **FIGURE II.3** illustrates sensitivity to ground transportation travel times by customer group.

FIGURE II.3 Time and Price Sensitivity to Ground Transportation by Customer Group



Source: DMR Consulting, August 2011

Resident Status in Relation to Airport Market Area: An air passenger who resides in the market area of the airport will typically have a better understanding of the available ground transportation options to the airport than a traveler who is visiting the region. If the resident air traveler owns an auto, then driving to the airport and parking the auto at or in the vicinity of the airport for the duration of the air trip is one of the ground transportation options the air traveler may choose from. The non-resident air traveler would not park an auto at the airport because any auto that could be parked would be located in the region where the traveler resides. A rental car is one of the ground transportation options that the non-resident air traveler may choose from, while this is an unlikely choice for a resident air passenger. **TABLE II.2** provides the generic airport ground transportation choices for the resident and non-resident air passenger.

II.2.1.2 Airport Employees

Airport employees staff the airport continuously during airport operating hours. For most large and medium hub commercial airports, the airport is open 365 days per year, and for at least 18 to 20 hours per day. For functions that require providing service to air passengers or the processing of air cargo, employees must be at the airport to fulfill their duties from the first through the last flight, which means some employees must arrive at the airport earlier than the first customer and depart later than the last customer. Employee commuting options will be based on what is available to accommodate their work schedule that will get them to their place of employment at the airport. Work schedules and workplace location will vary depending on airport employee categories.

TABLE II.2 Generic Airport Ground Transportation Options by Residence Status

Mode	Airport Market Area	
	Resident	Non-Resident
Private Auto: Pickup and Dropoff	√	√
Private Auto: Park for Duration of Air Trip	√	
Rental Car		√
Taxicab	√	√
Limousine	√	√
Shared Ride Van	√	√
Scheduled Bus	√	√
Light Rail, Subway, Heavy Rail	√	√

Source: DMR Consulting, August 2011

Employees at the airport consist of flight crews, administrative workers, and shift workers that work for a variety of agencies and companies including the airport operator, the Transportation Security Administration (TSA), the Federal Aviation Administration (FAA), airlines, concessions, rental car companies, and cargo companies. An airport operator typically employs less than ten percent of the employees working at an airport. Shift workers may be subject to unscheduled overtime, based on circumstances such as delayed flights.

Flight crews, which consist of airline pilots and flight attendants, exhibit airport ground access travel behavior that is similar to air passengers. Although some commute to and from the airport on the same day when they are working on flights of short duration, many have work schedules, called tours of duty, that require them to be away from the region where they live for one or more nights. This, combined with a limitation on the number of work hours per month means that flight crew members do not commute to the airport as often as an administrative employee or a shift worker.

Employees who report to work in the vicinity of the terminal area will typically have more high occupancy public transportation options for commuting than employees who work in other areas of the airport. For example, the Los Angeles World Airports office facilities at LAX are located in the terminal area (Administration East), and on the west side of the airport (Administration West). It is approximately a ten to fifteen minute drive to get from the terminal area to the Administration West building. The transit options that are available between the two buildings often add thirty minutes or more to the one way commute time, which makes high occupancy public transportation options unattractive compared to the single occupant commute by auto to the airport.

Airport employees will factor the cost of their commute options into their decision similarly to how commuters with traditional work schedules do.

II.2.1.3 Key Service Characteristics for High Occupancy Public Transportation to Airports

This section presents the service characteristics of high occupancy public transportation services that make them viable choices for each customer group.

Flight Schedule: The high occupancy public transportation service must offer sufficient frequency and hours of operation to accommodate the majority of the flight schedule. An air passenger requires transportation that will offer a departure time at the terminus point that accommodates the airport arrival time necessary to be processed for the enplaning flight, and a departure time at the airport that will allow for the time necessary to board the high occupancy public transportation service after the flight lands. If the high occupancy public transportation service does not accommodate both trip ends, the air passenger is not likely to use it. For a large hub airport, the air passenger may need to arrive at the airport 90 to 120 minutes prior to the flight departure time, and may not be available to leave the airport for 30 to 90 minutes after the flight lands, depending on the level of activity in the terminal, if the passenger has checked luggage, and whether the flight is domestic or international.

In general, a service that will be attractive to airport users will operate seven days per week, and offer early morning and late evening service, with frequencies that consider the time sensitivity of both air passengers and airport employees. Some airport employees must be at the airport earlier than the first group of departing air passengers and later than the last group of arriving air passengers, and this must be considered if the high occupancy public transportation service is also meant to accommodate airport employees.

An example of a high occupancy public transportation service that does not accommodate the flight schedule is the Metrolink Riverside line that operates between downtown Los Angeles and Riverside. For a passenger that needs to travel between Riverside and Ontario International Airport, the service only operates between Riverside and East Ontario from Monday through Friday, and offers five trips departing Riverside between 4:42 a.m. and 8:15 a.m., and a sixth and final trip at 3:07 p.m. Even if a shuttle service was provided between the East Ontario Metrolink Station and the airline terminals at Ontario International Airport, the rail service on the Riverside Metrolink Line does not accommodate the flight schedule.

An example of a high occupancy public transportation service that does accommodate the flight schedule, and has been very successful in serving both air passengers and airport employees is the Union Station FlyAway that travels non-stop between Union Station in downtown Los Angeles and all of the terminals at LAX. It operates 365 days per year and 24 hours per day. It offers hourly service from 1 a.m. to 5 a.m. and half hourly service for the rest of the 24 hour period.

Competitive Travel Times: The high occupancy public transportation service must offer competitive travel times compared to the more commonly used modes, when considering the departure time from the point of origin and the arrival time at the airport. Service frequency, number of transfers and number of stops along the route all impact total ground access travel time. The travel route taken by the public transportation service will also impact travel time. A service traveling along a fixed guideway or a high occupancy vehicle lane will generally be quicker, or be perceived to be quicker, than a service that is sharing the road with the more commonly used modes.

An example of a high occupancy public transportation service that does not offer competitive travel times compared to commonly used modes is Metrorail service between Union Station in downtown Los Angeles and LAX. It requires two transfers between light rail lines and a transfer to a shuttle bus for a total of three transfers, and also makes multiple stops along the route.

An example of a high occupancy public transportation service that offers competitive travel times compared to more commonly used modes is the Union Station FlyAway that travels non-stop between Union Station in downtown Los Angeles and all of the terminals at LAX, with 24 hour service, at hourly intervals from 1 a.m. to 5 a.m. and half hourly intervals for the rest of the 24 hour period.

Location of Boarding Point: The location of the boarding point for the high occupancy public transportation service should be along a traditional travel route to the airport. Air Passengers in the market area of the high occupancy public transportation service are more likely to use their preferred mode to the airport along the travel route they are accustomed to taking, rather than divert to a different route or travel away from the airport (backtrack) along their traditional route if it adds more than a few minutes to their travel time.

FIGURE II.4 shows a map of the primary air passenger market area for the Van Nuys FlyAway serving LAX. This is the geographic area from which the majority of LAX air passengers using the Van Nuys FlyAway begin or end their ground access trip. A small proportion of Van Nuys FlyAway passengers originate in areas that require them to travel in the opposite direction from LAX to begin the FlyAway trip.

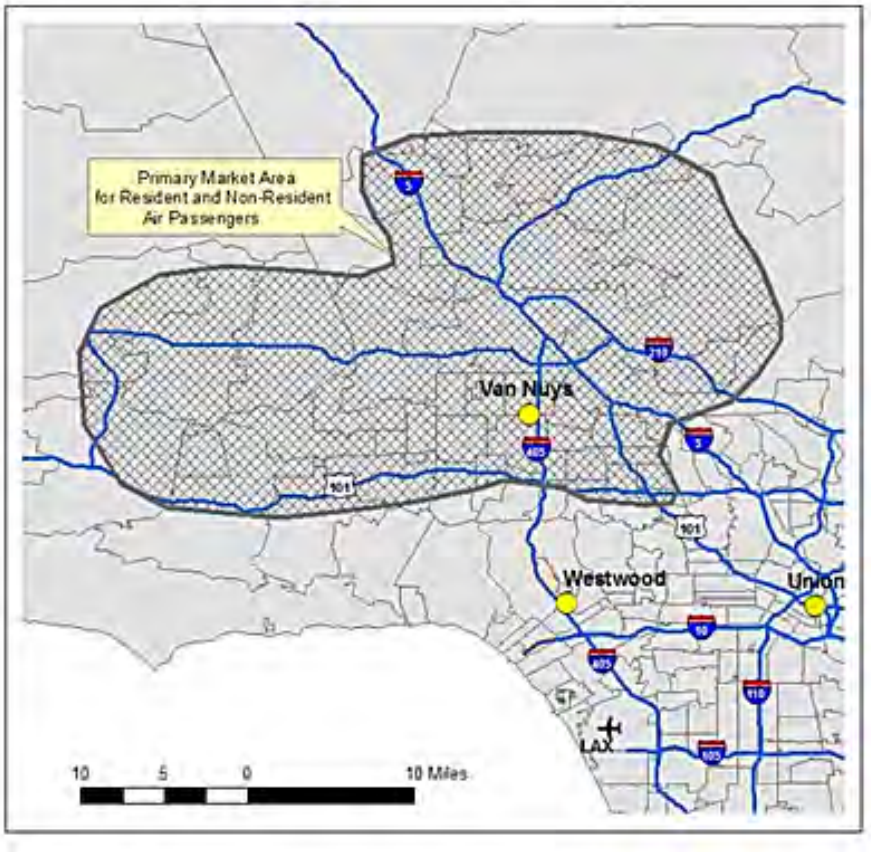
Airport employees may be willing to backtrack a little farther than air passengers if there are other reasons for doing so such as reduced fares on the high occupancy public transportation service that are attractive compared to the price of fuel and parking, or being dropped off and picked up closer to the place of employment compared to the location of the employee parking supply at the airport.

Access to Boarding Point: Air passengers and airport employees must be able to get to and from the boarding point of the high occupancy public transportation service to utilize it. A sufficient supply of overnight parking should be provided for air passengers that wish to park their auto for the duration of their trip, with parking rates that are perceived to be attractive compared to parking rates in the vicinity of the airport. Airport employee parking should be segregated from air passenger parking to ensure there is sufficient parking for air passengers.

II.2.1.4 The Role of High Occupancy Public Transportation in Airport Choice

There should be an area that is convenient for air passengers being dropped off or picked up in a private auto or taxi, including sufficient short duration parking near the boarding point of the high occupancy public transportation service. If the market area of the high occupancy public transportation service is located in an area with good public transportation connections, the connections should serve the location of the boarding point. This will be particularly useful for airport employees and for some non-resident air passengers who may prefer public transportation options when they travel.

FIGURE II.4 Van Nuys FlyAway Primary Market Area



Source: MarketSense Consulting, based on the 2006 LAX Air Passenger Survey and the 2008 Van Nuys FlyAway Survey.

The availability of high occupancy public transportation choices that are tailored to airport users increases the likelihood that an air passenger will choose high occupancy transportation over lower occupancy modes to access the airport, but this decision typically happens after the air passenger has chosen the airport. The decision to use one airport over another in a region is typically driven by the characteristics of the flights offered at each airport – availability, frequency, non-stop flights and the price of the flight, with the importance of each factor varying with the individual traveler and their specific trip.

One recent study, ACRP Report 34, A Handbook to Address Constrained Parking at Airports, explored why air passengers choose an airport in a region with multiple airports to determine if passengers are more likely to choose a competing airport with a sufficient parking supply over an airport that consistently has an insufficient parking supply to accommodate some or all customers. The study included nine airports that are located in a region with multiple airports. Representatives of the airport operator were asked if they thought the constrained parking situation at their airport was causing some of their passengers to choose competing airports. Most of them indicated that they believe constrained parking does not influence an air passenger's choice of airport, and that it was the characteristics of the flight or a customer's proximity to the airport that was more important.

An online stated preference survey was conducted, sampling resident air passengers in eight of the regions with multiple airports to determine how air passengers traveled to the airport for their most recent flight, and how they would choose their mode of access to the airport under constrained parking conditions. A question was asked about the factors air passengers take into consideration when choosing an airport, and more passengers ranked the various characteristics of the flight as being an important factor in airport choice than those who ranked the availability of public transportation or parking at the airport. This is shown in **TABLE II.3**.

TABLE II.3 Factors Influencing Airport Choice of the Resident Air Passenger in a Multi Airport System

Factor	High Influence Ranking[2]
Price of Airline Ticket	89%
Available Direct Flights	84%
Total Travel Time	79%
Frequent Flights	73%
Flights with Preferred Airline	72%
Wide Selection of Airlines	60%
Familiarity with Airport	57%
Ease Getting through Airport Security	55%
Reliable Transit to/from Airport	48%
Ground Transportation to/from Airport	46%
Available Parking at Airport	40%
Variety of Restaurants/Shops	14%

Source: ACRP 10-06, Final Report, March 2010, Appendix E, Table 11.

[1]413 total responses from resident air passengers using BOS, CMH, HSV, IAD, MIA, OAK, SAT, TUL
[2]Percentage of answers rated 4 or 5 to question "What influences your decision when choosing which airport to fly from on a trip?", with 1 being "no influence at all", and 5 being "very high influence."

Nearly 50 percent of respondents did indicate that reliable transit to/from an airport had a high influence on airport choice, so one could draw the conclusion that if the characteristics of flights between competing airports are about the same, the availability of high occupancy public transportation options that accommodate airport users would influence airport choice.

Southern California residents were not included in the survey. A survey of Southern California resident air passengers is worth considering to determine if they choose airports with emphasis on the same or different criteria.

II.3 CALIFORNIA HIGH-SPEED RAIL SYSTEM

The general configuration of the planned California HSR system is shown in **FIGURE II.5**. The CHSRA is currently in the process of preparing a project-level Environmental Impact Report/ Environmental Impact Statement (EIR/EIS) and has divided the system into the eight segments shown in Figure II.5, for each of which an Alternatives Analysis has been completed that has studied alternative route alignments and station locations and selected those to be carried forward to the EIS/EIR. From the perspective of airport ground access in Southern California, the three key segments are:

- Palmdale to Los Angeles Union Station
- Los Angeles Union Station to Anaheim
- Los Angeles Union Station to San Diego

FIGURE II.5 Planned California High-Speed Rail Network



Source: CHSRA, Report to the Legislature, December 2009.

The Palmdale to Union Station segment includes a station adjacent to Bob Hope Airport, the Union Station to Anaheim segments will end at the planned Anaheim Regional Transportation Intermodal Center (ARTIC), from which a transportation connection could be provided to John Wayne Airport. In addition, the Palmdale to Union Station segment could provide access to Palmdale Regional Airport if commercial air service were to resume there. Both the Palmdale to Union Station and the Union Station to Anaheim segments are part of the Phase 1 system.

The Union Station to San Diego segment is planned to comprise one of the Phase 2 extensions of the system and will include a station adjacent to Ontario International Airport, while some of the alternative routes being considered for this segment could include stations near San Bernardino International Airport or March Inland Port.

II.3.1 Palmdale to Union Station

The currently proposed alternative alignments and station locations for the Palmdale to Union Station segment of the planned California HSR system are shown in Figure II.6. The alignment alternatives only affect the route between Palmdale and Sylmar and the route into Union Station.

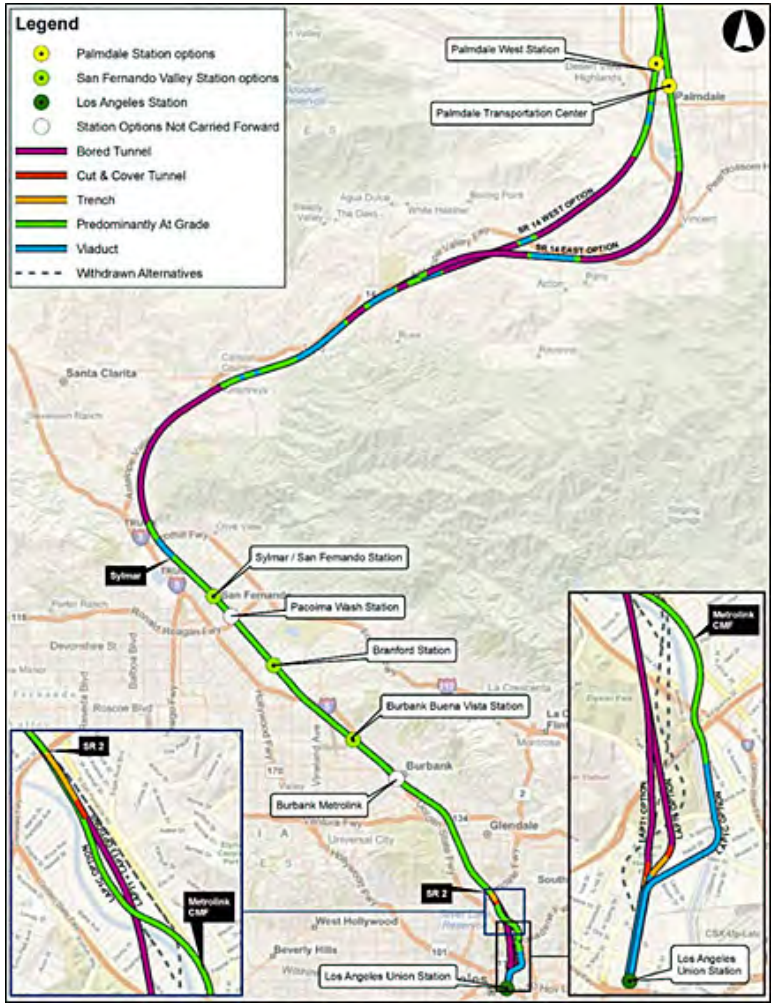
All alignment alternatives for this segment include the planned Burbank Buena Vista station adjacent to Bob Hope Airport (BUR), as shown in **FIGURE II.7**. Although details of the transportation link between the station and the airport have not been defined, it seems likely that the airport would provide a shuttle bus connection to the station.

The station would provide access to BUR from downtown Los Angeles via Union Station, as well as communities in the Santa Clarita and Antelope Valleys via planned HSR stations at Sylmar and Palmdale. However, the planned Sylmar/San Fernando station is sufficiently close to BUR that it is unlikely to attract many airport trips from communities in the Santa Clarita Valley, since by the time an airport traveler has accessed the HSR station, it would not take that much longer to reach the airport.

Access to BUR from Union Station, which itself has good transit connections from communities to the east and south of downtown Los Angeles, could expand the potential market area served by BUR.

The station would also provide access to BUR from communities in the Central Valley, although given the future capacity constraints at BUR resulting from a settlement agreement between the airport authority and the City of Burbank, using limited airport capacity to serve passengers from outside the region may not be viewed as a positive development.

FIGURE II.6 Proposed Alignment Alternatives and Station Locations for the HSR Segment from Palmdale to Union Station



Source: CHSRA, Palmdale to Los Angeles Section – Supplemental Alternatives Analysis Report, Volume 1, March 2011, Figure 2.0-1.

FIGURE II.7 Proposed Location for the Burbank Buena Vista Station



Source: CHSRA, Palmdale to Los Angeles Section – Preliminary Alternatives Analysis Report, Volume 1, July 2010, Figure 4.5-7.

Two station location options have been defined for the Palmdale station, depending on the route alignment alternative selected, as shown in **FIGURE II.8**. Both options are some way from the Palmdale Regional Airport, which is located on 20th Street East north of East Avenue P, at the top right corner of **FIGURE II.8**. The more southerly of the two locations (shown as Option 1 in **FIGURE II.8**) is described as being adjacent to the Palmdale Transportation Center, although there is no discussion of services anticipated to be provided at this facility in either the Preliminary Alternative Analysis Report or the Supplementary Alternatives Analysis Report.

Although details of the transportation link between the station and the airport have not been defined, it seems likely that the airport would provide a shuttle bus connection to the station.

FIGURE II.8 Proposed Location Options for the Palmdale Station

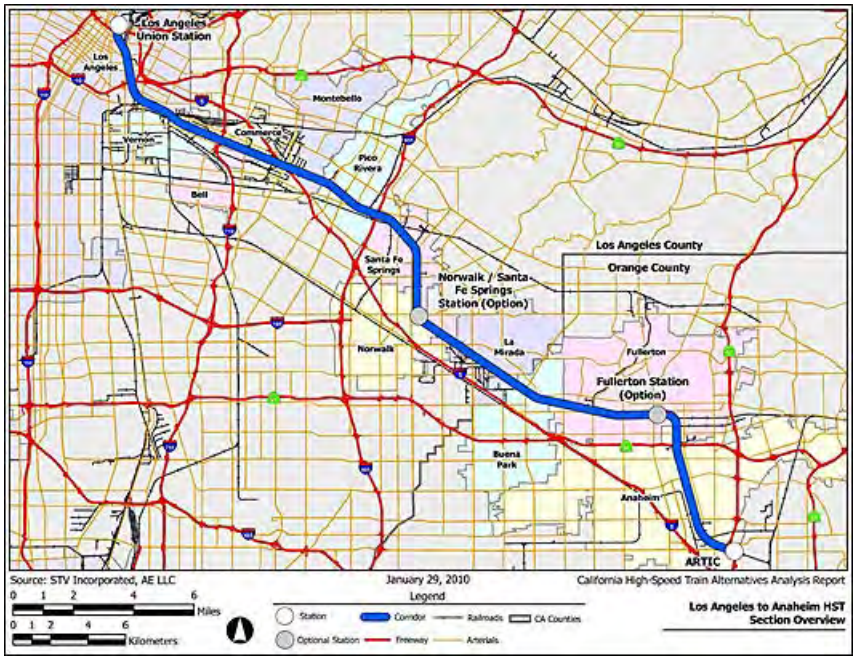


Source: HSRA, Palmdale to Los Angeles Section – Preliminary Alternatives Analysis Report, Volume 1, July 2010, Figure 4.6-7.

II.3.2 UNION STATION TO ANAHEIM

The currently proposed alternative alignments and stations locations for the Union Station to Anaheim segment of the planned California HSR system are shown on **FIGURE II.09**. This segment has relatively limited alignment alternatives that are largely restricted to the route into Union Station from the south. At present Union Station does not have any through tracks and trains arrive from and depart to the north to a major junction at the Los Angeles River. The segment alignment between Union Station and Anaheim generally follows existing railroad right-of-way (ROW) on the so-called LOSSAN corridor (Los Angeles to San Diego), with alternatives addressing how the HSR tracks will share the ROW with tracks carrying freight and Metrolink trains and address street crossings.

FIGURE II.09 Proposed Alignment Alternatives and Station Locations for the HSR Segment from Union Station to Anaheim

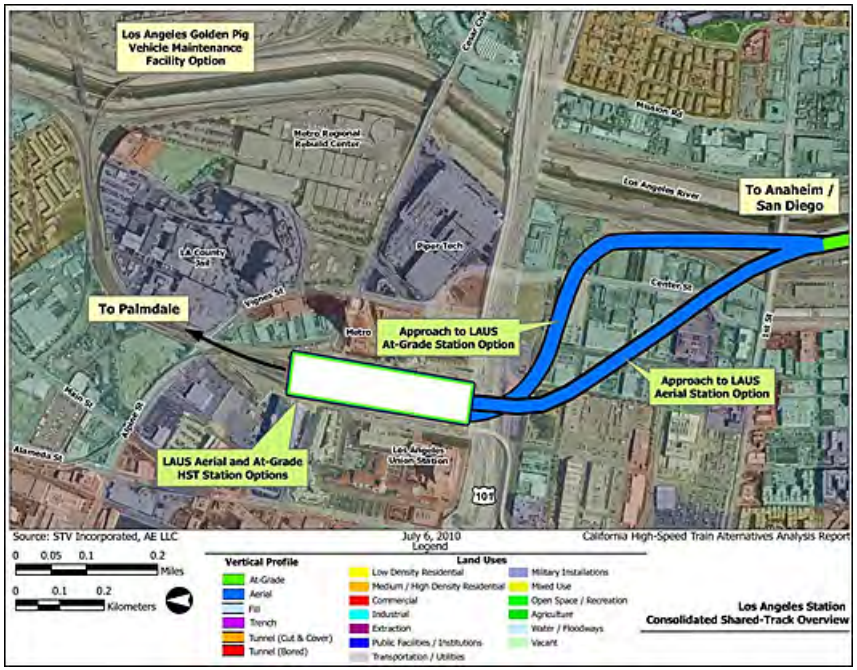


Source: CHSRA, Los Angeles to Anaheim Section – Supplemental Alternatives Analysis Report, July 2010, Figure 1.3-1.

Five alternatives for locating HSR tracks and platforms at Union Station were evaluated in the Supplemental Alternatives Analysis Report, of which two were selected to be carried forward to the Draft EIR/EIS, as shown in **FIGURE II.10**. One option places the HSR platforms at grade in the area currently occupied by existing platforms. The other option places the platforms on an aerial structure above the existing platform. The at-grade option would relocate the platforms serving Amtrak and Metrolink trains to the east and locate the HSR platforms between those new platforms and the Metro Gold Line tracks

adjacent to the main station building. Both options involve aerial structures to connect the station to the existing railroad ROW along the Los Angeles River to the south. The aerial approach structure for the at-grade option would involve a sharper curve to minimize disruption to the Arts District buildings to the south of the station. The approach structure for the aerial station options, being higher, could take a more direct route.

FIGURE II.10 Proposed Alignment Alternatives for HSR Tracks at Union Station



Source: CHSRA, Los Angeles to Anaheim Section – Supplemental Alternatives Analysis Report, July 2010, Figure 5.1-1.

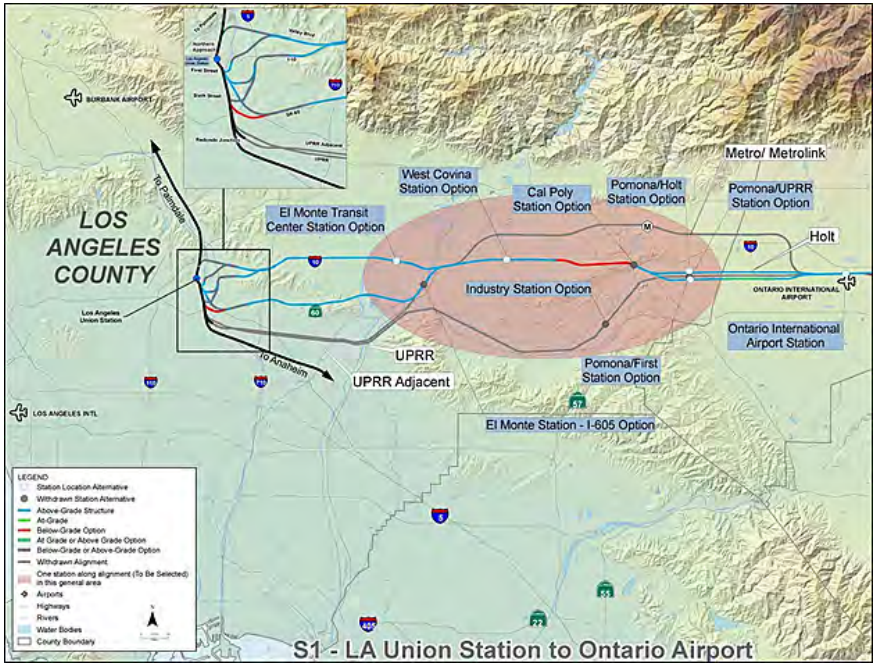
There are no alternative alignments or station configuration issues being considered for the HSR station at the Anaheim Regional Transportation Intermodal Center (ARTIC). Since some trains from the ARTIC station would run through Union Station and stop at Burbank Buena Vista station, this could significantly improve access to Bob Hope Airport from Orange County. While air travelers to and from Orange County are not likely to find BUR an attractive option as long as capacity is available at John Wayne Airport (SNA), if SNA begins to reaches capacity before BUR, some air passengers may be able to find sufficiently less expensive flights at BUR to justify the cost and travel time involved in using the HSR to access BUR.

Transportation links between ARTIC and SNA will also serve Metrolink and Amtrak trains at ARTIC and are addressed in the sections of this report on high-occupancy public transportation.

II.3.3 Union Station to San Diego

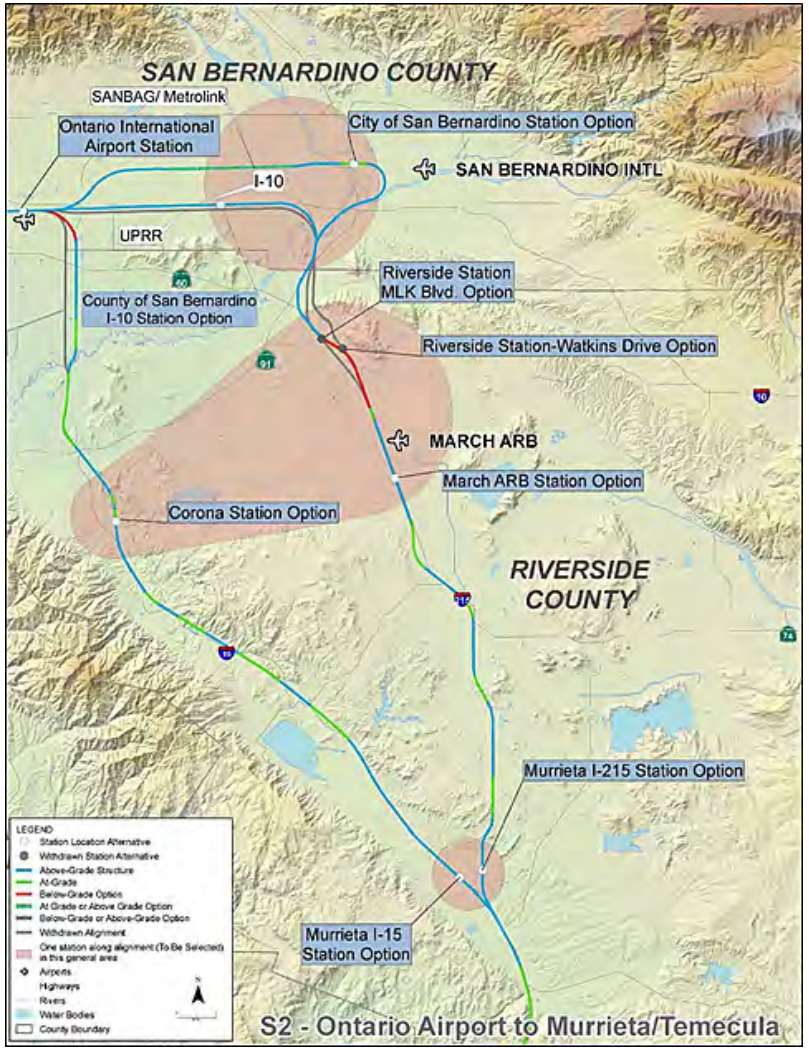
The segment of the California HSR system from Los Angeles Union Station to San Diego will not be constructed until Phase 2 of the planned system development. As a consequence, the planning for this segment is not as advanced as for the segments between Palmdale and Anaheim, and currently several alternative alignments are under consideration for the part of the segment from Union Station through the Inland Empire (San Bernardino and Riverside counties), as shown in **FIGURES II.11** and **II.12**.

FIGURE II.11 Proposed Alignment Alternatives and Station Locations for the HSR Segment from Los Angeles to San Diego – Subsection 1



Source: CHSRA, Los Angeles to San Diego via the Inland Empire Section – Preliminary Alternatives Analysis Report, March 3, 2011, Figure ES-1.

FIGURE II.12 Proposed Alignment Alternatives and Station Locations for the HSR Segment from Los Angeles to San Diego – Subsection 2



Source: CHSRA, Los Angeles to San Diego via the Inland Empire Section – Preliminary Alternatives Analysis Report, March 3, 2011, Figure ES-2.

Several alternative alignments have been analyzed between Union Station and Ontario International Airport (ONT), with variations on the route from Union Station to the Interstate 10 (I-10) or State Route 60 (SR 60) corridors to the east of downtown Los Angeles. A more southerly route following the Union Pacific Railroad (UPRR) tracks via the City of Industry was subsequently withdrawn from further consideration. Similarly, a more northerly route following the Metrolink and planned Gold Line route was also withdrawn, leaving a single route from El Monte to Pomona. From Pomona to ONT the route follows the UPRR corridor with two alternative alignments: to the north of the UPRR ROW along Holt Blvd. and to the south of the UPRR ROW along First Street and State Street, that run adjacent to the railroad tracks.

The location of the planned ONT station relative to the airport passenger terminal is shown in **FIGURE II.13**.

FIGURE II.13 Proposed Location for the Ontario Airport Station



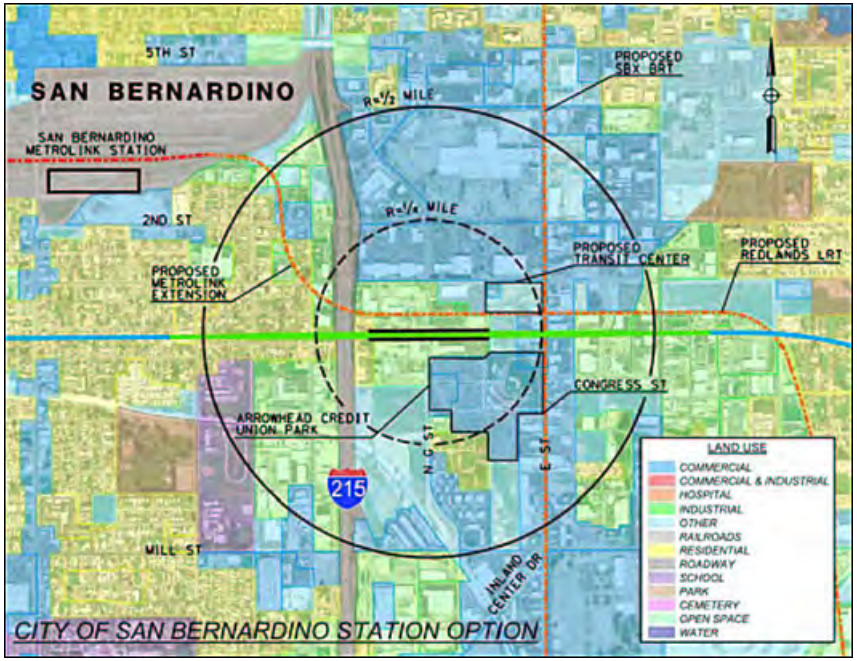
Source: HSRA, Los Angeles to San Diego via the Inland Empire Section – Preliminary Alternatives Analysis Report, March 3, 2011, Figure 3-78.

The HSR alignment follows Airport Drive to the south of the UPRR tracks and separated from the passenger terminals by the airport parking lots. The station is only about 500 feet from the western domestic passenger terminal curb (Terminal 2), a feasible walk. However, the passenger terminals extend for about 3,000 feet along Terminal Way so a shuttle bus or people-mover will be needed for passengers to access the other terminals.

From ONT to Murrieta in southern Riverside County the alternative alignments follow the I-15 corridor via Corona or the I-215 corridor via the City of Riverside and March Air Reserve Base (ARB), with a number of route options through the City of San Bernardino and the City of Riverside. The more northerly alignment option through the City of San Bernardino provides a station in the city center to the west of San Bernardino International Airport, while the southerly option follows the I-10 corridor with a station in an unincorporated area of San Bernardino County between the cities of Fontana and San Bernardino.

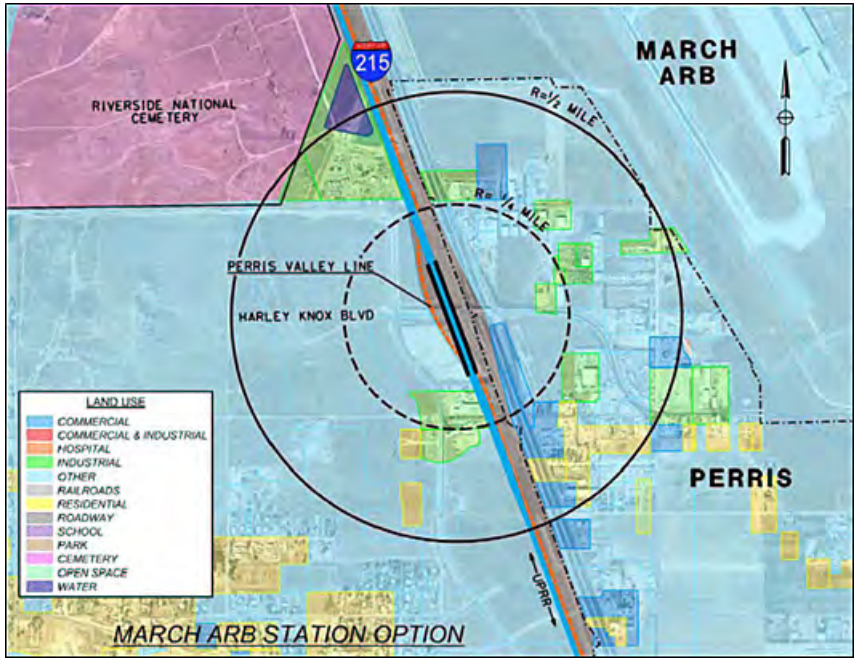
The location of the potential City of San Bernardino station is shown in **FIGURE II.14**. The station is located adjacent to a proposed transit center and the intersection of a proposed bus rapid transit line and a light rail transit line, together with an extension of the Metrolink line to the transit center. However, San Bernardino International Airport (SBD) is about two miles east of the HSR station and is not planned to be served by any of these transit lines. Thus access to the airport would need to be by shuttle bus from the transit center.

FIGURE II.14 Proposed Location for the City of San Bernardino Station



Source: HSRA, Los Angeles to San Diego via the Inland Empire Section – Preliminary Alternatives Analysis Report, March 3, 2011, Figure 3-79.

FIGURE II.15 Proposed Location for the March ARB Station



Source: CHSRA, Los Angeles to San Diego via the Inland Empire Section – Preliminary Alternatives Analysis Report, March 3, 2011, Figure 3-79.

The March ARB station is located on the west side of I-215 at the Harley Knox Blvd. interchange adjacent to March Inland Port (MIP), as shown in **FIGURE II.15**. The distance from the station to potential sites for a future airline passenger terminal at MIP will depend where this is located on the facility, although in all cases access to the passenger terminal from the station would be far enough to require a shuttle bus ride.

FIGURE II.15 also shows the proposed extension of Metrolink to serve the Perris Valley. This extension would use the existing San Jacinto Branchline tracks that run parallel to I-215 from Riverside to South Perris, as shown in **FIGURE II.16**. If an HSR station is located at MIP, it is quite likely that this would be combined with a Metrolink station to take advantage of common facilities. However, the nature of the two services are quite different and there would not be much, if any, interchange between Metrolink and HSR passengers.

FIGURE II.16 Planned Route of Perris Valley Metrolink Line



Source: Riverside County Transportation Commission, Perris Valley Line (website), http://perrisvalleyline.info/index.asp.

One constraint on the ability of the planned HSR system to serve SBD and MIP is the number of stations that it is feasible to serve with HSR. Trains cannot stop frequently or they will not be high-speed. Aside from operational considerations, a system-wide limit on the number of stations was established in the ballot measure that authorized the initial round of state bonds that has provided a large part of the funding to develop the system that has been identified to date.

In addition to limitations on the number of stations, in order to achieve desired targets for running times between the major metropolitan areas not all trains will stop at every station. Although the details of the operational schedule will no doubt evolve as the system moves closer to beginning operations, the CHSRA currently envisages a mix of super-fast trains, that will run nonstop between the primary stations in the system, semi-fast trains that will make one or two stops between primary stations, and local trains that will stop at every station. Thus depending on the level of ridership that is attracted to the system, the frequency of local trains that will stop at secondary stations such as the City of San Bernardino and MIP stations may be quite limited, perhaps as infrequent as one an hour. This will reduce the likely use of the system for airport access trips, since many air passengers will find it quicker to drive to the airport after taking into account the schedule delay involved in having to catch a train that arrives at the airport earlier than they would prefer, while arriving air passengers may have to wait for up to the full headway for a train.

However, it is likely that both semi-fast and local trains will stop at ONT, providing the airport with reasonably frequent service, particularly from primary stations. In addition to fairly frequent service from Union Station, ONT will also be served by semi-fast and local trains from stations in San Diego County. Even if the chosen alignment includes stations at the City of San Bernardino and MIP, the level of traffic from San Diego County to those stations is not likely to be sufficient to justify stopping semi-fast trains there in addition to ONT, resulting in those stations only being served by less frequent local trains. Thus while Phase 2 of the HSR system may help attract some air passengers with trip ends in San Diego County to using ONT, particularly since by the time Phase 2 is built San Diego International Airport is likely to be experiencing capacity constraints, it is not likely to attract significant numbers of air passengers with trip ends in San Diego County to either MIP or SBD, even if the I-215 corridor alignment is selected.

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APPENDIX III: Characteristics of a Successful Airport Express Bus

III.1 Introduction

Appendix II of this report discusses the characteristics of high occupancy public transportation services that have the potential for attracting air passengers, thereby shifting some away from preferred lower-occupancy modes. The preferred lower-occupancy modes, private auto, taxi and limousine, offer direct, non-stop service to the air passenger, and depart when the air passenger is ready to make the ground access trip.

Applying the characteristics of high occupancy public transportation services to airport express bus services, the airport express bus service that is most likely to be successful in attracting a sufficient level of air passengers to financially sustain the service and reduce the airport trip generation rate by air passengers and possibly airport employees will:

- Be located in a market area with a sufficient number of resident air passengers. Of the three potential airport user groups that may use such a service, resident air passengers, non-resident air passengers and airport employees, resident air passengers are most likely to use the service and exhibit a higher willingness to pay the market value for such a service than airport employees. As a rule of thumb, the primary market area should have a minimum of 1,200 Average Annual Daily Enplaning resident air passenger trip origins/destinations . This is explained further in the next section, Air Passenger Threshold for Airport Express Bus Service.
- Be located along a traditional travel route to the airport. Air Passengers in the market area of the high occupancy public transportation service are more likely to use their preferred mode to the airport along the travel route they are accustomed to taking, rather than divert to a different route or travel away from the airport (backtrack) along their traditional route if it adds more than a few minutes to their travel time.
- Offer a sufficient supply of overnight parking for air passengers that wish to park their auto for the duration of their trip, with parking rates that are perceived to be attractive compared to parking rates in the vicinity of the airport. There should be an area that is convenient for air passengers being dropped off or picked up in a private auto or taxi, including sufficient short duration parking near the boarding point of the high occupancy public transportation service.
- Be located in an area with good public transportation connections, if possible, particularly if the parking supply is limited.
- Provide sufficient coverage to serve arriving and departing passengers on the majority of flights, including the first major bank of departing flights in the morning.
- Provide a trip frequency of every 30 minutes for most of the flight schedule for distances to the airport of between 15 and 25 to 30 miles from the airport. For distances above 25 to 30 miles from the airport, hourly frequencies may be sufficient. The air passenger will not want to wait longer to board the bus than the travel time to the airport. For locations in the region that are closer than 10 to 15 miles to an airport, an airport express bus may not make sense, due to the perception that it is a quick trip to the airport, and the potential for a wider range of competing modes and routes to the airport.
- For a boarding point located 15 to 25 to 30 miles from the airport, a non-stop service will attract the greatest number of air passengers. For distances with the boarding point location greater than 25 to 30 miles, a service with one interim boarding point may be acceptable.

III.2 Air Passenger Threshold for Airport Express Bus Service

The previous section provided the most important characteristics for an airport express bus service to attract a level of ridership with the potential for a financially sustainable service and the potential to reduce the air passenger airport trip generation rate. As a general rule of thumb the primary market area, defined as the geographic area from which 70 percent to 85 percent of the express bus ridership is drawn from, will have a minimum of 1,200 average annual daily enplaning resident air passenger trip origin/destinations. The source of this information is data on enplaning air passenger origins from an origin and destination air passenger survey. Because the Anaheim area is such a prominent air passenger destination in Orange County, it makes sense to determine the number of resident and non-resident air passengers in the Anaheim market area to evaluate the options for high occupancy public transportation service between the Anaheim Regional Transportation Intermodal Center (ARTIC) and John Wayne Airport (SNA).

In general, airports serving a minimum of 18 million to 20 million annual origin and destination air passengers will have at least one market area with a minimum of 1,200 average daily enplaning resident air passengers beginning or ending their ground access trip in the market area. Based on 2035 air passenger forecasts, the two airports where it may make sense to offer non-stop express bus services are Los Angeles International Airport (LAX) and Ontario International Airport (ONT).

III.2.1 EXAMPLES OF NON-STOP AIRPORT EXPRESS BUS SERVICE OPERATED BY AIRPORT OPERATOR

The only two examples of non-stop airport express bus service being sponsored by an airport operator are the FlyAway network serving LAX, sponsored by Los Angeles World Airports, and the Logan Express, a system of non-stop buses sponsored by the Massachusetts Port Authority that serve Boston Logan International Airport (BOS). Each airport served more than 20 million origin and destination air passengers in 2010. The ridership served by each non-stop express bus route shown in **TABLE III.1** served the equivalent of from one percent to two percent of air passengers. Each of the buses shown in the table has operating characteristics as described earlier in this appendix.

TABLE III.1 2010 Bus Ridership, Airport Operated Non-Stop Express Bus Systems

Express Bus Route	Million Annual Passengers	Million O&D Passengers1	Bus Ridership2	Equivalent % of O&D Passengers
LAX: Van Nuys FlyAway	58.9	38.9	807,485	2.1%
LAX: Union Station FlyAway	58.9	38.9	413,975	1.1%
BOS: Braintree Logan Express	27.4	25.5	482,269	1.9%
BOS: Framingham Logan Express	27.4	25.5	328,818	1.3%
BOS: Woburn Logan Express	27.4	25.5	242,311	1.0%

III.2.2 EXAMPLES OF NON-STOP AIRPORT EXPRESS BUS SERVICE OPERATED BY OTHER ENTITIES

Two other services provide good examples of non-stop airport express bus service. One is operated by a private transportation operator, and the other is operated by a public transportation operator. Each is located in an area where customers are able to make a connection to the regional transit system.

The Washington Flyer is operated by a private company under a concession agreement with the Metropolitan Washington Airports Authority (MWAA). The Washington Flyer was operated by MWAA until approximately 2006, when MWAA put the route out to bid and awarded the route as a concession contract, shifting the financial responsibility for operating the service to the concessionaire. The boarding point is located at the West Falls Church Metrorail subway station, located approximately 20 miles away from Dulles International Airport. The Metrorail system offers service throughout the Metropolitan Washington D.C. area. In 2010, Dulles International Airport processed 23.6 million annual air passengers. **FIGURE III.1** shows a map of the Washington Flyer route.

FIGURE III.1 Washington Flyer Route Map



Source: http://www.washfly.com/flyer_bus_map.htm, May, 2011.



Source: http://www.ridemetro.org/services/airport_direct.aspx, August, 2011

The Metro Airport Direct is operated by the Metropolitan Transit Authority of Harris County in Houston, Texas, and operates between five locations in downtown Houston and George Bush Intercontinental Airport. The boarding locations in downtown Houston include a METRORail Station, the convention center, hotels and a medical center. The trip between the convention center and the airport is non-stop and is approximately 23 miles. In 2010, George Bush Intercontinental Airport processed approximately 40.5 million annual air passengers.

FIGURE III.2 shows a map of the Metro Airport Direct route.

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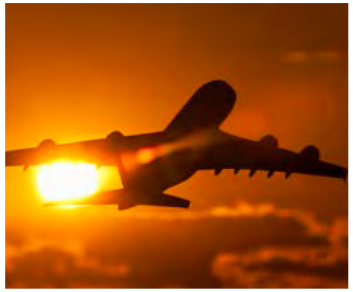
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SCS BACKGROUND DOCUMENTATION APPENDIX









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Southern California Association of Governments

ADOPTED APRIL 2012

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A. Overall Land Use Pattern Maps

Given the number of square miles the SCAG region encompasses, SCAG developed a simplified series of Community Types to represent the dominant themes taken from the region's many General Plans. This was developed in order to facilitate regional modeling of land use information from nearly 200 distinct jurisdictions.

The Community Types employed in the RTP/SCS are not intended to represent detailed land use policies, but are used to describe the general conditions likely to occur within a specific area if recently emerging trends, such as transit-oriented development, were to continue in concert with the implementation of the 2012–2035 RTP/SCS. These land use maps are shown by county and subregion.

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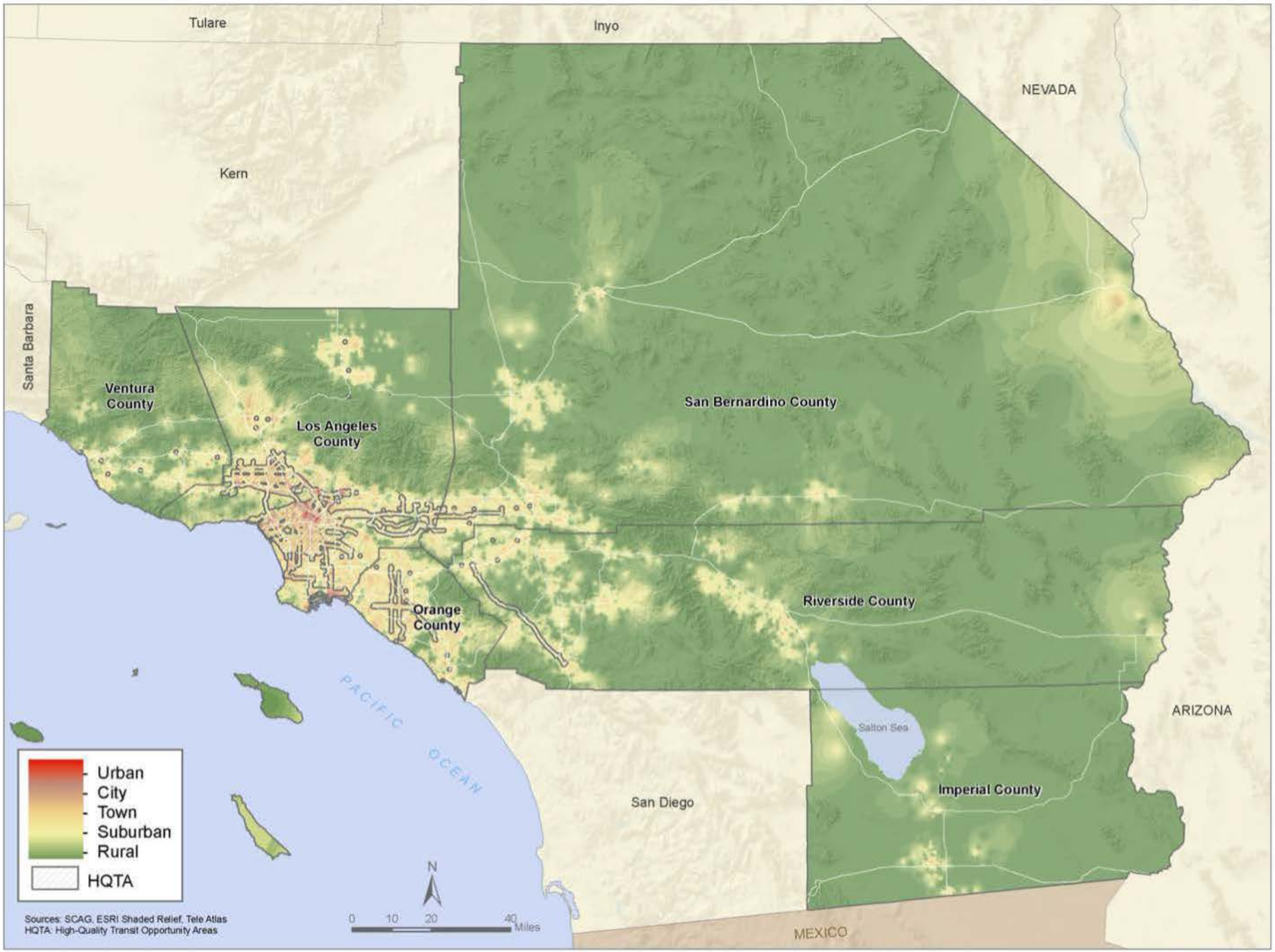


EXHIBIT 2 Land Use Pattern Map – SCAG Region 2020

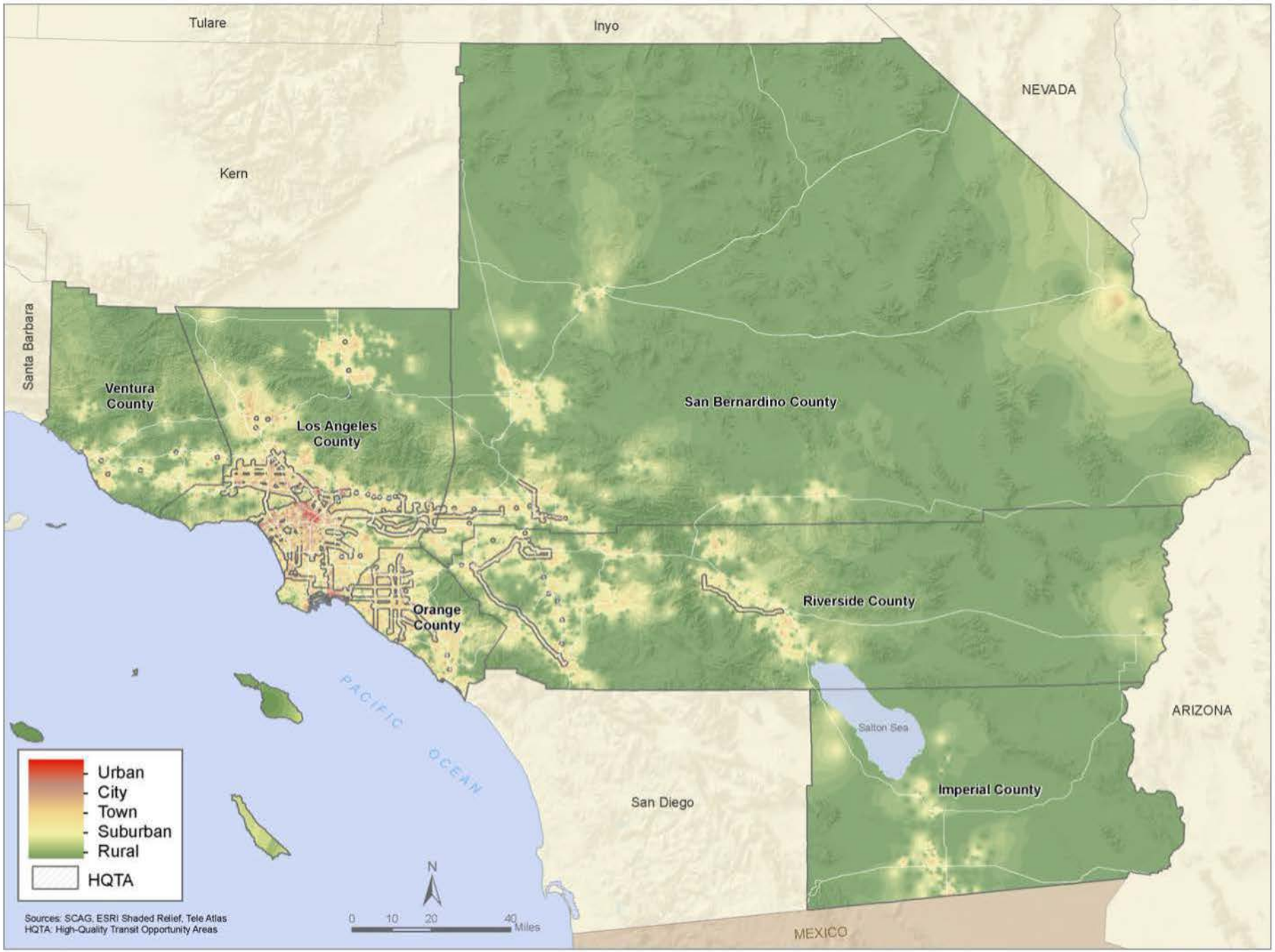


EXHIBIT 3 Land Use Pattern Map – SCAG Region 2035

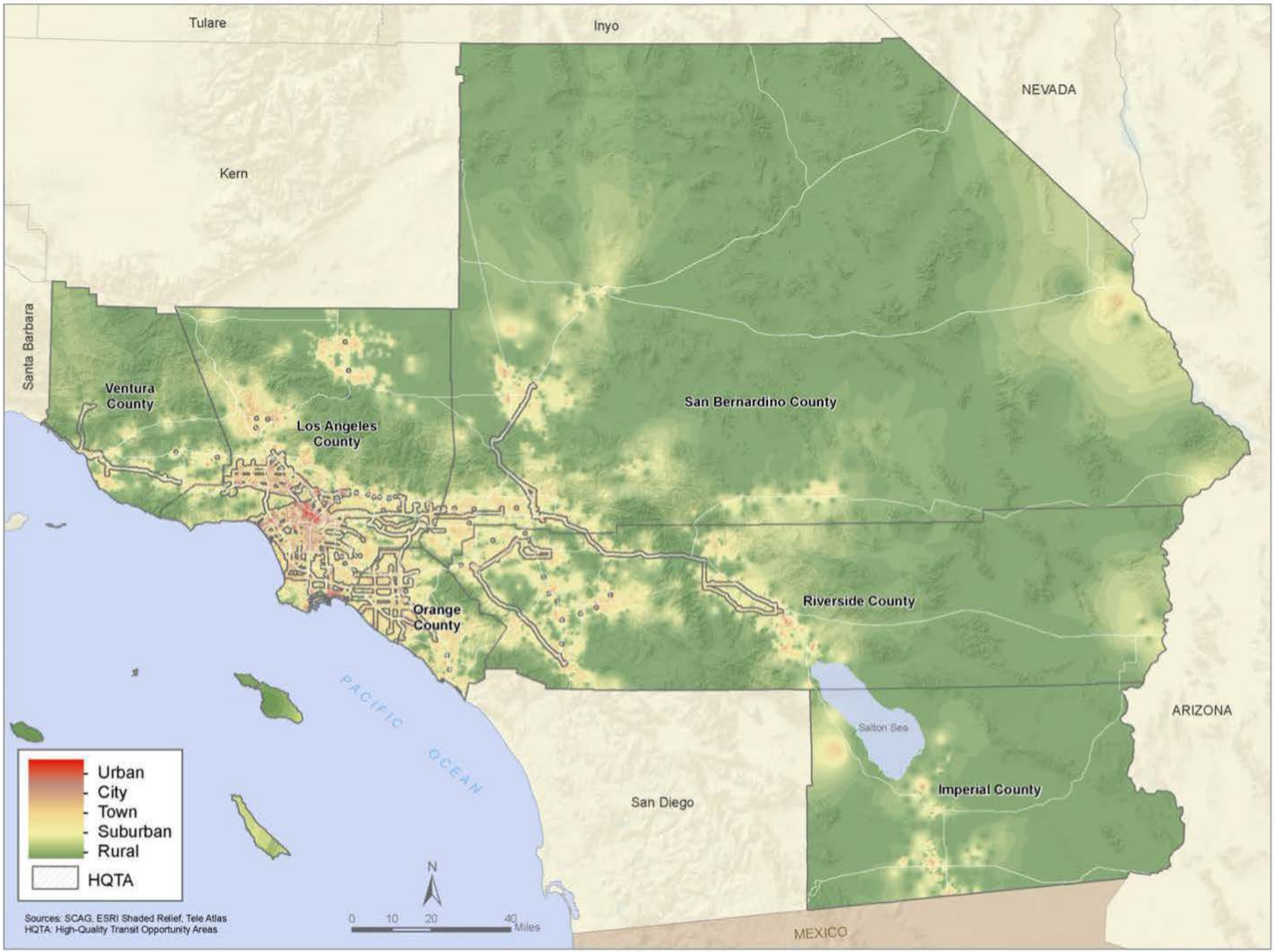


EXHIBIT 4 Land Use Pattern Map – Imperial County 2008

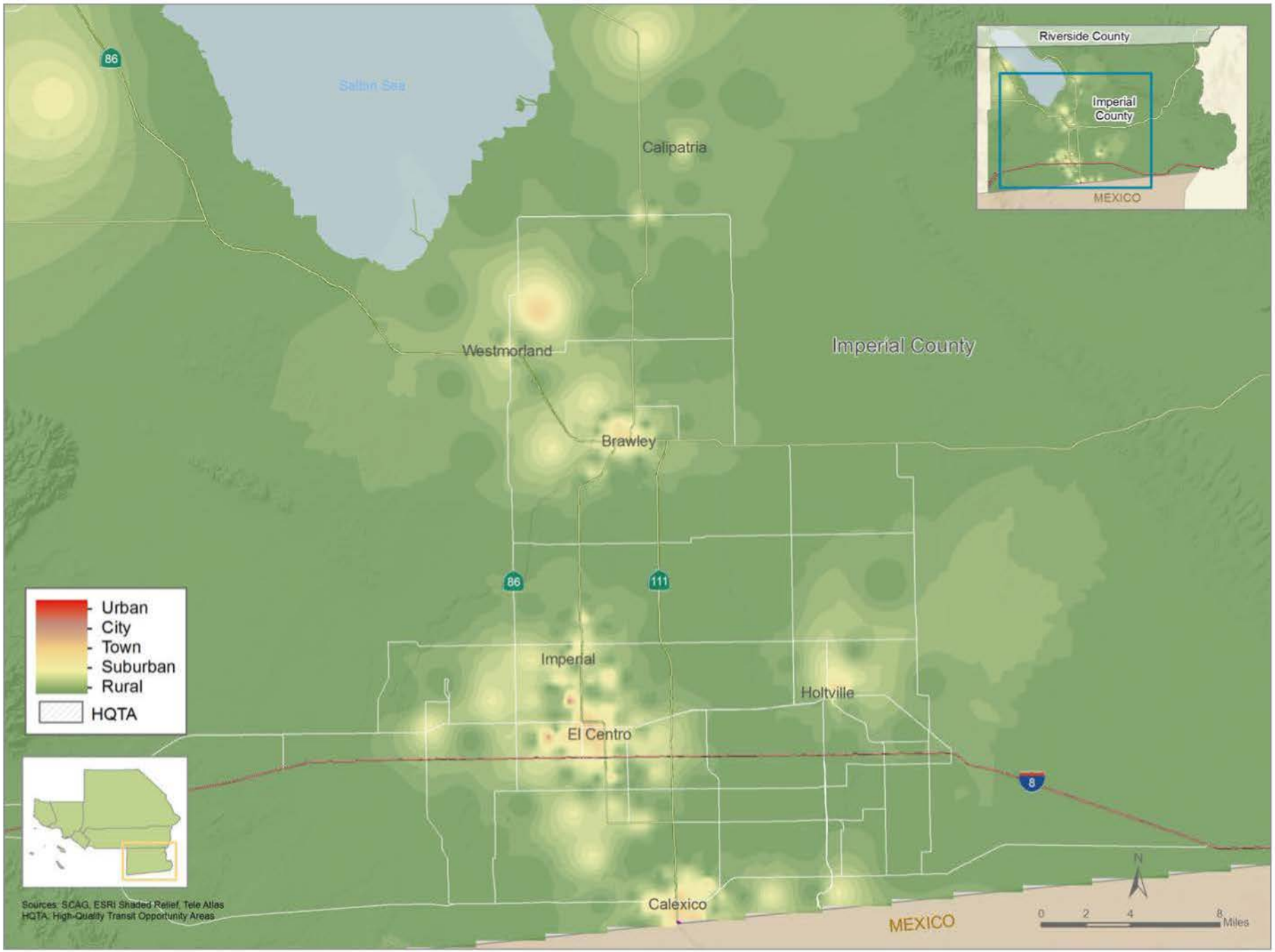


EXHIBIT 5 Land Use Pattern Map – Imperial County 2020

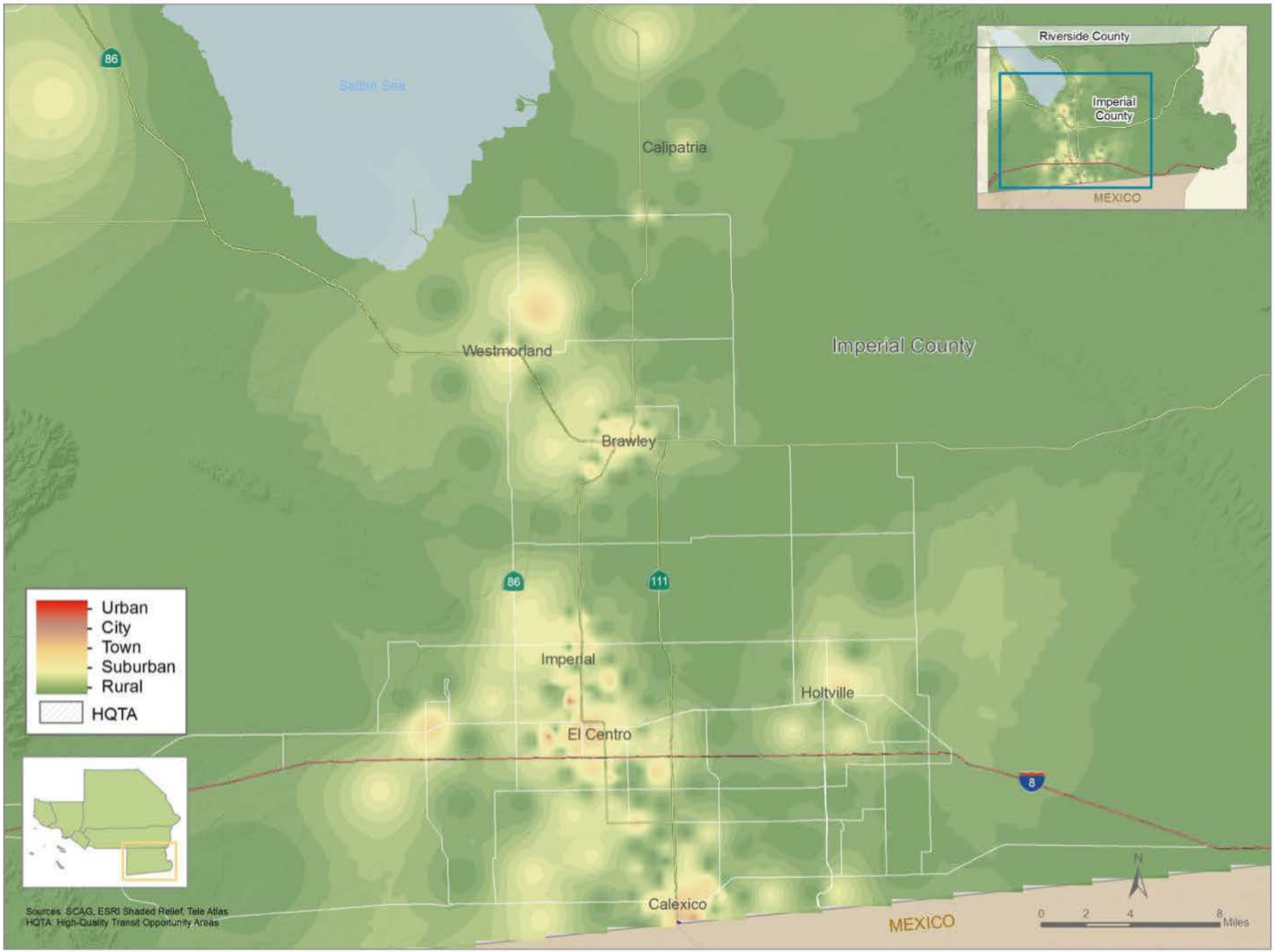


EXHIBIT 6 Land Use Pattern Map – Imperial County 2035

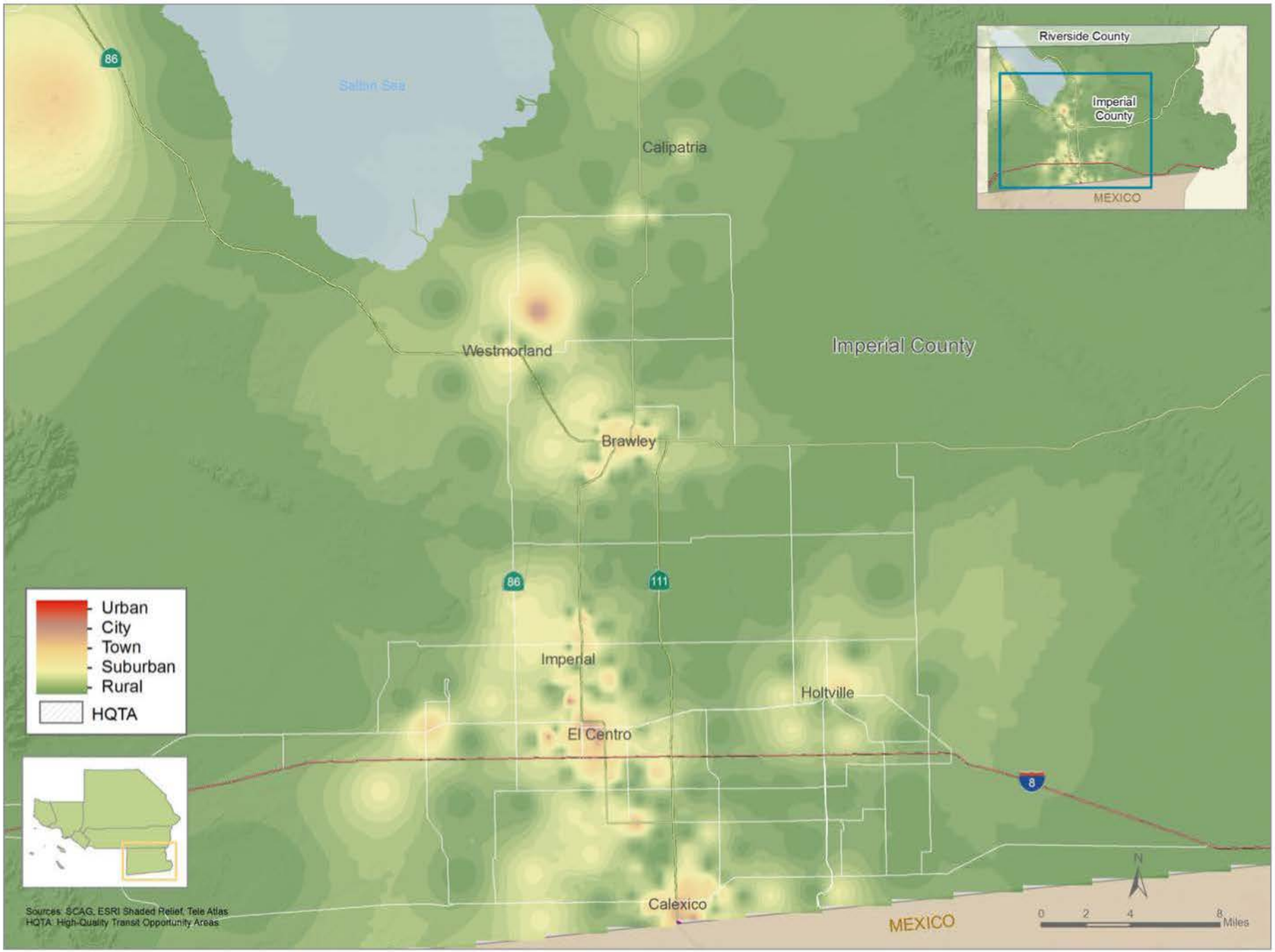


EXHIBIT 7 Land Use Pattern Map – Los Angeles County 2008



EXHIBIT 8 Land Use Pattern Map – Los Angeles County 2020

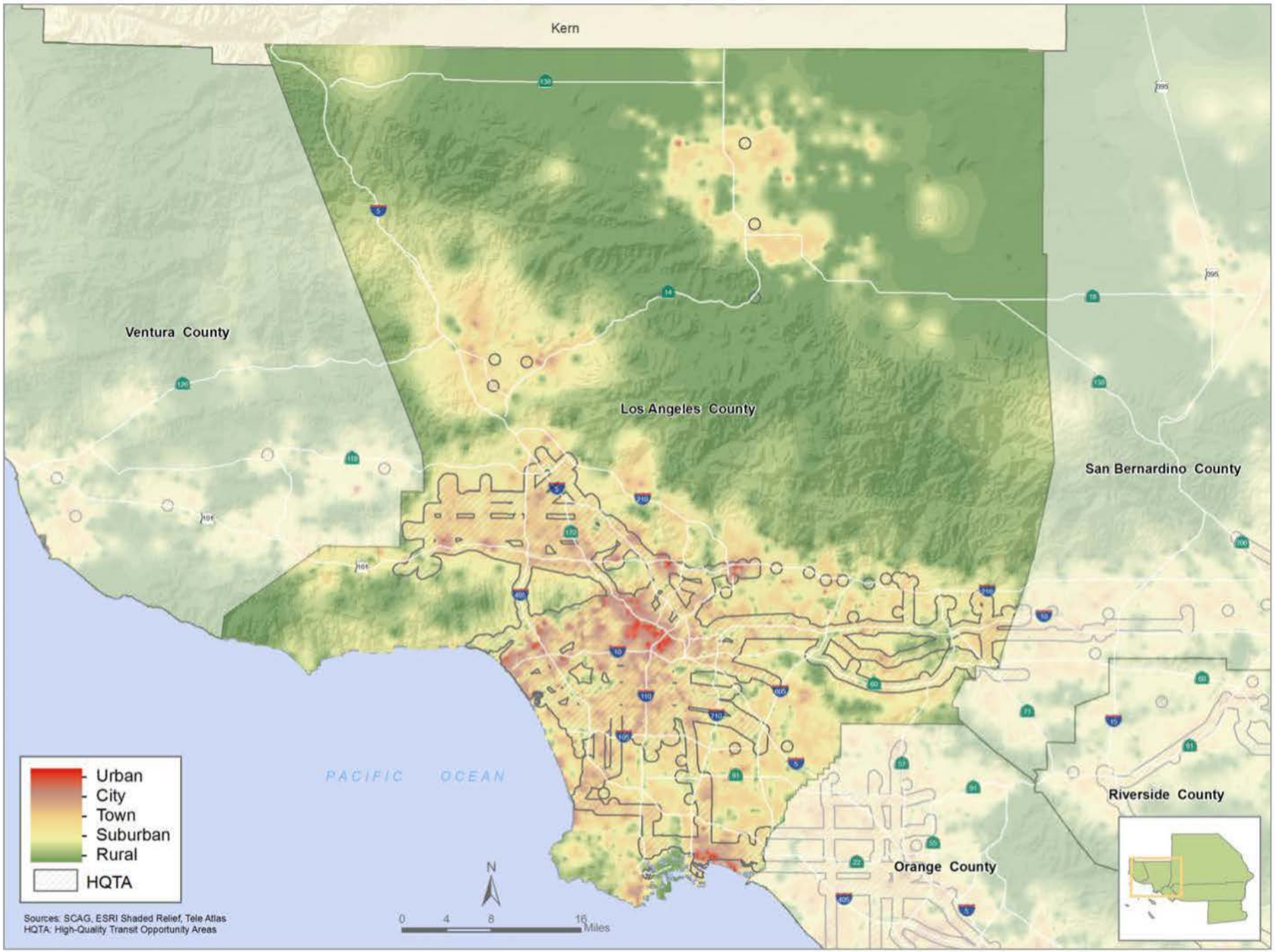


EXHIBIT 9 Land Use Pattern Map – Los Angeles County 2035

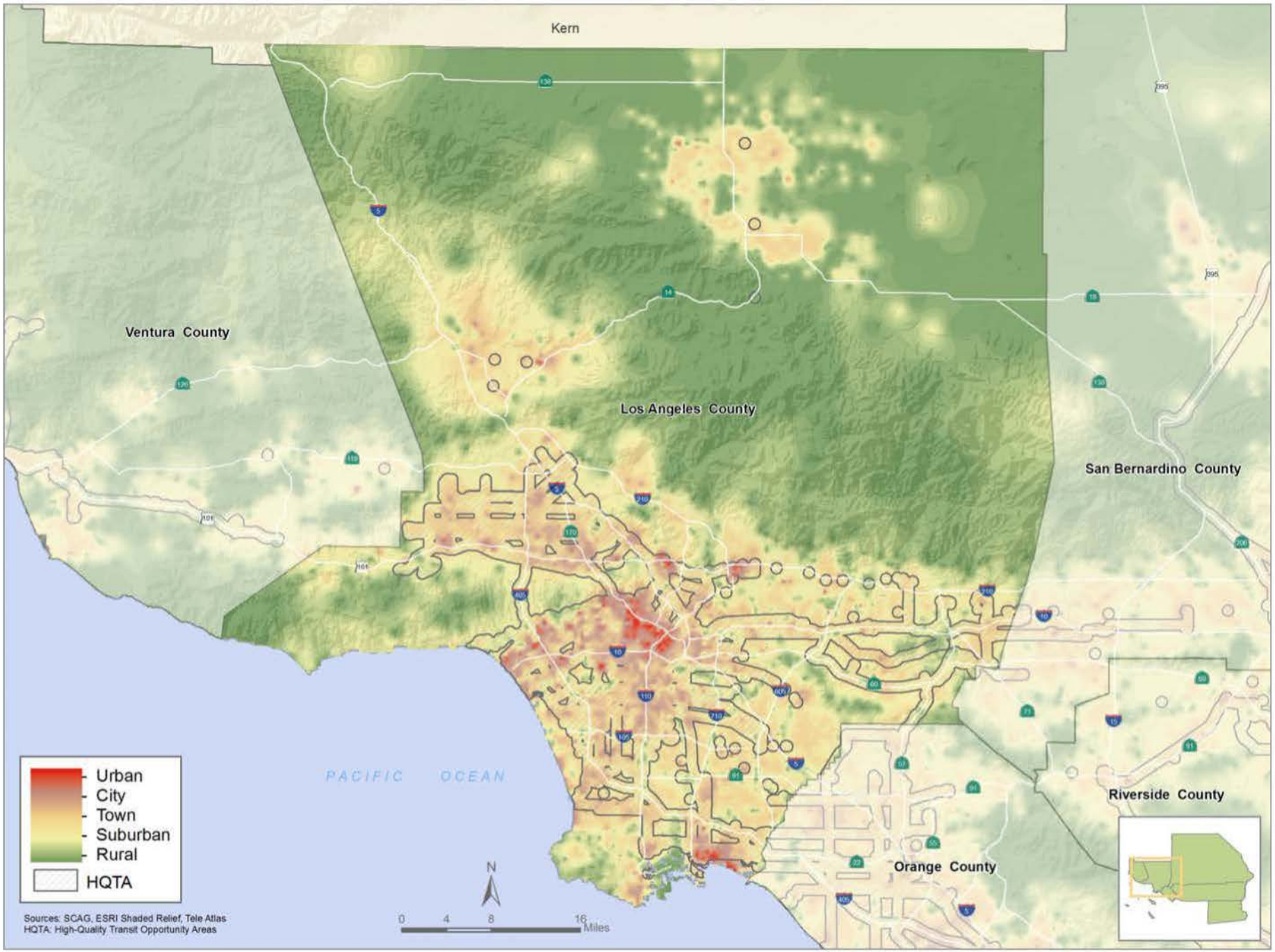


EXHIBIT 10 Land Use Pattern Map – Arroyo Verdugo 2008

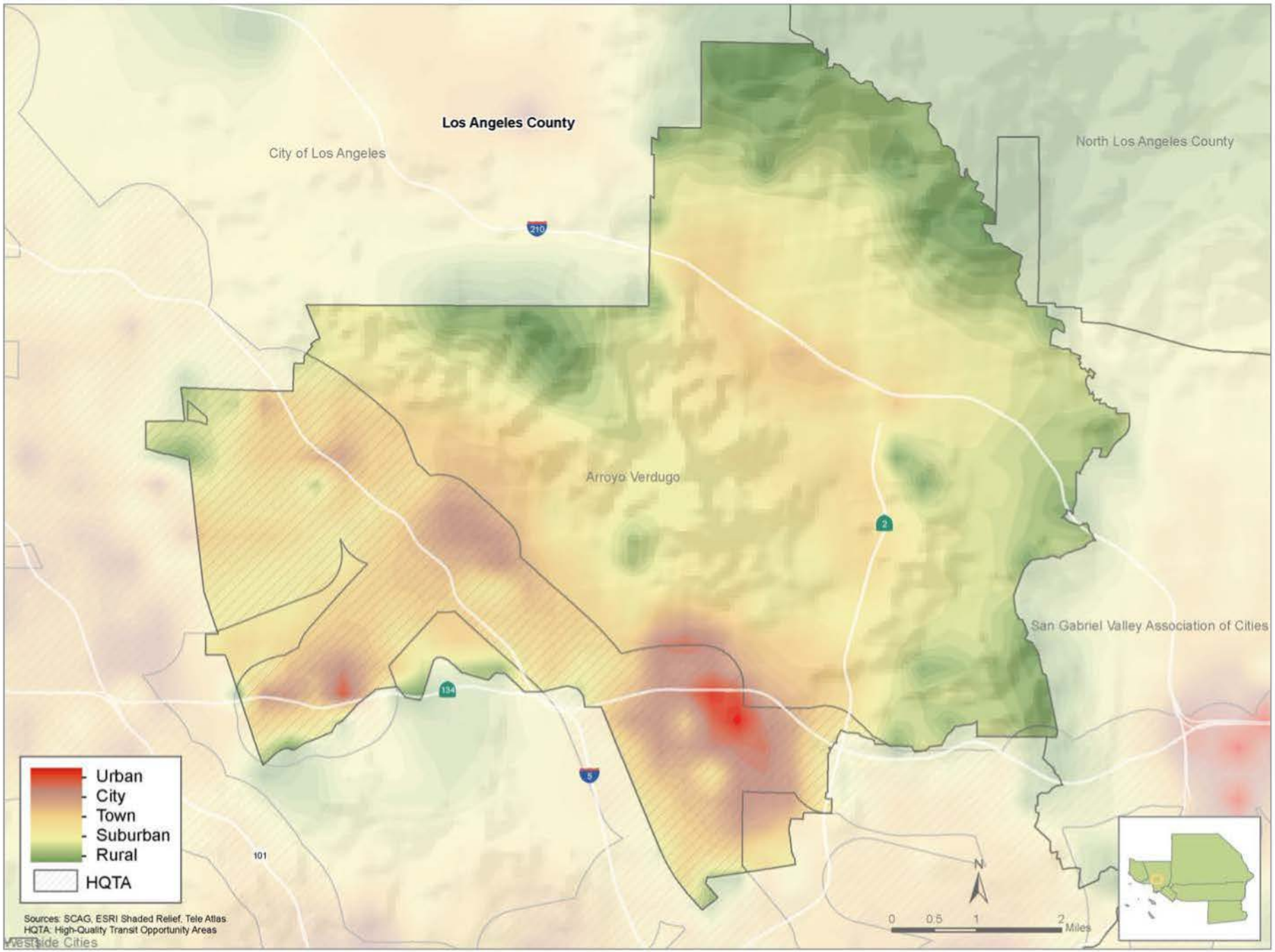


EXHIBIT 11 Land Use Pattern Map – Arroyo Verdugo 2020

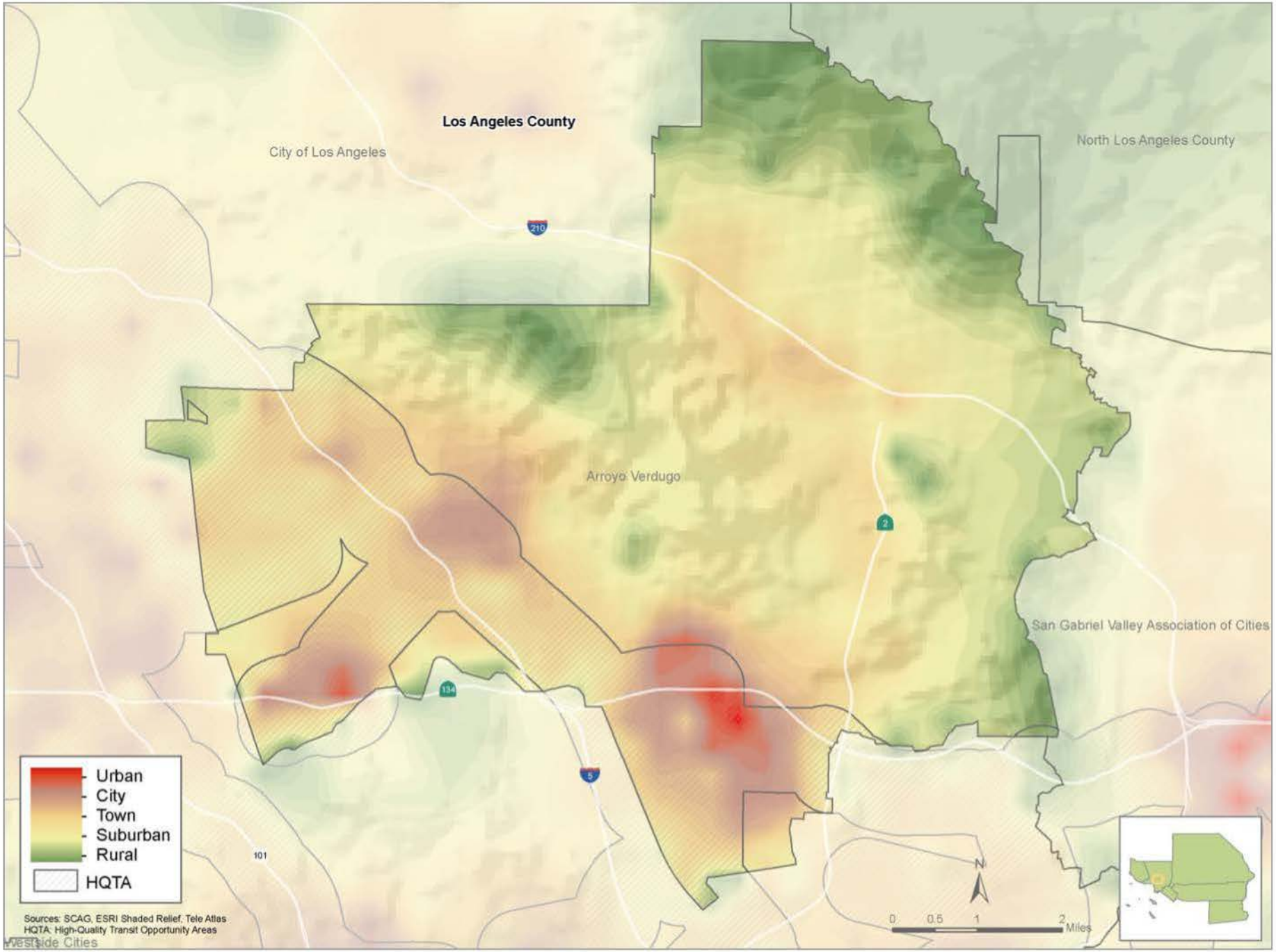


EXHIBIT 12 Land Use Pattern Map – Arroyo Verdugo 2035

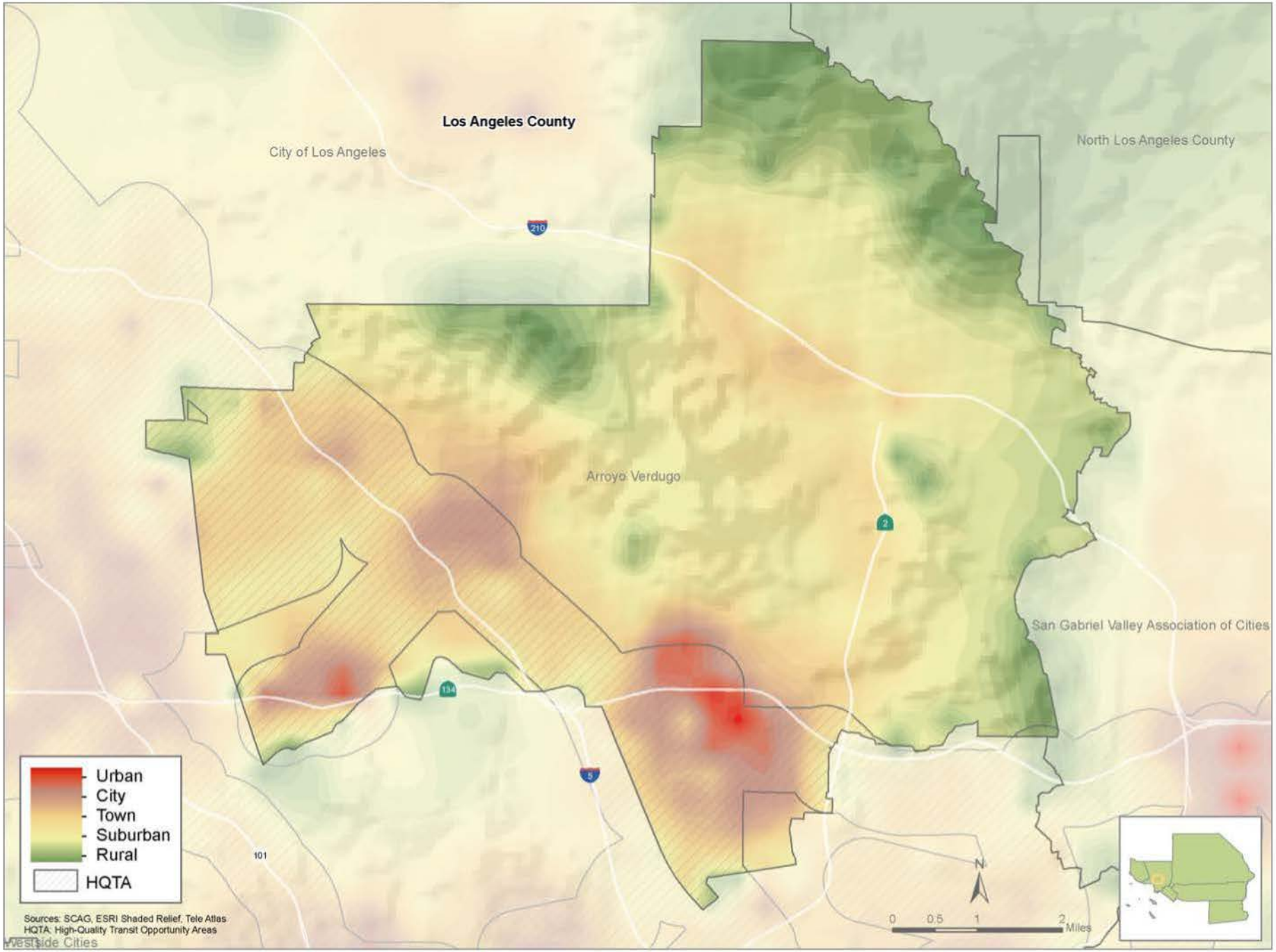


EXHIBIT 13 Land Use Pattern Map – Gateway Cities 2008

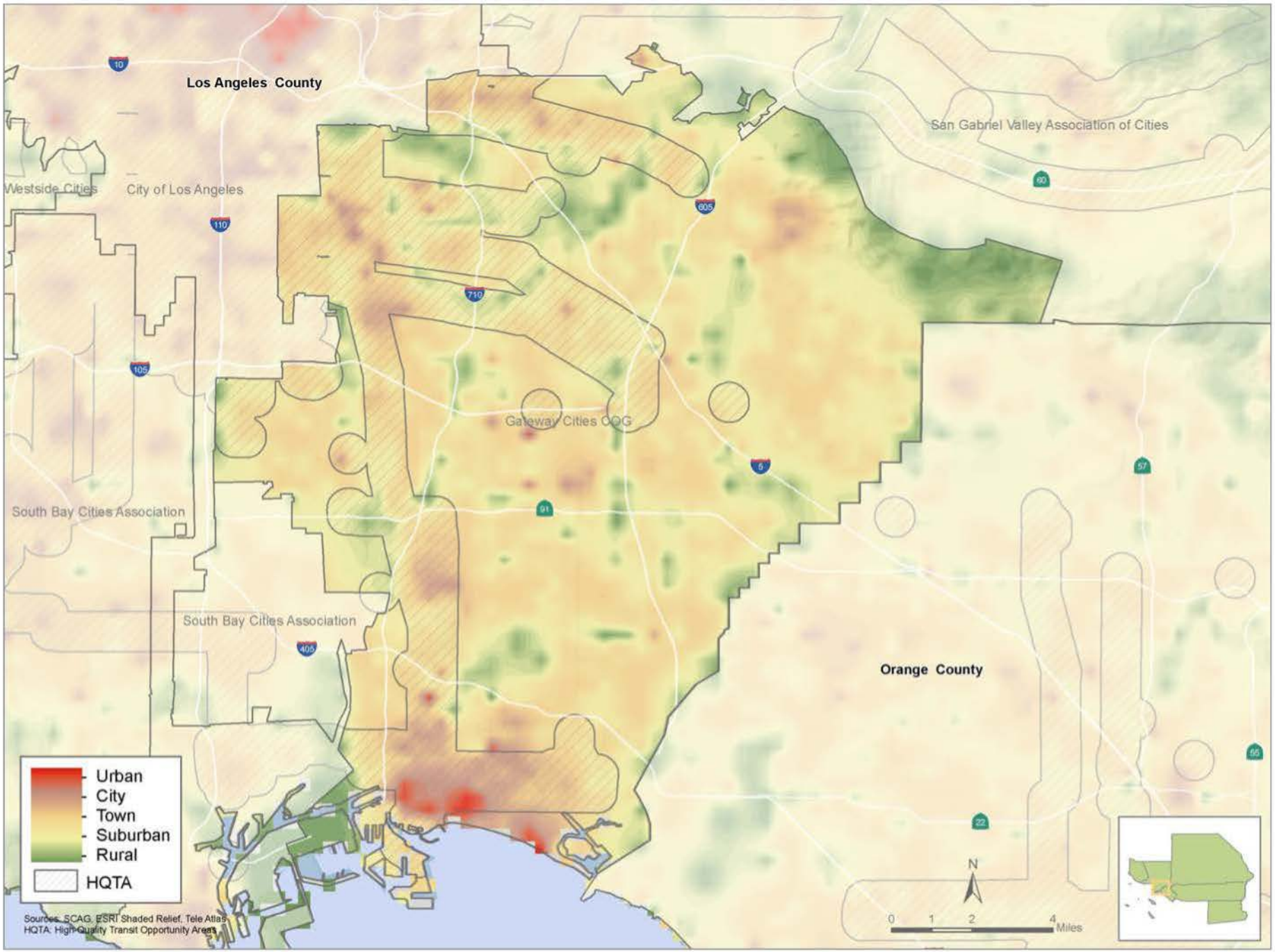


EXHIBIT 14 Land Use Pattern Map – Gateway Cities 2020

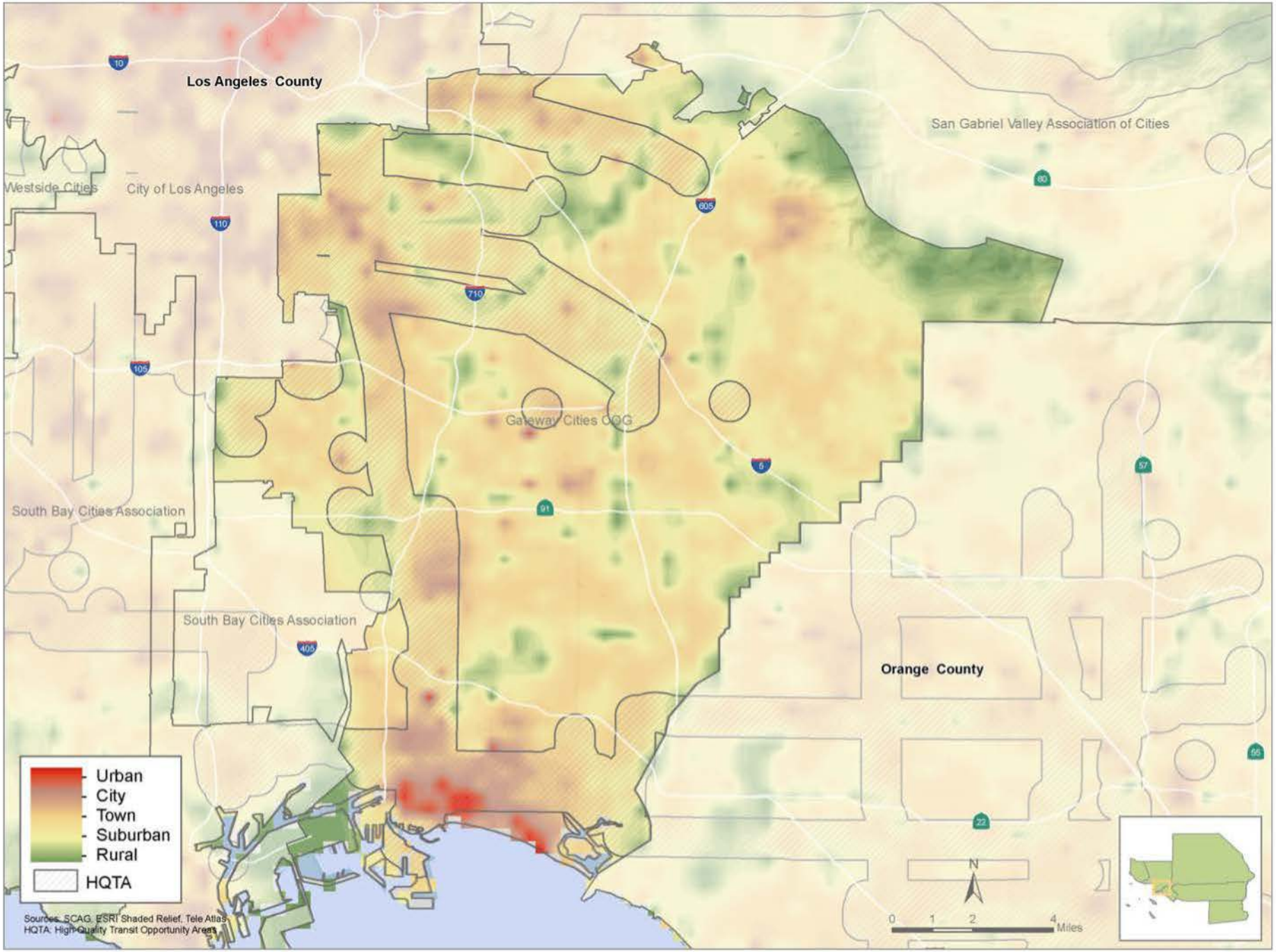


EXHIBIT 15 Land Use Pattern Map – Gateway Cities 2035

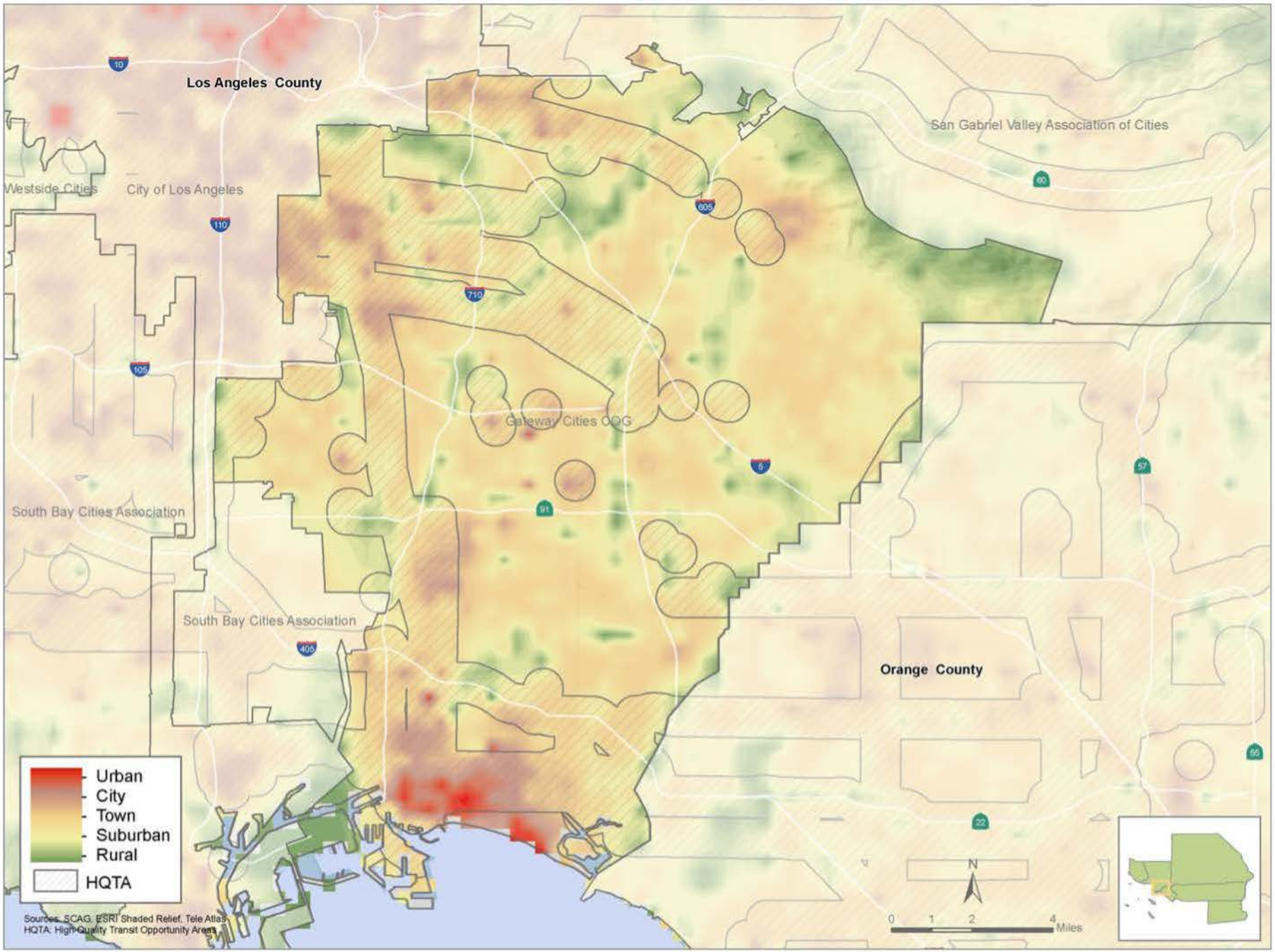


EXHIBIT 16 Land Use Pattern Map – Las Virgenes – Malibu 2008

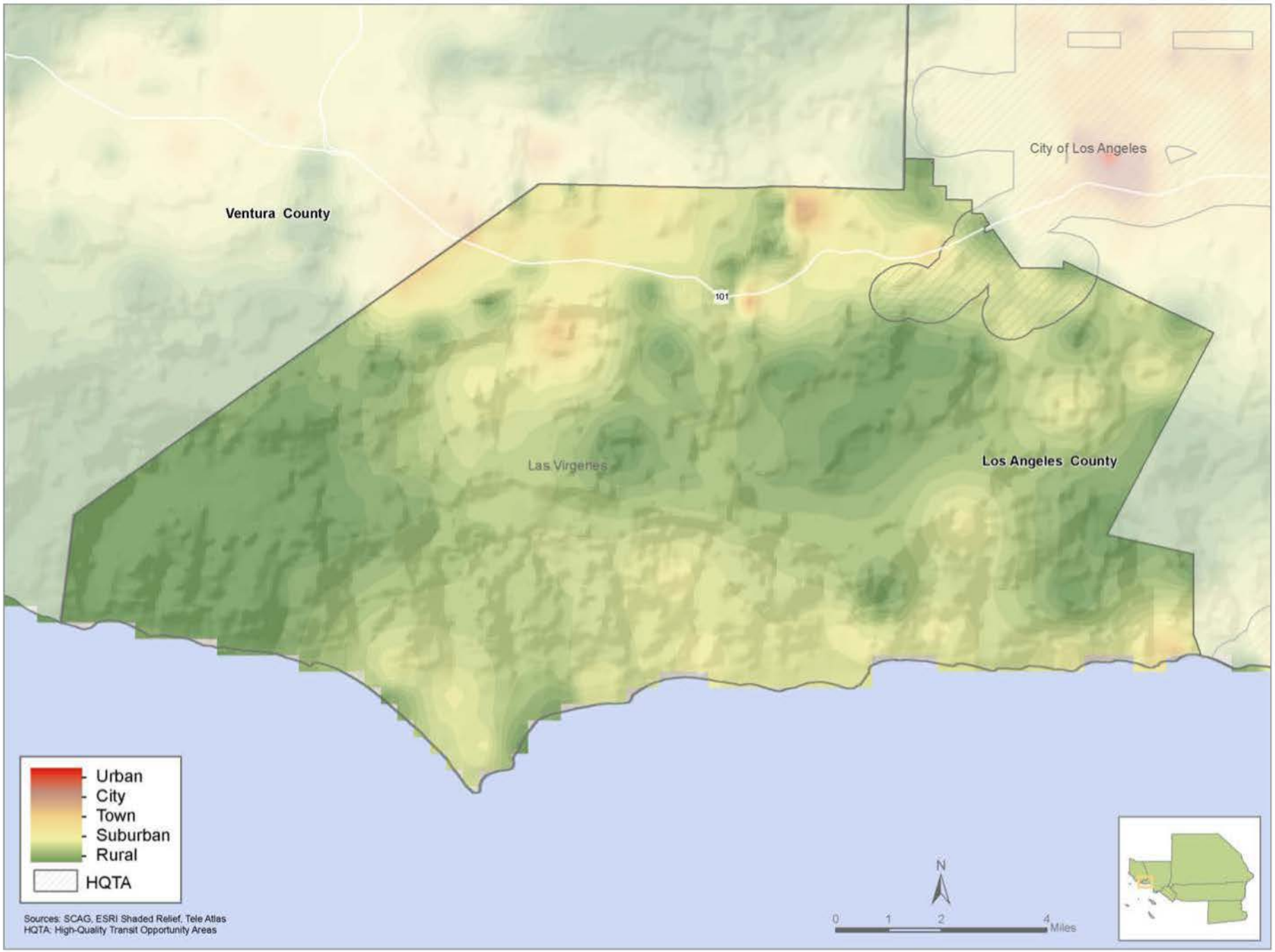


EXHIBIT 17 Land Use Pattern Map – Las Virgenes – Malibu 2020

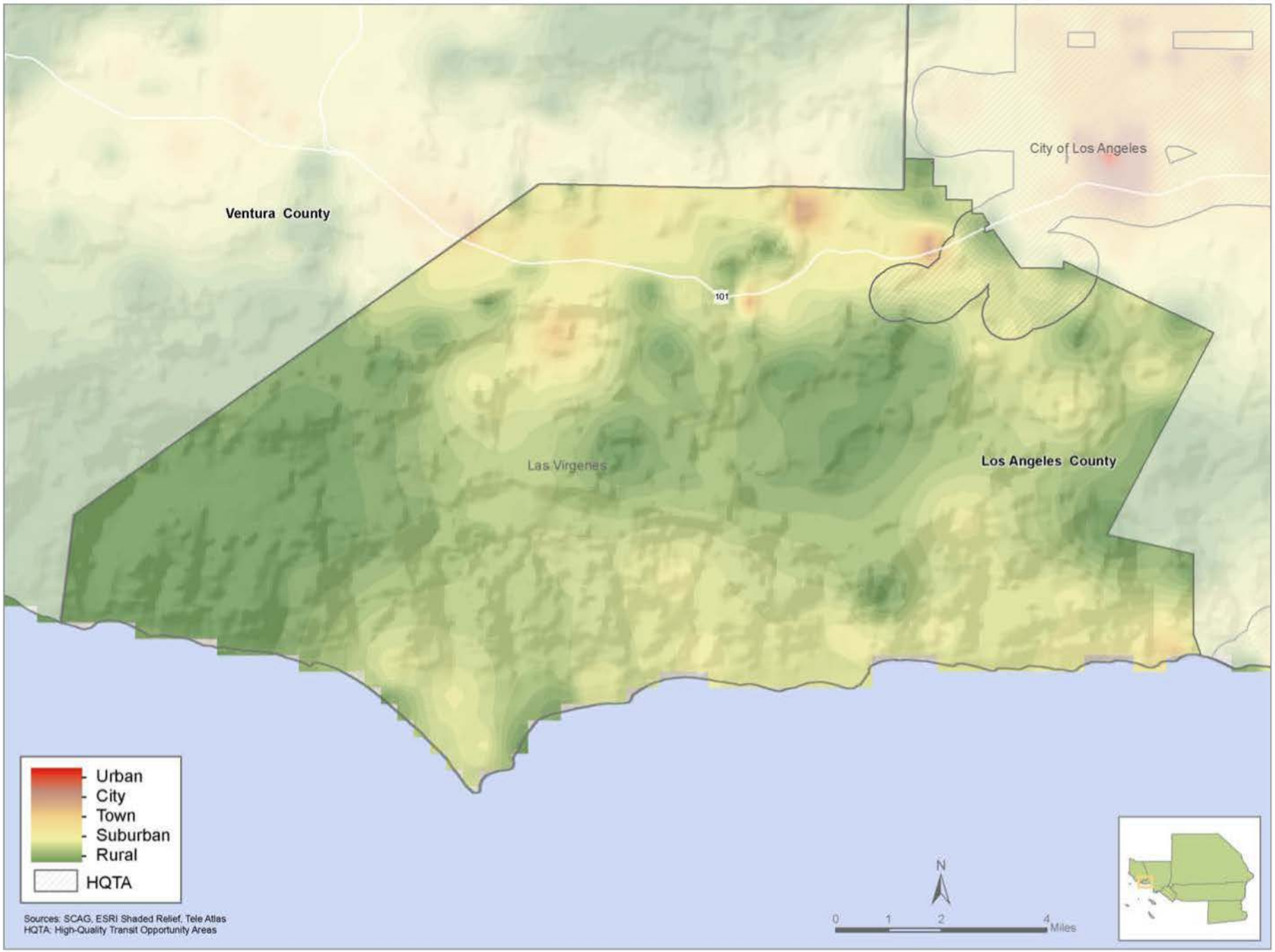


EXHIBIT 18 Land Use Pattern Map – Las Virgenes – Malibu 2035

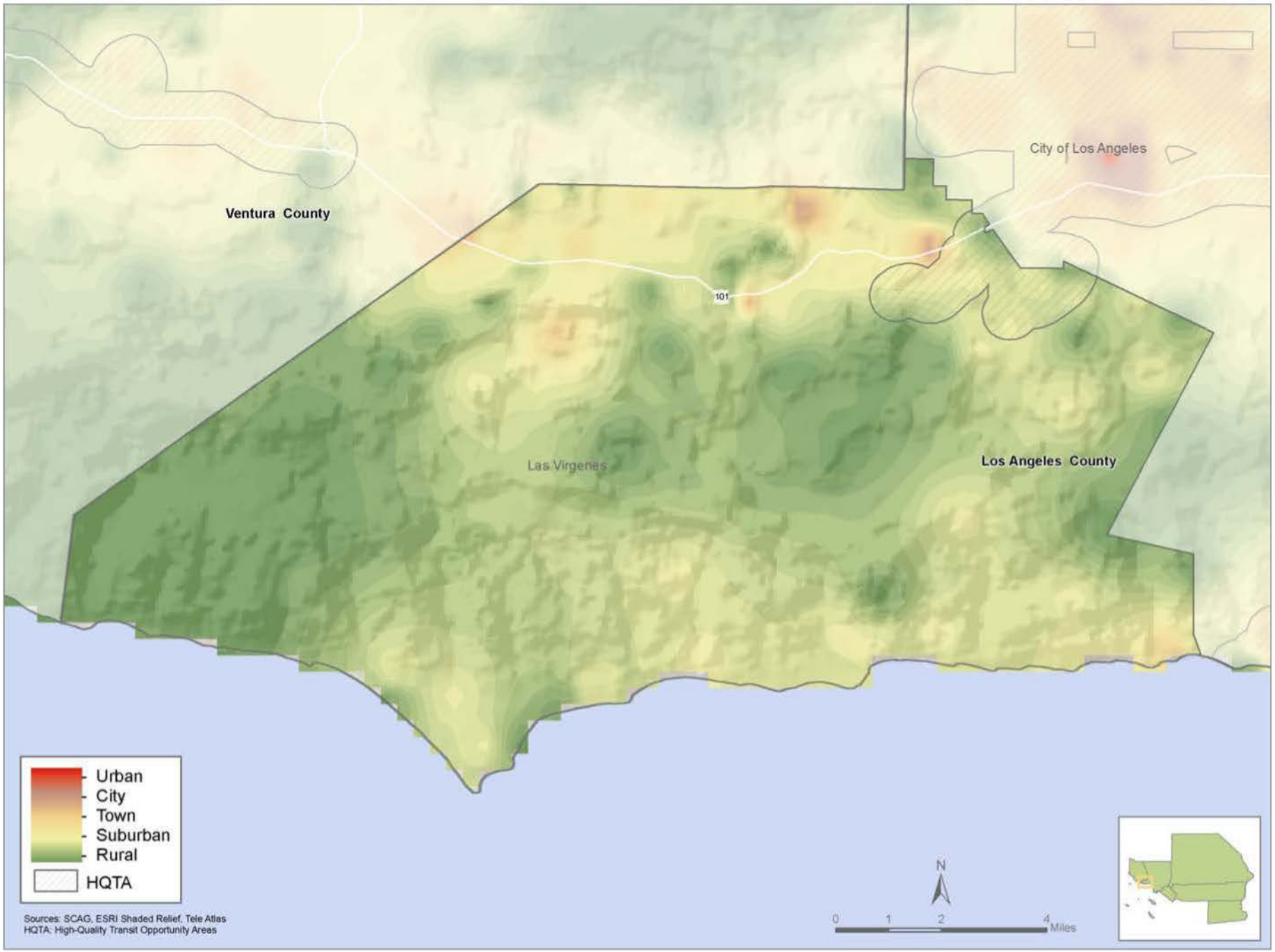


EXHIBIT 19 Land Use Pattern Map – City of Los Angeles 2008

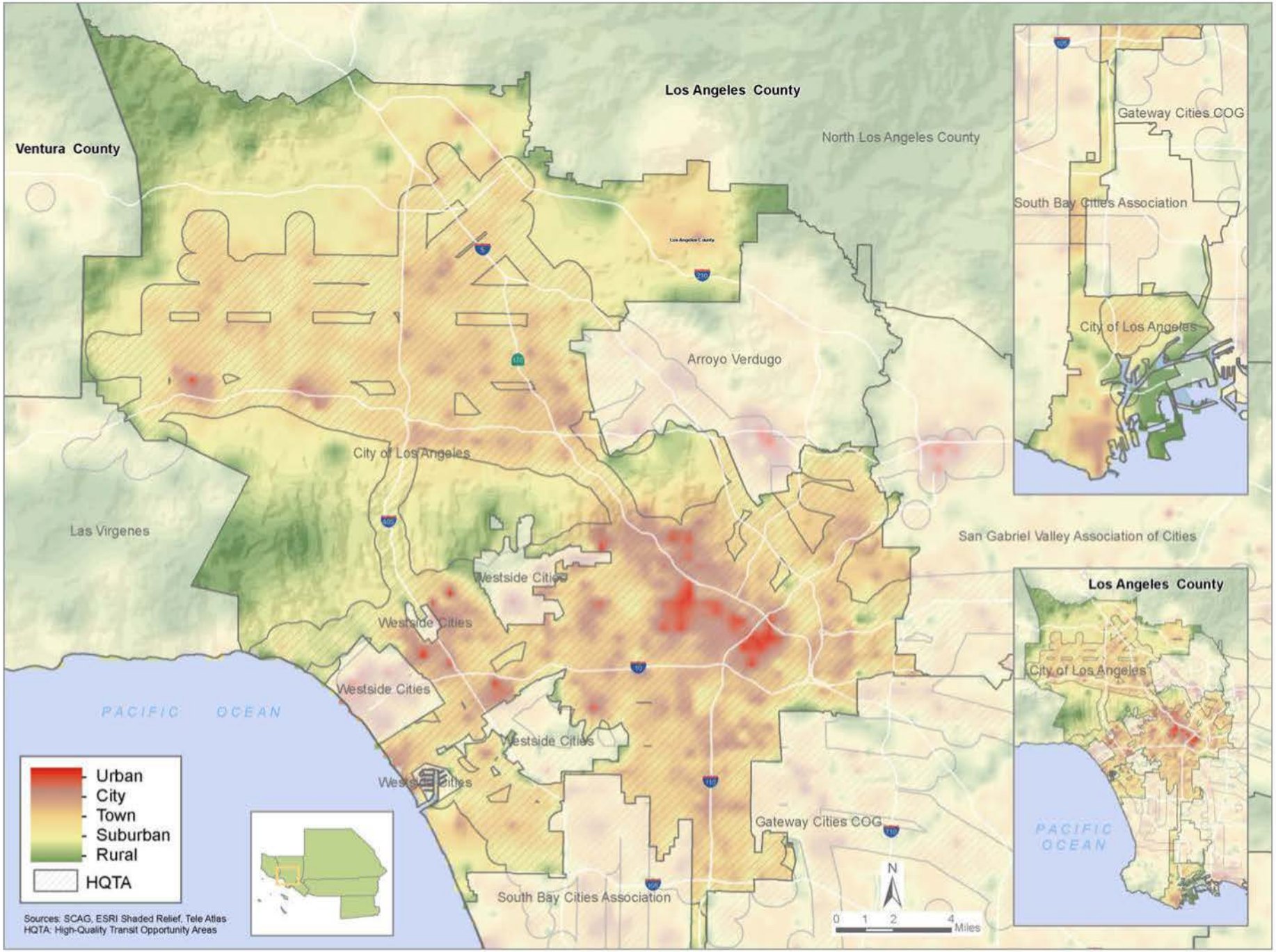


EXHIBIT 20 Land Use Pattern Map – City of Los Angeles 2020

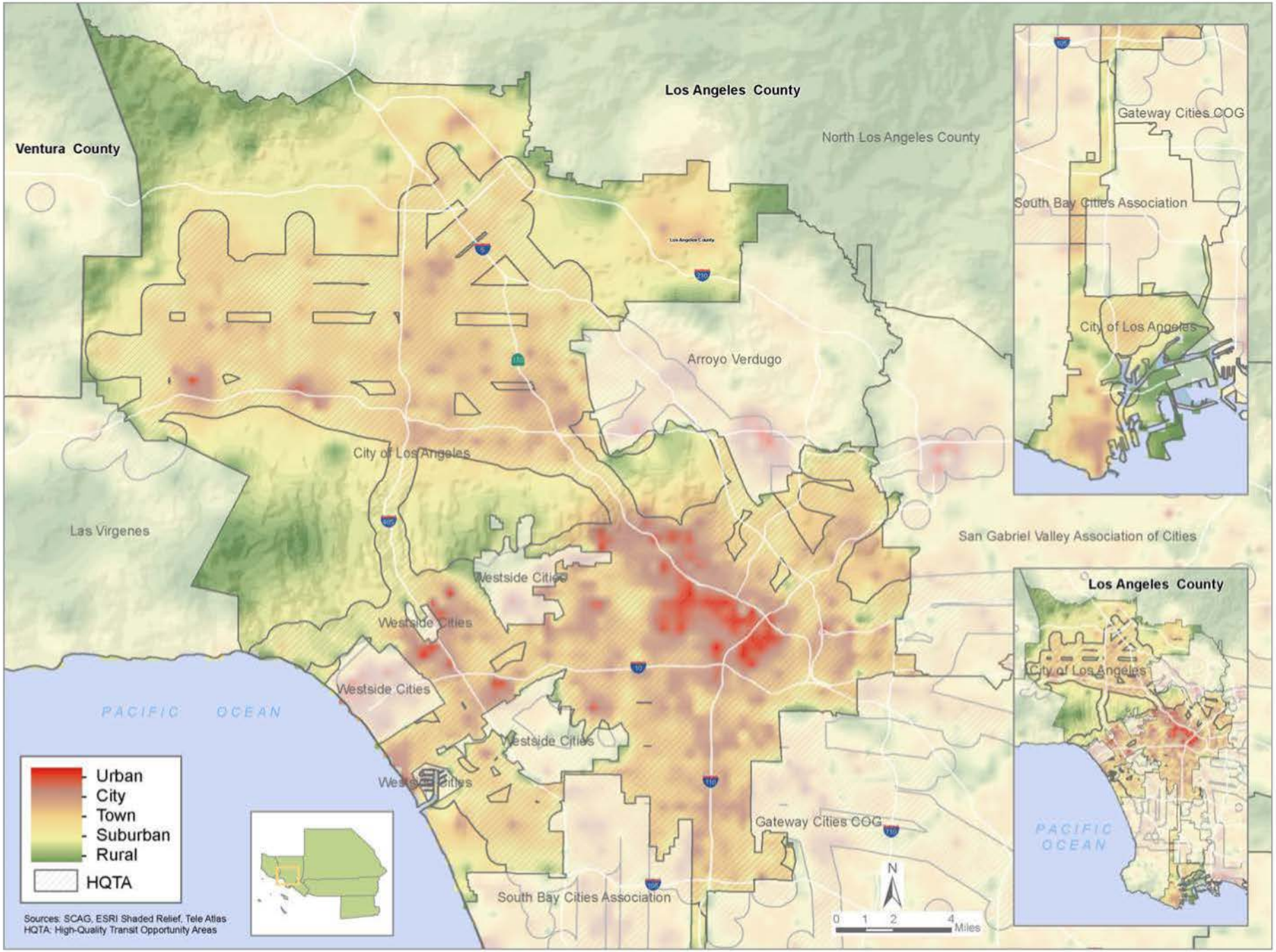


EXHIBIT 21 Land Use Pattern Map – City of Los Angeles 2035

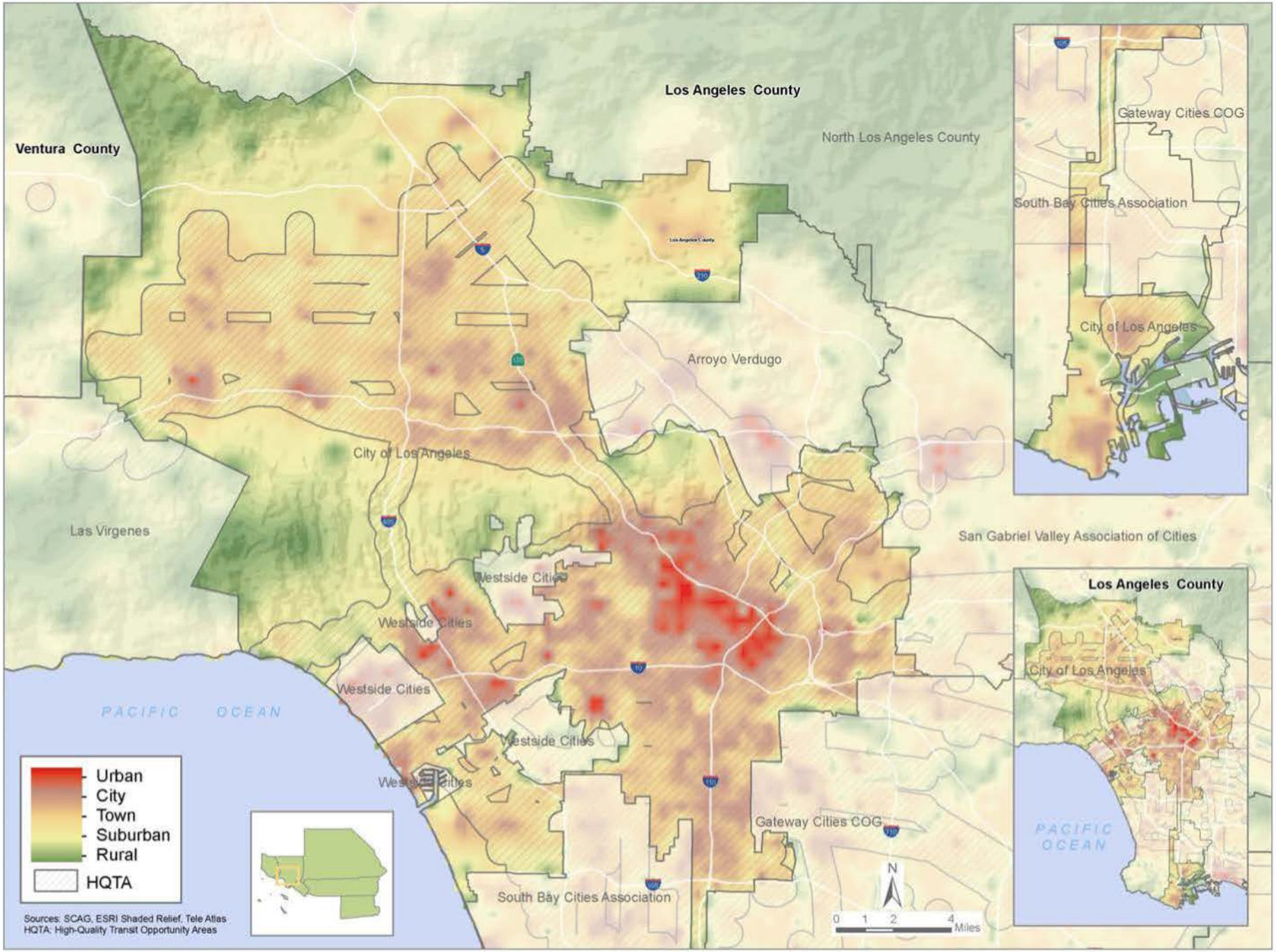


EXHIBIT 22 Land Use Pattern Map – North Los Angeles 2008

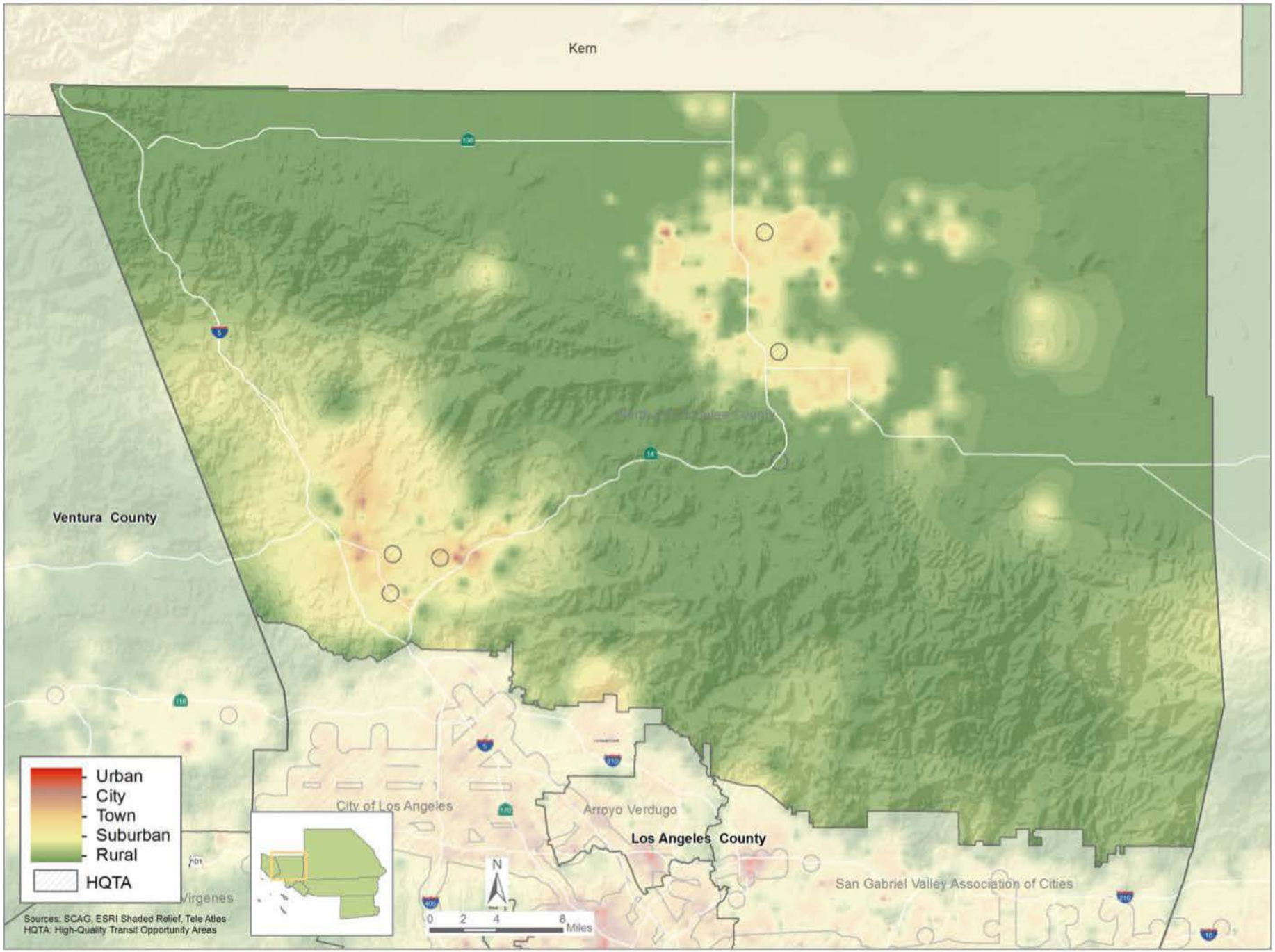


EXHIBIT 23 Land Use Pattern Map – North Los Angeles 2020

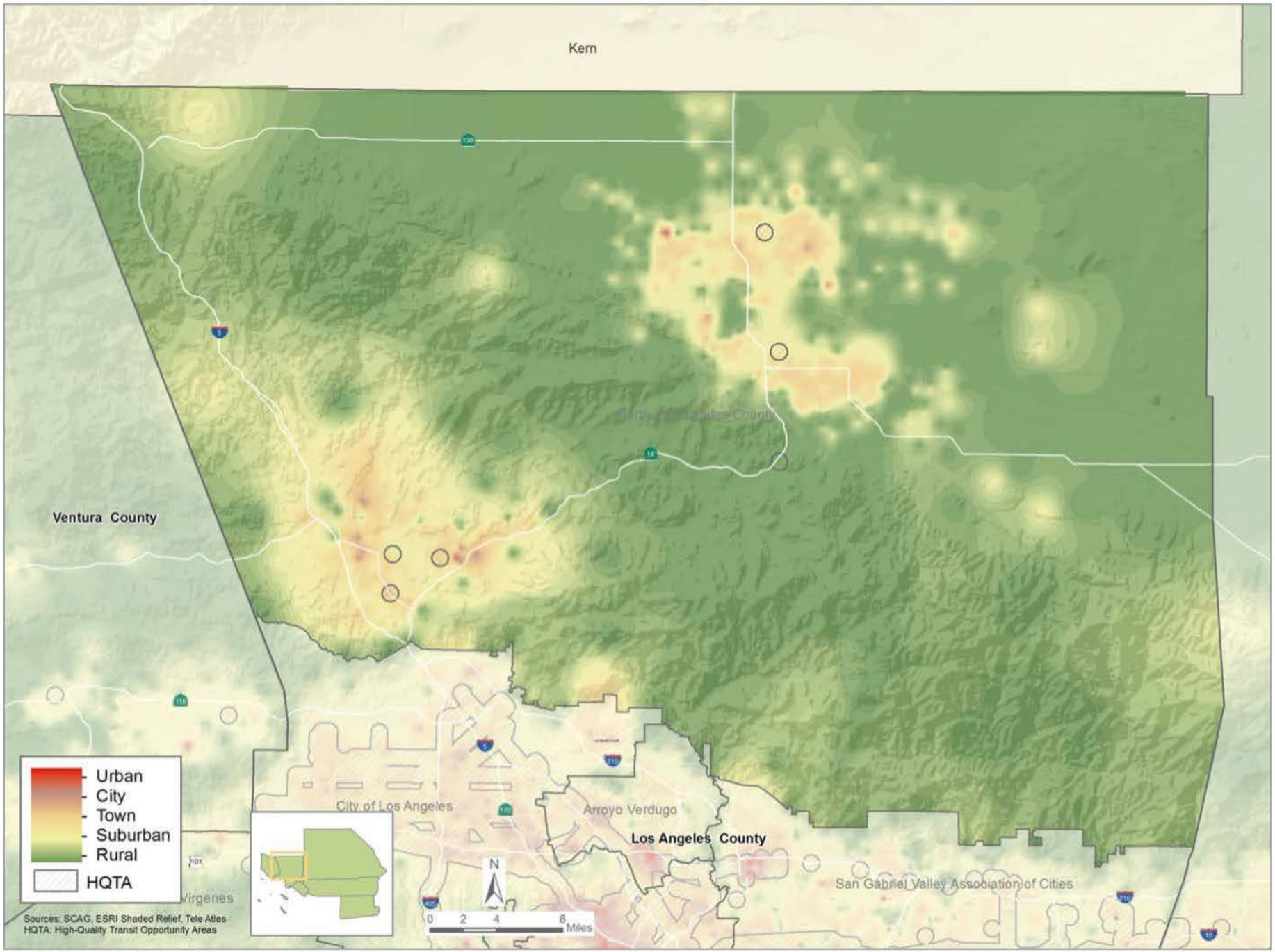


EXHIBIT 24 Land Use Pattern Map – North Los Angeles 2035

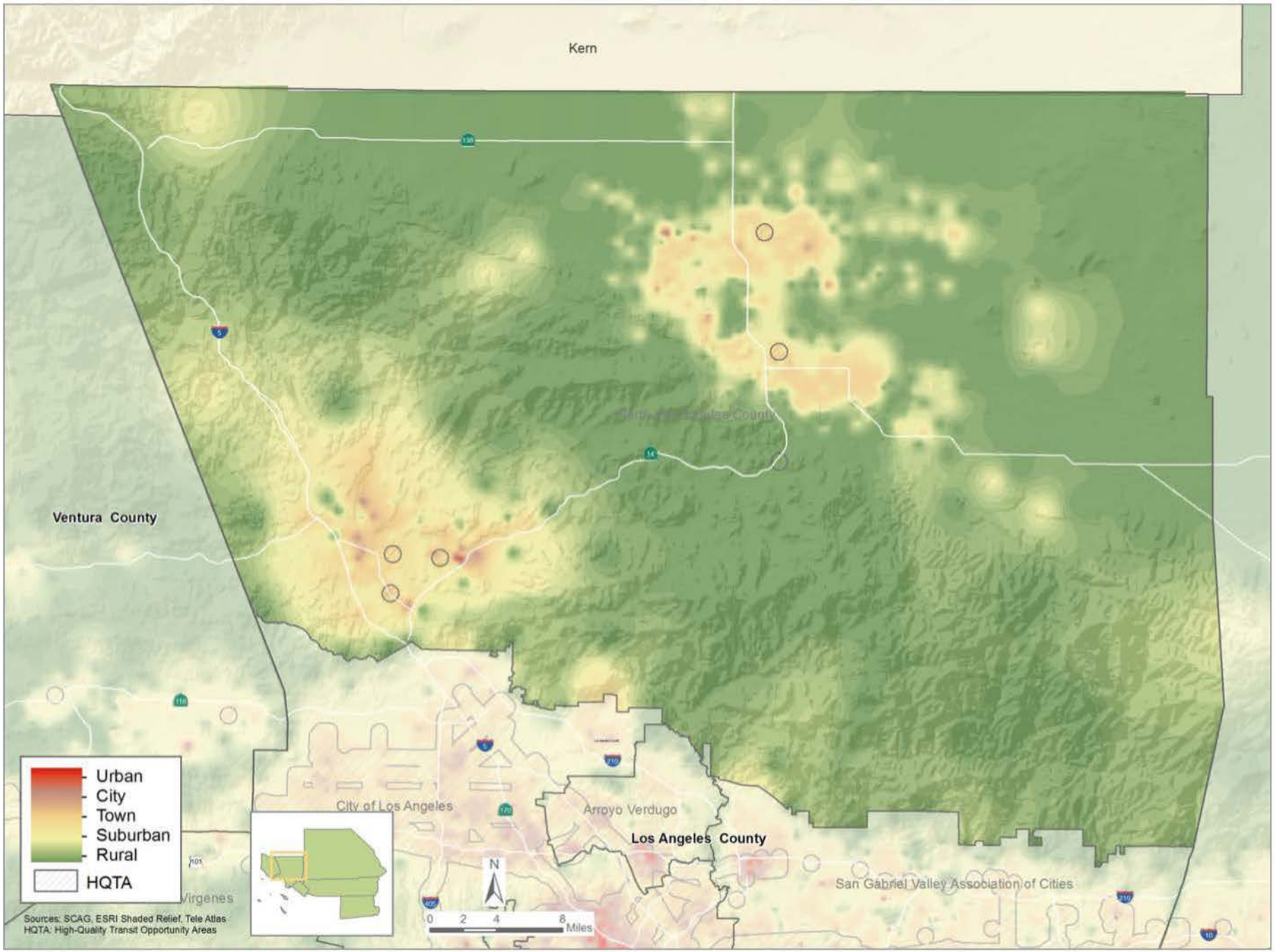


EXHIBIT 25 Land Use Pattern Map – San Gabriel Valley 2008

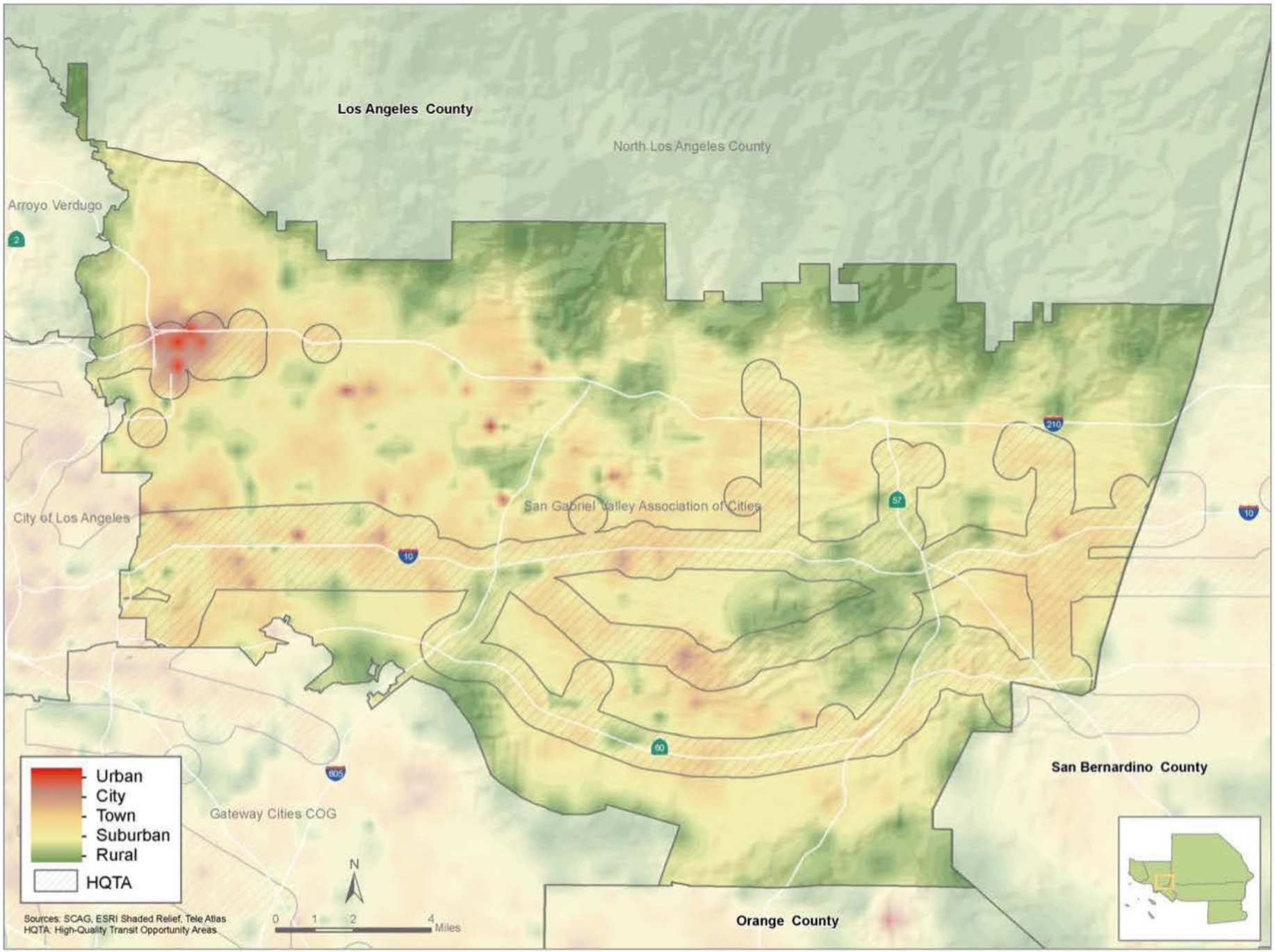


EXHIBIT 26 Land Use Pattern Map – San Gabriel Valley 2020

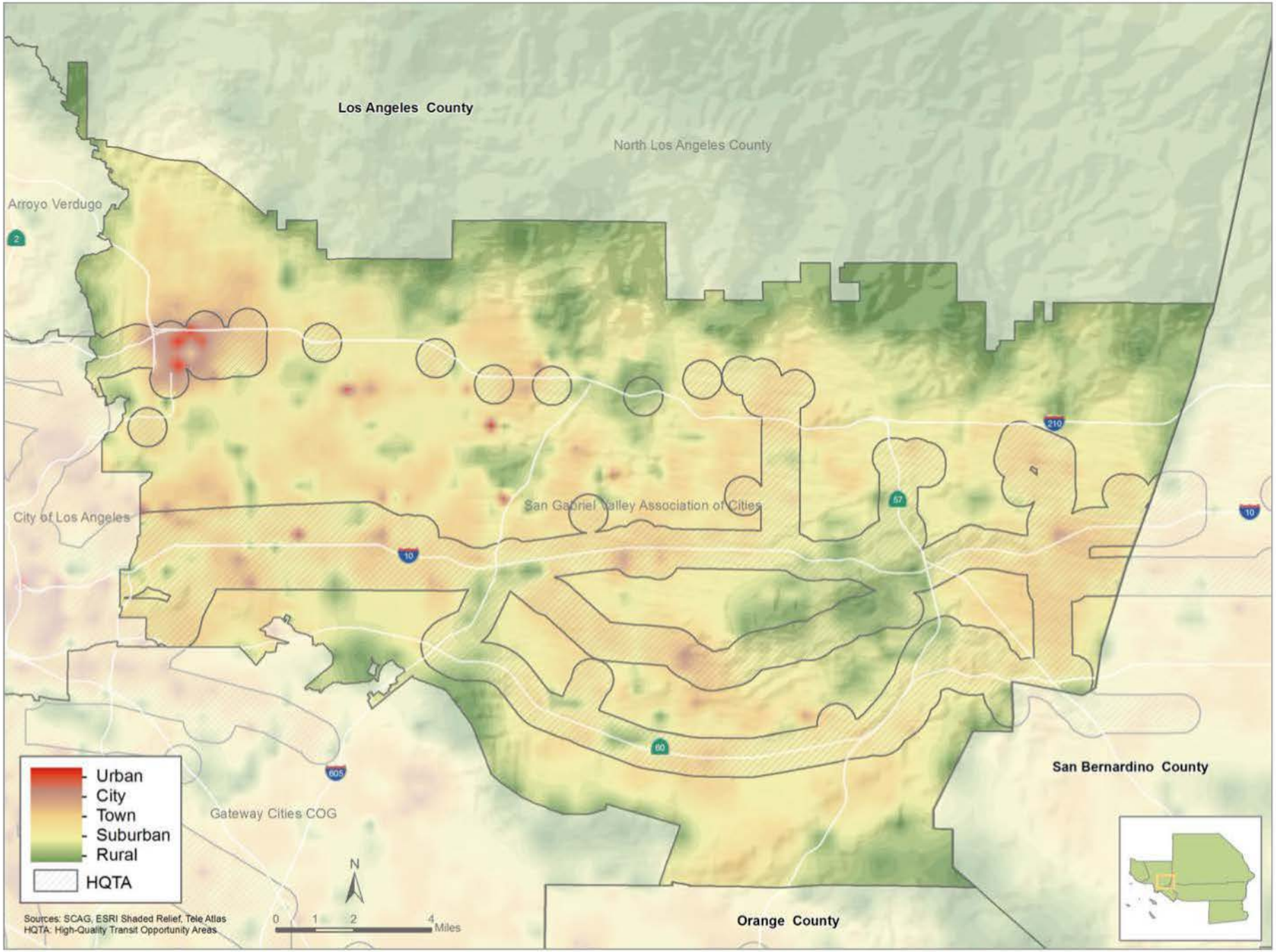


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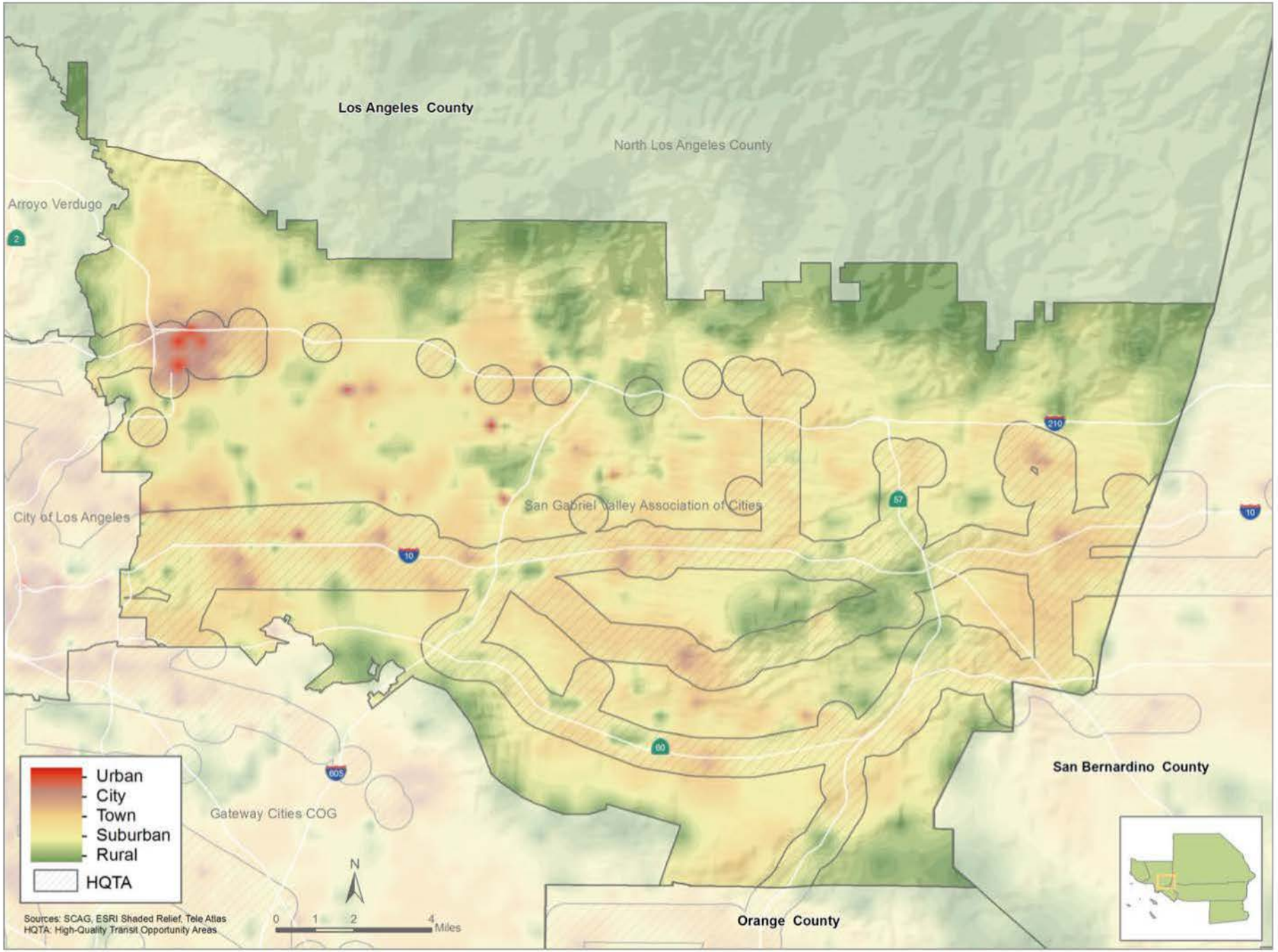


EXHIBIT 28 Land Use Pattern Map – South Bay Cities 2008

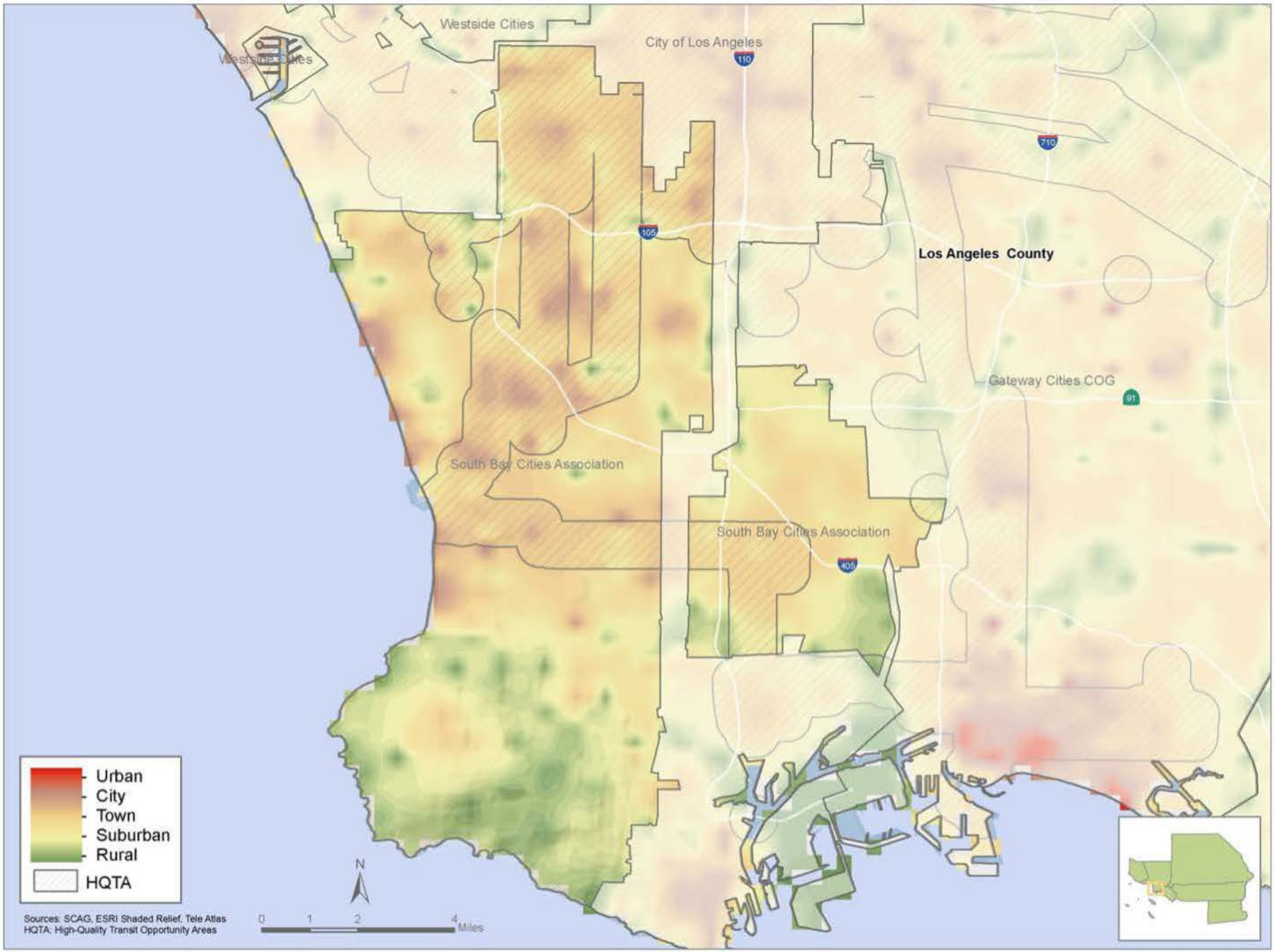


EXHIBIT 29 Land Use Pattern Map – South Bay Cities 2020

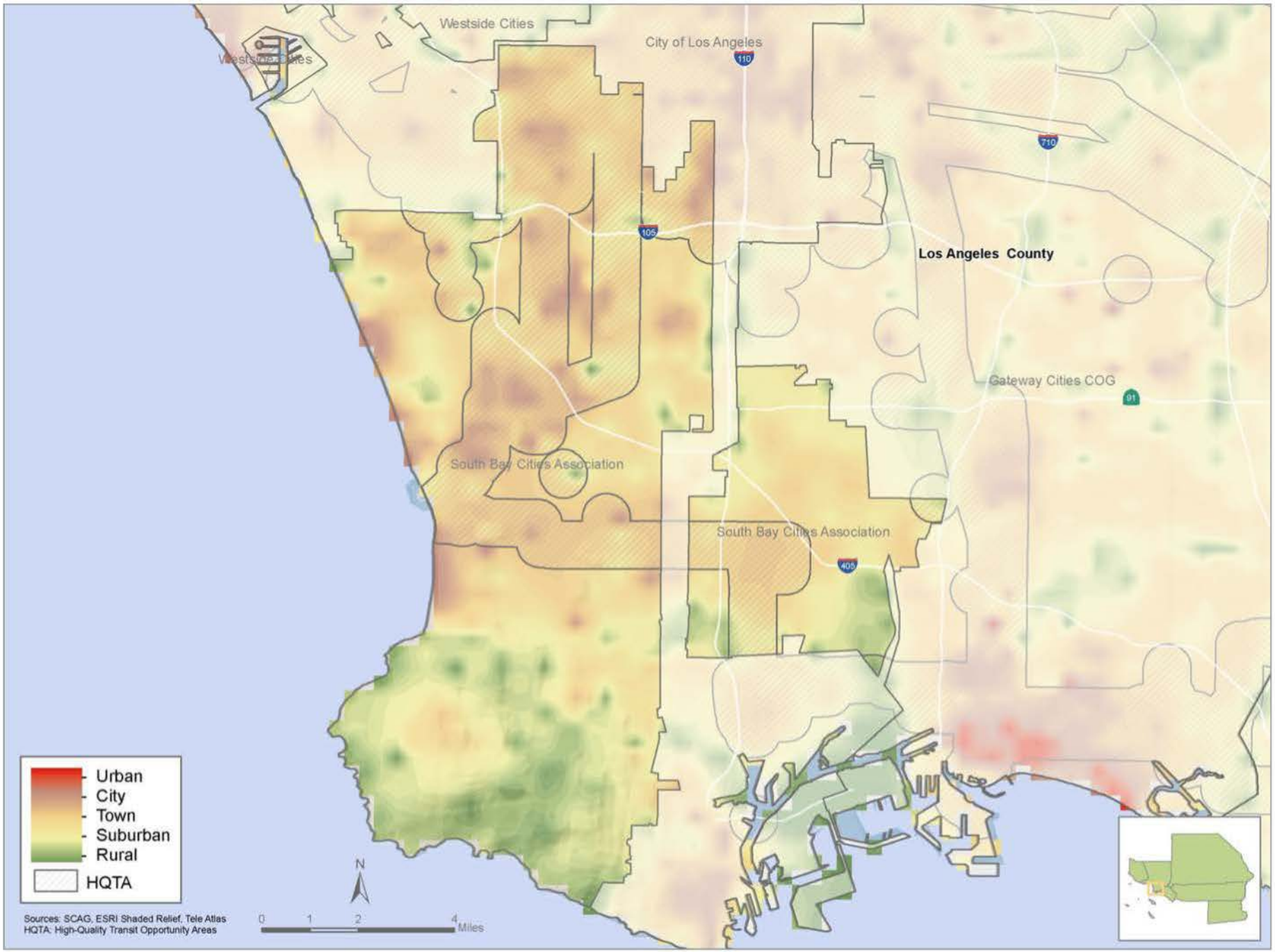


EXHIBIT 30 Land Use Pattern Map – South Bay Cities 2035

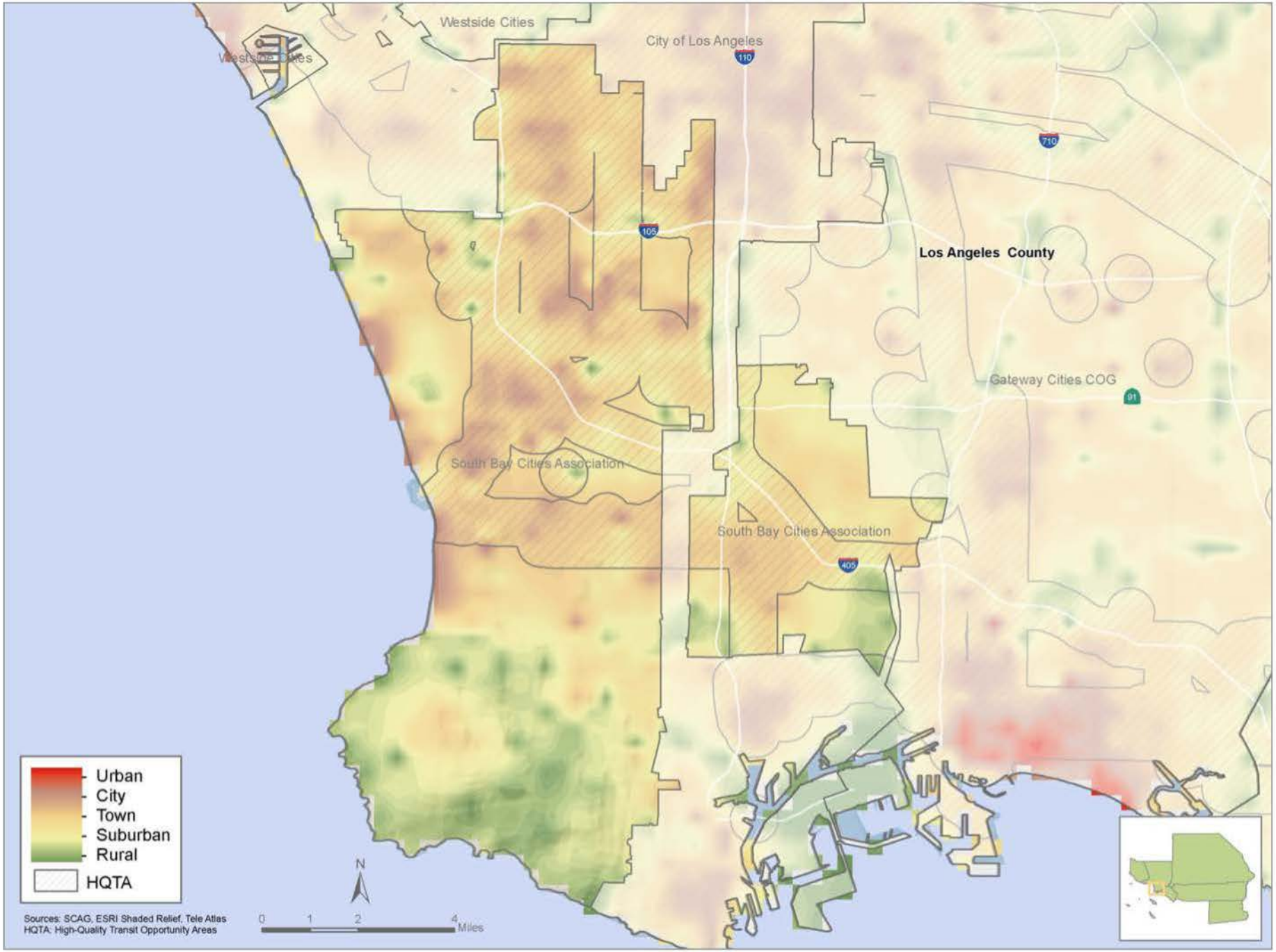


EXHIBIT 31 Land Use Pattern Map – Westside Cities 2008

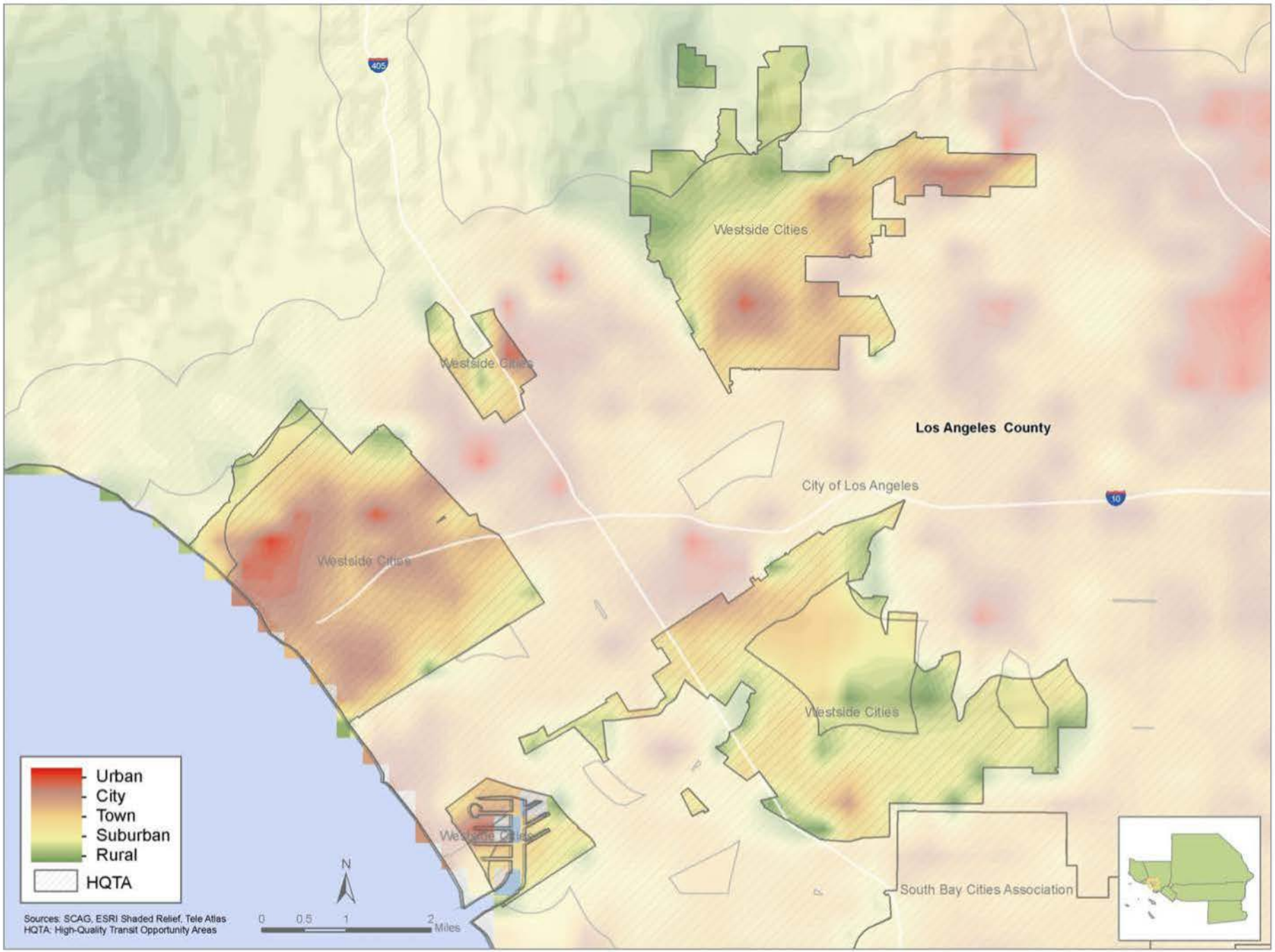


EXHIBIT 32 Land Use Pattern Map – Westside Cities 2020

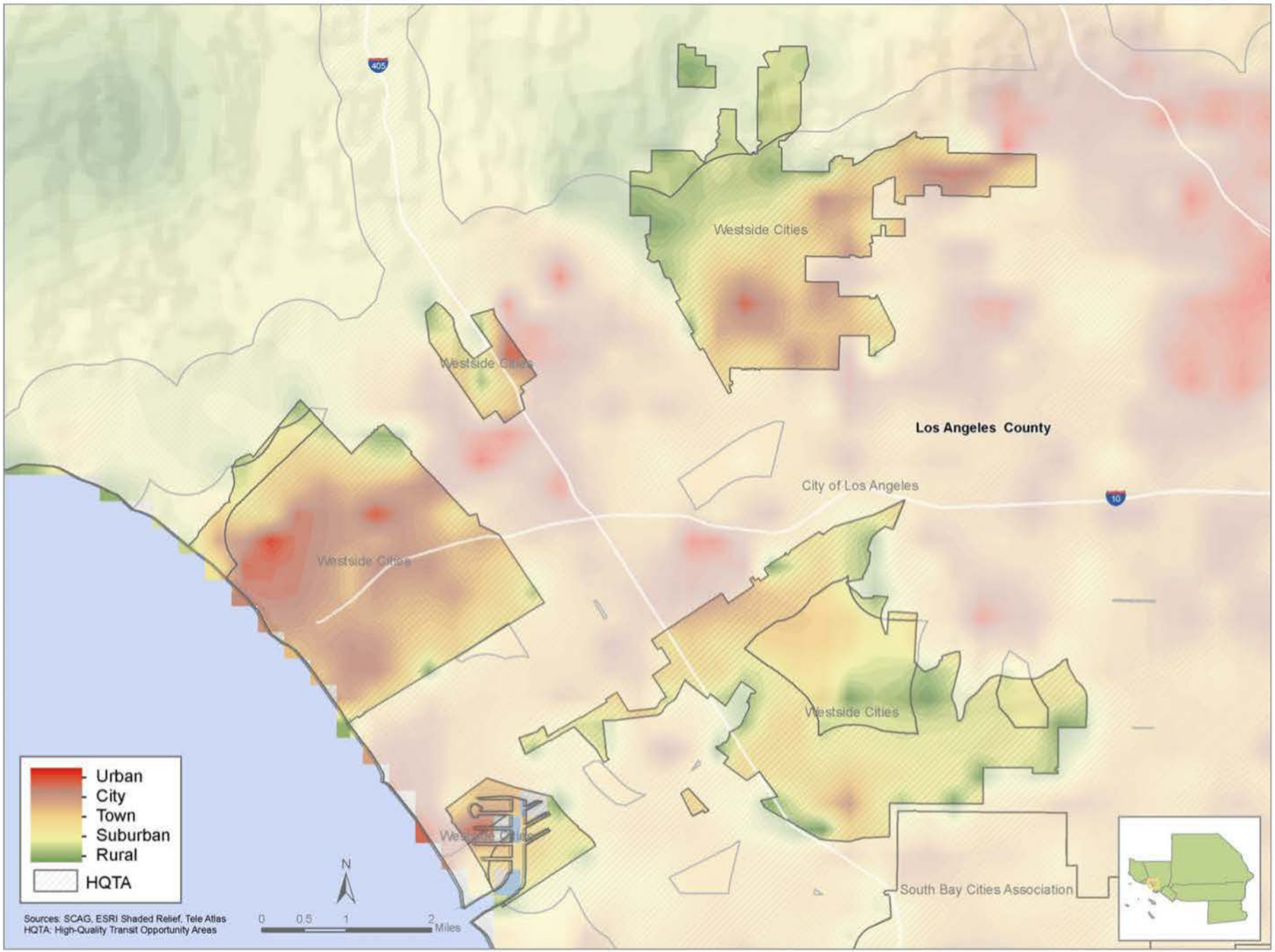


EXHIBIT 33 Land Use Pattern Map – Westside Cities 2035

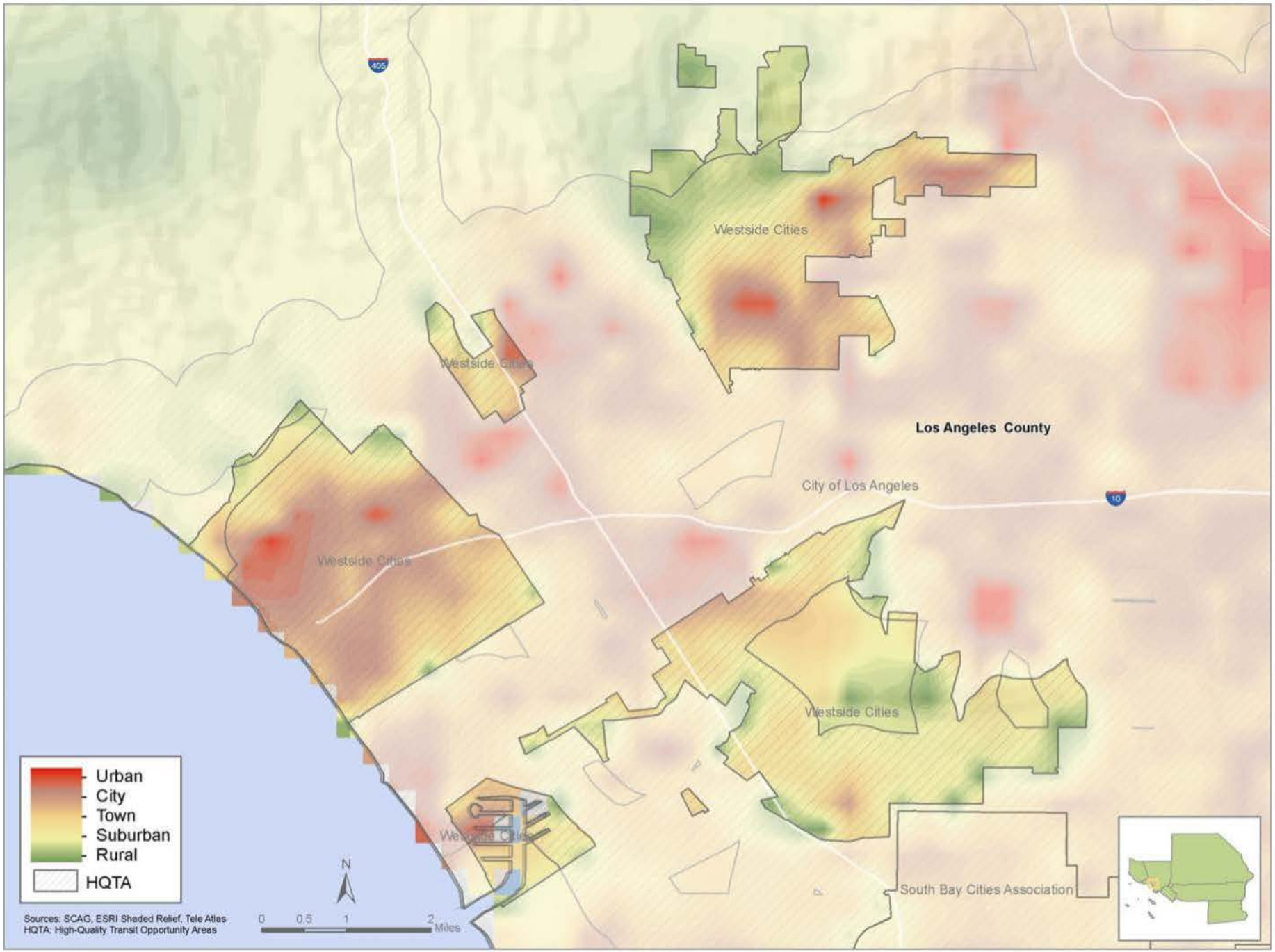


EXHIBIT 34 Land Use Pattern Map – Orange County 2008



EXHIBIT 35 Land Use Pattern Map – Orange County 2020



EXHIBIT 36 Land Use Pattern Map – Orange County 2035



EXHIBIT 37 Land Use Pattern Map – Riverside County 2008

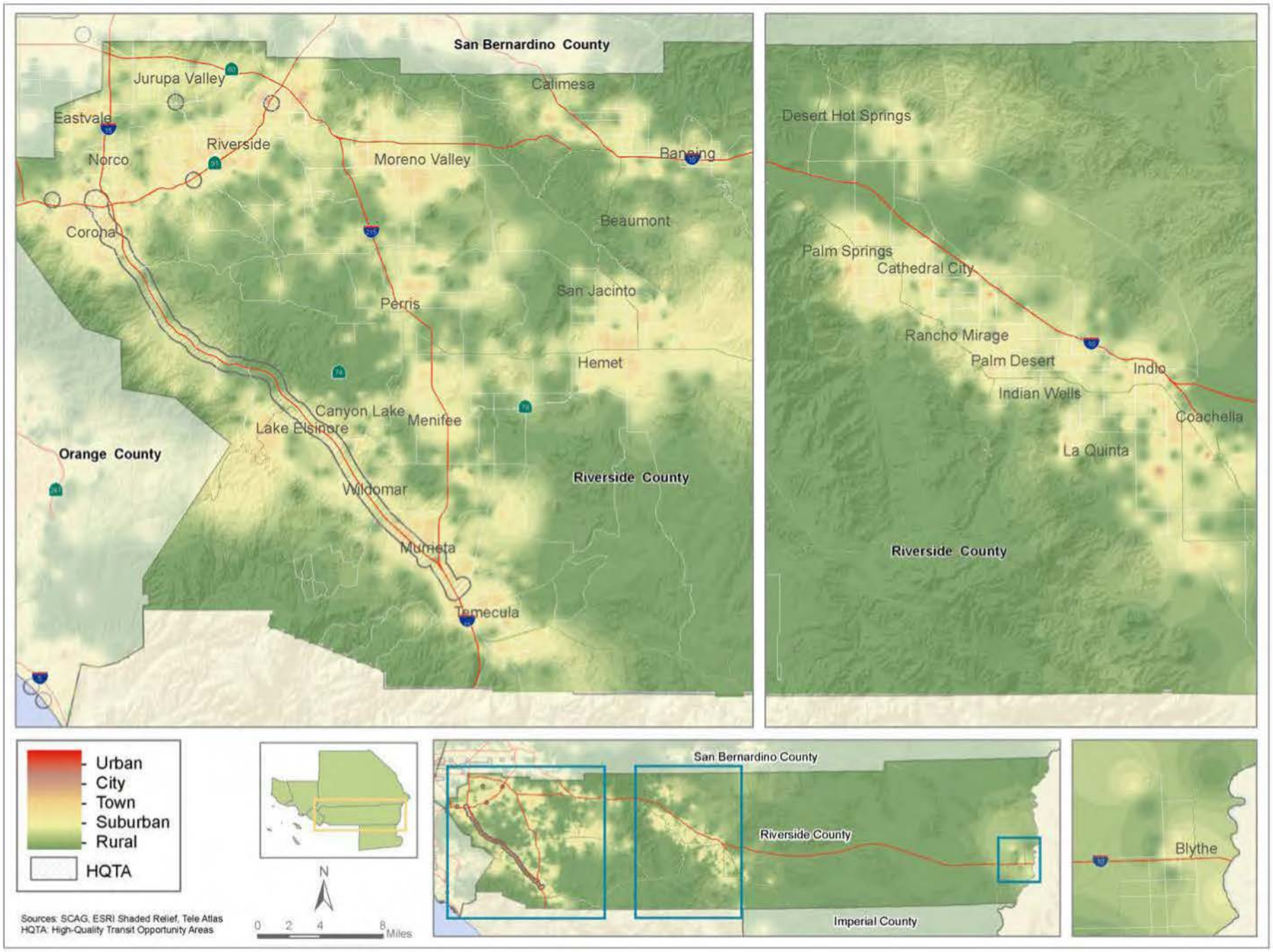


EXHIBIT 38 Land Use Pattern Map – Riverside County 2020

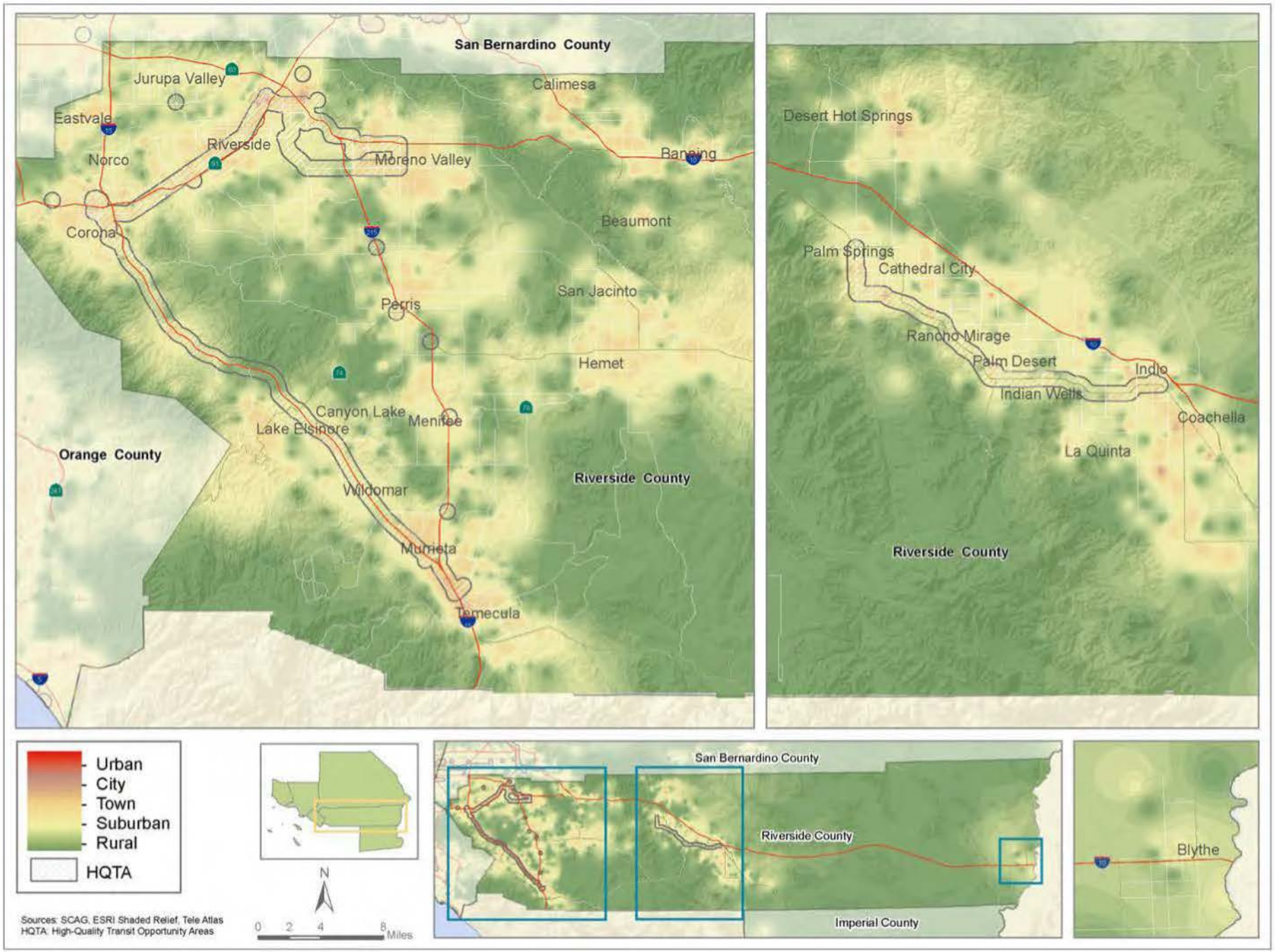


EXHIBIT 39 Land Use Pattern Map – Riverside County 2035

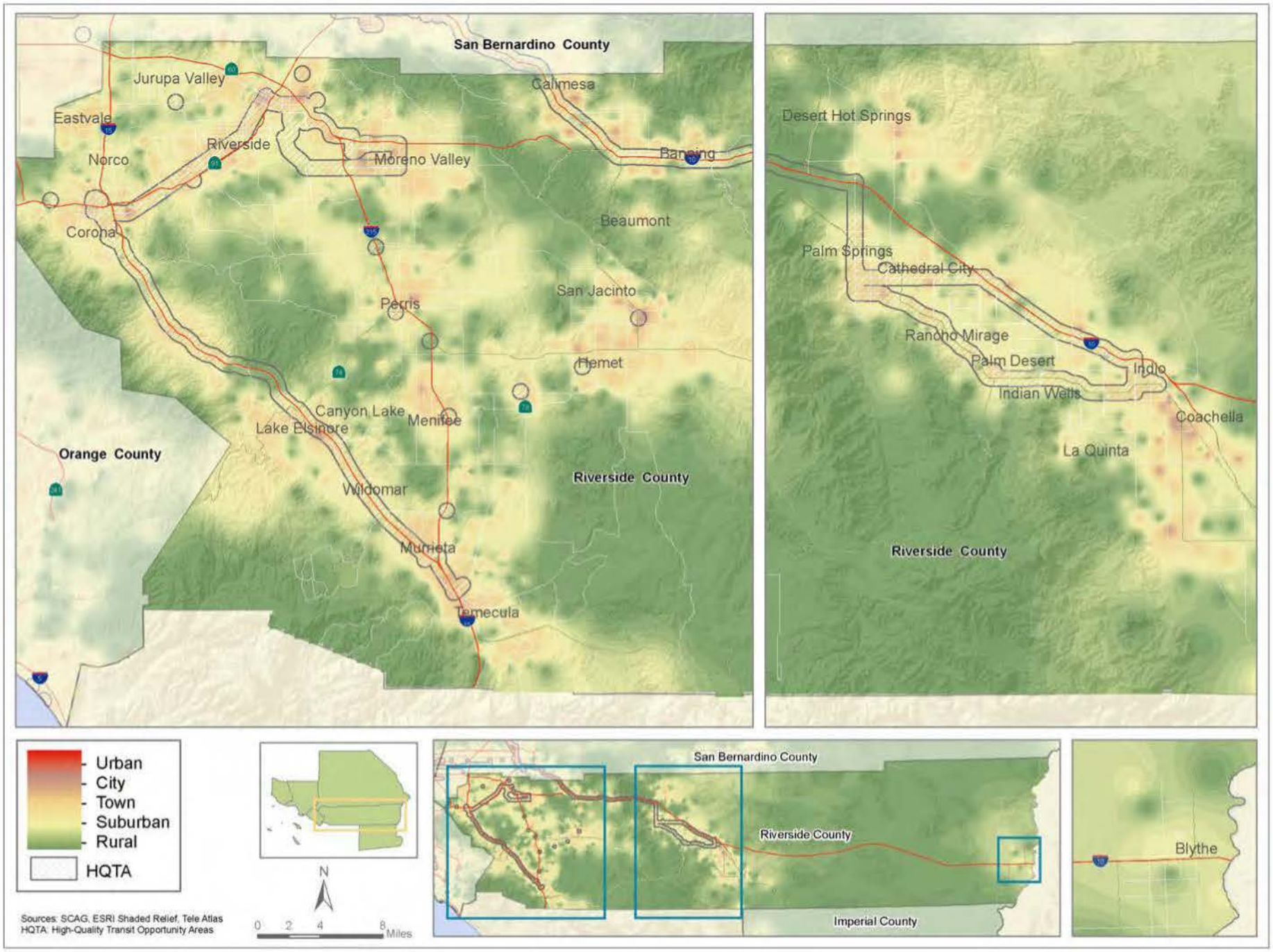


EXHIBIT 40 Land Use Pattern Map – Coachella Valley 2008

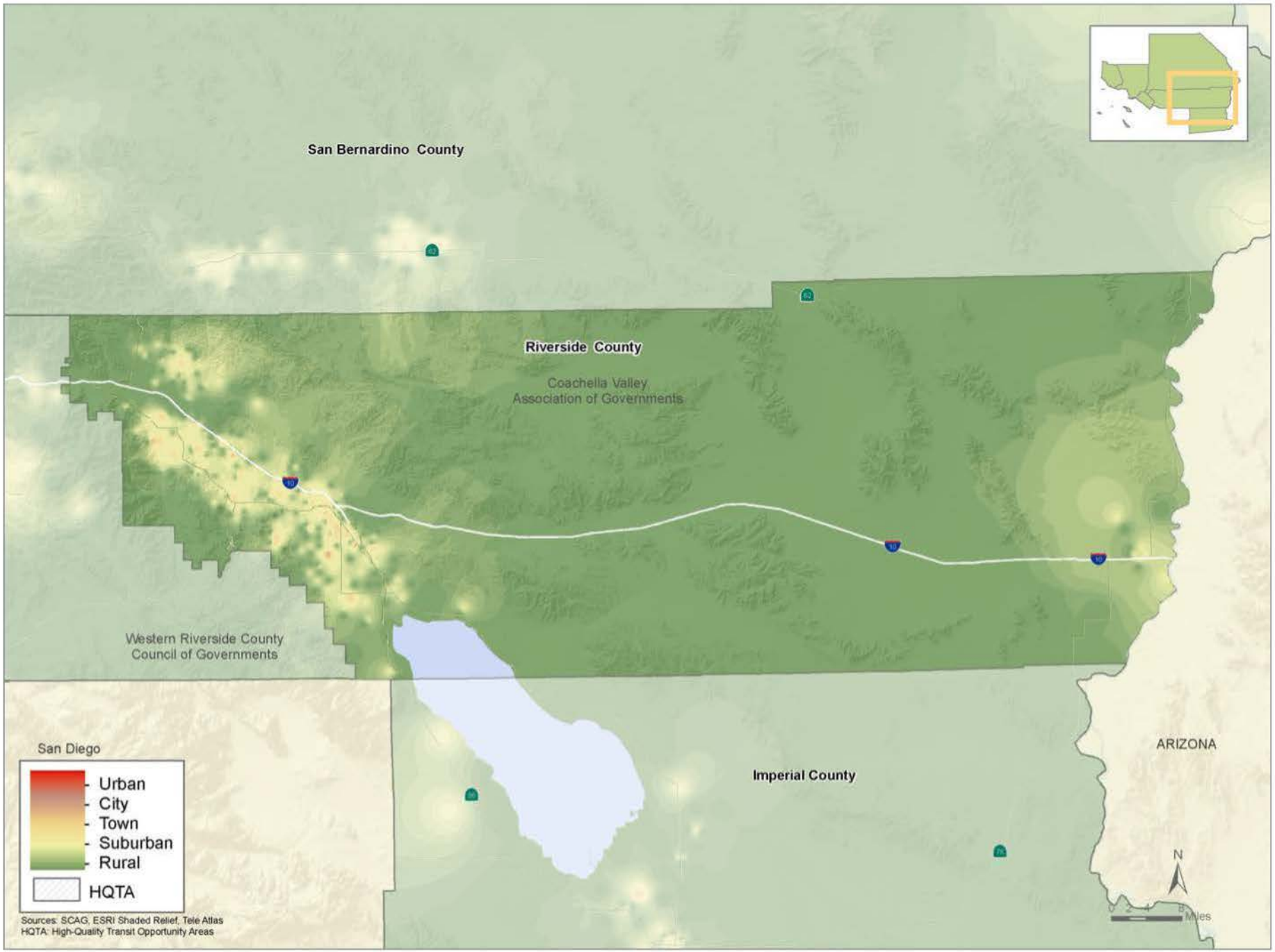


EXHIBIT 41 Land Use Pattern Map – Coachella Valley 2020

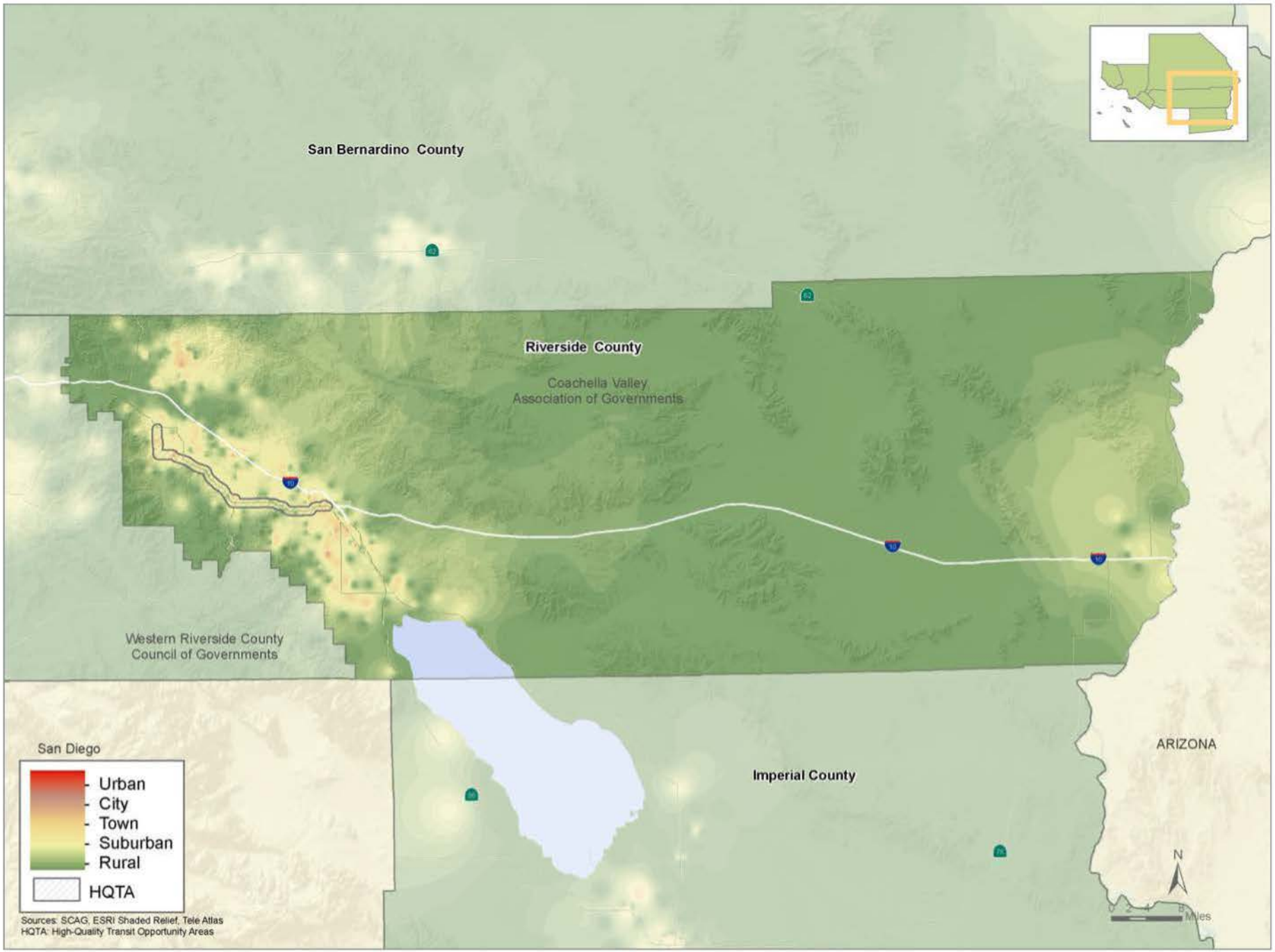


EXHIBIT 42 Land Use Pattern Map – Coachella Valley 2035

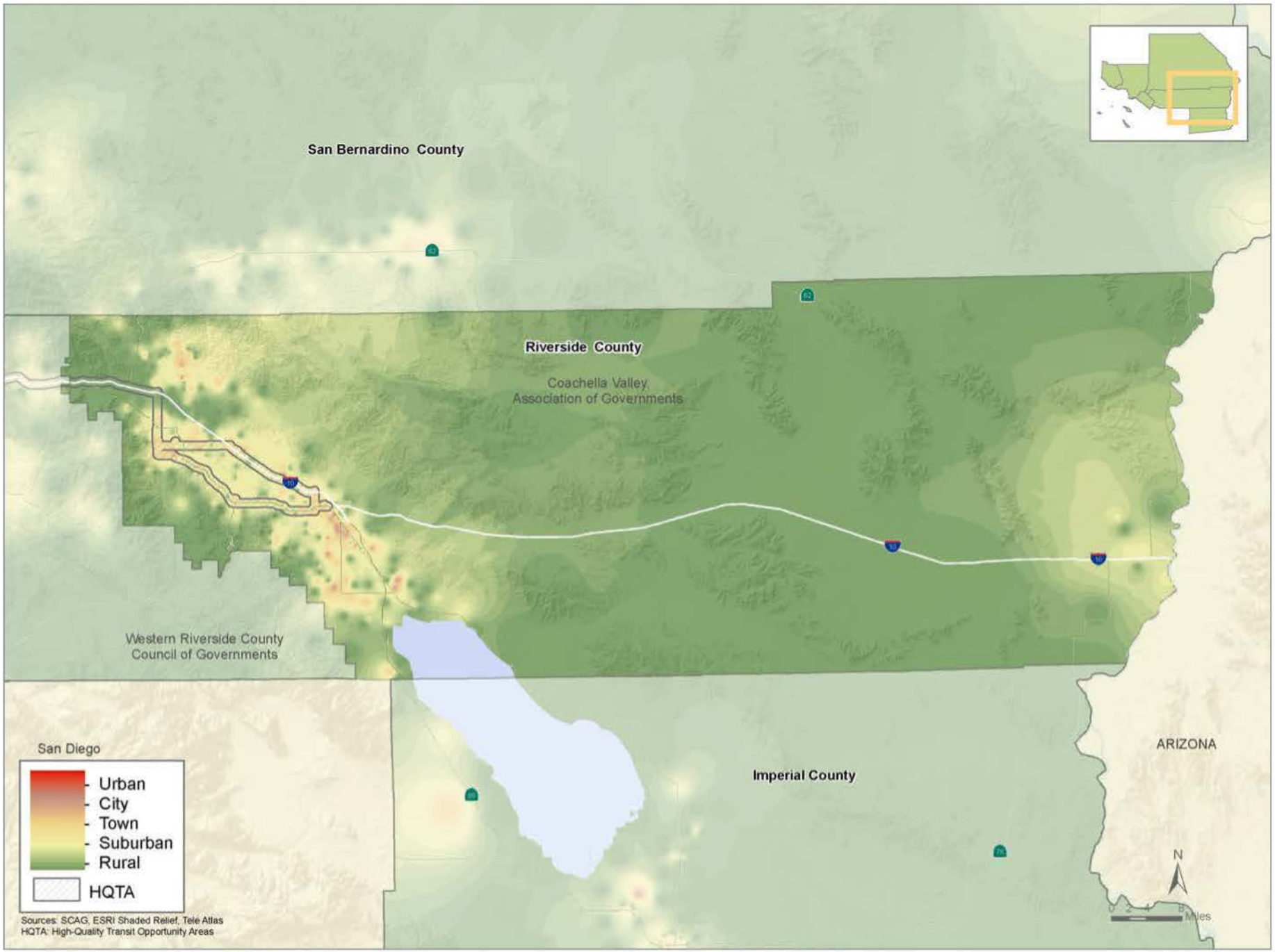


EXHIBIT 43 Land Use Pattern Map – Western Riverside County 2008

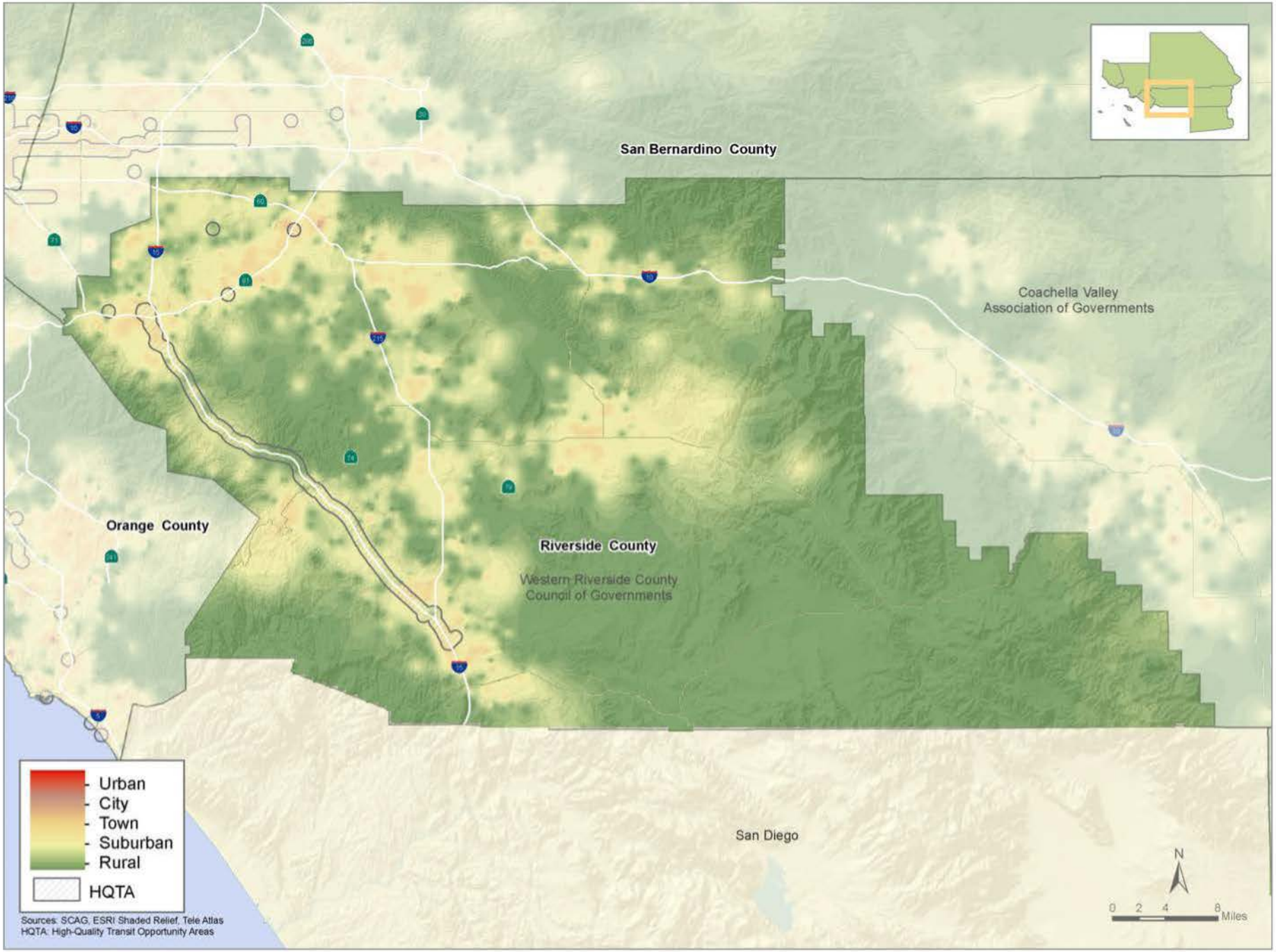


EXHIBIT 44 Land Use Pattern Map – Western Riverside County 2020

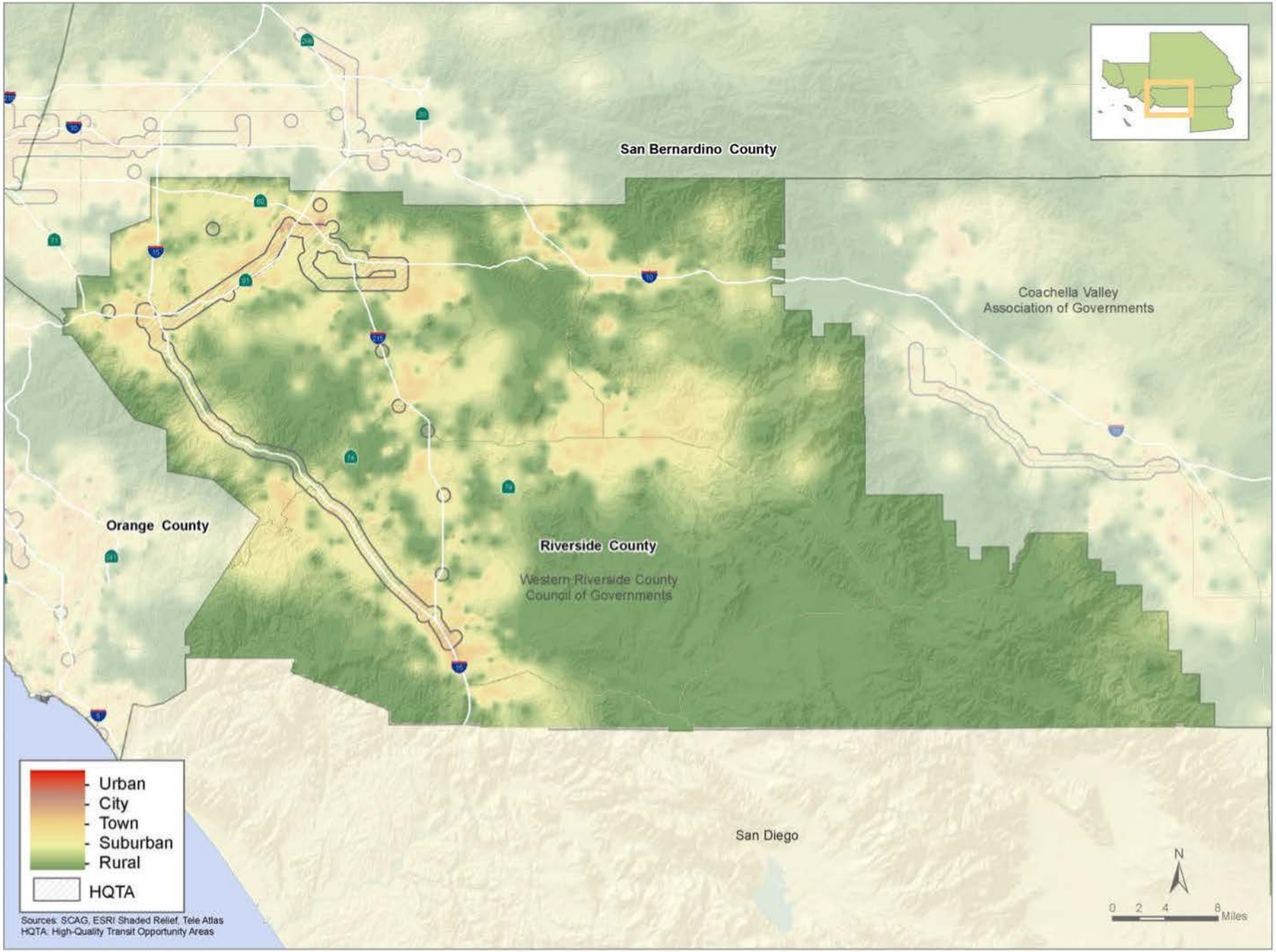


EXHIBIT 45 Land Use Pattern Map – Western Riverside County 2035

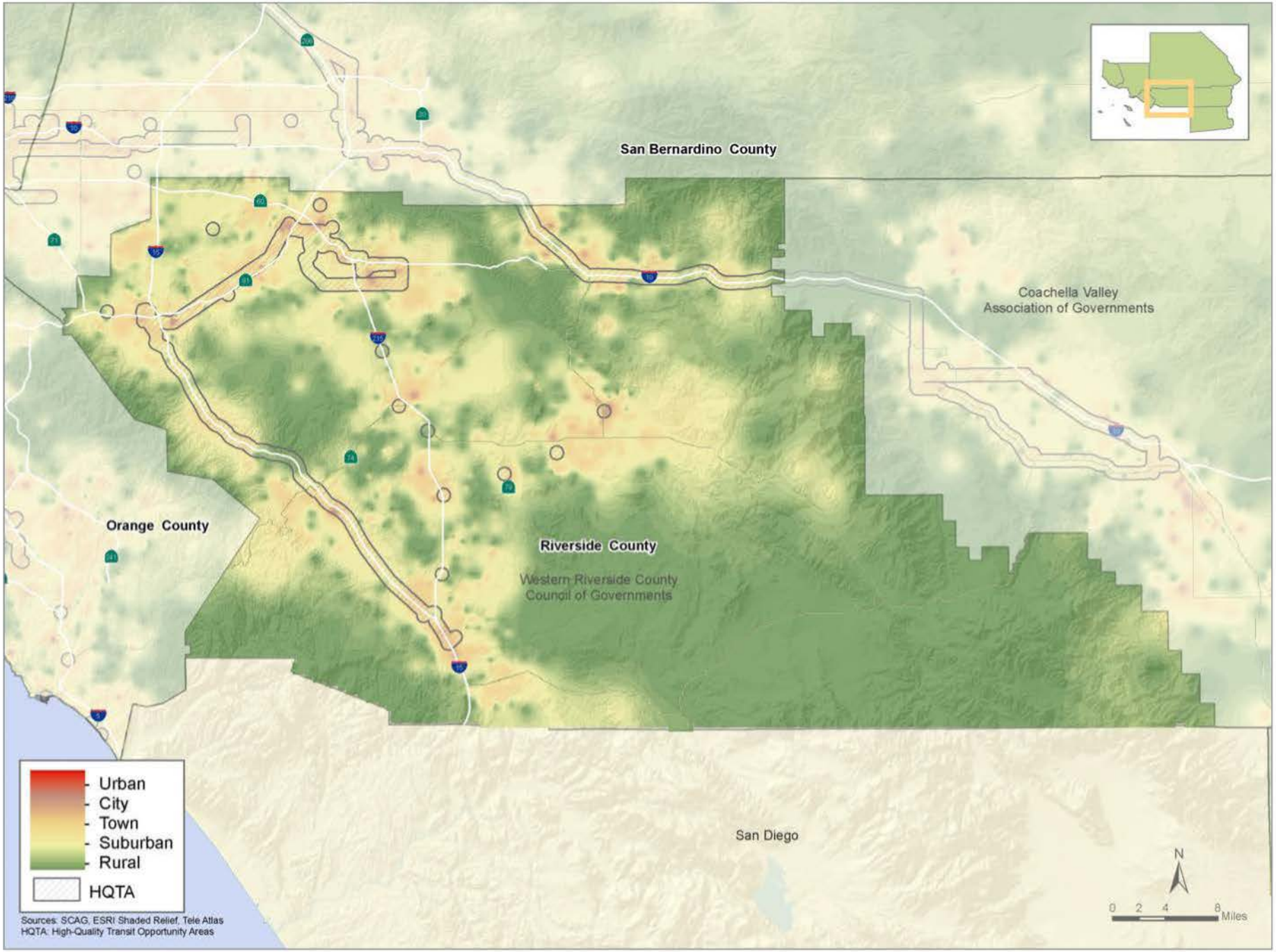


EXHIBIT 46 Land Use Pattern Map – San Bernardino County 2008

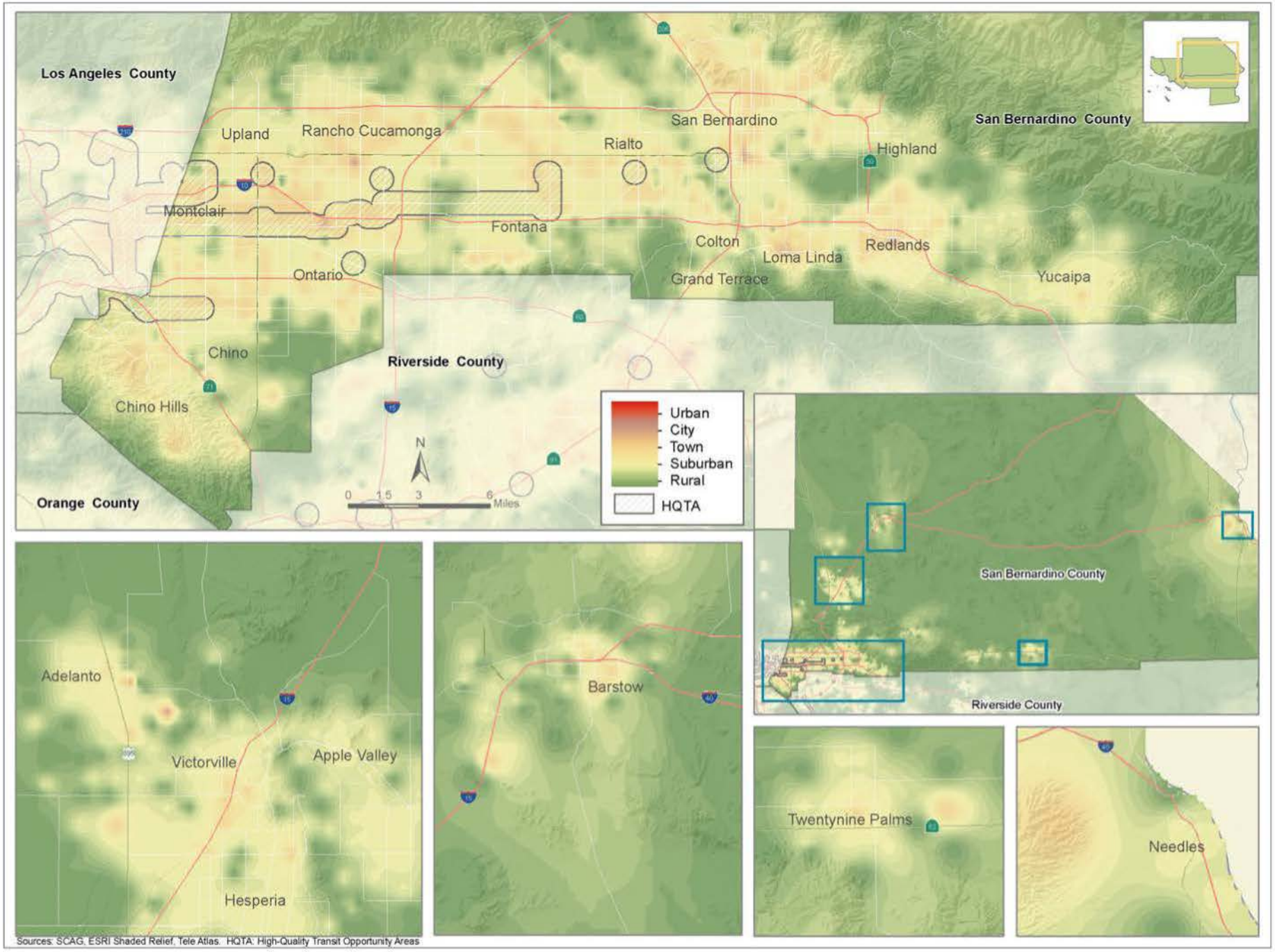


EXHIBIT 47 Land Use Pattern Map – San Bernardino County 2020

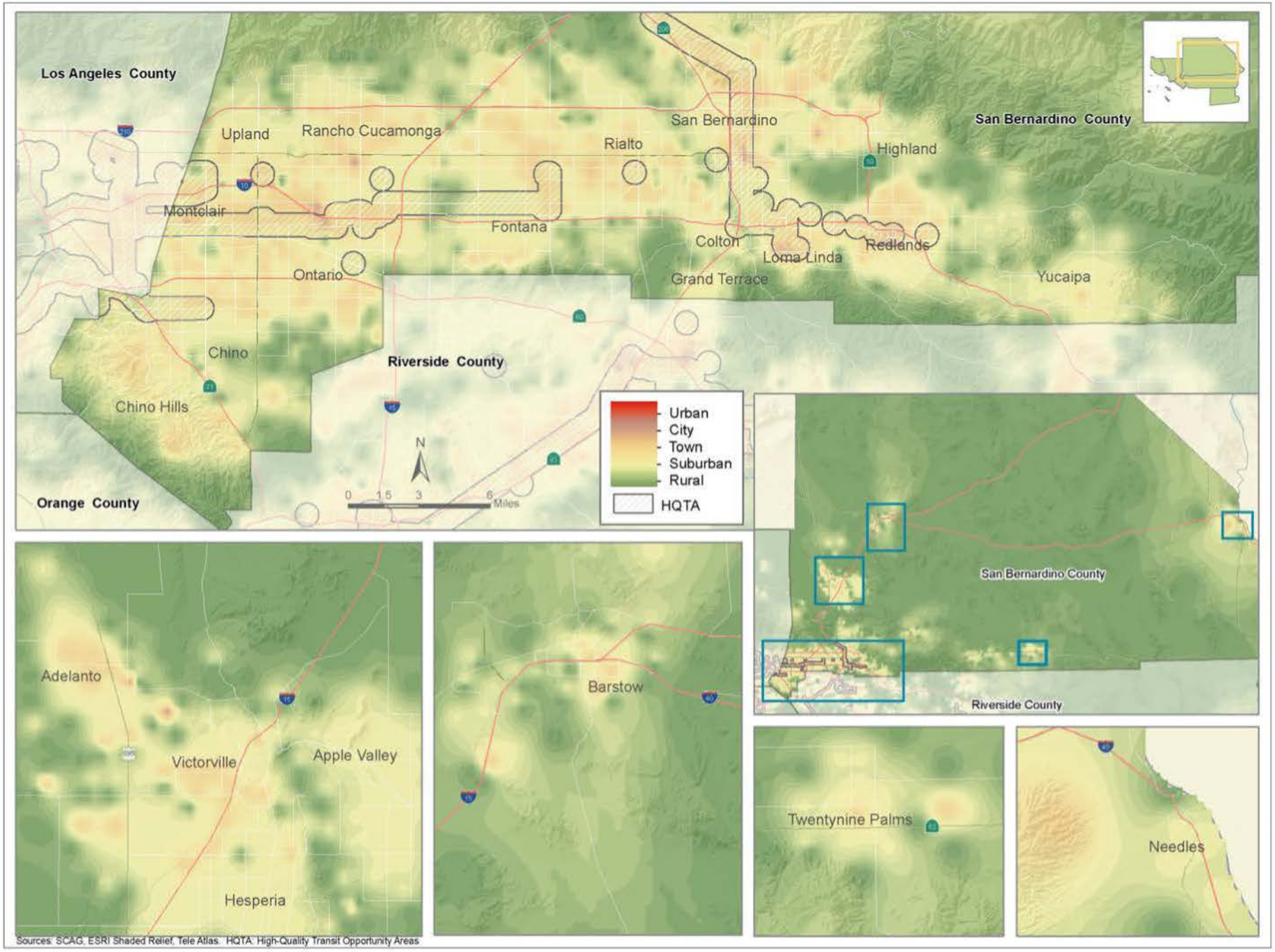


EXHIBIT 48 Land Use Pattern Map – San Bernardino County 2035

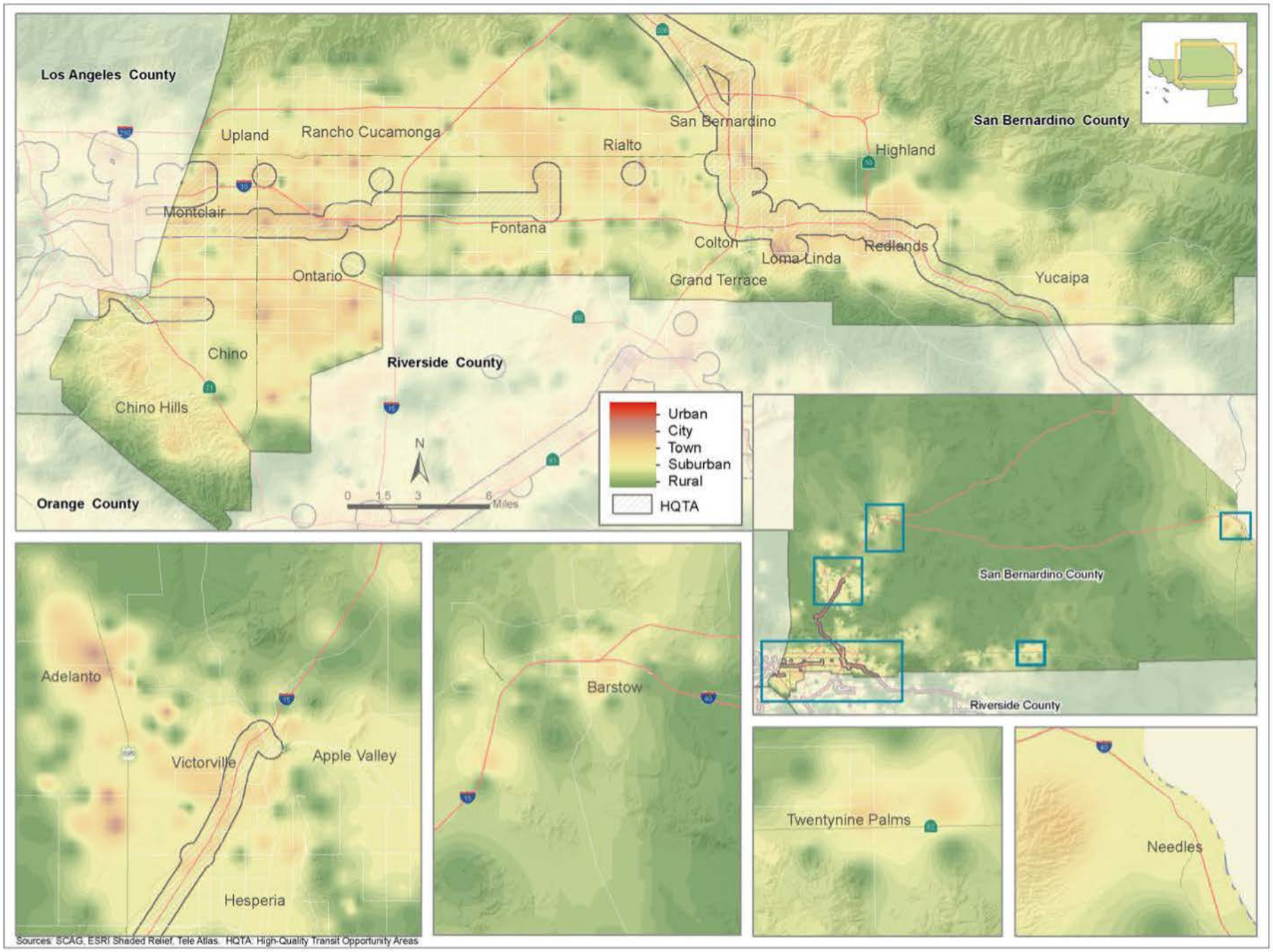


EXHIBIT 49 Land Use Pattern Map – Ventura County 2008

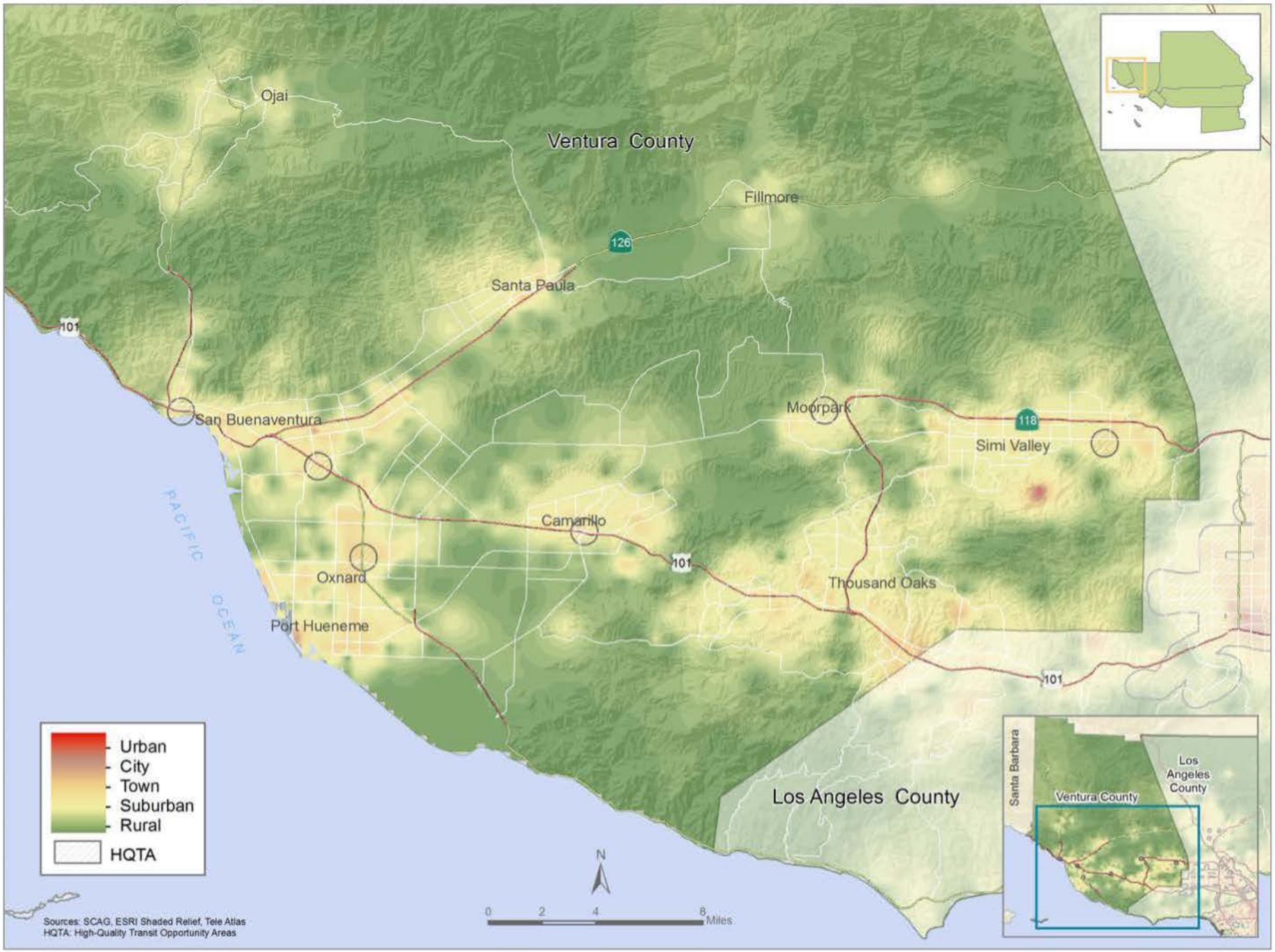


EXHIBIT 50 Land Use Pattern Map – Ventura County 2020

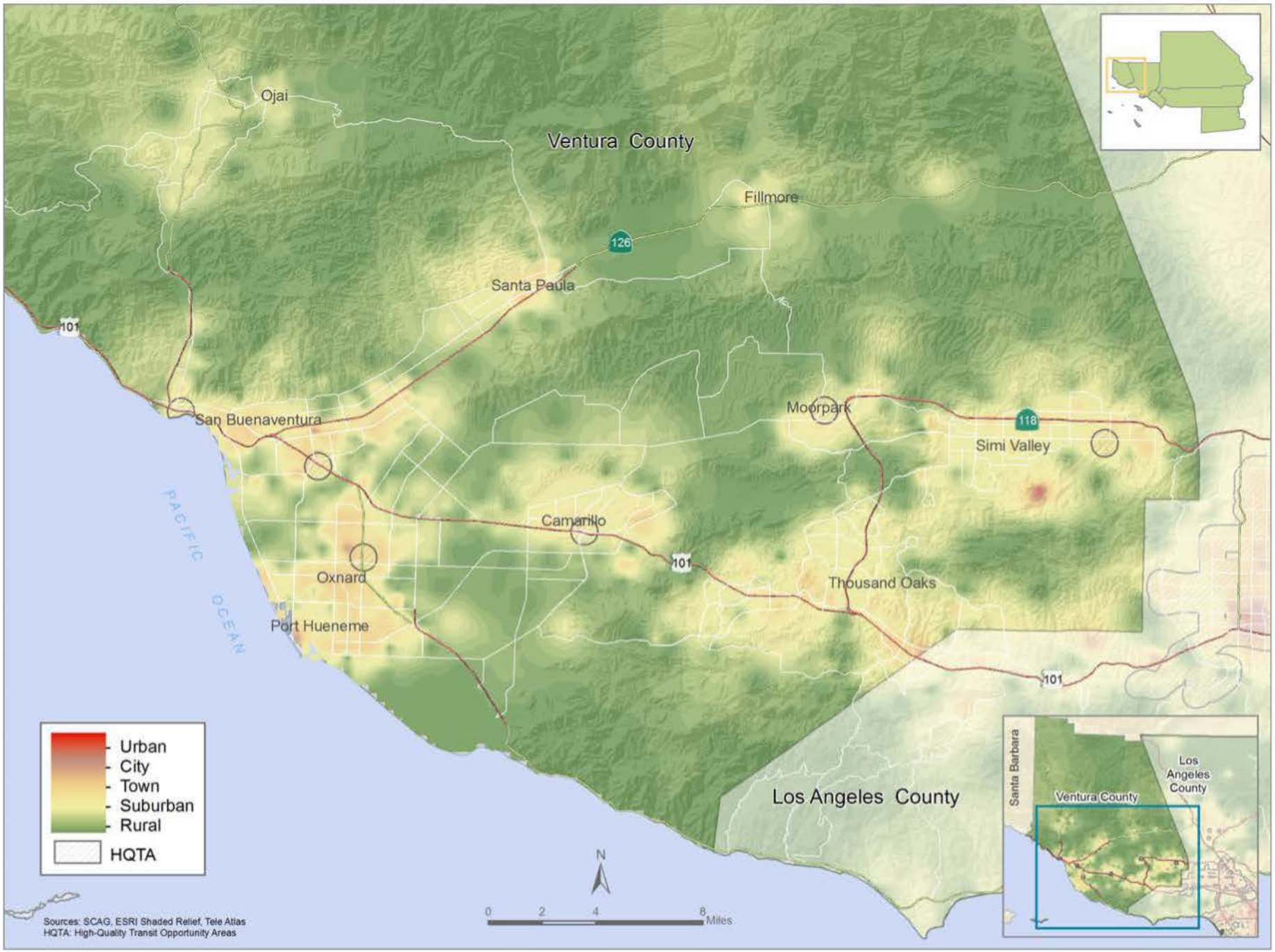
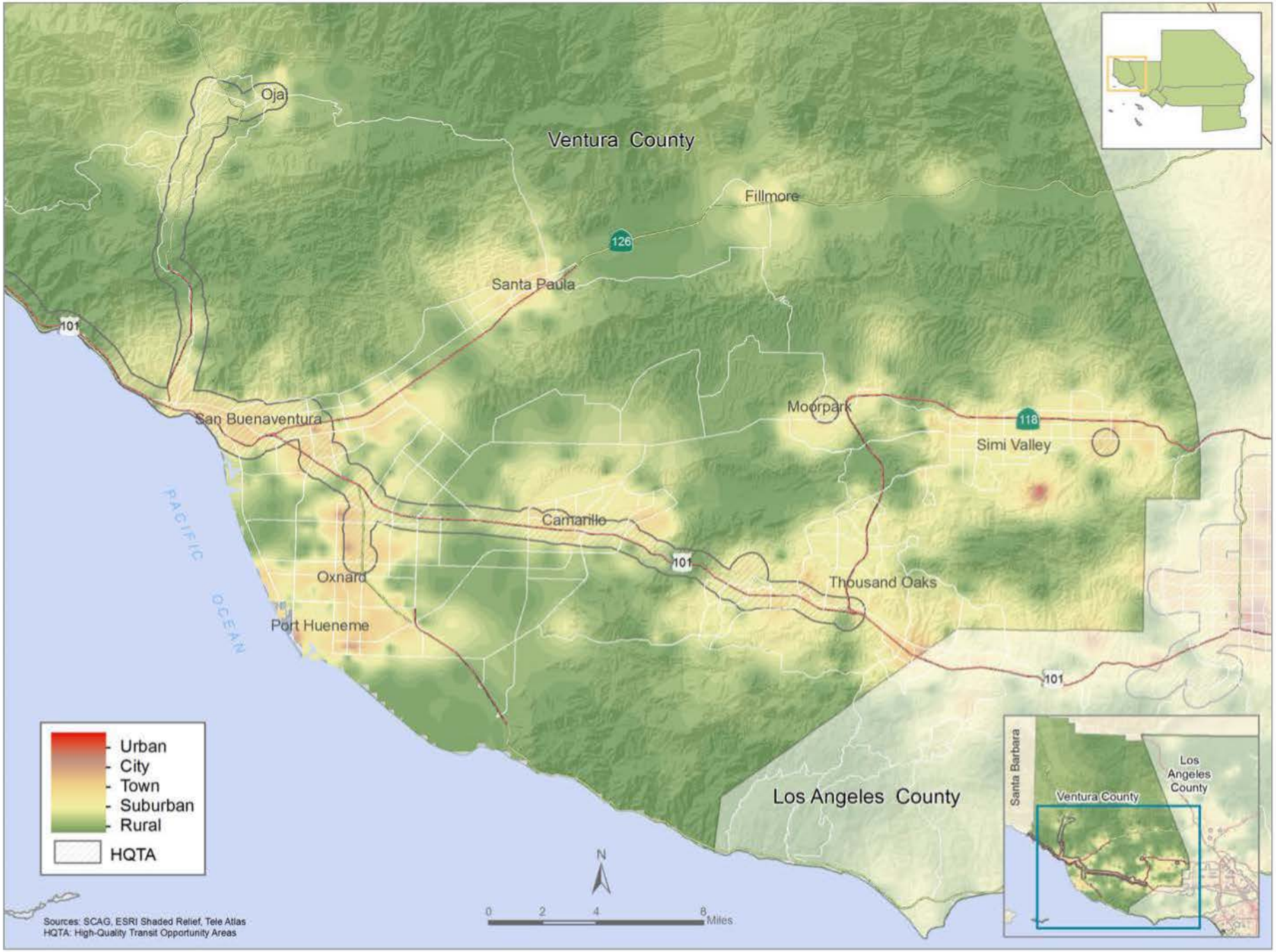


EXHIBIT 51 Land Use Pattern Map – Ventura County 2035



B. 2012–2035 RTP/SCS Scenarios for Public Outreach Workshops

The Rapid Fire Model

The four scenarios presented at the 2012–2035 RTP/SCS Public Outreach Workshops were produced using the Rapid Fire scenario modeling tool developed by Berkeley, CA-based planning and design firm Calthorpe Associates. The model is a user-friendly, spreadsheet-based tool that produces and evaluates scenarios at the national, state, regional, and county scales across a range of critical metrics. It constitutes a single framework into which data and research-based assumptions about the future can be loaded to test the impacts of varying land use patterns.

The Rapid Fire model emerged out of the near-term need for a comprehensive modeling tool that could inform state, regional, and local agencies and policy makers in evaluating climate, land use, and infrastructure investment policies. The model produces results for a range of metrics including:

- GHG (CO_2e) emissions from cars and buildings
- Air pollution and public health impacts
- Fuel use and cost
- Building energy and water use, and cost
- Land consumption
- Fiscal impacts, including capital infrastructure costs, operations and maintenance costs, and local revenues

Results are summarized so that users can compare the impacts of different scenarios. All assumptions are clearly identified and can be easily modified to test varying land use and policy choices. A detailed description of the Rapid Fire model can be found in the Section D. Rapid Fire Technical Summary.

The Scenarios

The scenarios were designed to explore and clearly convey the impact of both where the 6-county SCAG region grows over the next 25 years—to what extent growth is focused within existing cities and towns; and how it grows—the shape and style of the neighborhoods and transportation systems that will shape growth over the period. These scenarios were precursors to the 2012–2035 RTP/SCS alternatives. The scenarios facilitated public dialogue and feedback, which in turn allowed SCAG to develop substantially more detailed and refined Plan alternatives. In addition, the 2012–2035 RTP/SCS scenarios also helped to refine the California Environmental Quality Act (CEQA) alternatives considered in the Program Environmental Impact Report (PEIR). These Plan alternatives were extensively analyzed in the 2012–2035 RTP/SCS and the potential impacts of the 2012–2035 RTP/SCS Plan alternative were evaluated in the PEIR. Note that the 2012–2035 RTP/SCS Plan alternatives are separate and distinct from the scenarios discussed here.

The scenarios vary in their land use programs and in the package of transportation investments that support the quality and location of growth in the scenarios. The range of the scenarios can be described by how they address the following key elements:

- Development Location (Dispersed Growth vs. Focused Development): The four scenarios vary in the proportion of growth accommodated at the edges of cities and the region's urbanized areas versus that located in and around existing cities and towns, particularly in the region's designated High-Quality Transit Areas (HQTAs). An HQTA is generally a walkable transit village or corridor, consistent with the adopted RTP/SCS, and is within one half-mile of a well-serviced transit stop or corridor with 15-minute or less service frequency during peak commute hours. This is represented by the proportion of Greenfield versus Refill (infill and redevelopment) growth in each of the scenarios.
- Community/Neighborhood Design (Auto-Oriented vs. Walkable): The shape and quality of growth in the scenarios vary, from a focus on walkable and transit-oriented places where most daily needs are within walking, biking, or short driving distance from homes, to a future in which most new communities are centered around the car as the dominant form of transportation for nearly all trips. This is represented across the four scenarios by the proportion of Standard Suburban, Mixed-Use/Walkable, and Urban Infill development in each of the scenarios.

- Housing Options and Mix (Single-Family Subdivisions vs. Multifamily Focus): The four workshop scenarios varied future housing mix in order to depict the impacts of meeting (or not meeting) measured housing demand and the changing demographics and preferences of current and future southern Californians. Trend-based housing programs that focus more on larger-lot (>5,500 SF) single-family options are compared to varying mixes of single-family, townhome, and multifamily options. Housing demand profiles are informed by the recent work of A.C. Nelson and other state and national studies which connect changing demographic and economic conditions with housing demand.
- Transportation Investments (Road/Highway vs. Transit/Non-Auto Strategies): While all scenarios are supported by a range of transportation options, they vary in the proportion of new investments that are focused on transit and non-auto modes versus highway and roadway improvements that facilitate local and regional automobile travel. These transportation 'packages' are informed by past and present RTPs and incorporate a range of transit emphasis up to and including the recent Measure R and 30/10 Initiative. Each scenario's land use pattern and specific mix of place and location types are matched to a generalized transportation package that supports the pattern and quality of growth. The scenarios were designed to capture a range of potential strategies and investments under consideration for the RTP/SCS by considering the relative emphasis on investment by mode, or the inclusion of policy mechanisms such as TDM or congestion pricing. The scenarios do not consider or evaluate specific transportation networks, or individual projects.

The scenarios illustrate different 'themes' for how the region can grow, and the transport system that supports that growth. Each theme mixes a unique combination of the above factors and in turn varies in its impact on critical fiscal, environmental, and transportation challenges facing the region.

Scenario 1. This scenario is based on the General Plans prepared by cities and compiled by SCAG, with assistance from local planners, using the Local Sustainability Planning Tool (LSPT). It includes a significant proportion of suburban, auto-oriented development, but also recognizes the recent trend of increased growth in existing urban areas and around transit. New housing is mostly single-family (58 percent), with an increase in smaller-lot single-family homes, as well as an increase in multifamily homes (42 percent). The transportation system is based on the package of improvements in the 2008 RTP. While these investments tend to favor automobile infrastructure, they also support new transit lines and other non-auto strategies and improvements.

Scenario 2. This scenario focuses more growth in walkable, mixed-use communities and in existing and planned high-quality transit areas. Under this scenario, there would be an increase in investments in transit and non-auto modes as compared to the 2008 RTP. Employment growth is focused in urban centers, around transit. Fewer new homes (29 percent) are single-family homes, as this scenario comes closer to meeting demand for a broader range of housing types, with new housing weighted less toward large-lot (>5,500) single-family homes (two percent) and more towards smaller-lot single-family homes (27 percent), and multifamily condos, townhomes and apartments (70 percent).

Scenario 3. This scenario builds on the walkable, mixed-use focus of the growth in Scenario 2, and also aims to improve fiscal and environmental performance by shifting even more of the region's growth into areas that are closer to transit, and less auto-centric. Like Scenario 2, this scenario, aims to meet demand for a broader range of housing types, with new housing weighted towards smaller-lot single-family homes, townhomes, multifamily condos and apartments. In terms of percentage, the mix of housing types is very similar to Scenario 2, but the location of the growth within the region is shifted more toward transit-rich locations. Also like Scenario 2, transportation system investments would be more weighted towards transit investments, TDM, and non-auto strategies, which would support the move away from more auto-oriented development patterns.

Scenario 4. This scenario maximizes growth in urban and mixed-use configurations in already developed areas, and around existing and planned transit investments. To support this shift, transportation system investments are heavily weighted towards transit infrastructure and operational improvements (i.e., higher frequencies and more transit feeder service), as well as improvements to bicycle and pedestrian infrastructure. In order to maximize the transit investments and accommodate population in already developed areas, the vast majority of new housing (96 percent) is multifamily, while four percent is single-family development.

Pricing and Vehicle Policy Assumptions

The scenarios were designed to highlight the impacts of land use and transportation infrastructure options within the SCAG region. Transportation system pricing, vehicle and fuels technology, and power generation policies will also play a role in meeting the region's fiscal, climate, mobility, and public health goals. Pricing and technology components were held constant in order to more clearly communicate the impacts of land use and infrastructure policy options.

PRICING ASSUMPTIONS

Each of the scenarios presented at the 2012–2035 RTP/SCS Workshops assumed a hypothetical two-cent per mile VMT charge, which on average, results in a two percent reduction in VMT. More detailed pricing schemes and analyses are being developed to support refined scenarios and detailed 2012–2035 RTP/SCS options.

VEHICLE AND FUEL POLICY

Meeting greenhouse gas (GHG), pollutant emissions, and energy goals will include a suite of strategies and policies. In addition to the land use and transportation strategies explored in these first 2012–2035 RTP/SCS scenarios, the efficiency of cars and the fuels used to power them will also play a role, as will energy and water conservation measures for homes and businesses. While these first scenarios focus on the impact of land use and transportation investments and strategies in meeting VMT, GHG, pollution, and energy challenges, subsequent analysis will explore the impacts of emerging vehicle technologies, renewable power generation, building measures, and a host of state, regional, and local environmental and energy policies.

Scenario Outcomes

Variations among the scenarios highlight the impacts of land use and transportation infrastructure options within the SCAG region. The Rapid Fire model was used to estimate a broad set of fiscal, environmental, and transportation impacts in order to facilitate comparison among the scenarios.

LAND CONSUMPTION – NEW LAND CONSUMED

The amount of land consumed to accommodate new population growth varies substantially among the 2012–2035 RTP/SCS scenarios. New land consumption includes all land that will be newly urbanized, including residential and employment areas, roadways, open space, and public lands. Through infill, redevelopment, and more efficient use of new "greenfield" land (lands, including agricultural areas, not previously developed for urban uses) to accommodate new growth, scenarios with a greater share of Urban Infill and Mixed-Use Walkable (Compact) development consume less land overall. By contrast, scenarios that place a greater share of new growth in dispersed Standard development patterns, consume more land.

Scenario 1, which is based on the General Plans prepared by cities, consumes 251 square miles of greenfield land—nearly twice as much as Scenario 2, which consumes 127 square miles—to accommodate growth to 2035. Scenario 3 consumes 84 square miles, and Scenario 4, which maximizes growth in urban and mixed-use configurations in already developed areas, brings that number down to 46 square miles.

FISCAL IMPACTS – LOCAL INFRASTRUCTURE CAPITAL AND OPERATIONS AND MAINTENANCE COSTS

Increased land consumption can lead to higher costs for local and sub-regional infrastructure, as new greenfield development requires significant capital investments to extend or build new local roads, water and sewer systems, and parks. Conversely, growth focused in existing urban areas takes advantage of existing infrastructure and capitalizes on the efficiencies of providing service to higher concentrations of jobs and housing. This cost variation amplifies when operations and maintenance (O&M) costs are taken into account. O&M costs include the ongoing city expenditures required to operate and maintain the infrastructure serving new residential growth. Engineering and public works costs are strongly linked to the physical form of infrastructure. More dispersed development, which entails greater lengths of roads and sewer pipes, incur higher O&M costs to local jurisdictions than more compact development, which capitalizes on the economic efficiencies of shared infrastructure capacity.

The 2012–2035 RTP/SCS scenarios show that growth in urban and mixed-use configurations in already developed areas can reduce costs significantly, as demonstrated by

adding up capital infrastructure and ongoing O&M costs to 2035 for each scenario. As compared to Scenario 1, following the development pattern of Scenario 2 would save $3.3 billion; Scenario 3 would save $3.7 billion; and Scenario 4 would save $6.7 billion—an average savings of $4,500 per new home, or over 25 percent less on the whole than Scenario 1.

Note that the capital infrastructure and O&M costs detailed here represent those associated with residential growth only. It is expected that the inclusion of non-residential fiscal impacts would compound the cost and revenue differences that have been evidenced between dispersed and compact development patterns.

FISCAL IMPACTS – LOCAL REVENUES

The Rapid Fire model estimates potential revenues from property and property transfer taxes, sales taxes, and vehicle license fees generated by new households. Due to the price premiums of higher-intensity locations, more compact development can generate higher local revenues than more dispersed development. This relationship is clear particularly on a per-acre basis—by 2035, Scenario 2 generates $18,500 more, Scenario 3 generates $23,500 more, and Scenario 4 generates nearly $27,000 more per acre per year than Scenario 1. On a per-unit basis, results vary: the cumulative revenues through 2035 of Scenario 2 are $2.9 billion lower than Scenario 1, and those of Scenario 4 are $12 billion lower. Scenario 3, on the other hand, yields $2.7 billion more in revenues—demonstrating the magnitude of the benefits that result from a strategic nexus between compact development patterns and housing mix.

TRANSPORTATION

Transportation system impacts—including vehicle miles traveled (VMT), fuel use and cost, and greenhouse gas (GHG) and air pollutant emissions—vary significantly across the 2012–2035 RTP/SCS scenarios. The different land use patterns of the scenarios result in different rates of passenger auto use, measured as vehicle miles traveled, or VMT, which then impact fuel consumption, fuel cost, and emissions.

VEHICLE MILES TRAVELED

Scenario results for VMT indicate a wide variation in passenger vehicle use related to the form of new growth. Scenario 1, which accommodates 41 percent of new growth in more auto-oriented Standard Suburban development, results in an annual VMT of 153 billion miles by 2035. This is almost 17 billion miles more than Scenario 2, 20 billion miles more than Scenario 3, and 21 billion miles, or 14 percent, more than Scenario 4. Scenario 1 averages 20,920 miles driven per household, per year; Scenario 4 averages 17,990 miles.

AUTOMOBILE FUEL USE AND COST OF DRIVING

Variations in passenger VMT lead to differences in the amount of gas (or equivalent) used. These differences will vary depending on how efficient cars become. Assuming the same modest vehicle fuel economy improvements (in line with California's "Pavley 1" Clean Car Standards) for all scenarios, there would be substantial differences in fuel use due to land use-related VMT variations. By 2035, Scenario 1 would require 5.5 billion gallons of fuel annually. Scenario 2 would require 600 million gallons less, Scenario 3 would require more than 700 million gallons less, and Scenario 4 would require 800 million fewer gallons per year. 800 million gallons of gas is equivalent to 1.1 percent of the oil imported to the entire United States in 2008.

Reduced VMT and fuel use leads to lower costs for all households in Southern California. When compared to Scenario 1, Scenario 2 saves the average Southern California household more than $1,380 per year in driving costs in 2035 (including auto ownership, maintenance, and other driving-related costs); Scenario 3 saves $1,600; and Scenario 4 saves $1,770—significant savings that could be applied to housing and other essentials. For the entire SCAG region, the savings total as much as $12.9 billion per year in Scenario 4.

GHG emissions from passenger vehicles are determined by VMT (related to land use patterns), vehicle fuel economy, and the carbon intensity of automobile fuel. Assuming the same modest improvements in fuel emissions (in line with California's Low Carbon Fuel Standard) for all scenarios, there would be substantial differences in CO2e emissions (carbon dioxide equivalent, which includes the main forms of greenhouse gases). The land use-related variations in GHG are directly proportional to VMT and fuel use.

AIR POLLUTANT EMISSIONS FROM PASSENGER VEHICLES

Differences in VMT lead to different levels of air pollutants (including nitrogen oxides, carbon monoxide, sulfur dioxide, volatile organic compounds, and particulate matter) among the 2012–2035 RTP/SCS scenarios. Accounting for vehicle technology improvements, Scenario 1, with higher VMT, sees 2035 passenger-vehicle pollutant emissions that are

11 percent higher than emissions in Scenario 2, 13 percent higher than Scenario 3, and 14 percent higher than Scenario 4. These results translate to significant public health impacts, as described in the following section.

HEALTH INCIDENCES AND COSTS

Auto-related air pollution results in a spectrum of health incidences, including cases of chronic bronchitis; acute myocardial infarction; respiratory and cardiovascular hospitalizations; respiratory-related ER visits; acute bronchitis; work loss days; premature mortality; asthma exacerbation; and acute, lower, and upper respiratory symptoms. Health incidences, and their related costs, are reduced along with miles driven (VMT). Using research-based rates and valuations produced by the American Lung Association, the Rapid Fire model estimates savings (rather than absolute totals) in health incidences and costs to 2035.

Relative to a status quo scenario, the 2012–2035 RTP/SCS scenarios show reductions in health incidences and costs. In 2035, Scenario 1 results in a 20 percent reduction; Scenario 2 results in a 29 percent reduction; Scenario 3 results in a 30 percent reduction; and, Scenario 4 results in a 31 percent reduction. In terms of costs, Scenarios 1, 2, 3, and 4 save $648 million, $932 million, $980 million, and $1.01 billion per year, respectively.

BUILDING ENERGY USE

The 2012–2035 RTP/SCS scenarios vary in their building energy use profiles due to their different mixes of housing types, and the proportion of development in more or less temperate climate zones in the SCAG region. Scenarios that contain more Mixed-Use/Walkable and Urban Infill development accommodate a higher proportion of growth in more energy-efficient housing types like townhomes, apartments, and smaller single-family homes, as well as more compact commercial building types. By contrast, a large proportion of Standard development leads to a higher proportion of larger single-family homes, which are typically less energy-efficient. Location also comes into play—buildings in the warmer areas at the edges of the region and beyond use more energy each year, in part because they require more energy to cool during the summer months.

Variations in land use patterns lead to substantial differences in the amount of electricity and natural gas used. These differences will vary depending on policies regulating how efficient buildings become. Assuming the same efficiency standards for all scenarios, there would be marked differences in energy use due to land use-related variations. Compared to Scenario 1, Scenario 2 uses 7 percent less energy per year; Scenario 3 uses 9 percent less; and Scenario 4 uses 11 percent less.

The overall energy savings that come from developing more compactly translate to meaningful savings in residential energy bills. On average, Scenario 2 saves $700 million per year in total by 2035, or about $100 per household; Scenario 3 saves $900 million, or $120 per household; and Scenario 4 saves $1.2 billion, or $170 per household. Note that these estimates assume only modest, trend-based rises in energy prices—if energy prices climb higher, the savings will be even more substantial.

Conserving energy also reduces GHG emissions. The progressively more compact land uses of Scenarios 2, 3, and 4 would reduce emissions in proportion to energy use as compared to Scenario 1. When combined with the effects of more stringent clean energy policies, which would reduce the amount of GHG emissions for every kilowatt-hour of electricity used, building energy emissions can be reduced even further.

RESIDENTIAL WATER USE

Variations in land use patterns and their related building profiles also lead to substantial differences in residential water use and cost. Residential water use is a function of both indoor and outdoor water needs, with outdoor use (landscape irrigation) accounting for the majority of the difference among housing types. Because homes with larger yards require more water for landscape irrigation, lot size is generally correlated with a household's overall water consumption. Thus, scenarios with a greater proportion of the Standard development, which includes more large-lot (5,500 SF and above) single-family homes, require more water than scenarios with a greater proportion of Mixed-Use/Walkable and Urban Infill development, which include more attached and multifamily homes. And, as is the case for energy use, the location of new development has a significant bearing on water use—homes in warmer areas use more water to maintain lawns and other landscaping.

Water use will vary based on efficiency and conservation policies, which will be increasingly important as California faces future constraints to water supply. Assuming the same modest improvements for all scenarios, we can see the potential savings attributable to land use patterns alone. Compared to Scenario 1, which uses 996 billion gallons of water

per year by 2035, Scenario 2 uses 47 billion gallons, or 4.7 percent, less; Scenario 3 uses 51 billion gallons, or 5.1 percent, less; and Scenario 4 uses 63 billion gallons, or 6.3 percent, less. These savings are equivalent to the average new home using 6,400 fewer gallons per year in Scenario 2; 6,900 fewer gallons in Scenario 3; and 8,700 fewer gallons in Scenario 4.

Saving water also saves on residential water costs. On the whole, Scenario 2 saves $176 million per year in total by 2035; Scenario 3 saves $191 million; and Scenario 4 saves $239 million. These estimates assume trend-based rises in water costs; if water prices rise higher, the cost differences will be greater.

HOUSEHOLD COSTS

Breaking scenario costs down to the household level exposes the impact of land use and policy choices on Southern California households: by 2035, Scenario 1 would cost the average household $15,100 in costs associated with driving and residential energy and water use (2009 dollars). By comparison, Scenario 2 would cost $1,500 less; Scenario 3 would cost $1,750 less; and Scenario 4 would cost nearly $2,000 less. Over time, the differences in annual expenditures would amount to a significant sum for each household—money that could instead be applied to a home mortgage or other living expenses. This difference is further exacerbated if considering the effect of local infrastructure cost burdens, which are typically passed on to homeowners and renters in the form of taxes, fees, home prices, and assessments.

GREENHOUSE GAS (GHG) EMISSIONS FROM PASSENGER VEHICLES AND BUILDINGS

Combined transportation and building sector impacts provide the most complete picture of the greenhouse gas emissions and fiscal implications of the futures presented by the 2012–2035 RTP/SCS scenarios. Passenger vehicle transportation, along with residential and commercial building energy use, currently account for over half of total carbon emissions in California. Land use and transportation planning at the regional level, in conjunction with statewide policies in regulating energy emissions and efficiency, will be crucial to meeting the state's goals for GHG reductions, as well as its fiscal health.

Total GHG emissions—including those from passenger vehicles, and emissions associated with residential and commercial building energy consumption—vary across the 2012–2035 RTP/SCS scenarios due to their differences in land use patterns. In 2035, Scenario 1, with the highest proportion of growth occurring as Standard development, would produce 96 MMT of annual GHG emissions from buildings and passenger vehicle transportation. Emissions decrease as land use patterns become more compact: in comparison to Scenario 1, Scenario 2 results in 8 percent lower emissions; Scenario 3 results in 10 percent lower emissions, and Scenario 4 results in nearly 12 percent lower emissions.

C. Rapid Fire Model Technical Summary

RAPID FIRE MODEL

Technical Summary
Model Version 2.0

CALTHORPE ASSOCIATES
URBAN DESIGNERS. PLANNERS. ARCHITECTS

Revised: Jan 2011

INTRODUCTION and RAPID FIRE MODEL OVERVIEW

This technical summary provides an overview of the key features and functionality of the *Rapid Fire* model developed by Calthorpe Associates. The Rapid Fire model is designed to produce and evaluate statewide, regional, and/or county-level scenarios across a range of metrics. This document is intended to impart a fundamental understanding of how Rapid Fire scenarios are formulated and analyzed. A more detailed description of the model, including a step-by-step tour through the model's user interface and technical information about all model calculations and assumptions, is available in the *Rapid Fire White Paper and Technical Guide*.

The Rapid Fire Modeling Framework

The Rapid Fire model emerged out of the near-term need for a comprehensive modeling tool that could inform state, regional, and local agencies and policy makers in evaluating climate, land use, and infrastructure investment policies. Results are calculated using empirical data and the latest research on the role of land use and transportation systems on automobile travel; emissions; public health; infrastrucutre cost; city revenues; and land, energy, and water consumption. The model constitutes a single framework into which these research-based assumptions can be loaded to test the impacts of varying land use patterns. The transparency of the model's structure of input assumptions makes it readily adaptable to different study areas, as well as responsive to data emerging from ongoing technical analyses by state, regional, and local agencies.

The model allows users to create scenarios at the national, statewide, or regional scales. Results are produced for a range of metrics, including:

- GHG (CO_2e) emissions from cars and buildings
- Air pollution
- Fuel use and cost
- Building energy use and cost
- Residential water use and cost
- Land consumption
- Fiscal impacts (local capital infrastructure and O&M costs; city revenues)
- City revenues
- Public health impacts

The Rapid Fire model is not meant to replace more complex travel models or map-based models; rather, it is designed to fill a timely need for defensible comparative analysis that can inform land use and climate policy development and provide a credible and flexible sounding board for state and regional entities as they review and analyze plans and policies. More information about model results and the Vision California process can be found at *www.visioncallifornia.org* and at *www.calthorpe.com/vision-california*.

This document starts with an overview of the operational flow of the model, continues with an explanation of how study areas are set and how scenarios are composed, and finally describes how assumptions are applied to calculate results in each metrics category.

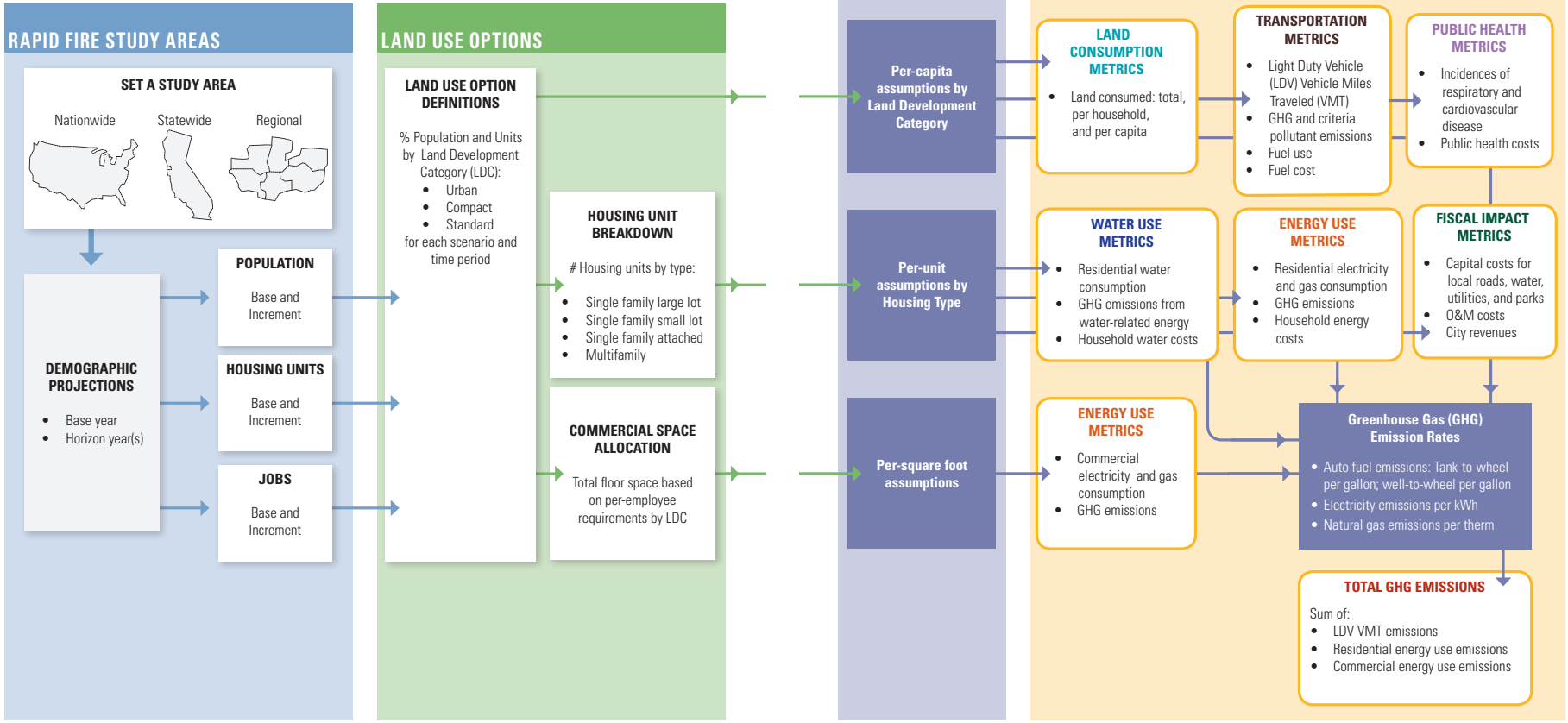


Technical Requirements. *The Rapid Fire model is a user-friendly, spreadsheet-based tool that allows for efficient testing of different combinations of compact, urban, and more sprawling growth. The model, which runs in Microsoft Excel, is designed to be flexible and transparent. All assumptions are clear and can be easily modified or customized.*

RAPID FIRE OPERATIONAL FLOW

From Input Assumptions to Output Metrics

The Rapid Fire model uses a full range of inputs, from demographic projections to travel behavior projections to technical factors for fuel and energy emissions, to calculate output metrics that demonstrate the relative effects of different land use scenarios and policy options. The following chart gives an overview of the operational flow of the model, starting from the selection of a study area, through the application of land use options and policy packages, to the final stage of metrics output. The chart generally categorizes the input assumptions by type; all assumptions are discussed in greater detail in the later sections of this paper.



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RAPID FIRE STUDY AREAS

Study areas can range in size, from the local to the national scale, so long as data are available. Study areas are defined by baseline demographic and performance data for an initial base year, and demographic projections for three horizon years. By default, the model uses a base year of 2005 and horizon years of 2020, 2035, and 2050, though these can be modified.

At a minimum, the following key assumptions (as listed in the table) are required to define a study area. These inputs are all geographically dependent – they vary according to study area rather than according to policy or other methodological assumptions.

Demographics	***Transportation***	***Building Energy***	***Water***
• *Baseline and projected population*	• *Average per-capita vehicle miles traveled (VMT)*	• *Baseline average energy use per existing residential unit and commercial square foot (can be derived from total residential and commercial energy use)*	• *Baseline residential water use per existing unit (can be derived from total water use)*
• *Baseline and projected households*	• *Average LDV fuel economy*	• *Baseline energy use by residential building type and commercial square foot*	• *Baseline per-capita water use*
• *Baseline and projected jobs*	• *Baseline GHG emissions per gallon of fuel*	• *GHG emissions per kilowatt-hour (kWh) of electricity*	
	• *Baseline auto ownership and maintenance costs per mile*	• *GHG emissions per therm of natural gas*	
		• *Baseline energy costs per kWh and therm*	

Study Area Selection Sheet. *Input data are entered, stored, and loaded from the Study Area Selection sheet.*

Study Area Selection

	CALIFORNIA				UNITED STATES			
		Load Inputs				Load Inputs		
	2005 Baseline	2020	2035	2050	2005 Baseline	2020	2035	2050
Demographic inputs								
Population	36,676,931	44,135,923	51,753,503	59,507,876	296,410,404	341,387,000	389,531,000	439,010,000
Households	12,184,688	14,667,307	17,198,792	19,775,735	111,090,617	127,744,591	145,759,734	164,274,424
Non-farm Jobs	14,801,300	17,747,442	20,810,538	23,928,639	136,458,810	169,900,306	193,860,446	218,484,984
Transportation								
Baseline per-capita LDV VMT	8,100 mi				9,276 mi			
Baseline LDV fuel economy	18.7 MPG				18.9 MPG			
Baseline fuel emissions (WtW)	26.5 lbs/gal				25.0 lbs/gal			
Baseline fuel emissions (TtW)	19.62 lbs/gal				19.6 lbs/gal			
Baseline LDV fuel cost, per gallon	$2.75				$1.87			
Baseline LDV auto ownership cost, per mile	**$0.24**				**$0.24**			
Baseline LDV tire and maintenance cost, per mile	$0.065				$0.065			
Building Energy Emissions								
Electricity generation (lbs/kWh)	0.81 lbs/kWh				1.33 lbs/kWh			
Gas combustion (lbs/therm)	11.66 lbs/therm				11.66 lbs/therm			
Residential Building Energy Use								
	Electricity	*Natural Gas*			*Electricity*	*Natural Gas*		
Baseline average annual energy use per unit for base/existing population	7,064 kWh	401 thm			11,480 kWh	670 thm		
Annual energy use by building type:								
Single Family Detached- Large Lot	9,355 kWh	675 thm			14,800 kWh	743 thm		
Single Family Detached- Small Lot	6,380 kWh	488 thm			11,000 kWh	700 thm		
Single Family Attached	4,745 kWh	378 thm			9,240 kWh	680 thm		

LAND USE OPTIONS

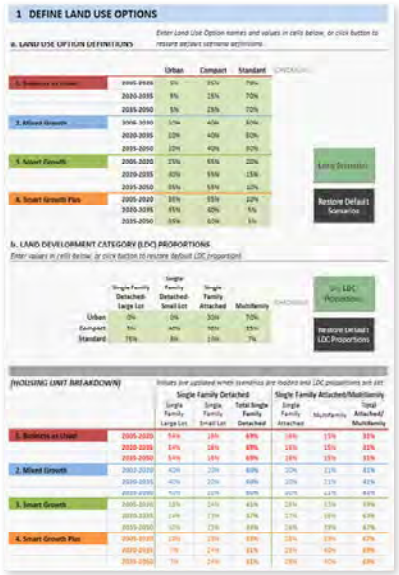
The Rapid Fire model analyzes up to four scenarios at a time. Each scenario consists of two components: a *land use option* and a *policy package*. The land use options vary the patterns of new growth, while the policy packages vary standards for automobile technology and fuel composition; building energy and water efficiency; and energy generation.

Land Use Options

The land use options all accommodate the same amount of projected population and job growth, but differ in how that growth is allocated. The user defines a land use option by varying the proportions of growth in each of three *Land Development Categories (LDCs)* – Urban, Compact, and Standard. The LDCs represent distinct forms of land use, ranging from dense, walkable, mixed-use urban areas that are well served by transit, to lower-intensity, less walkable places where land uses are segregated and most trips are made via automobile. Each LDC is associated with different travel behaviors and a different mix of housing types and commercial space profiles, as described generally on the next page.

The Rapid Fire model is loaded with four default land use options – ***Business as Usual, Mixed Growth, Smart Growth, and Smart Growth Plus*** – all which can be modified by the user. The figure at right shows the area of the Scenario Definition sheet in which land use options and the housing unit mixes of each LDC are defined. The definition and resulting housing type mix of an example land use option is outlined in the diagram on page 9.

Land Use Option Section of Scenario Definition Sheet. *Proportions for land use options and LDCs are set in the Land Use Option section of the Scenario Definition sheet.*



LAND USE OPTIONS

Land Development Categories

The Urban, Compact, and Standard LDCs represent distinct forms of land use. Their general land use characteristics and transportation infrastructure are described below. These characteristics are all determined by model inputs that can be entered or adjusted by the user.

	Land Use Characteristics	Transportation Infrastructure
URBAN	Most intense and most mixed LDC, often found within and directly adjacent to moderate and high density urban centers. Virtually all 'Urban' growth would be considered infill or redevelopment. The majority of housing in Urban areas is multifamily and attached single family (townhome). These housing types tend to consume less water and energy than the larger single family types found in greater proportion in less urban locations.	Supported by high levels of regional and local transit service. Well-connected street networks and the mix and intensity of uses result in a highly walkable environment and relatively low dependence on the automobile for many trips. **Per-capita VMT range: ~ 1,500 to 4,000 per year.**
COMPACT	Less intense than Urban LDC, but highly walkable with rich mix of retail, commercial, residential, and civic uses. The Compact form is most likely to occur as new growth on the urban edge or large-scale redevelopment. Rich mix of housing, from multifamily and attached single family (townhome) to small- and medium-lot single family homes. Housing types in Compact areas tend to consume less energy and water than the larger types found in the Standard LDC.	Well served by regional and local transit service, but may not benefit from as much service as Urban growth, and is less likely to occur around major multimodal hubs. Streets are well connected and walkable, and destinations such as schools, shopping, and entertainment areas can typically be reached via a walk, bike, transit, or short auto trip. **Per-capita VMT range: ~ 4,000 to 7,500 per year.**
STANDARD	Represents the majority of separate-use auto-oriented development that has dominated the American suburban landscape over the past decades. Densities tend to be lower than Compact LDC, and are generally not highly mixed or organized to facilitate walking, biking, or transit service. Can contain a wide variety of housing types, though medium- and larger-lot single family homes comprise the majority of this development form; these larger single family tend to consume more energy and water than those in the Urban or Compact LDCs.	Not well served by regional transit service (typically), with most trips made via automobile. **Per-capita VMT range: ~ 9,500 to 18,000 per year.**

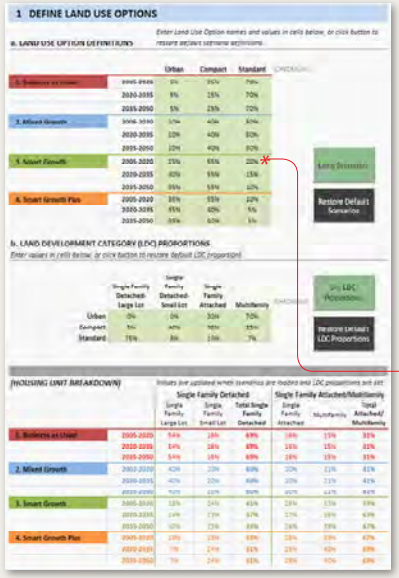
Housing Unit Mix

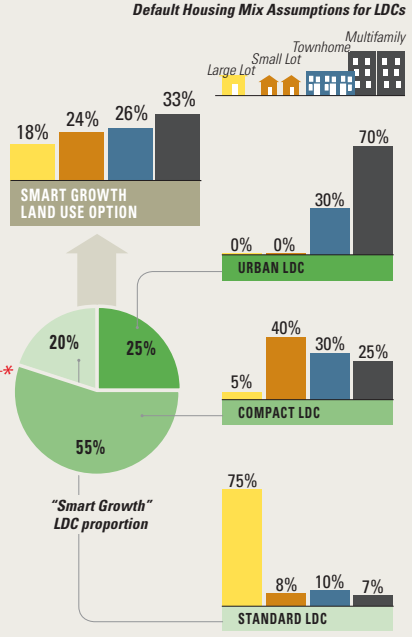
The housing mix assumptions for the three LDCs lead to an overall mix of housing units for each land use option and time period. The default housing mix assumptions for the LDCs are intended to reflect existing land use patterns and policies, and thus remain constant for each LDC over time. Housing unit mix assumptions can be changed to represent shifts in housing demand over time, or to represent different market conditions among land use options.

Urban areas are comprised of multifamily and attached single family units. Compact areas contain the widest range of housing types, from multifamily and attached single family to small-lot single family units, with a small proportion of large-lot single family units. Standard development is dominated by large-lot single family units, with small proportions of other housing types. The LDC and housing unit mix assumptions for the default "Smart Growth" land use option are shown below.

Assumptions by Land Development Category

The housing unit mix assumptions are applied to the housing growth projected for each LDC (determined by the proportion of population growth allocated to the LDC within a scenario/time period) to produce housing counts by type.





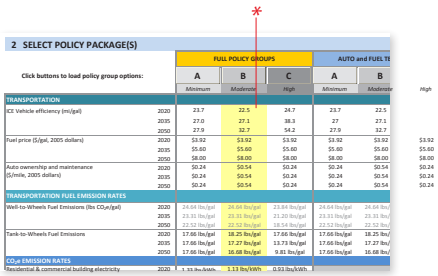
POLICY PACKAGE ASSUMPTIONS

Rapid Fire policy packages vary standards for automobile technology and fuel composition, building energy and water efficiency, and energy generation. *Auto and Fuel Technology* assumptions include those that guide vehicle efficiency, fuel emissions, and costs; *Building Efficiency* assumptions include building energy and water use standards as well as utility costs; and *Utility Portfolio* assumptions drive the carbon intensity of the power generation sector.

Policy-based input assumptions are grouped to represent different levels of improvement in each of these categories. While users can enter any combination of input assumptions, the policy packages allow users to instantly activate and switch between sets of assumptions to compare results. The components of the policy package categories are outlined in the table below.

As with the land use options, the policy packages can reflect a range of futures, from a business-as-usual case that continues current trends, to a progressive case that represents significant policy action. Users can enter values to define up to three alternate policy packages in each category.

Policy Package Selection Section of Scenario Definition Sheet. *The policy packages are organized in sections on the 'Scenario Definition' sheet as shown below. Clicking on the buttons labeled A, B, and C at the top of each column loads input values to the 'Active Scenario' column located at the right of the 'Utility Portfolio' section (not shown). Users can select a 'Full Policy Group' of minimum, moderate, or high options, or they can select an option for each individual policy group. Once selected, the cells containing the active input values are highlighted in yellow (*). *In this sample view, the 'moderate' level full policy group is selected.*

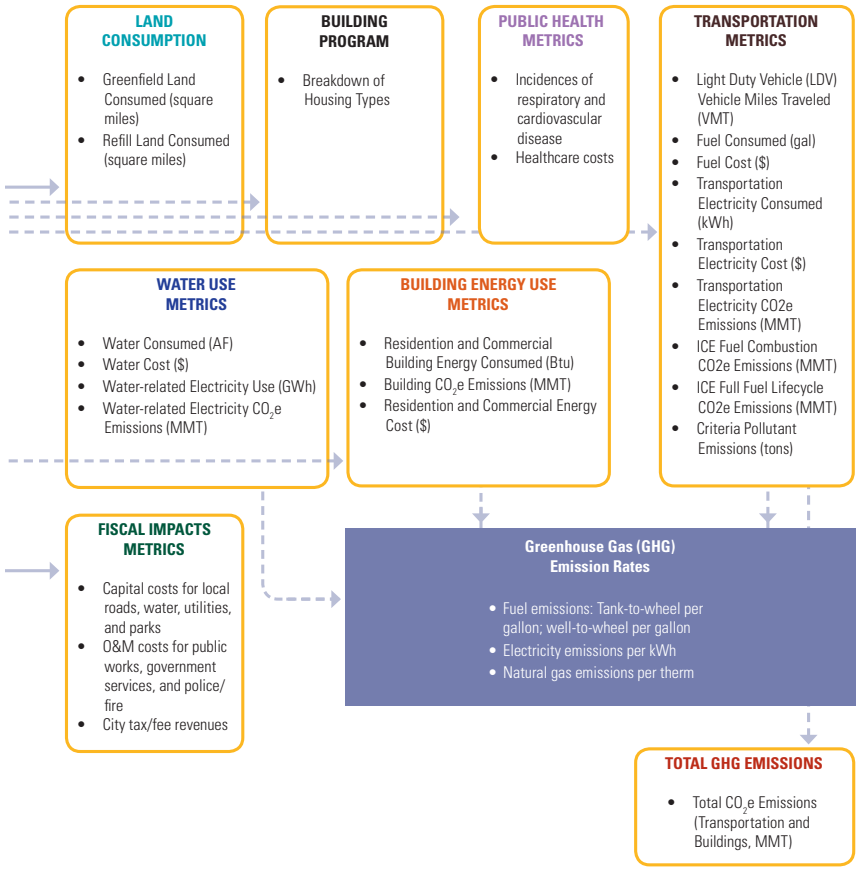


Auto and Fuel Technology	*Building Efficiency*	*Utility Portfolio*
• *Internal combustion engine (ICE) vehicle fuel efficiency (miles per gallon)* • *Fuel price ($ per gallon)* • *Well-to-wheels GHG emissions from fuel (lbs CO2e per gallon)* • *Tank-to-wheels GHG emissions from fuel (lbs CO2e per gallon)* • *Percent alternative/electric vehicles* • *Battery electric vehicle efficiency (miles/kWh)* • *Plug-in hybrid electric vehicle efficiency (miles/kWh)*	• *New residential energy efficiency (% reduction from 2005 baseline use)* • *New commercial energy efficiency (% reduction from 2005 baseline use)* • *New residential water efficiency (% reduction from 2005)* • *Energy efficiency/conservation improvements for base/existing residential building stock (year-upon-year % reduction)* • *Energy efficiency/conservation improvements for base/existing commercial space (year-upon-year % reduction)* • *Percent of base/existing residential buildings replaced each year* • *Percent of base/existing commercial floorspace replaced each year* • *Electricity price ($ per kWh)* • *Natural gas price ($ per kWh)* • *Water price ($ per acre foot)*	• *Residential & commercial building electricity emissions (lbs CO_2e per kWh)* • *Residential & commercial building natural gas emissions (lbs CO_2e per therm)*

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OUTPUT METRICS

The following sections describe how the model uses input assumptions to calculate results in each of the metrics categories. The categories of output metrics are summarized below.



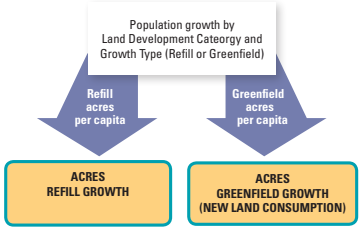
LAND CONSUMPTION

Land consumption includes all land that will be developed to accommodate population and job growth, including residential and employment areas, transportation alignments, open space, and public lands. The Rapid Fire model estimates land consumption using per-capita rates of land consumption, which vary by Land Development Category and the distribution of growth into greenfield or refill development. Default rates are based on studies of existing and planned development, and can be adjusted by the user.

Land consumption includes both refill and greenfield growth. Refill growth includes all development that may occur within the bounds of already-developed, urbanized areas, including infill, redevelopment, and greyfield and brownfield development. Greenfield growth refers to development that occurs on land that has not previously been developed or otherwise impacted, including agricultural land, forest land, desert land and other virgin sites. Only greenfield growth is counted towards the "new land consumption" of a scenario. The default land consumption characteristics for the three LDCs are as follows:

Urban: Comprised entirely of infill, redevelopment, greyfield, and brownfield growth, the Urban LDC consumes no greenfield acreage per capita.

Compact: Representing a combination of smart mixed-use growth in and around the urban edge (greenfield growth) as well as larger-scale greyfield growth within urban areas, the Compact LDC consumes a moderate acreage per capita. The land consumption rate for Compact growth is determined in part by the proportion of growth allocated to refill versus greenfield sites.



Standard: Generally consisting of lower-density, auto-oriented residential and commercial development, the Standard LDC consumes the highest acreage per capita since most, if not all, growth occurs on greenfield land. The new land consumption of a scenario is largely dictated by its proportion of Standard development.

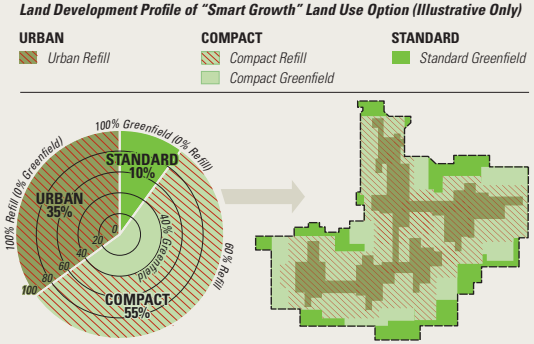
The specific allocation of growth to either refill or greenfield land in each LDC and time period can vary by land use option. By setting assumptions for the proportion of refill growth and greenfield land consumption, as well as the intensity of greenfield growth in terms of acres consumed per capita, users can model a range of land-use policy options, from business-as-usual growth, to the application of urban growth boundaries, to a restriction of growth to refill parcels and sites only.

A land development profile resulting from the LDC mix of the Rapid Fire default "Smart Growth" land use option is illustrated in the figure below.

Refill Growth and Greenfield Land Consumption

The LDCs differ significantly in the population allocated to either refill growth or greenfield land. The assumed proportions for Urban and Standard are straightforward: all Urban development takes place as refill growth, while virtually all Standard development takes place on greenfield land. These characteristics are elemental to the Urban and Standard LDC definitions. The land consumption characteristics of Compact development, however, can vary significantly over time, by scenario, and by geographic area. The incremental land consumption rate of the Compact LDC is largely dependent on the assumed proportion of refill growth vs. development on new land.

Land Development Profile of "Smart Growth" Land Use Option (Illustrative Only)



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FISCAL IMPACTS

The Rapid Fire model's fiscal impacts analysis module allows users to compare the cost and budget implications of varying scenarios and forms of development. The Rapid Fire model incorporates cost and revenue data from a number of local, regional, state, and utility sources to derive infrastructure cost factors on a per-housing unit basis according to land use option and development condition (refill or greenfield). Estimates are made for capital infrastructure costs, operations and maintenance costs, and city revenues from taxes and fees.

Capital costs for the following infrastructure elements are included:

- City costs for streets and transportation
- Water supply
- Sewage and wastewater
- Local parks

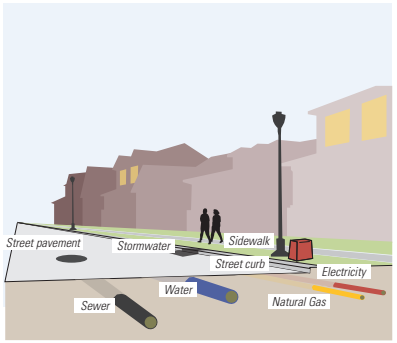
Operations and maintenance (O&M) costs estimates include the following categories of general fund spending:

- Public works functions
- General government services
- Public safety (police and fire)
- Community services

Jurisdictional revenues are estimated from the following tax and fee types:

- Property tax
- Property transfer tax
- Vehicle license fees

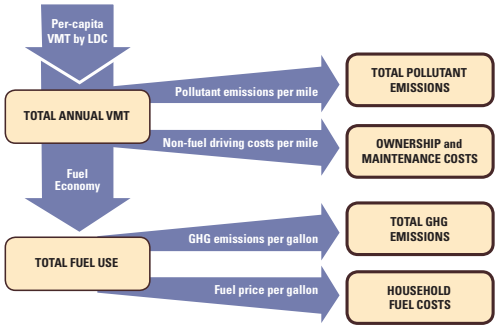
Calthorpe Associates worked with the firm Strategic Economics to develop the assumptions that drive infrastructure cost estimates and jurisdictional revenues. Assumptions are sensitive to development type and condition, including cost and revenue variations for both refill (infill and redevelopment) and greenfield locations. Note that the current version of the model estimates the impacts of variations in residential development unit types and patterns; future versions will incorporate the fiscal impacts due to commercial development variations.



TRANSPORTATION

All transportation metrics in the Rapid Fire model are calculated on the basis of light-duty/ passenger vehicle miles traveled (VMT). From VMT, the model estimates fuel use, greenhouse gas (GHG) and criteria pollutant emissions, and fuel and other driving costs.

Criteria pollutant emissions and non-fuel driving costs are calculated by applying per-mile assumptions to VMT. Fuel use is calculated according to vehicle fuel economy assumptions. In turn, GHG emissions are calculated based on per-gallon emission rates. All metrics are calculated on a total annual basis for every year leading up to the final horizon year. Per-capita and per-household averages are derived from annual and cumulative totals.



Vehicle Miles Traveled

The Rapid Fire model calculates VMT by applying assumptions about per-capita annual VMT to population growth. These assumptions, which differ by Land Development Category, are based on research and empirical evidence that per-capita VMT of both incremental (new) population and base year (existing) population vary based on the form of new growth.[1] Moreover, this variation is expected to change over time as areas become either more urban or compact, or more sprawling (determined on the proportions of LDCs in a scenario).

Variations in VMT across the scenarios is a result of year-by-year variation in per capita VMT by form of new growth (Urban, Compact, or Standard), and also the impact of new growth on the travel behavior of those already living in the study area in the base year (2005). For example, if one is living in an area 20 years from now that has seen increased transit service and/or new retail development in close proximity to their home or workplace, it is likely that they will drive less (and walk, bike, or take transit more) because daily destinations and services are closer.

It is an a priori assumption of the Rapid Fire model that requisite transportation investments go hand in hand with growth patterns, such that scenarios with a greater focus on Compact and Urban development would see increased transit, bicycle, pedestrian, streetscape, and livability investments. Conversely, scenarios dominated by Standard development would see large budget outlays to highway and road expansion.

Base and Increment VMT Rates

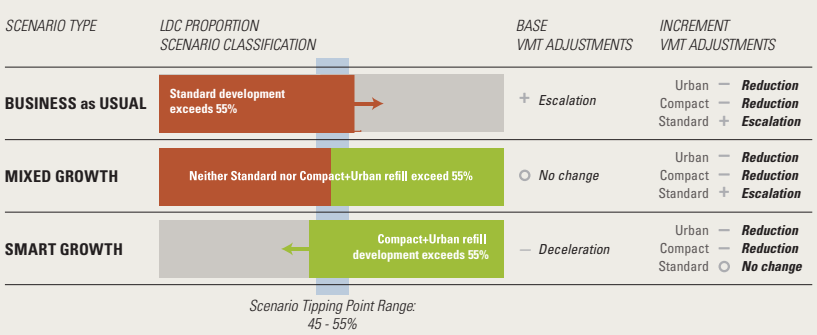
The Rapid Fire VMT assumptions are applied as adjustment factors to both incremental growth and the base year (existing) population. The user defines specific percentage increases or reductions from a baseline average VMT rate (which is specific to a study area).

For the growth increment, adjustment factors for each LDC within a land use option are applied to the baseline per-capita VMT rate. For the base population, adjustment factors are applied to total base year VMT. Varying factors are applied depending on the mix of LDCs in a specific scenario, and the amount of growth that occurs on refill or greenfield land (see the Land Consumption section for more information about refill and greenfield growth). The figure on the next page summarizes the relationship between scenario mix and the application of VMT adjustment factors.

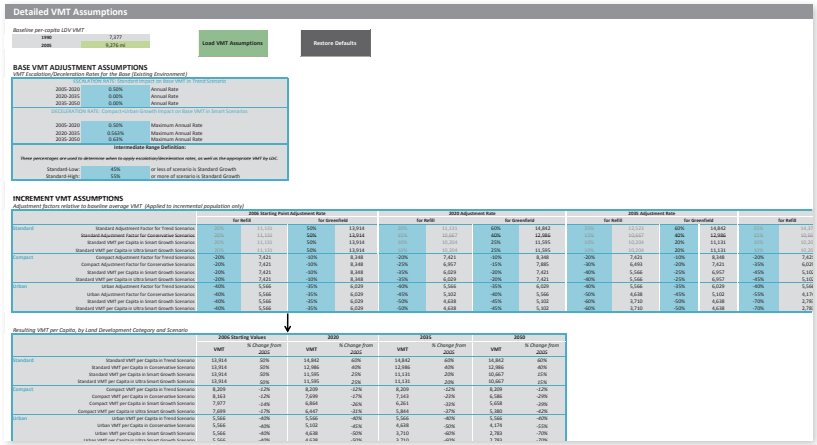
All VMT assumptions can be readily changed in the Rapid Fire model to test alternative hypotheses, integrate new empirical data, or calibrate to regional travel or other model outputs. For more detailed information about specific assumptions and their application, please refer to the *Rapid Fire Model White Paper and Technical Guide.*

TRANSPORTATION

Base and Increment VMT Adjustment Factors by Scenario Type. *If a scenario is more oriented towards Standard development, then VMT is calculated to increase at a greater rate than if a scenario is more focused towards Urban and Compact growth. Overall scenario orientation is determined using a "tipping point" range. If Standard development falls below the range, adjustment factors reflective of progressively decreasing VMT are applied; conversely, if Standard development surpasses the range, factors reflective of increasing VMT are applied. If Standard development falls within the tipping point range, then driving behavior does not change further beyond the default rates.*



Detailed VMT Assumptions Sheet. *Inputs are entered, stored, and loaded from the Study Area Selection sheet.*



TRANSPORTATION

The Rapid Fire model calculates transportation fuel use, GHG and criteria pollutant emissions, and costs by applying policy-based assumptions to output VMT. Each metric is calculated on a total annual basis for all years in the model.

Fuel Use

LDV fuel consumption is determined by applying on-road average fuel economy assumptions (miles per gallon of gasoline equivalent[2], or MPG) to VMT in each year for each scenario. Fuel economy changes year upon year according to horizon-year projections. Policy-based projections significantly affect fuel consumption, and thus GHG emission and fuel cost results. Users can easily input and test alternate assumptions, such as compliance with California's Pavley Clean Car Standards or the federal CAFE standard, either in isolation or in combination with fuel carbon intensity assumptions.

Electric and other low-emission vehicles will play an important role in reducing GHG emissions. The Rapid Fire model can reflect their impacts in either of two ways: through the use of fuel economy and emission assumptions that implicitly capture the effects of their inclusion in the fleet[3], or through the use of separate assumptions for electric and conventional (internal combustion engine) vehicles. More information about how the model estimates electric and alternative vehicle impacts can be found in the *Rapid Fire Model White Paper and Technical Guide.*

GHG Emissions

Transportation GHG emissions are calculated by applying carbon intensity assumptions, expressed in pounds of carbon dioxide equivalent (CO_2e) per gallon, to fuel consumption. Carbon intensity changes year upon year according to horizon-year projections. Projections can represent a range of standards, from a trend future in which carbon intensity remains constant or sees limited improvement, to a more aggressive policy-based future in which the carbon intensity of fuel declines significantly as low-carbon fuels, such as cellulosic ethanol and renewable biodiesel, comprise a higher proportion of fuel use.

The Rapid Fire model was designed to calculate emissions that occur upon fuel combustion ("tank-to-wheel" emissions), as well as those emitted during the full fuel lifecycle, from extraction and processing to transport and storage ("well-to-wheel" emissions). Users can look to either or both; typically, emission inventories compare tank-to-wheel emissions, although full well-to-wheel assessments are critical to developing climate change mitigation strategies. The Rapid Fire model is able to calculate both types of emission rates based on fuel mix assumptions, enabling an analysis of the role of fuel carbon intensity standards in meeting GHG reduction goals. More often, though, users will opt to model tank-to-wheel emissions on the basis of a baseline carbon intensity factor and projected reductions from it to each horizon year.

Fuel and other Driving Costs

The Rapid Fire model estimates three components of transportation costs, including fuel, auto ownership, and tires and maintenance. These costs are calculated separately using different assumptions. Fuel costs are calculated by multiplying fuel consumed by fuel price per gallon. Auto ownership and tire and maintenance costs are each calculated by multiplying VMT by an average price-per-mile factor. All per-gallon and per-mile prices change year upon year according to horizon-year projections.

Pricing Effects

Because fuel price, along with other driving costs, have been shown to have both short- and long-term effects on driving decisions, the Rapid Fire model allows users the option to "turn on" sensitivity to changes in per-mile driving costs to estimate changes in VMT due to pricing. Research into historic patterns has quantified relationships among the interrelated factors of VMT and automobile fuel economy with costs including fuel price and taxes; automobile ownership, insurance, and maintenance costs; and parking, toll, and congestion charges. The results, expressed as an "elasticity" of change in one factor with respect to change in another, can be used to estimate the effects of specific policy- or program-based assumptions on VMT.

RESIDENTIAL and COMMERCIAL BUILDING ENERGY

The Rapid Fire model calculates residential and commercial building energy use for both new and existing buildings. Scenarios vary in their building energy use profiles due to their building program and policy-based assumptions about improvements in energy efficiency.

Residential Energy Consumption

Residential energy use in the Rapid Fire model is calculated as a function of three basic sets of assumptions: a) average base-year energy use for existing units; b) base-year (2005) energy use for new units by building type; and c) reductions in building energy use resulting from advances in building energy efficiency policy and technology.

Energy Use of Base/Existing Buildings

Average per-household energy use for existing units is derived from total residential sector electricity and gas use and number of housing units in the baseline year (2005). The energy used by the population of existing units is expected to decline over time, as buildings are replaced, retrofitted, or upgraded. The extent of future energy savings due to each of these conditions are determined by user-specified rates.

Energy Use of New Buildings

Energy use for new units is calculated using per-unit factors for annual electricity and gas use. Reductions are applied to the baseline factors to reflect the assumption that, year-upon-year, new construction will be built to meet higher efficiency standards. It is also expected that new buildings can see further improvement over the time span of the model (for instance, a building built in 2011 may be retrofit by 2035 to meet even higher standards). The application of the energy use reduction assumptions applied to both new and existing units is shown in the flow chart on the following page.

Commercial Energy Consumption

As for residential energy use, commercial energy use in the Rapid Fire model is calculated as a function of three basic sets of assumptions: a) per-employee floorspace factors, b) baseline (2005) energy intensity factors, and c) reductions in building energy use resulting from advances in building energy efficiency policy and technology.

Energy Use of Base/Existing Buildings

Average per-square foot energy use for existing commercial buildings is derived from total commercial sector electricity and gas use and a floorspace estimate for the baseline year (2005). The energy used by existing buildings is expected to decline over time, as buildings are replaced, retrofitted, or upgraded. The extent of future energy savings due to each of these conditions are determined by user-specified rates.

Energy Use of New Buildings

Energy use for new commercial floorspace is calculated using per-square foot energy intensity factors for annual electricity and gas use. Reductions are applied to the baseline factors to reflect the assumption that, year-upon-year, new construction will be built to meet higher efficiency standards. It is also expected that new buildings can see further improvement over the time span of the model (for instance, a building built in 2011 may be retrofit by 2035 to meet even higher standards). The application of the energy use reduction assumptions applied to both new and existing units is shown in the flow chart on the following page.

The amount of new commercial space in each scenario is calculated using assumptions about the number of employees by commercial space type (office, retail, or warehouse), and the amount of floorspace required per employee in each of the three Land Development Categories. Floorspace requirements are highest in the Standard LDC, and lowest in the Urban LDC. The number of employees by type, which is held constant for all scenarios, is projected based on demographic assumption inputs.

Baseline Annual Household Energy Use by Building Type*

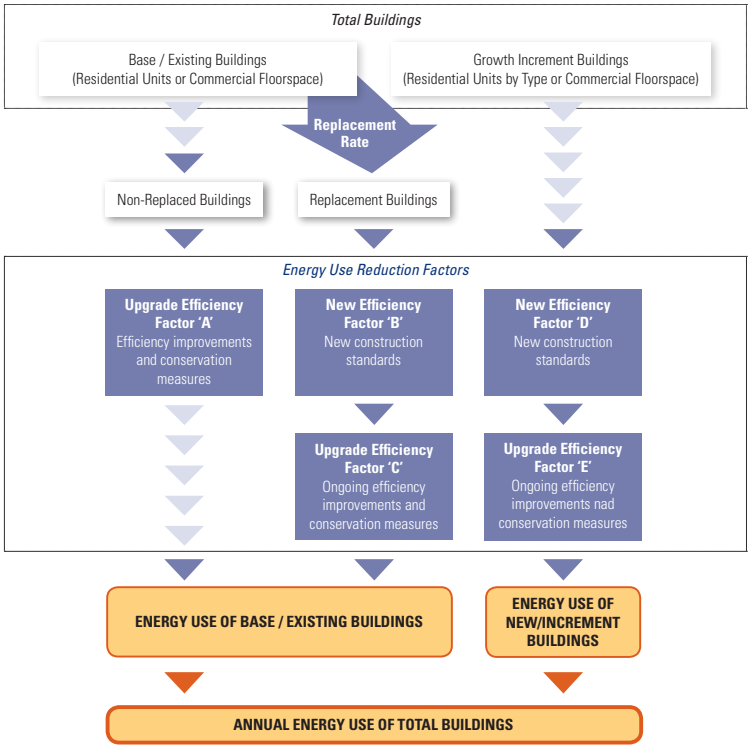


Large Lot Single Family	Small Lot Single Family	Attached Single Family	Multifamily
100 million Btu	71 million Btu	54 million Btu	38 million Btu

** California averages, including residential electricity and natural gas use. Derived from the California Energy Commission Statewide Residential Appliance Saturation Survey (RASS), 2004.*

Baseline Residential Energy Use. *Because larger homes require more energy to heat and cool, home size is generally correlated with a household's overall energy consumption. Scenarios with a greater proportion of the Standard Land Development Category, which include primarily single-family detached homes, will require more energy – and produce more GHG emissions – than scenarios with a greater proportion of Compact or Urban areas, which include more attached and multifamily homes. Energy use also varies by climate zone, which can be reflected in the Rapid Fire model.*

RESIDENTIAL and COMMERCIAL BUILDING ENERGY



RESIDENTIAL and COMMERCIAL BUILDING ENERGY

Greenhouse Gas Emissions

Building GHG emissions include total emissions from residential and commercial electricity and natural gas use. Emission results are calculated based on energy consumption and emission rates, which are assumed to vary according to the mix of resources used to generate energy. The baseline and projected emission rates are measured per unit of energy consumed (kilowatt-hour or therm), and include carbon dioxide, methane, and nitrous oxide emissions in units of carbon dioxide equivalent (CO_2e). The same emission rates are applied to the energy used by residential and commercial buildings.

Emission Rate Assumptions

Projections are made for the horizon years of 2020, 2035, and 2050, with rates following a straight-line trend in between. The emission rate for electricity generation can be expected to decline over time, while that for natural gas use can be expected to remain constant. As with all Rapid Fire assumptions, users can enter different inputs to test the results of different policy-based projections, for instance comparing the effects of achieving California's 33% Renewables Portfolio Standard (RPS) by 2020, or by a later date.

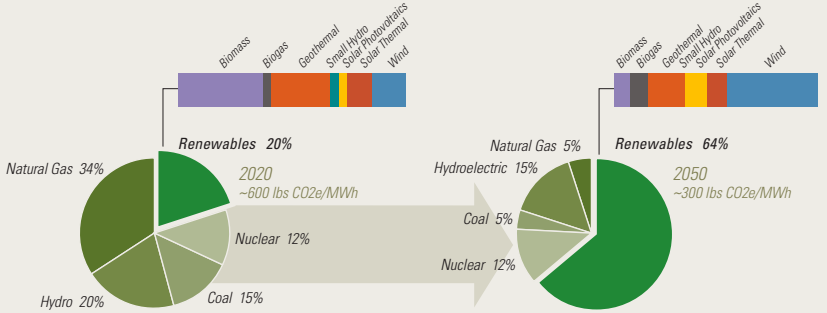
When available, absolute projections based on analyses specific to a state or region should be used. Because emissions from electricity are subject to a number of interrelated variables that can affect resource mix and emission rates into the future – including fuel price and availability, generation costs, energy use efficiency, the market penetration of renewable energy technologies, and the amount of electricity imported from other areas – rates are technically challenging to estimate. In the absence of such projections, users can enter emission rate projections calculated as simple percentage reductions from the baseline emission rate. For a detailed discussion of energy emission rate assumptions and their application in the model, please refer to the *Rapid Fire Model White Paper and Technical Guide*.

Energy Costs

Residential and commercial energy costs are calculated on the basis of energy use and price assumptions. The model applies separate retail price factors to residential and commercial electricity and natural gas use. Price projection assumptions are expressed in constant dollars, and like all assumptions are entered for the horizon years of 2020, 2035, and 2050. Between horizon years, prices are assumed to follow a straight-line trend.

Electricity prices are expected to increase over time, in response to changes in the portfolio mix and other factors such as the cost of electricity generation resources, various infrastructure costs, overall supply and demand, and potential regulations. Electricity price projections can be estimated to correspond generally with the portfolio mix inherent to the chosen GHG emission rate assumptions, or estimated as simple percentage increases over the baseline price. Natural gas price projections can be estimated similarly.

Resource Mix and Emission Rates. *Electricity greenhouse gas (CO_2e) emissions vary based on the mix of resources used. As the share of clean and renewable energy sources in the electricity generation portfolio is increased, the average electricity emission rate will decrease. Electricity emissions are estimated based on assumed rates in 2020, 2035, and 2050. The diagram below illustrates a hypothetical move toward a cleaner portfolio and lower emission rate.*



RESIDENTIAL WATER USE

Water Consumption

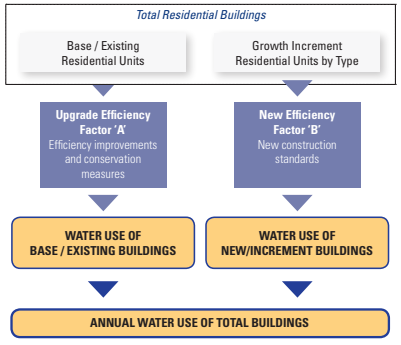
Residential water use in the Rapid Fire model is calculated as a function of three basic sets of assumptions: a) average base-year water use for existing units; b) base-year (2005) water use for new units by building type; and c) reductions in building water use resulting from advances in water efficiency policy and technology.

Water Use of Base/Existing Buildings

Average per-household water use for existing units is derived from total residential sector water use and housing units for the baseline year (2005). The energy used by the population of existing units is expected to decline over time, as water-saving measures are implemented. The extent of future energy savings due to each of these conditions are determined by user-specified rates – expressed as percentage reductions from baseline use – to each horizon year.

Water Use of New Buildings

Water use for new units is calculated using annual per-unit usage factors, which vary by building type. Reductions are applied to the baseline factors to reflect the assumption that, year-upon-year, new homes will be built with the technology to meet higher efficiency standards. It is also expected that new buildings can see further improvement over the time span of the model (for instance, a building built in 2011 may be upgraded by 2035 to meet even higher standards). The application of the water use reduction assumptions applied to both new and existing units is represented in the flow chart below.



Water Costs

Residential water costs are calculated on the basis of water use and retail water price assumptions. Water price projections are expressed in constant dollars per acre-foot, and like all assumptions are made for the horizon years of 2020, 2035, and 2050. Between horizon years, prices are assumed to follow a straight-line trend.

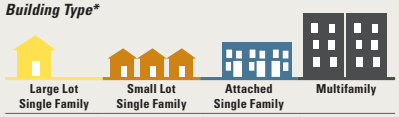
Water prices are expected to increase over time in response to limited supply and the potential application of pricing strategies to promote water conservation. Users can make absolute price assumptions based on specific policies, or assume a year-upon-year rate of increase.

GHG Emissions from Water-Related Energy Use

Water-related GHG emissions result from two main categories of energy use: a) system uses, including the transport, treatment, and distribution of water consumed; and b) end uses, including all uses of water that occur within homes (e.g., water heating).[22] The Rapid Fire model calculates energy use and emissions for system uses, while emissions resulting from end uses are accounted for as a component of residential and commercial building energy emissions.

Baseline Water Use. *Because larger homes with larger yards require more water for landscape irrigation, lot size is generally correlated with a household's overall water consumption. Scenarios with a greater proportion of the Standard Land Development Category, which include primarily single-family detached homes, will require more water – and produce more GHG emissions – than scenarios with a greater proportion of Compact or Urban areas, which include more attached and multifamily homes. Outdoor water needs also vary with climate. For California, the Rapid Fire model estimates outdoor water needs according to reference evapotranspiration (climate-based irrigation factors) for different geographic areas.*

2005 Annual Household Water Use by Building Type*



Large Lot Single Family	Small Lot Single Family	Attached Single Family	Multifamily
194,000 gal	125,000 gal	93,000 gal	89,000 gal

** California statewide baseline average consumption figures include indoor and outdoor water use. Indoor use is based on per-capita averages; outdoor use is based on generalized assumptions about landscape area and irrigation requirements.*

PUBLIC HEALTH

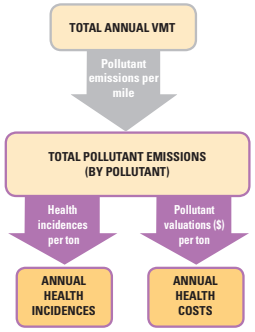
The Rapid Fire model calculates the public health impacts of automobile transportation-related air pollution. The number of health incidences, and their related costs, are calculated on the basis of criteria air pollutant emissions (measured in tons).[4] Note that these metrics express differences among scenarios, rather than as measurements of total health incidences or costs.

Health Incidences

Health incidences include cases of: premature mortality; chronic bronchitis; acute myocardial infarction; respiratory and cardiovascular hospitalizations; respiratory-related ER visits; acute bronchitis; work loss days; asthma exacerbation; and acute, lower, and upper respiratory symptoms. Per-ton assumptions for each of these incidences are individually applied to emissions of the following criteria pollutants: PM2.5, SOx, NOx, and VOC. The incidences are then totaled.

Health Costs

Health costs are based on per-ton valuations of emissions of the following pollutants: PM2.5, SOx, NOx, CO, VOC, and indirect PM from NOx, SOx, and VOC. As for health incidences, these valuations are applied to emissions of individual pollutants, and then totaled.



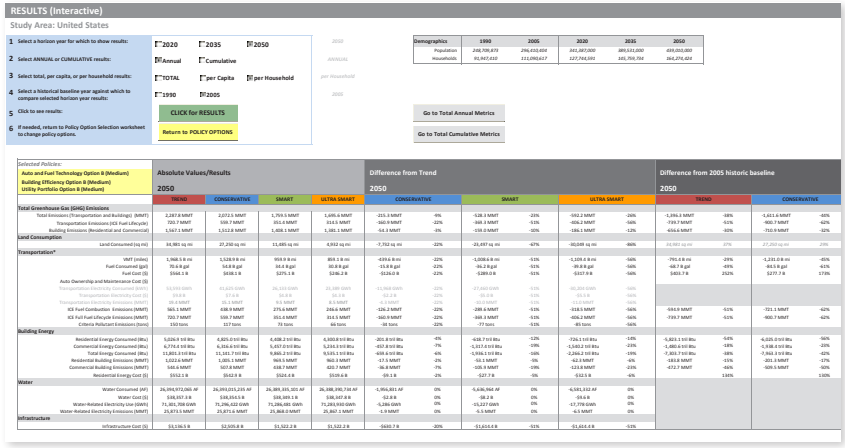
MODEL RESULTS

Viewing Model Results

Users can view model outputs through the model's static results summary (the "Results" sheet) or the automated interface of the "Interactive Results" sheet. The automated interface allows users to customize the results display according to the following parameters:

- Horizon year (2020, 2035, or 2050)
- Annual (single-year) or cumulative (multiple-year leading up to horizon year) metrics
- Total, per capita, or per household basis for metrics
- Comparison of annual metrics against historic baseline year (1990 or 2005)

Below is a sample view of the "Interactive Results" sheet.



Interactive Results Sheet. *Results are automatically displayed according to the parameters selected.*

THE VISION CALIFORNIA PROCESS

The development and application of the Rapid Fire model is part of the Vision California process, an unprecedented effort to explore the role of land use and transportation investments in meeting the environmental, fiscal, and public health challenges facing California over the coming decades. Funded by the California High Speed Rail Authority (*cahighspeedrail.ca.gov*) and the California Strategic Growth Council (*www.sgc.ca.gov*), Vision California will:

- Highlight the unique opportunity presented by California's planned High Speed Rail network in shaping growth and other investments.
- Frame California's development issues in a comprehensive manner, illustrating the role of land use in meeting greenhouse gas (GHG) reduction targets through robust analysis.
- Illustrate the connections between land use and other major challenges, including water and energy use, housing affordability, public health, farmland preservation, infrastructure provision, and economic development.
- Clearly link land use and infrastructure priorities to mandated targets as set forth by AB 32, SB 375, and the California Air Resources Board (CARB).
- Produce scalable tools, for use by state agencies, regions, local governments, and the non-profit community, which can defensibly measure the impacts of land use and transportation investment scenarios.
- Build upon Blueprints and other regional plans to produce statewide growth scenarios that go beyond regional boundaries and assess the combined impact of these plans.
- Connect state and national goals for energy independence, energy efficiency, and green job creation to land use and transportation investments.

Vision California is driven in part by the challenges set forth by the 2006 passage of the California Global Warming Solutions Act (AB 32), which sets aggressive targets for the reduction of greenhouse gas emissions (GHGs). The project is designed to provide critical context for the implementation of Senate Bill 375 (SB 375) and land use-related GHG-reduction targets for local governments, as it will illustrate and comprehensively measure the role of land use and SB 375-mandated regional "Sustainable Communities Strategies" in meeting AB 32 GHG targets.

Two new scenario development and analysis tools are being used to compare physical growth alternatives – the Rapid Fire model, and the 'Urban Footprint' map-based model. These related tools serve distinct purposes: while the spreadsheet-based Rapid Fire model quickly produces metrics that bracket the range of potential impacts, the map-based Urban Footprint model produces a more refined analysis that is greatly sensitive to land use and demographic characteristics.



The Urban Footprint Map-Based Model. *Currently under development, the Urban Footprint model uses geographic information system (GIS) technology to create and evaluate physical land use-transportation investment scenarios. Scenarios are defined through the application of 'Place Types' to the environment. The model's suite of Place Types represents a complete range of development types and patterns, from higher density mixed-use centers, to separated-use residential and commercial areas, to institutional and industrial areas. The physical and demographic characteristics associated with the Place Types are used to calculate the impacts of each scenario. Output metrics will include: land consumption; infrastructure cost (capital as well as operations and maintenance); building energy and water consumption, cost, and associated CO_2 emissions; public health impacts; vehicle miles traveled and all related fuel, GHG, and pollutant emissions; and non-auto travel mode share and other related travel metrics.*

BACKGROUND

Rapid Fire Model Output Metrics and Input Assumptions

Summary of Output Metrics

Land Consumption
- Land Consumed (square miles)
- Non-Residential Land Consumed (square miles)

Infrastructure Cost
- Capital Costs for Roads and Wet and Dry Utility Provision ($)
- Operations and Maintenance Costs ($)
- City Revenues from Residential Development ($)

Transportation System Impacts and Emissions
- Vehicle Miles Traveled (VMT) (miles)
- Fuel Consumed (gal)
- Fuel Cost ($)
- Transportation Electricity Consumed (kWh)
- Transportation Electricity Cost ($)
- Transportation Electricity CO_2e Emissions (MMT)
- ICE Fuel Combustion CO_2e Emissions (MMT)
- ICE Full Fuel Lifecycle CO_2e Emissions (MMT)
- Criteria Pollutant Emissions (tons)

Public Health Impacts Related to Transportation Emissions
- Respiratory and Cardiovascular Health Incidences (#)
- Health Costs associated with Health Incidences ($)

Building Energy, Cost, and Emissions
- Residential Energy Consumed (Btu)
- Commercial Energy Consumed (Btu)
- Total Energy Consumed (Btu)
- Residential Building CO_2e Emissions (MMT)
- Commercial Building CO_2e Emissions (MMT)
- Residential Energy Cost ($)
- Building Water Use, Cost, and Emissions
- Water Consumed (AF)
- Water Cost ($)
- Water-Related Electricity Use (GWh)
- Water-Related Electricity CO_2e Emissions (MMT)

Total Greenhouse Gas (GHG) Emissions
- Total CO_2e Emissions (Transportation & Buildings, MMT)

Building Program
- Housing type mix (# and %)

Summary of Input Assumptions

Demographics
- Baseline population and population growth
- Baseline households and household growth
- Baseline housing units and housing unit growth
- Baseline non-farm jobs and job growth

Scenarios
- Land Development Category (LDC) proportions for each scenario and time period
- Housing unit composition for each LDC

Infrastructure Cost
- Per-unit capital cost assumptions for roads and wet and dry utility provision by building type and Land Development Category (LDC)
- Per-unit operations and maintenance cost assumptions for roads, utilities, and public services by building type and LDC
- Per-unit revenue assumptions by building type and LDC

Land Consumption
- Percent greenfield vs. infill/greyfield/brownfield growth for each land development category, scenario, and time period
- Acres per capita required for greenfield development in each land development category, scenario, and time period

Vehicle Miles Traveled (VMT)
- Baseline Per Capita Light Duty Vehicle (LDV) VMT
- VMT adjustment factors by LDC and scenario for growth increment population
- VMT escalation and deceleration rates for the baseline environment population
- Elasticity of VMT with respect to driving costs per mile*

Vehicle Fuel Economy and Cost
- Baseline fuel economy for total fleet, internal combustion engine vehicles alone, and alternative/electric vehicles alone
- Fuel economy in horizon years for total fleet, internal combustion engine vehicles alone, and alternative/electric vehicles alone
- Elasticity of fuel economy with respect to fuel cost

Transportation Emissions
- Baseline fuel emissions, full lifecycle (well-to-wheel) for total fleet, internal combustion engine vehicles alone, and alternative/electric vehicles alone
- Baseline fuel emissions, combustion (tank-to-wheel) for total fleet, internal combustion engine vehicles alone, and alternative/electric vehicles alone
- Percent gasoline vs. diesel in liquid fuel mix
- Composition of gasoline and diesel fuel mix
- Criteria pollutant emissions per mile traveled

Public Health Impacts Related to Transportation Emissions
- Health incidences per ton of pollutant
- Health costs per ton of pollutant

Building Energy Emissions
- Electricity generation emissions (lbs/kWh)
- Natural gas combustion emissions (lbs/therm)
- Electricity generation emissions in horizon years (lbs/kWh)
- Natural gas combustion emissions in horizon years (lbs/therm)

Residential Building Energy Use & Price
- Baselineline average annual energy use per unit for base/existing population
- Annual energy use by building type
- Housing unit replacement rate for base/existing housing stock
- Upgrade efficiency reduction factor 'A' for base/existing housing stock
- New efficiency reduction factor 'B' for replacement units of base/existing housing stock
- Upgrade efficiency reduction factor 'C' for replacement units of base/existing housing stock
- New efficiency factor 'D' for new units of the growth increment
- Upgrade efficiency factor 'E' for new units of the growth increment
- Baseline residential electricity and gas prices
- Residential electricity and gas prices in horizon years

Commercial Building Energy Use & Price
- Non-farm job proportion by floorspace-type category
- Floorspace per employee by category for each LDC
- Commercial space replacement rate for base/existing housing stock
- Baseline average annual energy use per square foot for base/existing commercial space
- Annual baseline energy use for new commercial space
- Replacement rate for base/existing commercial space
- Upgrade efficiency reduction factor for base/existing commercial space
- New efficiency reduction factor for replacement commercial space
- Upgrade efficiency reduction factor for replacement commercial space
- New efficiency factor for new floorspace of the growth increment
- Upgrade efficiency factor for new floorspace of the growth increment
- Baseline commercial electricity and gas prices
- Commercial electricity and gas price in horizon years

Residential Building Water Use
- Baseline per capita indoor water demand by building type
- Baseline per-unit outdoor water demand by building type
- New residential water efficiency (% reduction from 2005)
- Baseline water price ($/acre foot)
- Water price in horizon years ($/acre foot)

Residential Water-Related Energy Use and Emissions
- Average water energy proxy (electricity required per million gallons water used)

D. Technical Methodology for 2012–2035 RTP/SCS Land Use Development Pattern

2012–2035 RTP/SCS Alternatives Creation Process

Using the public dialogue and feedback from the analysis of the 2012–2035 RTP/SCS Scenarios, SCAG developed the 2012–2035 RTP/SCS Plan alternatives. These land use alternatives tested the influence of future land use changes on a variety of metrics, including travel behavior and associated greenhouse gas emissions. A side-by-side comparison of alternative visions of the future is provided, which is helpful for weighing the costs and benefits of different policy choices.

The following steps were undertaken before the alternative creation process could proceed:

1. Implemented a public outreach process;
2. Using public input, determined the range of alternatives, and the associated parameters, policies and controls to be tested; and
3. Defined the appropriate building blocks for the alternatives, knows as Community and Development Types.

The Alternatives and Parameters

FOUR ALTERNATIVES

Four alternatives were modeled as part of the alternative creation process. The alternatives were modeled to the years 2020 and 2035. The first alternative was a trend-based alternative called No Project Alternative. The second alternative, Alternative A, was based on the adopted regional RTP growth forecast and local General Plans. The Plan Alternative (B) maintains city-level growth forecasts, but makes shifts within cities to focus future growth around existing and planned High-Quality Transit Areas (HQTAs) and other opportunity areas. The fourth alternative, Alternative C, has the fewest fixed parameters and shifts a substantial amount of regional growth from suburban areas not well served by transit into compact communities clustered around transit.

No Project Alternative

The No Project Alternative represents a future in which growth continues based on past trends. The alternative includes significant growth in suburban areas not well served by transit. New housing growth in this alternative is predominately in single-family subdivisions. Housing and jobs continue to be built separate from one another. The overwhelming majority of travel around the region continues to be made by car with relatively few new opportunities for walking or biking.

Alternative A

Alternative A is a combination of the adopted RTP Forecast and local General Plans. The alternative is controlled to the TAZ-level RTP forecast in terms of single-family and multi-family housing, and retail, office and industrial employment. These detailed forecasts are accommodated in accordance with the local General Plans. The alternative represents the most likely future for the region assuming the implementation of local General Plans. For this alternative, no adjustments were made to the land use, socioeconomic, and transportation data of the two delegated subregions (GCCOG and OCCOG).

Plan Alternative (B)

The Plan Alternative is driven by two main policy objectives: focusing more regional growth around High-Quality Transit Areas (HQTAs) and accommodating future housing market demand. The alternative maintains city-level forecast control totals for both population, households, and jobs, however, within city boundaries, shifts are made to focus a much larger share of future growth in more compact communities around HQTAs. Future housing market demand is expected to shift significantly to small lot single-family, townhomes and multifamily housing. Again, for this alternative, no adjustments were made to the land use, socioeconomic, and transportation data of the two delegated subregions (GCCOG and OCCOG).

Alternative C

Alternative C has the fewest growth parameters and controls. The alternative assumes that all growth is accommodated according to where HQTAs are located. As a result very suburban communities may not experience new housing or employment growth, while some urban areas with very good access to regional transit may experience significant increases in housing and/or employment growth. Any revisions contemplated within Alternative C will be identified and discussed with GCCOG and OCCOG as stated in the Memoranda of Understanding, and Framework and Guidelines for Subregional SCSs.

Alternatives should be clearly distinguished from one another while also being plausible visions of the future. Establishing clear parameters for an alternative is important in order to understand the impact of a specific policy on the outcome of an alternative. The 2012–2035 RTP/SCS process resulted in four alternatives that each capture a unique vision for how future growth can be accommodated and the associated impacts to the region.

While each alternative is distinctive, a number of parameters remained constant across each alternative: the regional 2012–2035 RTP/SCS forecast total for population, households, and jobs; the detailed Tier 2 Transportation Analysis Zone (TAZ) boundaries that include jurisdiction boundaries (aligned to city boundaries to ensure that no TAZs are split between multiple cities); and the exclusion of regional parks and open space from the developable lands used in the alternatives.

The parameters that varied across the alternatives were:

- Detailed forecast- the detailed distribution of population, households, and jobs across the region;
- Housing profile- the mix of single-family and multifamily housing;
- Transit network- the transit network varied from planned to enhanced;
- High Quality Transit Areas (HQTA)- the HQTAs varied based on the variations in the transit network; and
- General Plans- the local General Plans were used to varying degree across the alternatives.

TABLE D1 Alternative Parameters[1]

Parameters	Alternatives			
	No Project Alternative	Alternative A	Plan Alternative (B)	Alternative C
Parks and Open Space	Excluded from Developable Land Capacity			
Regional Forecast Totals	Fixed			
Detailed Forecast	Trend-based for both 2020 and 2035	Adopted RTP Forecast: Controlled at TAZ level for both 2020 and 2035	Controlled to TAZ-based RTP/SCS Forecast for 2020; Controlled to city-level RTP/SCS Forecast for 2020–2035	Regional Totals Only
Transit Network	Plan Network	Plan Network	Enhanced Cost Constrained Network	Enhanced Cost Constrained Network
High Quality Transit Areas (HQTAs)	Based on Plan Network	Based on Plan Network	Based on Enhanced Cost Constrained Network	Based on Enhanced Cost Constrained Network
General Plans	Based on growth trends, not necessarily General Plans	Based on local General Plans	General Plans considered, but intensity exceeded in some transit-accessible areas	General Plans considered, but growth intensity significantly exceeded in transit-accessible areas and General Plan growth areas with no transit access receive no growth

[1] For Alternatives A and B, no adjustments were made to the land use, socioeconomic, and transportation data of the two delegated subregions (GCCOG and OCCOG) per their subregional SCS delegation agreements.

POLICIES TESTED BY EACH ALTERNATIVE

Each alternative represents a plausible future for the region based on a different set of policy options. The 2012–2035 RTP/SCS public outreach process helped identify and prioritize the policies that should be tested as part of the process. The first policy focuses on improving the pattern of recent growth by shifting dispersed single-use development into a more compact, walkable and mixed-use development pattern. The second policy is aimed at improving transit access through land use changes. Specifically, this policy option is meant to test where land uses can be intensified around transit facilities in order to improve access and mobility. The third policy tested is an attempt to match future housing market demand through land use changes. Future demographic shifts, such as an aging population, increasing immigrant population and changes in young people's housing preferences, are shifting the demand for housing away from traditional and large-lot (>5,500 SF) single-family homes to smaller single-family, townhome and multifamily housing products. The fourth policy objective is to improve the jobs-housing balance in the region.

The policies tested in each alternative are as follows:

- Growth Pattern- focus growth into more compact, walkable, mixed-use development patterns;
- Transit Access- improve regional transportation efficiency by focusing growth around transit facilities;
- Housing Profile- match future housing market demand through land use changes; and
- Jobs-Housing Balance- integrate land uses together and adjacent to one another to reduce the amount of regional auto travel and improve quality of life.

TABLE D2 Alternative Policies[2]

Policies	Existing (2008)	Alternatives			
		No Project Alternative	Alternative A	Plan Alternative (B)	Alternative C
Growth Pattern	Current development patterns include a diversity of places; growth in recent decades has been predominantly separated and single-use, however	Continues growth trends of the past 20 years; predominantly single-use growth on vacant land	Growth pattern follows local General Plans	Growth controlled at city level, however, focused almost exclusively around existing or planned transit	No city or subregional growth controls; all new growth focused around HQTA transit facilities
Transit Access	Currently 39 percent of houses have access to regional transit	Transit access declines to 36 percent of households with access to regional transit	General Plans result in an improvement in transit access; 43 percent of households have access	Over half of the region's households have access to regional transit at 50 percent	Focusing all new growth in transit areas results in 62 percent of houses having access to regional transit
Housing Profile	45 percent of all housing is multifamily and 55 percent is single-family	47 percent multifamily No significant shift in total housing profile 52 percent of new housing growth is multifamily	47 percent multifamily Slight shift in housing profile 54 percent of new housing growth is multifamily	50 percent multifamily Shift in housing profile to match future housing demand 68 percent of new housing growth is multifamily	50 percent multifamily Significant shift in housing towards multifamily as a result of focusing growth around transit 71 percent of new housing growth is multifamily
Jobs-Housing Balance		No significant subregional improvement in jobs-housing balance or increase in mixed-use development	Many General Plans include expanded areas of mixed-use; while others contain large areas planned for separated, single-use growth	In cities with transit facilities, new population, households, and jobs were located near each other to reduce the need for auto trips; however, there are still significant areas, particularly in unincorporated areas, with significant growth forecast but limited or no transit facilities	All new population, households, and jobs were located together, in mixed-use districts, near regional transit

2 For Alternatives A and B, no adjustments were made to the land use, socioeconomic, and transportation data of the two delegated subregions (GCCOG and OCCOG) per their subregional SCS delegation agreements.

Summary of Methodology and Process

The Plan Alternative was created using a three-tiered process for locating new growth from 2020 to 2035. The purpose of the Plan Alternative was to test the potential regional transportation benefits that could be accrued from a policy of focused growth near High Quality Transit Areas (HQTA). In addition to this policy objective (which represents the first tier of the process), the scenario also optimized areas served by local transit (not designated as HQTA) in communities with limited or no HQTA. This represents the second tier of the process. The final tier of the process involved allocating new growth in areas where no transit exists, nor is being planned. In those instances, the relative distribution from Alternative A was observed. Exhibit 53 illustrates the different areas where additional housing and jobs from 2020 to 2035 will be located in the Los Angeles Basin. At each point in the process, existing land use patterns, local General Plans and an understanding of regional variations in the market feasibility of different new development patterns served as additional design constraints.

STEP ONE: OPTIMIZE REGIONAL TRANSIT AREAS

The starting point for the Plan Alternative was Alternative A at year 2020, which reflected local General Plans. The first step in creating the Plan Alternative was to reallocate a portion, or in some cases all, of the 2020-2035 growth increment to TAZs well served by regional transit (with 25 percent or more of their land area within an HQTA boundary). These TAZs were designated as "HQTA TAZs."

In highly urbanized cities, where large portions are well served by regional transit, most, if not all, of their 2020-2035 growth increment could be accommodated within HQTAs. Suburban communities and unincorporated areas often had limited areas served by HQTA facilities, and thus very little of their growth increment could reasonably be accommodated in these areas.

The reallocation process attempted to balance the policy goal of optimizing growth within HQTAs with an understanding of variations in both acceptance for and market feasibility of certain levels of development intensity across the region. For instance, cities like Lancaster and Palmdale have HQTAs but allocating their entire 2020-2035 growth increment into these areas would result in development patterns that are not market feasible, and likely exceed local General Plans with regard to development intensity.

The expectation is that there is a market for Development Types such as Town Center or Town Neighborhood around transit facilities within these types of suburban communities, whereas, Urban Center and even City Center would likely not be the predominant new land use type. Conversely, urban centers such as Los Angeles, Long Beach, Anaheim and others, have significant regional transit service and significant market demand for more intense land use patterns.

STEP TWO: OPTIMIZE LOCAL TRANSIT AREAS

Nearly half of the region's transit trips occur on local transit. While the development potential around this system is not assumed to be as extensive as in areas near HQTAs, there are certainly opportunities to increase development intensity along some of these corridors.

In many instances, the amount of new growth forecast for a jurisdiction could not be reasonably accommodated within the TAZs near HQTAs, such as the following example of Palmdale. In these jurisdictions, areas adjacent to local transit facilities served as the second tier location for focusing growth.

In suburban communities with limited or no HQTA facilities, organizing growth near local transit facilities was a key strategy for achieving higher transportation efficiencies across the region than would have otherwise been achieved.

STEP THREE: ALLOCATION FOR AREAS NOT SERVED BY TRANSIT

In areas not served by transit or with very limited transit service, the growth pattern from Alternative A was assumed to remain. In areas with no transit service, the growth patterns in Alternative A were mirrored. In areas with limited transit, the area around the transit was optimized but, in most instances, could not reasonably accommodate the full growth increment. In these instances, the remaining growth was allocated proportionately based on the distribution in Alternative A.

Example Process: Palmdale

Palmdale is a suburban community located north of the City of Los Angeles, across the San Gabriel Mountains. Palmdale, along with the other cities in the Antelope Valley, have

EXHIBIT 53 Los Angeles – Three Tier Areas

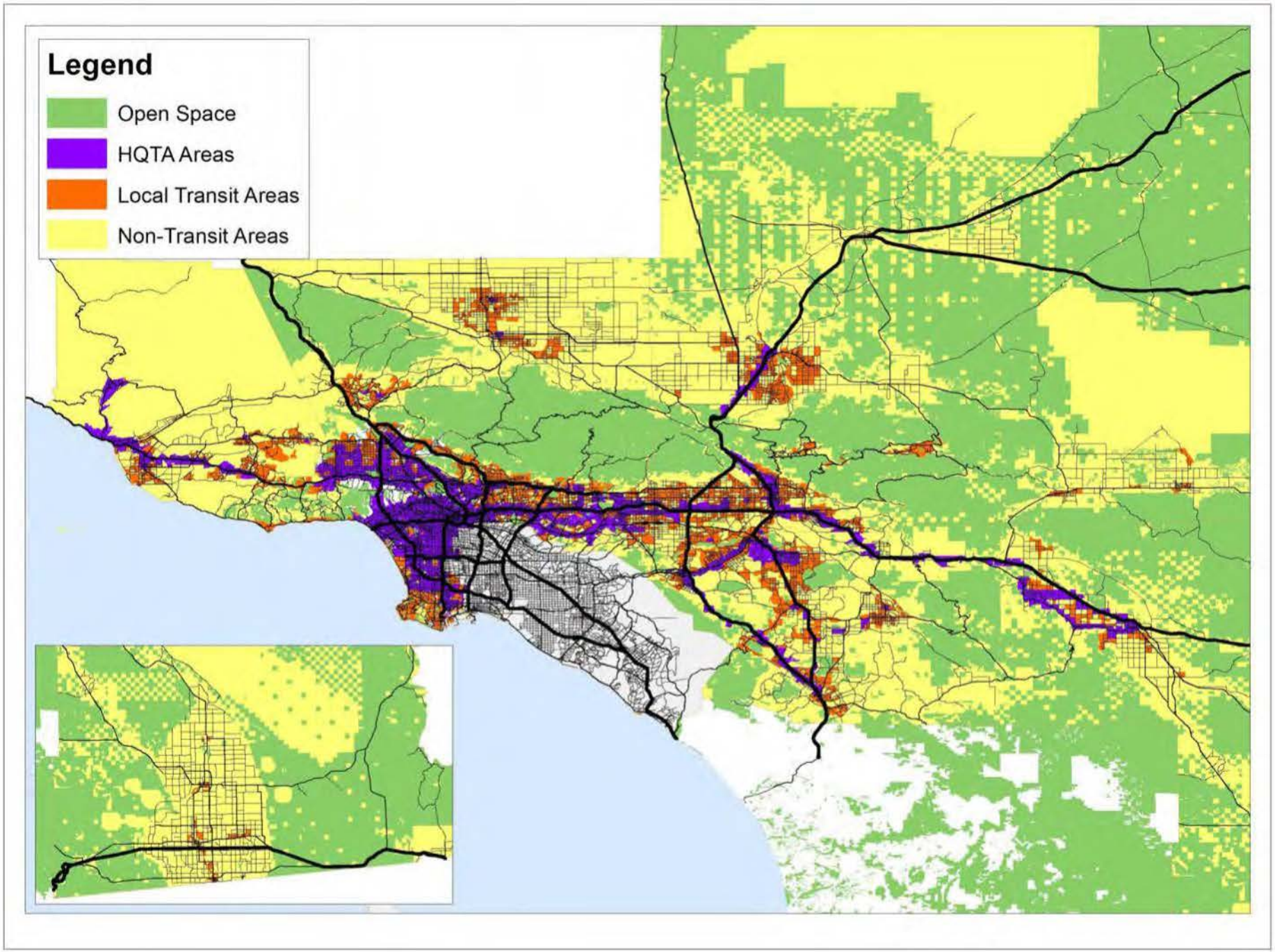
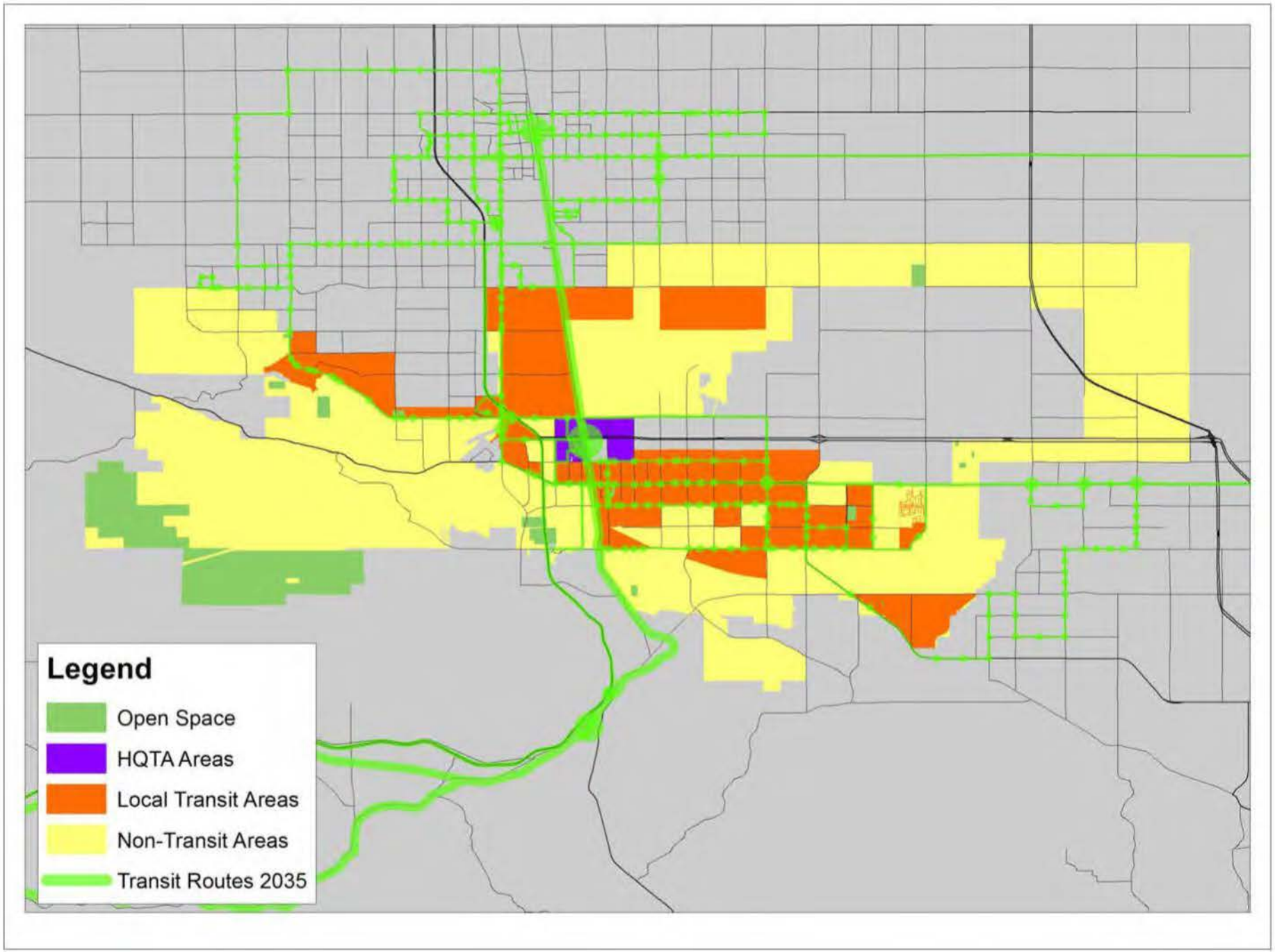


EXHIBIT 54 Palmdale – Areas for Additional Housing and Job Growth (2020 to 2035)



been, until the recent housing downturn, one of the fastest growing areas of the SCAG region. In fact, Palmdale was the fastest growing city in Los Angeles County in 2010.

Between 2020 and 2035, Palmdale is forecast to add an additional 7,500 new households. This represents a 15 percent increase over the 51,273 total households forecast in 2020. Palmdale has a single Metrolink commuter rail station and several bus lines serving the city. As a result the HQTA is quite small compared to the vacant land available at the urban fringe, as illustrated in **EXHIBIT 54**. While the HQTA is relatively small, there are over 500 acres of vacant land within the three HQTA TAZs adjacent to the Metrolink station.

It seems reasonable to expect a low- to moderate-intensity center to emerge surrounding the Metrolink station area in Palmdale by the year 2035. However, it would be unreasonable to assume that the entire growth increment could be accommodated within the HQTA. As a result, a mix of Suburban Center and Town Center were applied to the Metrolink station area.

Table D3 shows that Alternative A allocates only 52 new households on this land between 2020 and 2035, which is less than one percent of the city's housing forecast. The Plan Alternative, by contrast, envisions the HQTA becoming a low- to moderate-scale center with a mix of single-family, townhomes, and some apartments, with integrated employment and services. The resulting change would add 1,900 new households in the HQTA, representing 26 percent of the forecast for 2020 to 2035. In a suburban community like Palmdale, there is virtually no market for the very intense building types one would expect farther south in the City of Los Angeles. However, there is market demand for less expensive compact single-family, townhomes and even moderate density multifamily units.

Palmdale has a local bus network that covers a sizeable portion of the city, primarily southeast of the Metrolink station area. Local transit carries nearly half of all transit trips regionally every day. Focusing growth within walking distance of these facilities is a key strategy for reducing regional greenhouse gas emissions, particularly in areas with limited HQTAs.

The HQTA in Palmdale is not able to absorb all of the new growth for the City. However, there is significant vacant and underutilized land along several of the local transit routes. The Plan Alternative adds additional small lot single-family and townhomes onto vacant land adjacent to these transit routes. The changes are so modest that the additional households do not increase the overall density of the TAZs enough to alter the Development Type designation in most cases. With these modest changes in development intensity, the Plan Alternative was able to increase the housing capture for areas served by local transit to 62 percent—up from 48 percent in Alternative A.

The combined impact of creating a modest density center surrounding the Metrolink station and adding a broader range of housing types within a short distance of local bus service resulted in a significant reduction of housing growth in areas not served by transit. Over half of all new households allocated in Alternative A from 2020 to 2035 are in areas not served by transit. In contrast, only 12 percent of new households in the Plan Alternative are in areas not served by transit. Through relatively modest changes in density, the land use pattern in Palmdale can become much more transportation efficient.

TABLE D3 Palmdale – Household Distribution by Area

Scenario	HQTA		Local Transit Area		Non-Transit Area	
Alternative A	52	1%	3,600	48%	3,851	51%
Plan Alternative	1,926	26%	4,665	62%	910	12%

Example Process: San Bernardino

In urban areas, the process of scenario design was the same, however, in many instances the HQTAs were able to absorb a significantly higher share of new growth. The market for higher intensity buildings exists in many urban areas in the region, particularly those with higher achievable rents and places well served by regional and local transit.

The City of San Bernardino is one such example. The majority of the City is within HQTA TAZs, and most of the areas outside of the HQTAs are served by local transit, as illustrated by Exhibit 55. Through strategic increases in density in areas immediately adjacent to the station areas, the HQTAs could capture over three-quarters of the new housing growth in the Plan Alternative compared to just over one-third in Alternative A, as shown in **TABLE D4**.

EXHIBIT 55 San Bernardino – Areas for Additional Housing and Job Growth (2020 to 2035)

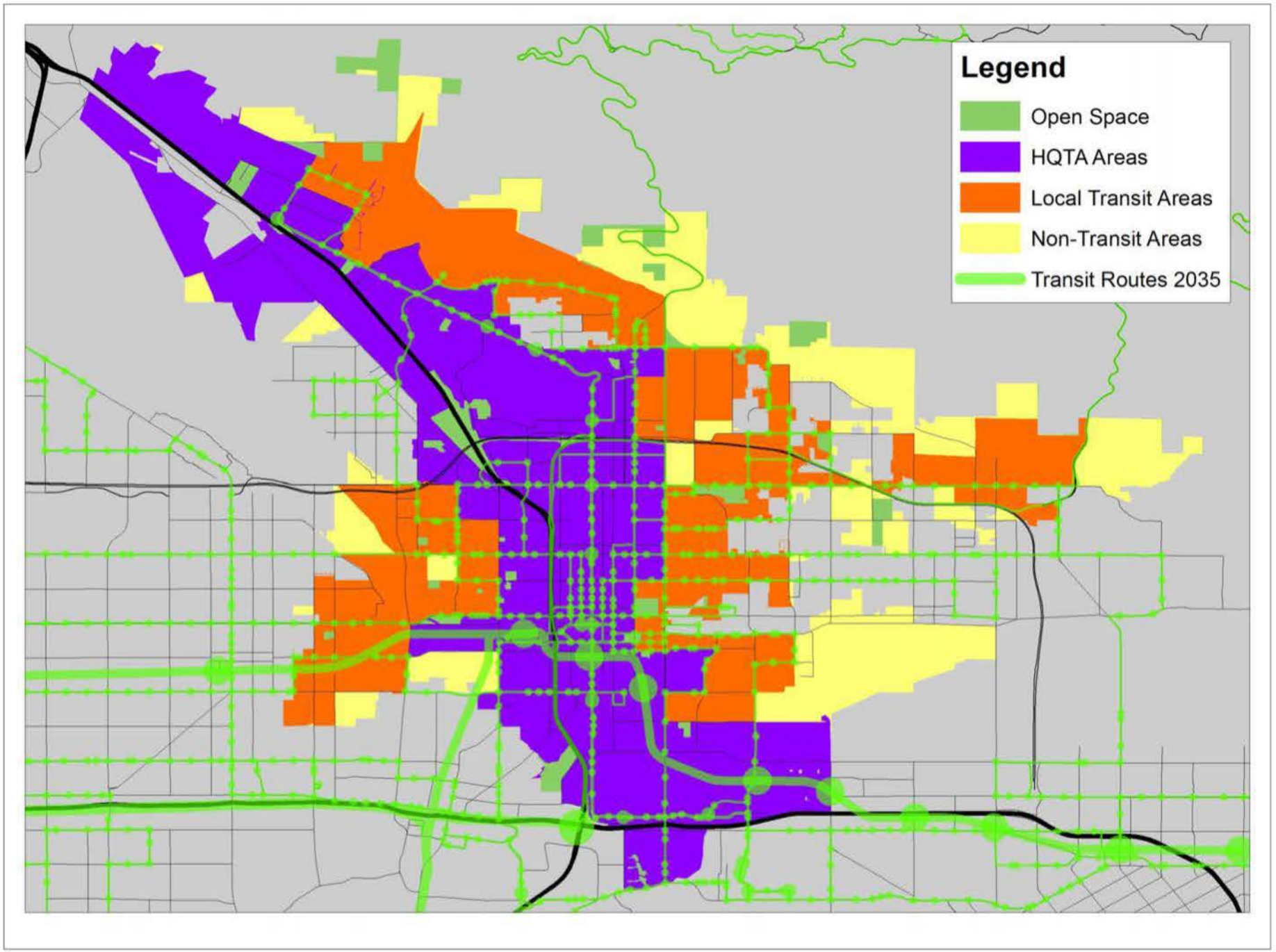


TABLE D4 San Bernardino – Household Distribution by Area

Scenario	HQTA		Local Transit Area		Non-Transit Area	
Alternative A	6,750	38%	8,400	47%	2,700	15%
Plan Alternative	13,800	77%	3,200	18%	800	5%

THE SCENARIO: ONE OUTCOME WITH MULTIPLE PATHS

The scenario planning process involves experimenting with policy options to measure potential regional costs or benefits associated with a variety of different choices. This scenario planning exercise attempted to quantify the regional benefits from improving land use efficiency around transit facilities. Undoubtedly there are multiple ways to achieve these efficiencies at the local level.

While the Plan Alternative shifted the distribution of development intensity within city boundaries, the overall city forecasts did not change. As a result of this three-tiered approach to growth location, the Plan Alternative may exceed growth expectations in some locations.

The process of creating Development Type-based regional forecasts and scenarios allows for local jurisdictions to experiment with different land use patterns at the local level that produce the same regional transportation and greenhouse gas benefits. This process allows for that level of local input to be incorporated quickly and modeled ensuring equivalent regional efficiency. A framework that allows for this local input and regional dialogue is of critical importance in the ultimate implementation of the regional policy objectives.

Community and Development Types

The Local Sustainability Planning Tool (LSPT) employs a series of Community and Development Types to describe the different types of land uses in the region. These Community and Development Types are comprised of a mix of different types of buildings along with assumptions about characteristics such as the amount of land devoted to streets, parks, and civic areas. There are two levels of detail. The first level, Community Types, is a simplified classification intended for conveying land use alternative and maps to the broader public. At a more detailed level, the Development Types are intended for modeling purposes at the Split TAZ level.

DEVELOPMENT TYPES

The Development Types were virtually painted onto the map of the region using the LSPT. Each Development Type carries with it values that describe the characteristics of the place it represents. It was important to establish a set of Development Types that represent the full range of development patterns and forms that make up the region today and into the future. In addition, these Development Types must be easy to communicate to the public and key policy decision makers. The Development Types contain a large amount of information relating to the characteristics of the landscape, including jobs and housing density, urban design and mix of land uses, and lend themselves to clear communication through photo-simulations and other types of renderings.

Through use of the LSPT, Development Types are the foundation of the land use alternatives. The LSPT uses the typologies to calculate results for a range of evaluation criteria, in advance of the four-step travel demand model including housing and job mix, densities and VMT. The alternatives are built upon, and provide data at the TAZ level including households and employment. This represents the data that is fed into the regional transportation model to determine how the potential land use pattern impacts travel behavior.

When assembling the Development Types within the sketch planning tool, SCAG began with Compass Blueprint Development Types. These Development Types were previously employed at a scale of roughly five acres through an artificial raster or ‘grid’ draped onto the virtual landscape. For the Plan Alternative, the Development Types were re-calibrated to fit the appropriate scale represented by the region’s TAZ map. The calibration was done by modifying the proportions of buildings within each Development Type to best represent the types of places represented by the scale of the TAZ within the Southern California landscape. The purpose was not to create a category to match every jurisdiction’s comprehensive plan category, but rather a description of all of the places that exist today, and those that may exist in the future.

Within the LSPT, Development Types were assigned a mix of building types, each having an associated job and housing density. Examples of building types include: mixed-use residential four stories, garden apartment, compact single-family home, office, main street retail, business flex and many others. Because Development Types make it possible

to measure evaluation criteria that rely on information tied directly to individual buildings and uses, many of the assumptions are built into the individual building spreadsheets (called prototype buildings) that were then grouped together to form Development Types.

STEPS FOR CREATING DEVELOPMENT TYPES

1. Developed prototype buildings
a. Devised a list or selection buildings that match or represent the current and potential future characteristics of the SCAG region.
b. Populated the prototype building spreadsheets with data relating to the physical form, intensity and mix of uses and financial attributes .
2. Assembled prototype buildings into Development Types
a. Selected a set or mix of buildings that would likely be found in each building block. Some Development Types are fairly homogenous. For example, a typical lower density Suburban Residential is comprised of four or fewer prototype buildings. Other Development Types, such as Town Center, require a mix of more than one dozen types of buildings to adequately represent the range of uses today, and those that will likely occur in 2035.
b. Assigned each building a percentage to indicate the portion of the Development Type that is comprised of each prototype building.
c. Added in net land reductions to account for streets, civic space and parks. The values for these reductions can usually be found in any previous land use capacity developed by the jurisdictions.

Development Types are primarily used in the sketch planning tools to perform land use analysis. The Development Types themselves do not include transportation network information, but are intended to match or complement specific transportation investments included in the scenario. Using the LSPT, the Development Types were applied to the TAZs within the SCAG region for places where growth could be located. The transportation design and assumptions served as a guide so that placement of Development Types is consistent with, and takes advantage of, planned transportation improvements and programs. For example, it may not have been highly effective to locate auto-oriented low-density Development Types in areas with existing or planned transit investments. Conversely, it would have been effective to place high-density and mixed-use Development Types in areas along transit lines and with well-connected streets.

Following is a list of the Development Types employed in the 2012–2035 RTP/SCS Plan Alternative.

Urban Center

(82–120+ housing units/acre; 260–320+ jobs/acre)

Urban Centers are the highest intensity areas. The best examples would be places such as Downtown Los Angeles or high intensity corridors such as Wilshire Boulevard. These centrally-located areas are jobs rich with significant amounts of employment, typically located in high-rise office buildings. Housing is also typically located in multi-story buildings located in more urbanized neighborhoods. These areas are well-served by transit and typically represent the convergence of a number of high capacity transit facilities. The Urban Center development type can be used in several parts of the region to signify high density land uses, mixing of uses and a saturation of non-auto transport options.

City Center

(48–82 housing units/acre: 120–260 jobs/acre)

City Centers are similar to Urban Centers. The mix of jobs to housing is similar as they too are significant employment centers. They are on average roughly one-half the intensity of urban centers. They share similar levels of transit and other non-auto infrastructure. They are likely home to one or two high capacity transit facilities and a number of bus routes. The City of Pasadena provides a relevant reference for the City Center development type.

Town Center

(16–48 housing units/acre; 30–120 jobs/acre)

Town Centers are another highly mixed-use development type. They are roughly one-third the level of intensity as found in the City Centers. They are employment centric but also provide housing opportunities that are located very close to daily services and jobs, but in a smaller town type of setting. Cities such as Ventura or Santa Monica are examples of Town Centers. Buildings are generally less than six stories on average. Sidewalks and bike facilities are plentiful and the areas typically benefit from one high capacity transit facility and local buses.

Suburban Center

(Up to 16 housing units/acre; Up to 30 jobs/acre)

Suburban Centers can contain a mix of uses, but may alternately have a focus towards either jobs or housing with very little mix. These areas are predominately served by automobiles, but likely have bus service or in some cases commuter rail. Buildings are typically one or two stories, but in some cases will go higher when surrounded by ample landscaping. These areas do provide some travel choice, but not at the scale of the Town or City Centers.

Urban Residential

(At least 60 housing units/acre; Up to 10 jobs/acre)

Urban residential areas represent high density concentrations of housing, typically in residential high-rise buildings. Because of the high number of residents, these areas provide a large number of customers for business districts located nearby. Within the district there may also be pockets of shopping, restaurants and some professional services. These neighborhoods benefit from excellent transit service, and are typically situated along or near at least one high capacity transit corridor.

City Residential

(30–60 housing units/acre; 4–10 jobs/acre)

These are relatively high density residential areas. They are typified by pre-war development patterns containing a mix of single- and multifamily housing. Buildings range from one- and two-story bungalows to five- or ten-story apartments and condos. Major streets in and near the neighborhood have high frequency bus service. Jobs in these areas are limited to some home offices and small, local-serving shops and restaurants. Residents in these areas have quick access to a range of activities and job locations using multiple modes of transportation.

Town Residential

(14–30 housing units/acre; 2–4 jobs/acre)

This typology is characterized by common prewar neighborhoods of single-family homes on modest lots, with the some garden apartments located near commercial streets. Townhomes, duplexes and accessory dwelling units will be interspersed, likely on corners or between apartments and single-family homes. The streets in these neighborhoods are generally low volume and include full sidewalk coverage and parking on the street. They are easily navigable via car, bike or on foot, with transit service often located within one-quarter- to half-mile of homes.

Suburban Residential

(Up to 14 housing units/acre; Up to 2 jobs/acre)

These neighborhoods have been the dominant form of housing in the region for the last several decades. These areas are the least dense form of development typified by homes with larger lots and are separated from active commercial and service areas. Utilizing transit often requires residents to drive to nearby park-and-ride facilities.

Urban Employment

(Up to 10 housing units/acre; At least 180 jobs/acre)

The Urban Employment development type is focused on jobs. Buildings are typically high-rise with parking in multi-level structures or underground. These districts are typically located in the center of an urban core and served by multiple high capacity transit lines. These districts will draw their employees from throughout the region.

City Employment

(Up to 10 housing units/acre; 90–180 jobs/acre)

This development type represents the employment core of a city. Jobs are typically in high-rise structures with a mix of surface and structured parking. These areas are often served by one or more high capacity transit lines. They will draw workers from nearby neighborhoods and cities.

Town Employment

(Up to 6 housing units/acre; 30–90 jobs/acre)

This development type represents the employment core of a smaller town, or an independent job node. Jobs are typically in low- to mid-rise structures with mostly surface parking. These areas are often served by one high capacity transit line, or frequent bus service. They will draw workers from nearby neighborhoods and some from adjacent cities.

Suburban Employment

(Up to 2 housing units/acre; 6–30 jobs/acre)

This development type represents job nodes that are typically situated along major arterials or near interchanges. The job density is low and likely to take the form of retail, restaurants or personal services. Jobs are typically in one-story structures with surface parking. These areas are served primarily by automobiles, but may have bus access or be located near commuter rail facilities.

Rural

(Up to 2 housing units/acre; Up to 6 jobs/acre)

This development type is more diverse. While it includes both jobs and housing, the two are rarely found together. Housing is typically in acreage lots or ranchettes, often far from services or jobs. Jobs are likely to be located in isolated nodes such as rural cross-roads or highway service areas. These areas are rarely served by transit, and the few people who occupy these areas greatly rely on their automobiles.

COMMUNITY TYPES

As previously mentioned, the future land use pattern of the region also employs a series of Community Types, which serve as a simplified classification used to describe the general conditions likely to occur within a specific area. These Community Types are aggregations of the thirteen Development Types used for modeling purposes. Following is a listing of the Community Types employed in the 2012–2035 RTP/SCS Plan Alternative.

Urban

Urban areas are the highest intensity Community Type. These centrally located districts have significant amounts of employment and corresponding residential uses and retail, typically located in a dense cluster of multi-story buildings and high-rise buildings. Urban areas are also typically located at the convergence of a number of high capacity transit facilities complemented by non-auto infrastructure that also provide access and connectivity.

City

The City community type is on average one-half the intensity of the Urban community type. These areas contain significant employment centers and a mix of medium- and high-density housing, supported by retail and daily services. One to two high capacity transit facilities, a number of bus routes, and non-auto infrastructure provide access and connectivity to a range of activities and locations.

Town

The Town community type provides low- to medium-density housing opportunities that are located close to local-serving retail and daily services. These areas are characterized by an employment core or an independent job center in low- to mid-rise structures. Sidewalks and bike facilities are adequate and the areas benefit from one high capacity transit facility and local buses.

Suburban

Suburban areas contain a mix of uses, but often have one predominant use, such as residential or office. Residential areas are typically low-density with larger lots and are separated from retail and other daily service uses. Though these areas are predominantly served by automobiles, bus service and commuter rail may also operate in certain neighborhoods.

Rural

Rural areas include both jobs and housing, though these two uses are rarely found in close proximity to each other. Housing is characterized by acreage lots and ranches, and is often far from commercial and employment activities, which occur in isolated nodes located on rural cross-roads and highway services zones. Transit and non-auto facilities rarely serve these areas, making automobile use the most frequent mode of travel.

E. 2012–2035 RTP/SCS Alternatives

Alternatives Analysis Framework

The alternatives analysis framework recognizes that this region is fortunate to have its citizens approve all the half-cent sales tax measures presented to the voters to date (three in Los Angeles; one in Riverside, San Bernardino, Orange, and Imperial counties). These and other local funds account for 71 percent of available transportation funding in the region. Together with state and federal funding, the region has over $300 billion available moving forward. These funds will allow for transit expansion, maintenance of the highway system, some congestion relief improvements, bikeway improvements, non-motorized enhancements, and several community mitigation investments. As a result, the $300 billion transportation investment will lead to improved mobility and accessibility, cleaner air, more jobs, and a more competitive regional economy.

In order to provide the kind of 2035 future Southern California deserves and needs in transportation and overall quality of life opportunities, additional investments should be considered by policy leaders to ensure a safe, reliable, and state of good repair for the transportation network. The alternatives developed for the 2012–2035 RTP/SCS address these challenges by assuming funding from various pricing strategies.

It should be noted that significant progress has been made throughout the region over the past decade towards sustainable growth. Such positive trends are largely reflected in the locally supported socio-economic data (growth forecast) through 2035 that serve as the foundation for each of the alternatives.

The discussion regarding alternatives began at the Plans and Programs Technical Advisory Committee (P&P TAC) with an initial set of three preliminary scenarios that used varying land use scenarios with progressively higher levels of investments on non-auto strategies including transit, bike and pedestrian improvements, and TDM and TSM strategies. Subsequently, these scenarios were further refined and analyzed using the Rapid Fire Model. Results from this effort were utilized to create refined scenarios for the 18 2012–2035 RTP/SCS workshops SCAG conducted through the months of July and August throughout the region. Information gathered through this process has helped further refine and shape the alternatives.

Each of the alternatives will be defined by its components. Key components associated with each of the alternatives are as follows:

- Growth Forecast/Socio-Economic Data (SED)/Land Use;
- Transportation Network (highways and arterials, light and heavy rail, commuter rail, inter-city rail, bus rapid transit, fixed route buses, high speed rail);
- Transportation System Preservation Investment level;
- Pricing Strategies (user fee, HOT Network, cordon pricing);
- Bicycle and Pedestrian Investments;
- Transportation Demand Management (TDM) Investments;
- Transportation Systems Management (TSM) Investments; and
- Planning and Policy assumptions (transit fares, tolls, auto operating costs, etc.).

The guiding principles that keep the 2012–2035 RTP/SCS alternatives grounded in reality are as follows:

- Alternatives should strongly consider regional economic competitiveness and overall economic development to help the region recover and prosper.
- Transportation investment commitments made by the CTCs through their sales tax expenditure plans, adopted long-range plans, and board-adopted resolutions will be fully respected.
- Subregional SCSs submitted by the Gateway Cities Council of Governments (GCCOG) and the Orange County Council of Governments (OCCOG) will be unchanged and integrated into the alternatives (with possible revisions for Alternative C only). Any revisions contemplated within Alternative C will be identified and discussed with GCCOG and OCCOG as stated in the Memoranda of Understanding, and Framework and Guidelines for Subregional SCSs.
- New investment strategies proposed over and beyond the county submitted commitments will only be funded through new funding sources identified and approved by the Regional Council.
- Ensuring an appropriate level of funding for system preservation will be given a priority.
- Each of the alternatives will be evaluated using a set of accepted performance measures.

Based on these considerations, three alternatives are defined and refined for detailed analysis. A fourth alternative is recommended simply to test the sensitivity of a dramatic increase in the price of gas, however, it is not viewed as a true alternative in the same sense as the first three alternatives. These alternatives address the issues and challenges discussed earlier in different ways. To be consistent with the principle of respecting county decisions, all four alternatives include all projects and strategies committed by the CTCs in their long-range transportation plans. The description of the four alternatives will therefore focus only on policies and investments over and beyond these existing long-range transportation plans.

In addition, each alternative will be compared to a "No Project Baseline." This Baseline only includes projects that are fully programmed in the current 2011 Federal Transportation Improvement Program (2011 FTIP) and that have already received full environmental clearance. In other words, it only includes projects that are already under way. Moreover, this Baseline reflects historical trends of the land use that currently exist. It does not reflect land use changes already approved by local agencies for the future to increase densities, create mixed-use neighborhoods, create transit-oriented developments, and improve jobs/housing balance.

Alternatives

ALTERNATIVE A

This alternative evaluates how the region's transportation system will perform in the future with only currently committed policies and investments included, as embodied in the current six county transportation commissions' adopted long-range transportation plans. Funding for bicycle/pedestrian improvements, TDM and TSM projects, and strategies were based on currently funding trends. So, the investments represent "business-as-usual" levels and do not add any additional transportation strategies and investments. However, it should be noted that this alternative does include significant transit investments already committed by the CTCs. Some of these transit investments include:

- Purple Line Extension to Westwood
- Gold Line Extension to Glendora
- Metrolink San Jacinto and Temecula Extensions
- High-frequency Metrolink service from Laguna Niguel to Los Angeles

- Rail feeder service in Orange County
- Anaheim Rapid Connection
- New BRT services in Orange County
- Redlands Rail
- E-Street Corridor

This alternative represents commitments in the 2008 RTP updated with the latest information submitted by the CTCs and includes almost 3,000 separate transportation projects.

Alternative A includes updated land use and socio-economic forecasts based on 2012–2035 RTP/SCS local jurisdiction input. This growth input was developed through an extensive bottom-up process dating back to May 2009. The population, household and employment totals for cities and counties are based on information from the most up-to-date local General Plans. The distribution of land uses within cities and counties reflects not only the local input on growth forecasts, but also the specific distribution of those land uses as currently reflected in those General Plans. For this alternative, no adjustments were made to the land use, socioeconomic, and transportation data of the two delegated subregions (GCCOG and OCCOG).

The resulting land use pattern shows some departure from the historical suburban development pattern toward a greater emphasis on infill and redevelopment in many parts of the region. This is due to a decreasing amount of greenfields available for development within local juridictions in the future. This shift follows an emerging trend of a certain level of transit-oriented developments located near existing and planned transit stations in the core metro area, as well as in established cities in the region's periphery. The land use pattern provides an improved mix of uses within close proximity to each other to make transit, walking and bicycling increasingly viable travel choices for many activities.

This alternative shows significant performance improvements over the Baseline since it incorporates more progressive land use as well as county transportation investments of more than $300 billion.

ALTERNATIVE A: HOW IT DIFFERS FROM THE BASELINE

- Land Use- Local input as opposed to historic land use trend
- Investments- All committed county projects are included as opposed to only projects fully programmed in the 2011 FTIP

ALTERNATIVE B

Alternative B is the 2012–2035 RTP/SCS Plan Alternative. This alternative addresses many of the unfunded needs over and beyond Alternative A. Specifically, it dedicates significant funding to system preservation, non-motorized transportation, TDM, the East-West freight corridor, and grade separation projects. It also includes the cost of developing a regional High Occupancy Toll (HOT) lane network building on components already considered by the transportation commissions in Los Angeles, Orange, Riverside, and San Bernardino Counties.

Some of the specific transportation strategies included in this alternative over and beyond what is already included in Alternative A are as follows:

- Implementation of LA Metro's 30/10 initiative that would accelerate the completion of 12 major transit projects in LA County
- Implementation of the East-West Clean Freight Corridor
- Implementation of the Strategic HOT Network
- Consideration of Cordon Pricing in Downtown LA
- More than doubling of funding for Active Transportation to ensure expansion of bike/pedestrian network from the current 4,300 miles to 10,200 miles
- Significant increase in funding for TDM and TSM programs and strategies, including "First Mile/Last Mile" strategies that would enhance connectivity with existing and planned transit services
- Targeted expansion of existing and planned fixed guideway system to close the gaps
- Add BRT services on targeted corridors
- Add express bus services on proposed HOT Network

Additional funding needed to implement this alternative will be derived from revenues generated from the HOT lane network, from a cordon pricing implementation around Downtown Los Angeles, and a user fee to replace existing gas tax revenues enacted by the state legislature and Congress by 2020. This user fee will be proportional to system

use (e.g. proportional to vehicle miles traveled or VMT) and would not diminish over time due to improved fuel efficiency or the adoption of electric vehicles.

Regarding land use, Alternative B expands upon the Growth Forecast in Alternative A. It continues to respect local growth input for both 2020 and 2035. Adjustments have been made to the expected location of growth within cities to improve transportation performance and regional sustainability by assuming that many of the recent development trends within jurisdictions of locating growth nearer to current or future transit hubs will continue. In come cases, jurisdictions have agreed to increase or decrease their projected household growth to reflect the adequacy of infrastructure expected to accommodate this new growth. For this alternative, no adjustments were made to the land use, socioeconomic, and transportation data of the two delegated subregions (GCCOG and OCCOG).

Therefore, for 2035, the resulting land use pattern intensifies both residential and employment development in High-Quality Transit Areas (HQTAs) within cities and counties that will have such areas, while keeping the jurisdictional growth totals consistent with local input. It moves the region towards more walkable, mixed-use development leading to significant VMT reductions and other benefits due to higher walk/bike mode share, more transit use and shorter auto trips. This alternative strives to meet demand for a broader range of housing types, with new housing focused towards the development of smaller-lot single-family homes, townhomes, and multifamily condominiums and apartments.

Finally, Alternative B also includes Phase I of the state High Speed Rail (HSR) initiative as well as enhancements to the LOSSAN corridor and Metrolink services to upgrade them to support higher speeds.

ALTERNATIVE B: HOW IT DIFFERS FROM BASELINE

- Land Use – Local input and additional changes agreed to by locals as opposed to technical trends. Allocation of growth within cities to more emphasize HQTAs and other transit hubs and corridors, per recent development trends within jurisdictions.
- Investments – All committed county projects, plus increased preservation funding, implementation of HOT lane network, E-W freight corridor, HSR Phase I, LOSSAN corridor rail improvement, expanded regional bicycle network, and TDM investments, are included as opposed to only projects fully programmed in the 2011 FTIP
- Incremental Revenues – HOT lane, Cordon Pricing, and user fee revenues

ALTERNATIVE C

This final alternative is similar to Alternative B except for these key aspects:

- More aggressive growth in fixed guideway transit-oriented development (TOD) districts
- More aggressive transit and transportation funding to be consistent with the additional land use changes

Land use for this alternative shifts growth across jurisdictional boundaries in a manner that would be different from local input and different from both Alternatives A and B. This alternative adjusts densities and infill rates in order to present a more aggressive land use strategy within Southern California. In Alternative C, a small percentage of new growth is located on previously undeveloped greenfield land, with the significant majority occurring as infill or redevelopment. The growth redistributions that shape Alternative C consist of shifting future growth from areas with typically long commutes to transit station-adjacent areas with development potential and to employment centers with existing capacity to an extent even greater that Alternative B. Any revisions contemplated within Alternative C will be identified and discussed with GCCOG and OCCOG as stated in the Memoranda of Understanding, and Framework and Guidelines for Subregional SCSs.

Additional transportation investments for this alternative over and beyond Alternative B would include:

- Additional investments in Active Transportation (Non-motorized transportation), TDMs and TSMs
- Further expanded Metrolink services
- Additional transit services on the most utilized transit corridors
- Consider additional express bus services in key corridors featuring headways less than 15 minutes
- Phased implementation of the 5 percent of major arterials to have dedicated bus lanes
- Full implementation of point-to-point bus network
- Additional targeted expansion of fixed guideway system to close gaps

ALTERNATIVE C: HOW IT DIFFERS FROM BASELINE

- Land Use – Local input and additional changes agreed to by locals as opposed to technical trends. In addition, further changes from the trend and will reflect additional shifts of population, households, and jobs across jurisdictions to achieve a better jobs/housing balance and additional growth in fixed guideway transit oriented development (TOD) districts.
- Investments – All committed county projects, plus increased preservation funding (although less than Alternative B), implementation of HOT lane network, E-W freight corridor, HSR Phase I, LOSSAN corridor rail improvement, expanded regional bicycle network, TDM investments, and increased transit funding, are included as opposed to only projects fully programmed in the 2011 FTIP
- Incremental Revenues – HOT lane revenues, Cordon Pricing, and user fee revenues

ALTERNATIVE D

This alternative is identical to Alternative A except that it takes into consideration the possible (if not likely) increase in fuel prices. Since 2002, fuel prices in American cities have increased by more than 150 percent reflecting an average annual increase of almost 10 percent.[3] During that same time period, inflation, as captured by the Consumer Price Index (CPI) grew by only 30 percent reflecting an average increase of 2.6 percent annually.[4]

Therefore this alternative reflects similar increases going forward. However, using the same trend would lead to almost unbelievable costs. For instance, net of inflation, this previous trend starting in 2002 would translate into a cost of $40 per gallon (in 2011 dollars) by 2035. Instead of assuming such an ominous scenario that would undoubtedly alter transportation drastically (a 20 gallon tank would cost $800 in today's dollars), staff recommends using an $8 per gallon cost for fuel in 2011 dollars. This would approximately correspond to fuel costs growing at twice the aforementioned rate of inflation of 2.6 percent.

This alternative is likely to reduce overall travel to some extent due to cost increases. In addition, there should be an increase in transit use, a reduction in congestion, and a reduction in pollution and GHG emissions. SCAG utilized the regional travel demand model to quantify these impacts. Though SCAG does not anticipate assuming these price increases in the 2012–2035 RTP/SCS, it does believe that the 2012–2035 RTP/SCS should discuss the ramifications of such developments and potential strategic changes to be considered if this scenario becomes reality.

ALTERNATIVE D: HOW IT DIFFERS FROM BASELINE

- Land Use – Local input as opposed to technical trend
- Investments – All committed county projects are included as opposed to only projects fully programmed in the 2011 FTIP
- Incremental Revenues – Gas tax increase to address funding gap between base revenues and committed costs
- Energy Costs – Increase in fuel costs to $8 per gallon in 2011 dollars

3 US Energy Information Agency at: http://www.eia.gov/totalenergy/data/monthly/pdf/sec9_6.pdf
4 Bureau of Labor Statistics at: ftp://ftp.bls.gov/pub/special.request/cpi/cpiai.txt

F. Methodology for Calculating SB 375 CO2 Emissions per Capita for 2012 RTP/SCS

The methodology for calculating the SB 375 CO2 emissions per capita includes the following five steps.

STEP 1. PERFORM REGIONAL TRAVEL DEMAND MODEL RUNS FOR 2005, 2020, AND 2035

SCAG's Regional Travel Demand Model represents the current state-of-the-practice regional transportation modeling tool. The Regional Travel Demand Model produces detailed link-level attributes including VMT by vehicle class, speed, and time period.

STEP 2. CREATE 2005, 2020, AND 2035 INPUT FILES TO ARB'S EMFAC2007 MODEL

EMFAC2007 is the official emissions model developed by ARB. The detailed link-level 2005, 2020, and 2035 VMT data from SCAG's Regional Travel Demand Model is converted into EMFAC2007 input files. The EMFAC2007 input file contains sub-air basin level VMT by speed and time period.

STEP 3. RUN EMFAC2007 FOR 2005, 2020, AND 2035

EMFAC2007 emissions model runs were performed for 2005, 2020, and 2035 with the input files from Step 2. The EMFAC2007 model runs produce sub-air basin level CO2 emissions by vehicle classification.

STEP 4. CALCULATE 2005, 2020, AND 2035 CO2 EMISSIONS PER CAPITA FROM REGIONAL TRAVEL DEMAND MODEL

The sub-air basin level CO2 emissions for light- and medium-duty vehicles were aggregated to the regional total CO2 emissions for 2005, 2020, and 2035. The regional total CO2 emissions are divided by the corresponding resident population to derive the 2005, 2020, and 2035 CO2 emissions per capita.

STEP 5. CALCULATE ADDITIONAL 2035 CO2 EMISSIONS REDUCTION PER CAPITA FROM NHTS (4-D) MODEL

CO2 emission reductions per capita for 2035 in addition to that derived from Regional Travel Demand Model are based on the 2035 modeling results of SCAG's NHTS Model. The NHTS Model provides additional VMT reductions not accounted for in the Regional Travel Demand Model. CO2 emission reductions associated with these VMT reductions are then calculated based on the ratio of VMT per capita reduction to CO2 emissions reduction per capita derived from Steps 1 - 4.

STEP 6. CALCULATE FINAL 2035 CO2 EMISSIONS REDUCTION PER CAPITA

The final 2035 CO2 emission reductions per capita is a sum of the 2035 CO2 emission reductions per capita from Step 4 and Step 5.

G. CEQA Exemption Criteria

SB 375 amends CEQA to add Chapter 4.2 Implementation of the Sustainable Communities Strategy, which allows for CEQA exemption for certain projects, as well as reduced CEQA analysis. Lead agencies (including local jurisdictions) maintain the discretion and will be solely responsible for determining consistency of any future project with the SCS. Cities and counties maintain their existing authority over local planning and land use decisions, including discretion in certifying the environmental review for a project, regardless of eligibility for streamlining. SCAG staff may provide a lead agency at the time of its request readily available data and documentation to help support its finding upon request. In addition to a project's consistency with the SCS, below are additional criteria for CEQA streamlining eligibility.

Types of CEQA Streamlining

CEQA EXEMPTION

A full CEQA exemption is provided for a special class of Transit Priority Project (TPP) determined to be a Sustainable Communities Project (SCP) (§21155.1 (a)). As a threshold matter, to qualify as a TPP, a project must be consistent with the general use designation, density, building intensity, and applicable policies in an approved SCS or APS. The TPP must also:

- Be at least 50 percent residential use based on area;
- Be at least 20 units/acre; and
- Be within ½ mile of a major transit stop or high-quality transit corridor included in the RTP/SCS (a high-quality transit corridor is defined as one with 15-minute frequencies during peak commute hours)

Consequently, a Sustainable Communities Project (SCP) is a TPP that is consistent with the SCS or APS and meets additional criteria including numerous land use and environmental standards, such as being 15 percent more efficient than Title 24 standards and using 25 percent less water than the regional average household. In addition, the site cannot be more than eight acres or contain more than 200 units. The proposed project must be located within ½ mile of rail transit station or ferry terminal included in RTP/SCS or ¼ mile from a high quality transit corridor. Lastly, the project must meet additional requirements for the provision of affordable housing and open space. After a public hearing where a legislative body finds that a TPP meets all the requirements, a project can be declared to be an SCP and be exempted from CEQA.

SUSTAINABLE COMMUNITIES ENVIRONMENTAL ASSESSMENT (SCEA)/LIMITED EIR

CEQA relief is provided for TPPs that incorporate all feasible mitigation measures, performance standards, or criteria set forth in the prior applicable environmental impact reports and adopted in findings as described in (§21155.2 (a), (b), and (c)). This type of streamlining applies to initial studies that meet the following criteria:

- Avoids or mitigates impacts to a level of less than significant;
- Incorporates all feasible mitigation measures, performance standards, or criteria set forth in applicable EIRs; and
- Identifies all significant/potentially significant impacts and identify adequately addressed cumulative effects in prior applicable certified EIRs

An SCEA is not required to reference, describe, or discuss growth-inducing impacts; project-specific impacts; and cumulative impacts from cars and light duty truck trips generated by the project. If a lead agency determines that a cumulative effect has been adequately addressed and mitigated, that cumulative effect shall not be treated as cumulatively considerable, and the SCEA will be reviewed under the substantial evidence standard. The lead agency is required to circulate the document for a 30-day comment period, consider all comments received, conduct a public hearing, and make findings that the project has fully mitigated impacts.

If a TPP requires an EIR, certain CEQA relief also applies for projects that incorporate all feasible mitigation measures, identify all significant and potentially significant impacts, and identify adequately addressed cumulative effects in prior applicable certified EIRs. The streamlined EIR is not required to analyze off-site alternatives to the TPP or discuss a reduced residential density alternative to address the effects of car and light duty truck trips generated by the project. Furthermore, the EIR is not required to include an analysis of growth inducing impacts or any project specific or cumulative impacts from cars and light duty truck trips generated by the project on global warming or the regional transportation network. The initial study must identify any cumulative effects that have been

adequately addressed and mitigated in prior applicable certified EIRs and these cumulative effects are not to be treated as cumulatively considerable in the EIR. As with the SCEA, the Streamlined EIR will be reviewed under the substantial evidence standard. The certification process is consistent with CEQA Guidelines Section 15090.

LIMITED ANALYSIS FOR RESIDENTIAL/MIXED-USE PROJECTS

SB 375 also provides for general CEQA streamlining for residential and mixed-use residential projects as well as TPPs pursuant to Section 21159.28 of the Public Resources Code. Projects that meet the following requirements can be eligible for streamlined CEQA review:

- A residential or mixed-use residential project (or a TPP) consistent with the designation, density, building intensity, and applicable policies specified for the project area in an accepted SCS or APS (a residential or mixed-use residential project where at least 75 percent of the total building square footage consists of residential use or a project that is a transit priority project)
- A residential or mixed-use project that incorporates the mitigation measures required by an applicable prior environmental document
- If a project meets these requirements, any exemptions, negative declarations, mitigated negative declarations, SCEA, EIR or addenda prepared for the projects shall not be required to reference, describe, or discuss:
- Growth inducing impact;
- Any project specific or cumulative impacts from cars and light duty truck trips generated by the project on global warming or the regional transportation network; and
- A reduced density alternative (EIRs only)

TRAFFIC MITIGATION MEASURES

Pursuant to Section 21155.3, a legislative body or a local jurisdiction may adopt traffic mitigation measures that would only apply to TPPs which may include requirements for the installation of traffic control improvements, street or road improvements, and contributions to road improvement or transit funds, transit passes for future residents, or other measures that will avoid or mitigate traffic impacts of TPPs. A TPP does not need to comply with any additional mitigation measures for the traffic impacts of that project on streets, highways, intersections, or mass transit if the local jurisdiction has adopted these traffic mitigation measures. The traffic mitigation measures must be updated at least every five years.

H. SCAG Regional Housing Needs Allocation (RHNA) from HCD

STATE OF CALIFORNIA -BUSINESS, TRANSPORTATION AND HOUSING AGENCY EDMUND G. BROWN JR., *Governor*

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF HOUSING POLICY DEVELOPMENT
1800 Third Street, Suite 430
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Sacramento, CA 94252-2053
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August 17, 2011

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Dear Mr. Ikhrata:

RE: Regional Housing Need Assessment Determination

This letter provides the Southern California Association of Governments (SCAG) its Regional Housing Need Assessment Determination (RHNA Determination) for the projection period beginning January 2014 and ending October 2021. Pursuant to State housing element law (Government Code Section 65584, et seq.), the Department of Housing and Community Development (Department) is required to determine SCAG's existing and projected housing need.

As you know, Chapter 728, Statutes of 2008 (SB 375) strengthened coordination of housing and transportation planning and requires Metropolitan Planning Organizations (MPOs) to develop a new sustainable communities strategy (SCS) in the regional transportation plan (RTP) to achieve greenhouse gas emission reductions and ensure the SCS accommodates the RHNA Determination. Amendments to the law included revisions to the Department's RHNA schedule and methodology and also definitions addressing the RHNA projection period, housing element planning period, and coordination with updating the RTP. For SCAG, the Department's RHNA Determination is made on the basis of partial demographic data available at this time from Census 2010 complemented by the American Community Survey (ACS) data. In assessing SCAG's regional housing need, the Department considered the critical role housing plays in developing sustainable communities and supporting employment growth.

The Department has determined a range of housing need (409,060 – 438,030 units) for the period 2014-2021. This range considered the extraordinary uncertainty regarding national, State, and local economies and housing markets. For this RHNA cycle only, the Department made an adjustment to account for abnormally high vacancies and unique market conditions due to prolonged recessionary conditions, high unemployment, and unprecedented foreclosures.

The RHNA low range (409,060) reflects the Department's acceptance of SCAG's projections and assumptions as the minimum need after evaluating the reasonableness of data, assumptions and support documentation submitted by SCAG. This figure considers household growth for the projection period derived from using the 2005-2007 ACS household formation rates and includes an adjustment for projected household growth on tribal land, and for existing high unit vacancies resulting from the unusual turmoil in housing markets. The RHNA high range (438,030) considered SCAG's strong socio-economic assets and demographic trends to grow, become more diverse, and generate increased housing demand, particularly among older age groups.

SCAG's plan to distribute its RHNA must equal or exceed the minimum of the range shown in Attachment 1 for the Total and for Very-Low, Low, and Moderate income categories. The Department encourages planning for housing need above the minimum of the range, in which case the income category percentages applicable to very-low, low, and moderate households remain the same. The regional housing need to be allocated to each jurisdiction represents the minimum amount of residential development capacity to zone for and is not to be used within local general plans as the maximum amount of residential development to plan for or approve.

In assessing the RHNA for the SCAG region, the Department applied methodology and assumptions that considered all of the factors specified in Government Code Section 65584.01(c)(1). In addition, the Department consulted with SCAG and Department of Finance (DOF) staff as required by statute. A meeting with Mary Heim, DOF Chief Demographer, occurred in late February 2011 and was attended by SCAG representatives Frank Wen, Manager, Simon Choi, Chief Demographer, and Joe Carreras, Housing Project Manager. Subsequent consultation meetings, as well as correspondence, included Doug Williford, Deputy Executive Director, Huasha Liu, Director of Planning, and Joann Africa, Legal Counsel. Also consulted was Stephen Levy, Director for the Center for Continuing Study of the California Economy (CCSCE), who prepared employment, population, and household projections for SCAG.

The data, assumptions, and descriptive information provided by SCAG and CCSCE, included DOF's population estimates for 2011, American Community Survey household formation rates controlled for the 2010 Census data, and SCAG population projections. Information provided and/or discussed also included the region's relationship between jobs and housing, including information about inter- and intra-regional commute patterns, and assumptions about the rate with which existing "for sale" and "for rent" housing units will be absorbed by the beginning of the projection period in 2014.

The Attachments to this letter describe the RHNA methodology used by the Department and the income category distribution to be used by SCAG in allocating among all local governments within the region at least the minimum total RHNA and minimum amounts for very-low, low, and moderate income categories. The projection period (also described in the Attachments) was determined pursuant to Government Code Section 65588(e)(6), to coordinate housing and transportation planning based on notification from SCAG of its *estimated* RTP adoption date of April 5, 2012. As you know, if the actual RTP adoption date significantly differs from the estimated date, the RHNA determination and projection period will not change, however the housing element due date, and implicitly the planning period, would change.

Mr. Hasan Ikhrata
Page 3

SCAG is responsible for developing a RHNA distribution methodology and adopting a RHNA Plan for the period beginning January 1, 2014 and ending October 1, 2021. Housing element law (Section 65584, et.seq.) requires SCAG's methodology and RHNA Plan be consistent with the following objectives:

(1) increasing the housing supply and mix of housing types, tenure, and affordability;
(2) promoting infill development and socioeconomic equity, protecting environmental and agricultural resources, and encouraging efficient development patterns;
(3) promoting an improved intraregional relationship between jobs and housing;
(4) balancing the distribution of households by income category.

Pursuant to Government Code Section 65584.05(h), within three days of adopting the Plan, SCAG is required to submit its RHNA Plan to the Department for approval. Once the Department has approved the RHNA Plan, local governments must be notified of their share of the regional housing need, by income category, for use in updating the housing element for the *planning* period, anticipated to be from October 2013 until October 2021. In updating their housing elements, local governments may credit units permitted since the January 1, 2014 start date of the RHNA projection period. The element must describe the methodology for crediting units to different income categories such as based on the actual or projected sale price or rent level.

The Department commends SCAG for its leadership and efforts in fulfilling its important role in advancing the State's housing, transportation, and environmental goals. SCAG's successful Compass Blueprint has played a tremendous role in leading local organizations to improve community planning to expand housing and transportation choices.

The Department especially thanks Doug Williford, Huasha Liu, Frank Wen, and Simon Choi for their efforts and assistance. The Department looks forward to its continued partnership with SCAG and its member jurisdictions and assisting SCAG in its planning efforts to accommodate the region's share of housing need. If the Department can provide any assistance, or answer any questions, please contact me or Anda Draghici, Senior Housing Policy Specialist, at (916) 445-4728.

Sincerely,

Glen A. Campora

Glen A. Campora
Assistant Deputy Director

Enclosures

ATTACHMENT 1

HCD REGIONAL HOUSING NEED DETERMINATION: SCAG

Projection Period: January 1, 2014 through October 1, 2021

Income Category	Percentage	Range of Housing Unit Need (Rounded) (1)		(2)
Very-Low	24.4%	99,810	-	106,880
Low	15.8%	64,630	-	69,210
Moderate	17.5%	71,590	-	76,650
Above-Moderate	42.3%	173,030	-	185,290
Total	**100.0%**	**409,060**	-	**438,030**

[1] The 409,060 low end of the range (see Attachment 2) reflects SCAG's projected minimum housing need (rounded), using 2005-2007 household formation rates from the American Community Survey (ACS) controlled for 2010 census household population. This column represents the rounded minimum housing need that SCAG's RHNA Plan must address in total and the minimum percentage and amount for very-low, low, and moderate income categories.

[2] The 438,030 high end of the range (see Attachment 3) reflects HCD's determined higher housing need (rounded), using the 2005-2007 ACS household formation rates controlled for 2010 Census household population and applied to SCAG's population projections. In planning for RHNA above the low range, income category percentages for very-low, low, and moderate income households remain the same.

[3] The income category percentages reflect the minimum percentage to apply against the total RHNA chosen by SCAG (at or above the minimum range) in determining housing need for very-low, low, and moderate income households.

[4] For this RHNA cycle only (due to unique conditions not expected to recur to impact future RHNA cycles), two downward adjustments were made: (1) projected households were adjusted (-2,810) for household growth on tribal land as tribal housing data had not been requested by Department of Finance in its annual survey to local jurisdictions regarding housing unit change, and (2) housing need was adjusted by -75,390 units at the low range (Attachment 2) and by -25,130 units at the high range (Attachment 3) to account for different absorption estimates for unprecedented high vacancies in existing stock due to extraordinary conditions including high foreclosures and recession uncertainties.

Notes:

Housing Need Determination

Refer to Attachments 2 and 3 for a description and explanation of methodology.

The Department and SCAG staff acknowledge important differences between the "projection" methodology specified in statute to determine housing need and the methodology SCAG uses in developing its Integrated Forecast for purposes of its Regional Transportation Plan and Sustainable Community Strategy. The statutory planning objective of the RHNA is to accommodate housing "capacity" for projected household growth.

Income Categories

Each category is defined by Health and Safety Code (Section 50093, et seq.). Percentages are derived from Census-reported household income brackets, from the 2005-2009 American Community Survey's number of households by income over 12 months, by County. Housing unit need under each income category is derived from multiplying the portion of households per income category against the total RHNA determination.

ATTACHMENT 2

HCD REGIONAL HOUSING NEED DETERMINATION (LOW RANGE): SCAG

	HCD Determined Population, Households, & New Housing Need: January 1, 2014-October 1, 2021 (7.75 years)				
1	**Population: October 1, 2021** (SCAG Projection)				**19,730,980**
2	*less: Group Quarters Population (SCAG's estimate)*				-347,750
3	**Household (HH) Population**				**19,383,230**
	Household Formation Groups	**HH Population**	***HH Formation or Headship Rate (ACS)***	**Households**	
	Age Groups (DOF)	**19,383,230**		**6,516,345**	
	Under 15	4,103,915	-	-	
	15 - 24 years	2,625,930	8.31%	218,223	
	25 - 34 years	2,825,093	38.62%	1,091,002	
	35 - 44 years	2,494,520	49.16%	1,226,416	
	45 - 54 years	2,380,969	52.39%	1,247,429	
	55 - 64 years	2,236,911	53.97%	1,207,223	
	65 and older	2,715,892	56.19%	1,526,052	
4	**Projected Households**				**6,516,345**
5	*less: Households at Beginning of Projection Period (January 1, 2014, interpolated)*				*-6,044,940*
6	*less: Household Growth on Tribal Lands*				*-2,810*
7	**Household Growth: 7.75 Year Projection Period (New Housing Unit Need)**				**468,595**
8	**Vacancy Allowance**	Owner	Renter	Total	
	Tenure Percentage	54.39%	45.61%		
	HH Growth (New Unit Need)	254,869	213,726	468,595	
	Vacancy Rate (SCAG)	1.50%	4.50%		
	Vacancy Allowance	3,825	9,620	13,445	13,445
9	**Replacement Allowance (minimum)**	0.50%		482,040	2,410
10	*less: Adjustment for Absorption of Existing Excess Vacant Units*				
	Estimate 10% Absorbed, 90% Not Absorbed by 2014	Effective Vacant Units	Healthy Market Units	Differential	
	Derived (2010 Census, HH Growth, & Vacancy Rate)	(252,023)	175,240	-76,783	
	Total 2011 Housing Stock	6,348,741			
	Existing Vacant Unit (Others) Adjustment	1.39%	1.28%		
	Total Adjusted Existing Vacant Units (Others)	(88,247)	81,264	-6,984	
	Estimated Units (Others) Not Absorbed by 2014	90%		-83,766	-75,390
	FINAL REGIONAL HOUSING NEED DETERMINATION (Low Range of New Housing Unit Need)				**409,060**

Explanation and Data Sources

1. **Population:** Population reflects SCAG's October 2021 projection. Pursuant to Government Code 65584.01(b), SCAG's 2021 population projection was compared to the 2021 population derived from Department of Finance (DOF) 2011 Interim Projections P3 for 2020 and DOF's E5 estimate for 2011. Based on SCAG's population projection being within 3% of the DOF Population Interim projections and consultation with SCAG, SCAG's population projection was used in determining housing need for the region. As such, this number reflects SCAG's October 2021 population projection.

2. **Group Quarter Population:** Figure is SCAG's estimate of persons residing in group home / institution / military / dormitory quarters that is 1.76% of total population (DOF estimate for 2010 was 1.78%) in which proportion is maintained constant throughout the projection period. As this population doesn't constitute a "household" population generating demand for a housing unit, the group quarter population is excluded from the calculation of the household population, and is not included in the housing need.

3. **Household (HH) Population:** The population projected to reside in housing units after subtracting the group quarter population from total projected population.

ATTACHMENT 2

HCD REGIONAL HOUSING NEED DETERMINATION (LOW RANGE): SCAG (continued)

4. **Projected Households (HHs):** Calculated by applying (to the 2021 HH population) SCAG's HH formation rates from DOF rates per 2005-2007 American Community Survey (ACS) controlled for the 2010 Census household population. HH formation rates were evaluated for reasonableness in conjunction with ACS HH formation rates for the region provided by DOF and with the vacancy assumptions as described below.

5. **Households at Beginning of Projection Period:** For the first time since inception of RHNA, the baseline number of households at the beginning of the projection period (January 2014) must be projected, as a direct effect of amendment to Section 65588(e)(6), specifying the new projection period to start on either June 30 or December 31 whichever date most closely precedes the end of the current housing element period (June 30, 2014 for SCAG). As such, the January 1, 2014 household number was calculated as an interpolation between the DOF E5 Estimate for 2011 and the projected 2021 number of households.

6. **Household Growth on Tribal Land:** For this RHNA cycle only, an adjustment (-2,810) was made for household growth on tribal land as tribal housing data had not been requested by Department of Finance in its annual survey to local jurisdictions regarding housing unit change. Calculated based on 2000 and 2010 Census and SCAG's Draft 2012 RTP Growth forecast.

7. **Household (HH) Growth:** This figure reflects projected HH growth and need for new units.

8. **Vacancy Allowance:** An allowance (unit increase) is made to facilitate availability and mobility among owner and renter units. Owner/Renter % is based on Census 2010 data. A smaller rate is applied to owner units due to less mobility than for renter households. Information from a variety of authoritative sources supports an acceptable range of 1 to 4% for owner units and 4 to 8% for renter units depending on market conditions.

9. **Replacement Allowance:** Rate (0.5%) reflects housing losses that localities annually reported to DOF each January for years 2000-2010, or 0.5%, whichever is higher.

10. **Adjustment for Absorption of Existing Excess Vacant Units:** For this RHNA cycle only (due to extraordinary uncertainty regarding conditions impacting the economy and housing market not expected to similarly impact future RHNA cycles), a new 1-time adjustment was made to account for unprecedented high vacancies in existing stock, due to unusual conditions including high foreclosures and recession uncertainties. A slow absorption rate of 10% of existing excess vacant units is assumed to occur in shrinking current excess vacant units before the start of 2014 RHNA projection period resulting in applying a 90% adjustment to account for units not absorbed that decreases new housing need by -75,390 units. Existing housing stock consists of two components: (1) housing units for sale and rent in existing housing stock that are above the housing units required to maintain the healthy market condition, calculated as the number
of units in housing stock (for sale+for rent+sold, not occupied+rented, not occupied + occupied units), (2) housing units in the "vacant units others" category of existing housing stock above the simple average of 1.28% calculated based on Census data from 1980 to 2010. To evaluate the reasonableness of vacancy adjustments proposed by SCAG to account for the unprecedented economic downturn, the Department used 2010 Census Demographic profile data (DP-1) and desirable "normal" vacancy rates by tenure, in conjunction with the region's household growth and proposed household formation rates. The proposed vacancy adjustment is limited to not exceed the differential between the 2010 Census vacant units and the healthy market vacant units rate associated with the region's annual household growth. As the adjustment was below the differential, the vacancy adjustment was applied in calculating the low RHNA range.

RHNA Projection Period January 1, 2014 to October 1, 2021: Per SB 375, the start of the *projection* period (in effect January 1, 2014) was determined pursuant to GC 65588(e)(6), which requires the new projection period to start on June 30 or December 31 whichever date most closely precedes the end of the current housing element period, which for SCAG region is June 30, 2014. The end of the projection period was determined pursuant to GC 65588(e)(5 to be the end of the housing element planning period**.** *Note: For projection purposes the end of the projection period is rounded to the nearest start/end of the month.*

Housing Element Planning Period October 1, 2013 to October 1, 2021: Per SB 375, the start of the *planning* period was determined pursuant to GC 65588(e)(5),18 months from the estimated adoption date of the SCAG's Regional Transportation Plan per SCAG's notice to the Department (April 5, 2012) with the date rounded to the nearest start/end of month for projection purposes. The end of the planning period was calculated pursuant to GC 65588(e)(3)(A), 18 months after the adoption of the second RTP, provided that it is not later than eight years from the adoption of the previous housing element. If the actual RTP adoption date differs from the estimated date, the RHNA determination and the projection period will not change, however the housing element due date, and implicitly, the planning period would change.

ATTACHMENT 3

HCD REGIONAL HOUSING NEED DETERMINATION (HIGH RANGE): SCAG

	HCD Determined Population, Households, & New Housing Need: January 1, 2014-October 1, 2021 (7.75 years)				
1	**Population: October 1, 2021** (SCAG Projection)				**19,730,980**
2	*less: Group Quarters Population (SCAG's estimate)*				-347,750
3	**Household (HH) Population**				**19,383,230**
	Household Formation Groups	**HH Population**	***HH Formation or Headship Rate (ACS)***	**Households**	
	Age Groups (DOF)	**19,383,230**		**6,487,790**	
	Under 15	4,103,915	-	-	
	15 - 24 years	2,625,930	7.42%	194,964	
	25 - 34 years	2,825,093	37.48%	1,058,923	
	35 - 44 years	2,494,520	49.52%	1,235,224	
	45 - 54 years	2,380,969	52.74%	1,255,834	
	55 - 64 years	2,236,911	54.03%	1,208,550	
	65 and older	2,715,892	56.49%	1,534,295	
4	**Projected Households**				**6,487,790**
5	*less: Households at Beginning of Projection Period (January 1, 2014, interpolated)*				-6,036,970
6	*less: Household Growth on Tribal Lands*				-2,810
7	**Household Growth: 7.75 Year Projection Period (New Housing Unit Need)**				**448,010**
8	**Vacancy Allowance**	Owner	Renter	Total	
	Tenure Percentage	54.39%	45.61%		
	HH Growth (New Unit Need)	243,673	204,337	448,010	
	Vacancy Rate (SCAG)	1.50%	4.50%		
	Vacancy Allowance	3,655	9,195	12,850	12,850
9	**Replacement Allowance (minimum)**	0.50%		460,860	2,300
10	*less: Adjustment for Absorption of Existing Excess Vacant Units*				
	Estimate 70% Absorbed, 30% Not Absorbed by 2014	Effective Vacant Units	Healthy Market Units	Differential	
	Derived (2010 Census, HH Growth, & Vacancy Rate)	(252,023)	175,240	-76,783	
	Total 2011 Housing Stock	6,348,741			
	Existing Vacant Unit (Others) Adjustment	1.39%	1.28%		
	Total Adjusted Existing Vacant Units (Others)	(88,247)	81,264	-6,984	
	Estimated Units (Others) Not Absorbed by 2014	30%		-83,766	-25,130
	FINAL REGIONAL HOUSING NEED DETERMINATION (High Range of New Housing Unit Need)				**438,030**

Explanation and Data Sources

1. **Population:** Pursuant to Government Code Section 65584.01(b), SCAG's 2021 population projection was compared to the 2021 population derived from Department of Finance (DOF) 2011 Interim Projections P3 for 2020 and DOF's E5 estimate for 2011. Based on SCAG's population projection being within 3% of the DOF Population Interim projections and consultation with SCAG, SCAG's population projection was used in determining housing need for the region. As such, this number reflects SCAG's October 2021 population projection.

2. **Group Quarter Population:** Figure is SCAG's estimate of persons residing in group home / institution / military / dormitory quarters that is 1.76% of total population (DOF estimate for 2010 was 1.71%) in which proportion is maintained constant throughout the projection period. As this population doesn't constitute a "household" population generating demand for a housing unit, the group quarter population is excluded from the calculation of the household population and is not included in housing need.

3. **Household (HH) Population:** The portion of population projected to reside in housing units after subtracting the group quarter population from total projected population.

ATTACHMENT 3

HCD REGIONAL HOUSING NEED DETERMINATION (HIGH RANGE): SCAG (continued)

4. **Projected 2021 Households (HHs):** Projected HHs are derived by applying (to 2021 HH population) the regional 2005-2009 American Community Survey (ACS) household formation rates as provided by DOF controlled for the 2010 household population. HH formation or headship rates reflect the propensity of different population groups (age, racial and ethnic) to form households.

5. **Households at Beginning of Projection Period:** For the first time since inception of RHNA, the baseline number of households at the beginning of the projection period (January 2014) must be projected, as a direct effect of amendment to Section 65588(e)(6) specifying the new projection period to start on either June 30 or December 31 whichever date most closely precedes the end of the current housing element period (June 30, 2014 for SCAG). As such, the January 1, 2014 household number was calculated as an interpolation between the DOF E5 Estimate for 2011 and the projected 2021 number of households.

6. **Household Growth on Tribal Land:** For this RHNA cycle only, an adjustment (-2,810) was made for household growth on tribal land as tribal housing data had not been requested by Department of Finance in its annual survey to local jurisdictions regarding housing unit change. Calculated based on 2000 and 2010 Census and SCAG's Draft 2012 RTP Growth Forecast.

7. **Household (HH) Growth:** This figure reflects projected HH growth and need for new units.

8. **Vacancy Allowance:** An allowance (unit increase) is made to facilitate availability and mobility among owner and renter units. Owner/Renter % is based on Census 2010 data. A smaller rate is applied to owner units due to less frequent mobility than for renter households. Information from a variety of authoritative sources supports an acceptable range of 1 to 4% for owner units and 4 to 8% for renter units depending on market conditions.

9. **Replacement Allowance:** Rate (0.5%) reflects the housing losses that localities annually reported to DOF each January for years 2000-2010, or 0.5%, whichever is higher.

10. **Adjustment for Absorption of Existing Excess Vacant Units:** For this RHNA cycle only (due to extraordinary uncertainty regarding conditions impacting the economy and housing market not expected to similarly impact future RHNA cycles), a new 1-time adjustment was made to account for unprecedented high vacancies in existing stock due to unusual conditions including high foreclosures and recession uncertainties. A fast absorption rate of 70% of existing excess vacant units is assumed to occur in shrinking current excess vacant units before start of 2014 RHNA projection period resulting in applying a 30% adjustment to account for units not absorbed that decreases new housing need by -25,130 units. Existing housing stock consists of two components: (1) housing units for sale and rent in existing housing stock that are above the housing units required to maintain the healthy market condition, calculated as the number of units in housing stock (for sale+for rent+sold, not occupied+rented, not occupied + occupied units), (2) housing units in the "vacant units others" category of existing housing stock above the simple average of 1.28% calculated based on Census data from 1980 to 2010. To evaluate the reasonableness of vacancy adjustments proposed by SCAG to account for the unprecedented economic downturn, the Department used 2010 Census Demographic profile data (DP-1) and desirable "normal" vacancy rates by tenure, in conjunction with the region's household growth and proposed household formation rates. The proposed vacancy adjustment is limited to not exceed the differential between the 2010 Census vacant units and the healthy market vacant units rate associated with the region's annual household growth. As the adjustment was below the differential, the adjustment was applied in calculating the high RHNA range.

RHNA Projection Period January 1, 2014 to October 1, 2021: Per SB 375, the start of the *projection* period (in effect January 1, 2014) was determined pursuant to GC 65588(e)(6), which requires the new projection period to start on June 30 or December 31 that most closely precedes the end of the current housing element period, which for SCAG region is June 30, 2014. The end of the projection period was determined pursuant to GC 65588(e)(5 to be the end of the housing element planning period. *Note: For projection purposes the end of the projection period is rounded to the nearest start/end of the month.*

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I. SCAG RHNA Allocation to Jurisdictions and Related Reports

Final RHNA Allocation to Jurisdictions is anticipated for release in October 2012.

J. Compass Blueprint Program

The Southern California Association of Governments (SCAG) is the largest regional planning agency in the country; encompassing over 38,000 square miles, and serving a population of 19 million people. SCAG Compass Blueprint policies reflect deep engagement between SCAG, as the regional MPO and regional planning agency, and its member jurisdictions and agencies. The Compass Blueprint Growth Vision for the region is based on four guiding principles: mobility, livability, prosperity, and sustainability.

Compass Blueprint Demonstration Projects

SCAG offers direct funding of innovative planning initiatives for member agencies through the Compass Blueprint Demonstration Projects. SCAG manages all of the funding and administrative duties, enabling the municipalities to craft forward-thinking planning efforts.

Since 2005, the program has grown rapidly from nine projects in the first year to 49 projects funded for the 2011-2012 fiscal year. Projects have been approved or are currently underway in over 50 percent of the cities in the SCAG region. In addition to local municipalities, SCAG has worked in collaboration with county planning departments, County Transportation Commissions, as well as sub-regional Councils of Governments.

TOD & Station Area Planning

One of the earliest Compass Blueprint Demonstration Projects comprised of a collection of discrete projects to assist the Western Riverside Council of Governments, a regional partner, in studying the planned Metrolink Perris extension transportation corridors. SCAG provided WRCOG with station area planning around existing and planned Metrolink stations, and a Bus Transit Station in the City of Temecula. SCAG has continued to work with regional Councils of Governments, and other coalitions of cities to provide regional context, and corridor level planning assistance.

Since then, SCAG has continued to assist cities, transportation agencies, and coalitions of agencies in planning for higher density, mixed-use, and transit supportive land uses within station areas. An important evolution in planning for transit-supportive activity has been to expand the definition of Transit Oriented Development (TOD). Originally, TOD referred to building higher density housing adjacent to stations. However, due to the diversity of characteristics of stations in the region, from populated urban centers to suburban sending stations, regional planners are now focusing on holistic visions for the entire ½ mile radius in and around the station. In addition planners are focusing on employment and light industrial around stations, as employment preservation and office TOD become more important in the region.

WRCOG METROLINK PERRIS LINE EXTENSION VISION PLANNING

Corona Metrolink Station



This study was conducted on the Corona Metrolink Station in order to guide the transition of the area from a stand-alone train station to a vibrant transit village.

Hemet Metrolink Station Area Plan



This Demonstration Project enabled City of Hemet to envision a plan for a new transit village that would connect new development to the regional transit system.

March AFB/Moreno Valley Metrolink Station Concepts



The City of Moreno Valley and the March Air Force Base redevelopment authority teamed up with the Western Riverside Council of Governments and Compass Blueprint to plan for integrated development around their new Metrolink station.

Riverside Metrolink Station Area Plan



The City of Riverside, the Western Riverside Council of Governments and Compass Blueprint teamed up to plan a development vision around the existing Downtown Riverside Metrolink Station area.

Perris Metrolink Station Area Plan



The Perris Station Demonstration Project analyzed the existing conditions and the development potential of the project site.

Temecula Transit Station



The City of Temecula, the Western Riverside Council of Governments and Compass Blueprint teamed up to look at development options and opportunities around a proposed Bus transit station.

TRANSIT ORIENTED DESIGN & STATION AREA PLANNING

South Pasadena Mission Street Gold Line Station



The Gold Line light rail came to South Pasadena in 2003. This station represents a major public investment, and rail station areas are of strategic importance to the region. This feasibility study serves as a model for local communities to calculate return on investment and transit-conducive design in conjunction.

Montclair North Montclair Parking Analysis



The City of Montclair worked with Compass Blueprint to analyze key development and logistical issues for the North Montclair Specific Plan, including, shared and reduced parking requirements.

San Bernardino E Street Station Plan



A New Public Transit station being built in downtown San Bernardino opens up the opportunity to create new, retail and mixed-use development.

SANBAG Transportation Land Use Integration



The San Bernardino Associated Governments (SANBAG) worked with six cities to identify sites near potential transit station locations for transit-oriented development (TOD). This study represented an innovative approach to TOD by preparing TOD proformas to better plan for the type of density that could be expected in a traditionally dispersed area.

Los Angeles Expo Light Rail Station Areas

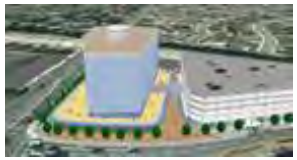


In 2007 The City of Los Angeles Planning Department and Compass Blueprint prepared a vision report for the proposed station areas in order to visualize TOD, terms of scale and mass of new transit supportive development.

NORTH ORANGE COUNTY CITIES COALITION PROJECTS

This next set of projects, completed in 2008, represented an important innovation in Compass Blueprint Demonstration projects. Like the earlier WRCOG Metrolink stations, these were all part of one demonstration. These four cities established an informal coalition in order to pursue OCTA Go Local, transportation funding. They leveraged this relationship and secured funding for four separate, different approaches to what TOD means at the local level. Examining Industrial, arterial corridor and station placement.

Brea Bus Rapid Transit Concepts



This project received grant funding to explore opportunities for transit-oriented development surrounding proposed Bus Rapid Transit (BRT) stations near the Brea Mall.

Fullerton Southeast Industrial Area



This project explored opportunities for transit-oriented development around an emerging high-capacity transit system in the Southeast Industrial Area (SIA) in the City of Fullerton.

Placentia Metrolink Concepts



Compass Blueprint provided the City of Placentia with urban design concepts and strategies for a proposed Metrolink station in the Placita Santa Fe district.

La Habra Boulevard Corridor



This Demonstration Project provided design concepts and policy recommendations to improve the economic performance, functionality, and identity of the La Habra Boulevard corridor.

TOD DISTRICTS & STATION AREA PLANNING

Azusa Citrus Station TOD Concepts



The intent of this demonstration project was to examine the potential market demand for commercial development around the Citrus Station and identify the most appropriate mix of uses.

Culver City Washington/National Catalytic Projects



The project assisted Culver City to analyze a study area that includes specific catalytic project sites and commercial corridors adjacent to the future Exposition Light Rail Transit Line.

Los Angeles La Cienega / Jefferson Station Area TOD



In 2007, Compass Blueprint partnered with the City of Los Angeles to develop the first ever comprehensive Transit-Oriented District (TOD) plan for the City.

Laguna Niguel Gateway Specific Plan



Compass Blueprint assisted the City of Laguna Niguel with an update to the Specific Plan for the area around Laguna Niguel's Metrolink station.

Long Beach Boulevard Corridor Study



Long Beach has a long-term goal of developing more mixed-use and transit oriented neighborhoods in growing areas of the City.

Fontana Downtown Overlay District



This project conducted an opportunities analysis for TOD redevelopment in the Downtown Overlay District to capitalize on Downtown Fontana's Metrolink commuter rail station.

Los Angeles Tarzana Crossing



This Demonstration Project provided site analysis, open space and connectivity design opportunities, development prototypes, and parking and market analysis to create a transit oriented development district.

Santa Clarita North Newhall Specific Plan



This project will assist in developing a Specific Plan focused on transit-oriented and mixed-use development, walkable and bike-friendly land use, and economic and redevelopment opportunities.

Los Angeles Sustainable Transit Communities



This report describes and rates the key principles for creating successful Sustainable Transit Communities (STCs) in the City of Los Angeles.

SR-60 Coalition of Cities Gold Line Corridor Study



The SR-60 Coalition, made up of the cities of Monterey Park, Montebello, Rosemead, El Monte, South El Monte, and the City of Industry, initiated a study of potential freeway adjacent TOD Districts.

General Land Use & Suburban Retrofits

The following projects include early-stage vision plans, as well as land use plans in process of adoption, that reflect a desire on the part of these communities to facilitate density, encourage infill, and link to nearby transit networks. The following projects are grouped into four broad categories: Vision Studies & Scenario Planning, Land Use Studies & Plans, Visualizations & Graphical Tools, and Economic Development & Feasibility Studies. In this section, Vision Studies & Scenario Planning refer to public outreach efforts, and design charrettes intended to foster a publicly supported vision for local and sub-regional communities. They often arrive at policy recommendations to be taken forward for further study and official adoption. Land Use Studies & Plans refer to official planning documents such as Specific Plans, overlay districts, and other planning and zoning tools. These plans are generally adopted by local elected officials, and may require environmental compliance provided by the local agency.

This section also contains innovative uses of photo-simulations and graphical visualization tools. Compass Blueprint projects usually produce visualizations. The selected projects in this section highlight uniquely innovative approaches to using visualizations. These tools can be used to provide laypersons with a more understandable picture of what these plans may produce. However, these visualizations are more than pretty pictures, they serve to test concepts, and give local leaders a sense of design needs. Finally this section contains economic development and economic feasibility studies aimed at further testing and refining communities' abilities to realize their visions.

VISION STUDIES AND SCENARIO PLANNING

Inland Empire ULI Visioning Workshop



In 2006, the Western Riverside Council of Governments, the Urban Land Institute and Compass Blueprint held a visioning workshop and Inland Empire residents came together to share a vision of future growth.

Compton General Plan Update and Small-Area Visioning



The Compass Blueprint Program facilitated a visioning process for the City of Compton that engaged residents, community leaders and other stakeholders to outline priorities for the City's future. The study identified community vetted funding priority areas in the city.

Coachella Sphere of Influence Sustainability Project



Once a small farming town, Coachella is currently the sixth fastest growing city in California. This study studied the implications of various settlement patterns for areas that will eventually be incorporated into the city. The study helped identify sustainable connectivity needs in the study area.

Los Angeles County Florence Firestone (Phase 1)



In 2009, hundreds of residents, businesses, and other stakeholders in Florence-Firestone came together to develop a comprehensive, long-term vision for their community.

WRCOG I-15 Smart Growth Concept Map



This Compass Blueprint project developed land use and transit planning factors that support smart growth opportunities centered on the I-15 and I-215 freeway corridors. The study produced a set of land use characteristics and related them to relevant transit services and investments.

Desert Hot Springs Citywest Visioning Plan



The project provided a plan to develop the CityWest Area within Desert Hot Springs to responsibly accommodate anticipated growth in both housing and employment.

Los Angeles County Vision Lennox



This project created a Vision Plan for the unincorporated community of Lennox to help guide the changes and improvements sought by the people who live and work in the area.

Ventura County Compact for a Sustainable Ventura County (Phase 1 & 2)



Ventura County is a region that has always valued preserving its natural heritage and maintaining livability. Residents, community leaders, local officials, and public agency staff met and developed a coherent vision of sustainable growth for the region.

SBCCOG Shared Vision for a Sustainable South Bay



The purpose of this project was to assist the SBCCOG with a series of workshops to refine, present and build local government support for a “Sustainable South Bay Strategy.” There are many components to sustainability, and the process of developing the vision was based on the values and needs of the unique area. The resulting Neighborhood Oriented Design model is one relevant to 2nd generation suburbs based on the extended arterial grid.

Alhambra Vision 2035



This current project will provide the City of Alhambra with a shared vision that will help guide the city’s future growth and related policies.

LAND USE STUDIES, PLANS AND CODES

Ontario New Model Colony



This demonstration project analyzed several future scenarios for the New Model Colony (NMC) General Plan Amendment.

Burbank Downtown Development Standards



This project evaluated the potential for revised zoning to accommodate residential, mixed-use, and live-work development in commercial and light industrial areas in Downtown Burbank and along two corridors in the downtown.

Rolling Hills Estates Peninsula Village Specific Plan



Through the demonstration project, a study was done to test the application, feasibility and appropriateness of the proposed Peninsula Village Overlay Zone.

Chino Focus Area Revitalization Strategy



This project quantified the feasibility of redeveloping six opportunity sites under the envisioned mixed-use development standards provided in the current General Plan update.

Holtville Economic Development and Master Plan



Compass Blueprint worked with the City of Holtville to assess the historic downtown district's economic viability and develop a master plan to guide the future of Holtville and its downtown.

Banning Paseo San Gorgonio



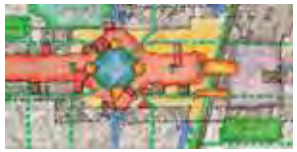
This Demonstration Project provided technical planning services for codifying and implementing the policies in the Paseo San Gorgonio Specific Plan and the City's General Plan policies.

Coachella Pueblo Viejo Revitalization



This Coachella Pueblo Viejo project assisted in the revitalization of the "heart" of the City's downtown in concert with the city-wide General Plan update underway. The city used the results to secure and implement downtown façade renovation program funding.

Brawley Downtown Overlay District



This Demonstration Project enabled the development of a Downtown Brawley Specific Plan that evaluates development options in the City's new Downtown Overlay District.

Los Angeles County Florence Firestone (Phase 2)



The strategies identified in the Florence Firestone Vision Study process were further developed to create the Florence-Firestone Community Plan which will guide the future development of the area.

Grand Terrace Business Corridor Specific Plan



This Demonstration Project served to update the Barton Road Specific Plan with a focus on economic development in order to reduce congestion and improve the jobs-housing balance in south western San Bernardino.

Redlands Transferring Development from Greenfields to Infill



The City of Redlands is faced with a series of choices about how it will grow in terms of population, housing and employment.

Los Angeles County Antelope Valley Area Plan Update



This Demonstration Project assisted in the development of a rural smart growth and preservation strategy through new land use designations in the Antelope Valley Area Plan update.

Bellflower Alondra Mixed-Use Overlay Zone



The City of Bellflower developed a clear vision and set of development standards aimed at attracting and managing growth in this underserved area adjacent to the downtown area and the West Santa Ana Branch transit station.

VISUALIZATIONS AND GRAPHICAL TOOLS

El Centro Project SHAPE Downtown



El Centro, a fast growing town near the Mexican border and the hub of the agriculturally rich Imperial Valley, prepared a plan to draw investment into its historic downtown. Using dramatic visualizations to envision a much higher density than has been traditional, the city discovered wide acceptance for the images in the community.

Fullerton Downtown 3D Model & Database



This Demonstration Project provided funding for the creation of a three-dimensional digital model and database of the Downtown Fullerton area. The three dimensional model will help the city with a wide range of analyses and scenario planning for the burgeoning downtown.

San Gabriel Visualizations and Tipping Point Analysis



Compass Blueprint provided the City of San Gabriel with an analysis of the financial feasibility of various development scenarios at a site in the City's mission District. The project produced high quality visualizations of the kind of development that would be feasible and desirable.

Lake Elsinore Key to Downtown Design Guidelines



The City of Lake Elsinore to created design standards and visualization products for the planned development of a new Civic Center and focal point for a larger downtown revitalization master plan.

Calexico Gateway to Mexico



The Calexico demonstration project helped the City to prepare a Master Plan that assesses the historic downtown district's economic viability. As in El Centro, the visualization helped residents imagine a much denser historic core in keeping with existing architectural styles.

ECONOMIC DEVELOPMENT AND FEASIBILITY STUDIES

Upland Downtown Infill Study



The Downtown Upland Infill Study provided Tipping Point/ROI analysis, visualizations, site planning and parking analysis focused on two city-owned downtown parking lots, in close proximity to established civic uses and the Metrolink station.

Los Angeles HACLA Jordan Downs Specific Plan



This project assisted in the development of the Jordan Downs Specific Plan, and provided sustainability strategies for green building and GHG reductions.

Fillmore Business Park Feasibility Study



Compass Blueprint worked with the City of Fillmore to analyze the financial feasibility of a potential business park proposed to achieve more balanced employment and housing opportunities.

Upland College Heights Economic Development Strategy



The City of Upland is developing a sustainable economic development strategy for this recently fully incorporated area that will address job and industry creation awareness in the sub-regional market.

Corona Downtown Redevelopment



This Demonstration Project analyzed land use conditions and the market feasibility for specific redevelopment project sites within Downtown Corona.

El Monte Economic Development Plan



This Demonstration Project created a plan that enables the City to foster compact development, enabling a more synergistic approach to the future of El Monte.

Transportation Network Integration

Since the beginning of the Demonstration Program in 2005, integrating land use and the transportation network has been an important aspect of planning according the Compass Blueprint principles of Mobility, Livability, Sustainability, and Prosperity. As was noted above, the definition of Transit Oriented Development has expanded to include the wider community beyond the station. Local cities and agency have become concerned with improving livability and reducing vehicle miles traveled (VMT) throughout the region, including areas not service by rail transit. Finally, local agencies have become interested in solving the so-called "First mile/ Last mile" problem. This refers to how people, in a disperse region such as Southern California, access the local and regional transit systems. All of these subjects are being studied in communities throughout our region as part of the Compass Blueprint Demonstration Project Program.

The following projects are grouped in the following sub categories: Freeway Trench Capping Projects, Multi-Mobility & Living Streets Planning, and Suburban Arterial Retrofitting. Freeway Capping Projects are local visions for transforming urban areas by providing new urban park spaces, and reconnecting communities divided by freeways decades ago. The vision is to improve freeways where the right of way is in trench, cover the trench and create park space and developable land in return. Multi-Mobility Planning refers to planning for all the other modes of travel besides single-occupant vehicle (SOV). These include bike and pedestrian planning, Bus Rapid Transit, and local neighborhood electric vehicles. Finally, a number of projects can best be categorized as suburban retrofitting. Understanding that many people choose to live in traditional suburban settings, these communities are studying how to retrofit an arterial roadway network designed for the automobile to allow for more mixed land uses and types of transportation.

FREEWAY TRENCH CAPPING PROJECTS

Los Angeles Hollywood Freeway Central Park



This project evaluated the potential for a public park that would be built on a deck constructed over the below-grade portion of the Hollywood Freeway (US-101) from Bronson Avenue to Wilton Place.

Ventura Freeway Cap Project



The City of Ventura is a beautiful coastal city in Ventura County that is developing a plan to make the downtown area more livable and prosperous by connecting the downtown and the waterfront area.

Los Angeles PARK101 (Phase 1 & 2)



This project assesses the feasibility of "capping" the US-101 freeway as it passes through downtown Los Angeles.

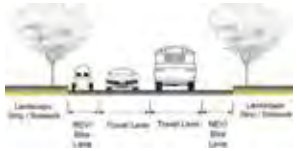
MULTI-MOBILITY AND LIVING STREETS PLANNING

El Centro Project SHAPE Parking and Circulation Plan



El Centro, a fast growing town near the Mexican border and the hub of the agriculturally rich Imperial Valley, needed a plan to draw investment into its historic downtown. The second part of this project was a park-once strategy, and pedestrian friendly circulation vision for the downtown area.

WRCOG Neighborhood Electric Vehicles Plan



This project assisted in a plan for a network of 35 mph speed limit streets suitable for the deployment of Neighborhood Electric Vehicles (NEV) in the cities of Riverside, Corona, Norco and Moreno Valley.

Los Angeles Sunset Junction Streetscape Vision



This project helped the Los Angeles County Metropolitan Transportation Authority identify streetscape improvements for the Sunset Junction area. This vision was awarded Metro Call for Projects funding, and will be implemented in 2012.

WRCOG Bus Rapid Transit Plan



This report provided a conceptual analysis of Bus Rapid Transit (BRT) services for potential corridors within Western Riverside.

Victorville Non-Motorized Transportation Plan



This project assisted in creating a Non-motorized Transportation Plan for the City of Victorville to provide connectivity for residents and visitors to public facilities.

Palm Springs Airport to Downtown Shuttle



This Palm Springs Airport-Downtown Shuttle project evaluated a new Shuttle service that would serve visitors to Palm Springs Hotels via the International Airport.

WRCOG Non-Motorized Transportation Plan



This Compass Blueprint project enabled the development of a Non-Motorized Transportation Plan (NMTP) to support a regional network of bicycle and pedestrian

facilities throughout the WRCOG region. The study identified facilities for both commuter and recreation use.

Anaheim Outdoors Master Plan



The City of Anaheim wishes to develop a network of green corridors within the Platinum Triangle that will provide non-motorized linkages between transit and the places where people live, work, shop, and play.

Calimesa Creek Riverwalk Master Plan



The City of Calimesa project will develop a vision and master plan to create a pedestrian-oriented Riverwalk to repair, revitalize, and leverage the place-making qualities of a storm water channel.

SUBURBAN ARTERIAL RETROFITTING

San Gabriel Valley Arrow Highway Corridor



This demonstration project allowed for collaborative planning between multiple jurisdictions situated along the Arrow Highway corridor. The study produced a vision for development nodes along the corridor which will enable cities to collaborate on supportive improvements to the corridor.

Indio Highway 99 / Indio Boulevard Study



Compass Blueprint worked with the City of Indio to prepare a revitalization plan for Indio Boulevard, based on the vision the City has for downtown of offering new mixed-use developments.

Calimesa Boulevard Downtown Revitalization Project



The City of Calimesa project provided development codes and design guidelines to create a pedestrian-oriented atmosphere consistent with traditional Southern California architectural styles.

Cathedral City Date Palm Drive Connector Plan (Phase 1 & 2)



This Demonstration Project served to provide direction for future Cathedral City public investments, private development, and community action. Phase 2 codified the improvements and developed implementation strategies for the vision.

La Mirada Imperial Highway Corridor Specific Plan



The Imperial Highway Specific Plan established comprehensive policy and a regulatory guidance document for all properties within the Imperial Highway Specific Plan area.

Moreno Valley Alessandro Boulevard Corridor Vision



This project evaluated the potential for transit-oriented development around a proposed Metrolink station at Alessandro Boulevard, and the revitalization of the corridor area. Phase 2 codified the vision in a corridor specific plan, a mixed-use designation, and more specific recommendations for the roadway right of way.

Los Alamitos Commercial Corridors Plan



This Demonstration Project provided the City of Los Alamitos with funding to assess the revitalization potential of the intersection of Katella and Los Alamitos corridors.

K. Compass Blueprint Recognition Awards

The annual Compass Blueprint Recognition Awards serves as an important forum for showcasing smart growth planning practices, attended by elected officials and planning staff from across the 191 member cities. Excellence and achievement awards are granted in four categories: mobility, livability, prosperity, and sustainability along with an award for overall excellence.

TABLE K1 Compass Blueprint Awards

Project Name	City	Year	County
General Plan Update Small Area Visioning	Compton	2007	Los Angeles
Downtown Specific Plan and Mobility Study	Glendale	2007	Los Angeles
Olive Court	Long Beach	2007	Los Angeles
Valley Vision: Valley Boulevard Neighborhoods Sutainability Plan	San Gabriel	2007	Los Angeles
San Dimas Grove Station	San Dimas	2007	Los Angeles
Westgate Pasadena	Pasadena	2007	Los Angeles
San Bernardino Transit Village	San Bernardino	2007	Los Angeles
Grand Avenue Project	Los Angeles	2007	Los Angeles
Artesia Corridor Specific Plan	Gardena	2007	Los Angeles
The Santa Monica Collection	Santa Monica	2007	Los Angeles
Fullerton Transportation Center	Fullerton	2007	Orange
Platinum Triangle	Anaheim	2007	Orange
Santiago Street Lofts	Santa Ana	2007	Orange
Transit Oriented Development Projects	WRCOG	2007	Riverside
Project SHAPE	El Centro	2008	Imperial
Arrow Highway Corridor	Arrow Highway Corridor	2008	Los Angeles
Central District Specific Plan	Pasadena	2008	Los Angeles

Project Name	City	Year	County
General Plan and Form-Based Development Code	Azusa	2008	Los Angeles
Park View Terrace	Bell Gardens	2008	Los Angeles
Claremont Village Expansion Project	Claremont	2008	Los Angeles
Sportsplex Mixed-Use Project	West Covina	2008	Los Angeles
South Brea Lofts	Brea	2008	Orange
Irvine Housing Strategy	Irvine	2008	Orange
Buena Park Transit Village	Buena Park	2008	Orange
Coachella Sphere of Influence Sustainability Project	Coachella	2008	Riverside
General Plan 2025 Program	Riverside	2008	Riverside
Dos Lagos Residential Mixed-Use Village	Corona	2008	Riverside
New Model Colony Phase 2	Ontario	2008	San Bernardino
SANBAG – Transportation Land Use Integration	SANBAG	2008	San Bernardino
Town Center Project	Ontario	2008	San Bernardino
Compact for a Sustainable Ventura County	Ventura	2008	Ventura
Downtown Specific Plan	Ventura	2008	Ventura
Holtville Master Plan	Holtville	2008	Imperial
Florence-Firestone Visioning Project	Los Angeles County	2009	Los Angeles
The South Collection: Eleven, Luma, and Evo	Los Angeles	2009	Los Angeles
Los Angeles Community College District Sustainability Building Program	Los Angeles	2009	Los Angeles
2008–2014 Housing Element	Santa Monica	2009	Los Angeles
El Monte Transit Village Specific Plan	El Monte	2009	Los Angeles

Project Name	City	Year	County
Studio One Eleven/Interstices Courtyard Lofts	Long Beach	2009	Los Angeles
Downtown Lancaster Specific Plan	Lancaster	2009	Los Angeles
Adams Square Revitalization Program	Glendale	2009	Los Angeles
Transit Village Specific Plan	Palmdale	2009	Los Angeles
Cross Creek Road Improvement Project	Malibu	2009	Los Angeles
Highway 99 / Indio Boulevard Study	Indio	2009	Riverside
I-15 Interregional Partnership	WRCOG	2009	Riverside
Coachella Valley Workforce Housing Trust	Coachella Valley	2009	Riverside
The Village at Oxnard	Oxnard	2009	Ventura
Expansion, Mobility, and Sustainability Program	Imperial	2010	Imperial
Jordan Downs Specific Plan	Los Angeles	2010	Los Angeles
Station Square Transit Village Specific Plan	Monrovia	2010	Los Angeles
Las Virgenes Creek Restoration	Calabasas	2010	Los Angeles
Land Use and Circulation Element (LUCE)	Santa Monica	2010	Los Angeles
Calabasas General Plan	Calabasas	2010	Los Angeles
Gardens Specific Plan	Beverly Hills	2010	Los Angeles
Downtown Business Corridor Plan	Calabasas	2010	Los Angeles
Anaheim Regional Transportation Intermodal Center (ARTIC)	Anaheim	2010	Orange
City Place Mixed-Use Development	Santa Ana	2010	Orange
Great Park Comprehensive Master Plan	Orange County	2010	Orange
Section 19 Specific Plan	Rancho Mirage	2010	Riverside

Project Name	City	Year	County
North City Specific Plan	Cathedral City	2010	Riverside
The Ontario Plan	Ontario	2010	San Bernardino
Crossroads Mixed-Use Project	Rialto	2010	San Bernardino
The Shoppes Specific Plan	Chino Hills	2010	San Bernardino
Downtown Overlay District	Brawley	2011	Imperial
America Fast Forward, 30/10 Plan Sustainable Transit Communities	Los Angeles	2011	Los Angeles
Climate Action Plan	West Hollywood	2011	Los Angeles
Metro Blue Line Bicycle & Pedestrian Access Plan	Long Beach	2011	Los Angeles
Dowtown Downey Specific Plan	Downey	2011	Los Angeles
Commercial Corridors Plan	Los Alamitos	2011	Orange
Transit Zoning Code	Santa Ana	2011	Orange
Transferring Development from Greenfields to Infill	Redlands	2011	San Bernardino
Regional Energy Efficiency Program	San Bernardino	2011	San Bernardino
Addressing Foreclosure Crisis and Stabilizing Neighborhoods	Rialto	2011	San Bernardino

L. 2012–2035 RTP/SCS Supportive Local Model Planning/Development Projects

The following table lists other projects within the SCAG region that support the goals and objectives of the 2012–2035 RTP/SCS. The projects identified focus on economic feasibility studies, sustainable design, small-lot housing, mixed-use commercial and residential development, Transit Oriented Development (TOD), parks and community space, all modes of non-automobile transportation, parking systems management, transportation demand management (TDM), transportation systems management (TSM), and other innovative practices.

These projects demonstrate the breadth and depth of sustainable communities supportive planning, and development that has been occurring in Southern California. These projects demonstrate the market demand, and public sector responsiveness for strategies that involve reducing per capita GHG emissions across all parts of the SCAG region.

TABLE L1 2012–2035 RTP/SCS Supportive Non-Compass Projects

Project Name	City	Year	County
Regional Integration of Paratransit Resources	Access Services	2007	Los Angeles
Arcadia Arterial ITS Development Project	Arcadia	2007	Los Angeles
South Street Pedestrian, Bikeway and Transit Improvement	Artesia	2007	Los Angeles
Country Club Drive Bikeway Improvement Project	Avalon	2007	Los Angeles
Baldwin Park Metrolink Pedestrian Overcrossing	Baldwin Park	2007	Los Angeles
Baldwin Park Metrolink Transit Center	Baldwin Park	2007	Los Angeles
City of Bell Gardens Signage Program	Bell Gardens	2007	Los Angeles
Santa Monica Boulevard Signal Synchronization	Beverly Hill	2007	Los Angeles

Project Name	City	Year	County
Pedestrian Improvements for Intersections with Bus Stops	Beverly Hills	2007	Los Angeles
I-5/SR-134 Congestion Management Project	Burbank	2007	Los Angeles
San Fernando Bikeway	Burbank	2007	Los Angeles
City of Cerritos Transit Amenities	Cerritos	2007	Los Angeles
Claremont Portion of the Citrus Regional Bikeway	Claremont	2007	Los Angeles
Eastside Light Rail Bike Interface Project	County of Los Angeles	2007	Los Angeles
Real-Time Motorist Parking Information System Demonstration	Culver City	2007	Los Angeles
Emerald Necklace Bike Trail Project	Duarte	2007	Los Angeles
El Monte Transit Cycle Friendly	El Monte	2007	Los Angeles
Crenshaw Boulevard Improvement Project	Hawthorne	2007	Los Angeles
Pedestrian/Equestrian Crosswalks: Descanso and Verdugo	La Canada Flintridge	2007	Los Angeles
Atlantic Ave. Signal Synchronization and Enhancement Project	Long Beach	2007	Los Angeles
Bicycle System Gap Closures & Improved LA River Bike Path	Long Beach	2007	Los Angeles
San Gabriel River Bike Path Gap Closure at Willow Street	Long Beach	2007	Los Angeles
Willow Street Pedestrian Improvement Project	Long Beach	2007	Los Angeles
San Fernando Road-Fletcher Drive to SR-2, Elm Street to I-5 Freeway	Los Angeles	2007	Los Angeles
Victory Boulevard Widening from Topanga Canyon Boulevard to De Soto Avenue	Los Angeles	2007	Los Angeles

Project Name	City	Year	County
Highway Rail Grade Crossing Improvement System	Los Angeles	2007	Los Angeles
ATSAC/ATCS Pacific Palisades Canyons Project	Los Angeles	2007	Los Angeles
Hollywood Integrated Modal Information System	Los Angeles	2007	Los Angeles
ExperienceLA.com Web 2.0 Interactive Transit Mapping & WiFi	Los Angeles	2007	Los Angeles
Downtown LA Alternative Green Transit modes Trial Program	Los Angeles	2007	Los Angeles
San Fernando Rd. Bike Path Phases IIIA Construction	Los Angeles	2007	Los Angeles
Bicycle Wayfinding Signage Program	Los Angeles	2007	Los Angeles
Imperial Highway Bike Lanes	Los Angeles	2007	Los Angeles
Manchester Avenue Bike Lanes & Island Reduction	Los Angeles	2007	Los Angeles
LA City College Pedestrian Enhancements	Los Angeles	2007	Los Angeles
Los Angeles Trade-Tech Intermodal Links with Bus and Metro	Los Angeles	2007	Los Angeles
Washington Boulevard Transit Enhancments	Los Angeles	2007	Los Angeles
Century City Urban Design and Pedestrian Connection Plan	Los Angeles	2007	Los Angeles
Sunset Junction Transit Plaza (first phase)	Los Angeles	2007	Los Angeles
Los Angeles Valley College (LAVC) Bus Station Extension	Los Angeles	2007	Los Angeles
Solano Canyon-Zanja Madre-Chinatown-Broadway Bus Stop Improvements	Los Angeles	2007	Los Angeles
Eastside Light Rail Pedestrian Linkages	Los Angeles	2007	Los Angeles

Project Name	City	Year	County
Expo Line Station Streetscape Project – East Crenshaw to Jefferson	Los Angeles	2007	Los Angeles
Hollywood Pedestrian/Transit Crossroads Phase II	Los Angeles	2007	Los Angeles
Main Street Bus Stop and Pedestrian Improvements	Los Angeles	2007	Los Angeles
Cesar Chavez Transit Corridor (110 Fwy. To Alameda)	Los Angeles	2007	Los Angeles
Fashion District Streetscape Phase II	Los Angeles	2007	Los Angeles
Los Angeles Pierce College (LAPC) Bus Rapid Transit Station Extension	Los Angeles	2007	Los Angeles
Olive/Pico Bus Stop Improvement	Los Angeles	2007	Los Angeles
Branching Out	Los Angeles	2007	Los Angeles
Los Angeles City College Red Line Station Extension	Los Angeles	2007	Los Angeles
San Gabriel Valley Forum Traffic Signal Corridors Project	Los Angeles County	2007	Los Angeles
South Bay Forum Traffic Signals Corridor Project	Los Angeles County	2007	Los Angeles
Gateway Cities Forum Traffic Signal Corridors Project Phase V	Los Angeles County	2007	Los Angeles
Information Exchange Network Phase II	Los Angeles County	2007	Los Angeles
El Pueblo Pedestrian Improvements Phase I, II, III & IV (Wayfinding signs ONLY)	Los Angeles County	2007	Los Angeles
Fiji Way Bicycle Lane Project	Los Angeles County	2007	Los Angeles
El Pueblo Pedestrian Improvements Phase I, II, III & IV	Los Angeles County	2007	Los Angeles

Project Name	City	Year	County
Florence Avenue Pedestrian Improvement Project (Phase I)	Los Angeles County	2007	Los Angeles
Wayfinding Program	Monterey Park	2007	Los Angeles
Firestone Boulevard Bridge Widening over San Gabriel River	Norwalk	2007	Los Angeles
North County Traffic Forum ITS Expansion	Palmdale	2007	Los Angeles
Palmdale Transportation Center-Wayfinding Signage Program	Palmdale	2007	Los Angeles
6th Street East Bikeway Extension	Palmdale	2007	Los Angeles
Avenue S Bikeway Phase 2	Palmdale	2007	Los Angeles
East Colorado Boulevard Pedestrian Enhancement (Phase I)	Pasadena	2007	Los Angeles
Bike Compatibility Roadway Safety and Linkage on Palos Verdes Dr	Rancho Palos Verdes	2007	Los Angeles
Pedestrian Safe Bus Stop Linage	Rancho Palos Verdes	2007	Los Angeles
Palos Verdes Drive North Bike Lanes	Rolling Hills Estates	2007	Los Angeles
Bikeway Improvements on Foothill Blvd. at San Dimas Wash	San Dimas	2007	Los Angeles
San Fernando Pacoima Wash Bike Path	San Fernando	2007	Los Angeles
San Fernando Downtown Pedestrian Improvement Project	San Fernando	2007	Los Angeles
San Gabriel City-Wide Bus Shelter Installation	San Gabriel	2007	Los Angeles
Las Tunas Drive Landscaping Enhancement Project	San Gabriel	2007	Los Angeles
Citywide Public Information Relay System	Santa Clarita	2007	Los Angeles

Project Name	City	Year	County
Santa Clarita Transit Bus Stop Expansion & Amenities	Santa Clarita	2007	Los Angeles
Norwalk/Santa Fe Springs Transportation Center Improvements	Santa Fe Springs	2007	Los Angeles
Santa Monica Real Time Beach Parking Signs	Santa Monica	2007	Los Angeles
Downtown Santa Monica Bike Transit Station	Santa Monica	2007	Los Angeles
Bike Technology Demonstration	Santa Monica	2007	Los Angeles
Route 101/Lindero Canyon Road Interchange Improvements	Westlake Village	2007	Los Angeles
Baldwin Avenue & Duarte Road Intersection Improvement Project	Arcadia	2009	Los Angeles
Arcadia Gold Line Station Pedestrian Linkage Project	Arcadia	2009	Los Angeles
Arcadia Gold Line Station Transit Plaza	Arcadia	2009	Los Angeles
Azusa Intermodal Transit Center	Azusa	2009	Los Angeles
Azusa Gateway Project	Azusa	2009	Los Angeles
Metrolink Parking Resource Management Demonstration Project	Baldwin Park	2009	Los Angeles
South Baldwin Park Commuter Bikeway Project	Baldwin Park	2009	Los Angeles
Information Exchange Network Phase III	County of Los Angeles	2009	Los Angeles
North County Bikeways	County of Los Angeles	2009	Los Angeles
Culver Boulevard Realignment Project	Culver City	2009	Los Angeles
Real-Time Bus Arrival Information System	Culver City	2009	Los Angeles
Arroyo Verdugo Commute Manager System	Glendale	2009	Los Angeles

Project Name	City	Year	County
Advanced Wayfinding and Guidance System	Glendale	2009	Los Angeles
Hawthorne Boulevard Mobility Improvement Project	Hawthorne	2009	Los Angeles
Florence Avenue Regional Transportation Corridor Improvement Project	Inglewood	2009	Los Angeles
The Old Road Widening: Magic Mountain Parkway to Turnberry Lane	LA County	2009	Los Angeles
Willlowbrook Area Access Improvements	LA County	2009	Los Angeles
Willowbrook Area Bikeway Improvements	LA County	2009	Los Angeles
Willowbrook Area Access Improvements to MLK MACC	LA County	2009	Los Angeles
Del Amo Boulevard Bridge Replacement Improvements	Lakewood	2009	Los Angeles
Avenue L Widening, 15th to 30th Streets West	Lancaster	2009	Los Angeles
Downtown Lancaster Gateway and Roundabout Project	Lancaster	2009	Los Angeles
City of Long Beach Bike Share Program	Long Beach	2009	Los Angeles
Parking Guidance and Wayfinding Systems (PGS)	Long Beach	2009	Los Angeles
Daisy Corridor and 6th St Bike Boulevard	Long Beach	2009	Los Angeles
Long Beach Bl Pedestrian Improvement Project	Long Beach	2009	Los Angeles
North Main St Grade Separation	Los Angeles	2009	Los Angeles
Intelligent Transportation System (ITS) Communication Systems Upgrade Project	Los Angeles	2009	Los Angeles

Project Name	City	Year	County
City I County Traffic Management Integration Phase 2 Project	Los Angeles	2009	Los Angeles
Downtown LA Transit Information and Wayfinding	Los Angeles	2009	Los Angeles
First and Last Mile Transit Connectivity Options	Los Angeles	2009	Los Angeles
Exposition-West Bikeway	Los Angeles	2009	Los Angeles
San Fernando Rd Bike Path IIIB Construction	Los Angeles	2009	Los Angeles
LA River Bike Path Phase IV	Los Angeles	2009	Los Angeles
Figueroa Corridor Bike Station & Cycling Enhancements	Los Angeles	2009	Los Angeles
Boyle Heights Chavez Ave Streetscape/pedestrian	Los Angeles	2009	Los Angeles
Menlo AvlMLK Vermont Expo Station Pedestrian Improvements	Los Angeles	2009	Los Angeles
West Third St Pedestrian Improvement Project	Los Angeles	2009	Los Angeles
Eastside Light Rail Pedestrian Linkages, Phase II	Los Angeles	2009	Los Angeles
LAN1 – Evergreen Park Street Enhancement Project	Los Angeles	2009	Los Angeles
Central Av Historic Corridor Streetscape	Los Angeles	2009	Los Angeles
Beverly 81 Transportation Enhancements	Los Angeles	2009	Los Angeles
Arts DistrictlLittle Tokyo Gold Line Station Linkages	Los Angeles	2009	Los Angeles
Westlake MacArthur Park Pedestrian Improvement Project	Los Angeles	2009	Los Angeles
Broadway Historical Theater District Pedestrian Enhancements (4th-6th Sts)	Los Angeles	2009	Los Angeles
Western Avenue Bus Stop & Pedestrian Improvement Project	Los Angeles	2009	Los Angeles
Stocker MLK Crenshaw Access to Expo LRT Station	Los Angeles	2009	Los Angeles
Sunset Junction Phase 2	Los Angeles	2009	Los Angeles
What A Re-Leaf	Los Angeles	2009	Los Angeles
Watts Streetscape Enhancements	Los Angeles	2009	Los Angeles
Sunset Junction Phase 2	Los Angeles	2009	Los Angeles
Nowalk/Santa Fe SpringslMetro-link Pedestrian Plaza Upgrade	Norwalk	2009	Los Angeles
Pioneer Arterial Transportation Enhancement	Norwalk	2009	Los Angeles
Huntington Park	Pacific Blvd Pedestrian Improvement Project	2009	Los Angeles
Avenue S Widening Phase II	Palmdale	2009	Los Angeles
Metro Gold Line At-Grade Cross-ing Mobility Enhancements	Pasadena	2009	Los Angeles
Fold-n-Go Pasadena – Folding Bicycle Demonstration Program	Pasadena	2009	Los Angeles
Pasadena ARTS Enhanced Passenger Information	Pasadena	2009	Los Angeles
Pasadena's Wayfinding System	Pasadena	2009	Los Angeles
Zero Emissions Vehicle Charging Stations	Pasadena	2009	Los Angeles
Cordova Street Road Diet	Pasadena	2009	Los Angeles
Bike Loops for Intersections	Pasadena	2009	Los Angeles
North Fair Oaks Avenue Pedestrian Improvements	Pasadena	2009	Los Angeles
East Colorado Bl pedestrian Improvements	Pasadena	2009	Los Angeles
Pasadena Av Ped Connection to Gold Line Heritage Square Station	Pasadena	2009	Los Angeles

Project Name	City	Year	County
Pedestrian Bridge along Rosemead Boulevard	Pico Rivera	2009	Los Angeles
Bicycle Transportation Plan Implementation	Redondo Beach	2009	Los Angeles
Redondo Beach Intermodal ransit Center	Redondo Beach	2009	Los Angeles
Riviera Village Enhancement Project	Redondo Beach	2009	Los Angeles
Intersection Improvements on Bonita Av at Cataract Av	San Dimas	2009	Los Angeles
City of San Fernando Transit Wayfinding	San Fernando	2009	Los Angeles
San Fernando Rd Downtown Pedestrian Improvement Project	San Fernando	2009	Los Angeles
McBean Parkway Bridge Widening and Gap Closure over Santa Clara River	Santa Clarita	2009	Los Angeles
Citywide Wayfinding Program for Pedestrians and Bicyclists	Santa Clarita	2009	Los Angeles
Newhall Gateway Roundabout	Santa Clarita	2009	Los Angeles
Nowalk/Santa Fe Springs Transportation Center Phase II Parking	Santa Fe Springs	2009	Los Angeles
A 'No Net New Trips' Rideshare Toolkit	Santa Monica	2009	Los Angeles
Multi-Modal Wayfinding System	Santa Monica	2009	Los Angeles
Bike Network Linkages to Expo Line	Santa Monica	2009	Los Angeles
Colorado Pedestrian Promenade: LRT Station to PierlBeach	Santa Monica	2009	Los Angeles
Downtown Torrance Pedestrian Improvement Project	Torrance	2009	Los Angeles
Pedestrian Signal Upgrades	West Hollywood	2009	Los Angeles
La Brea Streetscape Project	West Hollywood	2009	Los Angeles

Project Name	City	Year	County
City of Whittier Bus Stop Improvement Plan	Whittier	2009	Los Angeles
Greenway Trail Directional Signage and Scenic Beautification	Whittier	2009	Los Angeles
Burbank Traveler Information and Wayfinding Systems	Burbank	2011	Los Angeles
Los Angeles River Bridge	Burbank	2011	Los Angeles
Garfield Av/Washington Bl Multimodal Int. Improvement	Commerce	2011	Los Angeles
Avenue L Roadway Widening Project	County of Los Angeles	2011	Los Angeles
Fullerton Road at Pathfinder Road	County of Los Angeles	2011	Los Angeles
Colima Rd Improvements	County of Los Angeles	2011	Los Angeles
Ramona Blvd/Badillo St/Covina Blvd TSSP/BSP	County of Los Angeles	2011	Los Angeles
Metro Green Line Vermont Station Wayfinding Signage	County of Los Angeles	2011	Los Angeles
Vermont Av Bike Lane, Manchester Bl to El Segundo Bl	County of Los Angeles	2011	Los Angeles
Florence Metro Blue Line Station Bikeway Access Improvements	County of Los Angeles	2011	Los Angeles
Arrow Highway Bus Stop Improvement Plan	County of Los Angeles	2011	Los Angeles
Covina Bicycle Network Phase II	Covina	2011	Los Angeles
Culver City Adaptive Control System Implementation Project	Culver City	2011	Los Angeles
Telegraph Rd Traffic Throughput Enhancement Project	Downey	2011	Los Angeles
Duarte Gold Line Station Pedestrian Improvements	Duarte	2011	Los Angeles
Ramona Boulevard & Valley Boulevard Intersection Improvement	El Monte	2011	Los Angeles

Project Name	City	Year	County
Shared Parking Program/TOD Smart Parking Detection System	El Monte	2011	Los Angeles
Civic Center & Interjurisdictional Bikeways	El Monte	2011	Los Angeles
Glendale Subregional Traffic Management Center Implementation Project	Glendale	2011	Los Angeles
El Segundo Bl Improvement Project	Hawthorne	2011	Los Angeles
SR 57/60 Confluence, Grand Av at Golden Springs Dr	Industry	2011	Los Angeles
City of Inglewood ITS- Phase IV Improvement Project	Inglewood	2011	Los Angeles
Foothill Bl Link Bike/Ped Greenbelt Project	La Canada Flintridge	2011	Los Angeles
10th St West Road Diet and Bikeway Improvements	Lancaster	2011	Los Angeles
Av I Corridor Improvements, 15th Street W to 10th Street W	Lancaster	2011	Los Angeles
City of Long Beach Phase II Bike Share Program	Long Beach	2011	Los Angeles
Downtown Long Beack Pine Av Streetscape Improvement	Long Beach	2011	Los Angeles
Atlantic Av Streetscape Enhancements	Long Beach	2011	Los Angeles
ITS Platform Upgrades	Los Angeles	2011	Los Angeles
Bicycle Corral Program Launch	Los Angeles	2011	Los Angeles
L.A. River Bike Path, Headwaters Section	Los Angeles	2011	Los Angeles
Bicycle Corral Program Launch	Los Angeles	2011	Los Angeles
Expo Line Bike Hubs in South Los Angeles	Los Angeles	2011	Los Angeles
Bicycle Friendly Streets	Los Angeles	2011	Los Angeles
Washington Boulevard Pedestrian Transit Access (Hooper/Alameda) Phase II	Los Angeles	2011	Los Angeles
Hollywood/Western Streetscape Public Improvements	Los Angeles	2011	Los Angeles
Orange Line Extension Sherman Way Station Pedestrian Links	Los Angeles	2011	Los Angeles
Expo Line Transit/Pedestrian Linkages	Los Angeles	2011	Los Angeles
Valencia Triangle Landscape Beautification Plaza	Los Angeles	2011	Los Angeles
Malibu Bus Stop Improvements along PCH	Malibu	2011	Los Angeles
Grant Av Signal Improvements	Redondo Beach	2011	Los Angeles
Valley Bl Capacity Enhancement Project	Rosemead	2011	Los Angeles
San Gabriel Bl Gateway Corridor Improvements Project	San Gabriel	2011	Los Angeles
Golden Valley Rd Widening/Gap Closure over State Route 14	Santa Clarita	2011	Los Angeles
Intelligent Transportation System (ITS) Phase V	Santa Clarita	2011	Los Angeles
Tourney Rd Bike Lane & Orchard Rd Bike Route	Santa Clarita	2011	Los Angeles
Bikeshare: First and Last Mile Connections to Expo	Santa Monica	2011	Los Angeles
Citywide Bus Shelter Upgrades with Electronic Kiosks	Signal Hill	2011	Los Angeles
South Pasadena's ATMS, Central TCS and FOIC for Fair Oaks Av	South Pasadena	2011	Los Angeles
Rosemead Boulevard Safety Enhancement and Beautification Project	Temple City	2011	Los Angeles

Project Name	City	Year	County
Holtville Master Plan	Holtville	2009	Imperial
Expansion, Mobility, and Sustainability Program	Imperial	2010	Imperial
Street Tree Master Plan	Beverly Hills	1912	Los Angeles
Congregate Care Overlay Zone	Beverly Hills	1984	Los Angeles
Senior Housing Incentive Program	Beverly Hills	1984	Los Angeles
Small Lot Assembly Incentive Program	Beverly Hills	1984	Los Angeles
East Los Angeles Civic Center Urban Design and Existing Facility Renovation	East Los Angeles	2001	Los Angeles
Commercial Retail Planned Development Overlay	Beverly Hills	2002	Los Angeles
Senior Housing Project	Beverly Hills	2002	Los Angeles
Los Angeles to Pasadena Metro Gold Line Project Architecture & Design	Los Angeles/ Pasadena	2003	Los Angeles
Monterey Park Mixed-Use Pedestrian Linkage Project and Zoning Ordinance	Monterey Park	2003	Los Angeles
Second Unit Program	Beverly Hills	2003	Los Angeles
Lincoln Corridor Mobility and Urban Design Study	Los Angeles	2004	Los Angeles
Beverly Hills Triangle Revitalization Master Plan	Beverly Hills	2004	Los Angeles
Snieder Housing Project	Beverly Hills	2004	Los Angeles
Sunrise Housing Project	Beverly Hills	2004	Los Angeles
East Pasadena Specific Plan Revisions	Pasadena	2005	Los Angeles
Beverly Hills Gardens Specific Plan	Beverly Hills	2005	Los Angeles
Village Walk at Tarzana, Phases I, II and III	Los Angeles	2006	Los Angeles
Mid-City/Exposition Corridor Light Rail Transit Project	Los Angeles	2006	Los Angeles
Metro Orange Line Canoga Extension	Los Angeles	2007	Los Angeles
Pallihouse Condo Hotel	West Hollywood	2007	Los Angeles
Green Building Ordinance	West Hollywood	2007	Los Angeles
8600 Wilshire	Beverly Hills	2007	Los Angeles
9200 Wilshire	Beverly Hills	2007	Los Angeles
Entertainment Office Planned Development Overlay	Beverly Hills	2007	Los Angeles
Beverly Hills Green Building Program	Beverly Hills	2007	Los Angeles
Downtown Specific Plan and Mobility Study	Glendale	2007	Los Angeles
Olive Court	Long Beacb	2007	Los Angeles
Valley Vision: Valley Boulevard Neighborhoods Sutainability Plan	San Gabriel	2007	Los Angeles
San Dimas Grove Station	San Dimas	2007	Los Angeles
Westgate Pasadena	Pasadena	2007	Los Angeles
San Bernardino Transit Village	San Bernardino	2007	Los Angeles
Grand Avenue Project	Los Angeles	2007	Los Angeles
Artesia Corridor Specific Plan	Gardena	2007	Los Angeles
The Santa Monica Collection	Santa Monica	2007	Los Angeles
Central District Specific Plan	Pasadena	2008	Los Angeles
General Plan and Form-Based Development Code	Azusa	2008	Los Angeles
Park View Terrace	Bell Gardens	2008	Los Angeles
Claremont Village Expansion Project	Claremont	2008	Los Angeles
Sportsplex Mixed-Use Project	West Covina	2008	Los Angeles
Hancock Mixed-Use Project	West Hollywood	2009	Los Angeles

Project Name	City	Year	County
Formosa Condo/Pocket Park	West Hollywood	2009	Los Angeles
8601 Wilshire "Blue Apartments"	Beverly Hills	2009	Los Angeles
The South Collection: Eleven, Luma, and Evo	Los Angeles	2009	Los Angeles
Los Angeles Community College District Sustainability Building Program	Los Angeles	2009	Los Angeles
2008-2014 Housing Element	Santa Monica	2009	Los Angeles
El Monte Transit Village Specific Plan	El Monte	2009	Los Angeles
Studio One Eleven/Interstices Courtyard Lofts	Long Beach	2009	Los Angeles
Downtown Lancaster Specific Plan	Lancaster	2009	Los Angeles
Adams Square Revitalization Program	Glendale	2009	Los Angeles
Transit Village Specific Plan	Palmdale	2009	Los Angeles
Cross Creek Road Improvement Project	Malibu	2009	Los Angeles
Sierra Bonita Affordable Housing	West Hollywood	2010	Los Angeles
Havenhurst Condo/Pocket Park	West Hollywood	2010	Los Angeles
Station Square Transit Village Specific Plan	Monrovia	2010	Los Angeles
Las Virgenes Creek Restoration	Calabasas	2010	Los Angeles
Land Use and Circulation Element (LUCE)	Santa Monica	2010	Los Angeles
Calabasas General Plan	Calabasas	2010	Los Angeles
Gardens Specific Plan	Beverly Hills	2010	Los Angeles
Downtown Business Corridor Plan	Calabasas	2010	Los Angeles
Safe and Healthy Streets Plan	Glendale	2011	Los Angeles
Model Design Manual for Living Streets	County of Los Angeles	2011	Los Angeles
Bicycle Transportation Plan	Glendale	2011	Los Angeles
Master Plan of Trails and Bikeways	Lancaster	2011	Los Angeles
Gateway Cities SCS	Paramount	2011	Los Angeles
Bicycle Transportation Plan	Pasadena	2011	Los Angeles
West Hollywood General Plan 2035	West Hollywood	2011	Los Angeles
West Hollywood Climate Action Plan	West Hollywood	2011	Los Angeles
TOD Planning Grants	Los Angeles County	2011	Los Angeles
Transit Access Study and Strategy	Los Angeles County	2011	Los Angeles
Beverly Hills Bicycle Routes	Beverly Hills	2011	Los Angeles
America Fast Forward, 30/10 Plan Sustainable Transit Communities	Los Angeles	2011	Los Angeles
Climate Action Plan	West Hollywood	2011	Los Angeles
Metro Blue Line Bicycle & Pedestrian Access Plan	Long Beach	2011	Los Angeles
Dowtown Downey Specific Plan	Downey	2011	Los Angeles
Sustainable Communities Planning Framework	Los Angeles County	2012	Los Angeles
FasTrak Tolling/Interoperability Technology	Orange County	1993	Orange
Upper Chiquita Canyon	Orange County	1996	Orange
Anaheim Resort Transit	Anaheim	1998	Orange
Ladera Ranch and the Ranch Plan Planned Communities	Orange County	1998	Orange
Laguna Hills Urban Village Specific Plan	Laguna Hills	2002	Orange
Tustin Legacy	Tustin	2003	Orange
Anaheim Platinum Triangle	Anaheim	2004	Orange

Project Name	City	Year	County
Irvine Business Complex and Vision Plan	Irvine	2004	Orange
Live Oak Preservation Area	Orange County	2005	Orange
Costa Mesa Urban Plans	Costa Mesa	2006	Orange
Fullerton Transportation Center	Fullerton	2007	Orange
Platinum Triangle	Anaheim	2007	Orange
Santiago Street Lofts	Santa Ana	2007	Orange
South Brea Lofts	Brea	2008	Orange
Bonita Creek Mitigation Site	Orange County	2008	Orange
Irvine Housing Strategy	Irvine	2008	Orange
Buena Park Transit Village	Buena Park	2008	Orange
Beach Boulevard Signal Synchronization	Anaheim, Buena Park, Fullerton, Huntington Beach, La Habra, Stanton, and Westminster	2010	Orange
Santa Ana Transit Zoning Code	Santa Ana	2010	Orange
Beach and Edinger Corridors Specific Plan	Huntington Beach	2010	Orange
Cactus Wren Habitat Linkage	Orange County	2010	Orange
Orange 2010 General Plan Update	Orange	2010	Orange
Anaheim Regional Transportation Intermodal Center (ARTIC)	Anaheim	2010	Orange
City Place Mixed-Use Development	Santa Ana	2010	Orange
Great Park Comprehensive Master Plan	Orange County	2010	Orange
Laguna Niguel Gateway Specific Plan	Laguna Niguel	2011	Orange
City of Aliso Viejo Green City Initiative	Aliso Viejo	2011	Orange
Robinson Ranch Road Traffic Calming Project	Rancho Santa Margarita	2012	Orange
Sustainable Transportation at UC Irvine	Irvine		Orange
TUMF	WRCOG	2001	Riverside
Goods Movement Analysis	WRCOG	2001	Riverside
Rail Crossing Priority Analysis	WRCOG	2001	Riverside
Workers Ahead	WRCOG	2003	Riverside
Homes for Calif. families – Dialogue	WRCOG	2005	Riverside
Mixed-Use Housing Video	WRCOG	2005	Riverside
Infill Capacity Model/Study	WRCOG	2006	Riverside
Compass Outreach	WRCOG	2006	Riverside
Transit Oriented Development Projects	WRCOG	2007	Riverside
Transit Oriented Development	Corona, Riverside, Perris, March AFB, Hemet and Temecula	2007	Riverside
General Plan 2025 Program	Riverside	2008	Riverside
Dos Lagos Residential Mixed-Use Village	Corona	2008	Riverside
Coachella Valley Workforce Housing Trust	Coachella Valley	2009	Riverside
Goods Movement	WRCOG	2009	Riverside
Section 19 Specific Plan	Rancho Mirage	2010	Riverside
North City Specific Plan	Cathedral City	2010	Riverside
Bike and Ride Program	San Bernardino County	1996	San Bernardino
Alternative Fuels Fleet	San Bernardino County	2000	San Bernardino
Fontana Transit Center	Fontana	2002	San Bernardino
Chino Transit Center	Chino	2004	San Bernardino
Rialto Metrolink	Rialto	2004	San Bernardino

Project Name	City	Year	County
Chino-Ontario Community Based Transportation Plan	Chino, Ontario	2005	San Bernardino
Redlands Passenger Rail Station Area Plan	San Bernardino	2006	San Bernardino
Bus Stop Design Guidelines	San Bernardino County	2006	San Bernardino
Town Center Project	Ontario	2008	San Bernardino
OmniGo Program	Yucaipa, Grand Terrace, and Chino Hills	2010	San Bernardino
Yucaipa Transit Center	Yucaipa	2010	San Bernardino
Chaffey College Transit Center	Rancho Cucamonga	2010	San Bernardino
The Ontario Plan	Ontario	2010	San Bernardino
Crossroads Mixed-Use Project	Rialto	2010	San Bernardino
The Shoppes Specific Plan	Chino Hills	2010	San Bernardino
Go Smart Program	San Bernardino County	2011	San Bernardino
Addressing Foreclosure Crisis and Stabilizing Neighborhoods	Rialto	2011	San Bernardino
Bus Arrival Prediction Information Systems (BAPIS) Project	San Bernardino County	2012	San Bernardino
Downtown Specific Plan	Ventura	2008	Ventura
The Village at Oxnard	Oxnard	2009	Ventura

REGIONAL TRANSPORTATION PLAN
2012–2035 RTP
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future

SOUTHERN CALIFORNIA
ASSOCIATION of GOVERNMENTS

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March 6, 2012

Attn: Honorable Pam O'Connor, President of SCAG and Regional Council members
Southern California Association of Governments (SCAG)
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

RE: Active Transportation in SCAG's 2012 Regional Transportation Plan (RTP)

Dear Honorable O'Connor, Regional Council members and Policy Committee members:

On behalf of the Alliance for a Healthy Orange County, we would like to thank Southern California Association of Governments (SCAG) staff, Regional Council and Policy Committee members for the opportunity to participate in the 2012 Regional Transportation Plan (RTP). We recognize the multitude of efforts required to develop the long range plan and are appreciative of all of the hard work that has already been done.

The Alliance for a Healthy Orange County is a county-wide collaborative of health care organizations, community-based organizations and universities whose mission is to champion policy strategies and leverage funding opportunities that result in enhanced health outcomes and reduced health disparities for Orange County residents.

The Alliance urges SCAG to consider the important health impacts of the RTP and place increased emphasis on projects that will promote active transportation. The region does not need a plan that allocates $22 billion on road widening and only $6 billion on active transportation. It is critical to change funding allocations to improve safety and public health throughout our region.

We request that SCAG amend the Draft RTP/SCS to include the following:

1. Increase the overall percentage of RTP funds dedicated to active transportation from 1.3 percent of the 2012 RTP to 5-8 percent of the total 2012 plan.
2. Prioritize active transportation funding and distribute these funds evenly over the 25 year period of the plan so that the benefits of active transportation are brought to Orange County sooner.

3. Incorporate the development of an Active Transportation Finance Strategic Plan by 2014 that identifies how each CTC is spending funds and the opportunities available to increase funding for active transportation.

4. Allocate funding for bicycle and pedestrian planning and usage counts.

5. Set aside funding in the RTP to support SCAG cities in developing bicycle and pedestrian master plans, safe route to school pans and ADA transition plans. Establish a goal that 50% of SCAG cities shall develop these plans by 2016.

6. Adopt a Regional Complete Streets Plan by 2014: This plan will incorporate input from local jurisdictions to prioritize complete streets projects in programming efforts and dedicate a portion of system preservation and maintenance funding for improving the road conditions of all users.

7. Adopt Safe Routes to School Regional Strategic Plan by 2014.

8. School Siting and Joint Use Policies should be incorporated as land use elements of the SCS.

9. Set measurable safety and health goals for all users: Goals are set for the reduction of green house gases in the draft 2012 RTP/SCS. Active transportation plays a pivotal role in the reduction of these green house gasses. Similar measurable goals should be set for reducing crash rates for active transportation and for reducing the health impacts of obesity. These could include a report on the number of children walking and bicycling to school across the entire region as well as a report detailing access to parks, open spaces and quality active transportation networks.

10. Monitoring detailed population data and metrics in environmental justice communities.
The lack of active transportation funding disproportionally affects immigrant, lower-income, and minority populations because these neighborhoods have greater barriers to physical activity and transit access, higher numbers of busy regional arterial, poor pedestrian and bicycle infrastructure, unsafe neighborhoods, and lack of safe storage for bicycles and safe crossings. Thus, these neighborhoods would benefit from an increase in funding allocations (in order for SCAG to meet its Title VI obligations) and from a detailed strategic plan.

Compliance with the SCS requirement of SB 375 and the well-being, safety, and health of citizens within the SCAG region will depend on the future development of our multi-modal transportation network, jobs, housing, education and healthy environments for families to live in.

We sincerely appreciate this opportunity to provide feedback for the 2012-2035 draft RTP/SCS. Please feel free to contact us with any questions or concerns; our contact information is listed below.

Respectfully Submitted,

Barry Ross

Barry Ross
Chairman

Tuesday, Feb. 14, 2012

President Pam O'Connor and Members
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

Dear President O'Connor and Regional Council Members:

The health and medical community wishes to thank the Southern California Association of Governments (SCAG) staff for their hard work on the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and for recognizing that the decisions made in the planning process ultimately affect public health and air quality. We are especially pleased to see the inclusion of some of the health and equity indicators that we championed in our comment letters (May 6 and Aug 26) captured in SCAG's performance measures. While we believe the draft plan under review has many positive elements, we also believe strengthening measures are needed to assure that strong public health benefits are achieved through the plan.

The serious air pollution and health problems experienced in the Southern California region require strong action to transform transportation and land use planning. The Los Angeles region continues to be rated as the most polluted area for ozone in the country by the American Lung Association and the public health toll remains high. The Inland Empire continues to bear the brunt of this pollution due to weather patterns that concentrate pollution in the area leading to more severe health impacts.

Research by the American Lung Association in California quantified the respiratory health benefits of smart growth strategies in the Southern California region. This analysis showed that the ***six-county Southern California region could avoid over $16 billion in cumulative health and societal costs*** through smart growth strategies that reduce the growth in the region's vehicle trips by 20 percent by 2035. While large, these benefits may represent a small fraction of the greater benefits that accrue with more physically active transportation options, as envisioned and quantified by the California Department of Public Health's I-THIM modeling

project. Understanding the potential benefits of given planning scenarios will help to identify plans that provide the greatest reductions in harmful emissions and chronic illnesses.

Health experts have continued to speak out through workshops, hearings, joint letters and the media about the devastating toll of respiratory illness, obesity, diabetes, and heart disease caused by our car-dependent community designs throughout the Southern California region and about the need for greater focus on a shift to active transportation modes like walking, cycling and transit that reduce pollution emissions and gets people out of their cars and into a more physically active lifestyle.

We offer the following comments and recommendations to ensure that the Sustainable Communities Strategy and future transportation investments place sufficient emphasis on promoting active transportation modes and transit oriented development, measuring and improving health progress, and ensuring that health and equity are imbedded in the decision making process for this plan and future planning efforts.

Key Health Recommendations for SCAG SCS

- **Increase active transportation investments to more than $12 billion a year**. While we appreciate the increase in active transportation funding included in the draft SCS, we believe more funding is needed. A recent study by the Los Angeles County of Public Health estimated that up to $40 billion could be needed to build out all of the current bicycle and pedestrian projects in Los Angeles County alone. SCAG, in coordination with health departments and organizations, should conduct a comprehensive needs assessment for the Southern California region to determine the infrastructure needs to develop a network of bicycle and pedestrian pathways and transit connections. Analysis is also needed of how SCAG's bicycle and pedestrian per capita investment compares with other regions.
- **Improve Assessment of health benefits through new modeling approaches**. Utilize the new California Department of Public Health I-THIM screening tool to analyze the potential chronic disease reductions that can be achieved in the SCAG region based on increased transportation-related physical activity such as walking and biking. This model was used in the San Francisco Bay Area region to determine reductions in heart and respiratory disease, breast cancer and other health effects linked to active transportation scenarios. We urge SCAG to incorporate this tool in regional planning and decision making for transportation investments.
- **Include the attached list of 13 health and equity metrics in the SCS and monitor over time, including expanded public health targets.** In addition to monitoring premature mortality, SCAG should also assess reductions in asthma incidence and exacerbations due to traffic related pollution (NOX) and other targets through collaboration with local health departments, the South Coast Air Quality Management District, academic researchers and community based organizations. Improvements to the targets should be monitored and reported to the public every two years. *Additional comments on the targets already included by SCAG in the SCS will be sent in a separate comment letter.*

- **Focus investments on completing transit systems** and building out transit infrastructure, rather than highway expansion, including the following:.
    - Doubling Metrolink ridership by 2020 and double it again by 2035
    - Expanding Bus Rapid Transit and regional bus service
    - Enhancing TOD planning and 1st-mile-last-mile investments near Metrolink stations
    - Doubling the bicycle network to 24,000 miles and improving pedestrian environment
- **Increase transit and transit oriented planning in Inland Empire.** Because so much of the planned growth in the Inland Empire is relatively low density and remote from transit, SCAG should work closely with Inland Empire governments to accelerate expansion and frequency of transit and rail to the area and focus more growth around transit corridors. A recent health forum hosted by the American Lung Association in California in Riverside highlighted the dramatic rates of respiratory illness, heart disease and obesity in the region associated with poor land use and sprawl development.
- **Front load active transportation funding.** SCAG should commit to a higher amount of transportation funding for bike and pedestrian infrastructure, especially in the early years of the 25-year RTP process. SCAG should work with local transportation agencies to prioritize bicycle and pedestrian projects and ensure the majority of funds are spent prior to 2020.
- **Increase investments in zero emission freight transportation** in order to reduce diesel emissions and exposures in communities near freight corridors and rail yards. Ensure that funding mechanisms are in place to expedite the implementation of the zero and near-zero emission freight and truck strategies and infrastructure. Prioritize spending on projects that deliver maximum health benefits for residents of the region, especially those living along freeways and freight corridors.
- **Evaluate the number and type of new developments** that could be located in close proximity to freeways and high traffic roadways in the SCAG region under the new RTP and potential pollution exposures. The Environmental Justice Appendix to the Plan shows that approximately 25% - 27% of households living within 500 feet of freeways could face greater exposures to CO and PM than under the base case, with high concentrations of minority and low income residents disproportionately affected. Work with air district, health departments and universities to develop and implement best practice policies for developments located near heavy traffic areas to reduce exposures to air pollution.

As health and medical organizations and professionals, we recognize that strong government policies to control harmful emissions and that dramatically increase options for active transportation are critical to improving public health and quality of life in Southern California. We stand ready to assist you in implementing a truly health protective, equitable and sustainable plan for Southern California.

Signed,

Kathy Magliato, MD
Board of Directors & Volunteer
American Heart Association

Bonnie Holmes Gen
Executive Director for Air Quality and Public Health
American Lung Association in California

Robert Vinetz, MD and Anne Farrell-Sheffer, MPH
Co-Chairs
Asthma Coalition of Los Angeles County

Zachery Scott
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UCLA School of Public Health*
Former Director, National Center for Environmental Health CDC
Former California State Public Health Officer

* For identification only

Sustainability Committee, Los Angeles Section
American Society of Civil Engineers
Comments on December 2012 draft of
SCAG 2012 Regional Transportation Plan

The Southern California Association of Governments' (SCAG) 2012 Regional Transportation Plan (Plan) is an excellent planning document based on 2005 technology. It lacks only an update for the digital technology of 2010 and an infusion of hope amid the many challenges. You can accomplish that update by inserting the Arial font text at the appropriate locations in the Plan. Any text not in Arial font is supporting logic and documentation. SCAG may choose to insert the non-Arial font or use it to prepare an alternate revenue-expense model.

SCAG is a sufficiently large economy to drive more applications of digital technology for transportation safety and convenience. If SCAG does not drive digital applications, the digital applications will drive SCAG. For example:

- In response to youth surveys, General Motors is applying digital technology. For example; small self-driving taxis and cars which will park themselves a mile or more from their passenger drop off or pick up locations.[1, 2] Today's tech-savvy 0-15-year olds will be the transportation consumers responding (or not) to SCAG's Transportation Demand Management (TDM) as the 18-38-year olds of 2030.
- Drivers are ever more distracted by their digital devices, so much so the National Highway Traffic Safety Administration recommends banning all use of digital devices, even hands free phones.[3] Increasingly distracted drivers are more likely to kill pedestrians and bicyclists, with more adverse impacts on TDM and safety.[4]
- Pedestrians and bicyclists are distracted reading their digital device and oblivious to outside sounds wearing earphones.[5]
- As of 2009, anyone with a smart phone had access to real-time (and very distracting) visual indications of traffic conditions on their alternate routes.

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[1] Self-parking is described in News Briefs, page 36, *Civil Engineering*, December 2011 (*Civil Engineering* is the magazine of the American Society of Civil Engineers). The POD car is described at http://theweek.com/article/index/217867/gms-new-self-driving-pod-car.

[2] General Motors is responding to numerous surveys, "Young buyers want cars that are safe, affordable, compatible with the latest high-tech gadgetry, and good for the environment." In 1983, 80% of 18 year olds had driver's licenses, in 2008 only 67%. http://www.vcstar.com/news/2012/jan/12/editorial-job-1-is-getting-teens-interested-in/

[3] Associated Press, December 17 & 18, 2011 based on NHTSA campaign http://distraction.gov/

[4] Individual car safety/convenience features (adaptive cruise control, self-parking, stability control, out-of-lane warning, etc.) are less likely to sense pedestrians while giving drivers a false sense of safety while distracted.

[5] Editorial in Ventura County Star, December 29, 2011 mentioning the National Transportation Safety Board, the American College of Emergency Physicians, the San Francisco Municipal Transportation Agency, and AAA Texas.

The American Society of Civil Engineers, Los Angeles Section, Sustainability Committee encourages SCAG to drive digital applications for transportation because digital applications allow tremendous improvements in mobility, safety, and air quality with relatively little use of the Earth's natural resources.

Further, motor vehicles manufacturers are implementing digital applications in an uncoordinated fashion motivated to sell more vehicles: adaptive cruise control, stability control, self-parking, voice recognition, collision warning, General Motors' OnStar, etc. While these systems help protect the vehicle occupants, they are likely to increase the rate of bicyclist and pedestrian deaths above 21%.[6] Our committee includes regular bicycle commuters who often get unsolicited comments about the dangers involved. It would seem the perception of danger is discouraging bicycle and pedestrian transportation. It follows that an increase in perceived safety is essential for increasing active transportation.

Executive Summary

After the Mobility, Safety, Air Quality, and Financial Challenges of Executive Summary pages 2 and 3, add:

DIGITAL OPPORTUNITIES

Our electronic systems continue to improve in reliability, performance, and cost. 2035 is as far in the future as 1986 is in the past. In 1986, mobile phones were the size of small vacuum cleaners and anti-lock brakes were standard on a few luxury cars. Personal computers were the size of a desk drawer with the power to handle word processing and simple spreadsheets. In 2010, smart phones are smaller than a deck of cards, are a tenth the cost of a 1986 personal computer, and possess the power of a 1986 super-computer. Full drive-by-wire stability control systems are standard on most cars. The global positioning system (GPS) was not fully operational with civilian accuracy of about 30 feet until 1994. In 2010, smart phones have GPS which can be integrated with the smart phone's accelerometers for precision of a few inches at highway speeds.[7]

Our vision includes pushing the connectivity and computing power of 2010 to address the transportation challenges of 2020, 2030, and beyond.

[6] The December 2011 draft 2012-2035 Plan, page 2.

[7] Differential, Wide Area Augmentation, Local Area Augmentation, and multiple signals increase accuracy. The differential GPS position accuracy of an object which is still for minutes is fractions of an inch. The accelerometers allow moving objects to integrate GPS signals over time to achieve accuracy within several inches and to cover areas with spotty GPS signal reception.

At the end of the Financial Plan Executive Summary pages 7 and 8, add:

REDUCED INSURANCE COSTS

Drivers and businesses in the SCAG region paid about $25 billion in 2010 for vehicle insurance.[8] By pushing digital systems to address transportation safety challenges, SCAG can decrease collisions from about 83,000 per year in 2010 to less than 500 per year in 2035.[9] Digital systems would save drivers and businesses about $240 billion on insurance premiums over the twenty years between 2015 and 2035.[10] Also, by pushing digital systems to address transportation mobility challenges, SCAG can reduce the regional person-hours of traffic delay below 1 million hours per year.[11] The insurance and time savings more than justify the increased gas tax[12] and mileage-based user fee suggested in Table 2 with directly offsetting savings for drivers and business.[13]

[8] An estimate based on proportionality of population SCAG may want to verify.

[9] The modest drop in collisions per year shown in Figure 2.2, page 38 may be due as much to the economy and the increased prevalence of stability control systems than California's Strategic Highway Safety Plans. Extending digital systems beyond drive-by-wire stability control promises near-zero collisions.

[10] It is possible for 99% of vehicles to have digital zero-collision systems by 2035. A linear ramp-down of accidents and insurance costs starting in 2015 would extend over twenty years with an average saving (predicted for 2025) of $12 billion per year.

[11] The December 2011 draft Plan's Figure 6.1 on page 164 indicates essentially no change from 2008's time lost to traffic delays for the Plans' 2035 projection of about 4 million hours/yr. Because digital systems are super-polite (the cars are informing each other of moves well within digital reaction times) merging is smoother and per-lane capacity at speed is easily doubled. The smooth merging feature should be effective eliminating traffic delays even beyond the effective doubling or tripling the number of lanes. While actually doubling lanes or buses or trains is not fiscally possible, virtually doubling them is as inexpensive as $200 per vehicle per a 2005 estimate by General Motors engineers.

[12] Overall sustainability would be better by either 1) shifting the per-mile fee to fuel tax or 2) implement the per-mile fee as a function of vehicle weight. As a commuting bicyclist I might pay 1/20th the rate of a Smart Car, who would pay ¼ the rate of an SUV, who would pay 1/6th the rate of a loaded semi-truck. Bicyclists and pedestrians could pay toward a lottery-type incentive system as combination virtual force field and bicycle computer device logs commuting miles.

[13] The December draft Plan indicates substantial new revenue to preserve essentially the same traffic delay and a modest decrease in vehicle insurance costs. "Same as 2008" will not keep the Ports of Los Angeles and Long Beach competitive with a widened Panama Canal or help the SCAG region attract other businesses while other regions improve their transportation and drop their expenses applying digital systems.

Vision

Change the title and add the following to pages 27 and 28:

INTEGRATED LAND USE AND DIGITALLY ENHANCED TRANSPORTATION

Digitally enhanced transportation is the application of technology allowing:

- Transit users to keep shopping, working, or playing until they receive an alarm that they have just enough time to get to the bus stop.
- Bus drivers to vary their routes and stops in real time to optimize service, revenue, and expense.
- Cities to organize all the possible parking spots (street, schools, churches, business, and individual residences) for public-private coordinated time-of-use and membership-based tolls and space sharing.[14]
- Private drivers and passengers to share rides on-the-fly as a decentralized neighbor-helping-neighbor form of transit.
- Pedestrians and bicyclists to be protected from motor vehicles by a virtual force field using a $50 device which informs motor vehicles of their location, velocity, and accelerations. The same device can offer tips on safe bicycling and safe walking.[15]
- Motor vehicles to be protected by the same virtual force field. The virtual force field not only prevents accidents, it negates the perceived safety of larger vehicles.[16]
- More gamification[17] in traffic management, such as speed camera lottery.
- Safely doubling road capacity while maintaining the speed limit (no congestion delays) by applying the same virtual force field to make vehicles super-polite.
- Rental of bicycles, traditional cars, or self-driving vehicles by the minute.[18]
- Cargo-pooling for mail, hardcopy messages, tools, equipment, food, etc.[19]

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[14] (We may find excess parking spaces to convert into mini-parks or weekly/seasonal business locations.)

[15] (Bicycle on the right! *Spanish translations welcome.* Stop for red light! Cross curbs at right angles.)

[16] The perception of safety in small vehicles allows the proliferation of Smart Car sized vehicles and even freeway capable human-electric hybrids.

[17] Gamification is applying games to life (transportation, education, government, etc.). Gamification and speed camera lottery are explained at: http://www.aol.com/video/youve-got-gabe-zichermann/517241772/?icid=maing-grid7%7Cmain5%7Cvideo-module%7Csec3_lnk1%7C125198.

[18] Many cities already have bicycle rentals by the minute from a multitude of locations spread around the city, one example: http://www.bcycle.com/. General Motors is developing two-person self-driving, self-parking, digitally summoned electric vehicles: http://theweek.com/article/index/217867/gms-new-self-driving-pod-car. Private companies are offering hourly car rentals, one example: http://www.zipcar.com/.

[19] With convenient communications and radio ID tags, a U.S. Postal Service tractor could connect with a preloaded trailer full of store-assembled boxes of groceries, and deliver each box to the apartment which ordered those groceries. See http://www.prweb.com/releases/2011/10/prweb8844077.htm

Background information on decentralized transit and parking

Smart phone-transit[20] is by far the most business like way to reduce vehicle miles. With smart phone-transit, everyone can elect to participate public transit, which is as time conserving as hailing a taxi and as energy and cost conserving as carpooling. That is, the public transit via smart phone is super-convenient relative to buses or trains. There are many examples. This software for i-phones is a ridesharing focused explanation of smart phone-transit: www.avego.com/ui/index.action. This app can work on any smart phone.

Cellphone-parking[21] guides people to empty parking spaces and enhances many other strategies for increasing ridership on traditional and new forms of public transit.

Two non-profits have included smart phone-transit in their documents. Santa Barbara's Community Environmental Council describes it as dynamic ridesharing coordinated with smart phones in their 2007 Transportation Plan for their Fossil Free by 2033 Program. Sierra Club California mentions making transportation information available with smart phones in their November 19, 2008 comment on the California Air Resources Board's (CARB) scoping plan for California's Global Warming Solutions Act of 2006.

Motivation

The author's research for the Santa Barbara Community Environmental Council's Fossil Free by 2033 Transportation Plan (Free by 2033 Plan) confirmed a strong preference for convenience when selecting transportation. The Free by 2033 Plan[22] concludes increased ridesharing can reduce vehicle miles by 20% much quicker and less expensively than can increased use of traditional public transit. Convenience and cost factors strongly favor ridesharing.

These general facts from the Legislative Analyst's Office[23] concerning carpool lanes confirm a need to increase timesaving and convenience aspects of public transportation:

- High Occupancy Vehicle (HOV) lanes are underused in the off-peak direction or during off-peak hours, because there is little timesavings incentive to carpool when traffic is flowing.

[20] Cellphone-transit uses the GPS, computer, and communications capabilities of cellphones to produce public transit by connecting people to share the empty seats in their cars.
[21] Cellphone-parking can have a sensor on each parking spot, or use individual's cellphones, or use the car's digital safety system as the sensor. In any case, the digital system would send information for billing, payment, guiding drivers to empty (non-reserved) spots, and gathering information on parking supply and demand.
[22] http://www.communityenvironmentalcouncil.org/Programs/EP/PDFs/Transportation_Nov08/CEC_transportation_Nov08_final.pdf
[23] Legislative Analyst's Office, "HOV Lanes in California: Are They Achieving Their Goals," January 2000

- HOV lanes are most effective when they provide timesaving. HOV lanes do not increase carpooling, unless there is traffic slowing congestion.

The summer 2008 high fuel costs followed by the fall 2008 low fuel costs provide a price-based example. High fuel costs increased bus and train ridership and prompted calls for more convenient buses and trains. At least in Los Angeles, new summer 2008 riders generally abandoned buses and trains when fuel prices dropped.

Further, consider how rapidly people abandon bicycles, buses, and trains when they can barely afford a private motor vehicle in developing countries. Witness the switch away from bicycles in China and India.

All this implies that transit riding must become as convenient as single occupancy vehicles if transit riding is to increase significantly. Rather than allowing traffic congestion to drag on the economy, make transit more convenient. The best transit riding increasing strategy will be super-convenient. The inexpensive super-convenience of digital applications extends to low income people unlike traditional public transit (which is not convenient) or single occupancy vehicle tolls (which are expensive). SCAG's implementation of smart phone-transit would make SCAG's transit system more sophisticated and 21st Century than New York, San Francisco, London or Paris.

Smart phone-transit & Smart phone-parking

Smart phones can coordinate and improve all our existing transportation equipment with:

- Convenient access to bus and train schedules and next-bus or next-train arrival times, even while you are standing at the curb;
- Automatic payment for train, bus, carpool, taxi, or rideshare (with demand-driven price adjustments honing in on the best price for minimum vehicle-miles);
- The convenient access to several modes of transportation makes traditional public transit more acceptable due to the easy on-the-fly availability of other modes to meet the unexpected.
- Carpools or rideshares scheduled weeks, days, hours, or minutes ahead, or even when a car is parked, or when a car with an empty seat is driving by;
- The smart phone warns you, routinely minutes before arrival, that a bus, train, or parking lot will be full. The warning could be days in advance when people are reserving for special events.
- Real-time ridesharing buddy selection (sometimes you want professional peers, sometimes church buddies, sometimes teammates);
- Navigation guidance to empty parking spots, paying the parking meter, parking meter rates that vary with time of day and number of people in the car;
- Rewarding with parking spots near the "in" restaurant for past public transit use, because the smart phone reliably documents time and distance spent commuting via public transit (or rideshare, or bicycle or walking);

- Businesses, churches, schools, employees, and individual citizen parking space owners could share parking spots with time-of-use metering and the rate communicated through and paid through the smart phone; and
- The smart phones may communicate using UC Berkeley developed software to direct individual drivers around traffic congestion. Again, the congestion can be predicted and prevented hours or even days in advance with sufficient people scheduling transportation on smart phone-transit.

Any smart phone with GPS (global positioning system) and modest computation power can have software more comprehensive than the i-phone application announced by Avego in November 2008. Other phone companies have been a little slower to acquire 3rd party transportation applications. However, the Blackberry Storm, the T-Mobile G1, the Samsung Instinct, and the LG Dare are all smartphones with touchscreens. They should be able to run smart phone-transit software.

The smart parking meters, most using Zigbee radio protocol, are already installed in several communities. San Francisco's SFPark project installed 6,000 meters in summer 2008.[24] Each meter is about the size of a deck of cards, is glued to the pavement, and has several years of battery life. The smart parking meters relay information to each other sometimes via similarly equipped electric, gas, and water meters. The communication allows car navigation to empty parking spaces and rate adjustment from a central office. The internal computer allows parking rates to vary for the convenience of the owner of the parking space and as a means to reduce vehicle-miles.

For example, a school could adjust the parking rate depending on location, time of day, how many students arrive in that vehicle on that day, how often that student has used other public transit or bicycled. A restaurant adjacent to the school could "rent" evening parking hours from the school with automatic payment validation when the people spend more than 20 minutes in the restaurant. Churches could "rent" parking spots for major sports events or nearby Christmas shopping because the parking rate for non-members would be exceptionally high during church events. One side effect of this coordinated parking is the opportunity to convert seldom-used parking into parks or bicycle lanes.

Other solvers will offer many strategies which are greatly enhanced by smart phone-transit and smart phone-parking: wireless web on buses and trains, rewarding employees to abstain from using a parking spot, subsidized bus passes, carpool lanes, time-of-use road tolls, emergency ride home, designated park&ride areas on every block, etc. You can find a great list of such ideas in the Santa Barbara Community Environmental Council's Transportation Plan[3].

[24] See website at SFPark.org. Check comments at http://pressabout.us/sfpark.org.

Economics

As Avego proves, the only cost of providing smart phone-transit in the SCAG area is the cost of encouraging it's use and perhaps assisting Apple and other manufacturers to provide compatibility between smart phones and apps. The cost of smart phone parking is in establishing and maintaining a data base for the smart phones to interact with. Again, private companies can provide this service in exchange for a share of the parking fees. Consumers seeking the conveniences of smart phone-transit and smart phone-parking will force smart phone manufacturers and service providers into larger investments in order to protect or increase market share.

Potential incomes from providing smart phone-transit and smart phone-parking include:

- When each train, bus, or rideshare rider pays the driver, the smart phone-transit service is paid two cents per mile. One billion miles a year would provide $70 million per year.
- The smart phone service provider pays $1 of their monthly Internet service fee to start and maintain the smart phone-transit and smart phone-parking service. Five million smart phone owners generate $60 million a year.
- SCAG might pay the smart phone-transit service a fee to obtain ridership data for adjusting routes and fares to minimize both vehicle-miles and passenger-miles-per-gallon.
- Businesses, schools, churches, and governments could pay for special (picture, music, or video) listing in the service so that people can identify them, find how to travel to them, and gather data on what draws customers, voters, students, and members.
- The smart phone-parking service provider may be paid from a portion of the parking fees (as is often done for traffic-light-running-ticketing cameras).
- Parking space owners can sell parking spaces at the time-of-use rate that fits the owner.

Individuals bear the cost of buying smart phones and services. Because individuals obtain smart phones for so many other reasons, the individual's incremental cost is small. Small is relative and flexible. Phones can be a provided at a nominal cost and profits made on the service. This low initial price is followed by higher operating fees is like obtaining a loan and using the phone purchase to pay for itself with the personal savings on transportation costs.

SCAG can trigger the smart phone market share race, advertise the program, and contribute to economic opportunity with contests and promotions. $1 million would buy about 5,000 smartphones wholesale. The smartphones can be rewards for idea contests, student essay contests, or a recruiting contest. In a recruiting contest, contestants sign up regular customers at regular customer rates. The new customers' transit use is summed (aggregate manner to avoid privacy issues) for the contest period. The contestants whose

customers accumulated the most transit miles win the smartphones and year of service. The summed miles can be displayed on a website with hourly updates to create excitement. Note that a bus or taxi driver with a smartphone and the service creates a participating bus or taxi with automatic payment option and data transfer to the agency.

Charities can participate as receivers of rider's payments, by recycling smartphones, and by subsidizing service fees. Americans are more generous then fugal. That suggests past efforts to encourage more car-pooling were hindered because the $2 fee for giving someone a 5 mile ride wasn't worth the time required to set-up a pool. However, generous Americans will hunt for passengers, if the fees are automatically transmitted to their favorite charity.

Business and government can save money and gain clients by providing employees who attend off-site meetings with the smartphones and service. Businesses doing so gain a marketing edge because their potential clients will want to be associated with such smart and energy efficient service providers.

Future

Consider adding the parking meters as a smart phone feature gradually starting in 2013. The phones will need more accurate GPS, which can be provided using inertial navigation to improve satellite fixes, or by providing more GPS channels within the phone, or by providing more satellite repeaters. The accurate within-a-yard phone would link to the city's GIS (geographic information system) whenever the car stops in any mapped parking spot. Ergo, the smart phone becomes the parking meter.

Background information on zero-congestion, zero-collision vehicles

Motor vehicles can use digital technology to avoid crashing into each other. Commercial aircraft already use this electronics to safely increase landings and take-offs in less time. It's called the Automatic Dependent Surveillance Broadcast System[25] and started coordinating 9,000 helicopter flights a day over the Gulf of Mexico in January 2010. The electronics is robust and keeps getting better. For example, the U.S. Air Force is developing tiny quantum-mechanical devices that improve your car keeping track of itself even if it loses its Global Positioning System signals.[26]

[25] One of many possible descriptions: http://www.rescuecom.com/blog/index.php/computer-support/flight-made-cool-and-safe-ads-b-is-coming/
[26] http://www.scientificamerican.com/article.cfm?id=getting-gps-out-of-a-jam

Electronics is way cheaper than car insurance. In 2005, General Motors engineers estimated $200 per car to upgrade OnStar to zero-crash, zero-congestion.[27] Of course, most other cars would have to be similarly outfitted for this low-cost approach.

Example actions

Allow, beginning January 1, 2013, single driver cars with zero-crash and zero-congestion technology to use car-pool lanes.

Announce such technology will be required for the "fast" lane of 3^{+} lane freeways starting January 1, 2016.

Announce such technology will be required for all but the slow lane of every freeway in SCAG member jurisdictions starting January 1, 2020.

Announce a lottery which bicyclists and pedestrians enter by logging miles with their zero-crash technology equipped smart-phone, bicycle computer, or pedometer.

[27] 2005 quote no longer available, low cost can be inferred from the Vehicle-to-Vehicle portion of http://www.traffictechnologytoday.com/opinion.php?BlogID=45

Richard I. Mueller
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February 9, 2012

Mr. Jacob Lieb
SCAG
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017
Via email: 2012PEIR@scag.ca.gov

Subject: Official Comment on the 2012-2035 Regional Transportation Plan/EIR; Recommendation to Include an Underground, Automated Alternate to the East West Freight Corridor

Ladies and Gentlemen:

For the past two years I have been involved with the refinement and promotion of a freight transportation concept we call "Green Rail Intelligent Development", or GRID. GRID is composed of three major components, as follows.

1) A "SuperDock" to provide highly automated transfer of container freight directly between ships and trains. Two types of trains would be served by the "SuperDock", Class 1 trains for BNSF and Union Pacific to travel through the Alameda Corridor, and drone container trains to and from points in southern California.
2) A freight pipeline, essentially a tunnel for the drone trains to travel between warehouse districts in the Los Angeles region and the Ports.
3) Loading/unloading terminals to feed and receive drone trains into and from the freight pipeline/tunnel. These terminals would be strategically located near concentrations of warehouses in downtown Los Angeles, the City of Commerce, Rowland Heights, and Fontana.

The freight pipeline would essentially provide an unobtrusive, nearly noise-free, electrically powered alternative to the East West Corridor proposed in the RTP.

Initial indications are that the efficiency of the "SuperDock" and freight pipeline system could generate a sufficient cash flow for the system to pay for itself using current freight costs and without any tax increases. This system has received a specific endorsement from the Angeles Chapter of the Sierra Club.

I recognize there is insufficient time for the study of GRID that would be required for GRID to be included as an alternative in the current RTP. However, as soon as the draft RTP is finalized, I encourage SCAG to participate in an investigation of GRID to determine its viability. GRID provides an opportunity for a true paradigm shift in freight transportation within southern California that could significantly reduce highway congestion and make freight transportation to and through southern California competitive with that anywhere in the world.

Sincerely,

Ameron International Corporation
Water Transmission Group



Richard I. Mueller, P.E.
President

Arroyo Verdugo Cities

February 9, 2012

Mr. Jacob Lieb
Ms. Margaret Lin
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

Re: Draft 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Program Environmental Impact Report (PEIR)

Sent: Via e-mail (rtp@scag.ca.gov and 2012PEIR@scag.ca.gov) and via 1st Class Mail

Dear Mr. Lieb and Ms. Lin:

On behalf of the Arroyo Verdugo Subregion, please accept these comments regarding the SCAG 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and associated Transportation Conformity Report and Draft Program Environmental Impact Report (PEIR), which were approved at the Arroyo Verdugo Steering Committee Meeting of February 6, 2012. It is important to state, out of respect for all of my colleagues on the Steering Committee, that the cities of Burbank and Pasadena abstained from all of these comments. However, the majority of the cities (Glendale, La Cañada Flintridge and South Pasadena) did approve these comments to be forwarded to you for review.

Our comments are as follows:

1. **PURSUANT TO FEDERAL REGULATIONS, PROJECTS SHOULD NOT BE INCLUDED IN THE RTP/SCS CONSTRAINED PLAN, WHICH HAVE ONLY SECURED A SMALL PORTION OF THE REQUIRED FUNDING NEEDED TO COMPLETE THE PROJECT:**

   The RTP/SCS, according to federal regulations, in "nonattainment and maintenance areas," (which includes the area covered by the RTP/RCS) must "address the specific financial strategies required to ensure the implementation of projects and programs to reach air quality compliance" (23 CFR § 450.322 (b) (11) (part)). Projects which only have secured a small portion of the needed funding, and which rely on speculative funding, such as potential and/or possible tolling authority, should not be included in the RTP/SCS, since this inclusion does not meet the federal requirements for a fiscally constrained plan.

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2. **LANGUAGE SHOULD BE INCLUDED IN THE RTP/SCS REQUIRING A FULL COST/BENEFIT ANALYSIS FOR ALL PROJECTS IN THE CONSTRAINED PLAN:**

Language should be included in the RTP/SCS that clearly states that a full cost/benefit analysis shall be completed for each project contained in the RTP/SCS constrained plan.

3. **SCAG SHOULD VIGOROUSLY PURSUE PROJECTS WHICH WOULD PROVIDE ENVIRONMENTALLY SUPERIOR ALTERNATIVES TO THOSE CURRENTLY IN THE PLAN IN ORDER TO BEST COMPLY WITH EXISTING ENVIRONMENTAL LEGISLATION:**

The PEIR states that: (1) *"Re-entrained roadway dust would increase proportionate to VMT. This would be a significant impact;"* (2) *"Impacts related to total GHG (Greenhouse Gas) emissions were determined to be significant even after mitigation.;"* (3) the PM10 Emissions Exhaust Only for Heavy Duty Trucks will increase (Table 3.2-4).; and (4) the *"Plan would result in a significant and unavoidable impact related to heavy-duty truck VHD [Vehicle Hours Driven], among other impacts."*

SCAG should vigorously pursue projects under CEQA, the Clean Air Act, SB375 and AB 32 which would provide environmentally superior alternatives to those currently in the Plan, such as freight to rail mixed with additional transit. Additionally, sensitive receptors, such as schools and residences, must have adequate mitigation measures that satisfy these legal requirements.

4. **MAJOR HIGHWAY EXPANSION PROJECTS SHOULD NOT BE FRONTLOADED IN THE RTP/SCS:**

The RTP/SCS frontloads highway modalities by disproportionately allocating funding and anticipated completion dates. This is evidenced by comparing Table 2.2 - *Major Highway Completion Project* against Table 2.5, *Major Transit Projects,* in chapter 2 of the RTP/SCS. Transit projects are built in segments with the final project not being completed until 2030-2035. Expanding highways induces VMT and therefore frontloading major highway completion before transit projects does not comply with the tenets of SB 375 and AB 32 to reduce greenhouse gas emissions by reducing VMT. Additionally it is well documented that land uses adjacent to freeways are prone to increased toxins which cause negative health impacts.

According to SCAG staff, highway projects may be more easily financed than transit projects by borrowing against future toll revenues. They state that this is the reason the highway projects are frontloaded. This financial reasoning does not justify sacrificing environmental concerns by building the highway projects prior to transit projects.

5. **THE TERM "SR-710 GAP CLOSURE" USED IN THE PLAN SHOULD BE SUBSTITUTED WITH "710 NORTH EXTENSION":**

The "SR 710 Gap Closure" language, already in the 2008 RTP, should be modified to consistency with Metro's stated intent, which should serve to ease, if not eliminate, the current polarizing language. The shift in title from "710 North Extension" to "710 Gap

Closure" is invalid, since there is no gap. SR-710 terminates at Valley Boulevard. There is no northerly extension to connect to, since the portion of the 210 interchange including Del Mar Boulevard was built conditioned upon the fact that it "would have no effect on the decision as to the ultimate freeway location and will not foreclose alternatives to the proposed ultimate …Freeway." This title seems to create a sense of inevitability or priority for this project over competing ones and cannot be justified.

6. **SCAG ASSUMPTIONS REGARDING THE "SR-710 GAP CLOSURE" PROJECT PRODUCING CONGESTION RELIEF AND LOWER GREENHOUSE GAS EMISSIONS ARE FLAWED, BASED UPON EMPIRICAL RESEARCH ON OTHER HIGHWAY PROJECTS THAT HAVE BEEN BUILT:**

   The PEIR states that "The Plan would increase VMT when compared to existing conditions." (SCAG RTP/SCS p. 3.2-25). Specifically, decreasing VMT is the goal of SB 375 and should also be the goal of the RTP/SCS. The increase in VMT is the Plan's reliance on freeway (whether tunnel freeway or above ground freeway) expansion to meet the region's mobility needs. Notably, the RTP/SCS describes the SR-710 tunnel as a tunnel with 4 lanes in each direction. This is a major highway expansion being introduced into the region. To the extent that this causes the widening of other freeways (such as the I-210), it will further expand the freeway system. The region would be better served with an alternate project which is not highway oriented and which would potentially decrease VMT, rather than increasing it.

   SCAG assumes that the SR-710 extension will produce congestion relief and lower greenhouse gas emissions. These assumptions are not borne out by recent research, and there are a host of other previous studies showing that an increase in highway capacity increases VMT and that once the project is built, congestion, within a few years, returns. These SCAG assumptions are flawed.

7. **THE DEFINITION OF THE SR-710 GAP CLOSURE PROJECT FROM ONE PRECISE POINT TO ANOTHER THREATENS PROGRAM-LEVEL CONFORMITY IN THE PLAN AND PREJUDICES FUTURE ENVIRONMENTAL ANALYSES:**

   The Plan has modeled the SR-710 extension from one precise point north to another. Unfortunately, this assumption removes the low-build or multi-modal solution to the congestion problem. Under federal regulations, because of this specificity, the Plan and the PEIR threaten program-level conformity and prejudice future project-level environmental analyses.

Thank you for your careful consideration of our comments.

Sincerely,

David A Spence

David A. Spence
Chair of the Arroyo Verdugo Steering Committee

c: Members of the Arroyo Verdugo Steering Committee

ASSOCIATION OF CALIFORNIA CITIES
ORANGE COUNTY

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February 13, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Re: Draft 2012 Regional Transportation Plan and Program Environmental Impact Report

Dear Mr. Ikhrata:

The Association of California Cities – Orange County (ACC-OC) is grateful for the opportunity to provide its comments on the Southern California Association of Government's 2012 Regional Transportation Plan/Sustainable Communities Strategy draft Program Environmental Impact Report. By way of background, the ACC-OC recently joined a coalition of local governments, business community and non-profits to provide its comments and concerns on several key issues where the coalition agreed upon, including:

- Induced growth
- Financial feasibility and responsibility for the implementation of proposed mitigations
- Funding assumptions, especially as it relates to conceptual "mileage-based" user fees
- Mitigation measures that exceed SCAG's authority and responsibilities for implementation of the RTP.

In supplement to these issues, the ACC-OC respectfully submits a series of additional concerns that we believe should be addressed to ensure the RTP/SCS can meet its objectives without unnecessarily burdening cities across Southern California. These issues include:

- **In general, the RTP infringes upon local control**: The 2012 RTP assumes an inability of local agencies to balance the societal and cultural costs associated with plan objectives and instead requires that they assume the objectives stated in the plan, which may or may not be shared local objectives. Matters such as reducing vehicle miles traveled, eliminating the consumption of fossil fuels in favor of zero or near zero emission vehicles, installing infrastructure necessary to support

zero emission vehicles (such as charging stations), reducing obesity, environmental justice impacts, anticipating extreme weather and related events, increasing development densities, and the likelihood of the adoption of active transportation methods or the practicality of necessary infrastructure improvements are matters of intense local debate and are not appropriate subjects for regional determination. The RTP should be based less upon behavior management of both the public and public agencies and more upon accurate predictions of population patterns and future transportation requirements.

- **The RTP takes aggressive steps to force cities to adopt costly programs in a time when cities are facing record budget shortfalls and loss of revenues**: Many cities continue to struggle with the loss of revenue into general funds. Additionally, with the loss of redevelopment funds – a staggering $550 million in Orange County alone – cities face difficult choices on whether or not they can afford to pursue beneficial programs, including blight removal, transportation-oriented development projects, and the greening of cities. While these may be meritorious projects, cities will now be forced to chose between these and core services, including public safety. Mitigation measures, a sample of which is included below, exacerbate the difficulty of these choices.

    - **Urban Growth Boundaries: MM-LU42** – *"Local jurisdictions or agencies can and should establish an urban growth boundary (UBG) with related ordinances or programs to limit suburban sprawl; local jurisdictions or agencies can and should restrict urban development beyond the UGB and streamline entitlement processes within the UGB for consistent projects."*
    - **Climate Action Plans: MM-GHG9** - *SCAG member cities and the county governments can and should adopt and implement Climate Actions Plans (CAPS, also known as Plans for the Reduction of Greenhouse Gas Emissions as described in CEQA Guidelines Section 15183.5 Tiering and Streamlining the Analysis of Greenhouse Gas Emissions)*
    - **Energy Audits: MM-PS91** - *Local jurisdictions can and should require the performance of energy audits for residential and commercial buildings prior to completion of sale, and that audit results and information about opportunities for energy efficiency improvements be presented to the buyer.*
    - **Parking Management Plans MM-TR96** – *"Local jurisdictions can and should implement a Parking Management Program to discourage private vehicle use..."*

Moreover, these mitigation measures deal mostly with SB 375's Greenhouse Gas Reduction targets. However, Orange County completed its own SCS (included in the RTP as an appendix) to ensure it can achieve these goals. Therefore, any SB 375 and/or SCS mitigations should also be included as an appendix and for the consideration of each sub-region, including Orange County.

ASSOCIATION OF CALIFORNIA CITIES
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- **SCAG has significantly over-reached on the implementation language of these (and other) mitigation measures.** The aforementioned measures, as well as numerous others, utilize troublesome "can and should" language in context of the implementation of mitigation measures. This broadly assumes that **a)** cities have the ability to enforce and impose these measures and **2)** that there is funding to ensure the application. In many instances, neither is accurate. This is a fundamental problem with the RTP and must be remedied by replacing "can and should" with "should" or "may."

  Orange County went to great lengths to produce its own SCS that met CARB's GHG reduction targets. However, the draft RTP/SCS proposed mitigation measures go well beyond what the Orange County-level SCS found to be effective tools to reach these targets. To assume that Orange County cities "can and should" implement these draconian mitigation measures is to discount the extraordinary effort to develop an effective SCS for the unique cities in Orange County.

- **Funding mechanisms for the RTP need much more economic analysis**. Specifically, the identification of more than $110 billion through the implementation of a "mileage-based" fee is conceptual at best; even an "adjusted gas tax alternative" is not guaranteed. Developing a $500 billion transportation plan with approximately 20 percent of the budget attached to a concept requires a significant local, regional, state and federal vetting process. We encourage SCAG to include alternative methods of funding should such a mileage-based fee be deemed infeasible.

Thank you again for the opportunity to comment on this important document. We strongly advise SCAG to incorporate these comments into the next draft of the RTP/SCS PEIR and look forward to working with SCAG on its improvement.

Respectfully submitted,

Lacy Kelly

Lacy Kelly
CEO, ACC-OC

Cc: Will Kempton, CEO, OCTA
Dave Simpson, Executive Director, OCCOG
Lucy Dunn, President & CEO, OCBC
Dennis Wilberg, President, OCCMA

February 9, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West 7th Street, 12th Floor
Los Angeles, CA 90017-3435

Subject: 2012 RTP

Dear Mr. Ikhrata:

For more than a century the Automobile Club of Southern California, with six million members, has advocated for better mobility, traffic safety, quality of life, and economic opportunity. We support policies and projects to achieve these objectives and reasonable and fair ways to pay for them.

Development and approval of an effective and achievable Regional Transportation Plan (RTP) is crucial to a more mobile and stronger economic future. The Auto Club commends the Southern California Association of Governments (SCAG) for its work on the draft RTP, for highlighting and addressing important issues, and for including needed strategies ranging from expanded road, transit, and goods movement capacity to system preservation. The following are comments and recommendations to strengthen the RTP and ensure its implementation delivers promised benefits.

Government, business, and user stakeholders need to work together to implement realistic and appropriate new revenues. The RTP assumes $220 billion in new taxes and fees (mostly levied on motorists) and financing over the next 20+ years. Some of these assumptions are not realistic and will not likely happen. And other funding options, not now in the plan, might be implemented. The region needs to work together to identify and advance the best, most appropriate funding options to provide needed financing for RTP priorities.

The RTP must protect and uphold the transportation priorities approved by voters through various local transportation sales tax measures. Voters in five counties approved sales tax measures to fund specific highway and transit projects. The RTP must include and support all of these priorities and help deliver what voters were promised and what voters approved. Failure to do so will make approval of future funding measures nearly impossible.

The 15¢ gas tax increase assumed through 2024 is reasonable if it is paired with state and national reforms to ensure funds will be spent efficiently on effective projects. Gas tax rates

have not changed in almost 20 years. This user tax has been the backbone of transportation funding for decades and it will continue to be an important resource for years to come.

The final draft RTP clearly rules out a previously considered regional gas tax or gas "fee." This is an important improvement that should be maintained in the final plan. Gas taxes have been implemented at the state and national level for decades. Attempting to extend such authority to local or regional government is not realistic and will hamper other efforts to fund transportation. Re-labeling the gas tax as a "fee" does not change the fact that it is a tax protected by the State Constitution and numerous voter-approved measures. For these reasons the Auto Club strongly opposes any attempt to impose local gas taxes or any form of a "fee" on gasoline.

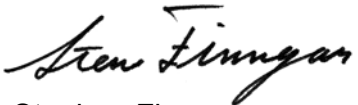
The Vehicle Miles Traveled (VMT) charge included in the RTP should be studied further as a long-term replacement for the gas tax. However, the amount of the proposed VMT is significant, it will not be accepted by many people, and it needs to include assurances regarding how the funds will be spent. The proposed VMT fee is projected to generate $110 billion (half of the RTP's funding shortfall). To generate this amount, the proposed VMT charge is equivalent to a tripling of the gas tax in addition to new tolls and other user fees. Such a large tax increase places a significant burden on motorists without assurances of an equivalent or proportionate benefit.

Tolls can be an important financing tool for new general purpose highway lanes and for allowing more vehicles to use existing HOV lanes by making them HOT lanes. Tolls should not be imposed on existing general purpose lanes. The user-pay, user-benefit principle is an important cornerstone of transportation funding. Charging tolls for new lanes or to allow more vehicles to access HOT lanes provides both needed funding for the new facilities and inherent value to users paying the toll. However, there is no assurance that motorists will adequately benefit from tolls or congestion fees imposed on existing freeway lanes or surface streets. New taxes and fees are only successful when the public understands and sees a clear benefit for paying them.

The RTP needs to recognize that the most realistic and effective way to achieve desired emissions reductions has been and will continue to be through technology advancements and not through sweeping attempts to fundamentally alter lifestyles and economic, geographic, and demographic patterns. Although SB 375 and its Sustainable Community Strategy are required elements of the RTP, they are not likely to significantly reduce GHG emissions. Improving and encouraging transit, bicycling, and walking are appropriate and good objectives for the RTP. However, emissions reductions from these efforts will be very small compared to those that can and will be achieved through other means. These other means include improving automobile technologies, alternative fuel and energy sources, and better system preservation and management to improve traffic flow and safety.

Thank you for this opportunity to share our thoughts on the draft RTP. The Auto Club looks forward to continuing our work with SCAG and other transportation and business partners to productively, realistically, and meaningfully address Southern California's mobility and financial challenges. Please feel free to contact me at 714-885-2307 or finnegan.steve@aaa-calif.com.

Sincerely,



Stephen Finnegan
Manager, Government Affairs and Public Policy

c: SCAG Regional Council

BROOKS STREET

February 14, 2012

Margaret Lin
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

Re: Comments on Draft 2012-2035 Draft RTP/SCS

Dear Ms. Lin:

Thank you for the opportunity to comment on SCAG's Draft 2012-2035 Regional Transportation Plan and Sustainable Communities Strategy ("Draft RTP/SCS" or "SCS"). We understand that this is an enormous undertaking and appreciate SCAG's efforts in this process. We look forward to playing a constructive role in the further development of the SCS.

As explained below, we are concerned that the draft RTP/SCS as proposed would result in an inappropriate use of the regional growth forecast planning effort to encroach on local land use authority and jurisdiction. We therefore request that SCAG (1) extend the comment period and make transportation analysis zone (TAZ) data available for public review and comment; (2) correct the TAZ data and maps to accurately reflect current local planning decisions including entitled projects; and (3) revise the SCS so that consistency determinations are made not at the small-scale scale level of a TAZ, but at the jurisdictional level to allow reasonable flexibility and appropriate land use decision making authority at the local level.

1. The SCS does not appear to account for projects already in process

Brooks Street represents the owners of thousands acres of property in southern California, and has a long history of top-quality developments in the SCAG region. However, we are concerned that the SCS process has not fully accounted for projects that are already in process. Brooks Street has projects in southern California that are fully entitled and approved for build-out, as well as proposed projects with pending applications that represent a substantial investment of resources to design, plan and communicate with the community and responsible agencies. While the SCS itself states that it was created with input from local jurisdictions (see, for example, Draft RTP/SCS p. 111), we are concerned that the growth projections contained in the SCS and Land Use Pattern Maps do not in fact reflect the land use decisions that have been made by local jurisdictions. More specifically, while the Draft RTP/SCS indicates that it has shifted projected densities from less developed areas to the urbanized core, nowhere does the SCS clearly state that those shifts in density take into account development projects that are either already approved or that are reasonably foreseeable projects which local jurisdictions have already spent considerable resources processing.

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2. Underlying TAZ data must be released to allow meaningful public comment

Moreover, the SCS's treatment of approved projects is impossible to determine from the information that SCAG has made available to the public. The 2035 Land Use Pattern Maps, which are intended to depict projected density and land use, are at such a large scale, with such slight color gradations, that they cannot be interpreted in any meaningful way. The SCS itself does not seem to contemplate that these maps will be important to future transportation and land use decisions. Instead, the SCS focuses on the projected density contained in the data that underlies the maps -- data that SCAG has not released to the public. The SCS states that the land use projections contained in the SCS are based on the distribution of growth forecast data to transportation analysis zones. (RTP/SCS, p. 122.) According to the SCS, the TAZ data contains forecasted housing, population, and employment data, which the SCS used to create "Community Types" and more refined "Development Types" that contain average use designations, densities, and building intensities. The SCS states that a Development Type, including an average residential density, has been assigned to each TAZ for purposes of creating the SCS. (Draft RTP/SCS, p. 123.) However, it cannot be determined whether this assignment was made in a manner that takes existing conditions (including approved and reasonably foreseeable projects) as a baseline for these projections, nor can it be determined how the forecasting was done or how it was distributed across the TAZ.

Despite the critical role of the TAZ data in developing the SCS, we are not aware that SCAG has made this data available for public review and comment in any meaningful way. We were able to obtain partial data, showing housing densities only, from other agencies involved in the SCS process. These data do not contain employment or population forecasts, and do not contain any Community Type or Development Type designations which, according to the SCS, have been assigned to each TAZ. It is not possible for the public to provide meaningful comment on the SCS without access to the underlying data on which density and land use projections are based. In the absence of the underlying data and modeling supporting the proposed plan, we are substantially impaired in our ability to provide meaningful public comment on the technical and legal adequacy of the plan. In particular, we cannot assess whether the underlying data adequately reflects all developments as approved. Under the federal (5 U.S.C. § 500 *et. seq.)* and California Administrative Procedures Acts (Gov. Code §§11340 *et seq*., including § 11346.2(b)(6)), the opportunity for public comment must include disclosure of the data and technical studies in time to provide meaningful public comment. *See, e.g. Solite Corp. v. EPA,* 952 F.2d 473, 484 (D.C.Cir.1991) (per curiam).

While we are not confident that the data is either accurate or complete, we have reviewed what data we were able to obtain. Based on our review we conclude that the forecasted housing densities do need to be corrected, as the numbers clearly do not reflect either existing entitlements or pending, reasonably foreseeable projects.

3. Implications of consistency with underlying TAZ data

The importance of the TAZ data is not limited to understanding how the SCS was created. In addition to being the basis for creation of the SCS land use projections, according to the SCS, the TAZ data is to be relied on in future determinations as to whether a project is consistent with the SCS. The SCS states:

> "SCAG suggests that utilizing community types at the TAZ level of geography (which an average size of 160 square acres) offers local jurisdictions adequate information and flexibility to make appropriate consistency findings for projects to be eligible to receive CEQA streamlining benefits." (Draft RTP/SCS p. 122.)

> "One way of determining consistency [with the SCS] is if a proposed residential/mixed use or TPP [Transit Priority Project] conforms with the Development Type designated for a TAZ." (Draft RTP/SCS, page 148.)

Despite these explicit statements that the existing TAZ data will be critically important to future decisions affecting projects, SCAG has not provided the public the opportunity to review and comment on the TAZ data in any meaningful way.

Significantly, a project's consistency with the SCS -- which is to be determined at the TAZ level according to the SCS -- affects not only the availability of CEQA streamlining incentives, but can have adverse consequences for the availability of federal funds for transit improvements that would serve the project. Transit improvement projects relying on federal funding must be consistent with an approved RTP, and with the adoption of SB 375, that includes consistency with the Sustainable Communities Strategy portion of the RTP as well. (40 CFR 93.102; 42 U.S.C. 7506.) Thus, if the Draft RTP/SCS has shifted density away from approved or pending projects, those projects stand to lose critical transit improvements. The loss of transit improvements could impair project feasibility, or create new unmitigated impacts if traffic mitigations become unfunded, which could result in an unlawful taking of private vested property rights for those projects that have already been approved by local jurisdictions. In many cases, approved projects also involve executed development agreements, which means that violation of contractual rights could also result, causing difficult situations for developers and local jurisdictions.

We are concerned that a project's inconsistency with the growth projections contained in the SCS may have broader implications as well. Local jurisdictions will be under considerable pressure to conform their general plans to the density, intensity, and land uses contained in the SCS, or risk losing transportation funding throughout their jurisdictions. While all the implications of a project's inconsistency with the SCS have yet to be determined, we are concerned that by shifting density away from locally approved and pending projects, the SCS is creating land use policy in violation of SB 375's mandate that the SCS must not supersede the land use authority of cities and counties. (Gov't Code 65080(b)(2)(J).)

4. RTP/SCS consistency should be determined at the jurisdictional level

The TAZ maps are a modeling tool for engaging in a regional planning and evaluation process. The feasibility of achieving the precise results in any particular TAZ area has not been evaluated or confirmed by any city council or board of supervisors, and as explained above it appears that the TAZ data and maps for 2035 do deviate from general plans and vested entitlements that have been approved by these elected officials. While we understand elected bodies or senior administrative staffs of local jurisdictions may have approved local input for the overall population and household numbers within their respective jurisdictions, we believe they have not approved the TAZ data or maps. Accordingly, requiring consistency determinations concerning use designations, density, and building intensity at the small scale of each TAZ would be inappropriate and overly-prescriptive.

Again, SB 375 specifically precludes SCAG from interfering with local land use decisions.[1] SB 375 requires that an SCS "identify the ***general*** location of uses, residential densities, and building intensities ***within the region***…." Calif. Government Code § 65080(b)(2)(B)(i) (emphasis added). Thus there is no legislative mandate that SCAG identify the location of land uses, densities and building intensities within the region more precisely down to a TAZ level. Instead, SCAG should appropriately identify these characteristics at a level consistent with the need for reasonable flexibility and local control. At the lowest, the level of comparison should be at a jurisdictional level – particularly given that there are nearly 200 jurisdictions within the SCAG region. Accordingly, we urge SCAG to identify such characteristics at no finer a scale than at the lesser of (i) the jurisdiction, and (ii) the sub-region (i.e., where unincorporated county land is divided into sub-regions).

[1] SB 375 provides in pertinent part:

- "Neither a sustainable communities strategy nor an alternative planning strategy regulates the use of land . . . "
- "Nothing in this section shall be interpreted as superseding the exercise of the land use authorities of cities and counties within the region."
- "Nothing in this section shall be interpreted to authorize the abrogation of any vested right whether created by statute or by common law."
- "Nothing in this section shall require a city's or county's land use policies and regulations, including its general plan, to be consistent with the regional transportation plan . . . ." (Gov't Code section 65080(b)(2)(J)

Despite SB 375's mandate that the SCS not regulate land use, the draft RTP/SCS "shifts" households "from the periphery into the urbanized core" stating that much of this shift "will occur naturally in the marketplace," and that this "shift" was done "per consultation with the local jurisdictions." (Draft RTP/SCS p. 128.) However, this shift does not "occur naturally," nor through a "consultation" process between agency staff that excludes the public. Instead, such a shift can only occur, if at all, as part of a separate and lengthy discretionary development application process involving requests to local land use jurisdictions to amend their general plans, specific plans, areas plans, and zoning. In short, there is no "shift" to high-density housing in some local jurisdictions, and away from housing density already approved by other jurisdictions, unless and until the local land use jurisdictions adopt the requested discretionary approvals.

4. Conclusion

The draft RTP/SCS represents a substantial and important regional planning effort. We believe the current draft needs to be corrected to reflect current local land use planning decisions, and to ensure that the regional growth projection process is not implemented in a manner that infringes on either vested property rights or the land use authority of local jurisdictions. We appreciate SCAG's consideration of the comments provided in this letter and look forward to your responses. If you should have any questions, please do not hesitate to contact me.

Sincerely,



Scott Goldie

February 14, 2012

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Re: Building Industry Association of Southern California, Inc.'s Comments on the Drafts of the 2012 Regional Transportation Plan & Sustainable Communities Strategy (RTP/SCS) and the Program Environmental Impact Report (PEIR)

Dear Mr. Lieb:

Building Industry Association of Southern California, Inc. (BIASC) is a regional trade association that represents more than 1,000 member companies. Together, BIASC's members build most of the homes and communities throughout the same six-county region in which Southern California Association of Governments (SCAG) is the metropolitan planning organization. Naturally, therefore, BIASC is profoundly interested in SCAG's role in land use regulations and all regional planning for development and redevelopment.

Given our strong interest in the subject, BIASC is grateful for this opportunity to provide comments concerning both (i) SCAG's Draft 2012 Regional Transportation Plan (RTP) – which includes an inaugural Sustainable Communities Strategy (SCS), and (ii) the draft of the Program Environmental Impact Report (PEIR), in which the environmental impacts of the 2012 RTP/SCS are discussed.

First, BIASC appreciates SCAG's staff's professionalism and extremely hard work up to this point. In 2008, when the California Legislature enacted Senate Bill 375 (SB 375) and thus mandated the creation of a regional land use plan, the Legislature assigned SCAG's staff daunting new challenges. Throughout SCAG's process of developing the SCS, BIASC has enjoyed a positive working relationship with SCAG's staff professionals; and we look forward to continuing that working relationship.

Second, BIASC brings to the SCS development process an ingrained, institutional philosophy about how land-use decision-making should be undertaken. We believe that sound land-use decisions are best made by the persons who best understand the local contexts in which development and redevelopment take place. Given our philosophical predisposition, BIASC has worried from the start that an SCS for SCAG's region, if not thoughtfully considered and fashioned, can harm our vitally important industry, our regional economy, and our society.

In addition, BIASC is well aware that attempts made elsewhere to adopt and implement "top-down" regional land-use strategies have fared quite poorly. For example, in July 2010, the British Government abolished its "regional spatial strategies" (RSS) law – six years after its enactment. In announcing the RSS law's abolishment, Britain's Planning Minister explained:

> "[T]hese controversial [regional spatial] strategies have proved that top-down targets do not build homes. All they have produced is the lowest peace time house building rates since 1924 and fuelled resentment in the planning process that has slowed everything down."[1]

Because of both (i) BIASC's longstanding preference for local land use decision-making, and (ii) our concerns about the consequences of an ill-conceived SCS, BIASC has participated very actively in the public processes that led up to the draft documents on which we now comment. BIASC's principles and preferences have been expressed many times to SCAG's staff, leaders, committees and regional council members in many forums. Notwithstanding our consistent participation and urging, however, we must now respectfully point out our remaining concerns about the Draft RTP/SCS and the Draft PEIR.

In terms of the sheer quantity of concerns, most of them relate to the Draft PEIR. BIASC's specific comments on the Draft PEIR are so numerous that a lengthy appendix accompanies this letter, in which our concerns are expressed in some detail. BIASC respectfully asks SCAG to respond, in accordance with CEQA and prior to consideration of the final PEIR for certification and approval by SCAG's Regional Council, to each issue presented in the appendix.

To briefly summarize BIASC's Draft PEIR concerns here, though, they are threefold. First, the Draft PEIR indicates that hundreds of specific mitigation measures would need to be analyzed and incorporated to the extent feasible in every future project throughout the SCAG region. Importantly, many of the listed mitigation measures were never before assembled for presumptive application to individual projects. Instead, many of them were drawn from "model policies" that were intended for consideration *only* at a jurisdictional planning level – *not* an individual project level. *See* Model Policies for Greenhouse Gases in General Plans, June 2009, at p. i (disclaimer), found at http://www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA-ModelPolicies-6-12-09-915am.pdf and incorporated herein by reference.

Second, many of the mitigation measures set forth in the Draft PEIR have no relationship to the RTP/SCS or its impacts (e.g., mitigation measures ranging from low-flow toilets to green roofs). Other mitigation measures are quite far-fetched, such as the requirement to remove obstacles to "edible landscaping" at all projects throughout SCAG's six-county region.

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[1] See http://www.dlpconsultants.co.uk/pdfs/client_briefing/42%20Client%20Briefing%20Abolition%20of%20RSS%20&%20SoS%20Statement.pdf

Most worrisome about the Draft PEIR, however, is this: If the Draft PEIR were finalized as presently drafted, SCAG would mandate the application of project mitigation measures that already conflict with, or will quickly conflict with, evolving and dynamic regulations covering a variety of topics. For example, the Draft PEIR prescribes mitigation requirements concerning matters that involve storm water management, home energy efficiency standards, fire protection, landscaping, water supply analyses, and municipal sewage treatment facilities – all of which are matters and activities that are subject to evolving standards.

For these reasons and those more thoroughly explained in the accompanying appendix, BIASC respectfully urges SCAG to clarify and cull the Draft PEIR.

Concerning the actual policy documents at issue (i.e., the Draft RTP and the Draft SCS themselves), BIASC has one fundamental concern: Page 148 of the Draft SCS suggests that local governments should look to "transportation analysis zone" (TAZ) maps to determine whether a particular project is consistent with the land use designation, density, and building intensity of the SCS. BIASC believes that this section needs to be revised for three distinct reasons.

First, BIASC is informed that the TAZ maps break land masses up into relatively small-scale areas averaging perhaps only about 150 acres in size (and even smaller in more densely populated areas). Requiring determinations about the consistency of future land uses to the SCS – concerning use designations, density, building intensity and the applicable SCS policies – at that fine a scale would be overly-prescriptive. SCAG need not be nearly so prescriptive because SB 375 requires only that an SCS "identify the *general* location of uses, residential densities, and building intensities *within the region*…." Calif. Government Code § 65080(b)(2)(B)(i) (emphasis added). Given this legislative mandate, there is no reason for SCAG to measure and compare land-use characteristics within the region at the very fine TAZ level vis-à-vis policy determinations.

Instead, the final RTP/SCS should permit local agencies to measure and compare land use characteristics with the regional strategy at a level consistent with the need for reasonable ongoing flexibility in local land use control. Therefore, the level of comparison should be, at the finest, at a city jurisdictional level (including any sphere of influence) – given that there are nearly 200 separate jurisdictions within the SCAG region. BIASC specifically urges SCAG to identify and compare such land use characteristics at no finer a scale than (i) the cities (including their respective adjoining spheres of interest), and (ii) concerning the unincorporated areas outside of local spheres of interest, by comparison to the rough-scale map that indicates generally the locations of building intensification shown in the SCS. *See* Exhibit 2 to the Draft SCS Background Documentation, found at http://rtpscs.scag.ca.gov/Documents/2012/draft/SR/2012dRTP_SCSBackgroundDocumentation.pdf.

Second, BIASC is concerned that any prescriptive use of TAZ maps for policy purposes could have negative consequences vis-à-vis the pending process for a required federal

conformity determination. Under the federal laws that relate to the federal funding of regional transportation infrastructure, an RTP must be constructed using "the latest planning assumptions." "Using the 'latest' planning assumptions means that the conformity determination is based on *the most current information that is available to state and local planners*…." U.S. E.P.A. Guidance for the Use of Latest Planning Assumptions in Transportation Conformity Determinations (EPA420-B-08-901, December 2008), ¶ 2.2 (emphasis in the original), found at: http://www.epa.gov/otaq/stateresources/transconf/policy/420b08901.pdf and incorporated herein by reference. If and to the extent that SCAG's TAZ-level maps and the data reflected in them are unacceptable to local planners and were not available to them when the RTP was developed, then fine-scale data based upon the TAZ maps should not be incorporated into the RTP via the SCS. They would instead need to be separated out from the RTP and – at most – made part of an "alternative planning scenario" (APS) under California Government Code section 65080(b)(2)(H). We believe that any conflict between the federally-mandated RTP approach and the SCS TAZ-level maps can be avoided by making all relevant policy determinations based on comparisons viewed at the city level (including any sphere of influence) and by reference to the generalized locations depicted for intensification in unincorporated county areas (for example, in Exhibit 2 to the *Background Documentation* as noted above).

Third, no TAZ-level maps were provided to the public as part of either the Draft RTP/SCS or the Draft PEIR, nor were they included in any of the appendices that SCAG provided to the public. Hopefully, the omission reflects SCAG's pre-publication determination to forgo the use of any TAZ-level maps for policy purposes. If this were the case, then it appears that SCAG's staff inadvertently failed to revise page 148 of the Draft SCS prior to its publication for comment; and SCAG should now revise that page to reflect a more appropriate approach (the jurisdictional approach suggested above). If, however, SCAG actually intended the policy prescription that is suggested on page 148 of the Draft SCS, then SCAG must be faulted for having failed to disclose an essential component of the RTP/SCS, which is the new level of policy prescription that such TAZ-level maps would impose or induce through the implementation of SB 375.

Under judicial precedents decided pursuant to the California Environmental Quality Act (CEQA), SCAG's public disclosures in the Draft RTP/SCS and the Draft PEIR would be inadequate if they failed to disclose TAZ-level policy prescriptions affecting the region's population distributions and concentrations:

> The detail [of draft disclosure concerning changes induced in population distribution, population concentration, and the human use of the land] required in any particular case necessarily depends on a multitude of factors, including, but not limited to, *the nature of the project, the directness or indirectness of the contemplated impact and the ability to forecast the actual effects the project will have* on the physical environment.

Napa Citizens for Honest Government v. Napa County Bd. of Supervisors (2001) 91 Cal.App.4th 342, 369 (emphasis added).

In short, if SCAG were planning to utilize the TAZ-level maps as actual policy drivers (as page 148 of the Draft SCS may suggest), then SCAG needed to disclose the details of those TAZ maps; and SCAG did not. *See* CEQA Guidelines, Tit. 14, § 15144 ("an agency must use its best efforts to disclose all that it can"). SCAG would also need to have analyzed environmental impacts in much more detail than presented in the Draft PEIR, including the thousands of direct conflicts between TAZ maps for established communities and CEQA thresholds relating to General Plan compliance, Quimby Act compliance, impacts to protected greenbelts and historic resources, local congestion and traffic safety impacts, impacts to schools and other public services. Therefore, BIASC respectfully asks SCAG to revise page 148 of the SCS to avoid the insinuation that TAZ-level maps should be utilized for any future regulatory or policy purpose.

As a final additional comment on the draft policy documents, we note that two of SCAG's brethren metropolitan planning organizations (one in the San Diego area another in the Sacramento area) have each included a 2050 planning year horizon in their respective RTP/SCS documentation. Such a long-term perspective seems appropriate to consider because land use and transportation patterns evolve relatively slowly; and they are subject to numerous variables (e.g., the economy, and the allocation of federal funding for regional transportation projects). Accordingly, SCAG's ambitious vision for higher density development patterns along transit corridors may not be realized for many decades.

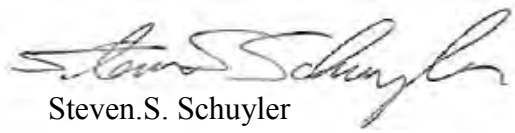
In the nearer term (2020 and 2035), the statewide targets for GHG reductions which were established pursuant to Assembly Bill 32 (2006) may be more feasibly be realized through other measures such as renewable energy, cleaner cars and cleaner fuels, and stationary source controls, as the California Air Resources Board's AB 32 Scoping Plan explains. It is possible that, in light of analytical constraints prescribed by CARB, the SCAG region cannot realistically attain the 2020 and 2035 GHG emission reduction targets established by CARB, in which case an APS may be appropriate. Therefore, SCAG's consideration of a longer-term, 2050 planning horizon may be a useful framework for informing local agencies and other interested stakeholders about a more feasible, longer-term regional planning effort.

To conclude, BIASC wishes to once again commend SCAG's staff for its willingness to be open and frank with BIASC's representatives about a whole range of points of views concerning the RTP/SCS and its potential impacts. BIASC looks forward to working with SCAG's staff through the completion of this challenging process and beyond as the final RTP takes shape and ultimately takes effect.

Respectfully,



Andrew R. Henderson
Vice President and General Counsel



Steven.S. Schuyler
Vice President Government Affairs

cc: Mr. Hasan Ikhrata

Attachment (appendix)

Appendix to the February 14, 2012 Comment Letter from Building Industry Association of Southern California, Inc. to Southern California Association of Governments

Detailed Comments on the Draft PEIR on the Draft 2012 RTP/SCS

In furtherance of the comments set forth in the accompanying letter, Building Industry Association of Southern California, Inc. respectfully submits the additional, detailed comments set forth below for SCAG's consideration and response:

To preface, the Draft RTP/SCS and Draft PEIR are both comprehensive in nature; but -- like all draft documents – they require clarification, correction, and revision as SCAG works to prepare the final versions of the RTP/SCS and PEIR for the SCAG Regional Council's possible certification and approval. This appendix, therefore, provides a number of specific comments on the draft documents; in accordance with CEQA (see, *e.g.*, CEQA Guidelines, § 15088). BIASC respectfully requests that responses to each of these comments be included in the Final PEIR.

As background, the Draft RTP reflects a long-range plan that includes transportation projects, policies, and a financial plan to create a blueprint for the region's multimodal transportation system through 2035. The RTP improvements include transportation investments in projects to close critical gaps in the network that hinder access to certain parts of the region, and to strategically enhance the region's transportation system to increase mobility for the region's residents and economy.

The SCS -- a component of the RTP -- is a strategy required by SB 375 (Chap. 728, Statutes 2008), also known as the Sustainable Communities and Climate Protection Act of 2008. SB 375 directs the California Air Resources Board (CARB) to set regional targets for the reduction of greenhouse gas (GHG) emissions, consistent with AB 32, California's Global Warming Solutions Act of 2006. The RTP's SCS component contains strategies to reduce GHG emissions from passenger vehicles by eight percent per capita by 2020 and 13 percent per capita by 2035, compared to 2005, as set by CARB.

Among other things, the SCS is a growth strategy for the region which, in combination with transportation policies and programs, strives to reduce GHG emissions from passenger vehicles and, if feasible, help meet CARB's reduction targets. (Gov. Code, § 65080(b)(2)(B).) This growth strategy is implemented when the SCS "sets forth a forecasted development pattern" for the region. (*Id.*) It is important to emphasize that that this development pattern must comply with federal law, which requires that any pattern be based upon "current planning assumptions" that include the information in local general plans and adopted sphere of influence boundaries. (Gov. Code, § 65080(b)(2)(B), (G).) Local jurisdictions (*i.e.*, cities and counties) are full partners in this process and retain full local land use decision-making and zoning authority. (Gov. Code, § 65080(b)(2)(K).)

The Draft PEIR represents a public disclosure and information document to be prepared in accordance with CEQA and the State CEQA Guidelines. The Draft PEIR is required to describe the proposed RTP/SCS project, its potential significant environmental impacts, alternatives to the proposed project, and the proposed mitigation measures to avoid or minimize the identified significant environmental effects.

BIASC's Specific Comments on the Draft PEIR

1. The Draft PEIR, Section 1.0, Introduction, page 1-5, should be revised to delete the sentence stating that proposed mitigation measures "can be incorporated as policies in the final 2012-2035 RTP/SCS and will help ensure that feasible mitigation measures are implemented at the project level." Similarly, page 149 of the Draft RTP/SCS should be revised to eliminate the "mandate" language and instead state: "The following tables list specific implementation strategies that local governments, SCAG and other stakeholders may use or consider while preparing specific projects that help ~~can and should undertake in order~~ to successfully implement the SCS."

Explanation: First, there is no legal requirement for the Draft PEIR's proposed mitigation measures to be incorporated as policies in the Final RTP/SCS. Second, SCAG's Regional Council, as its decision-making body, retains the discretion to determine whether the Draft PEIR's proposed mitigation measures are actually feasible and this determination is made as part of the Regional Council's findings adopted in compliance with CEQA. The Draft PEIR should not limit or constrain the Regional Council's discretion to make mitigation feasibility determinations required by CEQA. Indeed, the Draft PEIR exceeds its authority under CEQA by appearing to dictate "feasible" mitigation measures -- a decision reserved for the Regional Council as part of its final, deliberative decision-making process.

2. The Draft PEIR, Section 1.0, Introduction, page 1-5, should be revised to delete the following text:

> "The implementing agencies and local lead agencies shall be responsible for ensuring adherence to the mitigation measures as 2012-2035 RTP/SCS projects are considered for approval over time. Lead agencies shall provide SCAG with documentation of compliance with mitigation measures through SCAG's monitoring efforts, including SCAG's Intergovernmental Review (IGR) process."

Explanation: First, SCAG has no jurisdiction or legal authority to require "implementing agencies and local lead agencies" to ensure adherence to the mitigation measures found in the Draft PEIR or those measures ultimately adopted by the Regional Council. Second, no "implementing agencies or local lead agencies" are required by law to consider the Final PEIR mitigation measures unless the agency decides to "tier" from SCAG's Final PEIR in preparing project-level environmental analysis. Finally, based on staff's statements during workshops and other public processes, SCAG's original intent was never to impose such requirements on implementing agencies and local lead agencies. Therefore, the text should be deleted to clarify it was never SCAG's intent to prescribe mitigation upon implementing agencies, local lead agencies, or project sponsors.

3. The Draft PEIR, Section 1.0, Introduction, page 1-6, should be revised to delete the following text:

> "CEQA provides that an EIR can include feasible mitigation measures that are within the responsibility and jurisdiction of another agency. The appropriate CEQA finding in such instances is that such mitigation measures have been or "can and should be" adopted. (Pub. Resources Code, § 21081(a)(2); CEQA Guidelines §15092(a)(2).) When this finding is made, there is no further requirement that SCAG find that mitigation measures that are within the responsibility and jurisdiction of another agency have been incorporated into the project. That latter finding is reserved for mitigation measures within SCAG's responsibility and jurisdiction."

Explanation: First, CEQA does not provide that an EIR can include feasible mitigation measures within the responsibility and jurisdiction of another agency. Instead, CEQA (Pub. Resources Code, § 21081(a)) allows, but does not require, a lead agency to adopt the "can and should" finding provided it has no jurisdiction to address the identified significant impacts with mitigation measures that it can enforce through permit conditions, agreements, or other measures. (See CEQA Guidelines, § 15091(c), (d).) Further, the "can and should" finding is only "one or more" of the findings specified in section 21081(a) that needs to be adopted.

Second, when making the findings in Public Resources Code section 21080(a)(2) -- *i.e.*, the "can and should" findings--SCAG, in any case, is not required to adopt such "can and should" measures in its Mitigation Monitoring and Reporting Plan (MMRP). (See CEQA Guidelines § 15091(d), which only requires the lead agencies' mitigation measures to be part of the MMRP.)

Third, the Draft PEIR's "can and should" measures are not required to be considered or adopted by implementing agencies, local agencies, or project sponsors, unless they decide to "tier" from SCAG's Final PEIR when preparing project specific environmental analysis. Further, as explained in paragraph 12, below, the Draft PEIR's "can and should" measures are beyond SCAG's jurisdiction and legal authority; they are inconsistent with policy considerations that the SCAG Regional Council should consider before certifying the Final PEIR and approving the RTP/SCS; and, they are duplicative of existing federal, state, regional, and local regulatory frameworks with their own, separate NEPA or CEQA compliance requirements.

4. The Draft PEIR, Section 1.0, Introduction, page 1-6, must be revised to delete the following text:

> "Nevertheless, it is reasonable to expect that the other agencies will actually implement the mitigation measures assigned to them (see discussions below of transportation and land use planning and development projects)."

Explanation: This statement was made in connection with the Draft PEIR's "can and should" mitigation measures. However, SCAG has no jurisdiction or legal authority to "assign"

mitigation measures to implementing agencies, lead agencies, or project sponsors, nor is there any evidence in the record to support SCAG's statement that it is "reasonable to expect that other agencies will actually implement" the "can and should" measures identified in the Draft PEIR. As stated above, no agency or project sponsor is required to consider any of the "can and should" mitigation measures in the PEIR, unless the agency decides to "tier" from SCAG's Final PEIR in preparing project-level environmental analysis.

5. The Draft PEIR, Section 1.0, Introduction, page 1-7, must be clarified as shown below:

"**Transportation Project Mitigation**

SCAG has limited authority to approve individual second-tier transportation network improvement projects in the RTP. Most individual transportation projects in the RTP will be implemented by Caltrans, county transportation commissions, local transit agencies, and local governments. ~~These agencies routinely implement the types of mitigation measures identified in this Draft PEIR during project design, CEQA review, and/or project construction. This Draft PEIR has made a preliminary determination that the proposed mitigation measures are feasible and effective. Therefore, it is reasonable to expect that these agencies will actually implement them.~~

Land Use Planning and Development Project Mitigation

SCAG has no authority to adopt local land use plans or approve local land use projects that will implement the SCS. As described in the section below, SB 375 specifically provides that nothing in SB 375 supersedes the land use authority of cities and counties. In addition, cities and counties are not required to change their land use plans and policies, including general plans, to be consistent with an RTP/SCS. (Government Code §65080(b)(2)(K). Local governments are the main agencies responsible for mitigation of the impacts of land use plans and projects that implement the RTP/SCS, and SCAG has no concurrent authority to mitigate the impacts of land use plans and projects. ~~Local governments routinely implement the types of mitigation measures identified in this Draft PEIR during project design, CEQA review, and/or project construction. This Draft PEIR has made a preliminary determination that these mitigation measures are feasible and effective. Therefore, it is reasonable to expect that local governments will actually implement them.~~"

Explanation: First, SCAG's record does not support the Draft PEIR's statement that implementing agencies, local agencies, or project sponsors "routinely implement" the types of mitigation measures identified in the Draft PEIR. In fact, there is no "routine" or "formula" associated with the identification and ultimate adoption of mitigation measures. Instead, such measures are identified in response to a specific project's significant environmental impacts and those impacts depend upon the project's unique characteristics, location, topography, relation to other development, and numerous other unique site conditions. Further, once an EIR identifies

proposed mitigation measures specific to the project and its conditions, the lead agency retains ultimate discretion to adopt such measures or reject them on infeasibility grounds. (Pub. Resources Code, § 21081(a)(3); CEQA Guidelines, § 15091(a)(3).)

Second, the Draft PEIR asserts that it made a "preliminary determination that these mitigation measures are feasible and effective." Again, however, the Draft PEIR's statement is not supported by any evidence or analysis contained in the record. Finally, nothing in the Draft PEIR or record supports the statement that it is "reasonable to expect that local governments will actually implement" SCAG's "can and should" mitigation measures.

6. The Draft PEIR, Section 1.0, Introduction, page 1-12, should be clarified as follows:

"**CEQA Incentive**

As previously discussed, SB 375 provides incentives in the form of CEQA streamlining to encourage community design that supports reduction in per capita GHG emissions. The land use input for SCAG's SCS was created with the use of Traffic Analysis Zones (TAZ) and Development Types. "Development Types" were made at the TAZ level of geography (with an average size of 160 acres) to offer local jurisdictions ~~adequate~~ information ~~and flexibility~~ to make ~~appropriate~~ consistency findings for projects eligible to receive CEQA streamlining benefits.

The Development Types used in the SCS do not represent detailed, parcel-level land use designations such as those found within a local jurisdiction's General Plan, but rather represent the aggregation of multiple land uses, densities and intensities that are expected to preponderate at the jurisdictional level ~~or average out within a neighborhood-sized area~~ by 2035. Each Development Type is comprised of various characteristics related to employment and housing density, urban design, mix of land uses, and transportation options. Details describing the characteristics contained within each Development Type are available in Appendix: SCS Background Documentation. The lead agency, not SCAG, will be responsible for making the determination of consistency for CEQA streamlining purposes, pursuant to the provisions of SB 375, for any given proposed project. See Govt. Code § 65080(b)(2). ~~One way of determining consistency is if a proposed residential/mixed use or TPP conforms to the Development Type designated for a TAZ.~~

The Development Types are expressed in terms of use designations, densities and building intensities; and, for any given type, there is one residential density indicated. For example, the "Town Center" Development Type reflects an estimated average density of 22 residential units per acre. However, it is important to note that the designation is a potential ultimate average for the TAZ -- and is not an absolute project-specific requirement that must be met in order to determine consistency with the SCS. In other words, the SCS was not developed with the intent that each project to be located within any given TAZ must exactly

equal the density and relative use designations that are indicated by the SCS Development Type in order for the project to be found consistent with the SCS's use designation, density, building intensity and applicable policies. Instead, any given project, having satisfied all of the statutory requirements of either a residential/mixed-use project or TPP as described above, may be deemed by the lead agency to be consistent with the SCS so long as the project achieves consistency at the jurisdictional level, considering the ~~does not prevent achieving the estimated average~~ use designations, densities and building intensities indicated by the Development Type within the TAZ, assuming that the TAZ will be built-out under reasonable local planning and zoning assumptions.

SCAG's growth projection data is available on its website for lead agencies to use to determine whether projects are consistent with the SCS."

Explanation: The above clarifications are required to ensure that the SCS consistency determination is made by the local land use agencies, not SCAG, and that CARB's assessment of that consistency will be evaluated at the broader jurisdictional/regional level, as anticipated by CARB in its July 2011 "Description of Methodology for ARB Staff Review of Greenhouse Gas Reductions from Sustainable Communities Strategies (SCS) Pursuant to SB 375," which is incorporated by this reference.

Additionally, this jurisdictional (*i.e.*, city/county) level is more appropriate when compared to smaller geographic levels, such as Traffic Analysis Zones (TAZs) or parcel assessments that would limit cities and counties' control over land use. While the SCS sets forth forecasted development patterns that may differ from those envisioned in various general plans, those patterns, nonetheless, still must be consistent with "current planning assumptions" and those assumptions must be grounded in the local general plans and sphere of influence boundaries. (See Gov. Code, § 65080(b)(2)(B).)

Please also revise/clarify all same/similar text found in the Draft PEIR, Section 2.0, Project Description (see, for example, page 2-29).

7. The Draft PEIR, Section 2.0, Project Description, page 2-2, should be revised to clarify the summary of the required "contents" of the SCS. Currently, the Draft PEIR states:

"According to Section 65080 of the California Government Code, in summary the SCS must:

- Identify existing land use;
- Identify areas to accommodate long-term housing needs;
- Identify areas to accommodate an eight-year projection of regional housing needs;
- Identify transportation needs and the planned transportation network;
- Consider resource areas and farmland;

- Consider state housing goals and objectives;
- Set forth a forecasted growth and development pattern; and
- Comply with federal law for developing an RTP."

Explanation: The above text must be revised and clarified. The SCS is a growth strategy for the region which, in combination with transportation policies and programs, strives to reduce GHG emissions and, if it is feasible, help meet CARB's emission targets for the region. Specifically, a SCS must:

(a) Identify the general location of uses, residential densities, and building intensities with the region;

(b) Identify areas with the region sufficient to house *all* the population of the region, including all economic segments of the population, over the course of the RTP's planning horizon;

(c) Identify areas within the region sufficient to house an eight-year projection of the regional housing need of the region;

(d) Identify a transportation network to service the transportation needs of the regions;

(e) Gather and consider the best practically available scientific information regarding resource areas and farmland in the region;

(f) Consider the state housing goals;

(g) Set forth a forecasted development pattern for the region, which, in combination with the transportation network and other transportation policies, will reduce the GHG emissions from passenger vehicles, if it is feasible, and help meet CARB's emission targets in the region; and

(h) Quantify the reductions in GHG emissions the SCS is projected to achieve and any shortfall in reaching the regional target.

(See Gov. Code, § 65080(b)(2)(B), (H).)

It is important to disclose that the SCS's "forecasted development pattern" must comply with federal law, which requires that any pattern be based upon "current planning assumptions" that include the information in local general plans and sphere of influence boundaries. (Gov. Code, § 65080(b)(2)(B), (G).)

Please revise the Draft PEIR or incorporate the above text into the Final PEIR. Additionally, the same text (quoted above) is repeated in Draft PEIR, Section 2.0, Project Description, on page 2-25, and that text also requires the same revisions/clarifications specified above.

8. The Draft PEIR, Section 2.0, Project Description, page 2-2, should be revised as follows:

"SCAG's SCS demonstrates the region's ability to attain the GHG emissions reduction targets set forth by the ARB. The SCS outlines SCAG's ~~plan~~ strategy for integrating the transportation network ~~and related strategies~~ with an overall land use pattern that ~~responds to projected~~ predicts or forecasts growth, housing needs and changing demographics, and transportation demands. However, neither the SCS nor an alternative planning strategy will supersede a city's or county's general plan or other planning policies or authorities. Nor must a local agency's planning policies, including the general plan, be consistent with either strategy."

Explanation: The above revisions are required to clarify that the SCS is a growth strategy based on a forecasted development pattern of growth for the region and that the SCS does not supersede a city's or county's general plan or other planning policies or authorities.[1] Further, a local agency's land use policies, including its general plan, need not be consistent with the RTP's SCS. (See Gov. Code, § 65080(b)(K).)

Please also see Draft PEIR, Section 2.0, Project Description, at page 2-25. The same text (quoted above) is presented on page 2-25, and also requires the same revisions/clarifications specified above.

9. The Draft PEIR, Section 2.0, Project Description, page 2-25, states:

"In accordance with Government Code Section 65080(b)(2)(B)(vii), the 2012-2035 RTP/SCS will achieve GHG emission reductions of eight percent per capita in 2020 (meeting the target for 2020) and 16 percent per capita in 2035 (surpassing the 13 percent reduction target for 2035)."

Comment: Government Code section 65080(b)(2)(B)(vii) states that the SCS must set forth a "forecasted development pattern for the region," which, in combination with the transportation network and other transportation policies, will reduce GHG emissions from passenger vehicles to achieve, if feasible, the CARB's GHG emission reduction targets. Section 65080 does not call for exceeding CARB's targets. While perhaps laudable, it also reflects that SCAG went beyond the legal requirements set forth in that section.

Please explain the legal basis for exceeding those legal requirements. Additionally, please clarify and confirm that any consistency determinations will be based on CARB's reduction targets for the region (eight percent per capita reduction in 2020 and 13 percent per capita reduction in 2035), and *not* on the SCS projection of 16 percent per capita reduction in 2035.

10. The Draft PEIR, Section 2.0, Project Description, page 2-27, sets forth a description of the SCS's forecasted development patterns, which should be revised as follows:

[1] The Institute for Local Government emphasizes this point in its write-up of "The Basics of SB 375: Transportation, Housing and Greenhouse Gases," which is found at http://www.ca-ilg.org/SB375Basics and incorporated by this reference.

Land Use Development Pattern. The land use development pattern of the 2012-2035 RTP/SCS, which assumes a significant increase in small-lot single-family and multi-family housing will mostly occur in infill locations near transit infrastructure, in so-called HQTAs [High-Quality Transit Areas]. In some cases, the land use pattern assumes that more of these housing types will be built than is currently anticipated in local general plans, and in most cases, this shift in housing type -- especially the switch from large-lot to small-lot single-family homes—will occur only if local land use jurisdictions exercise their discretion in approving such shifts from large-lot to small-lot development and amend their zoning and general plans, specific plans, areas plans, etc., to reflect such approvals. ~~naturally in the marketplace as developers shift to products in high demand.~~

. . .

The 2012-2035 RTP/SCS land use development pattern accommodates over 50 percent of new housing and employment growth in HQTAs, while keeping jurisdictional totals consistent with local input. It moves the region towards more compact, mixed-use development leading to more opportunities for walking and biking, more transit use, and shorter auto trips. The 2012-2035 RTP/SCS ~~allocates~~ forecasts growth according to five community types that are further subdivided into 13 development types. The 13 development types, provide for a broad range of housing types, including smaller-lot single family homes, townhomes, and multifamily condominiums and apartments. In forecasting the SCS development land use pattern, SCAG recognizes the RTP/SCS is not to directly regulate the use of land or affect the land use authority of cities and counties within a given region. (Government Code §65080(b)(2)(K).) Further, SCAG acknowledges that the law (i.e., SB 375) does not require that a local general plan, specific plan, or zoning be "consistent" with the RTP/SCS. (Ibid.) Finally, SCAG recognizes the authority of local jurisdictions to regulate land use through their police powers as authorized by California law and that nothing in the RTP/SCS supersedes the local jurisdictions' exercise of their land use authority.

Explanation: At least two reasons justify revisions to the above quoted text in order to be consistent with applicable law (*i.e.*, SB 375). (Gov. Code, § 65080.) First, according to the Draft PEIR, the forecasted land use development pattern in the SCS, in some cases, assumes that *more* high-density housing will be built than is currently anticipated in the local general plans of the affected counties and cities. However, SB 375 requires the contemplated land use development pattern in the SCS -- a component part of the RTP -- to utilize "the most recent planning assumptions considering local general plans and other factors." (Gov. Code, § 65080(b)(2)(B).) Unfortunately, SCAG has deviated substantially from the locally adopted general plans, and has made its own land use assumptions that are in conflict with the land use plans of adopted general plans within the region.

Second, the draft SCS and associated Draft PEIR both blur the line between regional planning (*i.e.*, preparing the required SCS forecasted land use development pattern) and local land use authority and jurisdiction. The SCS is not to directly regulate the use of land or affect the land use authority of cities and counties within a given region. (Gov. Code, §

65080(b)(2)(K).) Additionally, the law (*i.e.*, SB 375) does not require that a local general plan, specific plan, or zoning be "consistent" with the SCS. (*Ibid*.) Despite these legal limitations, SCAG has made a "shift" in housing types -- deviating from the most recent planning assumptions in the locally adopted general plans -- stating that the shift or "switch" will "occur naturally" in the marketplace due to shifting demands. However, this shift does not "occur naturally." Instead, such a shift can only occur, if at all, as part of a separate and lengthy discretionary development application process involving requests to local land use jurisdictions to amend their general plans, specific plans, areas plans, and zoning. In short, there is no "shift" to high-density housing, unless and until the local land use jurisdictions adopt the requested discretionary approvals.

Please revise/clarify all same or similar text in the Draft PEIR (see, for example, page 2-30).

11. The Draft PEIR, Section 2.0, Project Description, page 2-35, should be revised as follows:

> SCAG will use this PEIR as part of its review and approval of the 2012-2035 RTP/SCS. The lead agencies for individual projects may use this PEIR as the basis of their regional and cumulative impacts analysis. ~~In addition, for projects that may be eligible for CEQA Streamlining, applicable mitigation measures from this EIR shall be incorporated into those projects as appropriate. It is the intent of SCAG that member agencies and others use the information contained within the PEIR in order to "tier" subsequent environmental documentation of projects in the region.~~ Information from this document may also be incorporated in future County Congestion Management Programs and associated environmental documents, as applicable.

Explanation: The deleted text is stricken, above, to clarify SCAG's likely original intent. First, as to projects that may be eligible for CEQA streamlining under SB 375, the local agencies (*i.e.*, cities/counties) ultimately will be responsible for the project-level environmental analysis and no law or regulation requires that analysis to "incorporate" the PEIR's mitigation measures into those projects. The local agencies retain that discretion, based on the project-level environmental analysis conducted and the mitigation measures to reduce or avoid the identified significant impacts. Second, member agencies, project sponsors, and others are not required to use the information contained in the PEIR, unless their project-level environmental analysis "tiers" from SCAG's Final PEIR.

12. The Draft PEIR, Section 3.0, Environmental Setting, Impacts & Mitigation Measures, sets forth over 500 proposed mitigation measures. The Draft PEIR's Executive Summary also identifies each measure. In general, the Draft PEIR's proposed "can and should" mitigation measures must either be rejected on infeasibility grounds or revised substantially for the following reasons:

(a) SCAG has no authority/jurisdiction to require other agencies to implement project-specific mitigation measures;

(b) SCAG has no authority/jurisdiction to monitor mitigation compliance and to incorporate the mitigation as "policies" in the RTP/SCS;

(c) SCAG has provided no evidence or analysis substantiating its belief that the identified measures are "feasible;"

(d) Member agencies, project sponsors, and others retain the discretion to determine which measures are feasible for any given project at subsequent project-specific stages;

(e) Several of the Draft PEIR's proposed mitigation measures are outside of SCAG's jurisdiction and authority;

(f) Many of the Draft PEIR's proposed mitigation measures are not desirable based on policy considerations; and

(g) Numerous Draft PEIR's proposed mitigation measures are duplicative of existing federal, state, regional, and local statutory or regulatory frameworks that require their own NEPA or CEQA compliance; and, therefore, are unnecessary.

Notably, the Draft RTP/SCS, page 75, includes the "2012 RTP Environmental Mitigation" program, which is based on the proposed mitigation measures listed in the Draft PEIR. The Draft RTP/SCS, page 75, states that the list of all the mitigation measures included in the PEIR also will be included in the "Environmental Mitigation Report" of the Final RTP/SCS. On pages 76-84, the draft plan then summarizes the Draft PEIR's proposed mitigation measures for all 13 environmental categories addressed in that document. Many of the RTP/SCS summaries repeat the mandates (*i.e.*, "require") and the outcome-determinative provisions (*i.e.*, "ensure") set forth in the proposed mitigation measures contained in the Draft PEIR. This discussion needs to be revised in a manner that is consistent with the content of the Final PEIR. Additionally, the Draft RTP/SCS's "Environmental Mitigation Program," pages 75-84, must be revised, consistent with SCAG's revisions and clarifications that are required to be made to the "can and should" mitigation measures set forth in the Draft PEIR. Absent revisions to this section of the Draft RTP/SCS, there will be a serious inconsistency between the plan and the PEIR.

13. The Draft PEIR contains several proposed mitigation measures that mimic comprehensive, existing statutory or regulatory requirements; and, therefore, they (and numerous other measures) should be rejected or revised substantially in order to eliminate needless regulatory duplication. The following Draft PEIR mitigation measures are cited as examples:

> **MM-BIO/OS17:** Project sponsors can and should replace any disturbed wetland, riparian or aquatic habitat, either on-site or at a suitable off-site location at ratios to ensure no net loss. See **MM-BIO/OS1** through **MM-BIO/OS14**.

MM-BIO/OS18: Project sponsors can and should ensure that when individual projects include unavoidable losses of riparian or aquatic habitat, adjacent or nearby riparian or aquatic habitat should be enhanced (e.g., through removal of non-native invasive wetland species and replacement with more ecologically valuable native species).

MM-BIO/OS50: For projects adjacent to natural watercourses, project sponsors can and should submit a vegetation management plan for review and approval by the Lead Agency that includes, as deemed appropriate, the following measures:

- Identify and do not disturb a 20-foot buffer from the top of the natural watercourse. If the top of bank cannot be identified, leave a 50-foot buffer from the centerline of the watercourse or as wide a buffer as possible between the watercourse centerline and the proposed site development.
- Identify and leave" islands" of vegetation in order to prevent erosion and landslides and protect nesting habitat.
- Leave at least 6 inches of vegetation on the site.
- Trim tree branches from the ground up (climbing up) and leave tree canopy intact.
- Leave stumps and roots from cut down trees to prevent erosion.
- Plant fire-appropriate, drought-tolerant, preferably native vegetation.
- Err on the side of caution; if a plant, tree or area is sensitive, obtain a second opinion before cutting.
- Provide erosion and sediment control protection if cutting vegetation on a steep slope.
- Leave tall shrubbery at least 3-feet high.
- Fence off sensitive plant habitats and creek areas to protect from animal grazing as appropriate and necessary.
- Do not clear-cut vegetation. This can lead to erosion and severe water quality problems and destroy important habitat.
- Do not remove vegetation within 20-feet of the top of bank. If the top of bank cannot be identified, do not cut within 50-feet of the centerline of the natural watercourse or as wide a buffer as possible between the natural watercourse centerline and the proposed site development.
- Do not trim/prune branches that are larger than 4 inches in diameter.
- Do not remove tree canopy.
- Do not dump cut vegetation in a creek.
- Do not cut tall shrubbery to less than 3-feet high.
- Do not cut of short vegetation (grasses, ground-cover) to less than 6-inches high.

These measures (and several others) are unnecessarily duplicative of the comprehensive wetlands/riparian/aquatic habitat regulatory scheme that is already in place at the federal level through the Clean Water Act section 404 permitting process overseen by U.S. Army Corps of Engineers, and at the state level through the California Department of Fish and Game's section

1600 streambed alteration program. This regulatory/jurisdictional scheme comprehensively addresses significant impacts to wetlands, riparian, and aquatic habitat and associated resources. The regulatory/jurisdictional scheme also requires its own NEPA and/or CEQA compliance. Therefore, such measures should be rejected, particularly when project-specific conditions and other factors are unknown.

14. Other examples of Draft PEIR mitigation measures that are duplicative of existing statutory or regulatory frameworks with their own environmental requirements are provided below:

> **MM-BIO/OS20:** If specific project area trees are designated as "Landmark Trees" or "Heritage Trees", then approval for removals can and should be obtained through the appropriate entity, and appropriate mitigation measures can and should be developed at that time, to ensure that the trees are replaced. Mitigation trees can and should be locally-collected native species.
>
> **MM-BIO/OS21**: Retention of trees on-site can and should be prioritized consistent with local regulations. Adequate protection can and should be provided during the construction period for any trees that are to remain standing, including the following, plus any recommendations of an arborist:
>
> a. Before the start of any clearing, excavation, construction or other work on the site, every protected tree deemed to be potentially endangered by said site work, can and should be securely fenced off. Such fences can and should remain in place for duration of all such work. All trees to be removed can and should be clearly marked. A scheme can and should be established for the removal and disposal of logs, brush, earth and other debris that will avoid injury to any protected tree.
>
> b. Where proposed development or other site work could encroach upon the protected perimeter of any protected tree, special measures can and should be incorporated to allow the roots to breathe and obtain water and nutrients. Any excavation, cutting, filing, or compaction of the existing ground surface within the protected perimeter should be minimized. No change in existing ground level should occur from the base of any protected tree at any time. No burning or use of equipment with an open flame should occur near or within the protected perimeter of any protected tree.
>
> c. No storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees should occur from the base of any protected trees, or any other location on the site from which such substances might enter the protected perimeter. No heavy construction equipment or construction materials should be operated or stored within a distance from the base of any protected trees. Wires, ropes, or other devices should not be attached to any protected tree, except as needed for support of the tree. No sign,

other than a tag showing the botanical classification, should be attached to any protected tree.

d. Periodically during construction, the leaves of protected trees can and should be thoroughly sprayed with water to prevent buildup of dust and other pollution that would inhibit leaf transpiration.

e. If any damage to a protected tree should occur during or as a result of work on the site, the project sponsor can and should immediately notify the appropriate local agency of such damage. If, such tree cannot be preserved in a healthy state, the local agency can and should require replacement of any tree removed with another tree or trees on the same site deemed adequate by the local agency to compensate for the loss of the tree that is removed.

f. All debris created as a result of any tree removal work can and should be removed by the project sponsor from the property within two weeks of debris creation, and such debris can and should be properly disposed of by the project sponsor in accordance with all applicable laws, ordinances, and regulations.

These measures also unnecessarily intrude into local agency (*i.e.*, cities and counties) jurisdiction, which comprehensively regulates designated trees for avoidance, minimization, and mitigation of significant impacts to such sensitive resources. For example, Los Angeles County already has in place the "County of Los Angeles Oak Tree Ordinance," which is a comprehensive permit process regulating significant impacts to oak trees, which are recognized as significant historical, aesthetic, and ecological resources within Los Angeles County. The Los Angeles County Ordinance applies to all unincorporated areas of the County. Cities within Los Angeles County either have adopted the County ordinance or their own ordinance, which may be more stringent. Additionally, the County of Ventura has implemented its "Tree Protection Ordinance," which applies to all unincorporated areas of Ventura County. Likewise, the County of Orange enforces the County's "Tree Code," which requires a permit before almost all tree removal within the County. The County of Riverside has adopted "Oak Tree Management Guidelines;" and San Bernardino County has adopted the Plant Protection Ordinance, which protects trees and calls for replacement when authorized to be removed pursuant to a tree removal permit.

15. Other Draft PEIR mitigation measures exceed SCAG's jurisdiction and authority. Specifically, SCAG's jurisdiction and authority is limited by its structure. More specifically, SCAG is a public agency and voluntary association of counties and cities established in 1965 by a "joint powers agreement" among its members, pursuant to California Government Code section 6500, et seq.[2] SCAG is not an agency with land use, taxing, or regulatory powers,[3] nor is it a special district. As such, it is not "another layer of government." (*Id.*)

[2] Title I, Division 7, Chapter 5, of the Government Code authorizes two or more public agencies to enter into a joint powers agreement.

Instead, SCAG's purpose is to provide a forum for discussion, study, and development of recommendations on regional issues of mutual interest and concern to its member agencies regarding the orderly physical development of the southern California region.[4] According to SCAG's overall work program (May 2010), SCAG's primary responsibilities include development of the RTP/SCS, the Federal Transportation Improvement Program (FTIP), the annual Overall Work Program, and transportation-related portions of local air quality management plans.[5] According to SCAG, under the federal Clean Air Act, SCAG is responsible for determining whether the transportation plans and programs are in conformity with state air quality plans.[6] SCAG's additional functions include intergovernmental review of regionally significant development projects,[7] periodic preparation of a Regional Housing Needs Assessment (RHNA), and serving as the area-wide wastewater treatment management planning agency under the federal Clean Water Act.

Because SCAG's jurisdiction/authority is limited by its structure, purpose, and powers, SCAG cannot impose "can and should" mitigation measures on local land use jurisdictions/project sponsors. Examples of measures that fall far beyond SCAG's jurisdiction and authority are provided below, and should either be rejected or revised substantially:

> **MM-BIO/OS40:** Project sponsors can and should avoid siting new 2012-2035 RTP/SCS transportation facilities within areas not presently exposed to impacts from transportation facilities. If avoidance is infeasible, the project should minimize vehicular accessibility to areas beyond the actual transportation surface. This can be accomplished through fencing and signage. Additionally, the area of native habitats to be lost to proximity to a transportation facility should be assessed and habitat at a quality of equal or superior value can and should be secured and protected in perpetuity.
>
> **MM-BIO/OS47:** Project sponsors can and should ensure that transportation systems proposed in the 2012-2035 RTP/SCS avoid or mitigate significant impacts to natural lands, community open space and important farmland, including cumulative impacts and open space impacts from the growth associated with transportation projects and improvements.

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[3] See "Questions and Answers about the Southern California Association of Governments," prepared by SCAG, p. 1-2.

[4] See, SCAG's Joint Powers Agreement, file number 113.

[5] See, *e.g.*, SCAG's Overall Work Program, Fiscal Year 2010-2011, May 2010, p. 1.

[6] SCAG's Overall Work Program, Fiscal Year 2010-2011, May 2010, p. 1.

[7] In this capacity, federal and state laws have required SCAG to review and comment on the consistency of regionally-significant projects with adopted regional plans. If a regional project is determined to be inconsistent, SCAG may suggest adjustments so that the City or County can approve the project, but SCAG has no jurisdiction or authority to "reject" such projects.

MM-BIO/OS49: Project sponsors can and should include into project design, to the maximum extent practicable, mitigation measures and recommended best practices aimed at minimizing or avoiding impacts to natural lands, including, but not limited to FHWA's Critter Crossings, Ventura County Mitigation Guidelines, CDFG's Wildlife Action Plan and any applicable conservation plans.

MM-BIO/OS54: Local jurisdictions or agencies can and should establish policies and programs to restore, protect, manage and preserve conservation areas, including forested areas, agricultural lands, wildlife habitat and corridors, wetlands, watersheds, and groundwater recharge areas, that remove and sequester carbon from the atmosphere.

MM-BIO/OS55: Conservation Area Development: Local jurisdictions or agencies can and should establish programs and funding mechanisms to create protected conservation areas, including:

- Imposing mitigation fees for development on lands that would otherwise be conservation areas, and use the funds generated to protect other areas from development;

- Proposing for voter approval a small tax increment (e.g., a quarter cent sales tax, perhaps for a finite time period that could be renewed) to fund the purchase of development rights in conservation areas, or purchase of the land outright.

MM-BIO/OS56: Conservation Area Preservation: Local jurisdictions or agencies can and should establish policies to preserve existing conservation areas, and to discourage development in those areas.

MM-BIO/OS59: Local jurisdictions or agencies can and should evaluate existing landscaping and options to convert reflective and impervious surfaces to landscaping, and install or replace vegetation with drought-tolerant, low-maintenance native species or edible landscaping that can also provide shade and reduce heat-island effects.

16. Several of the biology-related Draft PEIR mitigation measures also prescribe specific mitigation ratios. Such measures should be revised. For example, MM-BIO/OS19 should be revised, as follows:

MM-BIO/OS19: For projects near water resources project sponsors can and should implement Best Management Practices (BMPs) at construction sites to minimize erosion and sediment transport from the area. BMPs include encouraging growth of vegetation in disturbed areas, using straw bales or other silt-catching devices, and using settling basins to minimize soil transport. (See also Water Resources Mitigation Measures.) ~~Mitigation for occupied habitat impacted is likely to be compensatory off-site acquisition or protection of similar~~

~~habitats at a ratio of 3:1 (compensation acres to that impacted) or other similar ratio with the approval of the USFWS.~~

Explanation: The above measure should be revised to ensure that SCAG does not exceed its authority in an area (*i.e.*, biology) that falls outside of its jurisdiction. In short, the project sponsors, in consultation with the applicable resource agency (*e.g.*, CDFG), have the discretion to arrive at mitigation ratios or not, based on project-specific considerations and other factors that are not known to SCAG at this time. The same rationale applies with equal force to all of the Draft PEIR measures that prescribe mitigation ratios (*e.g.*, MM-BIO/OS19, 22-23, 25-28, 30, 32-34).

17. The Draft PEIR, Section 3.8, Land Use & Agricultural Resources, contains numerous mitigation measures that exceed SCAG's jurisdiction and authority, particularly where, as here, SB 375 does not allow SCAG to regulate the use of land or affect the land use authority of cities and counties within its region. The land use-related measures that fall into this category are: MM-LU15-20, 23-27, 33-34, 41-46, 58-64, and 80-81. More specifically, the following measures are illustrative:

> **MM-LU42:** Local jurisdictions or agencies can and should establish an urban growth boundary (UBG) with related ordinances or programs to limit suburban sprawl; local jurisdictions or agencies can and should restrict urban development beyond the UGB and streamline entitlement processes within the UGB for consistent projects.
>
> **MM-LU43:** Urban development can and should occur only where urban public facilities and services exist or can be reasonably made available.
>
> **MM-LU44:** The improvement and expansion of one urban public facility or service can and should not stimulate development that significantly precedes the local jurisdiction's ability to provide all other necessary urban public facilities and services at adequate levels.
>
> **MM-LU45:** Local jurisdictions can and should redirect new growth into existing city/urban reserve areas
>
> **MM-LU46:** Local jurisdictions can and should maintain a one dwelling unit per 10-acre minimum lot size or lower density in areas outside designated urban service lines.

Each measure intrudes into the local land use authority and jurisdiction of SCAG's member agencies, project sponsors, and other agencies; and such measures fall well beyond SCAG's limited jurisdiction and authority. The law (*i.e.*, SB 375) makes clear that the RTP/SCS is not to directly regulate the use of land or affect the land use authority of cities and counties within a given region. (Gov. Code, §65080(b)(2)(K).) Additionally, the law does not require that a local general plan, specific plan, or zoning be "consistent" with the RTP/SCS. (*Ibid*.) SCAG also has recognized and respected the authority of agencies to regulate land use through

their broad police powers as authorized by California law. SCAG has recognized that nothing in the RTP/SCS supercedes its member agencies' exercise of their land use authority. By rejecting all such measures, SCAG will have clarified its original intent, and the PEIR will be consistent with applicable law (*i.e.*, SB 375).

In addition, the above measures call for the creation of urban growth boundaries, city/urban reserve areas, and designated urban service lines. However, all such concepts are ordinarily part of a local jurisdiction's growth control measures that are accompanied by local voter approval before enactment; as such, such measures are not appropriate for inclusion in a program EIR.

Please confirm SCAG's limited jurisdiction and authority, and ensure that the Final PEIR expressly acknowledges that limited jurisdiction and authority and only employs a mitigation construct that is consistent with it. Also, please confirm SCAG's recognition of the legal limitations set forth in SB 375.

18. The Draft PEIR also contains proposed mitigation measures that fall far outside SCAG's limited jurisdiction and authority in other environmental categories aside from biology/open space and land use/agricultural resources. While the list is not exhaustive, each of the following greenhouse gas, noise, population/housing, public services, traffic, and water mitigation measures either should be rejected by the SCAG Regional Council, or revised substantially: MM-GHG3, 8, 11; MM-NO12, 16; MM-POP1; MM-PS3, 14, 25, 37, 39, 41, 67-68, 71, 95, and 121; and MM-TR17, 23, 28, 35, 83, 85, and 96; and MM-W59-60 and 65.

19. Still other Draft PEIR proposed mitigation measures would cause one or more significant effects; however, those effects are not discussed in the PEIR. This omission is particularly troublesome. CEQA Guidelines section 15126.4(a)(1)(D) requires that if SCAG is to adopt such measures and if the measures would cause one or more significant effects, then the PEIR must disclose and discuss such effects. Below are just two examples of such measures:

> **MM-LU50:** Local jurisdictions can and should reduce required road width standards whenever feasible to calm traffic and encourage alternative modes of transportation.
>
> **MM-LU85:** Local jurisdictions can and should reduce heat gain from pavement and other hardscaping, including:
>
> - Reinstate the use of parkway strips to allow shading of streets by trees;
> - Include shade trees on south- and west-facing sides of structures;
> - Include low-water landscaping in place of hardscaping around transportation infrastructure and in parking areas;
> - Install cool roofs, green roofs, and use cool paving for pathways, parking, and other roadway surfaces;
> - Establish standards that provide for pervious pavement options:
> - Remove obstacles to xeriscaping, edible landscaping and low-water landscaping.

These measures call for reduced street rights-of-way and road pavement widths, which may compromise the "levels of service" traffic standards applicable to street segments, which oftentimes are used as significance criteria in evaluating a project's traffic impacts. For example, in downtown areas, reduced street widths may be recommended to enhance pedestrian accessibility, but, in doing so, the road segment can no longer operate at the required "level of service," without creating significant traffic impacts (*e.g.*, congestion, delay). The Draft PEIR did not disclose these potentially significant impacts prior to public circulation. Because such measures are beyond SCAG's limited jurisdiction and authority, and because the Draft PEIR did not disclose impacts associated with such mitigation measures, the SCAG Regional Council should reject such measures on infeasibility grounds.

20. Also, other Draft PEIR proposed mitigation measures state that local jurisdictions, project sponsors, or other agencies will "ensure" that certain environmental outcomes are achieved, or "shall minimize impacts" to various environmental conditions. In fact, the Draft PEIR contains about 100 measures directing that such agencies "ensure" or minimize various environmental minimization measures (see, for example, MM-AV11-12; MM-AQ3-13; MM-BIO-9, 11, 13-14, 17-18, 20, 29-31, 35, 47; MM-CUL12-13; MM-GEO1-9; MM-HM5, 7-8, 14; MM-LU15, 23, 58, 63, 67, 70, 75, 79; MM-NO10-11; MM-PS1-3, 12-13, 36, 55, 70, 77; MM-TR21, 33, 41, 56-57, 81; and MM-W5, 9, 15-16, 18, 26, 29, 31, 36, 46, 47, 60, 62, and 65). The problem, however, is that SCAG lacks the jurisdiction and legal authority to be able to "ensure" impacts are mitigated or minimized. SCAG can offer assistance; it can be a forum for cooperative decision-making by its member agencies; and it can encourage mitigation/ minimization; but, SCAG lacks the jurisdiction or legal authority to direct or mandate the outcome of many of the mitigation proposed in the Draft PEIR.

21. Although the above comments relative to mitigation measures are critical of the proposed mitigation measures in the Draft PEIR, it does not mean that SCAG is completely constrained from adopting appropriate and feasible mitigation measures. For example, an appropriate mitigation relative to the water quality impacts identified in the Draft PEIR may be as follows:

> "The implementing agency should conduct or require project-specific hydrology studies for projects proposed to be constructed within floodplains to demonstrate compliance with applicable federal, state, and local agency flood-control regulations. These studies should identify project design features or mitigation measures that reduce impacts to either floodplains or flood flows to a less than significant level. For the purposes of this mitigation, less than significant means consistent with federal, state, and local regulations and laws related to development in the floodplain."

This measure was taken from the Sacramento Area Council of Governments (SACOG) Draft PEIR for the SACOG 2035 proposed Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) for the SACOG region, which is found at http://www.sacog.org/2035/2011/11/draft-environmental-impact-review-released/ and incorporated by this reference. Unlike SCAG's Draft PEIR proposed mitigation measures, the measure taken from the SACOG Program EIR appropriately defers to the implementing agency with jurisdiction; it

contains performance standards based on compliance with applicable federal, state, and local agency flood-control regulations; and it recommends project design features or mitigation measures to reduce impacts to floodplains or flood flows to less-than-significant levels. It does so without SACOG exceeding its jurisdiction or mandating outcomes without the legal authority to do so. These SACOG mitigation measures should be considered in lieu of all of the proposed "can and should" mitigation measures contained in SCAG's Draft PEIR.

22. In both the Executive Summary and Section 4.0, Alternatives, the Draft PEIR summarizes and evaluates three alternatives to the proposed project. These comments focus on "Alternative 3," also called the "Envision 2 Alternative." In summary, according to the Draft PEIR, the Envision 2 Alternative "includes far more aggressive densities than the 2012-2035 RTP/SCS, especially around High Quality Transit Areas (HQTAs), increases mobility, reduces emissions, and limits the development of single-family housing that would be built in the region. The Envision 2 transportation network is similar to the Plan network with minor changes to goods movement and transit projects. The growth network associated with Envision 2 maximizes urban centers, TODs [transit-oriented development] and HQTAs; it also includes a more progressive jobs/housing distribution optimized for TOD and infill." (Draft PEIR, p. ES-3.)

First, the Draft PEIR made a preliminary determination that this alternative was "feasible" for evaluation purposes. However, the SCAG Regional Council retains the discretionary authority to reject the alternative as infeasible based on legal and policy considerations, and because it does not meet the proposed project's objectives. We ask that the SCAG Regional Council adopt such findings.

Second, the Draft PEIR states that the Envision 2 Alternative includes "far more aggressive densities" than the proposed project. Please clarify whether the alternative includes "far more aggressive densities" than those found in SCAG's member agencies' adopted general plans. We ask for this clarification because it appears that the alternative, in fact, proposes "far more aggressive" densities and intensities than found in the local general plans or cities and counties within the region. If so, then the alternative conflicts with those adopted general plans, which is a permissible factor in rejecting the alternative.

Third, because SCAG does not have any legal jurisdiction to govern the land use decisions of its member cities and counties (see Gov. Code, § 65080(b)(2)(K)), SCAG lacks the legal authority to require the elected decisionmakers of cities and counties to adopt or amend their respective land use policies, including their general plans and zoning ordinances, which would be required to implement the alternative's forecasted land use patterns. Accordingly, SCAG lacks the jurisdiction and legal authority to implement the alternative's "aggressive" development pattern. This ground also is a permissible basis for the SCAG Regional Council to reject the Envision 2 Alternative.

Fourth, the Envision 2 Alternative increases densities and intensities in developed or previously-developed urbanized areas within the region. The increased densities/intensities are "especially around" high quality transit areas, urban centers, transportation corridors, and transit-oriented developments. More specifically, the alternative, if adopted, would increase

population adjacent to transportation/transit facilities when compared to the proposed project. Please confirm.

Finally, the Envision 2 Alternative proposes to eliminate single-family development. We encourage the SCAG Regional Council to reject this alternative because the elimination of single-family development is both beyond SCAG's legal jurisdiction and not desirable from a policy perspective as it would eliminate an important part of the mix of housing to be provided by the adopted general plans within the region.

23. The Draft PEIR fails to adequately address the environmental impacts attributable to the densification and intensification of land use development. For example, Section 4.0, Alternatives, of the Draft PEIR does not accurately or fully capture the environmental impacts of the Envision 2 Alternative.

While not described in the Draft PEIR, increased density and intensity often can tax existing public services infrastructure and trigger the need to upsize water mains, sewer lines, etc. -- such activities can result in significant environmental impacts. Also, as compared to the proposed project, the Envision 2 Alternative would appear to result in higher cancer risks for 4 of the 8 corridor segments modeled in the Draft PEIR, not "2 of the 8 corridor segments modeled. (See Draft PEIR, p. 4-31 and compare to Table 4-16, which suggests that the cancer risk based on residential exposure to vehicle operation under Envision 2 is greater for I-8 in Imperial; SR-91 in Riverside; U.S. 101 in Ventura; and I-15 in San Bernardino).) Similarly, please confirm whether Envision 2's residential densities in closer proximity to transportation/transit facilities give rise to greater air quality impacts, including cancer risks and other health concerns, when compared to the proposed project.

In summary, the Draft PEIR needs to be revised to reflect the impacts of densification and intensification.

* * * *

February 14, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

Re: Draft 2012 Regional Transportation Plan

Dear Mr. Ikhrata:

On behalf of the Burbank-Glendale-Pasadena Airport Authority (Authority) let me first state that we greatly appreciated the opportunity to work directly with members of your staff in the development of the Aviation and Airport Ground Access element of the Draft Regional Transportation Plan (RTP). We have been active members of the Aviation Technical Advisory Committee and provided both technical and policy comments during development of the RTP. We are pleased that many of our comments we have provided during development of the RTP have been incorporated into the RTP technical attachment entitled: "Aviation and Airport Ground Access."

An important concern with the "Aviation and Airport Ground Access" report is the assumption that the projected annual passenger demand for Bob Hope Airport (BUR) would be 9.4 million annual passengers (MAP) by the year 2035. In the November 9, 2011 response written by Mike Armstrong to our October 4, 2011 letter (attached), SCAG took exception to our belief that the more realistic assumption would be passenger demand of 8 MAP or less for Bob Hope Airport in 2035.

SCAG cites the assumed "constraint" of a 78.9 MAP Settlement Agreement at LAX as the driver for this additional passenger demand at BUR. We do not concur with that assumption. Specifically, the passenger cap at LAX is not a legally-enforceable access restriction. Instead, it is a trigger for LAWA to reduce the number of available air carrier gates. The carriers have shown that they have the capability to increase operational efficiencies utilizing aircraft fleet mix, scheduling, and available gate capacity. As such, if a reduction in the number of gates did occur, carriers could process more than 78.9 million passengers annually.

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While the carriers at BUR primarily handle domestic flights now and will continue to do so in the future, it is reasonable to expect that the carriers at LAX will structure their operations and alliances in such a way as to accommodate the transfer of a continually-increasing number of international passengers, regardless of the gate constraints they may face.

The Authority is currently underway with a new Part 150 Study, in which a new forecast of passenger demand will be prepared. We believe that this study will validate our earlier assumption that passenger demand in 2035 will be less than 8 MAP. That forecast will be based on the econometrics of forecasted population growth, business growth, and per capita income within the BUR catchment area, and within the larger region as a whole. That forecast will not be based on assumptions about constraints at LAX. We ask that this change in assumption be also reflected in the RTP.

During this process we also worked closely with OLDA in addressing the designation of the Northern Corridor as a part of the "Constrained Project" list in the RTP.Recently, OLDA transmitted a letter to you dated February 7, 2012 signed by Mr. Frank J. Quintero, Chairman of the OLDA Board and a member of the Airport Authority Board of Directors. We would like to affirm our support for the comments contained in the February 7th communication. We strongly agree that the adoption by the SCAG Regional Council and the Metro Board of Directors of the high speed rail project-related Memorandum of Understanding with the California High Speed Rail Authority is a significant policy development which should be reflected in the RTP adopted by the Regional Council. We also support Metro's Antelope Valley Line Infrastructure Improvement Strategic Plan and hope preliminary results from the study can be incorporated into the RTP.

We appreciate your help in the Authority's effort to improve regional connectivity to the Bob Hope Airport.

Very truly yours,

Dan Feger
Executive Director

Attachment, October 4, 2011 letter to SCAG

October 4, 2011

Mike Armstrong
Southern California Association of Governments
818 W 7th Street, #1200
Los Angeles, CA 90017-3435

Re: Bob Hope Airport

Dear Mike:

This letter follows up on the SCAG Aviation Technical Advisory Committee Meeting on September 22nd at the Bob Hope Airport. At that meeting, the committee discussed, among other topics, SCAG's preliminary projection for passengers likely to use the Bob Hope Airport through the year 2035. SCAG's projection for the Bob Airport is 9.4 MAP.[1]

The problem with SCAG's preliminary projection for the Bob Hope Airport is that it fails to adequately take into account the fundamental economic change that has occurred in the Bob Hope Airport catchment areas in recent years and thereby dramatically over estimates future use. Plainly stated, the level of passengers using the Bob Hope Airport has fallen back to 1993 levels (roughly 4.3 MAP). Any projection that assumes a return to the growth rate of the bubble economy is we believe misleading. Instead, the Bob Hope Airport believes that for a more reliable metric of future growth is the historical growth rate the Airport has experienced fairly consistently over the past 50 years. That growth rate, approximately 1.8% per year, results in a projected passenger level for the Airport in 2035 of roughly 8 MAP, not the 9.4 MAP in SCAG's current projection. We would request that this adjustment be made.

Sincerely,

Mark Hardyment

cc: Tom Ryan

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[1] SCAG's 2035 projection for the Bob Hope Airport is the same under both its low growth (130 MAP for Southern California Aviation) and high growth (164 MAP for Southern California) projections.

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Margaret Clark, Rosemead

Transportation
Paul Glaab, Laguna Niguel

November 9, 2011

Mr. Mark Hardyment
Director of Environmental Programs
Bob Hope Airport
2627 North Hollywood Way
Burbank, CA 91505

Re: Bob Hope Airport Air Passenger Demand Forecast

Dear Mark:

We very much appreciate your letter of October 2, 2011 commenting on SCAG's 9.4 million air passenger (MAP) demand forecast for Bob Hope Airport in 2035. This forecast was adopted for SCAG's 2008 Regional Transportation Plan (RTP) and has been recommended by the SCAG Aviation Technical Advisory Committee (ATAC) for SCAG's 2012 RTP. It is based on a capacity analysis of Bob Hope Airports 14 aircraft gates/parking positions. We recognize that, like most other airports in the regional system, Bob Hope Airport has seen stagnant or declining passenger growth over the last several years, mainly as a result of the severe economic recession and restructuring of the airline industry. Our recommended regional air passenger demand forecast does not assume that these conditions will persist; nevertheless, at 145.9 MAP in 2035, with a 2.5% annual growth rate, it is considerably more conservative than the 165.3 MAP forecast adopted for SCAG's 2008 RTP. It is also more conservative than the FAA's most recent National Aerospace Forecast (3.2% annual air passenger growth rate) or most recent Terminal Area Forecast for air carrier airports in the region (3.0% annual air passenger growth rate).

It is very important to recognize that the fundamental driver that causes Bob Hope Airport to reach its estimated 9.4 MAP capacity constraint by 2035 is the 78.9 MAP Settlement Agreement passenger constrained at LAX that is assumed by the forecast. With LAX held at that level, and with Long Beach Airport also held to its legally-enforceable 4.2 MAP constraint, Bob Hope Airport becomes a superior and convenient airport alternative for serving future domestic air passenger demand in Los Angeles County within its 9.4 MAP capacity constraint. This reflects a fundamental problem of our regional aviation system, which has a relatively large number of airports serving demand in urban centers of Los Angeles and Orange Counties, but which are all relatively small, highly encroached and ultimately capacity-constrained. Meeting the 145.9 MAP forecast will require Ontario Airport to reverse its steep passenger decline and grow from its current 4.2 MAP to 30.7 MAP over the next 25 years. This will present significant ground access challenges in allowing un-served air passengers in Los Angeles and Orange counties to access available airport capacity at Ontario Airport and other airports in the Inland Empire.

At its last meeting on October 27, ATAC approved the 145.9 MAP air passenger demand forecast with its allocation of 9.4 MAP to Bob Hope Airport, but only with a number of caveats. These include the caveat that the forecast is based on a number

of variables that history has shown can change significantly over time, and it is important to update the forecast on an ongoing basis, most importantly for the next (2016) RTP. Also, that the relaxation or elimination of the settlement agreement constraints at LAX and John Wayne airports could significantly impact forecast allocations of aviation demand at other airports in the regional system, and future updates of the forecast should incorporate any new information provided by local airport authorities on revised constraints at capacity-constrained airports.

I hope that the above information addresses your concerns about the 9.4 MAP air passenger forecast for Bob Hope Airport that has been recommended for SCAG's 2012 RTP. Please let me know if you have any other comments or questions about this issue.

Best regards,

Michael Armstrong

Michael Armstrong
Aviation Program Manager
Southern California Association of Governments

cc: Dan Feger
Executive Director, Bob Hope Airport

State of California • Natural Resources Agency
Edmund G. Brown Jr., *Governor*

DEPARTMENT OF PARKS AND RECREATION
Ruth Coleman, *Director*
Inland Empire District • 17801 Lake Perris Drive • Perris, CA 92571
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February 14, 2012

Jacob Lieb
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017

Re: 2012-2035 Draft Regional Transportation Plan and Sustainable Communities Strategy and Draft Program Environmental Impact Report (SCH# 2011051018)

Dear Mr. Lieb:

We appreciate the opportunity to comment on the above-mentioned project. We look forward to any necessary coordination and remain committed to working with you to successfully implement your project.

State Parks is a Trustee Agency as defined by the California Environmental Quality Act (CEQA). State Parks is also a Responsible Agency as defined by CEQA because the proposed project would occur within and require permanent use of Chino Hills State Park. State Parks' mission in part is to provide for the health, inspiration, and education of the people of California by preserving the state's extraordinary biodiversity and creating opportunities for high quality outdoor recreation.

Environmental Mitigation Program
We appreciate the advanced mitigation component in the RTP/SCS. Orange County's Renewed Measure M has had great success with a similar program. Programs such as these have many benefits including streamlined permitting, preservation of important natural lands, improved relationships and collaboration with resource and permitting agencies.

We offer the following suggestions regarding the Conservation Policy:

1. Ensuring State conservancies and joint powers authorities with a conservation focus are included in the mapping and prioritization of conservation lands. Specifically, we recommend including the Wildlife Corridor Conservation Authority, Puente Hills Habitat Preservation Authority, San Gabriel & Lower Los Angeles Rivers and Mountains Conservancy, Mountains Recreation and Conservation Authority (MRCA), and Santa Monica Mountains Conservancy (SMMC) among the entities upon whose expertise can be tapped.

2. Extending the inventory of protected lands to include all protected lands – Federal, State, regional and local natural lands – instead of narrowly limiting the inventory to simply Natural Communities Conservation Plan and Habitat Conservation Plan areas.

3. Ensuring existing wildlife corridors and habitat linkages and highway/roadway undercrossings are protected and enhanced during the evaluation of habitat lands and during construction of roadway projects.

4. Advocating that the advanced mitigation policy result is a net environmental benefit for the natural resource lands after construction activities are completed.

Also, large-scale acquisition and management of lands must not be limited to "critical habitat," (RTP, p. 76, 128) as this can be confused with the legal term used by U.S. Fish and Wildlife Service for some federally endangered and threatened species. To clarify, this should be replaced by text reflecting the intent, i.e., the best available natural lands with valuable environmental resources deserving of conservation/preservation. State Parks looks forward to working with Southern California Association of Governments (SCAG) on the development of the Natural Lands Acquisition and Open Space Conservation Strategy. This will protect remaining resource lands and mitigate for impacts from transportation improvements. In addition to mitigation banking, transfer of development rights (TDR), and payment of in-lieu fees, State Parks recognizes conservation easements as a powerful preservation tool for habitat areas. Conservation easements, and fee title transfers to open space park agencies, should be listed in the plan alongside the other preservation mechanisms.

Wildlife Crossings of Transportation Facilities
State Parks appreciates SCAG's recognition of the impact that linear transportation facilities have on natural areas and the need for well-designed wildlife crossings to partially mitigate these effects. Wildlife crossings serve two distinct purposes: reducing mortality and preserving genetic connectivity. Roads are the leading direct source of human-caused mortality for most species in southern California and the entire country. They can become a population sink if a significant fraction of a local species is killed, affecting broader population distribution across the landscape. Additionally, for highly mobile predators, individuals crossing roads are frequently dispersing from their home range in search of new territory and mates, a vital population dynamic that is devastating if interrupted. National Park Service research has documented significant genetic differences among carnivore populations on either side of the 101 Freeway in the Santa Monica Mountains.

Wildlife crossings need to be discussed in the context of habitat connectivity, which is the broader ecological goal for conservation areas. Wildlife crossings are but one critical tool to ensure that indicator species are able to safely move about their environment. While much has been learned about movement patterns and the way in which key transportation facilities create genetic barriers to connectivity, the measures that might mitigate these impacts have not been thoroughly researched. Wildlife corridor design is a field in its infancy with few scientifically verified best practices for crossing dimensions and landscape features. Given that this research is needed to properly mitigate transportation impacts, SCAG should invest in connectivity research with a program specifically designed to establish measures that can be incorporated into the 2016 RTP revision. Such a program would aggregate existing research, propose new study areas, and develop design best practices specifically tailored to the Southern California eco-region.

Comments on Proposed PEIR Mitigation Measures
Biological Resources and Open Space
The PEIR includes many mitigation measures for potential impacts to biological resources. Overall, these measures are comprehensive and based on sound practice. Inclusion of the proposed mitigation measures in project selection and design will greatly improve ecological

outcomes in the SCAG region compared to a baseline scenario. The specific measures calling for minimum mitigation ratios reflect current accepted practices without limiting the discretion of resource agencies to require greater mitigation if warranted. The proposed measures addressing habitat fragmentation and connectivity are thorough and appropriate (MM-BIO/OS36 through MM-BIO/OS40). These impacts have been all too often unmitigated for transportation projects in the past.

State Parks looks forward to collaboration on regional conservation planning policy to address cumulative impacts to biological resources (MM-BIO/OS45). MRCA is one agency in the SCAG region that administers a highly successful restoration and preservation in-lieu-fee mitigation programs in close coordination with state and federal resource agencies. SCAG's planning and funding expertise is a welcome addition to ongoing efforts. State Parks recommends that other agencies with expertise in the region, such as WCCA, MRCA, SMMC, and Puente Hills Habitat Preservation Authority be invited to participate in this process.

The primary impact from transportation facilities is often the indirect and cumulative impact from growth induced by new improvements. As projects increase access and reduce commute times from remote areas, these resource lands become economical to develop. State Parks is therefore pleased to see SCAG recognize these impacts and call for their mitigation (MM-BIO/OS47). Without appropriate growth management along transportation corridors, wildlife crossings cannot mitigate connectivity impacts from expanding development footprints. Furthermore, induced growth along new corridors often negates the benefits of new transportation capacity, prompting even greater impacts from future facility expansion. SCAG should develop best practices that would be applicable to new transportation corridors to prevent new development from extending into resource lands. The PEIR biology mitigation measures should be clarified to delete reference to relocating active nests (MM-BIO/OS35), as this is likely in conflict with the Migratory Bird Treaty Act. Instead, construction buffers to active nests should be established, as proposed.

Public Services and Utilities
The PEIR lacks a public safety mitigation measure that promotes project design that minimizes urban-wildland interface, which is the source of wildfire risk to persons and property. Past development patterns include long, meandering urban edges with high risk exposure to catastrophic events, causing great strain on local and State firefighting resources largely subsidized by those living in lower risk locations. A mitigation measure should include two components addressing both project location and project design. First, development that extends into high fire hazard areas should be discouraged. Second, there should be an emphasis on utilizing project design strategies to reduce risk, such as building within compact and defensible footprints and minimizing perimeter length. Projects should be sited in order to reduce impacts of required brush clearance on native habitat areas, including adequate buffers to protect sensitive resources from brush clearance impacts.

State Parks concurs that project sponsors and local jurisdictions should work to increase public access to open space (MM-PS21 and 26). River parkways and other urban natural parks serve a vital purpose in connecting urban residents to natural parkland (MMM-PS22). The City and County of Los Angeles have both recognized these projects in master plans for their respective river corridors. While planning for these projects is the responsibility of local jurisdictions and partners, SCAG has a critical responsibility for funding by including bikeway projects in the RTP

area. Regional partnerships are necessary to achieve open space conservation objectives (MMPS29). State Parks welcomes SCAG's assistance with planning and identifying funding sources for open space acquisition (MM-PS31 and 34). SCAG's participation in coordinating regionally significant trail networks is also appreciated, however the greatest contribution SCAG could make to these efforts would be including those greenways that serve transportation functions, such as the river parkways, in the RTP so that they can be fully developed in the short and medium-term (MM-PS33).

Water Resources
State Parks also believes that preservation of remaining riparian resources should be the highest priority at both the regional and project level, followed by restoration of previously impacted areas (MM-W1 and 9). To the extent feasible, natural methods for stormwater control, water quality improvements, and infiltration should be encouraged. SCAG sets an appropriate standard that new projects should not cause or contribute to conditions that degrade the physical integrity or ecological function of any downstream receiving waters (MM-W22). When evaluating projects during the environmental review process, SCAG should identify regionally significant projects that may impact downstream waters and include comments to that effect in Notice of Preparation and Environmental Impact Report responses. This is a critical issue wherever natural rivers interact with urban areas. SCAG should participate in the development of models of natural processes for the remaining natural rivers in the SCAG region to ensure that environmental review can comprehensively evaluate project impacts based on the best available information.

Thank you again for considering our comments. Please keep our agency on your email/mailing lists for this project. For further discussion, please contact me or Enrique Arroyo at (951) 453-6848.

Sincerely,

Ron Krueper
District Superintendent

cc: Jay Chamberlin, DPR Chief of Natural Resources
Wildlife Corridor Conservation Authority

State of California—Health and Human Services Agency
California Department of Public Health

RON CHAPMAN, MD, MPH
Director & State Health Officer

EDMUND G. BROWN JR.
Governor

January 19, 2012

Christopher P. Ganson, Senior Planner
Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814

Dear Mr. Ganson,

We welcome the opportunity to comment on the Sustainable Community Strategies (SCS) that have recently been presented in draft or final formats by the large Metropolitan Planning Organizations. Although the California Department of Public Health does not have a regulatory role in the SB375 process, there are a number of compelling public health interests in the SCSs because of the documented health impacts of housing and transportation in combination with economic development, education, and their interactions to create healthy community environments. As the convener of the Strategic Growth Council's Health in All Policies Task Force, CDPH is working with other State agencies to optimize opportunities to improve public health and sustainability. CDPH staff has also played an educational and technical advisory role in some MPOs' discussions of performance targets and methodologies to assess project performance. CDPH also routinely interacts with local public health departments around the state, many of whom have become involved in regional SCS planning.

Our general and specific comments are detailed in the attached pages. We do note, however, that there are several health issues that fall outside of the current framework of SCSs but are concerns CDPH believes needs more attention. Although greenhouse gas reduction is a goal of the SCSs, climate change will increase risks from higher temperatures on the backdrop of an increasingly urbanized California. We feel there is a critical need to integrate urban heat island (UHI) mitigation strategies into regional and local plans that will implement transit oriented development (TOD) and in-fill development so that UHI risks are reduced as new development takes place. Access to health-promoting features of the built environment, including food systems, parks, and green space also should be integrated into planning.

Please do not hesitate to contact me if you have any questions or comments.

Sincerely,

Linda Rudolph, M.D., M.P.H
Deputy Director, Center for Chronic Disease Prevention and Health Promotion

Center for Chronic Disease Prevention and Health Promotion, 1616 Capitol Avenue, Suite 74.420, Sacramento, CA 95814
(916) 445-0661 FAX: (916) 445-0688
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Comments by the California Department of Public Health on the Sustainable Community Strategies (SCS) Process and Plan Content

General Comments

Health is a critical component of sustainable communities. The California Department of Public Health encourages regional planning organizations to embrace the concepts outlined in the Healthy Community framework developed by the Strategic Growth Council's Health in All Policies Task Force.[1,p21] Many strategies that increase community sustainability can also support improved health outcomes. For example, policies that support active transportation help Californians incorporate more health-promoting physical activity into their lives, while also advancing goals to achieve greenhouse gas emission reductions. Infill development can help to reduce urban sprawl, reduce greenhouse gas emissions, and support location-efficient housing that promotes active transportation and allows workers to reap both economic and health benefits. Good health is critical for economic sustainability, increasing workforce participation and productivity, and slowing the ongoing rise in medical care expenditures, which diverts resources from other State priorities such as education or investments in green energy.

CDPH staff has reviewed the drafts and final versions of SCSs updates to the Regional Transportation Plans of the 4 large MPOs and the following comments represent a high level synthesis. First, we must laud the MPOs for the diligent work that has gone into these documents, and each represents an improvement from the original RTPs. We note an increasing number of performance measures that go beyond the traditional health focus on traffic injuries and air pollution. We refer to physical activity from active modes of travel, including bicycling, walking, and public transit that includes active transport from and to transit destinations. Noise and other physical hazards are also getting more attention as health performance measures. We also note that discussions of equity increasingly recognize that health inequities are caused and exacerbated by built environment factors and the uneven distribution of community resources. We are supportive of these developments which will deepen the appreciation of how public health is embodied in the many actions outside the field of health or health care.

Specific Recommendations

We have several recommendations that are based on existing trends in the SCSs and recent scientific developments in the transportation and public health fields.

1. Activity time in active transport (walking, bicycling, etc.) is indispensable as a health-related transportation performance measure (e.g., mean daily minutes per person of walking and bicycling). Health co-benefits of active transport in one of the large MPOs (Metropolitan Transportation Commission, MTC) has recently been quantified[2] and the potential for reducing chronic disease and greenhouse gases appears to be large on an absolute scale and far larger than co-benefits from fine particulate matter reductions, which are a traditional focus of health effects. These findings are consistent with emerging evidence from studies of other regions of the United States, London, Barcelona, and the Netherlands.[3-7] Attempts to monetize health co-benefits from active transport suggest savings of billions of dollars in health care costs and the value of statistical lives saved.[5]

2. MPOs should consider new tools that have recently become available to quantify the health co-benefits of active transport in SCS scenarios and projects. This fills a gap in project performance assessment at most MPOs. One such tool co-developed by the CDPH, MTC, the Bay Area Air Quality Management District and other researchers is called the Integrated Transport and Health Impacts Model (ITHIM), which was used to quantify the health co-benefits of active transport and low carbon driving in the San Francisco Bay Area. This tool could function as a post processor to travel demand models that generate miles traveled and activity times by mode. Modelers at several large MPOs are already exploring how it can be used to complement their methods for project performance assessment.

3. As tools such as ITHIM become available to MPOs, health co-benefits can be used as a criterion for a unique project category that *a priori* could get a high priority score in the project assessment methodologies used by MPOs.

4. Likewise, using these tools, health co-benefits can be used as a criterion to screen projects for cost-benefit and other in-depth analysis. In some MPOs current practice is to screen projects based on cost, so that only high cost projects get quantitative assessment. This would allow projects with large health co-benefits to also get additional scrutiny in cost-benefit analyses.

5. Equity/inequity in RTPS is currently framed using title VI of the Civil Rights Act, concepts of "no disparate impacts" and "increase access (to affordable housing/transit) to poor people", participation of communities of concern, environmental justice. In the development of SCSs some MPOs have been exposed to a health-based approach which explicitly calls for ways to narrow existing differences in health status and of determinants of health. The Sustainable Transportation Council (LEED-like approach to rating transportation systems) is considering a goal area in its transportation rating system that explicitly considers reducing health disparities.[8] This is a promising approach that deserves more attention.

6. Local health departments are highly interested and would benefit from mechanisms that enhance their participation in SCS development and follow-up. We noted with interest that SANDAG has a standing Public Health Advisory Committee in which the San Diego County Health Department is a partner, and our staff was able to attend one of their meetings. National organizations like the Transportation Research Board have recently created standing health subcommittees with an expanded focus. It is worth exploring ways local health departments and others interested in public health and equity can stay engaged on an on-going basis.

   This is particularly germane to a multidisciplinary approach to address the multiple health issues and the complexity of health impacts. In this setting expertise could be leveraged to explore the potential consequences of different scenarios and SCSs in the context of health risks and benefits, addressing air quality, physical activity, access to health promoting resources (e.g., transportation, food, employment, education), noise, injuries, social networks, etc. for the regional population and vulnerable subgroups.

References

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3. de Hartog JJ, Boogaard H, Nijland H, Hoek G. Do the health benefits of cycling outweigh the risks? *Environ Health Persp.* 2010;118:1109–1116.

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Flex your power!
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February 14, 2012

Mr. Hasan Ikhrata, Executive Director
Southern California Association of Governments
818 W. 7th Street 12th Floor
Los Angeles, California 90017-3435

RE: Draft FY 2012 RTP/SCS AND DRAFT PEIR
SCH # 2011051018

Dear Mr. Ikhrata:

The California Department of Transportation (Department) wishes to thank the Southern California Association of Governments (SCAG) for the opportunity to review and comment on the Draft 2012 RTP/SCS and Draft PEIR. The Caltrans' review has found that the RTP/SCS has fulfilled all the requirements of the Caltrans' 2010 RTP Guidelines, pursuant to California Government Code Section 14522.

The Department commends SCAG for reaching out and engaging the State, regional, and local agencies and the public in extensive outreach efforts and for developing a comprehensive planning process that included Departmental staff on several committees.

The 2012 Draft RTP/SCS was distributed to the Department Divisions in Sacramento and Districts 7 (Los Angeles and Ventura Counties), 8 (San Bernardino and Riverside Counties), 11 (Imperial County) and 12 (Orange County). The offices within each Division and District were given the opportunity to review and comment on the document according to the California Regional Transportation Guidelines.

Caltrans compliments SCAG on developing strategies that will allow the region to not just meet but to actually exceed the GHG emission reduction goals mandated under SB 375. This Draft RTP/SCS is commendable for its broad vision, which, while recognizing mobility as a primary goal, also encompasses sustainability, the economy, employment, air quality, greenhouse gas (GHG) emission reduction, safety, public health, and integrated planning.

The Department offers the following comments for your consideration:

REGIONAL PLANNING

- Page 7 Table 2: **New Revenue Sources and Innovative Financing Strategies** – The region's budget over the next 25 years totals an estimated $524.7 billion. We encourage SCAG to continue close collaboration and consensus-building with Federal, State and Local partners as these strategies and funding sources are pursued.

- Page 27 **Integrating Land Use and Transportation** – The RTP/SCS states that SCAG has incorporated the sub-regional SCS strategies of OCCOG and GCCOG into the regional SCS. It would be helpful if the RTP explained exactly how those strategies were incorporated. .

- Page 30 **Public Health** – The RTP/SCS recognizes the impact that transportation and land-use decisions have on the health of the region's residents. SCAG should be commended for including studies and a discussion on this topic in the RTP/SCS which identifies a 200% overall investment increase over the 2008 RTP.

- Pages 33-34 **Alternatives Development and Evaluation** – The chosen alternative should be clearly identified in the RTP, with supporting information explaining the rationale for its selection.

- Pages 112-116 **Creation of Land Use Scenarios** – Chapter 4 explains and describes the four land use scenarios that were developed and presented at the regional public workshops for inclusion in the RTP/SCS however it is not clear how the preferred alternative was chosen.

SYSTEM PLANNING/GOODS MOVEMENT

- Page 23 - **Aviation and Ground Access** - the second paragraph alludes to air cargo by stating that "Southern California airports play a crucial role in international trade..," but the text does not elaborate. If the regional roadway system becomes increasingly congested please describe the impacts to air cargo ground access or capacity, being that the last mile is typically transported by truck.

- Page 65 - **International Trade** - recommend changing the sentence to read, "In the same year, $10.4 billion worth of trade passed through the Calexico East International Port of Entry (POE) between the U.S. and Mexico in Imperial County." Note: of the three land POE's in the county, only Calexico East handles commercial traffic.

- Page 65 - **Local Goods Movement** - Dependent Industry Support - recommend adding agriculture as one of the supported industry sectors. Agricultural production in the SCAG region is significant, amounting to nearly $7 billion in 2010. http://www.cfbf.com/counties/index.cfm

- Page 66 - **Land Ports** - recommend changing the sentence to read, "The Calexico East International POE in Imperial County is the sixth busiest commercial crossing along the U.S./Mexico border, with over 600,000 annual commercial vehicle crossings in 2010, and a

combined import/export value of over $10 billion. The primary economic drivers of cross border trade to Imperial County are the movement of agricultural products and the maquiladora trade industry."

- Pages 71 and 72. **Regional Clean Freight Corridor System**. The discussion indicates that a dedicated truck-only freight corridor could serve as a "platform for the introduction and adoption of zero-emission technologies;" however, the connections between the East-West Freight Corridor and clean trucks could be stronger, and the introduction of clean trucks could be related to the timeframe in Table 2.8 (page 72).

TRANSIT

- Trip Planners: Please consider incorporating future updates of transit route data in trip planning tools such as *Google Transit* or *Go511.com.*

- Page 3 - the following sentence needs to be corrected: "Currently, SCRRA operates seven routes including five from downtown Los Angeles to Ventura, Lancaster, San Bernardino, Riverside, Orange and Oceanside, from San Bernardino to Oceanside, and from Riverside via Fullerton or City of Industry to downtown Los Angeles." The word in this sentence "five" should read "six" instead. One route is missing in the list. Please add "Orange" after Riverside.

- Page 31- Connectivity measures need to include a high degree of reliability (on-time performance to meet connections with other modes).

- The transit supplemental report should include how gas prices affect the fares and ridership. Gas price is a major operating expense in bus operations. It should also include such variables as inflation rate, CPI, unemployment rate, to see how they are related to fares and ridership.

SUSTAINABLE COMMUNITY STRATEGY (SCS)

- It should be noted that Caltrans has not done an analysis of the transportation travel model work utilized with the SCS. We would expect the California Air Resources Board to make any comments on that topic: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf

- In order to see the Greenhouse Gas (GHG) emission reduction compliance table for the SCAG RTP/SCS, the reader has to find it on page 3.6-20 of the PEIR. This data table should be included in the SCS Section of the RTP as well as in the PEIR.

- Caltrans supports SCAG's RTP/SCS mitigation measures aiming at reducing VMT and the associated GHG emissions, encouraging sustainable land use development, and the development and implementation of the use of multi-modal transportation options.

- As the owner and operator of the State Highway System (SHS) the Department's main objective is to

protect the mobility and operational safety of the SHS. To ensure operational safety and consistency with the Department's policies, we encourage early consultation and coordination with local jurisdictions and project proponents on all development projects that may have an impact on state facilities.

- To encourage collaboration among all stakeholders we recommend the following comment to be incorporated in the policies of the Transportation, Traffic, and Security Mitigation Measures:

  Local jurisdictions and development project proponents should and are encouraged to coordinate and consult early with the Caltrans District Planning offices of Local Development Intergovernmental Review on any land use proposal that would be located within 500 feet of state transportation facilities to enable consideration of the site specific access and operational safety impacts.

PROJECT LIST

- On the Project List for Orange County there is no mention of extending the planned High Occupancy Vehicle (HOV) lane from Avenida Pico to the Orange/San Diego County Line in both directions.

- Project List for Los Angeles County - on page 157 the Route High Occupancy Vehicle (HOV) project, Citrus to Route 57/210, it should be noted that the portion of Route 210 between Route 10 and Route 210 has been re-named Route 57. This was done to address confusion between Interstate 210 west of Route 57 and State Route 210 east of Route 57. New signage has been recently added.

- Also on the Project List for Los Angeles County - please delete the following project on page 161: Route 405 in Inglewood at Arbor Vitae which is pertaining to constructing the south half of the interchange. The Interstate 405 Arbor Vitae Half Interchange Project in Inglewood has been shelved per FHWA due to a required design exception issue.

HIGHWAYS AND ARTERIALS

- Page 15 - Caltrans encourages SCAG to coordinate with Caltrans Districts and regional partners to ensure consistency with interregional system development and operational strategies. Examples could include project phasing and integration, the development of HOV/HOT /Managed Lane policies, and the alignment of on-system transit service support strategies.

- Page 3 - under OR SR-71 should read SR-73 and where it says SB SR-210 should be I-210.

GENERAL COMMENTS

SB 391 and the California Interregional Blueprint should be mentioned among related initiatives.

COMMENTS ON THE DRAFT PEIR

- Page 3.2-5 – "USEPA also extracted a subset of these 21 MSAT compounds that it now labels as the six priority MSATs: benzene, formaldehyde, acetaldehyde, diesel particulate matter/diesel exhaust organic gases, acrolein, and 1,3-butadiene." We recommend mentioning Naphthalene and Polycyclic Organic Matter (POM), and updating the text to reflect the additional air toxins. Furthermore, state that until the Air Resource Board develops the speciation factors for Naphthalene and POM, an analysis cannot be performed.

- (Pg) 3.2-10 -TABLE 3.2-1: **STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS** - Vinyl Chloride for the state standard (24 hour) has been changed from 0.03 ppm (42 ug/m3) to 0.01 ppm (26 ug/m3). We recommend using the table published by the California Air Resources Board (CARB) located at: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf

Caltrans commends SCAG for considering some of the health risks associated with the RTP. The Health Risk Assessment in Appendix J only analyzed emissions, cancer risk impacts associated with Air Quality, and was only focused on several corridors in the region. Caltrans recommends that Health Risk/Impacts should first be addressed at the policy level and analyze the potential health risks associated with Air Quality, Noise, Hazardous Waste and Community Impacts for the complete RTP, considering all the projects included in the plan.

In an effort to be more efficient and minimize confusion in the future, Caltrans requests that SCAG only forward the PEIR to the following two locations:

California Department of Transportation
Division of Planning - Office of Community Planning
Local Development - Intergovernmental Review
P.O. Box 942874, M.S. 32
Sacramento, CA 94274-0001
Attention: Terri Pencovic, Statewide Program Manager

California Department of Transportation
District 7 - Office of Regional Planning IGR/CEQA Branch
100 S. Main Street, M.S. 16
Los Angeles, CA 90012
Attention: DiAnna Watson, IGR/CEQA Branch Chief

District 7 will be responsible for circulating the PEIR document and coordinating comments on behalf of the California Department of Transportation.

If you should have any questions in regard to the above comments, please do not hesitate to contact Melissa Joshi of my staff at (213) 897-1347.

Sincerely,

JAMES J. McCARTHY
Deputy District Director
Division of Planning, Public Transportation and
Local Assistance

cc: William A. Mosby, D8
Bill Figge, D11
Pat Landrum, D11
Ryan Chamberlain, D12
Ron Kosinski, D7
Garth Hopkins, ORIP
Dara Wheeler, ORIP
Kathleen McClaflin, DMT

Hasan Ikhrata
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February 14, 2012

Re: Railroad comments on *Draft 2012 Regional Transportation Plan and Sustainable Communities Strategy*

Dear Mr. Ikhrata:

On behalf of Union Pacific Railroad (UP), BNSF Railway (BNSF), and the Association of American Railroads (AAR), collectively "the Railroads", we want to thank the Southern California Association of Governments (SCAG) for the opportunity to comment on the draft Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS). The Railroads look forward to continuing to work with SCAG staff as it refines the 2012 RTP in the coming months. The Railroads comments are organized by the various documents in the 2012 RTP: the draft 2012 RTP, the Environmental Justice appendix, the Goods Movement appendix, the Project List appendix, and the Passenger Rail appendix. Each comment follows a quote from these documents (in *italics*). In some instances comments apply to multiple sections. Additionally, the Railroads have submitted a second comment letter on the draft PEIR.

These comments should not be construed as the Railroads' agreement or a validation of the RTP, SCS, or other long term planning conclusions. The Railroads provide these comments in an effort to make SCAG's analyses more reflective of actual railroad operational and business needs. However, because railroad operations often change due to circumstances beyond their control and/or to better serve their customers' needs, it is critical that the Railroads preserve the flexibility to maintain fluid and responsive operations.

As an overall comment, many sections of the current draft RTP identify possible elements of the strategy without providing consistent information about: (1) who would fund each measure, (2) under what authority each measure would be undertaken, and (3) in what timeframe each measure would be implemented. The Railroads believe it is important to furnish that information so that all stakeholders get an accurate perspective of the overall plan (See Table 1 below). At a minimum, the RTP should note that these issues are unresolved.

Table 1: Possible Program Elements Requiring More Specificity

Program Element (Page #)	Implementing agency identified?	Funding identified?	Timeframe identified?	Authority to implement identified?
Further study/demonstration of electrification (Page 201 RTP)	No	No	No	No
Upgrading switcher locomotives (Page 74 RTP)	No	No	No	No
Phased implementation of a "near-zero or zero emission freight system" (Page 74 RTP)	No	No	Yes (see comments below)	No
Recommended mitigation for rail related impacts (Page 148 Environmental Justice appendix)	No	No	No	No
2012 RTP proposes electrification (Page 145 Environmental Justice appendix)	No	No	No	No
Upgrade switcher locomotives (Page 41 Goods Movement appendix)	No	No	No	No
Timeline to implement "Zero Emission Freight System" (Page 34 Goods Movement appendix)	No	No	Yes (see comments below)	No
Locomotive/rail: agency major implementation actions (Page 39 Goods Movement appendix)	No	No	No	No
$3,771,002,000 for "Goods Movement Research and Development" (Page 422 Project List appendix)	No	No	No	N/A

Comments on the draft 2012 RTP/SCS

The draft 2012 RTP proposes a goods movement environmental strategy that includes, "a two-pronged approach for achieving an efficient freight system that reduces environmental impacts."[1] These strategies include a number of "zero or near-zero"[2] emission rail technologies that require varying degrees of additional research and development. Thus far, SCAG has failed to clearly identify the multitude of issues associated with these potential technologies. The Railroads believe SCAG has not answered the Railroads' questions submitted in September 2011 concerning basic operational requirements.[3]

Page 201 RTP (also on Page 21 of Passenger Rail appendix):

> *Freight rail activity emits five percent of regional NOx, and four percent of regional PM goods movement emissions. Mitigation of rail emissions is currently underway with agreement to upgrade engine and reduce idling at certain rail yards, but more must be done to improve regional air quality, help meet federal requirements and reduce health impacts for communities near rail activity. There are several options for a zero emission rail system including electrification, battery-hybrid systems and fuel cells. Since 2008, SCAG has worked carefully with representatives from major rail lines, the AQMD and the ARB to carefully evaluate potential zero emissions options for freight rail. In particular, three forms of electrification were analyzed in great detail.*
>
> - *Electric catenary rail systems – These are perhaps the most technologically ready, however, construction for an electrified rail system in Southern California would be a major undertaking in terms of labor, timeline, and cost for the SCAG region, and would require large public investment as well as cooperation and investment by the BNSF and UP railways.*
> - *Dual mode locomotives – These are also under development and have the ability to operate both, on a catenary, or with traditional diesel power. The ability to operate in both modes could potentially reduce operational difficulties associated with electrification and would save time, reducing the need to remove the engine at the end of the electrified system.*
> - *Linear synchronous motors – This technology propels rail cars by creating an electromagnetic field from motors embedded in the railway. One advantage of LSM is that overhead electric lines would not be needed allowing the electric rail system to*

[1] SCAG, draft 2012 RTP/SCS, page 74, December 2011.
[2] The railroads question the use of "zero or near-zero" terminology. The technologies discussed to date at best address tailpipe emissions and not total emissions. Electrification technologies merely export emissions to other areas.
[3] September 16, 2011 comment letter to SCAG on the Freight Rail Electrification Analysis; October 14, 2011 comment letter to SCAG on the *Environmental Mitigation Strategies Task 10.2 Report*

extend further into ports and rail yards. LSM technology is in its early stages and costs cannot be estimated, however demonstration projects are underway.

- *The 2012 RTP specifies further study of these technologies to resolve operational challenges and to better quantify the costs of implementation and potential savings or cost increases of eliminating diesel fuel. In addition, several other technologies such as hybrid diesel-electric locomotives and battery electric tender cars will be considered. We also suggest and plan to participate in regional efforts to develop prototypes and demonstration of these technologies. Please see the goods movement appendix of the RTP and the SCAG Rail Electrification Study for more information about these technologies and next steps for development and deployment.*

Rail Comment: The RTP does not clearly state the issues that remain unresolved with these technologies. For example, SCAG needs to clarify if funds for such studies are already available. If not, the RTP should make clear that participation in further study and possible demonstration of these technologies will only be undertaken if funds become available for such activities in the future. SCAG should also clarify that these actions must be voluntarily undertaken by all stakeholders. Neither SCAG, nor other local, regional, and state agencies have the authority to require the Railroads to participate in or to provide funds for any study of electrification or any other technology. SCAG should also clarify that the "several options for a zero emission rail system" are not currently available, but could be pursued in the future if additional funding, research, development, and testing to confirm their applicability were completed. SCAG needs to clearly specify a timeframe for the continued study of these technologies. Lastly, the Railroads question why the recommendations on freight rail environmental mitigation are repeated in the passenger rail section of the RTP.

Catenary Electric

The Draft RTP identifies electric catenary lines, dual mode locomotives, and linear synchronous motors (LSM) as potential technologies for future study. Even though electric catenary systems are the most proven of the technologies identified by SCAG, there are unresolved, major operational concerns with a catenary system, in addition to the labor, cost, and timing issues noted in the draft RTP. Catenary electrification would fragment the national goods movement system and would require a major expansion of railyards at any intermediate, locomotive exchange points. At several such locations, no adjacent land is available for such an expansion. Exchanging locomotives would also result in significant, nation-wide delays in the goods movement system. (For more information on timing and operational issues with an electric catenary system, please see the two issue briefs, entitled *Timeline for Freight Rail Electrification in Southern California* and *Defining the Scope of an Electrified Freight Rail Project in Southern California,* which are attached.)

Dual Mode Locomotives

As the Railroads have discussed at various technical working groups with SCAG, there are no existing dual mode locomotives for freight rail operations that could meet the U.S EPA's Tier 4 emissions standards, and there may never be such locomotives due to operational size limitations. Thus the above statement in the draft document "*Dual mode locomotives – These are also under development…"* is misleading to readers.

Even if a dual mode locomotive could be built to meet the required size and emissions limitations, locomotive exchange points would have to be constructed throughout the SCAG region. In some instances there is insufficient land available and in all instances these exchange points would make the Los Angeles freight system less competitive, due to the additional delays and costs of equipment change outs.

Additionally, one diesel locomotive would still be needed at the locomotive exchange points for every dual mode locomotive in order to meet the needs of the national goods movement system. For additional information on dual mode locomotives, please see the attached issue brief, entitled *Dual Mode Freight Locomotives*.

Linear Synchronous Motors (LSM)

Given the uncertainties about whether LSM technology can provide sufficient traction to safely move a 10,000 ton train up and down grades, and given the additional costs attributable to the extra lifts of containers necessitated by an LSM-enabled guideway, even some of the strongest proponents of the LSM technology do not believe this technology could ever be a systems-level propulsion technology for all or most rail-based container movements. This technology has never been proven in a rail application. Whether and how an LSM technology could pull a 10,000 ton train from sea level to an elevation of 3,800 feet on a 1.5-2.5 % grade, as well as provide adequate braking for such a train on a 2-3% grade moving in the other direction, are unanswered questions which present fundamental safety concerns. These are major questions still unanswered by both the potential LSM manufacturers (no systems are in operation today) and SCAG. As SCAG notes in Table 1.1 on page 13 of the Goods Movement Appendix, one of the goals of the RTP is to, "Ensure travel safety and reliability for all people and goods in the region,"[4] The Railroads believe that pursuing these technologies prematurely will have the opposite effect.

In a previous submission to SCAG[5], the Railroads outlined other questions which remain unanswered:

[4] SCAG, draft 2012 RTP/SCS, Goods Movement appendix, page 12, Table 1.1, December 2011.
[5] September 16, 2011 comment letter to SCAG on the Freight Rail Electrification Analysis

- Has SCAG obtained any engineering plans from General Atomics or another LSM proponent that describe the LSM cars with any level of specificity?
- Does SCAG assume that the Railroads' mainline tracks could handle LSM trains as well as conventional rail traffic, including Amtrak and Southern California Regional Rail Authority (Metrolink) passenger trains?
- Would railcars need to be retrofitted with LSM reactor plates? Rail cars have a diversity of ownership. How will the railcar retrofits be conducted and coordinated across owners? Does SCAG anticipate that all railcars, nationally, would be retrofitted with these plates? If not, how could rail carriers be assured that all railcars destined for Southern California are equipped with the requisite technology?
- How will the Right-of-Way be maintained (for undercutting, surfacing, alignment, etc.) if motors and/or magnets are attached to the ties or between the rails?
- How would the need for, the consequences of, and the costs of locomotive exchange points be addressed, if at all, with an LSM system? What are the embedded assumptions about the operational impacts of the time required to switch LSM helper-cars in or out of a transcontinental train?
- Have prospective LSM manufacturers suggested how they would install magnets or motors at switch points in between tracks (e.g. from a mainline to a spur)?

Page 74 RTP:

For the near-term, the regional strategy supports the deployment of commercially-available, low-emission trucks and locomotives while centering on continued investment into improved system efficiencies. For example, upgrading switcher locomotive engines could reduce 1 to 3 percent of regional rail emissions.

Rail Comment: As noted in Table 1, SCAG needs to clarify which stakeholder(s) would pursue this strategy and where funding would come from. SCAG needs to be clear that upgrading switcher locomotive engines is not in the resource-constrained plan and will only be pursued if stakeholders identify funds. Any participation by the Railroads to upgrade switcher engines would be voluntary. The Railroads believe that neither SCAG, nor any local or regional agencies, have the authority to require the Railroads to deploy newer switcher locomotives.

Furthermore, the Railroads have made significant environmental investments in the SCAG region over the last decade or more. The progress made over the years has been documented by the Air Resources Board (ARB) in numerous public meetings. For example, in 2005, the

Railroads signed a MOU with ARB that was estimated to reduce PM emissions by 20% by 2008 at rail yards statewide. In 2009, ARB determined that the Railroads had fully complied with all requirements of the 2005 MOU. In 2010, the 1998 Fleet Average Agreement was implemented. ARB has said that the 1998 Fleet Average provided "locomotive fleet benefits in southern California 20 years earlier than the rest of the country."[6]

Page 74 RTP:

In the longer term, the strategy focuses on a more fundamental shift in technology – taking critical steps toward gradual implementation of a zero-emission or near zero-emission freight system.

Rail Comment: As the Railroads work with other stakeholders to further reduce rail emissions in the SCAG region, it is important that any technology introduced does not compromise the safety, velocity, cargo throughput, economic competitiveness, or reliability of the goods movement system. It would be helpful to point out that to date, stakeholders have not reached consensus on technologies, timing, funding, or emissions impacts of the various options SCAG examined in the RTP. Prior to proposing a fundamental shift in implementing new technology, SCAG and all goods movement stakeholders need to clearly establish if and where within the existing rail system, such "*critical steps toward gradual implementation of a zero-emission or near zero-emission freight system"* could be implemented.

Page 75 RTP:

*As summarized in Table 2.11, the zero-emission East-West Freight Corridor would eliminate 4.7 tons of NOx, 0.16 tons of $PM_{2.5}$, and 4,000 tons of CO_2 emissions daily. Full electrification of the rail system, though still a concept at this point, would remove comparable amounts of NOx, $PM_{2.5}$, and CO_2. *Rail electrification is shown here for illustrative purposes only. Further research and development is required to determine if this is a reasonable option for implementation.*

Rail Comment: SCAG should clarify the methodology used to estimate emissions reductions from an electrified system. SCAG needs to explain how it accounted for the additional emissions produced as a result of the electricity required for such a system and if it has not accounted for them, SCAG should do so in the final version of the RTP. These emissions have real environmental impacts and should be addressed in any reference to

[6] California Air Resources Board, *Statewide Strategies to Reduce Locomotive and Associated Rail Yard Emissions,* December 2006. http://www.arb.ca.gov/msprog/offroad/loco/121406ryloco_strtgy.pdf

electrification of a freight rail system or the associated emission reductions. Please refer to the attached issue briefs for more information on electrification.

Page 70 RTP:

In past RTPs, SCAG has envisioned a system of truck-only lanes extending from the San Pedro Bay Ports to downtown Los Angeles along the I-710, connecting to an east-west segment, and finally reaching the I-15 in San Bernardino County…The East-West Freight Corridor would carry between 58,000 and 70,000 trucks per day – trucks that would be removed from adjacent general purpose lands and local arterial roads.

Rail Comment: One of the alternatives of the East-West Freight Corridor for trucks is proposed to be directly adjacent to a UP mainline track. As UP has stated in discussions with SCAG staff, although off of UP privately-owned right-of-way, construction of such corridor could limit future opportunities for businesses to become rail served.

Comments on Environmental Justice Appendix

The Railroads' comments on the Environmental Justice appendix are organized according to the following primary issues:

- Unequal characterization between rail and highway impacts
- Different methods of evaluating rail impacts and highway impacts
- Inconsistencies with the rest of the RTP

While the Railroads understand the need to assess the impacts of the RTP/SCS on communities across the region, SCAG's approach to this analysis with respect to rail is flawed and misleading in several respects. SCAG's treatment of rail-related impacts in the Environmental Justice appendix implies that rail operations are a very significant contributor to air quality impacts in the region.

While SCAG does not explicitly compare highway impacts to rail impacts, the tone and context with which SCAG presents rail-related impacts could leave the reader with the misimpression that rail impacts are equal to, or more severe than, the impacts from highways and other mobile sources. This theme is unfortunately repeated elsewhere in the Environmental Justice appendix, as exemplified in Table 2, below. Of the greatest concern is the drastic difference between the information presented in Exhibit 26, a map which shows modeled regional cancer risk, and Exhibit 34, a map which purports to show the health impacts related to rail lines, while only displaying regional cancer risk data and a map overlay of rail lines.

Table 2: Comparison of evaluation of impacts of rail versus impacts of highway and arterials

	Buffer for demographic analysis	**Compares baseline vs. plan scenarios?**	**Overlays cancer risk with source?**	**Identifies changes in pollutant exposure?**
Highway Impacts Section	* Areas within 500 feet of major corridors * Roads with daily trips >100,000; rural roads w/ daily trips >50,000	Yes	No - mapped region-wide only.	"Similar to the results of the regional emission analysis…the 2012 RTP/SCS will reduce both CO and PM for most places along the freeway adjacent areas…" Pg. 122
Rail Impacts Section	* Areas within various distance of any rail line or rail facility: *1/4 mile; 1/2 mile; 1 mile; 2 miles (grade separations only)	No	Yes	No discussion

The Railroads would like to understand how SCAG intends to harmonize the Environmental Justice appendix with the draft RTP to resolve the inconsistencies between the two. Specifically:

1) Why does SCAG conduct the evaluation of environmental impacts from rail so differently than its evaluation of impacts from roadways?
    a. Why do the buffer distances differ?
    b. Why does SCAG evaluate baseline versus plan scenarios for the road and highway portions of the RTP, but not for rail?
    c. Why does SCAG state that rail operations result in significant emissions while failing to quantify emissions from either rail or highways in the appendix?
    d. Why does SCAG present a map of the regional cancer risk levels co-located with rail lines, without presenting the parallel display of cancer risk levels co-located with highways and arterials?
2) How will SCAG resolve the inconsistency between the recommended environmental mitigations in the RTP, Goods Movement appendix, Environmental Justice appendix, and PEIR?

a. Will any of the recommended mitigation options in the Environmental Justice Appendix be placed in the Goods Movement appendix or main document of the RTP?
b. Are any of the mitigation recommendations in the Environmental Justice appendix in the resource constrained plan or strategic plan of the RTP?
    i. If so, how will they be paid for?
    ii. If so, how does SCAG plan to implement them?

Unequal characterization between rail and highway impacts

Page 136 Environmental Justice appendix:

> *Exhibit 34 illustrates areas adjacent to railroads overlaid with areas of high cancer risk. As shown in the maps below, a large portion of areas adjacent to railroads [are] similar to areas of high cancer risk. These observations suggest that emissions from locomotives, rail yard and other rail facilities could result in an increased cancer risk in the neighboring low-income and minority communities.* (See referenced Exhibit 34 further below)
>
> **Rail comment:** Both Exhibit 34 and SCAG's conclusion referencing it are fundamentally flawed; the conclusions presented are unfounded and SCAG does not provide supporting factual data.
>
> First, SCAG does not clearly define how the cancer risk shown on the map was determined, what emissions or other environmental factors the map is intended to reflect, or what sources (e.g. mobile or stationary or other) the cancer risk derives from. They list as the source for the map, "SCAG, ESRI shaded relief, train atlas." This reference does not provide any information that would shed light on the critical assumptions that go into creating this analysis. ESRI is a GIS software developer, and therefore provides no information on the data inputs themselves. Additionally, the data presented in the environmental justice section is not consistent with, or supported by, any data in the PEIR's Health Risk Assessment, which only modeled certain representative highway segments and did not model rail.
>
> Second, SCAG vaguely describes this map as an "overlay." If the data reflecting the areas of high cancer risk on the map in Exhibit 34 is the same data used to generate the regional cancer risk map in Exhibit 26, then the cancer risk was generated at the regional level, and is therefore not directly attributable to rail emissions. The map in Exhibit 34 illustrates the co-location of rail lines in areas where there are elevated cancer risks as a result of multiple sources of air pollution: it does not provide any data to show correlation or causation between rail lines, specifically, and cancer risk in the area. Additionally, the exhibit is misleadingly titled "Rail-related health risk impacts" when it presents regional data that is not based on rail emissions.

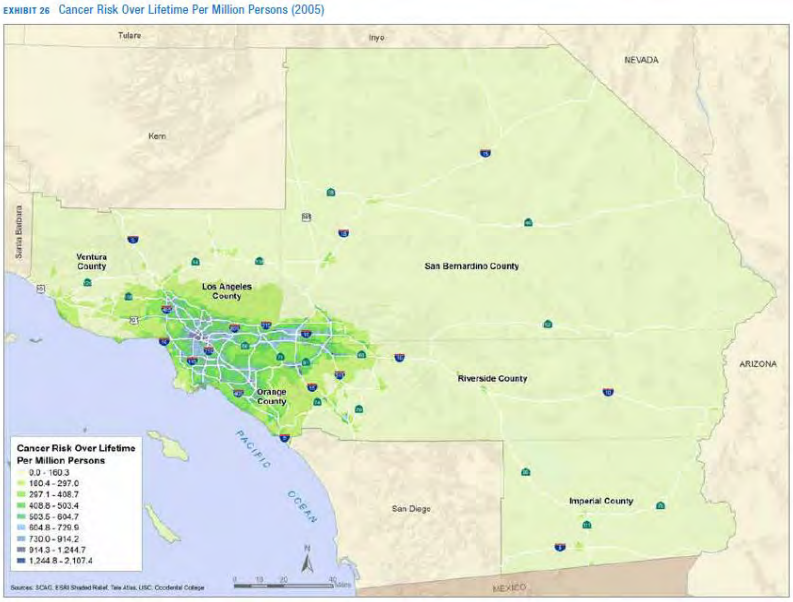
The major highways and arterials traversing the SCAG region cover the same areas where there are confluences of rail lines. The map presented in Exhibit 26 shows that the network of highways is co-located with the geographic area that is identified as having the highest cancer risk, but it does not emphasize the highways in the same manner that Exhibit 34 emphasizes rail lines. By overlaying the rail lines on the map in Exhibit 34 with a 1-mile buffer and then including the statement that "emissions from locomotives, rail yards and other rail facilities could result in an increased cancer risk in the neighboring low income and minority communities," SCAG unfairly points to the potential impacts of rail, while failing to provide a comparable evaluation of the impacts from highways and arterials. All sources need to be treated with equal attention and assigned fair attribution.

For comparison, Exhibit 34 on page 137 and Exhibit 26 on page 104 of the Environmental Justice appendix are presented below. Both Exhibit 26 and Exhibit 34 appear to be derived from similar data for regional cancer risk, however they are displayed with very troubling differences. Whereas Exhibit 26 is presented in the more neutral colors of greens and blues, Exhibit 34 is in reds and purples, strengthening the intensity of the message about the negative health impacts of rail. Secondly, the two maps have different scales: Exhibit 26 is 40 miles-per-inch, and Exhibit 34 is 20 miles-per-inch. This makes the area of high cancer risk appear twice as large on the rail map as it does on the region-wide map. Finally, while the highway system appears on both maps, it is overpowered by the bright purple rail lines on Exhibit 34, making the highways barely noticeable. All of these factors leave the reader with the impression that rail causes more severe impacts than highways in the region, even though this conclusion is not supported by the data that SCAG presents. SCAG does not include a similar map highlighting the areas within 500-feet of a highway, to show corollary "highway related health risk impacts." In fact, rail is the only source for which SCAG chose to do a map overlay of this type.

Figure 1: Exhibit 34 from SCAG EJ Appendix



Figure 2: Exhibit 26 from SCAG EJ Appendix



SCAG must either remove Exhibit 34 and misleading discussion language, or substantially revise it and provide the source data. If SCAG decides to keep Exhibit 34, it must present identical maps and analyses for arterials, highways, and other transportation sources discussed in the plan, such as airports. Further, SCAG should ensure that maps for each

source are presented in the same manner: at the same scale, with the same color scheme, and utilizing the same buffer distances.

While SCAG's maps demonstrate co-location of rail lines and highways or arterials with areas of regionally high cancer risk, it is crucial to point out that proximity does not equal risk. SCAG's presentation of a map which overlays the rail lines on top of a separately generated, regional cancer risk map to support observations about increased risk makes an inaccurate assumption that proximity to one source is equivalent to risk of exposure. Mere proximity to a source should not be used as a determinant for exposure in risk assessment analysis because it fails to identify the chemicals involved, the dose of exposure (including the dispersion of pollutants), the duration of the exposure, or the toxicity of the chemicals in question. SCAG should: (1) either remove the map entirely or (2) revise the maps as requested above and, in addition, revise the statements on page 136 of the Environmental Justice appendix as suggested below:

> *Exhibit 34 illustrates areas adjacent to railroads overlaid with the modeled regional cancer risk from all sources ~~areas of high cancer risk~~. As shown in the maps below, a large portion of areas adjacent to railroads are co-located in ~~to~~ areas of existing high regional cancer risk. ~~These observations suggest that emissions from locomotives, rail yard and other rail facilities could result in an increased cancer risk in the neighboring low-income and minority communities.~~*

Furthermore, it should be noted that the Railroads, as well as other sources, have made significant improvements to their equipment and operations since 2005, the data year for the regional cancer risk map.[7]

Different methods in evaluating rail impacts and highway impacts

Rail comment: SCAG rail impacts and highway impacts are handled differently by SCAG, both in discussion text and in how tables and figures are organized and displayed.

First, when analyzing the data on potentially impacted areas, SCAG uses shorter distances to create the geographic buffers around the highways and arterials than it does around the rail lines . Although the railroads do not endorse a particular buffer for demographic analysis, we believe the areas chosen by SCAG are unreasonably arbitrary. This arbitrary selection affects not only the evaluation of local impacts from rail, but also the assessment of whether

[7] Six years of progress has been made and documented by the Air Resources Board (ARB) in numerous public meetings. For example, in 2005, the Railroads signed a MOU with ARB estimated to reduce PM emissions by 20% by 2008 at rail yards statewide. In 2009, ARB determined that the Railroads had fully complied with all requirements of the 2005 MOU. In 2010, the 1998 fleet average agreement was implemented and is estimated to reduce NOx by 67% from uncontrolled levels. ARB staff estimates that the railroads have reduced emissions at rail yards statewide by 50% since 2008.

the impacted communities are in fact environmental justice communities. We would like to see more information on how SCAG reached its conclusions that rail disproportionately impacts environmental justice communities versus non-environmental justice communities. SCAG does not show a rational basis for these conclusions.

The analysis buffer for highways is 500 feet, but the analysis buffer for rail lines is ¼ mile, ½ mile, and 1 mile. SCAG uses buffers to evaluate demographic trends or potential environmental justice areas (Table 47 on pages 134-35), and to generate the map for geographic overlay with regional cancer risk. SCAG does not provide any justification for the difference between the buffer distances around rail versus highways and arterials used in the analyses. ARB's Land Use Handbook cautions against locating sensitive land uses within 500 feet of a freeway, or 1000 feet of a rail yard (roughly .2 miles), and does not include recommendations for rail lines. SCAG should either justify the difference between the buffers or make them the same.

In the discussion of highway and arterial impacts, SCAG compares the impacts from on-road sources as a result of implementing the RTP to the impacts of a no-plan scenario. However, this comparison is not completed for rail impacts.

The approach SCAG staff took in characterizing the "Rail-Related Impacts" creates the potential for an inaccurate interpretation of rail's contribution to the region's air quality. For example, on page 136, SCAG states, "these observations suggest that emissions from locomotives, rail yard and other rail facilities could result in an increased cancer risk in the neighboring low-income and minority communities." However, in the section on highway and arterial impacts, SCAG does not discuss the potential for increased cancer risk from freeway emissions, but notes in the *regional section* that areas of high cancer risk are located near freeways (page 96). Additionally, in the introduction to the rail-related impacts section, SCAG states, "these observations suggest that rail-related environmental burdens, such as air pollution and noise from locomotives, rail yard and other rail facility, are relatively higher to low-income and minority communities than regional average" (page 131), but SCAG does not quantify the emissions generated by rail anywhere in the Environmental Justice appendix.

Further, although SCAG broadly states that rail emissions are significant on page 131 of the Environmental Justice Appendix, SCAG does not quantify actual emissions. Quantification of rail emissions and the comparison between the emissions from trucks on highways and rail emissions in the region is critical to understanding freight transportation tradeoffs, the context under which investments in rail are made, and the potential shifts between transportation modes. One train can carry enough cargo to take 280 trucks off the road, and rail is three or more times as efficient as trucks on a ton-per-mile basis. Therefore increased rail traffic can decrease overall emissions for communities in the region.

Inconsistencies with the rest of the RTP

The Environmental Justice appendix includes a set of environmental strategies for freight rail, called the "Recommended Mitigation for Rail Related Impacts," that is completely different from that which is presented in the rest of the RTP. It is unclear who would implement these strategies, where the funds would come from, in what timeframe these mitigation measures would be pursued, and under what authority. SCAG does not state if any of these mitigation measures are a part of the resource-constrained plan or the strategic plan. Additionally, these strategies are not consistent with the strategies outlined in the RTP or the Goods Movement appendix.

Table 3: Comparison of mitigation measures in EJ appendix as compared to the Draft RTP

***Recommended Mitigation for Rail Related Impacts,* Environmental Justice appendix (Page 148)**	***Goods Movement Environmental Strategy,* RTP (Page 74)**
• *Accelerated Introduction of Cleaner Line-Haul Units* • *Construct sound reducing barriers between noise sources and noise-sensitive land uses* • *Improve the acoustical insulation of dwelling units where setbacks and sound barriers do not sufficiently reduce noise* • *Implement, to the extent feasible and practicable, speed limits and limits on hours of operation of rail and transit systems, where such limits may reduce noise impacts.*	Near Term • *Upgrading switcher locomotive engines* • *Continued investments into improved system efficiencies* Long Term • *Critical steps toward phased implementation of a zero-emission or near zero-emission freight system*

Rail Comment: SCAG needs to clearly state whether the rail mitigation measures in the Environmental Justice appendix are a part of the resource-constrained plan or a part of the strategic plan. As stated earlier, SCAG also needs to clarify who would be responsible for pursuing these mitigation measures, where the funding would come from, in what timeframe the measures would be implemented, and under what authority. Neither SCAG nor other local, regional, or state agencies have the authority to require the Railroads to pursue any of these measures.

First, SCAG recommends the acceleration of cleaner line-haul locomotives. Tier 4 technology will not be commercially available until 2015, at the earliest. The development

of Tier 4 locomotives under the US EPA regulatory timeline is a significant challenge for locomotive and aftertreatment manufacturers. A revolutionary leap in both engine and aftertreatment technologies is required in order for line haul locomotives to meet Tier 4 emissions requirements. At this time, these new technologies are untested and unproven in line haul locomotive applications.

Historically, the development of new, effective locomotive technology has taken an average of about seven to eight years to achieve reliability goals (and some changes have taken more than a decade). However, the 2008 US EPA regulation (a technology-forcing regulation) allows locomotive manufacturers just six and a half years to conduct Tier 4 research and development, complete design and reliability field testing, and begin full-scale production. Since locomotive manufacturers are accomplishing a major technological change in an abbreviated timeframe, there are development risks associated with Tier 4 technology. These risks include the potential for in-use locomotive failures that would cause train delays and interruptions across the goods movement system. Therefore, the Railroads, while optimistic, are appropriately cautious at this time.

Second, the Environmental Justice appendix recommends the installation of sound barriers and acoustical insulation. The Railroads are not responsible for these improvements, nor can local jurisdictions require the Railroads to implement these measures. Again, SCAG needs to be clear about whether the RTP requires these measures to be implemented, or if they are only recommended actions for future consideration that do not currently have funding identified. SCAG also needs to clarify whether the installation of sound barriers would be on the Railroads' property and if there would be any potential for interruption to railroad operations.

Finally, in response to the recommended strategy to reduce speed or hours of operation, SCAG should note that the Railroads operate 24 hours a day, seven days a week. Limiting hours of operation would have nation-wide effects and could ultimately result in higher emissions in the SCAG region if containers were shifted to truck transport. Additionally, train speeds are dictated by track conditions and regulated by the Federal Railroad Administration[8] and therefore fall outside of the authority of SCAG. Accordingly, this strategy should be removed from the Environmental Justice appendix.

Page 145 Environmental Justice appendix:

Additionally, the 2012 RTP proposes railroad electrification, which would significantly reduce rail-related emissions throughout the region, and especially for in low-income and

[8] FRA's Track Safety Standards establish track structure and track geometry requirements for nine separate classes of track. They can be found at **49 CFR Part 213**, **(Sec. 213.9** and **Sec. 213.307**). See also http://www.fra.dot.gov/Pages/1234.shtml

minority communities adjacent to railroads. Further study and demonstrations are needed to broadly deploy near zero and zero emission rail technologies that would significantly reduce environmental impacts from locomotives and rail-related facilities. Please refer to the Goods Movement Technical Appendix to review the 2012 RTP Goods Movement Environmental Strategy and Action Plan for Technology Advancement.

Rail comment: According to the Goods Movement appendix and the RTP, SCAG is not proposing to implement electrification, but rather to continue study of electrification and other ultra-low emission strategies in the future, if additional funds become available. Therefore, SCAG should remove the sentence that claims "the 2012 RTP proposes railroad electrification" and revise this section to be consistent with the Goods Movement appendix and the RTP. SCAG, and other local, regional and state agencies, do not have the authority to require the Railroads to pursue electrification. Additionally, please refer to the attached issue briefs for more information on electrification.

Page 131 Environmental Justice appendix:

Environmental pollution from locomotives, rail yards and other rail facilities is a major public health concern at the national, regional and community level. The movement of goods by rail involves diesel-powered locomotives and equipment, resulting in significant emissions of particulate matter (PM), nitrogen oxides (NOx), hydrocarbons, and other air toxins throughout the process.

Rail comment: SCAG does not specify what types of rail it is referring to in the impacts assessment. Is SCAG including freight and passenger rail? If passenger rail is included, are commuter lines and urban lines accounted for?

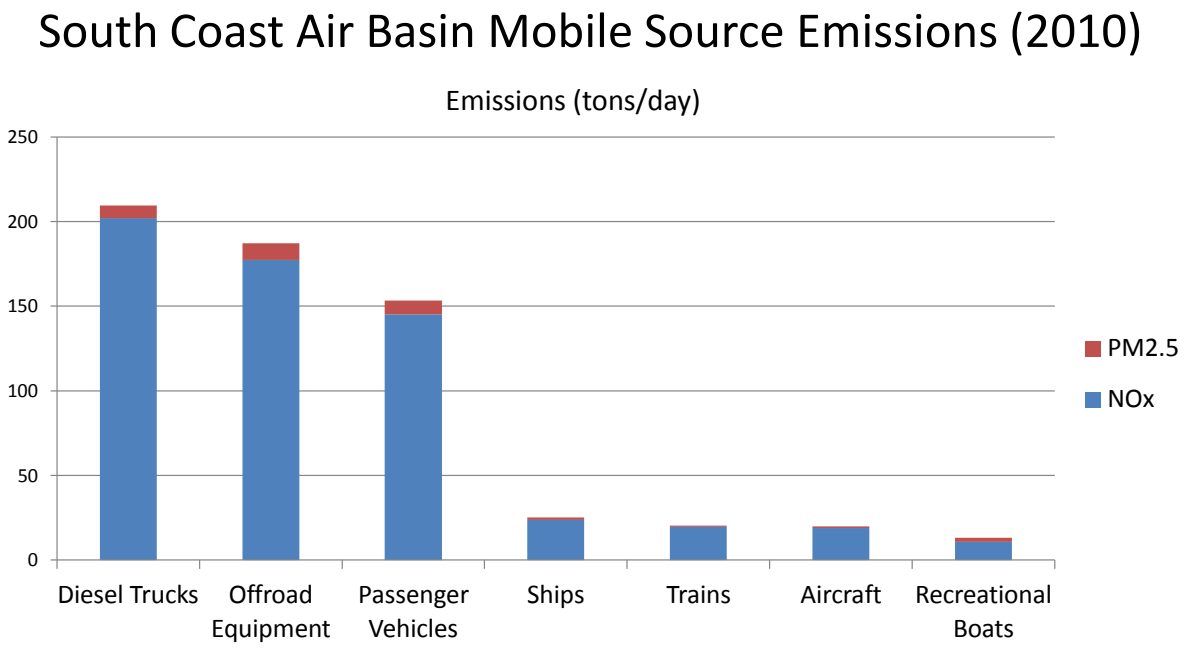
In 2010, ARB estimates locomotives contributed less than one percent of $PM_{2.5}$ emissions and less than three percent of NOx emissions in the South Coast Air Basin (see Figure 4 below). As a point of comparison, other mobile sources such as passenger vehicles, off-road equipment (e.g. farm and construction), and diesel trucks in the South Coast Air Basin contribute roughly 20%, 24%, and 27% of NOx, and 8%, 10%, and 7% of $PM_{2.5}$, respectively.[9] Despite this, SCAG portrays rail emissions as regionally significant in the Environmental Justice appendix.

Finally, the Railroads disagree with SCAG's statement that locomotive emissions are a national "major public health concern." The air quality and mix of emissions sources in the SCAG region are unique, and perhaps uniquely challenging due to the geographic and meteorological conditions. As SCAG notes, 33% of all freight containers in the U.S. move

[9] ARB - Almanac Emission Projection Data (Updated in 2009); Passenger Vehicles - LDV, LDT, LDT 2. Diesel Trucks - LHDV1, LHDV2, MHDV, HHDV

through the Southern California Ports.[10] Many of these goods travel on rail, and yet, rail is less than 3% of NOx and 1% of PM emissions in the South Coast Air Basin.

Figure 3: South Coast Air Basin Mobile Source Emissions (2010)



	Diesel Trucks	Off-road Equipment	Passenger Vehicles	Ships	Trains	Aircraft	Recreational Boats
% SCAB PM2.5	7 %	10%	8%	3 %	>1%	>1%	2%
% SCAB NOx	27 %	24%	20%	1 %	3%	3%	1%

Source: ARB - Almanac Emission Projection Data (Updated in 2009); Passenger Vehicles - LDV, LDT, LDT 2. Diesel Trucks - LHDV1, LHDV2, MHDV, HHDV

Figure 4:Drafted by California Environmental Associates. Source Data: ARB - Almanac Emission Projection Data (Updated in 2009); Passenger Vehicles - LDV, LDT, LDT 2. Diesel Trucks - LHDV1, LHDV2, MHDV, HHDV

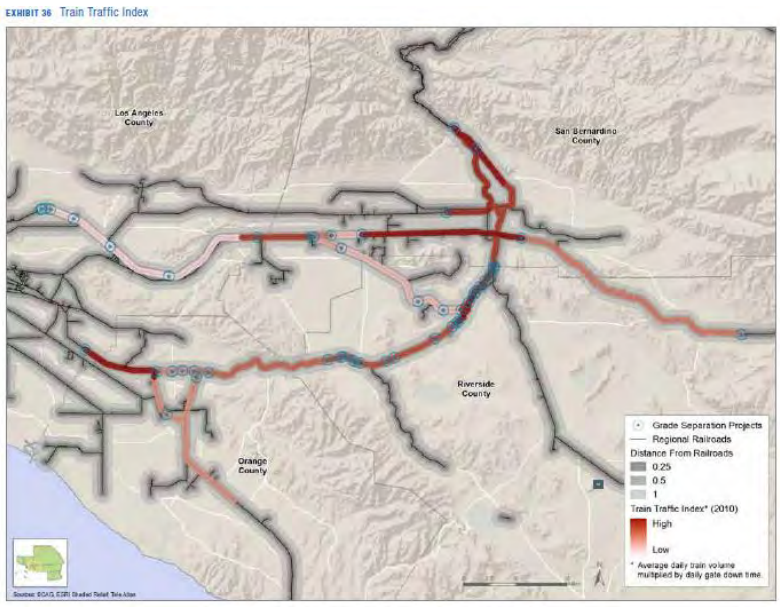
Page 145 Environmental Justice appendix:

The train traffic index of each railroad segment is calculated by using average daily train volume multiplied by daily total gate down time of two grade crossings located at both ends of the segment. The following map illustrates the train traffic index of railroad segments adjacent to the grade separation projects... As shown in the map below, San Bernardino County and Riverside County have higher train traffic index values than other counties. As

[10] SCAG, draft 2012 RTP/SCS, Goods Movement appendix, page 6, December 2011.

railroad emissions and noise are greater where there is a large amount of train traffic volume, these observations suggest that the rail-related environmental impacts could be greater in San Bernardino County and Riverside County than other counties. And, based upon the analysis of Environmental Justice categories above, the low-income and minority communities adjacent to railroads and grade-crossings in San Bernardino County and Riverside County can be more affected by rail-related impacts, such as emissions, noise, accidents, traffic delay, etc. than other population groups.

Figure 4: Exhibit 36 Train Traffic Index



Rail comment: SCAG uses the results of the train traffic index analysis to suggest the relative level of impact on different rail segments. Did SCAG include passenger trains in this index? SCAG should state whether the above map reflects both passenger rail and freight rail or just one or the other. SCAG's assertions about the correlation between "accidents" and "traffic delays" on such segments are purely speculative and should be noted as such.

Also, there should be a discussion of the planned improvements scheduled for these areas, through existing commitments for grade separations and capacity improvements, such as the Colton Crossing. In addition, SCAG fails to include a comparison of the improvements in train traffic index over the lifespan of the RTP. SCAG should clarify that the index provided is simply a snapshot in time for 2010. Given that Colton Crossing is a committed and funded project,[11] SCAG should show relative improvement gained through completion of Colton Crossing and other near-term grade separations.

[11] SCAG, draft 2012 RTP/SCS, Project List appendix, page 313, December 2011.

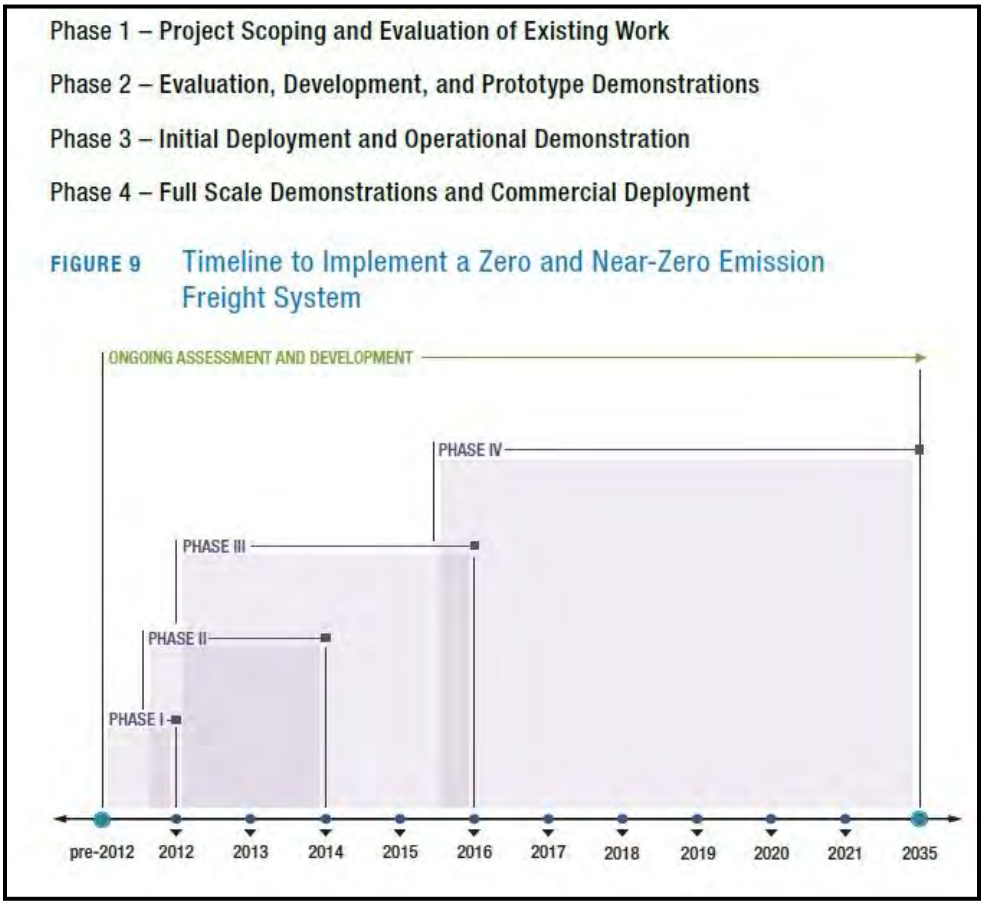
Furthermore, SCAG provides no information that the "total gate down time of two grade crossings located at both ends of the segments" has been correlated to traffic counts on the streets with the gates down. Without the traffic counts or the time of day data, SCAG can draw no conclusions about the correlation between gates being down and the impacts to human populations.

Comments on Goods Movement appendix

As pointed out earlier in this letter, participation of the Railroads and other stakeholders in any of the strategies identified by SCAG in the Goods Movement appendix must be a collaborative and voluntary process. Despite the best efforts of the SCAG staff, many of these strategies are vague and potentially misleading. For example, SCAG provides a specific timeframe for the study and demonstration of various ultra-low emission technologies presented in a way that appears to be applicable for all of the technology options. In fact, the stage of development for each technology varies widely. Likewise, the timeline for the development and demonstration of each technology will vary greatly. One size does not fit all. The approach that SCAG has laid out in the Goods Movement appendix is of little utility to the stakeholders involved in the SCAG region and should be revised substantially or even removed.

Page 34 Goods Movement appendix:

Figure 5: Timeline to Implement a Zero and Near-Zero Emission Freight System



Rail Comment: SCAG needs to be clear about which specific activities associated with the phases of development listed in Figure 9 are in the resource-constrained plan, which have funds currently available, and which activities do not have funds available. This will help clarify which activities will only be implemented when, and if, additional funds become available. If there is funding currently available, SCAG needs to state that it plans to carry out the timeline presented for the technology demonstration and potential implementation of new freight movement technologies. If not, it should point out that such a project could not be implemented until or unless funding becomes available. Additionally, it is worth noting that any full scale demonstration and/or commercial deployment would need the full support of the Railroads, and potentially other governmental agencies, to move forward. SCAG should also include a provision that the Railroads will be involved in the design of the parameters for a full-scale demonstration.

In Figure 9, it appears that Phase 1 is already complete and consisted of the work done to develop the draft 2012 RTP. If this is true, SCAG should clarify that point.

The timeframe for Phase 2 will vary substantially depending on which technology is studied further. Electric catenary systems present some serious operational, safety, and funding issues; however, these systems are better understood and appear to be more developed than the linear synchronous motor system or the hybrid locomotive with an advance battery/ tender car technology. SCAG should specify the technologies that would be evaluated in Phase 2 and provide specific timeframes for each. In any event, the timeframe identified by SCAG for Phase 2 is far too short for the evaluation, development, completion of the environmental review process and demonstration of an electrified system. For example, even demonstration of a catenary electric system would require the development of electric locomotives and the adaptation of those locomotives to western freight operations. Because most other ultra-low emission systems are only conceptual at this point, the timeframe for Phase 2 would be even longer.

The desired accomplishments in Phase 3 are unrealistic for the short time allocated. The timeline should be revised so that any deployment or operational demonstration would come after sufficient time has been allocated to resolve all technical, operational, and safety issues identified for the various low emission system options. As SCAG notes on page 35 of the Goods Movement appendix, past studies by the Ports of Los Angeles and Long Beach, *"highlight the difficult challenges associated with this sector, especially with regard to operational needs, integration of the technologies into the national rail system, federal safety requirements, and costs."*[12]

Additionally, the timeline for Phase 4 is unrealistic and should be lengthened to give adequate time for zero-emission technologies to mature and undergo sufficient testing. An inadequate or insufficient demonstration program or premature adoption could lead to serious disruptions to the national goods movement system. Please refer to the attached issue brief, entitled *Timeline for Freight Rail Electrification in Southern California* and the *Roadmap for Moving Forward with Zero Emission Technologies at the Ports of Long Beach and Los Angeles*[13] for more information on the timeline to implement an electrified freight rail system in Southern California.

[12] SCAG, draft 2012 RTP/SCS, Goods Movement appendix, page 35, December 2011.
[13] Port of Long Beach & Port of Los Angeles, "Roadmap for Moving Forward with Zero Emission Technologies at the Ports of Long Beach and Los Angeles" Technical Report, Updated August 2011. http://longbeach.granicus.com/MediaPlayer.php?view_id=18&clip_id=4942

Page 36 Goods Movement appendix:

Phase 2 also includes initial proof of concept and testing of several types of zero-emission locomotive technologies and supporting infrastructure. Demonstration would include technology optimization along prescribed routes under conditions applicable to goods movement activities. An initial step would entail creating a test track to allow for the demonstration of various technologies to move containers. For rail prototypes basic performance requirements include, but are not limited to: sufficient tractive power to haul a double-stacked railcar, adequate braking capability and other parameters to support safe operation, and the ability to operate in zero-emission mode.

For rail, uncertainties associated with new technologies would be addressed through a rail operational assessment study that evaluates the potential operational impacts of a zero or near zero-emission rail system both within the Basin and on the larger national freight railroad system. This study would build on the work of SCAG's Rail Electrification Study, 2011. Because overhead catenary systems have already been proven for passenger and some freight applications, this study would also evaluate the practicability of utilizing existing technologies for rail service in the South Coast Air Basin.

Rail Comment: SCAG should clarify under what circumstance this phase will be undertaken. The draft RTP implies that it would only take place if future funds are collected from the VMT tax, but it is unclear. If Phase 2 is undertaken, the Railroads believe that SCAG needs to explicitly outline on what right-of-way and for what purposes such a system could be deployed. Additionally, part of Phase 2 should include an evaluation to estimate the total capital and operating costs for such a system, how those costs might be passed through to customers, and if the magnitude of the costs might cause cargo to shift either between modes or to a different port.

Page 39 Goods Movement appendix:

Figure 6: Locomotive/Rail: Agency Major Implementation Actions

TABLE 16 Locomotive/Rail: Agency Major Implementation Actions

Year(s)	Agency	Agency Action
2012	SCAG	• Incorporate "footprint" and planning for wayside power into expansion of rail lines in financially constrained 2012 RTP • Incorporate funding to support rail evaluation and demonstration efforts into financially constrained 2012 RTP • Implement plan of advocacy to secure action by federal or other governments where required to implement any related elements of the SIP or RTP; include evaluation of impacts of zero-emission technologies on national priorities, (e.g. energy security, energy cost certainty, interstate transportation, climate protection)
2012–2014	SCAG, with AQMD/ARB on SIP	• Evaluate and determine practicability of applying existing electrified rail technologies to region (by 2013) • Evaluate potential funding and implementation mechanisms for zero and near zero emission locomotives, and wayside power, including: • Private (railroads); federal, state, local government; public-private partnerships; electric utility
2015–2016	SCAG, with AQMD/ARB on SIP	• If existing electrified rail technologies are determined practicable for the region, identify technologies, infrastructure, and implementation mechanisms in RTP amendment and next major SIP

2018–2020	SCAG, with AQMD/ARB on SIP	• If existing electrified rail technologies were determined to not be practicable for the region, resolve need for wayside power for new rail technologies; decision would be based upon whether new technologies can achieve sufficient zero-emission range without wayside power
		• If wayside power is needed, incorporate "footprint" and planning for wayside power into rail lines into 2020 RTP and next major SIP
		• Incorporate recommendations regarding type of funding and implementation mechanisms into constrained RTP and next major SIP, including:
		  ▪ Strategy description and timeframe for any rules
		  ▪ Strategy description, potential funding sources and timeframe for any incentives.

Rail Comment: It would appear from the simple language in Table 16 that the actions listed are included in the resource constrained portion of the RTP. However, SCAG has yet to identify what funding source would be used, and in what timeframe the 'agency action' would occur. Specifically, SCAG should clarify whether there is funding available for the incorporation of a 'footprint' and planning for wayside power into rail lines and/or whether there is funding identified to support rail evaluation and demonstration efforts. If there is not money available for such efforts, the Railroads believe that these measures would more appropriately be placed in the strategic plan. In any case, the timeframe for implementing these actions (2012) is unrealistic given the lack of funding identified to date.

It is not clear how SCAG, AQMD and/or ARB will determine if electrified rail technologies are feasible. The Railroads should participate in the development of design criteria to make this determination. SCAG also needs to clarify what is meant by 'incorporate' in the 2012 Agency Action section. Specifically, the Railroads have the following questions:

- What processes would occur should any of these elements be 'incorporated' into the RTP?
- Would this incorporation involve a formal amendment process?
- Would the Railroads have an opportunity to comment if SCAG, AQMD, and/or ARB were to pursue any of these implementation actions, based on the RTP?

Page 42 Goods Movement appendix:

Because of the cost and potential operational challenges associated with mainline electrification, such a strategy should be considered a longer term initiative, requiring further studies as well as proof of concept and prototype testing of zero-emission locomotive technologies which have the potential to minimize cost and operational impacts, as discussed under the phased implementation section of this appendix……Construction of any electrified rail system in Southern California would require a large investment, as well as cooperation by the BNSF and UP railways.

Rail Comment: SCAG staff has explicitly stated at various public meetings that mainline electrification is not part of the resource constrained plan or the strategic plan. Please confirm that this is the case. Additionally, SCAG should explain what is meant in the above paragraph by the statement that SCAG would require the "cooperation by the BNSF and UP railways."

Page 42 Goods Movement appendix:

Two promising technologies that are under development include hybrid diesel-electric locomotives and battery electric tender cars. Each requires additional development and a more thorough understanding of operational considerations. Fuel savings would allow for a small fuel storage tank and provide space for storage of the necessary batteries on individual locomotives. The locomotives would therefore switch between Tier-4 diesel electric and battery modes. The batteries would recharge as the locomotive is operating in diesel-electric mode. Also, battery electric tender car technology could be used with current locomotives. Battery tender cars would be placed behind diesel-electric locomotives, and would carry batteries that could power locomotives through the environmentally sensitive areas. Such a system could have many of the same advantages as the hybrid diesel-electric locomotives, including zero-emission operation, but would also have the added benefit of being applicable with current locomotives and reducing or eliminating the need for wayside power such as from overhead catenary wires.

Rail Comment: SCAG should explain that neither the hybrid diesel-electric locomotive nor the battery electric tender car technologies are currently available and are not part of the resource constrained or strategic plan. Each technology would need to be designed, developed, and tested prior to implementation, which is a process that historically has taken between five to ten years.

Page 27 of the RTP (referring to the Goods Movement appendix):

> *The RTP goods movement strategy ensures that investments in transportation infrastructure and associated transportation programs contribute to achievement of the region's air quality goals. Efforts are already underway, as the San Pedro Bay Ports have invested heavily in deploying clean trucks over the last several years. Additionally, planning efforts are underway to establish a regional zero emission freight system.*
>
> **Rail Comment:** SCAG needs to clarify what is meant by the "planning efforts" for a "regional zero emission freight system." These planning efforts will be, as the Railroads understand, the continued study and evaluation of technology, operational issues, and costs associated with various electricity-based options. While these technologies will likely offer some localized emissions reductions, as cleaner diesel locomotives are introduced into the region, including Tier 4 locomotives, the magnitude of emission reductions will be significantly reduced. SCAG identifies a similar trend in the potential for emissions reductions from passenger transportation strategies on page 28 of the RTP, stating that as, "*passenger vehicles have become cleaner, the positive air quality impacts of transportation strategies that reduce vehicle use or change congestion conditions (i.e., non-fuel or engine-based strategies) have been significantly diminished."*[14] SCAG should also note that the magnitude of the benefits associated with electrification activity would be diminished with the introduction of cleaner locomotives.

Page 41 Goods Movement appendix:

> *Switcher locomotives contribute only a small share of total locomotive emissions; however, their activity is concentrated in rail yards and greatly impacts surrounding communities. Nevertheless, low-emission technologies are available and have relatively low costs. To reduce emissions from switcher locomotives, one option is to replace remaining Tier 0+ switchers with new Tier 4 switchers. Although there are only projected to be 29 Tier 0+ switchers in the Basin in 2023, they have high emission rates. NOx and $PM_{2.5}$ emission rates from a Tier 4 switcher would be approximately 10–15 times lower than a Tier 0+ engines. Another option is to rebuild existing GenSet switchers with engines that meet the U.S. EPA Tier 4 non-road emission standards, which could cut Nox and $PM_{2.5}$ emissions by a factor of 10. The emission reductions of these strategies could reduce emissions for switcher engines between 27 and 53 percent. However, since switchers are a small part of the overall fleet, these two switcher strategies would reduce total freight locomotive Nox and $PM_{2.5}$ emissions by 1–3 percent.*

[14] SCAG, draft 2012 RTP/SCS, page 28, December 2011.

Rail Comment: The RTP should note that SCAG, and all other local, regional, and state agencies, do not have the authority to require the retrofit or replacement of Tier 0 or Tier 0+ locomotives. SCAG should clarify that this strategy can only be implemented on a voluntary basis, is not in the resource-constrained portion of the RTP, and will only be implemented if stakeholders can fund the replacement of older switcher locomotives.

Tier 4 locomotives are not in production yet, and are not expected to become commercially available until 2015. Therefore, it is illogical to include a strategy to repower switcher locomotives with Tier 4 engines as they do not currently exist. Moreover, this is not a cost effective strategy to reduce emissions as switcher engines burn far less fuel than line-haul units. The Railroads have used public/private partnerships in the past to help reduce emissions from switcher locomotives as opportunities arise, but future projections out to 2023 regarding the repower of switcher engines to Tier 4 are not realistic.

Figure 7: Emission Reductions from Replacing Tier 0 with Tier 4 Switchers (Tons per Day)

TABLE 17 Emission Reductions from Replacing Tier 0 with Tier 4 Switchers (Tons per Day)

	NO_x			$PM_{2.5}$			CO_2		
Year	Switcher baseline	With Strategy	% Change	Switcher baseline	With Strategy	% Change	Switcher baseline	With Strategy	% Change
2010	1.37	1.37	0%	0.041	0.041	0%	94	94	0%
2023	0.68	0.35	-49%	0.017	0.001	-45%	123	123	0%
2035	0.37	0.37	0%	0.010	0.010	0%	153	153	0%

Source: SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy

TABLE 18 Emission Reductions from Repowering Gensets with Tier 4 Non-Road Engines (Tons per Day)

	NO_x			$PM_{2.5}$			CO_2		
Year	Switcher baseline	With Strategy	% Change	Switcher baseline	With Strategy	% Change	Switcher baseline	With Strategy	% Change
2010	1.37	1.37	0%	0.041	0.041	0%	94	94	0%
2023	0.68	0.50	-27%	0.017	0.011	-36%	123	123	0%
2035	0.37	0.18	-50%	0.010	0.004	-62%	153	153	0%

Source: SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy

Page 35 Goods Movement appendix:

> *Additionally, significant effort has gone into analyzing the options for a zero-emission rail system in the Basin. These include recent efforts by the Ports of Los Angeles and Long Beach in their Roadmap study and by SCAG in the freight rail electrification report. Each of these efforts highlights the technical opportunities and the need to pursue a zero-emission freight transportation system for the future. However, they also highlight the difficult challenges associated with this sector, especially with regard to operational needs, integration of the technologies into the national rail system, federal safety requirements, and costs.*
>
> **Rail Comment:** SCAG should note that when the Ports' presented their evaluation of "zero emission" options in mid-2011, they concluded that, "none of the proposals were sufficiently mature to commit to a full-scale operational deployment or demonstrated they could deliver a reliable and financially sustainable system…"[15]

Comments on Project List appendix

The Project List appendix includes a funding measure for over $3.7 billion for further research and development of goods movement system improvements. It is unclear where the money will come from and for what specific improvements it will be used. SCAG needs to clarify the source of these funds, the specific priority of measures for which the funds will be used, and in what timeframe they will occur.

[15] Port of Long Beach & Port of Los Angeles, "Roadmap for Moving Forward with Zero Emission Technologies at the Ports of Long Beach and Los Angeles" Technical Report, Updated August 2011, page 10. http://longbeach.granicus.com/MediaPlayer.php?view_id=18&clip_id=4942

Page 422 of Project List appendix:

Figure 8: Financially Constrained RTP Project List

Financially-Constrained RTP Projects

County	RTP ID	System	Route #	Route Name	From	To	Description	Project Completion By*	Project Cost ($1,000's)
VARIOUS	7120005	STATE HIGHWAY		TRANSPORTATION SYSTEM MANAGEMENT	REGIONWIDE		INCREASED TSM INVESTMENTS (INCLUDES CSMP IMPROVEMENTS)	2035	$2,271,364
VARIOUS	10M0702	LOCAL HIGHWAY					STUDY -- EXPRESS TRAVEL CHOICES (PHASE II) -- (CALTRANS IS THE LEAD AGENCY)	2013	$4,000,000
VARIOUS	7120001	LOCAL HIGHWAY		ARTERIAL OPERATIONS & MAINTENANCE	REGIONWIDE		ADDITIONAL O&M AND PRESERVATION – LOCAL STREETS & ROADS	2035	$15,000,000
VARIOUS	7120004	OTHER		ACTIVE TRANSPORTATION	REGIONWIDE		INCREASED ACTIVE TRANSPORTATION INVESTMENTS	2035	$4,448,509
VARIOUS	REG0703	OTHER		ARTERIAL OPERATIONS & MAINTENANCE	REGIONWIDE		ARTERIAL PRESERVATION/MAINTENANCE AND OPERATIONS PROJECTS	2035	SEE FINANCIAL PLAN LOCAL STREETS AND ROADS OPERATIONS AND MAINTENANCE COST
VARIOUS	7120014	OTHER		EAST-WEST FREIGHT CORRIDOR	I-710	JUST WEST OF I-605	EAST-WEST FREIGHT CORRIDOR SEGMENT 1 (UPRR ADJACENT SEGMENT)	2029	$2,413,086
VARIOUS	7120015	OTHER		EAST-WEST FREIGHT CORRIDOR	JUST WEST OF I-605	JUST EAST OF SR-57	EAST-WEST FREIGHT CORRIDOR SEGMENT 2 (SAN JOSE CREEK SEGMENT)	2029	$9,102,359
VARIOUS	7120018	OTHER		GOODS MOVEMENT BOTTLENECK RELIEF STRATEGY	REGIONWIDE		GOODS MOVEMENT – BOTTLENECK RELIEF STRATEGY	2035	$5,000,000
VARIOUS	RRC0703	OTHER		GOODS MOVEMENT RESEARCH AND DEVELOPMENT	REGIONWIDE		GOODS MOVEMENT RESEARCH AND DEVELOPMENT	2035	$3,771,002

Rail Comment: SCAG identifies $3,771,002,000 for 'goods movement research and development' as a part of the resource constrained plan in measure RRC0703. This language is vague and potentially misleading. The funding source is unclear, and is not mentioned in the Goods Movement appendix or in the RTP. SCAG needs to clearly identify the source of funds and their specific use.

- What technologies would 'goods movement research and development' cover?
- Why does the RTP ID begin with RRC – is that indicative of the intention to use these funds for rail technology development?
- Where could a reader find the write-up of RRC0703?

This vague placeholder for goods movement research and development has the potential to be interpreted differently by various stakeholders and needs to be clarified to avoid future conflict.

Comments on Passenger Rail appendix

The following comments pertain to various strategies and passages that concern the Railroads right-of-way (ROW) throughout the draft 2012 RTP and appendices. Prior to moving forward with some of SCAG's passenger rail and goods movement environmental strategies, SCAG should ensure that issues will not arise with sharing ROWs. Failure to address these issues early on could result in increased congestion and emissions in the SCAG region.

Page 16 Passenger Rail appendix:

> *In the SCAG Region, this plan will be complicated by drive issues. While the Authority's HSTs will be electric drive, and powered by direct-overhead contact lines (often called catenaries), Amtrak and Metrolink currently operate diesel-electric locomotives, as do UP and BNSF. Moving forward, the region will have to reconcile the use of electric and diesel-electric locomotives in the same corridor; and resolve whether these two types of locomotives can share facilities. Blended operations may not be possible until these conflicts are resolved.*
>
> **Rail Comment:** Before moving forward with this part of the passenger rail development, SCAG and/or the High Speed Rail Authority need to address whether the overhead catenary lines will interfere with freight railroad operations. Failure to reconcile this issue could result in major operational issues in the SCAG region and result in economic and environmental harm. SCAG should identify if funding has been allocated to study the potential issues with shared ROWs and what agency would decide if and how facilities can be shared. The Railroads should be included in all conversations and studies that address using rail facilities as to not adversely affect the goods movement system.

Page 21 Passenger Rail appendix:

> *Currently, rail service between downtown L.A. and the Coachella Valley is only provided three days a week with an unattractive schedule as part of Amtrak's interstate services. Union Pacific Railroad owns this rail corridor east of Colton and is opposed to implementing additional passenger service without large capital improvements. However, Amtrak retains the right to operate passenger service on freight-owned railroads and there is a process in place to resolve freight opposition, although Amtrak and other partners such as Caltrans DOR and RCTC may be required to fund capital projects to mitigate potential financial damages to Union Pacific. A 2010 RCTC study estimates $75 million in station costs, $40 million in equipment costs, and $11.4 million in yearly operating costs to start this service. These figures do not include any capital costs required to mitigate service disruptions incurred by Union Pacific.*
>
> **Rail Comment:** UP has entered into an agreement with SCAG member agencies to study the possibility of service to the Coachella Valley that would be served by whatever Amtrak service is currently provided in the region. There would be lost freight capacity to UP in providing such service that would have to be mitigated in some manner.

Page 19 Passenger Rail appendix:

> *Phase II is from Madera to Sacramento and in our region from L.A. Union Station to San Diego through the San Gabriel Valley and Inland Empire. Phase II is in the Supplemental Alternatives Analysis phase and includes some alternative alignments in our region: either I-10 or SR 60 through the San Gabriel Valley, and either I-15 or I-215 from the Inland Empire to the San Diego County line. There is currently no funding for Phase II.*
>
> **Rail Comment:** A portion of this analysis impacts UP owned ROWs. UP's position on this subject was best stated in its November 23, 2009 letter to the California High Speed Rail Authority providing scoping comments for the Los Angeles to San Diego via Inland Empire EIR/EIS.
>
> UP owns the Los Angeles, Alhambra, and Yuma subdivisions ROWs in fee simple between central Los Angeles and the Colton – San Bernardino urban complex. UP controls the operation and maintenance of these subdivisions. No other carrier or government agency has the right to permit other railroads or rail operators to use any part of this ROW. These CTC-dispatched main lines, primarily single-track but with some segments of double track, form the western end of the vital Sunset Route and are the main conduits for movement of Pacific Rim containers out of the ports of Los Angeles and Long Beach. The importance of these subdivisions to the efficient movement of containers and other freight traffic cannot be overstated. Confirming prior statements, both written and oral, UP will not voluntarily make any part of these subdivisions available for the high-speed rail alignment.

The Railroads thank SCAG for their consideration of these issues and look forward to reviewing the final 2012 RTP/SCS. Please contact Max Pike at 415.421.4213 ex. 26 or Sarah Weldon at 415.421.4213 ex. 34 at any time should you have questions.

Sincerely,



Kirk Marckwald
Principal, California Environmental Associates
On behalf of Union Pacific Railroad, BNSF Railway and the Association of American Railroads

cc:
Rich Macias, SCAG

Annie Nam, SCAG
Margaret Lin, SCAG
Jacob Lieb, SCAG
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Dave Seep, BNSF
Juan Acosta, BNSF
LaDonna DiCamillo, BNSF
Mike Rush, AAR

Attachments:
Draft Electrification Briefing Papers, September 2, 2011

CEA | California Environmental Associates

To: Annie Nam, SCAG

From: Max Pike & Kirk Marckwald

CC: Sarah Weldon

Date: 9/2/2011

Re: Draft Electrification Briefing Papers

Attached are draft issue briefs covering four important aspects of a potential Southern California freight rail electrification:

1. Timeline to Construct for Freight Rail Electrification in Southern California Pgs. 1-2
2. Defining the Scope of an Electrified Freight Rail Project in Southern California Pgs. 3-8
3. Dual Mode Freight Locomotives Pgs. 9-14
4. Similarities between Existing Electrified Rail Systems and a Possible System in Southern California Pgs. 15-20

These issue briefs have been prepared by California Environmental Associates on behalf of Union Pacific Railroad, BNSF Railway, and the Association of American Railroads (the Railroads) to help evaluate the costs, challenges, and benefits of electrifying freight rail mainline operations in Southern California.

These are the first in a series of briefs covering possible emission reductions strategies aimed at achieving zero or near zero emissions from various components of the goods movement system in Southern California. They are not intended to promote or to discourage the electrification of freight rail operations. Rather, this analysis will help inform various stakeholders of the environmental, operational, and economic implications of such a system and provide a thorough compendium of the most complete information currently available for each of several issue areas.

These briefs serve as an initial draft for each topic covered. The Railroads encourage other stakeholders to review the analyses and suggest improvements and other data sources that should be considered and incorporated. As more and better information becomes available, the Railroads will periodically update information and findings.

Please contact Max at 415-421-4213 x26 or max@ceaconsulting.com if you have any questions or comments.

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Timeline for Freight Rail Electrification in Southern California

To accurately evaluate the merits of freight rail electrification in Southern California, it is essential to understand the time required to implement an electrified system. The 1992 Southern California Regional Rail Authority (SCRRA) report provided an estimated timeline for complete electrification (conceptual design, preliminary engineering, environmental review, final design, bidding process, construction, and final testing for the three rail lines that carry the majority of the freight rail traffic in Southern California).[1] The 1992 SCRRA estimated timeline for each of these rail lines is shown in Table 1.

Table 1: 1992 SCRRA Estimate: Years to Complete Electrification of Three Rail Lines

Route	Conceptual Design	Preliminary Engineering/ Environmental Review	Final Design	Advertise, Bid & Award	Construction	Functional Testing/ Start up	Total
Barstow	0.5	1.75	1.5	0.25	5	0.5	9.5
Yermo	0.5	1.75	1.5	0.25	5	0.5	9.5
Yuma	0.5	2	2	0.25	8.25	0.5	13.5

The Railroads believe that the timelines from the SCRRA report may have been reasonable at the time the report was prepared, but are unrealistic and not achievable in the current regulatory and litigation climate, especially with regard to the period needed for environmental review. For instance, each Railroad is in the CEQA environmental review process in Southern California for the expansion or construction of additional intermodal facilities near the Ports. These environmental reviews are entering their seventh year, and may take up to two more years to complete. In contrast, the SCRRA estimated that the studies could be completed and certified in just two years. Given that a freight rail electrification project would have a much broader scope and larger impacts than these intermodal railyard construction projects, the estimated timeframe of 1.75 to 2 years for the preliminary engineering and environmental review process used in the original SCRRA report is far too short.

Table 2 adjusts the SCRRA timetable to reflect the Railroads' real world experience. This analysis assumes the three mainlines (see Figure 2 in the "Defining the Scope" brief) would be constructed concurrently to achieve maximum emissions reductions in the shortest possible period of time, at the lowest cost, and with the fewest disruptions to existing rail operations.

[1] Southern California Regional Rail Authority, *Southern California Accelerated Rail Electrification Program*, February 1992. Report Executive Summary, p ES-6, Exhibit ES-3.

Table 2: Revised time line for Southern California Rail Electrification

Route	Project Definition, Conceptual Design, Railroad and Utility Agreements, Access Rights, Regulatory Approvals, Funding Plan & Funding Commitments[2]	Environmental Studies & Documentation	Final Design, Bid & Award	Construction Time & Final Testing	Total
Railroads' 2011 Projection for all 3 Rail Lines	3[3]	7	2.25	8.75-9.75	21-22
SCRRA's 1992 Projection for Yuma (longest rail line studied)	0.5	2	2.25	8.75	13.5

Under the Railroads' updated timeline and with an assumed program start date of 2012, the earliest date that construction and final testing of all three rail lines to Barstow, Yermo, and Yuma could be completed is 2033[4] and the projected emissions reduction benefits would not be realized until that date.

[2] While such a timeframe is theoretically plausible, for each year that the funding plan is not completed the entire project would shift as well. Construction should not start until 100% of the funding is secured.

[3] If funding commitments are not achieved by the third year, the project will slip a corresponding number of years.

[4] This is in comparison to the SCRRA assumption for the final design, bid, and award, construction time, and final testing for the Yuma line which is estimated to take 11 years. Southern California Regional Rail Authority, *Southern California Accelerated Rail Electrification Program*, February 1992. Report Executive Summary, p ES-6, Exhibit ES-3.

Defining the Scope of an Electrified Freight Rail Project in Southern California

Proponents of freight rail line electrification are assessing the potential of electrification in Southern California to reduce regional air emissions from the goods movement system. However, since North American Railroads operate a transcontinental system, with locomotives traversing the continent (see Figure 1), the merits of partial electrification of the system has several drawbacks.

Figure 1: 60-Day Movement of One Class 1 Line-haul Locomotive in the U.S.



Prepared by California Environmental Associates

A national electrification program would be the most logical and least disruptive way to electrify the Railroads' high tonnage mainlines. A national program would avoid the fragmentation between diesel and electrified segments that is inherent in a regional system. However, given the enormous amount of capital required (likely hundreds of billions of dollars), the necessary coordination among all of the states and Class 1 Railroads, and the geographic scale of such a retrofit, the Railroads believe a national scheme to electrify freight rail operations is not feasible in the foreseeable future.

While a national electrification project may be too large in scope, some electrification proposals under consideration in Southern California appear to be too narrow in their approach. One proposal being considered by the Southern California Association of Governments (SCAG) has suggested that an electrification could be phased in sequentially over three rail segments: the first from the Ports of Los Angeles and Long Beach ("the Ports") via the Alameda Corridor to the

City of Commerce, the second from the City of Commerce to Colton/San Bernardino, and the third from Colton/San Bernardino to Barstow, Indio, or other major railyards at the edge or outside of the South Coast Air Basin (SCAB) (see Figure 2).[5]

Figure 2: SCAG's Sequential Electrification Proposal



Source: Cambridge Systematics, Inc.

This concept to sequentially electrify line segments is flawed and unrealistic for the following reasons.

First, a sequential approach would create temporary, intermediate locomotive exchange points where diesel locomotives would be swapped for electric locomotives (and vice versa). When the next line segment was electrified, these locomotive exchange points would become obsolete and new locomotive exchange points would need to be constructed at the next railyard along the route. At each locomotive exchange point, the Railroads would have to: (1) repurpose work space in the yard, thereby reducing the existing rail operations to accommodate electrified operations, or (2) acquire new real estate and build new tracks to exchange locomotives before trains could travel into or out of the electrified system.

Additionally, sequential construction would be more expensive than a non-phased system approach. Significant disruptions to current rail operations, and the requirement of additional

[5] Southern California Association of Governments, *Rail Electrification Methodology Overview*, May 2011, p. 6. SCAG's initial proposal for freight rail electrification suggested electrifying operations from the Intermodal Container Transfer Facility (ICTF) through the Alameda Corridor. Their current proposal creates a second stage to electrify operations through West Colton and San Bernardino and the last phase would aim to electrify operations from the San Pedro Ports to Barstow, Indio, Chatsworth, and San Fernando.

land and/or reduced throughput at the intermediate railyards would increase capital costs and the time required to complete a fully electrified system in Southern California. Furthermore, as discussed in more detail below, delays and increased costs would probably cause diversion of time-sensitive freight from rail to truck.

Activities at the Locomotive Exchange Points

At each locomotive exchange point, every eastbound and westbound train would have their locomotives exchanged, either electric units for diesel units or vice versa. Increasingly, trains to and from Southern California utilize "distributed power," which locates locomotives throughout the train, i.e., all locomotives may not be located together at the front of the train. Changing out these distributed power locomotives would cause significant delays and make operations at the locomotive exchange points more complex than if locomotives were only located at the front of the train.

In addition, when the locomotives were exchanged, air brake tests and other safety tests would be required before the train could continue. Under the best case scenario, and with extra labor, the Railroads estimate the total time required would be over three and a half hours for a single train.[6] The complete locomotive exchange process is detailed in Table 1.

Table 1: Breakdown of Locomotive Exchange Best Case Scenario

Power change element	Time	Total Elapsed Time
Pull train into railyard	20 minutes	20 minutes
Remove the front locomotives, replace with alternative power locomotive (either diesel to electric, or vice versa)	30 minutes	50 minutes
Uncouple the train in front of the center locomotive(s), pull front of train forward, remove middle locomotive(s), replace with alternative power locomotive(s) (either diesel to electric, or vice versa)	1 hour	1 hour 50 minutes
Remove the rear locomotives, replace with alternative power locomotive (either diesel to electric, or vice versa)	30 minutes	2 hours 20 minutes
Reassemble the train, perform air brake test	1 hour	3 hours 20 minutes
Train departs from railyard	20 minutes	**3 hours 40 minutes**

In contrast, freight trains currently move into and out of the SCAB without stopping. Therefore, introducing the locomotive exchange points would result in a minimum delay of at least three

[6] Interview with Michael Iden, General Director Car & Locomotive Engineering, Union Pacific Railroad, July 2011.

and a half hours per train in the goods movement pipeline. For time sensitive products, such as perishable agricultural products or items carried for a package delivery company with a hard delivery date, this delay would be unacceptable, causing some customers to ship their freight by other, higher-emitting modes.

There are significant costs and operational issues associated with a three and a half hour delay at any locomotive exchange point, be that an intermediate point of a sequentially built system or at the terminus of the electrified system. These costs will be described more fully in a subsequent issue brief, but for certain types of freight moves and destinations such a delay would cause trains to be about 20-25% less time competitive than trucks. This means freight that is currently moved on trains will be drawn to trucks. Also, depending on how the costs of a potential electrified system were to be borne, the need to build or modify one of more locomotive exchange points might cause the Railroads to raise their rates to shippers, thereby adding further pressures for shippers to consider a modal shift or a port of entry shift. Finally, were the region to decide to sequentially develop the system, such an approach would triple the cost of creating locomotive exchange points and these significant additional costs would far outweigh the potential earlier air quality benefits that such a sequential system might achieve.

Requirements for Locomotive Exchange Points

Each locomotive exchange point, whether a temporary intermediate point or a permanent point at the electrified system terminus, would require a major reworking of an existing railyard(s) or construction of whole new yards to handle the additional operations necessary to switch between electric and diesel power. To ensure that there is sufficient space to handle trains with both diesel and electric locomotives, and to support the associated breakdown and rebuilding of trains, the Railroads would need to: (1) acquire new land to substantially increase the size of the yard, (2) build a new railyard, or (3) reduce the throughput at an existing yard. Each locomotive exchange point would require eight tracks to exchange locomotives for four trains at a time. This type of expansion is not feasible at any of the facilities proposed by SCAG because there is no developable land adjacent to the existing yards and because disrupting current housing or industrial activities on adjacent lands could never be considered. The alternative—reduced throughput—would cause further detrimental downstream effects by requiring increased activity at other yards, thereby pressuring freight rail customers to switch to other, higher-emitting transportation modes and/or causing shippers to switch to other ports of entry.

In the sequential system, the Railroads would also need to relocate or add diesel and electric locomotive facilities to the intermediate exchange points to maintain both diesel and electric locomotives. If these facilities were not relocated to the locomotive exchange points, the diesel locomotives would be required to travel into the electrified zone for service on tracks with an already high level of traffic. These additional diesel trips would also create emissions in the electrified zone, offsetting a portion of the emission reductions gained by electrification. Alternatively, the Railroads could use electric locomotives to transport the diesel locomotives

through the electrified zone, avoiding some of the extra emissions, but resulting in higher costs given the need for additional electric locomotives and the loss of track time for more productive operations.

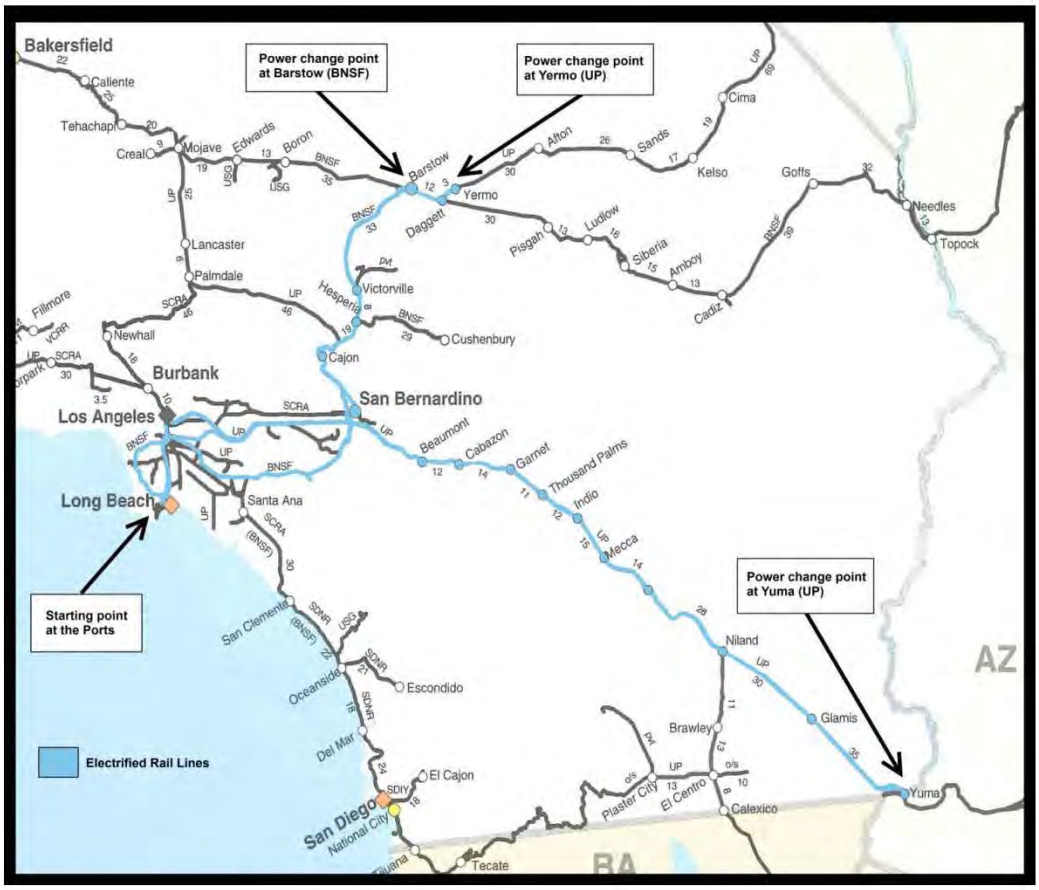
In summary, even though there could modest air quality benefits that could be achieved earlier from a sequential development approach, such an approach creates a number of significant operational and economic hurdles, including the need for additional land, additional ready tracks, intermediate locomotive exchange facilities, and construction of new electric and additional diesel locomotive maintenance facilities. Furthermore, such a disruption to the goods movement system under such an approach could lead to the counterproductive shift of cargo from rail to less fuel efficient modes.

Conclusion

The Railroads believe that short of achieving a national electrification system, the only regional system that should be studied and evaluated is one that would: (1) establish a logical and coherent framework for the region, (2) minimize construction disruptions to the current rail system to minimize loss of traffic to highway transportation or to other ports, (3) make full use of current rail facilities, and (4) assure that all routes of the system were funded and built simultaneously, not sequentially.

Such a study would be focused on the electrification of the mainlines from the Ports through the SCAB to the most logical terminals at Yermo, Yuma, and Barstow (see Figure 3). These lines carry a high percentage of the freight rail traffic in the SCAB. By evaluating a coherent and logical electrified system to these terminals, the project would avoid the costs of four intermediate power change points, would have far fewer operational challenges, lower costs, and would avoid the additional dilemma not having sufficient funds to complete the desired system.

Figure 3: Proper Study Area for Electrified Lines in Southern California[7]



[7] Base map from Professional Railroad Atlas of North America.

Dual Mode Freight Locomotives

Introduction

Some proponents of electrification have suggested that an alternative to the traditional catenary system with dedicated electrified locomotives could be the use of "dual-mode" locomotives. Dual-mode locomotives could operate either on the electrified system (drawing power from the overhead catenary line) or function as independent diesel locomotives (deriving power from an onboard diesel engine), thereby eliminating the need to break down a train and swap electric locomotives for diesels or vice versa. However, such apparent flexibility from dual power locomotives evaporates when the capabilities and limitations of such units are carefully evaluated. For the reasons outlined below, the Railroads believe dual-mode locomotives could not and would not meet the freight rail operational requirements in Southern California.

The starting point for evaluating the suitability of a dual-mode freight locomotive must be based on the performance features of contemporary diesel freight locomotives used by the Class 1 U.S. freight railroads. Such a locomotive would need:

- Sufficient speed (70 mph) and sufficient pulling force, or tractive effort (185,000 pounds) from a single diesel engine
- Enough fuel capacity to travel approximately 1,600 miles without refueling
- Six traction motors (axles)
- Weigh less than 434,000 lbs
- Fit on a standard locomotive platform (less than 80 feet long)
- Include enough room for diesel aftertreatment equipment required to meet Tier 4 emission standards (see Figure 1)

Currently, there are no dual-mode locomotives proven to handle the power and other requirements for U.S. freight locomotives (i.e., reliability, life cycle costs, and federally-mandated safety directives).

There are two distinguishing performance characteristics of any locomotive: horsepower and pulling force.

1. Horsepower is required for speed.
2. Pulling force (technically known as "tractive effort" and measured in pounds) is required for moving heavy trains at low speeds over grades or hills.

Passenger locomotives are designed to meet only one performance characteristic: to move relatively lightweight passenger trains at high speeds (79-to-110 mph). While passenger locomotives may have high horsepower engines for speed, they do not necessitate engines that

can produce high levels of pulling force. Existing dual-mode commuter locomotives are capable of meeting the light-weight, high speed needs of passenger railroads, but they are not capable of meeting the needs of U.S. freight railroads.

Comparison of Passenger and Freight Locomotive Operating Requirements

Requiring a freight railroad to use dual-mode commuter locomotives would be infeasible, uneconomical, and disruptive of time-sensitive freight train operations. The dual-mode commuter locomotives being considered for freight rail operations in Southern California are technologically inferior and inappropriate for the following reasons:

1. The 4-axle dual-mode design is grossly inadequate for western freight railroads which encounter heavy mountain grades (insufficient pulling force).
2. Dual-mode locomotives provide 1/12 the pulling force per dollar as compared to current Tier 2 line haul diesel locomotives. Therefore, to get equivalent pulling force, the Railroads would need to make 12 times the capital investment to run an electric line haul locomotive.
3. Excessively small fuel tanks, as a result of limited space on the locomotive platform, would reduce a dual-mode locomotives operating range between refuelings by approximately 75%.
4. Diesel engines in the dual-mode commuter locomotives are built for the passenger, not the more severe freight duty cycle and would therefore likely wear out much quicker, greatly increasing maintenance expenses for engine overhauls.
5. The dual-mode commuter locomotive, as currently designed, appears unlikely to be produced after 2014 because of its structural inability to accommodate the EPA exhaust aftertreatment required by Tier 4 regulation (see discussion and Figure 1 below).

The largest available dual-mode locomotive is the Bombardier ALP45DP, which generates 4,200 hp during diesel operations.[8] While this is roughly equivalent to the 4,400 hp rating of the modern freight locomotives operating in the U.S., other factors such as pulling force limit its use in freight operations. Table 1 below shows the characteristics needed by a locomotive for reliable and efficient freight rail service, and compares these specifications to those of the dual-mode Bombardier ALP45DP and the traditional Tier 2 diesel locomotives.

[8] http://www.bombardier.com/en/transportation/products-services/rail-vehicles/locomotives/other-projects/alp-45dp---canada--usa?docID=0901260d80165898#

Table 1: Comparison of Bombardier Dual Mode ALP45DP and Traditional Tier 2 Locomotives[9]

Parameter	Traditional Diesel (Tier 2)[10]	Dual mode (ALP45DP)[11] (Tier 2)
Length (ft)	72-74	71.5
Width (ft)	10.9	10.9
Max Speed (mph)	70-75	130
Power Rating (hp)	4,400	4,200 (diesel) 5,367 (electric)
Weight (lbs)	416,000	288,000
Pulling Force or Tractive Effort (lbs)	185,000 (at start)	71,000 (at start)
Starting Capability on 2% Grade (such as Cajon, Beaumont, etc.)	~4,170	~1,600
Dynamic Braking (lbs)	117,000 (at 12 mph)	~34,000 (at 20 mph)
Fuel Tank Capacity (gal)	5,000	1,800
Fuel Range (miles)	1,600	~500
Operating Range	Transcontinental	Urban short-haul, multi-stop trips and return
Number of Traction Motors (axles)	6	4
Number of Diesel Engine(s)	1	2 high speed engines (max. 1,800 rpm)

[9] This table is a truncated version of a more extensive comparison between Tier 2 diesel freight locomotives and the ALP45DP. To request a copy of the complete table, please contact Max Pike at max@ceaconsulting.com.
[10] http://www.getransportation.com/rail/rail-products/locomotives/evolutionr-series-locomotive.html & http://www.emdiesels.com/emdweb/products/sd70ace.jsp & additional information from interview with Michael Iden, General Director Car & Locomotive Engineering, Union Pacific Railroad, August 2011.
[11] http://www.bombardier.com/en/transportation/products-services/rail-vehicles/locomotives/other-projects/alp-45dp---canada--usa?docID=0901260d80165898# & http://www.railwayage.com/in-this-issue/alp-45dp-two-locomotives-in-one-june-2011-3228.html & http://www.railwaygazette.com/nc/news/single-view/view/alp-45dp-electro-diesel-locomotive-debut.html

Comparison of Passenger and Freight Locomotive Chassis Design

As shown in Table 1, while the ALP45DP may have a relatively high horsepower rating to achieve high speeds, it does not have sufficient pulling force or dynamic braking for use in freight service. The engineers who built the ALP45DP made a number of design compromises to fit all of the necessary equipment onto the 4-axle car body. Although the power rating of the dual-mode locomotive is comparable to that required for freight service, the ALP45DP achieves that power output using two lighter, smaller, high-speed, off-road diesel engines which are much less durable than the medium-speed engines used in freight locomotives. While light-weight diesel engine technology has proven successful in certain switch locomotive applications (e.g., using GenSets), line haul locomotives operate on a much more severe duty cycle, and the lighter weight, high-speed engines have proven to be unreliable.

Using smaller engines would be similar to replacing a passenger vehicle engine with multiple lawnmower engines: they might work for a short period of time, but the demand on the engine would be so great that any advantages of the smaller size would be more than offset by the need for constant maintenance or replacement. An article in International Railway concluded that, "a high-speed (1,800 rpm) diesel [engine] is much lighter yet just as powerful, but its components will have a much higher wear rate."[12] Replacing the two lightweight engines in the dual-mode passenger locomotive with a single, more robust engine would create further challenges with respect to size constraints when attempting to configure a Tier-4 compliant, freight-duty dual-mode locomotive.

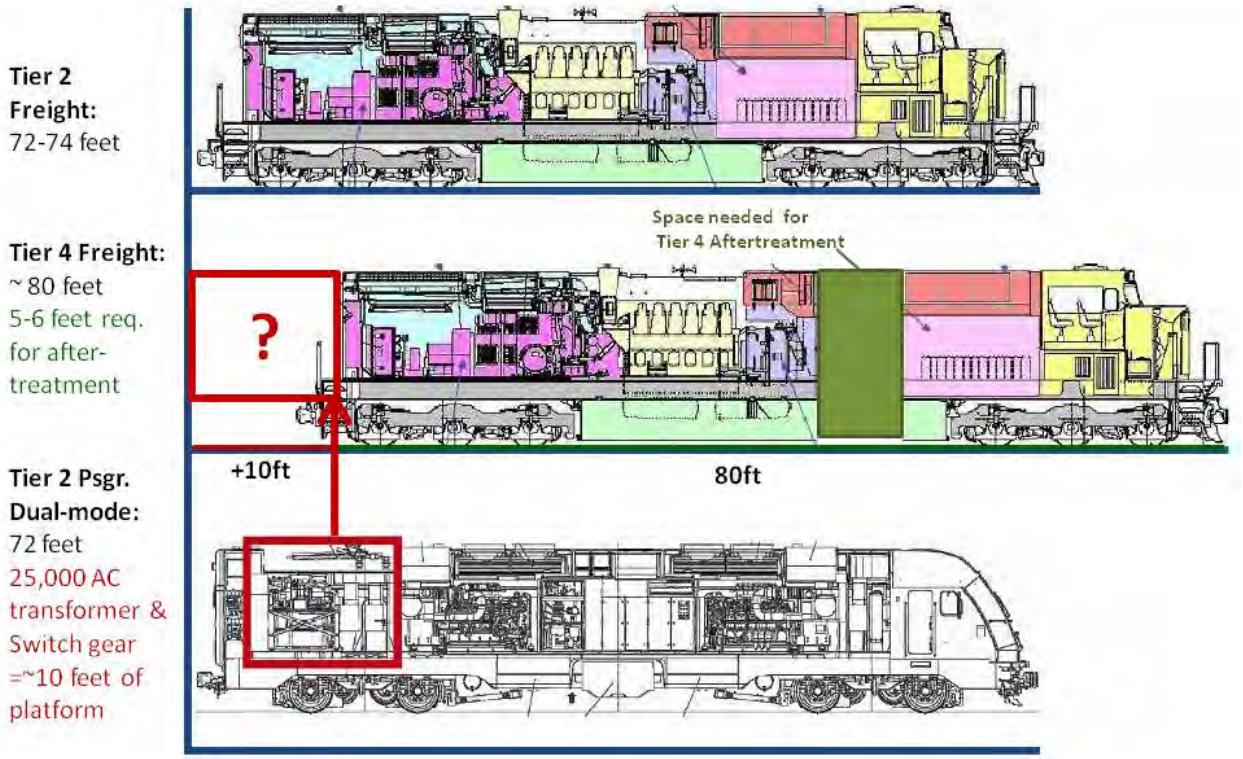
The second compromise may be in the step-down transformer used in the ALP45DP, which is much smaller and lighter than comparable transformers (of similar voltage and power rating) used in Amtrak electric locomotives. This dual-mode transformer operates at a higher cooling oil temperature in order to minimize the size and weight. It is unknown how these transformers would perform over time in long haul, heavy duty freight operations in terms of reliability and maintainability.

Lastly, it is not clear that a dual-mode locomotive could even be built within the current federally mandated freight locomotive "footprint" (length, weight, and height). In order to operate in freight service, the dual-mode locomotive would need to be reconfigured to accommodate six axles to provide adequate pulling force for transporting heavy freight loads. The dual-mode locomotive would also need a step down transformer and switch gear to operate on the overhead catenary system. Finally, to meet Tier 4 emission standards, it is expected that an additional five to six feet of length will be needed on a locomotive platform to accommodate the exhaust aftertreatment technology for the diesel engine. It is unclear how a manufacturer could also fit all of the required elements for a Tier 4 locomotive, along with the transformer and switch gear, within this same platform, while staying below the required size limits. Locomotive platforms cannot be extended beyond 80 feet, as day-to-day operations require that locomotives be able to turn within a fixed radius. Extending locomotives to 90 or

[12] Vantuono, William. *American operator look to dual-mode traction*. July, 2006. International Railway Journal.

100 feet in length would preclude dual-mode locomotives from operating throughout the national railroad network, adversely affecting railroad operations by geographically constraining certain locomotives to certain track networks. The space constraints are graphically illustrated in Figure 1.

Figure 1: Platform Issues with Dual-Mode Locomotives



The space constraints discussed above also limit the size of the locomotive fuel tanks. A traditional diesel locomotive can carry approximately 5,000 gallons of fuel, allowing the locomotive to travel approximately 1,600 miles before refueling.[13] In comparison, the fuel tanks on most dual-mode locomotives have a capacity of around 1,800 gallons, greatly reducing the operating range of the units on the non-electrified track segments. In order for the dual-mode locomotives to be used throughout the national rail network, construction of additional fueling facilities would be required. Also, additional delays would be created due to additional refueling stops.

Conclusion

Dual-mode locomotives are not a new technology. A small number of dual-mode locomotives have existed since the 1920s; however, they have only been designed for switch locomotive

[13] Interview with Michael Iden, General Director Car & Locomotive Engineering, Union Pacific Railroad, August, 2011.

operations or lighter passenger trains designed for higher speeds.[14] While newer, "high powered" (i.e., greater than 4,000 hp) dual-mode locomotives are available today,[15] these units have only been used for passenger service, which does not require the same level of locomotive durability as freight service. A manufacturer might eventually be able to build a freight dual-mode locomotive, but it would entail a lengthy design and engineering process.

The ALP45DP acquisition process took six years and is detailed below.[16]

2006	Specifications developed, reviewed, and approved
2007	Request for proposals advertised, and locomotive manufacturer selected
2008	Notice to proceed issued
2009	Design engineering
2010	Production design finalized and approved
2011	First locomotive prototype assembled, tested, and revenue service started
2012	Production completed

Locomotives in commuter rail service generally operate fewer than 18 hours per day over relatively short distances and over consistent and unvaried terrain. Unlike commuter trains, freight locomotives operate for extended periods over longer distances. For example, a freight train between Chicago and Los Angeles will travel approximately 2,200 miles over a two-to-three-day period. In addition, locomotives operating in freight service must have the power and durability to handle steep grades and extreme changes in ambient temperatures, such as the elevated temperatures found in desert environments and tunnels which can be longer than two miles. It is unlikely that the dual-mode locomotives available today could meet these demands.

In addition, the cost of existing dual-mode locomotives is $12.2 million compared to $2.4 million for a Tier 2 unit. To put that in perspective for the scale of freight operations in Southern California, 100 dual-mode units would cost the Railroads $1.22 billion compared to $24 million for the same number of Tier 2 units, if the dual-mode locomotives cost the same as the ALP45DP. However, it is likely that the additional requirements necessitated by freight rail operations in Southern California would drive the cost of each unit even higher. For all of these reasons, dual-mode locomotives are not a viable solution to address electrification of mainline freight operations in Southern California.

[14] CBS Local, New York, *NJ Transit Unveils New Dual-Mode Locomotive*, May 11, 2011. http://newyork.cbslocal.com/2011/05/11/nj-transit-to-unveil-new-dual-mode-train/

[15] .These newer dual-mode passenger locomotives are currently being delivered to and used in New Jersey and Montreal.

[16] http://www.ble272.org/09-03-25%20Transprotation-Safety%20Presentation.pdf

Similarities between Existing Electrified Rail Systems and a Possible System in Southern California

Both in the United States and in other countries, there are a handful of electrified freight rail systems, either shortlines or as segments of larger networks. Proponents of electrifying freight rail operations in the South Coast Air Basin (SCAB) often point to these systems as proof that electrification of rail can easily be implemented in Southern California. However, any application of this technology must meet the specific demands of the geographic locale and operating characteristics of the rail system under consideration. Unless the operational and technical specifications are substantially similar, it is difficult, if not impossible to predict the success of a future system. Also, other factors, such as the political, economic, and environmental drivers must be evaluated for compatibility, as well.

Criteria for comparing electric rail systems

The following design characteristics must be considered and matched before concluding that an existing electrification system provides an appropriate comparison to a proposed system:

- Service: passenger, freight, or both
- Materials transported: bulk or intermodal or both
- Common carrier or single industry service
- Terrain: mountains, hills, rivers, etc.
- Horsepower requirements
- Gross tons pulled
- Dedicated service or locomotive exchange points or connections to a larger rail network
- Sufficient existing or new infrastructure to meet energy and capacity demand
- Retrofitting an existing diesel line or construction of a new electrified system
- Source of project funding: private investors, taxpayers, or a combination
- Operating subsidies: initial or ongoing public operating subsidies

Several frequently cited electrified rail systems are described below. The QR National and the Trans-Siberian Railway (TSR) were retrofit to diesel systems. The Caltrain Commuter Rail Electrification proposal, were it to be built, would be a retrofit, as well.

The Black Mesa & Lake Powell Railroad (BMLP) and Deseret Power Railroad (DPR) are short industrial operation rail lines (i.e., not common carriers) that were built as rail line dedicated to serving electric utilities.

QR National

QR National is the largest private freight hauler in Australia and is located in Queensland. Generally, QR National's operations are focused on large, heavy freight operations such as coal, iron ore, agricultural products, and containers. QR National operates the Central Queensland

Coal Network which consists of approximately 1,400 miles of freight rail infrastructure. Immediately following an oil crisis in the 1980s, QR National, under government operation at the time,[17] decided that projected oil prices justified the electrification of existing coal rail lines. QR National installed a 25 kV overhead catenary system on approximately 500 miles of their Blackwater network that began operation in 1986,[18] and on approximately 530 miles of the Goonyella system that began operations in 1985.[19]

Over time, however, the actual price trends in diesel fuel and electricity made the difference in operating costs between electric and diesel smaller than originally anticipated. QR National was unable to secure full cost recovery on the electric overhead infrastructure for the Blackwater rail line as of 2008.[20] Since it was electrified in the mid-1980s, the Blackwater system has been extended as more mines have become active in the region. However, further investment in electrification necessitated rate increases for QR National's other lines, with some lines witnessing a 28% increase.[21]

The justification for these increases has been debated and has prompted QR National's major customers to threaten to build their own rail lines. Recently, BHP Billiton, a major global mining company that accounts for 40% of QR National's business, has indicated that it plans to build its own rail line in response to the steep cost increases of QR National.[22] The high costs tied to the capital expenses and increased operational costs of running an electrified system demonstrate the potential impacts of electrification on the greater goods movement system.

The Trans-Siberian Railway

The Trans-Siberian Railway (TSR) is a government funded and operated rail line in Russia that was built between 1891 and 1916. Stretching some 5,750 miles, it is the longest continuous mainline railway in the world. The TSR handles passenger and freight service—the principal

[17] In July 2010 QR National was privatized and is now listed on the Australian Stock Exchange. QR National operates the Central Queensland Coal Network under a 99 year lease with the Australian government. http://www.qrnational.com.au/Corporate/Pages/AboutQRNational.aspx

[18] The Blackwater rail network in Central Queensland consists of approximately 612 miles of total track; about 500 miles of the track are electrified. The Blackwater system connects 12 coal mines in the Bowen Basin coal area to two export terminals at the Port of Gladstone and also serves a number of domestic users including a power plant, cement plant, and refinery.
http://www.qrnational.com.au/NetworkServices/RailNetwork/Pages/BlackwaterSystem.aspx

[19] The Goonyella rail network is located in Central Queensland and consists of approximately 530 miles of track, all of which are electrified. The Goonyella systems connect 22 coal mines in the Bowen Basin coal region to the Hay Point Coal Terminal and Dalrymple Bay Coal Terminal. This network also transports products to other destinations by way of connections to the North Coast Line and the Central Line.
http://www.qrnational.com.au/NetworkServices/RailNetwork/Pages/GoonyellaSystem.aspx

[20] Synergies Economic Consulting. "Review of AT5; The Case for Network Wide Pricing." April 2008.

[21] Queensland Competition Authority. "QR Network's 2010 DAU - Tariffs and Schedule F." June 2010.

[22] http://www.reuters.com/article/2011/08/18/bhp-rail-idUSL3E7JI0BI20110818

commodities are coal, oil and oil products, and wood products.[23] The TSR was electrified over a 74-year period; electrification was completed in 2002. Both 25kv AC and 3kv DC overhead lines were installed at varying times and locations during the many decades-long construction period.

The electrification of the TSR rail system allowed average train weights to be doubled from 3,300 tons to 6,600 tons, producing reductions energy (and perhaps emissions) *per ton-mile* of freight hauled. Such a reduction, however, would not be realized were a freight line in the United States to be electrified, given the fact that the average western U.S. freight train currently is at least 9,900 tons. [24]

The Black Mesa & Lake Powell Railroad (BMLP) and the Deseret Power Railroad (DPR)

The BMLP and the DPR railroads are privately owned utility rail lines used specifically to haul a single commodity—coal—to each utility's power plant. Each is an industrial short line railway consisting of a short single-track with loops on both ends. They were built by the utilities as electric railway systems (BMLP began operations in 1973; DPR in 1984). The rail lines use a 50 kV overhead catenary system and each railroad operates one train at a time that makes two to three round trips per day. Neither the BMLP nor the DPR interchange with any other railroads and rail ways, and they are completely isolated from the national rail network. Both use multiple 6,000-horsepower electric locomotives to haul less than 10,000 tons of coal three times daily over a distance of 35 miles (DPR) to 78 miles (BMLP).[25]

An electrified industrial short line railway faces none of the challenges that common carrier railroads operating on a network system would. Since BMLP and DPR are single purpose industrial shortlines that have short and simple tracks, they are able to use high-powered electric locomotives to complete their primary objective: speedy, short, round-trip cycles. There is little variability in the weight pulled by BMLP and DPR from trip to trip; the trips follow a regular schedule; there is only one point of loading and one point of unloading; and thus, no locomotive exchange points are required.

In contrast, the freight rail *system* in Southern California is much more complex than either of these small-scale operations. First, the primary objective of the Railroads in Southern California is to maintain throughput, fluidity and reliability for their customers across the system, not just within Southern California. A partial electrification of the Railroads' national system would interfere with all of these functions by creating locomotive exchange points where electric locomotives would need to be swapped out for diesel locomotives. Second, the Railroads' systems are not a single track, with loops at each end, but are connected to national networks

[23] Mote, Victor, "Trans-Siberian Railway." Encyclopedia of Russian History. 2004. *Encyclopedia.com.* (August 19, 2011). http://www.encyclopedia.com/doc/1G2-3404101396.html

[24] Interview with Mike Iden of Union Pacific Railroad, July 2011.

[25] Black Mesa & Lake Powell Railroad is owned by the Salt River Project and the co-owners of the Navajo Generating Station; Desert Power Railroad is owned by Deseret Generation & Transmission Company.

that span much of the United States.[26] Lastly, the variability in weight pulled from trip to trip is much greater for common carrier operations, as is the variability in times of travel.[27]

The technical attributes (a captive, single commodity, electrified loop rail operation) have no applicability to helping assess the feasibility of a complex freight rail operation in Southern California. The scale, scope, ownership, and purpose of each of these systems have virtually no overlap. .

Caltrain Commuter Electrification Project

Some agencies have suggested that Caltrain's proposed Commuter Electrification Project to electrify a 52-mile passenger rail line between San Francisco and San Jose could be used to estimate the costs of and operational implications of the electrification of freight operations in Southern California.[28] However, as is the case with the other global examples described above, the Caltrain commuter electrification project does not provide a good basis for assessing the costs or operating challenges of a regional freight rail electrification project in Southern California. There are several fundamental differences between this project and an effort to electrify freight rail in Southern California.

In particular the Caltrain commuter electrification project would electrify the entire 52 mile Caltrain system. No locomotive exchange points would be required to interface with non-electrified portions of the system, and there would be no assembling and breaking down trains to deal with distributed power. Additionally, passenger rail lines have more consistent weight (and hence power requirements) per train, and consistent schedules, thus greatly simplifying the interaction between the rail electrification loads and the power grid.

Caltrain commuter rail has regular daytime operations with occasional freight trains during off-peak hours. This operating regime will allow construction to occur mostly at night and not interfere with the principal mission for the line. How disruptions in freight service during the 13 year construction period for a regional electrified freight system in Southern California would be significantly more complex than for Caltrain and has remained an unaddressed issue in any earlier analyses.

Funding for Electrification Projects

In all of the examples discussed above, the electrification of the lines was either government financed or financed by a utility that could recoup its investments directly from its ratepayers. Given the enormous cost of electrifying Southern California freight rail lines, the vast majority

[26] BNSF operates in 23 states and UP operates in 28 states.

[27] The times at which freight locomotives travel in an electrified system is important because of the interaction between the substantial electrical loads and the timing of electrical energy supplies, and other electrical loads, on the regional electric grid.

[28] Caltrain 2025 Electrification. http://www.caltrain.com/projectsplans/Projects/peninsularailprogram/Caltrain_2025__Electrification_.html

of the construction costs would have to be borne by government entities. Thus far, given the depleted nature of both state and federal treasuries, the likelihood over such a public commitment is speculative at best.

Planning & Evaluation Timeframe

None of the railways discussed above were electrified under a set of governmental regulations similar to existing California requirements. The extended time required for assessment, review, and approval in California would increase both the cost and duration of the planning and construction processes.

Conclusion

The Railroads believe the examples above demonstrate that existing electrified rail lines do not demonstrate the feasibility of other proposed electrification projects. Each rail application is unique and that many variables affect the technical and economic feasibility of a given rail electrification project. An evaluation of rail electrification in the SCAB must examine the true l financial and other implications of an electrification project in Southern California. Proponents of such a system cannot assume that an electrified system operating under its specific circumstances in Russia or Australia is an indicator that electrification could succeed in Southern California.

As shown in Table 1 below, these existing electrified railways operate under very different conditions, and have different objectives, than the Southern California freight rail system. None of the examples discussed above match Southern California's unique technical, economic, political, and environmental climates, so their utility in making the case for an electrification project in the Southern California region is marginal, at best.

Table 1: Comparison of Other Electrified Freight Railways to the Southern California Freight System

Assessing Similarity to a Southern California Scenario						
Issue	**Southern CA (645 miles)**	**TSR (5,753 miles)**	**QR National (>1,000 miles)**	**DPR (35 miles)**	**BMLP (78 miles)**	**CalTrain (52 miles) Proposed system**
Public subsidies: initial or ongoing public funding	None proposed to date	Publically funded	Publically funded	Utility reimbursed by ratepayers	Utility reimbursed by ratepayers	Public funding
Ownership: private or public when electrified?	Private	Public	Public	Private Utility	Private Utility	Public
Retrofitting an existing diesel line vs. construction of a new electric system	Retrofit	Retrofit	Retrofit	New	New	Retrofit
Locomotive exchange at connection to larger rail network	Yes, multiple	Yes, multiple (change in voltage)	Yes	No	No	No
Type of materials transported	Intermodal goods Manifest and Bulk	Bulk and Manifest	Bulk and Manifest	Coal Only	Coal only	People only

Green shading = Similar characteristic to a Southern California system
Red shading = Significantly different from a Southern California system

California Natural Gas Vehicle Coalition

February 14, 2012

Ms. Margaret Lin
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, California 90017-3435

Re: SCAG's 2012-2035 Draft Regional Transportation Plan/Sustainable Communities Strategy

Dear Ms. Lin:

I am writing on behalf of the California Natural Gas Vehicle Coalition to provide comments on the Southern California Association of Governments' (SCAG) 2012-2035 Draft Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

The California Natural Gas Vehicle Coalition (CNGVC) is an association of natural gas vehicle and engine manufacturers, utilities, fuel providers and fleet operators serving the state. We work with legislators and regulators to develop policies that will increase alternative fuel and vehicle use, support new initiatives and provide up-to-date information on NGV technology and market developments.

Our primary concern is that the draft plan largely ignores natural gas as a transportation fuel and its potential to be a significant part of the solution for the region's transportation, air quality, and sustainability goals. By focusing almost entirely on "zero-emission" vehicles we believe SCAG is missing the opportunity to develop a strategy that achieves the same benefits in a shorter time frame and for significantly less cost.

Over the last two decades we have seen in California that it is very difficult to predict which technology will succeed and even more difficult to say when they will achieve significant market penetration. That is why more agencies and companies are taking a portfolio approach to developing and deploying clean transportation technologies.

California Natural Gas Vehicle Coalition • 1029 K Street, Suite 24 • Sacramento, CA 95814
Phone: (916) 448-0015 • Fax: (916) 448-7176

Natural gas should be an integral part of your Regional Transportation Plan. Natural gas is a very clean fuel, available today for half the price of diesel, and it is abundant in North America. This is why the medium- and heavy-duty vehicle markets in particular are embracing natural gas like never before. Many public and private fleets are investing in natural gas vehicles. Transit agencies, taxi fleets and private companies such as Waste Management; United Parcel Service, AT&T, and Verizon have purchased thousands of small, medium, and large natural gas vehicles.

The heavy duty vehicle sector seems to show the greatest promise for natural gas because of the fuel cost savings over diesel and the lack of other viable alternatives to diesel. Recently Swift Transportation, one of the largest trucking companies in the country, said they would be investing heavily in natural gas trucks and could reach 30%-40% penetration in their fleet in 3-4 years.

Be careful about "zero-emission". The term is used a bit too freely these days. Using life cycle emissions analysis California has found that zero-emissions at the tailpipe are only part of the picture. It is important to consider the whole picture including upstream emissions from production and transportation of fuels. Some are trying to draw a bright line between "ZEV fuels and technologies" and "non-ZEV fuels and technologies". We do not see a bright line now and to the extent that there is a line we see it fading over time. Natural gas vehicles are near-zero emissions today and are getting cleaner with each generation of engines. Biomethane (aka renewable natural gas) has been identified as one of the cleanest transportation fuels by the California Air Resources Board. Renewable Natural Gas has 90% less carbon emissions than gasoline. Sources include landfills, agricultural operations like dairies, and waste water treatment plants. Whether it is used on its own or blended with conventionally natural gas it is likely to be one of the cleanest fuels in transportation over the next couple of decades.

For these reasons we ask you to revise your plan to include natural gas as a meaningful part of the solution.

Thank you for considering our comments.

Sincerely,



Tim Carmichael
President

CALIFORNIA RURAL LEGAL ASSISTANCE, INC.

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February 14, 2012

VIA ELECTRONIC SUBMISSION

Southern California Association of Governments
818 West 7th Street, 12th Floor
Los Angeles, CA 90017
rtp@scag.ca.gov

Re: Comments on Draft 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy

Dear Sir or Madam:

California Rural Legal Assistance, Inc. (CRLA) submits the following comments on the Draft 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) on behalf of José Saldívar, a farmworker who has lived and worked in the Eastern Coachella Valley for almost forty years, and other low-income residents of the Eastern Coachella Valley. CRLA is a non-profit legal services organization that provides legal representation to low-income residents of rural California, including in many communities comprised primarily of farmworkers and their families. Within the SCAG region, CRLA provides services in the Eastern Coachella Valley, Imperial County, and Ventura County.

Promotores Comunitarios del Desierto (PCD) is a community-based organization working with residents of the Eastern Coachella Valley to empower them to voice their concerns in issues such as health access, infrastructure, and environmental justice, serving as a bridge between agencies and residents.

El Sol (El Sol) Neighborhood Educational Center is a non-profit agency serving San Bernardino and Riverside Counties since 1991. El Sol provides prevention and early intervention services in the areas of mental health, nutrition, and post-partum depression, as well as offering classes in computer literacy and English as a Second Language. El Sol works in the "Promotores de Salud" model, utilizing different strategies of community outreach such as community organizing and popular education.

Pueblo Unido Community Development Corporation (PUCDC) is a non-profit organization that responds to the needs and concerns of underrepresented rural communities of the Eastern Coachella Valley through actively engaging and fostering collaborative efforts among residents and other stakeholders to find viable solutions, leverage critical resources, and bring new opportunities to improve the quality of life for residents.

Comité Cívico del Valle (CCV) is a non-profit organization serving Imperial County and the Eastern Coachella Valley. CCV's mission is to improve the living conditions of its communities through education, capacity-building, and civic participation with the vision of living in healthy, prosperous, and informed communities.

We commend SCAG for the detailed preparation and analysis evident in the draft RTP/SCS and accompanying documents. Transportation planning for a region of SCAG's size and diversity is a challenging endeavor. The draft RTP/SCS shows an impressive commitment not only to addressing the region's transportation needs but also to fulfilling the new requirements of SB 375. However, we have some concern that the draft RTP/SCS does not make adequate provision for the unique circumstances of rural communities in the SCAG region, particularly the low-income rural communities that house the region's agricultural workforce. We offer the following comments in an effort to ensure that SCAG will adopt a final RTP/SCS that addresses the needs of low-income rural and farmworker communities.

<u>We recommend that SCAG add an RTP goal focused on equitable distribution of the benefits and burdens of the RTP/SCS.</u>

The draft RTP/SCS includes a list of RTP Goals, set forth on p. 13 and correlated with performance measures as described on p. 15. The RTP Goals address a number of key concerns such as safety, air quality, goods movement, and facilitation of transit and active transportation. However, the RTP Goals included in the draft RTP/SCS fail to address issues of equity, either on a socioeconomic axis (equitable distribution of burdens and benefits across socioeconomic categories) or on a geographic axis (equitable distribution of burdens and benefits throughout the diverse communities of the SCAG region). Given the size and diversity of the SCAG region, it is unlikely that such equity will be achievable unless it is made a primary goal of the RTP/SCS and explicitly considered at each step of the RTP/SCS development process. We recommend that SCAG add an RTP Goal incorporating these two axes of equity. The majority of our remaining recommendations would support the incorporation of such a goal into the fabric of the entire RTP/SCS.

<u>We recommend that SCAG further the farmland preservation goal of SB 375 by actively planning for the transportation and housing needs of the region's agricultural workforce.</u>

As acknowledged on p. 128 and in Exhibit 4.8 of the draft RTP/SCS, SB 375 requires SCAG to include in the SCS a consideration of resource areas and farmland. <u>See</u> Cal. Gov't Code § 65080 (b)(2)(B)(v). The preservation of productive farmland will necessarily require providing for the

needs of the region's agricultural workforce, including the need for the creation of appropriately sited decent affordable housing – generally at levels affordable to extremely low-income (ELI) households – and transportation options, including transit, that facilitate farmworkers' access not only to their agricultural workplaces but also to human services, children's schools, medical facilities, retail (including full-service grocery stores), non-agricultural jobs for other adult members of farmworker households, and other amenities. In the interest of preserving the region's farmlands, we recommend that SCAG incorporate the consideration of these needs as a component of the consideration required by SB 375.

This recommendation will also further SB 375's broader goal of greenhouse gas reduction by increasing transit accessibility to rural populations, resulting in a reduction of vehicle miles traveled. Like many rural areas in the SCAG region, the Eastern Coachella Valley is severely underserved by transit. Bus service is utterly nonexistent for large portions of the Eastern Coachella Valley population. A few communities in the Eastern Coachella Valley receive bus service, but its utility is significantly diminished by long headways and inconvenient transfers. In order to access the educational and work opportunities of the Western Coachella Valley – where housing costs are unaffordable to the low-income farmworker households of the Eastern Coachella Valley – rural residents must budget up to four hours per day for bus commuting. This level of service creates tremendous obstacles to the use of transit by rural residents, perpetuating a reliance on personal vehicles and excluding residents who cannot afford to use personal vehicles for lengthy commutes. Bus service to such underserved communities should be expanded and improved in the interest of equity, environmental justice, and greenhouse gas reduction.

We specifically recommend that SCAG consider the following strategies:

- Regularly convene planning staff and governmental decision-makers from jurisdictions containing farmland to focus on meeting unmet housing and transportation needs of agricultural workers; ensure that such convenings are informed by input from agricultural workers and/or from community-based organizations familiar with the transportation and planning needs of the agricultural workforce and other rural residents
- Provide technical assistance to member jurisdictions by conducting feasibility analyses of creative transit strategies, such as local circulators in rural communities, to address the unmet transit needs of farmworker families and other rural residents
- Encourage the implementation of farmworker, student, and commuter vanpools in rural areas; provide technical assistance on vanpools by maintaining a library of resources on such topics as project development, financing, outreach, and project administration
- Explore the feasibility of vanpools or similar programs for non-work-related transportation needs such as access to medical facilities, retail, and other services
- Conduct outreach to governmental decision-makers and community groups regarding funding opportunities for expansion and improvement of transit in rural areas

<u>In the interest of mitigating the impacts of gentrification and providing adequate services to</u>

agricultural workers and other low-income rural residents, we recommend that certain of the benefits proposed for HQTAs be made more widely available.

We commend SCAG for its innovative proposals to incentivize growth in high-quality transit areas (HQTAs). However, as is noted at various points throughout the draft RTP/SCS and the draft Environmental Justice Supplemental Report, there are as-of-yet unanswered concerns about the likelihood of gentrification in HQTAs, as lower-income households find themselves priced out of increasingly desirable housing markets. Thus, certain HQTA-related incentives, such as transit fare discounts, would likely provide greater benefits to higher-income households than to the lower-income households who need such fare relief. Furthermore, certain sectors of the SCAG region's population – such as agricultural workers – do not realistically have the option of living in an HQTA; HQTA incentives should not exclude such households, whose contribution to the region's economy and character are recognized in SB 375's prioritization of farmland resources. In order to enhance the equity of the HQTA incentives proposed in the draft RTP/SCS, we recommend that SCAG consider the following augmentations of those incentives:

- Provide local circulator services in non-HQTAs that are unserved by existing transit services, including rural agricultural communities
- Consider household income, and not solely HQTA residence status, in structuring any transit fare discount(s)

In addition, we note that certain land use and transportation policies could result in the development of more HQTAs than are contemplated in the draft RTP/SCS. This is particularly true in the inland counties of Riverside, San Bernardino, and Imperial, where very low percentages of the population currently have access to high-quality transit but where slight decreases in bus headways could bring existing bus routes within the definition of high-quality transit. Furthermore, we note that some of the HQTAs designated in the draft RTP/SCS appear to be along routes with extremely limited accessibility, such as Interstate 10 serving the Western Coachella Valley. Although such short-headway bus routes are likely to provide high-quality transit to people living at designated stops along the route, it seems highly unlikely that all persons living within the Interstate 10 corridor will realistically enjoy such access. We recommend that the utility and accessibility of HQTAs be extended via the following measures:

- Prioritization of the extension of HQTA status to more communities by decreasing bus headways, particularly in the inland counties of Riverside, San Bernardino, and Imperial
- Close collaboration with community-based groups and with county-level planning staff and governmental decision-makers to increase the feasibility of developing affordable housing in rural areas at a density of twenty dwelling units per acre (for example, through modifying local zoning ordinances to allow densities of twenty units per acre in mobilehome parks located on land zoned for agricultural use), such that these areas could be eligible for HQTA incentives
- Adopt a more flexible density standard for HQTAs in agricultural areas in order to make it feasible for mobilehome parks, which constitute the vast majority of affordable housing in the Eastern Coachella Valley and frequently occur in dense clusters along major thoroughfares, to qualify for incentives such as local circulators and transit fare

discounts
- Ensuring the utility and transparency of the HQTA designation by defining HQTAs based on residents' access to transit stops, rather than solely by proximity to a high-quality transit route

We recommend that SCAG take a leadership role in developing non-regressive funding mechanisms for transportation development.

We applaud SCAG for taking on the difficult question of transportation funding and the ongoing wisdom of relying on existing federal and state gas tax structures, including excise taxes. However, some of the funding mechanisms on which the draft RTP/SCS relies are likely to have regressive and/or inequitable impacts, causing low-income households and communities to bear a disproportionate share of the cost of the region's transportation system. Point-of-sale revenue sources – such as sales taxes, gasoline taxes, and farebox recoveries – indisputably have a regressive impact on households least able to afford them. The projected Vehicle Miles Traveled (VMT) tax seems likely to further the goals of SB 375 by creating incentives for people to live in transit-rich areas close to jobs, services, and retail opportunities. However, given the very real risk of gentrification in such neighborhoods, the VMT is likely to have a disproportionate impact on lower-income households who cannot afford the higher housing costs of desirable urban neighborhoods. Furthermore, as discussed above, SB 375 encourages MPOs to prioritize the preservation of farmland resources. A VMT could undermine this goal by creating an unaffordable burden on farmworker families, who face lengthy commutes not only to the fields and packing houses in which they work but also to medical care, grocery and other retail outlets, schools, human services, and other amenities. Residents of agricultural areas have little access to any form of transportation other than personal vehicles, and the draft RTP/SCS does not propose expanding transit to reduce this burden. Farmworker households should not be penalized for failing to use transit when transit has not been made available to them.

We recommend that SCAG apply its considerable technical expertise to devising and advocating for more equitable mechanisms of transportation funding at the local, state, and federal levels. One possibility might be a VMT tax structured to allow tax credits for lower-income households and/or for other households that are unable to access housing in transit-rich neighborhoods, such as farmworker households. Because a VMT tax cannot be assessed at the point of sale, it is likely to be far more flexible than a traditional gas tax and can therefore be made more responsive to equity concerns.

We recommend that data on the environmental justice impacts of the draft RTP/SCS be disaggregated in order to facilitate analysis of the impacts on disadvantaged communities within the SCAG region.

Significant portions of the draft RTP/SCS, particularly the draft Environmental Justice Supplemental Report (draft EJ Report), analyze data at the regional level. For example, the draft EJ Report summarizes the following data based on its region-wide impacts on specific

income quintiles and racial or ethnic groups: distribution of savings in travel time and distance; accessibility to employment and services; accessibility to parks; exposure to emissions and consequent health risks; and exposure to noise impacts. However, the maps presented in Exhibits 1-14 of the draft EJ Report demonstrate that environmental justice (EJ) populations are not distributed evenly throughout the region; rather, there are pockets where certain EJ variables are extremely concentrated, with disproportionately high percentages of poverty, minority population, foreign-born population, non-English-speakers, and populations without a high school diploma concentrated in communities of extreme disenfranchisement. Such communities include not only urban pockets in and near Los Angeles, but also the agricultural communities of the Eastern Coachella Valley and much of Imperial County. An analysis that examines, for example, emissions exposure encountered by the entire Latino population of the SCAG region fails to address the ways in which burdens of the draft RTP/SCS might or might not be disproportionately visited on localities that struggle under the weight of multiple categories of disadvantage.

In particular, the Eastern Coachella Valley – the population of which is over 97% Latino – appears to realize few benefits under the draft RTP/SCS, giving rise to an appearance of denial of service in this area and perpetuation of historic exclusion. Based on the level of analysis made available by SCAG in the draft EJ Report, it is impossible to determine whether the Eastern Coachella Valley is expected to bear a disproportionate share of the burdens of the draft RTP/SCS, such as increased exposure to emissions and/or noise impacts.

Furthermore, we note that the Environmental Justice Mitigation Toolbox on pp. 147-48 of the draft EJ Report does little to address the specific risks confronted by local EJ communities. While the Toolbox provides a number of suggestions to reduce RTP/SCS-related impacts throughout the SCAG region, its recommendations do not acknowledge the heightened level of exposure to environmental risks that is all-too-frequently visited upon communities of concentrated disadvantage.

In order to minimize the chances that localities of extreme disenfranchisement will disproportionately bear the burdens of – and be deprived of the benefits of – the draft RTP/SCS, we recommend that SCAG take the following steps:

- Use the geographic data in Exhibits 1-14 of the draft EJ Report to identify local EJ communities that are subject to two or more of the categories of disadvantage highlighted in the Exhibits
- Conduct a Performance Area Analysis (similar to the 11-factor Performance Area Analysis set forth in pp. 34-146 of the draft EJ Report) with respect to each of the local EJ communities thus identified
- Monitor implementation of the RTP/SCS to quantify actual impacts on local EJ communities

<u>We recommend that SCAG utilize a more broadly accepted measure of economic disadvantage in conducting its environmental justice analysis.</u>

Throughout the Performance Areas Analysis of the draft EJ Report, SCAG relies on income quintile as a measure of economic disadvantage. However, as indicated on the income quintile table on p. 6 of the draft EJ Report, this measurement is not defined in a way that accounts for differences in household size; a one-person household with an income of $45,000/year falls into the same quintile as a seven-person household with an income of $45,000/year, although these two households face vastly different financial prospects. An analysis conducted on this basis will not yield an accurate measure of economic need.

We recommend that SCAG instead use the measures of Extremely Low-Income, Very Low-Income, Low-Income, Moderate Income, and Above Moderate Income established annually by the California Department of Housing and Community Development based on data provided by the United States Department of Housing and Urban Development. These figures are a broadly accepted measure of a household's relative economic need and are already easily available to SCAG due to its obligations related to the calculation of the Regional Housing Need Allocation (RHNA). An EJ analysis based on these figures will yield a far more accurate portrait of the impacts of the draft RTP/SCS on households of various levels of economic need or privilege.

<u>We recommend that SCAG provide more detailed analysis regarding the expected distribution of air quality impacts of the draft RTP/SCS.</u>

Although we commend SCAG for developing a draft RTP/SCS that will improve overall air quality in the region, we are very concerned to learn that 23-29% of SCAG-region residents are expected to experience worse air quality. The draft RTP/SCS and Supplemental Reports do not clarify which portions of the region are expected to realize the greatest air quality benefits and which will suffer the expected declines in air quality. We recommend that SCAG provide a detailed geographic analysis of the draft RTP/SCS's projected air quality impacts and include this analysis in the EJ Performance Areas Analysis, subject to the revisions of the Performance Areas Analysis recommended above.

We further wish to call to SCAG's attention that rural areas of the Eastern Coachella Valley are currently not subject to adequate air quality monitoring. The air quality monitors maintained by the South Coast Air Quality Management District (SCAQMD) for the Coachella Valley are in urbanized areas of the Valley and do not reflect the air quality of the rural and agricultural areas of the Eastern Coachella Valley, which suffer from high levels of blowing dust (including from traffic over unpaved roads), pesticide sprays, smoke from agricultural burning (often in close proximity to residential areas), and particulates from the drying Salton Sea. We recommend that SCAG aggressively pursue the spirit of transportation conformity by advocating for expansion of air quality monitoring to the Eastern Coachella Valley and to other areas that are subject to unique air quality stressors not detected by SCAQMD's air quality monitors as currently distributed.

* * *

Thank you for your kind consideration of these comments. Should you have any questions

about these comments, please feel free to contact Cristina Méndez (cmendez@crla.org; (760) 398-7261 x 307) or Phoebe Seaton (pseaton@crla.org; (559) 233-6710 x 315).

Yours,



Laura S. Massie
Attorney at Law
California Rural Legal Assistance, Inc.

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Eduardo Guevara
Associate Director
Promotores Comunitarios del Desierto

/s/
Maria de Anda
Desert Region Supervisor
El Sol Neighborhood Educational Center

/s/
Sergio Carranza
Executive Director
Pueblo Unido Community Development Corporation

/s/
Luis Olmedo
Executive Director
Comité Cívico del Valle, Inc.

cc: Phoebe Seaton, Project Director, Community Equity Initiative, CRLA, Inc.
Cristina Méndez, Community Worker, Community Equity Initiative, CRLA, Inc.

February 10, 2012

Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

California Trucking Association Comments
Southern California Association of Governments (SCAG)
2012 Regional Transportation Plan

To Whom It May Concern:

On behalf of the members of the California Trucking Association, we thank you for allowing us to submit our comments on the 2012 SCAG Regional Transportation Plan.

The California Trucking Association (CTA) is a non-profit trade organization representing over 4,000 individual trucking companies and suppliers. Members of our association range from single truck owner-operators to large Fortune 500 companies, and we are the largest state trucking organization in the country.

The bulk of our membership is either headquartered in the SCAG area of influence, or has terminal operations in the region in order to move their goods throughout Southern California. Our membership is heavily invested in how the transportation system in Southern California is planned, funded, operated, and maintained. We seek to be partners with SCAG in planning for the region's infrastructure future so that goods can continue to move efficiently and economic growth continues to take place.

As your Goods Movement Appendix indicates, goods movement dependent industries employ almost 3 million people in the region, and contribute over $250 billion to the region's GDP on an annual basis (Goods Movement Appendix, Page 10). Trucks are the very backbone of the economic power of these industries. However, our Association is well aware that in order for Southern California to keep this economic strength and to stay competitive in the global marketplace, policy makers and industry groups will have to work together in order to secure stable and robust funding sources for all segments of the region's transportation system.

We also seek to be a partner with SCAG in promoting policies that balance economic growth with clean air and environmental sustainability concerns. Over the past decade, our members have invested billions of dollars in new technologies and equipment that will ensure that the citizens of the SCAG region will breathe cleaner air well into the future.

Below are our comments on the 2012 Regional Transportation Plan. We hope that these comments will help SCAG promote an environment where trucking companies can continue to operate and thrive in Southern California. If you should have any questions or concerns in regards to our comments, or if there are resources we can provide for you, please do not hesitate to contact us.

Sincerely,

RJ Cervantes
Transportation Policy Coordinator
(916) 373-3563
rjcervantes@caltrux.org

California Trucking Association (CTA) Comments
Southern California Association of Governments (SCAG)
2012 Regional Transportation Plan

Transportation Finance:

The California Trucking Association is concerned about some of the assumptions made for the "Reasonably Available Revenues" projections. SCAG has identified $219.5 billion in additional revenues that according to the RTP are "...likely to materialize within the RTP time frame" (SCAG 2012 RTP, Page 7).

- A substantial portion of the $219.5 billion that has been indentified is the $110.3 billion that would be generated from a "Mileage-Based User Fee" set at $0.05 per mile and commencing in 2025 (2012 SCAG RTP *Transportation Finance Appendix*, Pages 15, 16). Although SCAG notes that they've projected the fee to commence in 2025, substantial amount of study is needed on the feasibility of implementing such a system on commercial motor carriers. To date, there has been little to no study done on how a system would be administrated, or what the financial burden would be for motor carriers and ultimately consumers.

- Although SCAG has also indicated that the revenues projected from a mileage based user fee will be generated on a national level, the California Trucking Association will note that it strongly opposes the implementation of a mileage based user fee on local or regional levels (2012 CTA Federal Transportation Policy Guideline).

- SCAG has also $4.2 billion in projected revenue generation from a "Free Fee/National Freight Program" (2012 SCAG RTP *Transportation Finance Appendix*, Page 7). The California Trucking Association has supported the inclusion of the National Freight Program in the Senate Environment & Public Works Committee Map-21 legislation. However, we have not endorsed specific strategies to fund any expenditures made through the program other than the existing Highway Trust Fund sources (2012 CTA Federal Transportation Policy Guideline).

- The California Trucking Association also strongly opposes local, regional or statewide freight fee proposals that would compromise the competitiveness of California's shipping, warehousing and commercial trucking industry. Such a system must be explored, developed, and implemented on a national level only.

- SCAG has also projected $22.3 billion in revenue generation for the region through the tolling facilities associated with the I-710 Freight Corridor, the East-West Freight Corridor, the High Desert Corridor, and the SR-710 tunnel (2012 SCAG RTP Transportation Finance Appendix, Pages 34, 35). In general, the California Trucking Association opposes tolling as a means for revenue generation due to the high overhead costs associated with running tolling facilities and programs, the potential for increased congestion around tolling facilities, and the disproportionate financial burden that is placed on the trucking industry.

- In addition, the California Trucking Association is very concerned about the toll revenue estimates that have been associated with the East-West Freight Corridor and the I-710 Freight Corridor. If these projects are planned as zero-emission corridors as a part of the Goods Movement Environmental Strategy and Action Plan as outlined by the RTP, the near term revenues generated from these tolling facilities will not meet the estimated projections that have been provided due to an overestimate of zero emission technology penetration rates.

Project List:

In general, The California Trucking Association's analysis of the Project List Appendix has been positive. We are encouraged that SCAG continues to be concerned about the degradation of our roadway system, and is planning to invest significant amounts of capital in maintaining our current roadway infrastructure. We firmly believe that such efforts will improve goods movement efficiency, reduce congestion, improve regional economic productivity, and reduce pollution. However, we do wish to address our concerns with a few projects listed in the Financially Constrained RTP List:

- SCAG includes $3,771,002,000 for 'goods movement research and development' as a part of the resource constrained plan in measure RRC0703 (2012 SCAG RTP *Project List Appendix*, Page 422). We believe that this allocation is not mentioned in the Goods Movement appendix or in the RTP. To avoid confusion or conflict, SCAG needs to clearly identify where these funds would come from, and specifically, what they would be used for. What technologies and sectors would 'goods movement research and development' cover? Where could we find the description of RRC0703?

- Also, identified in the list is a $5 billion allocation for a "Goods Movement Bottleneck Relief Strategy" (2012 SCAG RTP *Project List Appendix*, Page 422). The California Trucking Association is supportive of indentifying and improving bottleneck choke points that restrict the ability to move goods efficiently by trucks. Moving forward, we urge SCAG to include industry stakeholders in any discussions so that input can be given on the locations which are restrictive to motor carriers.

- The California Trucking Association has not taken a position on whether or not to endorse the East-West Freight Corridor (2012 SCAG RTP *Project List Appendix*, Page 422). We hope to continue having discussions with SCAG in regards to the project's costs, access abilities, and design concepts. However, we urge SCAG to immediately inform any and all property owners along the project alternative alignments about the potential for future eminent domain issues. SCAG should account for funds that will be needed to fairly compensate property owners that could potentially be affected.

Goods Movement:

The members of the California Trucking Association are dedicated to working with policy makers in order to enhance the quality of life of all Californians through environmental protection measures that are based on sound science and that are balanced with the realities of the economic market place. In the past decade, the trucking industry has gone through transformative changes due to regulatory mandates and voluntary competitive measures in order to get cleaner trucks on the road. SCAG's Goods Movement Environmental Strategy and Action Plan are of great interest and concern to our members that have made substantial investments in new technologies at dramatic costs to their companies. Below are our specific concerns related to this program:

- SCAG should acknowledge that participation of goods movement stakeholders in any of the strategies identified by SCAG in the Goods Movement appendix would be a voluntary process and not mandatory. Mandating specific technologies undermines the investments our members have made in response to the Air Resources Board's (ARB) Truck & Bus Rule. The California Trucking Association would strongly oppose any and all efforts to impose a new timeline for truck turnover that would differentiate from the ARB regulations.

- SCAG provides a specific timeframe for the study and demonstration of various zero or near-zero emission technologies. (2012 SCAG RTP *Goods Movement Appendix*, Page 34). The information is presented in a way that might be applicable for all of the technology options and all fleets. In fact, there is significant variation in the different technologies' stages of development. Not all technologies have been created equal due to implementation concerns and market readiness. SCAG should account for this reality.

- In order to introduce zero or near-zero emission technologies in private fleets, SCAG would need to work with regional company owners by providing significant amounts of capital to meet the goals laid out in the plan. The upfront incremental costs for these vehicles vary from $20,000 - $100,000+ over comparable diesel powertrains. These figures do not encompass the significant infrastructure investments and loss of operational flexibility associated with zero and near-zero emission technologies. Which activities have funds currently available and have been accounted for in the RTP's fiscally constrained plan? SCAG needs to help identify where the funding will come from in order to meet these new goals.

- If there is funding currently available, SCAG needs to state that they plan to carry out the timeline presented for the implementation of a zero and near-zero emission freight system. If not, it should be pointed out that such a project could not be implemented until or unless funding becomes available.

- Additionally, SCAG should note that any full scale demonstration and/or commercial deployment would need the full support of the involved stakeholders to move forward. SCAG should also include a provision that the business stakeholders will be involved in the design of the parameters for a full-scale demonstration.

- Furthermore, the final stages in the timeline are unrealistic and should be lengthened to give adequate time for zero-emissions technologies to mature and undergo sufficient testing. An inadequate or insufficient demonstration program could result in premature adoption and could lead to serious disruptions to the goods movement system and thus unintended consequences from significant job loss and economic impacts to the region.

- As trucking companies work together with regulatory agencies to further reduce emissions in the SCAG region, any technology introduced must not compromise the safety, velocity, cargo throughput, economic competitiveness, or reliability of the vehicle.

- SCAG should clearly state in the RTP that to date, stakeholders have not reached consensus on technologies, timing, funding, or emissions impacts of possible the various options SCAG examined in the Goods Movement Environmental Strategy and Action Plan.

- It would be unwise to commit funding to large scale infrastructure projects to support zero emission transportation technologies until these technologies mature. Certain early approaches may quickly become obsolete as heavy duty partial hybrid electric and battery electric vehicles reach commercialization.

- SCAG should not oversell its timeline for zero emission technology implementation. SCAG does not have control over technology penetration rates nor can it predict how this market, just barely in its infancy, will perform in the coming years. Arbitrary timelines are not a substitute for the kind of analysis that produces good public policy and efficient government expenditure.

I-710/East-West Freight Corridors

- We agree with SCAG's observation that the zero and near-zero emission heavy duty vehicle market has yet to develop a fully market ready technology as of the authoring of the 2012 RTP.

- SCAG should approach the role of the Freight Corridors in nurturing this emerging market realistically. While exemption from tolls or other privileges granted zero and near-zero emission heavy duty vehicles will play a role in incentivizing accelerated adoption, these technologies will face significant implementation challenges out of SCAG's control.

- Facility restrictions that prevent National Network terminal access for reasons other than safety are currently prohibited by federal law.

Canyon Land Conservation Fund
PO Box 613
Silverado CA 92676

2-8-2012

Margaret Lin
Southern California Association of Governments (SCAG)
818 W. Seventh Street, 12th Floor
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Re: Comments on the Draft 2012 RTP/SCS and Draft PEIR

Dear Ms. Lin:

Thank you for the opportunity to comment on the Southern California Association of Governments (SCAG) 2012 Regional Transportation Plan (RTP) and Sustainable Community Strategy (SCS). The Canyon Land Conservation Fund is based in Silverado, Calif. and our mission is to conserve the last natural wildland in and adjacent to the Cleveland National Forest. Our organization includes support from 1, 500 residents in Orange County communites of Silverado, Modjeska and Trabuco Canyons. We are writing to provide comments on the Draft 2012 RTP/SCS and the Draft Program Environmental Impact Report (PEIR).

Under the Endangered Species Act, the United States Fish and Wildlife Service have defined critical habitat as areas that support endangered or threatened species that are essential to the species' conservation. The description in the Conservation Planning Policy section (page 76 of the Draft 2012 RTP/SCS) states "large-scale acquisition and management of *critical habitat* to mitigate impacts related to future transportation projects" [emphasis added]. We believe there are other habitat areas in the SCAG region worth considering for acquisition and management and therefore SCAG should not limit the mitigation opportunities to only critical habitat. We suggest expanding the language to incorporate all "important habitat lands."

Thank you for reviewing our comments and we look forward to working with SCAG on the implementation of this policy. Should you need to contact me, I can be reached at 714-228-7900 #1148. In addition, we request to be included on any notifications (electronic or otherwise) about this policy's creation and implementation, please send information to eamador@pacificexcess.com

Sincerely,

Ed Amador/Chay Peterson
Canyon Land Conservation Fund
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02-13-12P03:17 RCVD

CENTENNIAL FOUNDERS LLC

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

February 14, 2012

Re: Draft 2012 Regional Transportation Plan & Sustainable Communities Strategy (RTP/SCS)
Draft Program Environmental Impact Report (PEIR)

Dear Mr. Ikhrata:

Thank you for the opportunity to comment on the draft 2012 RTP/SCS and associated PEIR. We want to recognize the tremendous efforts put forth by you and your staff to create this incredibly complex document while keeping the public informed and welcoming stakeholder input every step of the way.

The application for the proposed sustainable new town of Centennial, located at the intersection of I-5 and SR-138 in North Los Angeles County, was deemed complete by the County of Los Angeles in 2008. The proposed $9.5 billion direct investment in this region over 20 years will provide 23,000 homes, approximately 27,500 construction jobs and over 30,000 permanent jobs for Los Angeles County. By providing a pedestrian-oriented, sustainable community design with a balance of jobs and housing and the necessary density to support public and community services for the entire region, Centennial will complement the infill, TOD developments being proposed in the urban cores, achieving long-term emissions reductions as mandated by SB 375.

After careful review of the PEIR, we respectfully request that you consider the attached list of technical corrections to various exhibits contained in the RTP/SCS and PEIR. Please note that these exhibit corrections have already been conveyed to Jacob Lieb, Manager of Environmental Planning, in person. Should you have any questions or require further clarification, please do not hesitate to contact me.

Sincerely,

Centennial Founders LLC

Carlene Matchniff
Vice President Entitlements

cc: Robert A. Stine, CEO and Kathleen J. Perkinson, Senior VP – Tejon Ranch Company

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SCAG RTP/SCS and PEIR corrections – TAZs 20280.100, and 20281.100, County of Los Angeles

1) RTP/SCS Exhibit 4.13, Land Use Pattern Map SCAG Region 2035, correct Growth Pattern shading to reflect Centennial
2) RTP/SCS Exhibit 4.15 Land Use Pattern Los Angeles County 2035, correct Growth Pattern shading to reflect Centennial
3) PEIR Exhibit 2.18, Project Description, Land Use Pattern in L.A. County, correct Growth Pattern shading to reflect Centennial
4) PEIR Exhibit 3.3-5, Special Status Natural Communities in the SCAG Region, correct Terr. Comm. (specific) vegetation category for Centennial to grassland community and should not go into Kern County as not in RTP/SCS
5) PEIR Exhibit 3.8-1, Regional Distribution of Important Farmlands and Grazing Lands; need to clarify the difference in similar colors on the legend. Centennial is Grazing Land and should be reflected as such. Recommend the map distinguish the colors on the legend for Grazing Lands and Non-irrigated Farmlands as they are difficult to distinguish as currently presented
6) PEIR Exhibit 3.8-9, Household Density by Census Tract, correct to correspond to the household TAZs for the area and change exhibit to the 901-1,500 category
7) PEIR Exhibit 3.8-10 Employment Density by Census Tract, correct to correspond to the employment TAZs for the area and change exhibit to the 1,001-1,500 category

CDR
Center for Demographic Research

Sponsors:

California State University, Fullerton

County of Orange

Municipal Water District of Orange County

Orange County Council of Governments

Orange County Sanitation District

Orange County Transportation Authority

Orange County Water District

Southern California Association of Governments

Transportation Corridor Agencies

Contributing Partner:

Orange County Local Agency Formation Commission

February 14, 2012

Ms. Margaret Lin
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017
RTP@scag.ca.gov/ lin@scag.ca.gov

SUBJECT: COMMENTS ON THE DRAFT 2012 REGIONAL TRANSPORTATION PLAN, APPENDICES, AND GROWTH FORECAST DATASETS

Dear Ms. Lin:

The Center for Demographic Research at Cal State Fullerton has reviewed the Draft 2012 Regional Transportation Plan/Sustainable Communities Strategies, its associated appendices, and the growth forecast datasets. We greatly appreciate the opportunity to do so and for all of the work SCAG staff has done to produce these reports and work with local agencies during the development process.

First, we would like to express support of recommendations by the Orange County Council of Governments, the Orange County Transportation Authority, the Transportation Corridor Agencies, and other Orange County agencies whose comments also request the inclusion of the updated Orange County growth forecast, the 2010 Orange County Projections Modified, in the RTP/SCS plan and alternatives.

Our comments are grouped as follows:

1. Incorporate the Orange County Projections-2010 Modified Growth Projections, as adopted by the OCCOG Board of Directors, into all RTP/SCS/PEIR documents, appendices, tables, maps, narrative, modeling runs, PEIR Alternatives (including Alternate C/3/Envision 2 referencing the Orange County growth forecasts) consistent with the subregional delegation MOU between OCCOG, OCTA and SCAG.
2. SCAG's adoption of the growth forecast numbers should be at the county level, consistent with past RTPs, and not at a smaller level of geography such as city, census tract, or traffic analysis level.
3. Other Comments on the Draft 2012 RTP documents in Tables 1, 2, and 3.

1. <u>Incorporate the Orange County Projections-2010 Modified Growth Projections, as adopted by the OCCOG Board of Directors, into all documents, tables, maps, narrative, modeling runs, and PEIR Alternatives (including Alternate C/3/Envision 2) referencing the Orange County growth forecasts consistent with the subregional delegation MOU between OCCOG, OCTA and SCAG.</u>

On January 26, 2012, the update to the OCP-2010 dataset, known as OCP-2010 Modified, was officially approved by the OCCOG Board of Directors and is a data amendment to the Orange County Sustainable Communities Strategy. The dataset includes the 2010 Census population and housing data, along with the 2010 EDD Benchmark data, consistent with SCAG's updated growth forecast dataset. The dataset was provided to SCAG staff in December 2011 and this is the formal notice of the update which should be incorporated into the 2012 RTP/SCS, PEIR, and related documents.

2. SCAG's adoption of the growth forecast numbers should be at the county level, consistent with past RTPs, and not at a smaller level of geography such as city, census tract, or traffic analysis level.

The 2012 growth projections identify population, housing and employment data for the six-county SCAG region, from 2008 (Existing) to 2020 and 2035. These growth projections represent the best available information from local jurisdictions, the business community and landowners. However, as time passes, what is feasible for any given project can change. The triggers for change to adopted growth projections can range from factors such as market conditions, new information or data, infrastructure availability, changes in funding availability (such as the dissolution of redevelopment agencies statewide), and changes to jurisdictional boundaries resulting from future annexations and incorporations of previously-designated unincorporated territory. SCAG should continue to adopt the 2012 growth projections at a countywide level, consistent with past approvals of Regional Transportation plan growth forecasts. A county level of geography accommodates internal adjustments to changing conditions as described above, without compromising the integrity of the overall growth projections. However, approving the growth projections at any lower level of geography, such as at the city level, would be challenged with continual revisions and shifts to the total number of housing, population and employment within a city, among cities, and between cities and counties as a result of the factors described above. Adoption of the data at a level lower than the county would limit jurisdictional control and create inflexibility in a regional planning document. In addition, the level of geography in which RTP/SCS growth forecast is adopted should not be determined by other processes. For example, the RHNA allocations must be consistent with the RTP/SCS; state law does not require that they be identical. The RTP/SCS can be adopted at the county level and the RHNA process may proceed independently until it is completed after the appeals, trades, and transfers are completed. The RHNA allocations that were derived from the growth forecast can still be determined to be consistent with the RTP/SCS, even if changes are made to the city totals during the appeals, trades, and transfers process.

3. Other Comments on the Draft 2012 RTP documents in Tables 1, 2, and 3:

Table 1. 2012 RTP/SCS COMMENTS

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	all	*All chapter headings should include the Chapter number on each page for ease of reference.*
2	Clarification	1, left column	"The 2012 RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with SB 375, ~~both~~ improve public health, and meet the National Ambient Air Quality Standards as set forth by the federal Clean Air Act. As
3	Clarification	4, right column	"This region needs a long-term, sustainable funding plan that ensures the region receives its fair share of funding, supports an efficient and effective transportation system that grows the economy, provides mobility choices, and improves our quality of life."
4	Clarification	page 7-Table 2 and page 95-Table 3.3	*Is additional $0.15 gas tax the sum total of both state and federal taxes or $0.15 each?*
5	Clarification	12, right column	"It also demonstrates how we can transition from things we know to be unsustainable over the long term and beyond the term of this RTP—such as reliance on fossil fuels—to new technologies for the future."

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
6	Clarification	30, 31, 73	AB 32 is global warming solutions act. SB 375 was determined to be stand-alone legislation. RTP document is not forum to address global climate change and references are unnecessary, off topic, and distract from RTP goal and purpose. "Global warming" and "global climate change" / "climate change" are not interchangeable phrases. References should be removed or, where appropriate, language should be changed to "global warming".
		30, right column	"The RTP/SCS includes the following actions to address energy uncertainty ~~and reduce the region's contribution to global climate change~~:"
		31, right column	"Adaptation ~~Climate change~~ global warming mitigation means reducing or sequestering greenhouse gases, whereas adaptation is preparing for known impacts of ~~climate change~~ global warming. Over the coming century, some ~~climate change~~ studies project that Southern California will be expected to manage extremes of precipitation and temperature, increased storm frequency and intensity, and sea-level rise. These climate changes ~~will~~ would impact streamflow, flooding, water supply, sea level, and soil water content. These impacts ~~will~~ would affect agriculture, stormwater, wastewater treatment, wildfire risk, roads, forest health, and biodiversity. These impacts ~~will~~ would also have consequences for public health, economic livelihoods, the financial sector, the insurance industry, individual comfort, and recreation. In practice, these impacts ~~will~~ would mean coping with…"
		73, right column	"Goods movement is also a major source of greenhouse gas (GHG) emissions that contribute to global ~~climate change~~ warming."
7	Clarification	40, left column	"Strategic investments, put forth by the private sector, that would remove barriers associated with telecommuting are expected…"
8	Correction	page 42- Table 2.2	241 toll road completion year is 2030
9	Define in text and add to glossary	50, left column	"scrip"
10	Clarification	54, right column	"Express/HO T Lane Network Despite our concerted effort to reduce traffic congestion through years of infrastructure investment, the region's system demands continue to exceed available capacity during peak periods."

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
11	Clarification	78, right column	"Greenhouse Gases On road emissions (from passenger vehicles and heavy duty trucks) constitute 93 percent of the transportation sector total. Emissions from passenger vehicles, which are the subject of SB 375 and this RTP/SCS, constitute ___% of the transportation sector's greenhouse gas emissions total."
12	Clarification	80, left column	Statements are made, such as the following, "the RTP has the ability to affect the distribution of that growth" (in population in the region). These statements could be interpreted to be contrary to SCAG's obligation under the Memorandum of Understanding with OCCOG to respect the strategies and local land use policies in the OC SCS. *Please clarify how it is in SCAG's ability to affect local change when the OC SCS is consistent with acceptance of local land use plans and planned population and employment distribution?* *Recommended text change:* "Transportation projects including new and expanded infrastructure are necessary to improve travel time and can enhance quality of life for those traveling throughout the region. However, these projects also have the potential to ~~induce~~ attract more of the regional population growth in certain areas of the region. This means that although ~~Although~~ SCAG does not anticipate that the RTP would affect the total growth in population in the region, the RTP has the ability to affect the distribution of that growth." "~~In addition to induced population growth,~~ transportation projects in the RTP also have the potential to divide established communities, primarily through acquisition of rights-of-way."
		82, right column	Text indicates that the RTP and projects in the RTP/SCS as "inducing" growth. It is noted that use of the term "induced growth" has a negative connotation and implies growth above and beyond what would occur naturally. However, it is stated in the RTP that the population, housing, and employment growth totals are fixed and only the distributions may change based on the plan. This means there will not be "new" growth and that the RTP and SCS may simply influence and shift the growth anticipated for the region. This moving of growth is the result of changes in distribution that are due to changes in land use or densities. Because of this, it is requested that references to "induced growth" be reworded to reflect the shifting of growth in the region. *Recommended text change:* "Cumulative impacts from the projected growth ~~induced by the RTP~~ include increased impervious surfaces;…"

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
13	Clarification	page 95- Table 3.3	~~"Mileage-based user fees would be implemented to replace gas tax and augment – estimated at about $0.05 (2011$) per mile and indexed to maintain purchasing power starting 2025."~~ Suggested language is from page 31 of Growth Forecast Appendix: Current gasoline tax, estimated at about $0.05 (2011$) per mile will increase through 2025, then in 2026 it would be replaced with a mileage-based user fee indexed to maintain purchasing power
14	Clarification	105, right column	"While the region was once known worldwide as the "capital of sprawl," the region today is projecting growth on only a small fraction of the ~~has little~~ raw land available in the region ~~left to accommodate additional growth~~."
15	Clarification	106, last paragraph	Please revise the text in the last paragraph on page 106 to state: "These subregional SCS documents are incorporated into the regional SCS and represent the SCS for each of these subregions."
16	Clarification	110, right column	"Municipal water and sewer systems, for example, ensure clean water. At the same time, ~~concrete stormwater runoff channels harm water quality~~ ~~and sprawl eats into open space~~ as areas become more urbanized and the percentage of impervious surface is increased, the hydrologic regime is dramatically altered. Drainage conveyances that once were natural and riparian are required to be engineered as hardened flood control channels to provide adequate protection of private property and public infrastructure from the increased frequency, duration, peak flow, and overall volume of stormwater runoff. With this armoring of once natural channels, water quality benefits from biofiltration are lost along with opportunities for infiltration and evapotranspiration, which can lead to hydromodifcation downstream in sections which are not yet engineered and hardened. Many strategies…"
17	Add to glossary	127, right column	"Gentrification"
18	Please clarify	128, left column	"Thus, this adjustment allowed the land use pattern to conform more closely to local ~~expectations~~ general plans, while reducing the amount of vehicle miles traveled." *Whose/What are "local expectations?"*
19	Revise language to clarify	149, right column	Revise language to clarify that SCAG intends policies, strategies, and measures are a menu of options. "The following tables list specific implementation strategies that local governments, SCAG, and other stakeholders may use or consider while preparing specific projects which would help ~~can and should undertake in order~~ to successfully implement the SCS."

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
20	Revise language to clarify	153, right column	"Evaluation and Revision SCAG will also track its <u>own</u> progress in implementing its RTP/SCS strategies in conjunction with the preparation and adoption of its Overall Work Program and Annual Budget." *Clarify if "its progress" is SCAG's progress or the region's progress.*
21	Add to glossary	166, right column	"Greenfield"
22	Correct language	193, right column	RC adopted revised PPP in January 2012
23	Revise language to clarify	194, right column	"In addition to these targeted outreach efforts, all regular and special meetings of the RTP task forces, the Transportation Committee (TC)<u>, the CEHD, the EEC,</u> and the SCAG Regional Council are publicly noticed and …"
24	Please clarify	203, right column	"…including Los Angeles Ontario Airport, the March Inland Port…" *Should LAX and Ontario airports be named separately?*
25	Add to glossary	205	"Active transportation"

Table 1. GROWTH FORECAST APPENDIX COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Update growth forecast numbers	23, Table 13	In December 2011, Orange County provided SCAG with the revised growth forecast dataset, OCP-2010 Modified, per the OC SCS MOU (official OCCOG Board action 1/26/2012). *Please incorporate OCP-2010 Modified into all reports, tables, exhibits, alternatives, maps, and modeling runs for final RTP.*

Table 3. SCS BACKGROUND DOCUMENTATION APPENDIX COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Please define	53, right column	Housing Options and Mix: *Define Larger-lot single family in text*
2	Clarification	71-74, 80-83	Alternatives A, B, C Names of Alternatives differ than those listed in the PEIR on pages ES-3 and 1-4. *Please be consistent with naming protocol for alternatives between two/all documents.*

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
3	Clarification	71, right column	"Plan Alternative (B) … The alternative maintains city-level forecast control totals for both households and jobs, however, within city boundaries shifts are made to focus a much larger share of future growth in a more compact way around HQTAs, except in Gateway and Orange County COG subregions per their SCS delegation agreements. Future housing market demand is expected to shift significantly to small lot single-family, townhomes and multi-family ~~hosuing~~ housing."
4	Please define	71, right column	Plan Alternative (B) *Define small lot single family in text*
5	Clarification	71, right column	Plan Alternative (C) "As a result very suburban communities may experience no new housing or employment growth, while some urban areas with very good access to regional transit may experience significant increases in housing or employment growth."
6	Clarification	72, left column	"While each alternative is distinctive, a number of parameters remained constant across each alternative: the regional RTP/SCS forecast total for population, households and jobs;…" "Detailed forecast: the detailed distribution of population, households, and jobs across the region…"
7	Clarification	72, left column	*What does it mean that TAZ boundaries include city boundaries?*
8	Clarification	72, Table D1	Alternatives A & B: "Controlled to TAZ-based RTP/SCS Forecast for 2020; Controlled to city-level RTP/SCS Forecast for 2020-2035, except in Gateway and Orange County COG subregions per their SCS delegation agreements." Add statement to table notes: Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.
9	Clarification	74, Table D2	Alternatives A & B: Add statement: Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.
10	Clarification	75, right column	"Development Types The alternatives are built on, and provides data at, the level of the TAZ, which includes housing units and employment." *Please clarify if TAZ is Tier 1, Tier 2, or both.*
11	Clarification	79, right column	"Subregional SCSs submitted by the Gateway Cities Council of Governments (GCCOG) and the Orange County Council of Governments (OCCOG) will be ~~respected~~ unchanged and integrated into the alternatives (with possible revisions for Alternative C only)."

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
12	Clarification	80	Alternative A Add statement: Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.
13	Clarification	81	Alternative B Add statement: Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.
14	Clarification	115, left column	Transit Zoning Code Santa Ana 2011 *Is this a duplicate of the 2010 Santa Ana project?*

Again, we thank you for your time and consideration of the comments above.

Sincerely,



Deborah S. Diep
CDR Director

CC: CDR Management Oversight Committee
CDR Technical Advisory Committee
Hasan Ikhrata, SCAG
Scott Martin, CDR

Citizens Alliance for Property Rights

January 30, 2012

Susan Kline
President

Alice Eaton
Vice President

Debra Tash
Treasurer
Secretary

Michael Greer
Director

Stuart Kline
Director

David Stewart
Director

Bob Baker
Director

Pam O'Connor, President
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

Dear Ms. O'Connor:

RE: RTP and SCAG Land Use Planning – An Open Letter

Please note that many of our members recently attended what was one of many so called, "Visioning" sessions. This one was geared to our local elected officials and held at the Camarillo Public Library on January 19, 2012. Please note that very little public notice was given for the session. We were only made aware of it through a third party. At the beginning of this session we were subjected to a film clip that was little more than "touchy feely" propaganda. Adorable young tykes extolled the virtues of "walkable" communities and public transportation. The presentation was halted half way through due to questions from citizens who took umbrage to a plan that is, in truth, a one size fits all blueprint. These citizens are well aware that, "sustainable community strategies" is a marketing term crafted to pull the proverbial wool over the public's eyes. That it is, in fact, a move toward regional governance which will further distance voters from those who they have entrusted to safeguard their interests. Further we do believe 84 elected officials, from various cities and counties, can do what is in the best interest of their citizens when crafting policies for the over 18,000,000 residents residing within SCAG's boundaries.

We understand that more of these sessions are planned but that Ventura County has already had its allotted two in January. Yet, really, how much of the public were made aware of what you are planning? How many know that SCAG, once tasked to plan for future growth, has now morphed into a regional government that will alter our lifestyles and erode our freedom. How many of the taxpaying citizens of our county would agree to having so much of their transportation dollars funneled into transit and away from road expansion? How many would agree to plans for denser, pack and stack, development in what are suburban communities?

Citizens Alliance for Property Rights (CAPR), Ventura County, wishes to go on record opposing the implementation of your proposed sustainable strategies. Your plans have already damaged our communities, hampered our valuable agricultural industry, and caused further waste of precious taxpayer funds. Denser development makes sense for Santa Monica, the area you represent, Ms. O'Connor. However it makes no sense whatsoever in communities like Thousand Oaks and Simi Valley where people have moved to raise their families and enjoy a suburban lifestyle.

In closing, be aware we are watching you, know what a sham the Compass Blueprint is and how your efforts are shackling the very people you have, as elected officials, been sworn to serve.

Sincerely,
The Board of Directors
Citizens Alliance for Property Rights, Ventura County

cc: Linda Parks Ventura County Supervisor, Bryan A. MacDonald Oxnard City Council, Glen Becerra Simi Valley City Council, Carl Morehouse San Buenaventura City Council, Keith Millhouse, Moorpark City Council

Mr. Hasan Ikhrata, Executive Director
Southern California Association of Governments
818 West 7th Street, 12th Floor
Los Angeles, CA 90017

February 14, 2012

RE: City Comments on the Draft SCAG 2012 Regional Transportation Plan (RTP) and Sustainable Communities Strategy and Program Environmental Impact Report; Support for RTP Project List and the 710N Gap Closure Project

Dear Mr. Ikhrata,

We are pleased to join with METRO in complimenting SCAG not only for its fine work on this far reaching document, but for its unprecedented outreach process. Both lend themselves to the success of the RTP.

We note that METRO, in its written communication to SCAG, stated that all of its projects which are in the Los Angeles County Long Range Plan (LRP) are also in the SCAG RTP. We acknowledge and support the LRP, and now the RTP, which includes all the Measure "R" transit and highway projects, with identified funding sources for each.

We further join with and support the complimentary comments of the City of Los Angeles which state, in its communication to you that, with a few minor exceptions, that the RTP is satisfactory to the City.

All of us are grateful for the Los Angeles County voter mandate known as Measure "R", now passed into law and being actively implemented. It is safe to say that without "Measure R" most all of our sorely needed transportation projects may not have seen a shovel raised to move the first piece of dirt.

"Measure R" provided certain amounts of money for specific projects. The 710N Gap Closure Project was named in the law and was allocated over 700 million dollars. We concur with SCAG and our other regional and city partners that the 710N Gap Closure Project is appropriately designated a "constrained project" in the 2012 RTP Constrained Plan and, further, that the 710N Gap Closure Project has met all the federal requirements for inclusion in said Plan. Attempts to say otherwise will be vigorously refuted by all parties.

Measure R was a mandate of the voters of Los Angeles County to fix the traffic problems and to clean up the air. The 710N Gap Closure was a significant part of the voter mandate, and efforts are now underway to fulfill that mandate. In fact, METRO is engaged in an EIR/EIS process right now at the project level. Any and all outstanding gap closure issues and the environmental impacts of which

transportation mode type (or combination of modes) should be used to close the gap will be answered within the next 30 months.

Two things are clear from the many 710N Gap studies prior to the current EIR/EIS effort: there is no proposed project in the SCAG region which reduces traffic congestion more than the completion of the 710 Gap, and there is no proposed project in the SCAG region which reduces air pollution more than the 710 Gap. The project is vital to many more than those who live in the area. It is vital to the conformity issue between the Transportation Plan and the Air Quality Plan.

We continue to join with those who have supported the Completion of the 710 Gap at METRO and as proponents of the closure of the Gap: US Congressperson Judy Chu, Senator Bob Huff, Assemblyman Cedillo, Assemblyman Mike Eng, SCAG, Independent Cities, San Gabriel Valley Council of Governments, Pasadena (by virtue of an imitative ordinance requiring support of the completion of the Gap), San Gabriel Valley Economic Partnership, 710 Freeway Coalition, Polling data: 710 completion, Supporters of the completion of the Gap, the vote of the CTC Public Infrastructure Advisory Committee supporting the project, the City of Rosemead, the City of San Gabriel, the City of San Marino the city of Monterey Park, El Serreno, and the City of Glendale among others. Support runs as high as 7 to 1.

While it may be tempting to trace the history of the project (actually going back as far as 1933), surely most everyone involved knows that history. The injustice occasioned on many is known; less recognized is why the injustice occurred and how our entire region has truly suffered over such a long period of time. The few still seem to believe that it is all right to harm the many.

In conclusion, the City of Alhambra joins with the voters of Los Angeles County and all our partners in looking forward to the day in the foreseeable future when the 710N Gap Closure will be a reality. We are proud to be a part of the Southern California Region and thank SCAG for producing an RTP we can all be proud of.

Sincerely,

Leland C. Dolley
City Of Alhambra
Special Counsel
310 545 3078

City of Anaheim
PLANNING DEPARTMENT

February 14, 2012

Mr. Hasan Ikhrata, Executive Director
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

RE: DRAFT 2012-2035 REGIONAL TRANSPORTATION PLAN, SUSTAINABLE COMMUNITIES STRATEGY, AND DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT

Dear Mr. Ikhrata:

Thank you for the opportunity to submit comments on the Southern California Association of Governments (SCAG) Draft 2012-2035 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) and its associated Draft Program Environmental Impact Report (PEIR). City staff recognizes the monumental efforts undertaken by SCAG to prepare these extremely important regional documents.

The City of Anaheim is a recognized leader in the region for establishing creative and innovative new, infill and refill development strategies that support many of SCAG's objectives, particularly as they relate to transportation infrastructure, urban growth, and sustainability. The City has also taken a proactive role in reducing regulations and promoting incentive based approaches to encourage business and development growth, preserve existing neighborhoods and help foster a freedom friendly regulatory environment. Our comments below are based on the extensive experience the City has in proactively supporting infill and refill development and reflect the City policies of reducing regulations and promoting incentive based approaches instead of increasing regulation. It is important that the RTP/SCS and PEIR documents do not contain provisions that restrict the City's flexibility to develop the policies, strategies and programs that will work best for our community while meeting regional goals.

Staff has also reviewed and concurs with comments from the Orange County Transportation Authority (OCTA) and the Orange County Council of Governments (OCCOG). Some of these OCTA and OCCOG comments are restated and highlighted in the comments below.

Comments on the RTP and SCS

Expanded High Occupancy Toll (HOT) Lanes System – Staff concurs with the OCTA comments identifying a need for additional information on the HOT Lane network included in the RTP. An expansion of toll facilities in the region that is not

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consistent with the Long Range Transportation Plan (LRTP) prepared by the OCTA has been included in the RTP. Specifically, the RTP/SCS identifies a program to allow extra capacity in High Occupancy Vehicle lanes (HOV lanes or carpool lanes) to be sold to single-occupant drivers, thus converting these facilities into High Occupancy Toll (HOT) lanes. This change is shown along the SR-91 from the Orange/Los Angeles County border and connecting with the existing SR-91 toll facilities. Several miles of this facility are within or are partially within the City of Anaheim and are bounded by residential neighborhoods. Because the facility is not currently funded through the OCTA LRTP and does not have the capacity to support a toll system, more information is necessary to evaluate the project's feasibility.

Request:

1. *Please include text in the RTP stating that any expansion of the HOT lanes is tentative and would require additional study to determine right-of-way impacts, community issues, and overall feasibility.*

California High-Speed Rail Authority (CHSRA) Project – Staff concurs with the OCTA comments supporting a phased delivery approach, which includes early investment in the existing LOSSAN and Metrolink infrastructure, and indicating it is more prudent to begin implementation at the "bookends" of the system. City staff also submitted a letter to the CHSRA regarding the Draft 2012 Business Plan (see Attachment 1), indicating that implementing this "bookend" approach in the most urbanized regions of the State at the onset of the project is needed to enhance the passenger experience, reduce travel times, improve safety and provide critical connections to the existing passenger rail systems in these regions. It would also maximize the investment of State and Federal funds so that these critical improvements will be implemented.

Sustainable Communities Strategy – Under SB 375 and only within the SCAG region, subregional councils of government were allowed to prepare subregional SCSs that SCAG is then required to incorporate into the regional SCS. In Orange County, OCCOG and OCTA developed a countywide SCS (OC SCS) to be included as the County's contribution to the SCAG regional SCS. SCAG notes in the RTP/SCS that it has incorporated the OC SCS in its entirety into the regional SCS as an appendix to the document, but it is unclear what the standing of the OC SCS is. The OC SCS contains a set of strategies agreed upon by local governments, agencies and other stakeholders within Orange County and should represent the SCS that is applicable to the Orange County region.

Request:

2. *Please revise the text in the last paragraph on page 106 to state: "These subregional SCS documents are incorporated into the regional SCS and represent the SCS for each of these subregions."*

References to the RTP inducing growth – Several sections of the RTP/SCS state that it has the ability to affect the distribution of growth as well as induce growth (see page 80 under Population and Housing as an example). This is inconsistent with the "bottoms-up" approach SCAG undertook in the development of the documents wherein SCAG staff stated that they

would accept and use growth forecast data provided by local jurisdictions. The RTP/SCS is intended to incorporate the planned land use pattern that is expected to accommodate the projected future growth of this region as well as the planned transportation system that supports that growth. Therefore, growth is not induced, it is planned for. The document inaccurately implies a lack of coordination between land use and transportation entities.

Request:

3. *Please amend text within the RTP/SCS, including the language on page 80, to remove the reference to the RTP and SCS inducing growth and replace it with language that acknowledges that the document reflects a land use pattern that accommodates the forecast growth for the region.*

Comments on the Draft PEIR

Intent of the PEIR to Serve as a Menu of Options – The draft PEIR includes mitigation and direction to the region that appears to overstep the requirements of SB 375 related to land use planning and applies a prescriptive set of mitigation measures to local agencies, project sponsors and other entities. A key principle of SB 375 is that it is not intended to supersede local agencies' authority to regulate land uses. Specifically, Government Code section 65080(b)(2)(K) states that ". . . .Nothing in a sustainable communities strategy shall be interpreted as superseding the exercise of the land use authority of cities and counties within the region. . . ." However, the language used in the PEIR appears to impose obligations on local agencies within the SCAG region, which is inconsistent with this law. It also appears to be inconsistent with SCAG staff's explanation that the PEIR and its mitigation measures are intended to provide a "toolbox" or menu of potential options for local agencies to use at their discretion.

Specifically, the draft PEIR on page 1-7 asserts that mitigation measures have been determined to be feasible and states that entities "can and should" implement the measures. These statements, in addition to the use of "can and should" in mitigation measures addressed at local agencies and project sponsors, imply that local agencies are obligated to implement and address the measures regardless of whether they deem the measures are feasible and applicable to a particular project. It is recognized that the "can and should" language is derived from CEQA; however, given the express limitation of SB 375 upon local agencies' land use authority, the language is inappropriate. Further, SCAG did not complete the Climate and Economic Development Project (CEDP) that was intended to analyze and provide documentation related to the feasibility and effectiveness certain strategies would have on the region. Because of the lack of information supporting the determinations of feasibility, it is inappropriate for the PEIR to make such an assertion.

Requests:

4. *In order for the mitigation measures to truly be considered a toolbox of options for consideration by various entities in the SCAG region as intended, it is offered that all mitigation measures in the PEIR intended for entities other than SCAG be moved into an appendix to the PEIR and be renamed as sustainability strategies. These strategies could then be identified for consideration by lead agencies as mitigation for future projects*

should a lead agency choose to do so and deem them applicable and feasible. The PEIR should only retain mitigation measures applicable to SCAG. The PEIR should not make any determination of the feasibility of the measures applicable to other entities, as this will be made by a lead agency. The Executive Summary, Introduction, and Project Description must also be updated to reflect the nature of the new appendix of sustainability strategies.

Regardless of SCAG's acceptance of Request #4 above, the following comments are also provided:

5. *Due to the size of the SCAG region, it is not feasible for all potential projects undertaken within the SCAG region to be required to report to SCAG when mitigation measures in this PEIR are considered. Nor does it seem feasible for SCAG to accurately track the information in a meaningful way. Please clarify the obligations local agencies may have regarding SCAG's monitoring efforts. Specifically, clarify on Page 1-5 what the responsibilities of lead agencies are in regards to reporting to SCAG either use of or compliance with mitigation measures contained in the document.*
6. *Please provide the feasibility analysis on the mitigation measures included in the PEIR and incorporate as an appendix to the document.*
7. *Please amend the language in the first paragraph on page 1-5 to state: "Mitigation Measures proposed in this PEIR are available as tools for implementing agencies and local lead agencies to use, as they deem applicable. ~~can be incorporated as policies in the Final 2012-2035 RTP/SCS to help ensure that feasible mitigation measures are implemented at the project level.~~"*
8. *Please include language in the Executive Summary and in the certifying resolution for the PEIR explaining that the PEIR is intended to represent a menu of options available for consideration by local agencies and other entities at their discretion.*
9. *Please amend the language on page 1-7 under Mitigation Measures subheadings Transportation Project Mitigation and Land Use Planning and Development Project Mitigation to read: "The Draft PEIR includes a menu of possible mitigation measures that local jurisdictions, project sponsors, and other entities may implement as applicable and feasible. It is reasonable to assume that lead agencies, in their independent discretion, will implement measures which they determine to be applicable and feasible."*
10. *Please amend language in all mitigation measures identifying entities other than SCAG to state "~~can and~~ should consider where applicable and feasible."*

Policy Statements in the PEIR – The PEIR should not establish policy that has not been vetted in open and public forums. Most directly, page 2-3 of the Project Description, under the section Purpose and Need for Action, includes a bulleted list of policies that are not consistent with those included in the RTP/SCS. Additionally, many mitigation measures throughout the PEIR include an action and then, to give the action a direction, a policy statement follows that is inconsistent with or extends the policies in the RTP and SCS. For example, MM-TR 35 states: "Local jurisdictions can and should adopt a comprehensive parking policy that discourages private vehicle use and encourages the use of alternative transportation." While the policy to "encourage the use of alternative transportation" is directly linked to the policies of both the RTP

and specifically, the SCS chapter, the policy statement to "discourage private vehicle use" is not and would establish additional policy.

Requests:

11. *Please amend the bulleted list on page 2-3 to accurately reflect the actual policies and strategies included in the RTP and SCS as opposed to identifying new ones.*
12. *Please delete or amend all mitigation measures that include policy statements that would establish policy not contained in the RTP/SCS. If policy statements are amended as opposed to being deleted, please ensure that the policy statements are consistent with stated policies in the RTP/SCS. For example, in MM-TR35, please amend the text to state: "Local jurisdictions ~~can and~~ should, where applicable and feasible, adopt a comprehensive parking policy that ~~discourages private vehicle use and~~ encourages the use of alternative transportation." Attachment 2 identifies mitigation measures to delete or amend per this request. This list may not be exhaustive.*

CEQA Streamlining – One of the key components of SB 375 was the inclusion of incentives that provided CEQA streamlining for projects consistent with the objectives of the bill as well as consistent with the SCS. As identified on pages 1-10 through 1-12, for projects to qualify for these incentives, mitigation measures from the applicable environmental document must be incorporated into the project. It is not clear, however, which measures would need to be incorporated into a project for it to qualify, particularly in light of the intent of SCAG for the measures to be a toolbox.

Request:

13. *Please clarify how the "menu of mitigation measures" from this PEIR is expected to be used by a lead agency or a project to qualify for the use of the CEQA streamlining provisions of SB 375.*

SCAG Authority – Several mitigation measures, listed in Attachment 3, identify actions that SCAG shall undertake to mitigate impacts of the plan. Many appropriately direct SCAG to provide a discussion forum or serve as a central data repository for a broad range of topics that affect the region as a whole. However, many others inappropriately direct SCAG to establish practices, standards, or policy in areas unrelated to SCAG purview within the RTP. SCAG's authority is established by state and federal requirements regarding the RTP and its preparation. In recent years, its authority has been expanded by new state requirements contained in SB 375 that direct SCAG to consider the interaction between land uses and the transportation system in order to identify strategies that help meet state goals of reducing the cost of transportation infrastructure and reducing emissions of greenhouse gases from automobiles and light duty trucks that specifically result from the configuration of land uses. SCAG even stated in a Special Meeting of the Community, Economic and Human Development Committee on January 8, 2009, that SB 375 does not address green buildings, energy efficiency, municipal operation, waste management, water or technology of vehicles. The measures often appear to be directed at policy implementation that is under these other topics and is unrelated to the plan itself, such as implementing AB 32. Such measures will essentially require SCAG to establish policy in areas for which it has no authority.

Additionally, it is not clear how SCAG would fund the work efforts because they are not directly related to its mission and, therefore, do not have established funding. For example, MM-PS 118 states: "SCAG shall continue to develop energy efficiency and green building guidance to provide direction on specific approaches and models and to specify levels of performance for regionally significant projects to be consistent with regional plans." Green building practices and energy efficiency measures are already addressed by various state and federal agencies, as well as by other local and regional organizations, and are not related to regional transportation planning or requirements under SB 375. Further, SCAG does not have the authority to specify levels of performance for land use or buildings.

SCAG's development of such policies could have significant effect on the region and its growth and development if they become adopted due to changes in CEQA and other state laws that require consideration of adopted regional plans. Policies that could have such an impact should not be established without sufficient means to develop and maintain them reflective of new laws, regulations, and data. Without authority and a permanent funding source to maintain such offsets of policies, it would not be efficient or effective for SCAG to develop them.

Requests:

14. *Please limit mitigation measures that are applicable to SCAG to those areas for which SCAG has purview.*
15. *Please clarify how the actions and programs required by the measures SCAG is tasked with would be funded to ensure that they are feasible for SCAG to undertake.*
16. *Please remove the mitigation measures listed in Attachment 3 that are applicable to SCAG and for which it does not have purview for under the law. Please note that this list may not be exhaustive.*

SCAG's Ability to Accomplish Mitigation Measures – SCAG has limited authority in many of the areas included in measures it will be required to undertake. As such, it will not be able to ensure impacts are mitigated and that the outcomes identified do actually occur. SCAG can assist, offer information, educate, and provide discussion forums for topics outside its area of jurisdiction; however, it is not possible to "ensure" that outcomes are achieved for projects and development that are outside of its authority.

Request:

17. *In order for mitigation measures to be achievable by SCAG, it is recommended that all references within mitigation measures indicating that SCAG will "ensure" or "shall minimize impacts" be removed or amended. The following is an example of the recommended changes:MM-CUL17: "~~Impacts to cultural resources shall be minimized through cooperation, information sharing, and~~ SCAG~~'s~~ shall, through cooperation, information sharing and ongoing regional planning efforts such as web-based planning tools for local government including CA lots, and direct technical assistance efforts such as Compass Blueprint's Toolbox Tuesday series, provide information and assistance to local agencies to help them avoid impacts to cultural resources. Resource agencies, such as the Office of Historic Preservation, shall be consulted during this process."*

Measures Suggesting New Fees or Taxes – Several mitigation measures indicate that local jurisdictions or other entities should implement new fees or propose taxes to pay for a variety of programs or for acquisition of land for preservation, provision of transit and more. Increases to fees or taxes are issues that could require voter approval may not be approved. It is more appropriate to include such actions as options to implement measures and that such options would be at the discretion and consideration of the lead agency.

Request:

18. *Please indicate in measures that any new or increased fee, new tax, or other increase is only an option as a way to implement the mitigation. Additionally, no assertion that these options are feasible should be made in the PEIR.*

Measures Duplicative of Existing Law – Many of the mitigation measures are duplicative of existing regulation or processes (e.g. CEQA review requirements). Under the California Environmental Quality Act, it is intended that measures be identified that will mitigate impacts of the project. Existing regulations are already assumed to be abided by in the evaluation of the impact and the significance of the impact after all existing regulation is applied. Therefore, mitigation measures should address those actions that need to be undertaken in addition to existing regulation in order to mitigate the impact.

Further, it is possible for regulations to change over time. Because of this, restatement of the regulation in the mitigation measures could result in future conflict between the stated mitigation and the regulation. Attachment 4 presents a list of many of the mitigation measures that reflect existing regulations.

Request:

19. *Please remove all mitigation measures which are duplicative of existing regulations administered by or under the jurisdiction of other agencies. Attachment 4 includes a list of such measures; however, the list may not be exhaustive.*

Prescriptive and Specific Mitigation in Measures – Many mitigation measures identify specific technologies or prescriptive actions to be undertaken, such as specifying use of Light Emitting Diode (LED) technology for streetlights or specifying setback standards. Because the PEIR covers a large region for a several year period, specifying such technology or a specific regulation could create future conflict if more energy efficient technology becomes available or if better strategies are identified. It would be more appropriate for the PEIR to use broader definitions in what should be included in the implementation of mitigation and provide lead agencies with more latitude in determining what is appropriate for each project.

Requests:

20. *Please delete or amend all mitigation measures that include specific technology or specify prescriptive actions that are under the purview of local agencies. For example, in MM-TR 23, it is recommended that the measure be amended to state: "Local jurisdictions ~~can and~~ should, where applicable and feasible, coordinate controlled*

intersections so that traffic passes more efficiently through congested areas. Where traffic signals or streetlights are installed, local jurisdictions should, as applicable and feasible, require the use of a feasible, energy efficient ~~Light-Emitting-Diode (LED)~~ technology."

21. *Please delete mitigation measures or text within measures that is prescriptive, such as identifying the reduction of street widths to WWII widths or specifying building setbacks.*

Growth Forecast and Mapping
(Comments in this section are applicable to both the RTP/SCS and the PEIR.)

The City of Anaheim actively participates and works with SCAG, OCCOG, OCTA, and the Center for Demographic Research (CDR) at Cal State Fullerton to ensure that GIS and socio-economic growth forecast data intended for use in regional planning, including the RTP/SCS accurately reflects the City's land use pattern and expected growth.

Accuracy in all of these data sets is essential because these data are used throughout the region for a variety of transportation, growth, and air quality modeling that, in turn, is used to determine compliance with State and Federal regulation. With the passage of SB 375, these data carry the increased responsibility of demonstrating compliance the State goals to reduce greenhouse gas (GHG) emissions as well as directly linking the growth projections to State mandates relative to the Regional Housing Needs Assessment (RHNA). Because of the importance of these data, it is necessary for SCAG to utilize the most current and accurate data in the RTP/SCS and PEIR.

Requests:

22. *Please update all documents, tables, maps, narratives, modeling runs, and PEIR Alternatives (including the alternate referenced in the documents, including the PEIR, as C, 3, and Envision 2) that reference the Orange County growth forecasts with the Orange County Projections-2010 Modified Growth Projections, as adopted by the OCCOG Board of Directors and consistent with the subregional delegation Memorandum of Understanding between OCCOG, OCTA and SCAG.*
23. *Please ensure that all maps included in the adopted RTP/SCS and PEIR accurately reflect the City of Anaheim's data, as submitted to SCAG between 2008 and 2011, for 2008 existing land use, zoning, general plan land uses, and the growth forecast.*

There is also a need to ensure that these data remain flexible. Because the RTP/SCS is adopted and in standing for 4 years, it is important to ensure that flexibility is built into the land use and growth forecast data so that it can accommodate the large number of land use changes that will occur in the SCAG region in each cycle. It is particularly important for those cities making land use changes consistent with the goals and policies of the RTP/SCS that are not consistent with the growth forecast at a small scale. To ensure this flexibility, the growth forecast should not be adopted at a small geographic scale such as at a city level or census tract.

Request:

24. *To ensure flexibility and reduce potential conflicts with local control in land use matters, it is requested that SCAG adopt the growth forecast data set at the county level and not at*

a smaller geography such as a subregion, city, census tract, traffic analysis zone or other smaller geography.

We would again like to thank you for the opportunity to comment on these documents. Please forward any subsequent public notices and/or environmental documents regarding the projects discussed in the RTP/SCS and/or the PEIR to Tracy Sato, AICP, Senior Planner at the address listed at the bottom of the first page of this letter. If you have any questions regarding these comments, please do not hesitate to contact me at (714) 765-5010.

Sincerely,

Sheri Vander Dussen, AICP
Planning Director

Natalie Meeks
Public Works Director

svd:ts:sr

Attachments

cc: Doug Williford, Southern California Association of Governments
Margaret Lin, Southern California Association of Governments
Jacob Lieb, Southern California Association of Governments
David Simpson, Orange County Council of Government
Lacy Kelley, Association of California Cities – Orange County
Natalie Meeks, City of Anaheim Public Works Department
Steve Sciortino, City of Anaheim Public Utilities Department
Marty DeSollar, City of Anaheim External Affairs

Attachment 1

City of Anaheim
DEPARTMENT OF PUBLIC WORKS

January 12, 2012

Chairman Thomas J. Umberg
Board of Directors
California High-Speed Rail Authority
770 L Street, Suite 800
Sacramento, California 95814

Subject: California High-Speed Rail - Draft 2012 Business Plan

Dear Chairman:

Thank you for the opportunity to review and comment on the Draft 2012 Business Plan for the California High-Speed Rail Project.

Attached to this letter are our comments on the Plan. Of particular interest is the proposed phased delivery approach for constructing the project, including the implementation of a blended approach allowing for existing rail service providers such as Amtrak, Metrolink, and Caltrain to provide much needed connectivity to the backbone of the high-speed rail system by sharing facilities and tracks. Implementing this approach in the most urbanized regions of the State (the Northern and Southern California "bookends" of the project) at the onset of the project, instead of the later phasing indicated in the Plan, is needed to enhance the passenger experience, reduce travel times, improve safety and provide critical connections to the existing passenger rail systems in these regions. It would also maximize the investment of State and Federal funds and ensure these critical improvements will be implemented. We therefore request your consideration of revising the project schedule to start this work at the onset of the project.

Thank you for your consideration of our comments. Should you have any questions, please contact me at 714-765-4530 or NMeeks@anaheim.net.

Sincerely,

Natalie Meeks
Public Works Director

C: Bob Wingenroth, Interim City Manager
Jamie Lai, Transit Division Manager
Linda Johnson, Principal Planner
Project File

H:\Engineering\ADMIN\LETTERS\TRANSIT\

200 S. Anaheim Blvd., Suite 276
Anaheim, California 92805
TEL (714) 765-5176
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www.anaheim.net

Attachment 1

California High Speed Rail
Comments on the Draft 2012 Business Plan

Comment Number	Location in Document	Comments
1	Page 2-2 Exhibit 2-1	Exhibit 2-1. Full high-speed rail systems with connections – There will be Intercity Bus services at the Anaheim Regional Transportation Intermodal Center (ARTIC). Please add the Intercity Bus symbol to Anaheim on the exhibit.
2	Page 2-19	Blended operations to Los Angeles and Anaheim – Please modify the second to the last sentence in this paragraph as follows (**bold** shows new word): "Anaheim **has** ~~will also have~~ connections to Amtrak's Surfliners and the Metrolink commuter rail service."
3	Page 3-5	San Francisco to Los Angeles/Anaheim (Phase 1) – Please change the end of the first sentence as follows: "and the **Anaheim** Regional Transportation **Intermodal** Center **(ARTIC).** ~~in Anaheim.~~"
4	Page 8-10	The Plan discusses potential local agency contributions including cost-sharing, contribution of right-of-way and cooperative funding arrangements or revenues from innovative use of right-of-way/system facilities/equipment. Have discussions with the local agencies been conducted to ascertain the level of interest in these types of programs?
5	Page 10-19	Please revise this section as follows (words requested to be removed shown in ~~strikeout,~~ additional words in **bold**): "Anaheim – The Anaheim Station ~~(ARTIC intermodal station)is planned as part of the 20-plus million square feet Platinum Triangle redevelopment project, which~~ **is planned as an expansion of the Anaheim Regional Intermodal Transportation Center (ARTIC) located between Angel Stadium and Honda Center within the 820-acre Platinum Triangle. This area, located north of the confluence of Interstate 5 and State Route 57, is planned for development of nearly 19,000 residential units; 5 million square feet of commercial development; and, 14.5 million square feet of office development.** Currently, 15 projects are at or past the design stage totaling more than 8,000 residential units, 600,000 square feet of commercial space and 130 hotel rooms. The 17-acre portion of the Platinum Triangle in the ARTIC ~~zone~~ **Mixed Use District** is expected to be office-oriented with some retail and residential space, specifically allowing for 520 residential units, 2.2 million square feet of office space, and 360,000 square feet of retail. ~~Overall, the Platinum Triangle has momentum and is expected to continue regardless of HSR access.~~ One major attribute that the Anaheim Station and HSR ridership will benefit from is the concentration of recreational **and convention** destinations within close proximity to the station, including Disneyland **Park, Disney's California Adventure and the Anaheim Convention Center in The Anaheim Resort** and ~~Angeles~~**the Angel** Stadium, Honda Center **and the City National Grove of Anaheim in the Platinum Triangle. The City of Anaheim is also working cooperatively with the Orange County Transportation Authority as part of the Go Local Program on a proposed fixed-guideway project which would connect ARTIC with destinations in the Platinum Triangle and The Anaheim Resort."**
6	General Comment	Please consider revising the project schedule to implement the blended approach at the project "bookends" at the onset. This will ensure that available funding is maximized to complete critical connections in the most urbanized areas of the State at the earliest point.
7	General Comment	It is unclear whether the Project costs include the cost of improvements at ARTIC to accommodate high-speed rail services. It is also unclear whether the costs of all mitigation measures needed to implement the project are incorporated since the environmental document is still underway.
8	General Comment	Do the project costs reflect increases in electricity costs that could occur with implementation of AB32?

Attachment 2

Policy Statements to Delete or Amend in Mitigation Measures

Please amend the following mitigation measures (Reference Request #12, City of Anaheim Comments). This list may not be exhaustive.

- MM-BIO/OS 56
- MM-GEO 3
- MM-GEO 4
- MM-GHG 3
- MM-GHG 11
- MM-GHG 12
- MM-LU2 26
- MM-LU 41
- MM-LU 42
- MM-LU 47
- MM-LU 48
- MM-LU 51
- MM-LU 53
- MM-LU 56
- MM-LU 57
- MM-LU 60
- MM-LU 61
- MM-LU 65
- MM-LU 69
- MM-LU 71
- MM-LU 74
- MM-LU 75
- MM-LU 77
- MM-LU 80
- MM-LU 81
- MM-POP 1
- MM-PS 25
- MM-PS 41
- MM-PS 65
- MM-TR 21
- MM-TR 35
- MM-TR 42
- MM-TR 53
- MM-TR 65
- MM-TR 93
- MM-TR 96
- MM-W 65

Attachment 3

Mitigation Measures Outside of SCAG Authority

Please amend the following mitigation measures (Reference Request #16, City of Anaheim Comments). This list may not be exhaustive.

- MM-BIO/OS 44
- MM-BIO/OS 45
- MM-BIO/OS 46
- MM-BIO/OS 48
- MM-GHG 3
- MM-GHG 8
- MM-GHG 11
- MM-LU 9
- MM-LU 21
- MM-LU 22
- MM-LU 24
- MM-LU 26
- MM-LU 32
- MM-LU 34
- MM-LU 41
- MM-LU 42
- MM-LU 47
- MM-LU 48
- MM-LU 51
- MM-LU 53
- MM-LU 56
- MM-LU 57
- MM-LU 60
- MM-LU 61
- MM-LU 64
- MM-LU 65
- MM-LU 69
- MM-LU 71
- MM-LU 74
- MM-LU 75
- MM-LU 77
- MM-LU 80
- MM-LU 81
- MM-LU 82
- MM-LU 83
- MM-NO 12
- MM-NO 16
- MM-POP 1
- MM-PS 3
- MM-PS 14
- MM-PS 25
- MM-PS 37
- MM-PS 39
- MM-PS 67
- MM-PS 68
- MM-PS 71
- MM-PS 95
- MM-PS 118
- MM-PS 121
- MM-TR 17
- MM-TR 23
- MM-TR 28
- MM-TR 35
- MM-TR 83
- MM-TR 85
- MM-TR 96
- MM-W 34
- MM-W 59
- MM-W 60
- MM-W 65

Attachment 4

Mitigation Measures Duplicative of Existing Regulation

Please delete the following measures (Reference Request #19, City of Anaheim Comments). This list may not be exhaustive.

Air Quality Regulation, some through the Air Districts

- MM-AQ1
- MM-AQ2
- MM-AQ3
- MM-AQ4
- MM-AQ5
- MM-AQ6
- MM-AQ7
- MM-AQ8
- MM-AQ9
- MM-AQ10
- MM-AQ11
- MM-AQ12
- MM-AQ13
- MM-AQ14
- MM-AQ17
- MM-AQ18

Regulation Related to Habitat and Endangered Species

Typically regulated by the California Department of Fish and Game and/or the federal Fish and Wildlife Service.

- MM-BIO/OS1
- MM-BIO/OS3
- MM-BIO/OS4
- MM-BIO/OS8
- MM-BIO/OS10
- MM-BIO/OS11
- MM-BIO/OS17
- MM-BIO/OS18
- MM-BIO/OS21
- MM-BIO/OS22
- MM-BIO/OS23
- MM-BIO/OS24
- MM-BIO/OS25
- MM-BIO/OS26
- MM-BIO/OS27
- MM-BIO/OS28
- MM-BIO/OS14
- MM-BIO/OS7

Regulated by Water Quality Review Boards (NPDES)

- MM-AQ16
- MM-BIO/OS19
- MM-GEO5
- MM-W1
- MM-W13
- MM-W58

Regulated by Federal National Flood Insurance Program

- MM-HM8

Local Agencies

- MM-AV11

Attachment 4 (continued)

Regulated by Federal and State Laws and from Resource Agency Programs

- MM-AV3
- MM-AV6
- MM-AV12
- MM-BIO/OS20
- MM-BIO/OS29
- MM-BIO/OS30
- MM-BIO/OS31
- MM-BIO/OS32
- MM-BIO/OS33
- MM-BIO/OS34
- MM-BIO/OS35
- MM-BIO/OS50
- MM-BIO/OS51
- MM-CUL1
- MM-CUL2
- MM-CUL3
- MM-CUL4
- MM-CUL5
- MM-CUL6
- MM-CUL7
- MM-CUL8
- MM-CUL9
- MM-CUL10
- MM-CUL11
- MM-CUL12
- MM-CUL13
- MM-CUL15
- MM-CUL16
- MM-GEO1
- MM-GEO2
- MM-GEO3
- MM-GEO4
- MM-GEO6
- MM-HM3
- MM-HM4
- MM-HM5
- MM-HM6
- MM-HM7
- MM-HM9
- MM-HM10
- MM-HM11
- MM-HM12
- MM-HM13
- MM-HM14
- MM-HM15
- MM-HM16
- MM-LU10
- MM-LU11
- MM-LU17
- MM-LU14
- MM-LU19
- MM-LU20
- MM-LU28
- MM-LU30
- MM-LU38
- MM-LU43
- MM-LU44
- MM-LU48
- MM-LU58
- MM-NO1
- MM-NO4
- MM-NO8
- MM-NO9
- MM-NO18
- MM-POP2
- MM-POP4
- MM-PS1
- MM-PS2
- MM-PS4
- MM-PS8
- MM-PS10
- MM-PS12
- MM-PS13
- MM-PS14
- MM-PS16
- MM-PS35
- MM-PS36
- MM-PS37
- MM-PS42
- MM-PS43
- MM-PS48
- MM-PS55
- MM-PS56
- MM-PS57
- MM-PS59
- MM-PS61
- MM-PS67
- MM-PS69
- MM-PS71
- MM-PS73
- MM-PS77
- MM-PS89
- MM-PS92
- MM-PS97
- MM-PS107
- MM-PS113
- MM-PS119
- MM-PS122
- MM-TR29
- MM-TR33
- MM-TR49
- MM-TR55
- MM-TR75
- MM-TR89
- MM-W6
- MM-W8
- MM-W9
- MM-W10
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- MM-W31
- MM-W32
- MM-W36
- MM-W37
- MM-W38
- MM-W39
- MM-W43
- MM-W46
- MM-W47
- MM-W48
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- MM-W56
- MM-W61
- MM-W62
- MM-W64
- MM-W66
- MM-W68

City of Brea

February 13, 2012

sent via email: RTP@scag.ca.gov

Margaret Lin
Southern California Association of Governments (SCAG)
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

SUBJECT: COMMENTS ON THE DRAFT 2012 REGIONAL TRANSPORTATION PLAN AND SUSTAINABLE COMMUNITIES STRAGETY (2012 RTP/SCS)

Dear Margaret:

I am writing this letter to provide you with the City of Brea's comments on the 2012 RTP/SCS. We view the proposed RTP/SCS of critical importance to Brea and the region and we congratulate SCAG staff on its preparation which is truly a monumental achievement!

Brea values the dialog we have historically enjoyed with SCAG on regional issues. We have a solid track record and commitment to providing land use and transportation policies which are consistent with the existing and planned regional transportation system. We appreciate that the draft RTP/SCS encompasses three principals: Mobility, Economy, and Sustainability, that collectively work to significantly improve existing transportation and air quality challenges for the region. The inclusion of active transportation goals and funding at the regional level is one which Brea is extremely interested in for our "Tracks at Brea" trail program to increase non-motorized transportation in our community. The plan also indentifies the future bus rapid transit connection planned near the Brea Mall that will connect Breans to additional alternative transportation modes. We further note that our General Plan has numerous land use and transportation goals and policies already in place that align us well with the proposed 2012 Regional Transportation Plan and Sustainable Community Strategy.

We appreciate this opportunity to comment on the draft RTP/SCS. Our comments are primarily at the policy/implementation level although we have included one technical comment on the use of the revised OCP 2010 data set (which are also included within our comment letter to SCAG regarding the Program EIR). Our comments for the draft RTP/SCS are provided below:

City Council **Don Schweitzer** *Mayor* | **Brett Murdock** *Mayor Pro Tem* | **Ron Garcia** *Council Member* | **Roy Moore** *Council Member* | **Marty Simonoff** *Council Member*

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Recycled

1. At what project threshold and how will SCAG review the performance of Brea and other local jurisdictions for consistency with the 2012 RTP/SCS through the life of the plan?

2. Can you explain further how SCAG envisions directing new housing and employment growth to High Quality Transit Areas (HQTA) in Brea and Orange County? Are there any consequences if agencies find it inappropriate to put growth in these areas, but are achieving the Plan's goals in other areas of our City?

3. Public Health is a concern of our residents. Does SCAG see a conflict in placing a majority of our future housing growth for Brea adjacent to high traffic roadways (57 Freeway) and the potential for public health impacts (e.g. air quality) associated with such areas?

4. The City supports the RTP/SCS goals for including valuable open space land preservation within its mitigation strategies as discussed in the Transportation Investments chapter (page 78) of the plan. This approach is consistent with the value placed on open space within the City's General Plan and is a key component of a balanced land use approach for the region. Lands within and surrounding Brea have the potential to provide for such mitigation approaches thus assisting with GHG reductions for the region. We welcome discussion with SCAG on this implementation as specific projects are submitted in the future.

5. The Plan includes a significant portion of "New Revenue Sources and Innovative Financing Strategies" that are not currently in place or available. While some of the proposed revenues are within the control of SCAG or MPOs and County Transportation Commissions, the majority of the revenues (in terms of dollars) require either state or federal action to implement. What might the implications be if these new revenue sources and innovative financing strategies do not become available, for both SB 375/ SCS compliance and/or air quality conformity?

6. Several goals of the plan are implemented through mitigation measures that indicate Brea or other entities should implement new fees or propose taxes to pay for a variety of programs or for acquisition of land for preservation. Increases to fees or taxes are issues that could require voter approval and, thus are speculative. They also represent prescriptive means to accomplish the mitigation. It is requested that such measures be reworded to indicate that a new or increased fee, new tax, or other increase is only an option as a way to implement the mitigation. Also, please clarify whether it was assumed that these additional fees were considered feasible and if the new fees that are suggested were considered in the financial plan or economic analysis of the RTP.

7. On page 149, it is stated that "The following tables list specific implementation strategies that local governments, SCAG and other stakeholders **can and should** undertake in order to successfully implement the SCS." Please indicate whether SCAG has conducted any feasibility analyses to determine if all of these strategies are feasible and what the implications are if not all are implemented. Also, please describe what Brea's obligations are anticipated to be as a result of adopting these strategies as a list to be accomplished

rather than a menu of options. It is requested that the language in the sentence be clear that it is permissive and at a minimum, change the text "can and should" to "may."

8. We request that internal consistency of the Land Use Pattern map for Orange County be confirmed between the plan document (page 145) and the technical reports or appendices. Specifically, the Land Use Pattern Map for Orange County (Exhibit 4.17 enclosed) shows a significant urban village designated for northeastern Brea. This area appears to be the location of the Olinda Landfill. Future residential development in this area cannot occur due to its current use. We believe this is simply an oversight as we have provided this input to SCAG in 2009 for the CLUS project. We note that the SCS Background Documentation Appendix does include an accurate map (enclosed) for Orange County which should be revised in the final document for Regional Council review and approval.

9. We request that the adoption of the final growth forecast numbers by the Regional Council and/or Joint Policy Committee be at the county level consistent with past RTPs and that these numbers be reflected in the 2012 RTP/SCS. The use of smaller geographic levels, such as at the subregional, city, census tract, TAZ, parcel, or grid cell could limit flexibility and a jurisdiction's local control over land use decisions. The final growth forecast numbers are a dataset which includes the 2010 Census population and housing data, along with the 2010 EDD Benchmark data, consistent with SCAG's updated growth forecast dataset. The dataset was provided to SCAG staff in December 2011 by CDR and its use would provide consistency with the MOU on sub regional delegation between OCTA, OCCOG, and SCAG. All documents, tables, maps, narratives, modeling runs, PEIR alternatives (including Alternate C/3/Envision 2), and datasets should be updated with the OCP-2010 Modified numbers.

10. We suggest that the final document should reference the chapter number of each section of the plan in the header to assist the reader in cross-referencing the document.

11. We suggest adding to the glossary a definition for Active Transportation.

The City of Brea appreciates the opportunity to provide these comments. We recognize that plan goals can be successfully achieved through many different routes determined by local control and we are ready to work together with SCAG to implement them in Brea. Additionally, we have submitted a separate comment letter on the Draft Program EIR to Mr. Jacob Lieb. Please feel free to reach me at (714) 671-4421 or David Crabtree, Deputy Director/City Planner at (714) 990-7674 if you should have any questions about the comments.

Sincerely,

Eric Nicoll
Community Development Director

cc: Honorable Mayor and City Council
Brett Murdock, Member, SCAG Regional Council
Tim O'Donnell, City Manager
Charlie View, Public Works Director
David Crabtree, Deputy Director/City Planner
Adrienne Gladson, Senior Planner
Dave Simpson, Executive Director, Orange County Council of Governments (OCCOG)

Enclosures

EXHIBIT 4.17 Land Use Pattern Orange County (2035)



INCORRECT

EXHIBIT 34 Land Use Pattern Map - Orange County 2008



CORRECT

✓ Plan

CITY OF BURBANK
COMMUNITY DEVELOPMENT DEPARTMENT
150 North Third Street, P.O. Box 6459, Burbank, California 91510-6459
www.ci.burbank.ca.us

February 13, 2012

Jacob Lieb
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, California 90017-3435

via electronic mail to lieb@scag.ca.gov

Re: Comments on 2012-2035 Regional Transportation Plan / Sustainable Communities Strategy and Draft Program Environmental Impact Report

Dear Mr. Lieb:

The City of Burbank has reviewed the Draft 2012-2035 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS) and the related Draft Program Environmental Impact Report (PEIR) and respectfully submits the following comments. The Burbank City Council reviewed and endorsed the content of this letter at its February 7, 2012 meeting.

Aviation Forecast

The City of Burbank has submitted comments on prior RTPs regarding the aviation forecast. As we have asserted in prior years, the City of Burbank continues to believe that the forecast of 9.4 million annual passengers (MAP) for the Bob Hope Airport is unreasonably high. Two of the primary constraints to passenger volume at the Airport are the number of passenger gates and the capacity of streets serving the Airport. The City believes that neither the existing streets nor the existing 14 gate terminal building could accommodate 9.4 MAP. The City and Airport Authority are engaging in a joint public outreach process to discuss the future of the airport, which may include a new terminal building. However, it is unlikely that anything other than a replacement terminal with the same number of passenger gates as the current terminal would be acceptable to the residents of Burbank who must ultimately vote on whether to approve any new terminal facility.

Based on the passenger volume trend since the airport opened in 1930, the City Council and City staff believe that 8.0 MAP is a more reasonable number for 2035. The City is using this number in our own forecasts, including our 2035 General Plan update and related EIR. This number is also consistent with the Airport Authority's own passenger forecast.

Transportation Projects

Project Funding

The 2012 RTP Financial Plan identifies two broad categories of revenue sources to fund projects identified in the plan. Core revenues, in the amount of $305 billion, are identified as committed or historically-available funding across the six-county region. Reasonably-available revenues, in the

amount of an additional $226 billion, are identified as new transportation funding likely to materialize during the plan period. These additional funds include revenues from adjustments to state and federal gas taxes, vehicle-miles-traveled user fees, tolling, private funding, and freight fees.

The plan assumes that these reasonably-available revenues will materialize to fund projects in the RTP Financially-Constrained Plan and are necessary to meet the region's greenhouse gas and air quality reduction mandates. However, many of these reasonably-available funding sources may in fact not materialize, especially given the controversial nature of some of the proposals. In particular, it may not be prudent to expect that VMT or mileage-based fees are politically feasible to implement, especially if these types of funding sources are relied upon to implement necessary projects in the Financially Constrained Plan. Further, the City is unaware of any VMT fee proposal being currently discussed at the regional or state level.

The City believes that SCAG should consider an alternative in the PEIR that does not assume the reasonably-available revenues identified the current draft become available during the plan period. This alternative would then modify the list of projects to include only those that are funded under the core revenues and assess the air quality and greenhouse gas impacts from this reduced plan. The City especially notes the significant uncertainty related to funding of the California High Speed Rail system.

Local Transit Service

The Transit and Rail policies in Section 2 - Transportation Investments, include emphasis on encouraging local transit operators to expand local transit services to serve as neighborhood circulators and "last-mile" transit connections between regional transit systems and major residential and employment centers. The City supports policies to encourage expansion of local transit service; however, the plan does not address the significant difficulty local agencies currently have in funding these types of services with the operating funds currently available to local jurisdictions within the region. The Plan should more specifically identify the additional funding necessary to implement expanded local transit, and should bolster policies and objectives that expand the availability of operations funding to local transit agencies.

Regional Transit Projects

The City believes that there are a number of regional transit projects in the Arroyo Verdugo Cities subregion of Los Angeles County that should be included in the 2012 RTP, especially if additional funding sources are identified over the next 25 years. These projects are identified in other long-range planning documents and, specifically, are called out in Metro's Long Range Transportation Plan adopted in 2009 as "Strategic Unfunded Projects." These important projects would improve transit mobility in and around the Arroyo Verdugo Cities region, and would especially improve east-west travel between the San Fernando and San Gabriel Valleys. The City believes that the following projects should be considered for implementation using additional reasonably-available funding sources as described in the Financial Plan:

a. Regional transit connection between the North Hollywood Red Line / Orange Line Station and the Gold Line in Pasadena via Burbank and Glendale
b. Extension of the Orange Line and/or Red Line to Bob Hope Airport
c. Bus Rapid Transit (BRT) or other regional transit connection between Downtown Burbank and Hollywood via Universal City.

d. Burbank-Glendale Light Rail (implemented as light rail, BRT, heavy-rail DMU, or other technology)

High Speed Rail

The plan identifies the California High Speed Rail system as influencing regional and intercity travel in the SCAG region, but does not specifically identify how this planned transportation improvement will integrate with regional and local systems. Integration of any intercity transit system with existing and planned transit services is critical to ensuring the effectiveness of this major transportation investment. The 2012 RTP should include stronger policies that support development of regional and local connections to High Speed Rail, including identification of future regional projects and funding needs that support High Speed Rail connections to the local network.

Land Use Policies

Regarding the variety of land use policies discussed in the RTP/SCS, the City provides a general comment that for these policies to be effective, land use control must remain at the local level. The RTP/SCS provides blanket policies that apply generally to the entire SCAG region and may not be appropriate in every situation. For example, the RTP/SCS associates Transit Oriented Development with higher residential densities and multifamily or mixed-use housing products. However, the City of Burbank contains many single family residential neighborhoods that are located within walking distance of transit centers and corridors, and within walking distance of commercial districts. The City is pleased that the RTP/SCS was developed based on existing local General Plans and local input, and that cities will continue to have sole authority over local land use decisions.

The City of Burbank appreciates the opportunity to comment on the RTP/SCS and PEIR and looks forward to continuing to work with SCAG on the issues addressed herein.

Sincerely,
Community Development Department

Michael D. Forbes
Assistant Community Development Director / City Planner

cc: Honorable Mayor and Members of the City Council
Michael Flad, City Manager
Amy Albano, City Attorney

DENNIS R. YATES
Mayor

TOM HAUGHEY
Mayor Pro Tem

CITY of CHINO

GLENN DUNCAN
EARL C. ELROD
EUNICE M. ULLOA
Council Members

PATRICK J. GLOVER
City Manager

February 14, 2012

Mr. Jacob Lieb
Southern California Association of Governments (SCAG)
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017

RE: Draft Program Environmental Impact Report (PEIR), SCH# 2011051018 for the 2012-2035 Regional Transportation Plan and Sustainable Communities Strategy

Dear Mr. Lieb,

Thank you for the opportunity to review and comment on the Draft Program Environmental Impact Report (PEIR), SCH# 2011051018, for the 2012-2035 Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS).

Consistent with concerns raised by SANBAG, the City of Chino requests clarification on the legal meaning of the phrase "local jurisdictions can and should...," which was used in many of the mitigation measures. It may be the case, as demonstrated in our land use comments below, that local jurisdictions "cannot" comply with some mitigation measures as they are currently written, because they lack the legal authority. Therefore, the word "can" should be removed from the mitigation measures.

Land Use

Mitigation Measure LU48, page 3.8-21, says "Local jurisdictions can and should increase densities in urban core areas to support public transit." While the City's General Plan identifies certain areas in the City where future growth would be appropriate, the authority to approve density increases rests with our voters. The voters of the City adopted an amendment to the General Plan known as "Measure M" on November 8, 1988, codified as Chapter 20.15 of the Chino Municipal Code, which prohibits the City Council from increasing the density of any land designated for a residential use within the City as of November 8, 1988. Mitigation Measure LU48 assumes that we as a local jurisdiction can increase densities, when in fact the City does not have that authority apart from voter authorization.

Transportation, Traffic & Security

The City of Chino is in support of the Goods Movement Truck Route proposal. However, the City has concerns with the freeway's proposed cross section and its affect on current and future projects.

13220 Central Avenue, Chino, California 91710
Mailing Address: P.O. Box 667, Chino, California 91708-0667
(909) 627-7577 • (909) 591-6829 Fax
Web Site: www.cityofchino.org

The following is a list of five affected projects within the City of Chino contained in the "Project List" Supplemental Report:

1. RTP ID No. 4M07017-201133 SR 60 at Euclid Avenue - Widen W/B exit ramp from 2-3 lanes.

2. RTP ID No. 4M07008 SR-60 Ramona Avenue IC to SB I-15 Connector - Widen auxiliary lanes in each direction, widen connector from SB-15 to WB-60 and EB-60 to NB/SB-15, widen ramps from one lane to two lanes.

3. RTP ID No. 4M04050 SR 60 at Central Avenue - Add auxiliary lanes and widen ramps, construct entrance loop ramp.

4. RTP ID No. 4PL07019 SR 60 at Mountain Avenue - Reconstruct interchange SR-60 at Mountain Avenue.

5. RTP No. 4120202 SR-60 at Ramona Avenue - Reconstruct Interchange SR-60 at Ramona Avenue.

Close coordination between the State, County, City, and other affected jurisdictions should be required for any project proposal to ensure compatibility of design, including any interchange or regional arterial highway project along a proposed freeway route that is included in the SANBAG Development Mitigation Nexus Study. The Development Mitigation Nexus Study identifies fair-share contributions from new developments for regional transportation improvements in the San Bernardino Valley and Victor Valley. Please add a mitigation measure to the PEIR specifically requiring coordination with affected jurisdictions for projects falling within the SANBAG Development Mitigation Nexus Study area.

Water Resources

Mitigation Measure W39, page 3.13-42, should be revised to read as follows:

> Local water agencies can and should continue to evaluate future water demands and establish the necessary supply and infrastructure to meet that demand, as documented in their Urban Water Management Plans **and Facilities Master Plans.**

Thank you again for the opportunity to review and comment on the Draft PEIR for the RTP/SCS. Should you have any questions, please feel free to contact me at (909) 464-8310.

Sincerely,

Mike Kellison, AICP
Senior Planner

Cc: Jose Alire, Assistant City Manager
Brent Arnold, Interim Director of Community Development

City of
Chino Hills

February 2, 2012

Ms. Margaret Lin
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

Re: SCAG RTP 2012-2035

Dear Ms. Lin:

We have reviewed the draft Regional Transportation Plan (RTP) for the 2012–2035 planning period. The City of Chino Hills supports SCAG's efforts toward increasing mobility, sustainability and quality of life for all cities within the region.

Specifically, Chino Hills supports inclusion of the following improvements that are included in the RTP Project List:

- Improvement of Eucalyptus Drive from Peyton Drive to the Chino Hills Community Park entrance;
- Improvement of Peyton Drive from English Road to Eucalyptus Drive, consisting of the widening of Peyton from 4-6 lanes with marked bike lanes in each direction; and,
- Improvement of Peyton Drive from Eucalyptus Drive to SR 142, consisting of the widening of Peyton to 2-4 lanes with marked bike lanes in each direction.

As previously indicated in our October 11, 2011, resolution to SCAG, the City of Chino Hills is reserving its support of the proposed dedicated truck lane along the SR-60 freeway corridor until such time as substantial study has been completed and provided to potentially effected cities, including Chino Hills.

Please do not hesitate to contact me at (909) 364-2610 if you have any questions.

Sincerely,

Michael S. Fleager
City Manager

MSF:JL:ssr

cc: Mayor and City Council Members

CITY OF COLTON
INTEROFFICE MEMORANDUM

TO:	**MARK TOMICH, DIRECTOR OF DEVELOPMENT SERVICES**
FROM:	**AMER JAKHER, P.E., DIRECTOR OF PUBLIC WORKS AND UTILITY SERVICES DEPARTMENT** AJ
SUBJECT:	**RTP EIR REVIEW COMMENTS**
DATE:	**FEBRUARY 14, 2012**

In response to your e-mail dated 2/13/12 for the RTP EIR review/workshop, Public Works offers the following comments:

1. The City of Colton strongly recommends that a feasibility study be conducted to explore the possibility of locating a commuter rail station in the City of Colton. The potential locations are South La Cadena Dr. north of Fogg St. and within the downtown area, on the existing BNSF tracks. The City is an ideal location for the rail station because of several compelling reasons. First the locations being proposed are almost exactly at the midpoint from existing San Bernardino and Downtown Riverside stations, making it an ideal spot for a rail station. Secondly there are two major freeways that traverse Colton (I-10 and I-215) in east/west and north/south directions providing convenient and ample access. And finally the communities of Colton, Grand Terrace and other adjacent areas have no reasonable point of access to existing rail facilities in San Bernardino and Riverside Counties. Residents must travel long distance to access these facilities, hence making them less apt to use commuter rails. Finally he rail station will help to revitalize the downtown and adjacent areas of Colton that are impacted by the rail roads and the freeways, including the impact of Colton Crossing, that will allow additional trains on the existing rail lines.

2. Attached is the list of RTP that was submitted to SANBAG. The critical element on that list are as follow:

    a. Reche Canyon Road – Multi jurisdictional project. (Colton, County of San Bernardino, County of Riverside and city of Moreno Valley) Completion of design and environmental phase and securing funding for right of way acquisition and construction.
    b. Washington Street Extension – multi jurisdiction project. (Colton and Grand Terrace), Completion of design and environmental phase and securing funding for right of way acquisition and construction. This project will also require construction of a rail road grade separation on BNSF rail tracks.

c. Pepper Avenue Extension – This project is stalled due to Delhi Sand Loving Fly (an endangered species) habitat within the proposed project limits.

Most of the other projects listed are street widening and/or addition of lanes; the challenges for these projects are mostly right of way acquisition and funding.

County	System	Lead Agency	RTP ID	FTIP ID	Begin PM	End PM	Route Number	Route Name	From	To	Description	Roadway Segment							Transit Segment	Additional Details	RTP Baseline	Network Year (Project Completion By)						
												Route Name	Length	From	To	Description	Existing Lanes	Proposed Lanes	Route			2008	2012	2014	2016	2020	2023	2030	2035
San Bernardino	Local Highway	HIGHLAND	4120141				0	5th Street	City Creek Bridge	SR 210	Widen 5th St from City Creek to SR 210, Re-stripe 5th St from 4 to 6 Lanes btwn Church Ave and SR 210; Re-stripe 5th St from 4 to 5 Lanes with Additional Turn Lane at Freeway Undercrossing; Construct Truck Accumulation Lane on Southbound SR 210 On-Ramp and Freeway Monitor including Widening Existing Freeway Bridge									Exist Config: Deficient Lane Capacity					X				
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120153				0	6th St	Cucamonga Creek		Widen 6th St at Cucamonga Creek Channel (50% RC, 50% Developer)									2 lanes in each direction								X	
San Bernardino	Local Highway	HESPERIA	4A07147				0	7th Ave	Rancheria Rd	Bear Valley Rd	Widen from 3 to 2 lanes each dir									Exist Config: 1 lane in each direction						X			
San Bernardino	Local Highway	HIGHLAND	4120143				0	9th St	Del Rosa Dr	Palm Ave	Striping Modification adding continuous center 2-way left turn lane and bike lanes									Exist Config: Deficient 2 lanes				K					
San Bernardino	Local Highway	HIGHLAND	4A07047				0	9th St	Del Rosa Dr	Victoria Av	Widen 9th St from Del Rosa Dr to Victoria Av from 2 to 4 lanes									Exist Config: 2 lanes					X				
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120154				0	9th St	Cucamonga Creek		Widen 9th St at Cucamonga Creek Channel									2 lanes in each direction								X	
San Bernardino	Local Highway	ADELANTO	4A04005				0	Adelanto Rd	Auburn Ave	Colusa Rd	New road, 2 lanes each dir									Exist Config:					X				
San Bernardino	Local Highway	ADELANTO	4120004				0	Adelanto Road	Air Expressway	El Mirage Rd	Widen Adelanto Road from Air Expressway to El Mirage									Widen from 2 to 4 lanes, 2 in each direction								X	
San Bernardino	Local Highway	ADELANTO	4120002				0	Adelanto Road	Colusa	Oleander	Widen Adelanto Road from Colusa to Oleander									Widen from 2 to 4 lanes, 2 in each direction								X	
San Bernardino	Local Highway	ADELANTO	4120003				0	Adelanto Road	El Mirage Rd	Colusa Rd	Widen Adelanto Road from El Mirage to Colusa									Widen from 2 to 4 lanes, 2 in each direction								X	
San Bernardino	Local Highway	ADELANTO	4120001				0	Adelanto Road	Holly Rd	Air Expressway	Widen Adelanto Road from Holly to Air Expressway									Widen from 2 to 4 lanes, 2 in each direction								X	
San Bernardino	Local Highway	COLTON	4120130				0	Agua Mansa Rd	Rancho Av	Riverside Ave	Widen Agua Mansa Rd from Rancho Ave to Riverside Ave from 2 to 4 lanes									2 lanes in each direction						X			
San Bernardino	Local Highway	ADELANTO	4120008				0	Air Expressway	Adelanto Rd	US-395	Widen Air Expressway from Adelanto Rd to US-395									Widen from 2 to 4 lanes, 2 in each direction								X	
San Bernardino	Local Highway	ADELANTO	4120009				0	Air Expressway	Aster	Richardson	Widen Air Expressway from Aster to Richardson									Widen from 2 to 4 lanes, 2 in each direction								X	
San Bernardino	Local Highway	ADELANTO	4120010				0	Air Expressway	Richardson Rd	Lessing	Widen Air Expressway from Richardson to Lessing									Widen from 2 to 4 lanes, 2 in each direction								X	
San Bernardino	Local Highway	ADELANTO	4120007				0	Air Expressway	US-395	Aster	Widen Air Expressway from US-395 to Aster									Widen from 2 to 4 lanes, 2 in each direction								X	
San Bernardino	Local Highway	ONTARIO	4A01188				0	Airport Dr	Hochester Av	Kettering Dr	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction					X				
San Bernardino	Local Highway	ONTARIO	4120145				0	Airport Dr from Kettering Dr to Etiwanda Ave from 2 to 4 lanes	Kettering Dr	Etiwanda Ave	Widen Airport Dr from Kettering Dr to Etiwanda Ave from 2 to 4 lanes									1 lane in each direction								X	
San Bernardino	Local Highway	REDLANDS	4A01137				0	Alabama	3rd St	San Bernardino Riv	Widen from 1 to 2 lanes each dir (note: RTIP#SBD31719 widens bridge at Santa Ana River)									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	REDLANDS	4A07017				0	Alabama	Lugonia Av	Barton Rd	Widen Alabama from Lugonia Ave to Barton Rd from 4 to 6 lanes									Exist Config: 2 lanes each direction					X				
San Bernardino	Local Highway	REDLANDS	4A07042				0	Alabama	N City Limits	Palmetto	Widen Alabama from N City Limits to Palmetto from 2 to 4 lanes									Widen to 2 lanes in each direction						X			
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07325				0	Alabama St	3rd St	City Limits	Widen Alabama St from 3rd St to City Limits from 2 to 4 lanes									2 in each direction							X		
San Bernardino	Local Highway	REDLANDS	4A07073				0	Alabama St	Lugonia	Palmetto	Widen Alabama St from Lugonia Ave to Palmetto Ave from 4 to 6 lanes									Exist Config: 4 lanes each direction						X			
San Bernardino	Local Highway	FONTANA	4A07349				0	Alder Av	Taylor St	Valley Blvd	Widen Alder Ave from Taylor St to Valley Blvd. From 2 lanes to 4									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	FONTANA	4A07151				0	Alder Av	Valley	San Bernardino	Widen Alder Ave from Valley Blvd to San Bernardino Av from 2 lanes to 4									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	RIALTO	4120181				0	Alder Ave	Renshaw Rd	SR-30	Widen Alder Ave from Baseline Rd to SR-30 from 2 to 6 lanes									2 in each direction						X			
San Bernardino	Local Highway	FONTANA	4A07126				0	Alder Ave	Jurupa	N/ Slover	Widen Alder Ave from Jurupa to Slover Ave from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	FONTANA	4A07322				0	Alder Ave	Jurupa Ave	N .12M	Widen Alder Ave from Jurupa Ave to .12M north from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	FONTANA	4A07262				0	Alder Ave	Slover	N 0.23M	Widen Alder Ave from Slover Ave to .23M north from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	VICTORVILLE	4A07319				0	Amargosa Rd	1780' n/o Village Drive	At Power Line Easement	Widen Amargosa Rd from 1780' n/o Village Dr to center of LADWP Power Line Easement from 0 to 4 lanes									For st Config: New road						X			
San Bernardino	Local Highway	VICTORVILLE	4A07318				0	Amargosa Rd	2650' s/o Air Base Rd	At Power Line Easement	Widen Amargosa Rd from 2650' s/o Air Base Dr to Power Line Easement from 0 to 4 lanes									Ex st Config: New road						X			
San Bernardino	Local Highway	VICTORVILLE	4A07276				0	Amargosa Rd	Clovis Rd	Rancho Rd	Widen Amargosa Rd from Clovis Rd to Rancho Road from 2 to 4 lanes									Ex st Config: 1 lane each direction						X			
San Bernardino	Local Highway	VICTORVILLE	4A07281				0	Amargosa Rd	Just s/o Air Base Rd	At Power Line Easement	Widen Amargosa Rd from Just s/o Air Base Rd to Power Line Easement from 3 to 4 lanes									Ex st Config: 1 lane each direction						X			
San Bernardino	Local Highway	VICTORVILLE	4A07149				0	Amargosa Rd	Rancho Rd	Village Dr	Widen Amargosa Rd from Rancho Rd to Village Dr from 0 to 4 lanes (includes wash crossing)									Ex st Config: New road					X				
San Bernardino	Local Highway	ADELANTO	4120012				0	Amethist	Desert Flower	Oleander	Widen Amethst from Desert Flower to Oleander									Widen from 2 to 4 lanes; 2 in each direction									X
San Bernardino	Local Highway	ADELANTO	4120005				0	Amethist	Holly Rd	Rancho	Widen Amethst from Holly to Rancho									Widen from 2 to 4 lanes; 2 in each direction									X
San Bernardino	Local Highway	VICTORVILLE	4A07210				0	Amethyst	Palmdale Rd	Seneca Rd	Widen Amethyst Rd from Palmdale Rd to Seneca Rd from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	VICTORVILLE	4A07295				0	Amethyst Rd	Just n/o Hopland	Power Line Easement	Widen Amethyst Rd from Just n/o Hopland to Power Line Easement from 0 to 4 lanes									Exist Config: New road						X			
San Bernardino	Local Highway	VICTORVILLE	4A07223				0	Amethyst Rd	Rancho Rd	Hopland	Widen Amethyst Rd from Rancho Rd to Hopland from 0 to 4 lanes									Exist Config: New road				X					
San Bernardino	Local Highway	APPLE VALLEY	4A01008				0	Apple Valley Rd	SR-18	Yucca Loma Rd	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane in each direction					X				
San Bernardino	Local Highway	APPLE VALLEY	4120095				0	Apple Valley Rd	Ohna	Fatchion	Widen Apple Valley Rd from Ohna to Fatchion from 2 to 2 lanes									1 lane in each direction						X			
San Bernardino	Local Highway	ONTARIO	4A01176				0	Archibald Av	N Ontario	(Los Angeles)	Roadway Widening (new Collect), Bike Installation (High Priority) - Widen 2 to 4 lanes									2 lanes in each direction						X			
San Bernardino	Local Highway	ONTARIO	4A04189				0	Archibald Ave from Fulton Ave to South City Limits from 2 to 6 lanes	Edison Ave	South City Limits	Widen Archibald Ave from Edison Ave to South City Limits from 2 to 6 lanes									3 lane in each direction							X		
San Bernardino	Local Highway	ONTARIO	4A04190				0	Archibald Ave from Riverside Ave to Edison Ave from 2 to 6 lanes	Riverside Ave	Edison Ave	Widen Archibald Ave from Riverside Ave to Edison Ave from 2 to 6 lanes									3 lanes in each direction							X		
San Bernardino	Local Highway	FONTANA	4A07068				0	Arrow Blvd	Alder Ave	Maple Ave	Widen from 2 to 4 lanes									Ex st Config: 1 lane each direction					X				
San Bernardino	Local Highway	FONTANA	4120135				0	Arrow Highway	Alameda	Citrus	Widen Arrow Highway from Alameda Ave to Citrus Ave from 2 to 4 lanes									2 lanes in each direction						X			

County	System	Lead Agency	RTP ID	FTIP ID	Begin PM	End PM	Route Number	Route Name	From	To	Description	Roadway Segment							Transit Segment	Additional Details	RTP Baseline	Network Year (Project Completion By)						
												Route Name	Length	From	To	Description	Existing Lanes	Proposed Lanes	Route			2008	2012	2014	2018	2020	2023	2030	2035
San Bernardino	Local Highway	UPLAND	4A07139				0	Arrow Route	Claremont	Central Ave	Widen Arrow Route from Claremont Ave to Central Ave from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	UPLAND	4A07034				0	Arrow Route	County Line	Central Ave	Widen Arrow Route from County Line to Central Ave from 2 to 4 lanes									Exist Config: 2 lane roadway								X	
San Bernardino	Local Highway	FONTANA	4A07024				0	Arrow Route	Hickory Ave	Foley Ave	Widen Arrow Route from Hickory Ave to Foley Ave from 2 to 4 lanes									2 Lanes in each direction						X			
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120157				0	Arrow Route	Etiwanda Ditch		Widen Arrow Route at Etiwanda Ditch									1 to 2 lanes 2 in each direction				X					
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120163				0	Arrow Route	Grove St to 83	Baker St	Widen Arrow Route from Grove St to Baker St from 2 to 4 lanes									2 in each direction								X	
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120161				0	Arrow Route	South side 3300 ft east of I-15	3300 ft east	Widen Arrow Route from south side 530 ft east of I-15 to 3300 ft east from 2 to 4 lanes									2 in each direction.					X				
San Bernardino	Local Highway	ADELANTO	4120013				0	Aster	Air Expressway	El Mirage Rd	Widen Aster from Air Expressway to El Mirage									Widen from 2 to 4 lanes; 2 in each direction								X	
San Bernardino	Local Highway	ADELANTO	4120014				0	Aster	Colusa	Oleander	Widen Aster from Colusa to Oleander									Widen from 2 to 3 lanes; 2 in each direction								X	
San Bernardino	Local Highway	ADELANTO	4120053				0	Aster	El Mirage Rd	Colusa Rd	Widen Aster from El Mirage to Colusa									Widen from 2 to 4 lanes, 2 in each direction								X	
San Bernardino	Local Highway	ADELANTO	4120012				0	Aster	Palmdale Rd	Air Expressway	Widen Aster from Palmdale to Air Expressway									Widen from 2 to 4 lanes; 2 in each direction								X	
San Bernardino	Local Highway	V CTORVILLE	4A07348				0	Aster Rd	Olivine Rd	Del Rosa Rd	Widen Aster Rd from Olivine Rd to Del Rosa Rd from 0 to 4 lanes									Exist Config: New road						X			
San Bernardino	Local Highway	V CTORVILLE	4A07221				0	Aster Rd	Palmdale Rd	Olivine Rd	Widen Aster Rd from Palmdale Rd to Olivine Rd from 0 to 4 lanes									Exist Config: New road						X			
San Bernardino	Local Highway	ADELANTO	4A04405				0	Aster Rd	Rancho Rd	Air Expressway	New road, 1 lane each dir									Exist Config			X						
San Bernardino	Local Highway	VICTORVILLE	4A07176				0	ASTER ROAD	MOJAVE DR	CACTUS ROAD	Widen from 1 to 2 lanes each dir									Exist Config: Dirt Road						X			
San Bernardino	Local Highway	ADELANTO	4A04400				0	Cuburn/Adelanto	Chamberlaine Way (Crippen Rd)	Jonathon St	Widen from 2 to 4 lanes each dir									Exist Config:						X			
San Bernardino	Local Highway	YUCAIPA	4A07248				0	Ave E	14th St	Bryant St	Widen Ave E from 14th St to Bryant St from 2 lanes to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	YUCAIPA	4A04416				0	Avenue E	8th St	Bryant St	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	3008B	200630	0		0	BAKER			BAKER BLVD. BRIDGE - OVER MOJAVE RIVER, 0.2 MI SW OF DEATH VALLEY RD REPLACE 2 LANE BRIDGE W/ 4 LANE BRIDGE (BRIDGE NO 54C0127)	BAKER BLVD	n/a	150' E/O MOJAVE FLOOD CHANNEL	BRIDGE SPAN	BRIDGE REPLACEMENT	2	4						X			
San Bernardino	Local Highway	VICTORVILLE	4A07265				0	Baldy Mesa Rd	La Mesa Rd	Olivine Rd	Widen Baldy Mesa Rd from La Mesa Rd to Olivine Rd from 0 to 4 lanes									Exist Config: New road						X			
San Bernardino	Local Highway	VICTORVILLE	4A07130				0	Baldy Mesa Rd	Palmdale Rd	La Mesa Rd	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	FONTANA	4A07145				0	Banana Ave	Juniper	Alder ave	Widen Banana Ave from Juniper Ave to Alder ave from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120159				0	Banyan St	Etiwanda	East Ave	Widen Banyan St from Etiwanda to East Ave, north side only 1-2 lanes									2 total lanes on north side				X					
San Bernardino	Local Highway	ADELANTO	4120018				0	Bartlett	Adelanto Rd	US-395	Widen Bartlett from Adelanto to US-395									Widen from 2 to 4 lanes; 2 in each direction						X			
San Bernardino	Local Highway	ADELANTO	4120016				0	Bartlett	Aster	Richardson	Widen Bartlett from Aster to Richardson									Widen from 2 to 4 lanes; 2 in each direction						X			
San Bernardino	Local Highway	ADELANTO	4120017				E	Bartlett	Richardson Rd	Vaughn	Widen Bartlett from Richardson to Vaughn									Widen from 2 to 4 lanes; 2 in each direction						X			
San Bernardino	Local Highway	ADELANTO	4120015				E	Bartlett	US-395	Aster	Widen Bartlett from US-395 to Aster									Widen from 2 to 4 lanes; 2 in each direction						X			
San Bernardino	Local Highway	GRAND TERRACE	4A01139				E	Barton Rd	Honey Hills	At City Limits	Widen from 1 to 2 lanes each dir									Exist Config: one lane in each direction					X				
San Bernardino	Local Highway	GRAND TERRACE	4A01141				E	Barton Rd	I-215	West City Limits	Widen from 1 to 2 lanes each dir									Exist Config: one lane in each direction						X			
San Bernardino	Local Highway	LOMA LINDA	4A07245				E	Barton Rd	Loma Linda City Limits	California St	Widen Barton Rd from Loma Linda City Limits to California St from 4 to 6 lanes									Exist Config: 2 lanes each direction						X			
San Bernardino	Local Highway	[redacted]	4A01066				E	Barton Rd	S City Limits	Waterman Av	Widen from 2 to 3 lanes each dir (note, overlaps RTIP#200004 and SBD/FED22, Reche Cyn to Waterman)									Exist Config: 4 Lane Major Arterial Street				X					
San Bernardino	Local Highway	GRAND TERRACE	4120139				E	Barton Rd	West side of I-215 Overcrossing	East side of I-215 Overcrossing	Widen Barton Rd at I-215 Overcrossing from 2 to 4 lanes									2 lanes in each direction							X		
San Bernardino	Local Highway	R ALTO	4A07121				E	Baseline	West City Limits	Ayala/Cedar	Widen and reconstruct Baseline from West City limits to Ayala Dr from 2 to 4 lanes									Exist Config:								X	
San Bernardino	Local Highway	FONTANA	4A07063				E	Baseline Ave	Mango	Mable	Baseline Ave from Mango Ave to Mable Ave Widen from 2 to 6 lanes									Exist Config: 1 lane each direction				X					
San Bernardino	Local Highway	FONTANA	4A07212				E	Baseline Ave	Citrus	Sierra	Widen Baseline Ave from Citrus Ave to Sierra Ave from 2 to 6 lanes									3 lane in each direction						X			
San Bernardino	Local Highway	R ALTO	4120182				E	Baseline Rd	West to East City limits	East City limits	Widen and reconstruct Baseline Rd from West to East City limits from 4 to 6 lanes									3 in each direction						X			
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120155				E	Baseline Rd	Etiwanda Ave	I-15	Widen Baseline Rd from Etiwanda Av to I-15 from 3 lanes to 4 lanes									2 lanes in each direction							X		
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4A07074				E	Bear Valley Cutoff	Joshua Rd	SR-18	Widen Bear Valley Cutoff from Joshua Rd to SR-18 from 2 to 6 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	V CTORVILLE	4A07491				E	Bear Valley Rd	1270' w/o Topaz Rd	At Power Line Easement	Widen Bear Valley Rd from 1270' w/o Topaz Rd to Power Line Easement from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	V CTORVILLE	4A07355				0	Bear Valley Rd	1920' e/o Topaz Rd	At Power Line Easement	Widen Bear Valley Rd from 1920' e/o Topaz Rd to Power Line Easement									Exist Config:						X			
San Bernardino	Local Highway	APPLE VALLEY	4A01011				0	Bear Valley Rd	Apple Valley Rd	Navajo Rd	Widen from 2 to 3 lanes each dir									Exist Config: 2 lanes each direction							X		
San Bernardino	Local Highway	VICTORVILLE	4A27156				0	Bear Valley Rd	US Hwy 395	Aster Rd (Monte Vista Rd)	Widen Bear Valley from Us Hwy 395 to Aster Rd from 2 lanes to 6 lanes.									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	APPLE VALLEY	4120096				0	Bear Valley Rd	Kiowa	Navajo Rd	Widen Bear Valley Rd from Kiowa Rd to Navajo Rd from 4 to 6 lanes									3 lane in each direction							X		
San Bernardino	Local Highway	APPLE VALLEY	4A27081				0	Bear Valley Rd	Navajo Rd	Joshua Rd	Widen Bear Valley Rd from Navajo Rd to Joshua Rd from 2 to 4 lanes									2 lanes in each direction							X		
San Bernardino	Local Highway	ADELANTO	4120010				0	Beaver	Air Expressway	El Mirage Rd	Widen Beaver from Air Expressway to El Mirage									Widen from 2 to 4 lanes; 2 in each direction								X	
San Bernardino	Local Highway	ADELANTO	4120011				0	Beaver	El Mirage Rd	Colusa Rd	Widen Beaver from Colusa to Oleander									Widen from 2 to 4 lanes; 2 in each direction								X	
San Bernardino	Local Highway	ADELANTO	4120052				0	Beaver	Palmdale Rd	Air Expressway	Widen Beaver from Palmdale to Air Expressway									Widen from 2 to 4 lanes; 2 in each direction								X	
San Bernardino	Local Highway	ADELANTO	4120017				0	Beaver	Vista	Victor	Widen Beaver from Vista to Victor									Widen from 2 to 4 lanes; 2 in each direction								X	
San Bernardino	Local Highway	FONTANA	4A07186				0	Beech	Alder/Citrus	Arrow Route	Widen Beech Ave from Alder/Citrus Ave to Arrow Route from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	FONTANA	4A07164				0	Beech	Randall Av	Arrow Route	Widen Beech Ave from Randall Ave to Arrow Route from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	FONTANA	4A07137				0	Beech	Valley	Randall	Widen Beech Ave from Valley to Randall Ave from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	FONTANA	4A07133				0	Beech Ave	Valley	Foothill	Widen Beech Ave from Valley Ave to Foothill Blvd from 2 to 4 lanes									2 lanes in each direction						X			

County	System	Lead Agency	RTP ID	FTIP ID	Begin PM	End PM	Route Number	Route Name	From	To	Description	Roadway Segment: Route Name	Length	From	To	Description	Existing Lanes	Proposed Lanes	Transit Segment: Route	Additional Details	RTP Baseline	Network Year (Project Completion By): 2008	2012	2014	2018	2023	2030	2035
San Bernardino	Local Highway	FONTANA	4A07046				E	Cherry	Valley	Foothill	Widen Cherry Av from Valley to Foothill Blvd from 4 to 6 lanes									Exist Config: 2 lanes each direction					X			
San Bernardino	Local Highway	FONTANA	4A01089				E	Cherry Av	Juniper Av	Slover Av	Widen from 1 to 3 lanes each dir									Exist Config: 1 lane each direction			X					
San Bernardino	Local Highway	FONTANA	4A04091				E	Cherry Av	Valley Bl	San Bernardino Av	Widen from 2 to 3 lanes each dir									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	FONTANA	4120176				E	Cherry Ave Bridge	Merrill Ave	Whittram Ave	Widen Cherry Ave Bridge from Merrill Ave to Whittram from 4 to 6 lanes									3 lane in each direction					X			
San Bernardino	Local Highway	ONTARIO	4A04194				E	Creto Av	Euclid Av	Mission Bl	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	CHINO	4120105				E	Chino Ave	600' e/o Monte Vista Rd	Sixth St	Widen Chino Ave from 600' e/o Monte Vista Rd to Sixth St from 2 to 4 lanes									1 lane in each direction							X	
San Bernardino	Local Highway	CHINO	4A01029				E	Chino Ave	Central Ave	600' East of Monte Vista	Widen from 1 to 4 lanes each dir									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	CHINO	4A01028				E	Chino Ave	Central Ave	Mountain Ave	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction						X		
San Bernardino	Local Highway	CHINO	4A01052				D	Chino Ave	Fern Av	Euclid Av	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction			X					
San Bernardino	Local Highway	CHINO	4A07205				D	Chino Ave	Mountain	Fern	Widen Chino from Mountain to Fern from 2 to 4 lanes									Exist Config: 1 lane each direction					2			
San Bernardino	Local Highway	CHINO	4A01051				D	Chino Ave	SR-71	East End Ave	Widen from 2 to 3 lanes each dir									Exist Config: 2 lanes each direction								Y
San Bernardino	Local Highway	CHINO	4A01062				D	Chino Hills Pkwy	Ramona	Chino Creek Bridge	Widen Chino Hills Pkwy from Ramona Ave to Chino Creek Bridge from 4 to 6 lanes									3 lane in each direction					Y			
San Bernardino	Local Highway	RANCHO CUCAMONGA	4170165				D	Church Ave	Archibald	Haven	Widen Church Ave from Archibald to Haven from 2 to 4 lanes									2 in each direction							X	
San Bernardino	Local Highway	REDLANDS	4A01358				D	Church St	Colton Av	Redlands Bl	Widen from 3 to 2 lanes each dir (note: RTP#5B050912 widens from Colton to Clark)									Exist Config: 3 lane each direction			X					
San Bernardino	Local Highway	FONTANA	4A04095				D	Citrus Av	San Bernardino Av	Foothill Blvd	Widen from 1 to 2 lanes each dir									Exist Config: 3 lane each direction					X			
San Bernardino	Local Highway	FONTANA	4A01094				D	Citrus Av	San Bernardino Av	Valley Bl	Widen from 1 to 2 lanes each dir									Exist Config: 3 lane each direction					X			
San Bernardino	Local Highway	FONTANA	4A01096				D	Citrus Av	Slover Av	Juniper Av	Widen from 1 to 2 lanes each dir									Exist Config: 3 lane each direction					X			
San Bernardino	Local Highway	FONTANA	4120127				D	Citrus Ave	Baseline Ave	So. Highland Ave	Widen Citrus Ave from Baseline Ave to So. Highland Ave from 2 to 4 lanes									3 lane in each direction					X			
San Bernardino	Local Highway	REDLANDS	4A04242				D	Citrus Ave	Dearborn St	Wabash Ave	Widen Citrus Ave from Dearborn St to Wabash Ave from 2 to 4 lanes									2 in each direction							X	
San Bernardino	Local Highway	VICTORVILLE	4A07351				D	Civic Dr	Mojave Dr	Roy Rodgers Dr	Widen Civic Dr from Mojave Dr to Roy Rodgers Dr from 0 to 4 lanes									Exist Config: New road					X			
San Bernardino	Local Highway	ADELANTO	4120036				D	Colbalt Road	Holly Rd	Rancho	Widen Colbalt Road from Holly to Rancho									Widen from 2 to 4 lanes; 2 in each direction							X	
San Bernardino	Local Highway	REDLANDS	4120173				D	Colton Av	Wabash Av	Crafton Av	Widen Colton Av from Wabash Av to Crafton Av from 2 to 4 lanes									2 in each direction							X	
San Bernardino	Local Highway	COLTON	4120119				D	Colton Ave	Mt. Vernon Ave	City Limits	Widen Colton Ave from Mt. Vernon Ave A to City limit from 2 to 4 lanes									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	ADELANTO	4120088				D	Colusa	Aster	Richardson	Widen Colusa from Aster to Richardson									Widen from 2 to 4 lanes; 2 in each direction								X
San Bernardino	Local Highway	ADELANTO	4120059				D	Colusa	Mesa	Adelanto Rd	Widen Colusa from Mesa to Adelanto									Widen from 2 to 4 lanes; 2 in each direction								X
San Bernardino	Local Highway	ADELANTO	4120087				D	Colusa	Richardson Rd	Caughlin Rd	Widen Colusa from Richardson to Caughlin									Widen from 2 to 4 lanes; 2 in each direction								X
San Bernardino	Local Highway	GRAND TERRACE	4A07035				D	Commerce Way	800 ft. North of De Berry	Pico	Widen Commerce Wy from 800' n/o DeBerry Rd to Pico Av from 2 to 4 lanes									Exist Config: Does not exist				X				
San Bernardino	Local Highway	GRAND TERRACE	4A07027				D	Commerce Wy	900' n/o Pico	Main St	Extend Commerce Wy from 900' n/o Pico to Main St from 0 to 4 lanes									2lanes in each direction					X			
San Bernardino	Local Highway	HIGHLAND	4A07150				D	Cone Camp Rd	Greenspot Rd	South City Limit	Construct new street from 0 to 2 lanes									Exist Config: 0 lanes							X	
San Bernardino	Local Highway	ONTARIO	4A07326				D	Construct a Bridge on Archebald Ave over Lower Deer Creek			Construct a Bridge on Archibald Ave over Lower Deer Creek-Widen 2-6 lanes									2 lanes in each direction							X	
San Bernardino	Local Highway	ONTARIO	4A07327				D	Construct a Bridge on Archebald Ave over Upper Deer Creek			Construct a Bridge on Archibald Ave over Upper Deer Creek-Widen 4-6 lanes									3 lane in each direction							X	
San Bernardino	Local Highway	ONTARIO	4A07328				D	Construct a Bridge on Archebald Ave over Upper Deer Creek Spillway			Construct a Bridge on Archibald Ave over Upper Deer Creek Spillway-Widen 4-6 lanes									3 lane in each direction							X	
San Bernardino	Local Highway	ONTARIO	4A07174				D	Construct a Bridge on Eight St over Cucamonga Creek			Construct a Bridge on Eight St over Cucamonga Creek-Widen 2-4 lanes									1 lane in each direction								X
San Bernardino	Local Highway	ONTARIO	4A07208				D	Construct a Bridge on Francis St over Cucamonga Creek			Construct a Bridge on Francis St over Cucamonga Creek-sidewalks only																X	
San Bernardino	Local Highway	ONTARIO	4A07375				D	Construct a Bridge on Hold Blvd over West Cucamonga Creek			Construct a Bridge on Hold Blvd over West Cucamonga Creek-Widen 2-6 lanes									3 lane in each direction							X	
San Bernardino	Local Highway	ONTARIO	4A07377				D	Construct a Bridge on Hall Ave over West Cucamonga Creek			Construct a Bridge on Hall Ave over West Cucamonga Creek-Widen 4-6 lanes									3 lane in each direction							X	
San Bernardino	Local Highway	ONTARIO	4A07317				D	Construct a Bridge on Mission Blvd over West Cucamonga Creek			Construct a Bridge on Mission Blvd over West Cucamonga Creek-Widen 4-6 lanes									3 lane in each direction							X	
San Bernardino	Local Highway	ONTARIO	4A07315				D	Construct a Bridge on Mission Blvd over West Cucamonga Creek			Construct a Bridge on Mission Blvd over West Cucamonga Creek-Widen 4-6 lanes									3 lane in each direction							X	

County	System	Lead Agency	RTP ID	FTIP ID	Begin PM	End PM	Route Number	Route Name	From	To	Description	Roadway Segment							Transit Segment	Additional Details	RTP Baseline	Network Year (Project Completion By)						
												Route Name	Length	From	To	Description	Existing Lanes	Proposed Lanes	Route			2008	2012	2014	2018	2020	2023	2030	2035
San Bernardino	Local Highway	ONTARIO	4A07267				0	Construct a Bridge on Riverside Dr over Cucamonga Creek			Construct a Bridge on Riverside Dr over Cucamonga Creek-Widen 4-6 lanes									1 lane in each direction								X
San Bernardino	Local Highway	ONTARIO	4A07260				0	Construct a bridge on Sixth St over Cucamonga Creek			Construct a Bridge on Sixth St over Cucamonga Creek-3 dewa Fonly															X			
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120192				0	Construct New bridge at Wilson and Day Creek Channel			Construct new bridge at Wilson and Day Creek Channel									Construct new 4 lane bridge							X	
San Bernardino	Local Highway	APPLE VALLEY	4AC1013				0	Corwin Rd	SR-18	Dale Evans Pkwy	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane in each direction			X					
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07281				0	Cousition	Tippecanoe	Mt. View	Widen Cousitson Av from Tippecanoe to Mt. View from 2 to 4 lanes									Exist Config: 1 lane each direction							X	
San Bernardino	Local Highway	YUCAIPA	4A21870				0	County Line Rd	Calimesa Blvd	Bryant St	Widen County Line Rd from Calimesa Blvd to Bryant St from 2 to 4 lanes									2 in each direction							X	
San Bernardino	Local Highway	FONTANA	4A07414				0	Coyote Cnyn	Saddleback	I-15	Coyote Canyon Rd from Saddleback Rd to I-15 to Widen from 0 to 4 lanes									Exist Config: does not exist					X			
San Bernardino	Local Highway	HIGHLANDS	4120237				0	Crafton Hills Parkway	Wabash	Tennessee	Widen Crafton Hills Parkway from Wabash to Tennessee from 0 to 2 lanes									1 in each direction							X	
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4A27028				0	CRAFTON HILLS PARKWAY	WABASH AVE	OVERCREST/TENNESSEE	Pave dirt road, 1 lane each dir									Exist Config: Dirt Road						X		
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4A07138				0	Crafton Hills Pkwy	Wabash Ave	E/Crafton PUD	Widen Crafton Hills Pkwy from Wabash Ave to E/Crafton PUD from 1 to 2 lanes									Exist Config:								X
San Bernardino	Local Highway	FONTANA	4120228				0	Cypress Ave	Duncan Canyon Rd	Frontage Rd [I-15]	Widen Cypress Ave from Duncan Canyon Rd to Frontage Rd [I-15] from 2 to 4 lanes									1 lane in each direction							X	
San Bernardino	Local Highway	FONTANA	4A04098				0	Cypress Ave	So. Highland Ave	Sierra Lakes Pkwy	Widen Cypress Ave from So. Highland Ave to Sierra Lakes Pkwy from 2 to 4 lanes									2 lanes in each direction							X	
San Bernardino	Local Highway	REDLANDS	4A01241				0	Cypress Ave	I-10	Citrus Av	Widen Cypress Ave from I-10 to Citrus Av from 2 lanes to 4 lanes									2 in each direction							X	
San Bernardino	Local Highway	APPLE VALLEY	4A07002				0	Dale Evans Pkwy	Thunderbird Rd	I-15	Widen Dale Evans Pkwy from Thunderbird Rd to I-15 from 2 lanes to 4 lanes									Exist Config: 1 lane in each direction					X			
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4A07185				0	Daley Canyon at SH 18	In San Bernardino County		Intersection Improvements									At SH-18. Exist Config: 1 intersection to SH 18					X			
San Bernardino	Local Highway	APPLE VALLEY	4A07063				0	Deep Creek Rd	Bear Valley Rd	Sitting Bull Rd	Widen Deep Creek Rd from Bear Valley Rd to Sitting Bull Rd from 0 to 4 lanes									Exist Config: does not currently exist						X		
San Bernardino	Local Highway	APPLE VALLEY	4A07064				0	Deep Creek Rd	Tussing Ranch Rd	Bear Valley Rd	Widen Deep Creek Rd from Tussing Ranch Rd to Bear Valley Rd from 2 to 4 lanes									Exist Config: 1 lane in each direction					X			
San Bernardino	Local Highway	APPLE VALLEY	4A07030				0	Del Oro Rd	Apple Valley Rd	General Rd	Widen Del Oro Rd from Apple Valley Rd to General Rd from 0 lanes to 2 lanes									Exist Config: 2 lanes in parts, mostly not built out					X			
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07232				0	Del Rosa Ave	9th St	9th St	Widen Del Rosa Ave from 9th St to 9th St from 2 to 4 lanes									2 in each direction						X		
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07390				0	Del Rosa Ave	Del Rosa Dr	San Bernardino City limits	Widen: Del Rosa Ave from Del Rosa Dr to San Bernardino City Limits from 2 to 4 lanes									Exist Config: 1 lane each direction						X		
San Bernardino	Local Highway	ADELANTO	4120041				0	Desert Flower	Aster	Caughlin Rd	Widen: Desert Flower from Aster to Caughlin									Widen from 2 to 4 lanes, 2 in each direction						X		
San Bernardino	Local Highway	ADELANTO	4120040				0	Desert Flower	City Limits	Adelanto Rd	Widen: Desert Flower from City Limits to Adelanto									Widen from 2 to 4 lanes, 2 in each direction						X		
San Bernardino	Local Highway	ADELANTO	4120045				0	Desoto	Aguadero	US-395	Widen: Desoto from Aguadero to US-395									Widen from 2 to 4 lanes, 2 in each direction							X	
San Bernardino	Local Highway	ADELANTO	4120044				0	Desoto	Aster	Richardson	Widen: Desoto from Aster to Richardson									Widen from 2 to 4 lanes, 2 in each direction							X	
San Bernardino	Local Highway	ADELANTO	4120043				0	Desoto	Richardson Rd	Vinton	Widen: Desoto from Richardson to Vinton									Widen from 2 to 4 lanes, 2 in each direction							X	
San Bernardino	Local Highway	ADELANTO	4120042				0	Desoto	US-395	Aster	Widen: Desoto from US-395 to Aster									Widen from 2 to 4 lanes; 2 in each direction							X	
San Bernardino	Local Highway	SANBAG	4A07290				0	Devore Rd	Cajon Blvd	n/o I-215 off ramps	Widen: Devore Rd from Cajon Blvd to n/o I-215 off ramps from 2 to 4 lanes									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4A07235				0	Devore Rd	I-215	Kenwood Dr	Widen Devore Rd from I-215 to Kenwood Dr from 2 to 4 lanes									2 in each direction					X			
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4A07200				0	Devore Rd	Kenwood Dr	Foothill Dr.	Widen Devore Rd from Kenwood Dr to Foothill Dr from 2 to 4 lanes									2 in each direction					X			
San Bernardino	Local Highway	VICTORVILLE	4A07028				0	Des Palmas	Pacoima Rd	Borrego Rd	Widen: Des Palmas Rd from Pacoima Rd to Borrego Rd from 2 to 4 lanes									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	VICTORVILLE	4A07220				0	Des Palmas	San Mateo Rd	Pacoima	Widen: Des Palmas Rd from San Mateo Rd to Pacoima Rd from 2 to 4 lanes									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	FONTANA	4A07297				0	Duncan Canyon Rd	.33 m w/o I-15	e/o I-15	Widen: Duncan Canyon Rd from .33 m w/o I-15 to e/o I-15									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	FONTANA	4120229				0	Duncan Canyon Rd	Citrus	Sierra	Widen: Duncan Canyon Rd from Cypress Ave to Sierra Ave from 0 to 4 lanes									2 lanes in each direction							X	
San Bernardino	Local Highway	FONTANA	4120230				0	Duncan Canyon Rd	I-15	Citrus	Widen: Duncan Canyon Rd from I-15 to Citrus Ave from 0 to 4 lanes									2 lanes in each direction							X	
San Bernardino	Local Highway	HESPERIA	4A07257				0	E Avenue	Main St	J Avenue	Widen E Avenue from Main St to J St from 2 to 4 lanes									Exist Config: 1 lane in each direction						X		
San Bernardino	Local Highway	COLTON	4C0156				0	E St	In Colton	BNSF Crossing	Safety Upgrade (Low Option), Safety Upgrade (High Option)									At grade-removing grade crossing will be culdesac				X				
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120162				0	East Ave	Fire Station	Wilson Ave	Widen East Ave from Fire Station to Wilson Ave									Widen from 2 to 4 lanes, 2 in each direction							X	
San Bernardino	Local Highway	CHINO	4A07135				0	East End Ave	Chino Ave	Walnut Ave	Widen East End Ave from Chino Ave to Walnut Ave from 2 to 4 lanes									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	CHINO	4A07144				0	East End Ave	Philadelphia Av	Phillips Blvd	Widen East End Av from Philadelphia Av to Phillips Blvd from 2 to 4 lanes									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	CHINO HILLS	4A07111				0	East End Ave from Phillips Blvd to Grand Ave from 2 to 4 lanes	Phillips Blvd	Grand Ave	Widen: East End Ave from Phillips Blvd to Grand Ave from 2 to 4 lanes									2 lanes in each direction							X	
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120156				0	East St	I-15	VICTORIA AVE.	Widen East St from I-15 to Victoria Ave from 2 to 4 lanes									2 lanes in each direction							X	
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120168				0	East St	Wilson	North Town Way (new)	Widen East St from Wilson to North Town Way (new)									2 lanes in each direction							X	
San Bernardino	Local Highway	CHINO	4A07031				0	Edison Ave	General Ave	End Ave	Widen from 2 to 3 lanes each dir									Exist Config: 2 lanes each direction				X				
San Bernardino	Local Highway	CHINO	4A07083				0	Edison Ave	Pipeline	Ramona	Widen Edison Ave from Pipeline Ave to Ramona Ave from 2 to 4 lanes									2 lane in each direction					X			
San Bernardino	Local Highway	UPLAND	4A04193				0	Edison Ave from Euclid Ave to Walker Ave from 2 to 4 lanes	Euclid Ave	Walker Ave	Widen Edison Ave from Euclid Ave to Walker Ave from 2 to 4 lanes									1 lane in each direction							X	

County	System	Lead Agency	RTP ID	FTIP ID	Begin PM	End PM	Route Number	Route Name	From	To	Description	Roadway Segment							Transit Segment		RTP Baseline	Network Year (Project Completion By)						
												Route Name	Length	From	To	Description	Existing Lanes	Proposed Lanes	Route	Additional Details		2008	2012	2014	2018	2020	2023	2030	2035
San Bernardino	Local Highway	ONTARIO	4A04196				0	Edison Ave from Mill Creek to Milliken Ave from 2 to 8 lanes	Mill Creek	Milliken Ave	Widen Edison Ave from Mill Creek to Milliken Ave from 2 to 8 lanes									4 lanes in each direction total							X	
San Bernardino	Local Highway	ONTARIO	4A04198				0	Edison Ave from Vineyard Ave to Mill Creek from 2 to 8 lanes	Vineyard Ave	Mill Creek	Widen Edison Ave from Vineyard Ave to Mill Creek from 2 to 8 lanes									4 lanes in each direction total							X	
San Bernardino	Local Highway	ONTARIO	4A04199				0	Edison Ave from Walker Ave to Vineyard Ave from 2 to 8 lanes	Walker Ave	Vineyard Ave	Widen Edison Ave from Walker Ave to Vineyard Ave from 2 to 8 lanes									4 lanes in each direction total							X	
San Bernardino	Local Highway	VICTORY LLC	4A07999				0	El Evado	La Brisa Rd	Anacapa Rd	Widen El Evado Rd from Las Brisa Rd to Anacapa Rd from 2 to 4 lanes									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	VICTORY LLC	4A07807				0	El Evado Rd	1390' n/o Keller Rd	Al Power Line Easement	Widen E. Evado Rd from 1,260' n/o Peak Rd to Power Line Easement									Exist Config:					X			
San Bernardino	Local Highway	VICTORY LLC	4A07820				0	El Evado Rd	530' s/o Rancho Rd	Al Power Line Easement	Widen E. Evado Rd from 530' s/o Rancho Rd to Al Power Line Easement from 2 to 4 lanes									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	APPLE VALLEY	4A01270				0	El Mirage Rd	Koala Rd	LA County Line	Widen from 1 to 2 lanes each dir (note: #4A01004 in Adelanto widens from Richardson to US-395 to 4 lanes each dir in 2015)									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	ADELANTO	4A01004				0	El Mirage Rd	Richardson Rd	US-395	Widen from 2 to 4 lanes each dir									Exist Config:				X				
San Bernardino	Local Highway	ADELANTO	4A04408				0	El Mirage Rd	US-395	Adelanto Rd	New road, 2 lanes each dir												X					
San Bernardino	Local Highway	ADELANTO	4120047				0	El Mirage Road	Aguadero	US-395	Widen E. Mirage Road from Aguadero to US-395									Widen from 2 to 4 lanes; 2 in each direction					X			
San Bernardino	Local Highway	ADELANTO	4120046				0	El Mirage Road	US-395	Aster	Widen El Mirage Road from US-395 to Aster									Widen from 2 to 4 lanes; 2 in each direction					X			
San Bernardino	Local Highway	CHINO	4A01263				0	El Prado Rd	Central Av	Pine Ave	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction				X				
San Bernardino	Local Highway	RIALTO	4A07287				0	El Rancho Rd	Cedar Av	Agua Mansa Rd	Widen E. Rancho Rd from Cedar Av to Agua Mansa Rd from 2 to 4 lanes									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07394				0	Electric Ave	Mt. View	Northpark Blvd	Widen Electric Ave from Mt View Ave to Northpark Blvd from 2 to 4 lanes									Exist Config: 2 lane each direction						X		
San Bernardino	Local Highway	ADELANTO	4120048				0	Emerald	Holly Rd	Air Expressway	Widen Emerald from Holly to Air Expressway									Widen from 2 to 4 lanes, 2 in each direction						X		
San Bernardino	Local Highway	VICTORVILLE	4A07409				0	Emerald Rd	Palmdale Rd	Seneca Rd	Widen Emerald Rd from Palmdale Rd to Seneca Rd from 2 to 4 lanes									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	HESPERIA	4A01149				0	Escondido Av	Main St	Sultana St	Widen from 2 to 3 lanes each dir									Exist Config: 1 lane in each direction				X				
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120152				0	Etiwanda Ave	Miller	630' n/o Miller	Widen Etiwanda Ave from 4th ter to 630' n/o Miller; east side only									2 lanes in each direction						X		
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120169				0	Etiwanda Ave	6th	Arrow Route	Widen Etiwanda Ave from 6th to Arrow Route from 2 to 4 lanes									2 in each direction				X				
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120164				0	Etiwanda Ave	Banyan	Wilson Ave	Widen Etiwanda Ave from Banyan to Wilson									Widen from 2 to 4 lanes, 2 in each direction						X		
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120149				0	Etiwanda Ave	existing terminus	North Rim Way (new)	Widen Etiwanda Ave from existing terminus to North Rim Wy (new)									2 lanes in each direction						X		
San Bernardino	Local Highway	ONTARIO	4A06200				0	Eucalyptus Ave from Euclid Ave to Walker from 2 to 4 lanes	Euclid Ave	Walker	Widen Eucalyptus Ave from Euclid Ave to Walker from 2 to 4 lanes									2 lane in each direction								X
San Bernardino	Local Highway	VICTORVILLE	4A07249				0	Eucalyptus St	Amargosa Rd	Amethyst Rd	Widen Eucalyptus St from Amargosa Rd to Amethyst Rd from 0 to 6 lanes									Exist Config: New road					X			
San Bernardino	Local Highway	HESPERIA	4A01151				0	Eucalyptus St	I-15	Fresh Av	Widen from 1 to 2 lanes each dir									Exist Config: Roadway exists in certain locations						X		
San Bernardino	Local Highway	VICTORVILLE	4A07286				0	Eucalyptus St	Mesa View Dr	Bellflower Rd	Widen Eucalyptus St from Mesa View Dr. to Bellflower Rd from 0 to 4 lanes (Victorville section only)									Exist Config: New road					X			
San Bernardino	Local Highway	VICTORVILLE	4A07287				0	Eucalyptus St	US-395	Mesa View Dr.	Widen Eucalyptus St from US 395 to Mesa View Dr. from 0 to 4 lanes									Exist Config: New road					X			
San Bernardino	Local Highway	VICTORVILLE	4120224				0	Eucalyptus St	Amethyst	0.15 mi w/o Cobalt Rd	Widen Eucalyptus St from Amethyst Rd to 0.15 mi w/o Cobalt Rd from 0 to 4 lanes (includes wash crossing)									2 in each direction					X			
San Bernardino	Local Highway	CHINO	4120106				0	Euclid Ave (SR-83)	Merrill Ave	Kimball Av	Widen Euclid Ave (SR 83) from Merrill Ave to Kimball Ave from 2 to 4 lanes									1 lane in each direction						X		
San Bernardino	Local Highway	CHINO	4A04035				0	Euclid Av	Kimball	Pine	Widen from 2 to 4 lanes each dir									Exist Config: 2 lanes each direction					X			
San Bernardino	Local Highway	CHINO	4A04036				0	Euclid Av	Pine	SR71	Widen from 4 to 8 lanes each dir									Exist Config: 3 lane each direction								X
San Bernardino	Local Highway	ONTARIO	4A04201				0	Euclid Ave from Riverside Dr to Merrill Ave (east half) from 2 to 4 lanes	Riverside Dr	Merrill Ave	Widen Euclid Ave from Riverside Dr to Merrill Ave (east half) from 2 to 4 lanes									2 lane in each direction								X
San Bernardino	Local Highway	LOMA LINDA	4120144				0	Evans St.	I-10	Barton Rd	Widen Evans St from I-10 to Barton Rd from 0 to 4 lanes									2 lanes in each direction						X		
San Bernardino	Local Highway	[illegible]	4A04067				0	Fairway Dr	Sperry Dr	City limits	Widen from 2 to 4 lanes each dir									Exist Config: 2 lane Secondary Arterial Street				X				
San Bernardino	Local Highway	APPLE VALLEY	4A07361				0	Falchion Rd	Dale Evans	Navajo	Widen Falchion Rd from Dale Evans Pkwy to Navajo Rd from 0 to 6 lanes									Exist Config: not built yet				X				
San Bernardino	Local Highway	APPLE VALLEY	4A07006				0	Falchion Rd	I-15	Dale Evans Pkwy	Widen Falchion Rd from I-15 to Dale Evans Pkwy from 0 to 4 lanes									Exist Config: not built yet				X				
San Bernardino	Local Highway	REDLANDS	4A01262A				0	Fifth Av	Wabash Av	Crafton Av	Widen Fifth Av from Wabash Av to Crafton Av from 2 to 4 lanes									2 lane each direction						Y		
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07230				0	Fifth St	Pedley Rd	Tippecanoe Av	Widen Fifth St from Pedley Rd to Tippecanoe Ave from 2 to 4 lanes									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07330				0	Fifth St	Waterman Ave	Pedley Rd	Widen Fifth St from Waterman Ave to Pedley Rd from 2 to 4 lanes									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	REDLANDS	4A07382				0	Florida St	Greenspot Rd	Garnet St	Widen Florida St from Greenspot Rd to Garnet St from 2 to 4 lanes									2 in each direction							X	
San Bernardino	Local Highway	FONTANA	4A04101				0	Fontana Av	Valley Bl Poplar	Merrill	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction						A		
San Bernardino	Local Highway	FONTANA	4120111				0	Fontana Ave	Riverside Freeway (I-10)	Juniper Ave	Widen from 1 lane Ave from Valley Blvd to Juniper Ave from 2 to 4 lanes									2 in each direction						X		
San Bernardino	Local Highway	FONTANA	4A07416				0	Fontana Ave	Valley	Poplar	Widen Fontana Ave from Valley Blvd to Poplar Ave from 2 to 4 lanes									Exist Config: 1 lane each direction						X		
San Bernardino	Local Highway	FONTANA	4A04102				0	Foothill Bl	Hemlock	Almeria	Widen from 2 to 3 lanes each dir									Exist Config: 2 lanes each direction							B	
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120146				0	Foothill Bl	Vineyard	Archibald Ave	Widen Foothill Blvd from Vineyard to Archibald Ave from 4 to 6 lanes									3 lanes each direction							X	
San Bernardino	Local Highway	FONTANA	4120147				0	Foothill Blvd	East Ave	Cherry Ave	Widen Foothill Blvd from East Ave to Cherry Ave from 2 to 3 lanes on southwest side									1 lane eastbound							X	
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120186				0	Foothill Blvd	Archibald to Haven	Haven	Widen Foothill Blvd from Archibald to Haven (4 to 6 lanes)									3 in each direction							X	
San Bernardino	Local Highway	REDLANDS	4A01241				0	Ford St	5th Ave	I-10	Widen ramp in from 5th Ave to I-10 from 2 lanes to 4 lanes									2 in each direction							X	

County	System	Lead Agency	RTP ID	FTIP ID	Begin PM	End PM	Route Number	Route Name	From	To	Description	Roadway Segment: Route Name	Length	From	To	Description	Existing Lanes	Proposed Lanes	Transit Segment: Route	Additional Details	RTP Baseline	Network Year (Project Completion By): 2008	2012	2014	2018	2020	2023	2030	2035
San Bernardino	Local Highway	CHINO	4AD3223				0	Francis Av	LA County Line	Chino City Limit	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction					X				
San Bernardino	Local Highway	CHINO	4120100				0	Francis Ave	600' e/o Snyder	Benson Av	Widen Francis Ave from 600' e/o Snyder to Benson Ave from 2 to 4 lanes									2 lanes in each direction					X				
San Bernardino	Local Highway	CHINO	4120099				0	Francis Ave	WCL	600 e/o Concord Ct	Widen Francis Ave from WCL to 600' e/o Concord Ct from 2 to 4 lanes (S. Side Only)									2 extra lanes on South side only					X				
San Bernardino	Local Highway	CHINO	4AD3272				0	Francis Ave	0.11 m w/o east End	0.11 e/o Telephone Ave	Widen Francis Ave from .11 m w/o East end to .11 m e/o Telephone Ave from 2 to 4 lanes									2 lanes in each direction					X				
San Bernardino	Local Highway	ONTARIO	4AD3226				0	Francis St	Benson Av	Campus Av	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction					X				
San Bernardino	Local Highway	ONTARIO	4AD3227				0	Francis St			Construct a Bridge on Francis St over West Cucamonga Creek									Exist Config: No crossing					X				
San Bernardino	Local Highway	FONTANA	4AD3358				0	Frontage Rd (I-15)	Duncan Canyon Rd	Riverside Av	New road, 2 lanes each dir									Exist Config: Does not exist					X				
San Bernardino	Local Highway	REDLANDS	4AD7352				0	Garnet St	.06 m s/o Mentone Av	Mentone Av	Widen Garnet St from .06 m s/o Mentone Av to Mentone Av from 2 to 4 lanes									2 in each direction									X
San Bernardino	Local Highway	REDLANDS	4AD7370				0	Garnet St	Mentone Av	SR 38	Widen Garnet St from Mentone Av to SR 38 from 2 to 4 lanes									2 in each direction									X
San Bernardino	Local Highway	REDLANDS	4AD7369				0	Garnet St	Newport Av	Florida St	Widen Garnet St from Newport Av to Florida St from 2 to 4 lanes									2 in each direction									X
San Bernardino	Local Highway	REDLANDS	4AD7314				0	Garnet St	SR-38	Newport Ave	Widen Garnet St from SR-38 to Newport Ave from 2 to 4 lanes									2 in each direction									X
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4AD7127				0	Glen Helen Pkwy	Glen Helen Pkwy	NW/End	Widen Glen Helen Rd from Glen Helen Pkwy to NW/END from 2 to 4 lanes									2 in each direction							X		
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4CD316				0	Glen Helen Pkwy	In San Bernardino County	(Major)	Roadway Widening (Low Option), Grade Separation (High Option)														X				
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4AD7018				0	Glen Helen Pkwy	Lytle Creek Rd	Kelly/Cajon	Widen Glen Helen Pkwy from Lytle Creek to Kelly/Cajon Blvd from 2 to 4 lanes									2 in each direction							X		
San Bernardino	Local Highway	CHINO	4AD7344				0	Grand Ave	East End Rd	Ramona Ave	Widen Grand Ave from East End Rd to Ramona Ave from 2 to 4 lanes									Exist Config: 1 lane each direction					X				
San Bernardino	Local Highway	VICTORVILLE	4AD7031				0	Green Tree Blvd	Hesperia Rd	Ridgecrest Rd	At ATSF ramp/ Railroad Construct 4-lane bridge; widen Green Tree Blvd to 4 lanes									Exist Config: New road					X				
San Bernardino	Local Highway	HIGHLAND	4AD1373				0	Greenspot Rd	Gold Thumb	Santa Ana River	Widen from 2 to 4 lanes (FAY CANYON BRIDGE)									Exist Config: 2 lanes					X				
San Bernardino	Local Highway	HIGHLAND	4AD7044				0	Greenspot Rd	Orange St	BOULDER	Widen from 4 to 6 lanes									Exist Config: Configured 4 lanes					X				
San Bernardino	Local Highway	REDLANDS	4AD7395				0	Greenspot Rd	.79 m n/o Florida St	Florida St	Widen Greenspot Rd from .79 m n/o Florida St to Florida St from 2 to 4 lanes									2 in each direction									X
San Bernardino	Local Highway	HIGHLAND	4AD7019				0	Greenspot Rd Bypass	Santa Ana River	Bryant	Construct new street, Greenspot Rd to connect to Bryant from 0 to 2 lanes w/the City Limit									Exist Config: No lanes					X				
San Bernardino	Local Highway	ONTARIO	4AD4202				0	Grove Av	Airport Dr	Holt Blvd	Widen existing grade separation from 2 to 3 lanes each dir									Exist Config: 2 lanes each direction					X				
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120190				0	Grove Ave	8th	Tapia Via	Widen Grove Ave from 8th To Tapia Via (east side) from 1 to 2 lanes									3 lanes total - 1 on east side only							X		
San Bernardino	Local Highway	ONTARIO	4AD4206				0	Grove Ave from Riverside Dr to Merrill Ave from 2 to 4 lanes	Riverside Dr	Merrill Ave	Widen Grove Ave from Riverside Dr to Merrill Ave from 2 to 4 lanes									2 lane in each direction									X
San Bernardino	Local Highway	ONTARIO	4120146				0	Grove Ave from s/o 4th St to 350' n/o Holt Blvd from 4 to 6 lanes	s/o 4th St	350' n/o Holt Blvd	Widen Grove Ave from s/o 4th St to 350' n/o Holt Blvd from 4 to 6 lanes									3 lanes in each direction									X
San Bernardino	Local Highway	COLTON	4GC157				0	H St	In Colton	BNSF Crossing	Safety Upgrade (Low Option), Safety Upgrade (High Option)									At grade removing grade crossing will be cul de sac				X					
San Bernardino	Local Highway	ONTARIO	4AD4208				0	Haven Ave from Riverside Dr to Bellegrave Ave from 2 to 4 lanes	Riverside Dr	Bellegrave Ave	Widen Haven Ave from Riverside Dr to Bellegrave Ave from 2 to 4 lanes									2 lane in each direction									X
San Bernardino	Local Highway	ADELANTO	4120049				0	Helendale	Desert Flower	Oliander	Widen Helendale from Desert Flower to Oliander									Widen from 2 to 4 lanes; 2 in each direction							X		
San Bernardino	Local Highway	CHINO	4AD4088				0	Hellman Ave	Kimball	Chino Corona Rd	Widen from 1 to 2 lanes each dir									Exist Config: Most of the road does not exist.				X					
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120198				0	Hellman	Cucamonga Creek Channel		Widen Hellman at Cucamonga Creek Channel (50%RC, 50% Ontario)									2 to 3 lanes 2 in each direction							X		
San Bernardino	Local Highway	HESPERIA	4AD1457				0	Hesperia Rd	Bear Valley	Yucca St	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane in each direction				X					
San Bernardino	Local Highway	HESPERIA	4AD7205				0	Hesperia Rd	Walnut	Sultana	Widen Hesperia Rd from Walnut to Sultana from 2 to 4 lanes									Exist Config: 1 lane in each direction							X		
San Bernardino	Local Highway	HESPERIA	4AD7219				0	Hesperia Rd	Yucca St.	Walnut Ave	Widen Hesperia Rd from Yucca to Walnut from 2 to 4 lanes									Exist Config: 1 lane each direction							X		
San Bernardino	Local Highway	REDLANDS	4AD7261				0	Highland Av	Cajon St	Redlands Bl	Widen Highland from Cajon to Redlands Bl from 2 to 4 lanes									Exist Config: 1 lane each direction									X
San Bernardino	Local Highway	REDLANDS	4AD1244				0	Highland Av	Redlands Bl	Ford St	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction							X		
San Bernardino	Local Highway	HIGHLAND	4AD7336				0	Highland Ave	Church St	Boulder Ave	Widen Highland Ave from Church St to Boulder Ave from 2 to 4 lanes									Exist Config: 2 lanes				X					
San Bernardino	Local Highway	ADELANTO	4120051				0	Holly Road	Amethyst	US-395	Widen Holly Road from Amethyst to US-395									Widen from 2 to 4 lanes; 2 in each direction						X			
San Bernardino	Local Highway	ADELANTO	4120050				0	Holly Road	Aster	Richardson	Widen Holly Road from Aster to Richardson									Widen from 2 to 4 lanes; 2 in each direction						X			
San Bernardino	Local Highway	ADELANTO	4120052				0	Holly Road	Richardson Rd	Lessing	Widen Holly Road from Richardson to Lessing									Widen from 2 to 4 lanes; 2 in each direction						X			
San Bernardino	Local Highway	ADELANTO	4120053				0	Holly Road	US-395	Aster	Widen Holly Road from US-395 to Aster									Widen from 2 to 4 lanes; 2 in each direction						X			
San Bernardino	Local Highway	ONTARIO	4AD7035				0	Holt Blvd			Construct a Bridge on Holt Blvd over West Cucamonga Creek									Exist Config: No crossing				X					
San Bernardino	Local Highway	VICTORVILLE	4AD3325				0	Hook Bl	US-395	Amethyst Rd	Widen Hook from US 395 to 0.4 miles west of Amethyst Rd to 4 lanes									Exist Config: New road					X				
San Bernardino	Local Highway	VICTORVILLE	4AD7153				0	Hook Blvd	1680' s/o Amethyst Rd	At Power Line Easement	Widen Hook Blvd from 1680' s/o Amethyst Rd to At Power Line Easement from 0 to 4 lanes									Exist Config: New road					X				
San Bernardino	Local Highway	VICTORVILLE	4AD7389				0	Hook Blvd	1670' s/o US 395	At Power Line Easement	Widen Hook Blvd from 1670' s/o US 395 to At Power Line Easement from 0 to 4 lanes									Exist Config: New road					X				
San Bernardino	Local Highway	VICTORVILLE	4AD7387				0	Hopland St	Just w/o Amethyst Rd	At Power Line Easement	Widen Hopland St from Just w/o Amethyst Rd to At Power Line Easement from 2 to 4 lanes									Exist Config: 2 lane each direction					X				
San Bernardino	Local Highway	VICTORVILLE	4AD7329				0	Hopland St	US-395	Cobalt Rd	Widen Hopland St from US 395 to Cobalt Rd from 2 to 4 lanes (Victorville portion only)									Exist Config: New road					X				
San Bernardino	Local Highway	ONTARIO	4AD3213				0	Inland Empire Bl	Vineyard Av	Archibald Av	Widen from 4 to 6 lanes each dir									Exist Config: 4 lanes each direction				X					
San Bernardino	Local Highway	FONTANA	4AD3237				0	Juniper Av	Fitzgerald Av	Live Oak St.	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction									
San Bernardino	Local Highway	FONTANA	4AD2105				0	Juniper Av	Juniper Ave	Cedar Ave	Widen Juniper Ave from Juniper Ave to Cedar Ave from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	RIALTO	4AD3111				0	Jurupa Ave	Cedar Ave	Lilac Ave	Widen Jurupa Ave from Cedar Ave to Lilac Ave from 2 to 4 lanes									2 in each direction							X		

												Roadway Segment							Transit Segment		RTP Baseline	Network Year (Project Completion By)						
County	System	Lead Agency	RTP ID	FTIP ID	Regn PM	Fnd PM	Route Number	Route Name	From	To	Description	Route Name	Length	From	To	Description	Existing Lanes	Proposed Lanes	Route	Additional Details		2005	2012	2014	2019	2020	2023	2030	2035
San Bernardino	Local Highway	FONTANA	4A07299				0	Juniper Ave	Lilac Ave	Willow Ave	Widen Juniper Ave from Lilac Ave to Willow Ave from 2 to 4 lanes										Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	FONTANA	4A07250				0	Juniper Ave	Tamarind Ave	Alder Ave	Widen Juniper Ave from Tamarind Ave to Alder Ave from 2 to 6 lanes										3 in each direction							X		
San Bernardino	Local Highway	ONTARIO	4AC1211				0	Juniper St	Turner Av	Archibald Av	Widen Juniper St from Turner Ave to Archibald Ave from 2 to 6 lanes										3 lane in each direction					X				
San Bernardino	Local Highway	[redacted]	4AC1068				0	Kendall Service	Sac St	Str St	Widen to 1 lane each dir										Exist Config: 2 lane Local Street			X						
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07389				0	Kendall Dr	Cambridge	Campus Pkwy	Widen Kendall Dr from Cambridge Ave to Campus Pkwy from 2 to 4 lanes										Exist Config: 2 lanes each direction with 2-way left turn lane							X		
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07386				0	Kendall Dr	Cambridge Ave	Pine Ave	Widen Kendall Dr from Cambridge Ave to Pine Ave from 2 to 4 lanes										2 in each direction						X			
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07060				0	Kendall Dr	Palm Ave	Cajon Blvd	Widen Kendall Dr from Palm Ave to Cajon Blvd from 2 to 4 lanes										Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	CHINO	4A07052				0	Kimball	Euclid	Hellman	Widen Kimball from Euclid to Hellman from 4 to 6 lanes										Exist Config: 1 lane each direction					X				
San Bernardino	Local Highway	APPLE VALLEY	4A07040				0	Kiowa Rd	Ocotillo Rd	Bear Valley Rd	Widen Kiowa Rd from Ocotillo Rd to Bear Valley Rd from 2 to 4 lanes										Exist Config: 1 lane in each direction							X		
San Bernardino	Local Highway	APPLE VALLEY	4A0A017				0	Kiowa Rd	Yucca Loma Rd	Bear Valley Rd	Widen from 1 to 2 lanes each dir										Exist Config: 1 lane in each direction			X						
San Bernardino	Local Highway	ADELANTO	4120055				0	Koala	Air Expressway	E. Mirage Rd	Widen Koala from Air Expressway to El Mirage										Widen from 2 to 4 lanes; 2 in each direction							X		
San Bernardino	Local Highway	ADELANTO	4120054				0	Koala	Cactus	Air Expressway	Widen Koala from Cactus to Air Expressway										Widen from 2 to 4 lanes; 2 in each direction							X		
San Bernardino	Local Highway	ADELANTO	4120058				0	Koala	Colusa	Oleander	Widen Koala from Colusa to Oleander										Widen from 2 to 4 lanes; 2 in each direction							X		
San Bernardino	Local Highway	ADELANTO	4120057				0	Koala	El Mirage Rd	Colusa Rd	Widen Koala from El Mirage to Colusa										Widen from 2 to 4 lanes; 2 in each direction							X		
San Bernardino	Local Highway	ADELANTO	4120056				0	Koala	Palmdale Rd	Villa	Widen Koala from Palmdale to Villa										Widen from 2 to 4 lanes; 2 in each direction							X		
San Bernardino	Local Highway	ADELANTO	4A04411				0	Koala Rd	El Mirage Rd	Oro Ato Rd	New road, 1 lane each dir										Exist Config:							X		
San Bernardino	Local Highway	ADELANTO	4A04410				0	Koala Rd	Holly Rd	E. Mirage Rd	Widen from 2 to 4 lanes each dir										Exist Config:							X		
San Bernardino	Local Highway	ADELANTO	4A03409				0	Koala Rd	Palmdale Rd	Holly Rd	New road, 2 lanes each dir										Exist Config:							X		
San Bernardino	Local Highway	COLTON [redacted]	4A01069				0	La Cadena Dr	Ranch o Av	South City Limits	Widen from 4 to 6 lanes each dir										Exist Config: 4 Lane Major Arterial Street						X			
San Bernardino	Local Highway	COLTON [redacted]	4120114				0	La Cadena Dr	Palm Ave	Iowa Ave	Widen La Cadena Dr from Palm Ave to Iowa Ave from 4 to 6 lanes										3 lane in each direction							X		
San Bernardino	Local Highway	COLTON [redacted]	4120115				0	La Cadena Dr	Rancho Ave	Litton Ave	Widen La Cadena Dr from Rancho Av to Litton Ave from 4 lanes to 6 lanes										3 lane in each direction							X		
San Bernardino	Local Highway	VICTORVILLE	4A07382				0	La Mesa Rd	2010' e/o Topaz Rd	At Power Line Easement	Widen La Mesa Rd from 2010' e/o Topaz Rd to At Power Line Easement from C to 4 lanes										Exist Config: New road						X			
San Bernardino	Local Highway	VICTORVILLE	4A07092				0	La Mesa Rd	Bailey Mesa	Cantina	Widen La Mesa Rd from Bailey Mesa to Cantina Dr from D lanes to 4 lanes										Exist Config: New road						X			
San Bernardino	Local Highway	VICTORVILLE	4A07224				0	La Mesa Rd	Caughlin Rd	White Rd	Widen La Mesa Rd from Caughlin Rd to White Rd from 0 to 4 lanes										Exist Config: New road						X			
San Bernardino	Local Highway	VICTORVILLE	4A07288				0	La Mesa Rd	White Rd	Bailey Mesa Rd	Widen La Mesa Rd from White Rd to Bailey Mesa Rd from 2 to 4 lanes (Victorville portion only)										Exist Config: New road						X			
San Bernardino	Local Highway	HIGHLAND	4A07331				0	Lankershim Av	600' A/o Base Line	1300' n/o 9th St	New Road Construction										Exist Config: Does Not Exist - Post Construction: 2 lane road, 1 lane each direction.						X			
San Bernardino	Local Highway	TWENTYNINE PALMS	4A01293				0	Lear Ave/Larfer Rd	Pioneer Rd	MCAS	New road, 2 lanes each dir										Exist Config: No Road there currently			X						
San Bernardino	Local Highway	HESPERIA	4A03355				0	Lemon St	Mojave Loo	Mojave River	widen from 1 to 2 lanes each dir										Exist Config: 1 lane in each direction							X		
San Bernardino	Local Highway	BARSTOW	4A2803				0	LENWOOD RD	470' FEET NORTH OF BNSF RR	660 FEET SOUTH OF BNSF RR	WIDEN FROM 4 LANES TO 6 LANES &#4233 EA 0 RE#43,										Note: widening to 4 lanes complete by 2017 under RTP# 20C627					X				
San Bernardino	Local Highway	ADELANTO	4120059				0	Lessing	Holly Rd	Bartlett Rd	Widen Lessing from Holly to Bartlett										Widen from 2 to 4 lanes; 2 in each direction						X			
San Bernardino	Local Highway	RIALTO	4120184				0	Linden Ave	Base line	Easton Ave	Widen Linden Ave from Baseline to Easton Ave from 2 to 4 lanes										2 in each direction						X			
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07377				0	Little League Dr	I-215 Frontage Rd	Belmont Ave	Widen Little League Dr from I-215 Frontage Rd to Belmont Ave (including culvert) from 2 to 4 lanes										Exist Config: 1 lane each direction							X		
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07140				0	Little League Dr	Palm Ave	I-215 Frontage Rd	Widen Little League Dr from Palm Ave to I-215 Frontage Rd from 2 to 4 lanes										Exist Config: 1 lane each direction							X		
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07308				0	Little Mountain Dr	Devil Creek Channel	48th St	Widen Little Mountain Dr from Devil Creek Channel to 48th St from 2 to 4 lanes										Exist Config: 2 lanes each direction							X		
San Bernardino	Local Highway	FONTANA	4120133				0	Live Oak	Juniper Ave	Slover Ave	Widen Live Oak Ave from Juniper Ave to Slover Ave from 2 to 4 lanes										2 in each direction							X		
San Bernardino	Local Highway	FONTANA	4A07187				0	Live Oak Ave	Arrow Route	Foothill	Widen Live Oak Ave from Arrow Route to Foothill from 2 to 4 lanes										Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	YUCAIPA	4A01371				0	Live Oak Cyn Rd	West City Limit	I-10	Widen from 1 to 2 lanes each dir										Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	REDLANDS	4A01245				0	Live Oak Cyn Rd	San Timoteo Cyn Rd	E. City Limits	Widen Live Oak Cyn Rd from San Timoteo Cyn Rd to E. City Limits from 2 to 4 lanes										2 in each direction						X			
San Bernardino	Local Highway	FONTANA	4A04110				0	Live Oak Rd	Valley Bl	Merrill	Widen from 1 to 2 lanes each dir										Exist Config: 1 lane each direction					X				
San Bernardino	Local Highway	RIALTO	4120185				0	Locust Ave	Baseline	Easton Ave	Widen Locust Ave from Baseline to Easton Ave from 0 to 4 lanes										2 in each direction						X			
San Bernardino	Local Highway	FONTANA	4A07183				0	Locust Ave	Juniper Ave	Santa Ana Ave	Widen Locust Ave from Juniper Ave to Santa Ana Ave from 2 to 4 lanes										2 in each direction								X	
San Bernardino	Local Highway	RIALTO	4A07188				0	Locust Ave	San Bernardino Ave	Randall Ave	Widen Locust Ave from San Bernardino Ave to Randall Ave from 2 to 4 lanes										2 in each direction								X	
San Bernardino	Local Highway	RIALTO	4A07189				0	Locust Ave	Santa Ana Ave	Slover Ave	Widen Locust Ave from Santa Ana Ave to Slover Ave from 2 to 4 lanes										2 in each direction								X	
San Bernardino	Local Highway	FONTANA	4A07315				0	Locust Ave	Seventh St	Eleventh St	Widen Locust Ave from Seventh St to Eleventh St from 2 to 4 lanes										Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	FONTANA	4A07189				0	Locust Ave	Valley Blvd	San Bernardino Ave	Widen Locust Ave from Valley Blvd to San Bernardino Ave from 2 to 4 lanes										Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	REDLANDS	4A07255				0	Lugonia Ave	Alabama St	Tennessee St	Widen Lugonia Ave from Alabama St to Tennessee St from 2 to 4 lanes										Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	REDLANDS	4A07229				0	Lugonia Ave	California	Alabama	Widen Lugonia Ave from California St to Alabama St from 2 to 4 lanes										Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	REDLANDS	4120174				0	Lugonia Ave	Orange St	Wabash Ave	Widen Lugonia Ave from Orange St to Wabash Ave from 2 to 4 lanes										2 in each direction						X			
San Bernardino	Local Highway	REDLANDS	4A01248				0	Lugonia Ave	Tennessee St	Orange St	Widen Lugonia Ave from Tennessee St to Orange St from 2 to 4 lanes										2 in each direction						X			
San Bernardino	Local Highway	FONTANA	4A07045				0	Lytle Creek	Summit Ave	Duncan Ave	Widen Lytle Creek from Summit Ave to Duncan Ave from 0 to 4 lanes										2 in each direction							X		
San Bernardino	Local Highway	HESPERIA	4A03359				0	Main St	11th St	7th St	Widen Main St from 11th St to 7th St from 4 to 6 lanes										Exist Config: 2 lane in each direction									X
San Bernardino	Local Highway	HESPERIA	4A01158				0	Main St	I-15	Escondido Av	Widen from 2 to 3 lane each dir										Exist Config: 2 lane in each direction					X				
San Bernardino	Local Highway	HESPERIA	4A01157				0	Main St	I-15	US Hwy 395	Widen from 2 to 3 lanes each dir										Exist Config: 2 lane in each direction						X			
San Bernardino	Local Highway	GRAND TERRACE	4G04027				0	Main St	La Grand Terrace	Main St (San Bernardino)	Grade Separation at Main St in Grand Terrace on the San Bernardino Line										Widen from 4 to 4 lanes							X		
San Bernardino	Local Highway	GRAND TERRACE	4A07356				0	Main St (to be d	SCRR	I-215	Widen Main St to be 3 lanes from SCRR to I-215 from 2 to 3 lanes										Exist Config: one lane in each direction				X					
San Bernardino	Local Highway	GRAND TERRACE	2B0609	20B609	0	0	0	MAIN STREET			MAIN STREET WIDENING - FROM 1/2 WEST 12TH STREET/TERRACE WIDENING FROM 2 LANES IN THE E/B & W/B DIRECTION TO 3 LANES IN THE E/B & W/B DIRECTION (BRIDGE WIDENING AND APPROACHES) OF ABOUT 300' IN EACH DIRECTION	Main St	n/a	BNSF	WEST CITY LIMITS	WIDENING FROM 1-2 LANES IN THE E/B & W/B DIRECTION TO 3 LANES IN THE E/B & W/B DIRECTION (BRIDGE WIDENING AND APPROACHES) OF ABOUT 300' IN EACH DIRECTION	3	2								
San Bernardino	Local Highway	HESPERIA	4A01155				0	Maple Ave	Cornerstone Av	Main St	Widen from 1 to 2 lanes each dir										Exist Config: 1 lane in each direction							X		

												Roadway Segment							Transit Segment		RTP Baseline	Network Year (Project Completion By)						
County	System	Lead Agency	RTP ID	FTIP ID	Begin PM	End PM	Route Number	Route Name	From	To	Description	Route Name	Length	From	To	Description	Existing Lanes	Proposed Lanes	Route	Additional Details		2008	2012	2014	2016	2020	2027	2030	2035
San Bernardino	Local Highway	HESPERIA	4ADD090				0	Mariposa	Eucalyptus	Bear Valley Rd	Widen Mariposa from Eucalyptus to Bear Valley Rd from 2 to 4 lanes										Exist Config: 1 lane in each direction							X	
San Bernardino	Local Highway	VICTORVILLE	4207130				0	Mariposa Rd	Palmdale Rd	Yates Rd	Widen Mariposa Rd from E/O Palmdale Rd to Yates Rd										Exist Config:						X		
San Bernardino	Local Highway	HESPERIA	4ADD89				0	Main St E/O	3rd Ave	I Ave	Grade Separation-Adding Lanes from 0-4										Exist Config: Main Street crossing at this location							X	
San Bernardino	Local Highway	HESPERIA	4203161				0	Main St E/O	7th Av	Lemon St	New road, 2 lanes each dir										Exist Config: No roadway exists								X
San Bernardino	Local Highway	HESPERIA	4AD1162				0	Main St E/O	Maple Av	7th Av	widen from 1 to 2 lanes each dir										Exist Config: 1 lane in each direction								X
San Bernardino	Local Highway	RIALTO	4AD7120				0	Merrill	West City Limits	Riverside	Widen Merrill Ave from West City Limits to Riverside from 2 to 4 lanes										Exist Config:				X				
San Bernardino	Local Highway	FONTANA	4AD8114				0	Merrill Av	Catawba	Fontana Av	Widen from 1 to 2 lanes each dir										Exist Config: 1 lane each direction						X		
San Bernardino	Local Highway	CHINO	4AD1040				0	Merrill Av	Euclid Av	East City Limit	Widen from 1 to 2 lanes each dir										Exist Config: 1 lane each direction						X		
San Bernardino	Local Highway	FONTANA	4AD7055				0	Merrill Ave	Cherry	Catawba	Widen Merrill Ave from Cherry Av to Catawba from 2 to 4 lanes										Exist Config: 1 lane each direction						X		
San Bernardino	Local Highway	ONTARIO	4AD1214				0	Merrill Ave from Grove Ave to Milliken Ave (Hamner Ave) from 2 to 4 lanes	Grove Ave	Milliken Ave	Widen Merrill Ave from Grove Ave to Milliken Ave (Hamner Ave) from 2 to 4 lanes										2 lanes in each direction						X		
San Bernardino	Local Highway	HESPERIA	4AD1191				0	Mesquite St	Bogart Av	Apple Av	Widen from 2 to 4 lanes each dir										Exist Config: 1 lane in each direction						X		
San Bernardino	Local Highway	GRAND TERRACE	4ADD140				0	Michigan St	Commerce Way	Van Buren	Widen Michigan St from Commerce Way and Van Buren St from 2 lanes to 4 lanes										2 lanes in each direction				X				
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4AD7193				0	Midway Avenue	SH 18/N	S-1247	Pave Dirt Road 1 lane in each direction										Exist Config: Dirt Road between SH 18 & CH 247						X		
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4AD7243				0	Mill	Pepper Av	Alder Av	Widen Mill from Pepper to Meridian from 2 to 4 lanes										Exist Config: 1 lane each direction							X	
San Bernardino	Local Highway	ONTARIO	4AD4214				0	Mid. Creek Ave from Riverside to Bellgrave	Riverside	Bellgrave	Widen Mill Creek Ave from Riverside to Bellgrave 2 4 lanes										2 lanes in each direction							X	
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120162				0	Miller Rd	Etiwanda Ave to	East St	Widen Miller Rd from Etiwanda Ave to East St from 2 to 4 Lanes										2 lanes each section							X	
San Bernardino	Local Highway	ONTARIO	4201147				0	Milliken Av	N Ontario	(Los Angeles)	Safety Upgrade (Low Option), Grade Separation (High Option)-Widen to 6 lanes										3 lanes in each direction					X			
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120150				0	Milliken Ave	5th St	700' South	Widen Milliken Ave from 5th St to 700' south (west side)										2 lanes in each direction							X	
San Bernardino	Local Highway	ONTARIO	4A34215				0	Milliken Ave (Hamner Ave) from Edison Ave to S. City Limits from 2 to 6 lanes	Edison Ave	S. City Limits	Widen Milliken Ave (Hamner Ave) from Edison Ave to S. City Limits from 2 to 6 lanes										3 lanes in each direction							X	
San Bernardino	Local Highway	ONTARIO	4A34216				0	Milliken Ave (Hamner Ave) from Riverside Ave to Edison Ave from 2 to 8 lanes	Riverside Ave	Edison Ave	Widen Milliken Ave (Hamner Ave) from Riverside Ave to Edison Ave from 2 to 8 lanes										4 lanes in each direction total							X	
San Bernardino	Local Highway	ONTARIO	4AD7233				0	Mission Blvd	Benson Av	Milliken Ave	Widen Mission Blvd from Benson to Milliken from 4 to 6 lanes										Exist Config: 2 lanes each direction					X			
San Bernardino	Local Highway	MONTCLAIR	4AD7332				0	Mission Blvd from Central to Benson from 4 to 6 lanes	Central	Benson	Widen Mission Blvd from Central to Benson from 4 to 6 lanes										3 lane in each direction							X	
San Bernardino	Local Highway	MONTCLAIR	4AD1276				0	Mission Blvd from LA County Line to Pipe Line from 2 to 6 lanes	LA County Line	Pipe Line	Widen Mission Blvd from LA County Line to Pipe Line from 2 to 6 lanes										3 lane in each direction							X	
San Bernardino	Local Highway	VICTORVILLE	4AD7312				0	Mojave Dr	1000' e/o El Evado Rd	At Power Line Easement	Widen Mojave Dr from 1000' e/o El Evado Rd to At Power Line Easement from 4 to 6 lanes										Exist Config: 2 lanes each direction						X		
San Bernardino	Local Highway	VICTORVILLE	4AD7308				0	Mojave Dr	1193' e/o US-395	At Power Line Easement	Widen Mojave Dr from 1193' e/ US-395 to At Power Line Easement from 4 to 6 lanes										Exist Config: 2 lanes each direction						X		
San Bernardino	Local Highway	VICTORVILLE	4AD7377				0	Mojave Dr	Just w/o Cobalt Rd	At Power Line Easement	Widen Mojave Dr from just w/o Cobalt Rd to At Power Line Easement from 4 to 6 lanes										Exist Config: 2 lanes each direction						X		
San Bernardino	Local Highway	ADELANTO	4120060				0	Mojave Drive	Aster	Richardson	Widen Mojave Drive from Aster to Richardson										Widen from 2 to 4 lanes; 2 ln each direction							X	
San Bernardino	Local Highway	ADELANTO	4120062				0	Mojave Drive	Richardson Rd	Kessing	Widen Mojave Drive from Richardson to Kessing										Widen from 2 to 4 lanes; 2 ln each direction							X	
San Bernardino	Local Highway	ADELANTO	4120061				0	Mojave Drive	US 395	Aster	Widen Mojave Drive from US-395 to Aster										Widen from 2 to 4 lanes; 2 ln each direction							X	
San Bernardino	Local Highway	HESPERIA	4AD1165				0	Mojave St	I-15	Maple Av	Widen from 1 to 2 lanes each dir										Exist Config: Existing Dirt						X		
San Bernardino	Local Highway	MONTCLAIR	4AD7202				0	Monte Vista Ave from Phillips Blvd to State St from 2 to 4 lanes	Phillips Blvd	State St	Widen Monte Vista Ave from Phillips Blvd to State St from 2 to 4 lanes										1 lane in each direction							X	
San Bernardino	Local Highway	MONTCLAIR	4AD1183				0	Monte Vista Ave from San Bernardino St to Arrow Hwy from 4 to 6 lanes	San Bernardino St	Arrow Hwy	Widen Monte Vista Ave from San Bernardino St to Arrow Hwy from 4 to 6 lanes										3 lane in each direction							X	
San Bernardino	Local Highway	CHINO	4AD7329				0	Mountain Av	Bickmore	El Prado	Widen Mountain Avenue from Bickmore to El Prado										Exist Config: 2 lane each direction						X		
San Bernardino	Local Highway	CHINO	4AD7177				0	Mountain Av	China	Kimball	Widen Mountain from China to Kimball from 2 to 4 lanes										Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	CHINO	4AD1041				0	Mountain Ave	Philadelphia St	Riverside Dr	Widen from 2 to 4 lanes each dir										Exist Config: 2 lanes each direction							X	
San Bernardino	Local Highway	ONTARIO	4ADD147				0	Mountain Ave	Brooks St	Sixth St	Widen from 4 to 6 lanes															X			
San Bernardino	Local Highway	CHINO	4120167				0	Mountain Ave	Schaefer Ave	Edison	Widen Mountain Ave from Schaefer Ave to Edison Ave from 2 to 4 lanes										2 lanes in each direction							X	
San Bernardino	Local Highway	RIALTO	4ADD139				0	Mountain View Ave	Filbert St	San Bernardino	Widen Mountain View Ave from Valencia to San Bernardino from 1 to 2 lanes (east side)										3 lanes total - 1 on east side only					X			
San Bernardino	Local Highway	GRAND TERRACE	4ADD169				0	Mt Vernon Av	Barton Rd	700' n/o Virginia	Widen Mt Vernon Av from Barton Rd 700' n/o Marions St from 2 lanes to 4 lanes										Exist Config: two lanes southbound/1 lane northbound					X			
San Bernardino	Local Highway	GRAND TERRACE	4AD1148				0	Mt Vernon Av	Canal St	North City Limits	Widen from 1 to 2 lanes each dir										Exist Config: two lanes southbound/1 lane northbound					X			
San Bernardino	Local Highway	COLTON	4209021				0	Mt Vernon Av	La Cadena Dr	SR 210	Widen from 4 to 6 lanes each dir										Exist Config: 4 Lane Major Arterial Street						X		
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4AD716d				0	Mt View	Thompson Pl	Electric Av	Widen Mt View Ave from Thompson Pl to Electric Ave from 2 to 4 lanes										Exist Config: 1 lane each direction							X	

County	System	Lead Agency	RTP ID	FTIP ID	Begin PM	End PM	Route Number	Route Name	From	To	Description	Roadway Segment							Transit Segment	Additional Details	RTP Base Year	Network Year (Project Completion FY)						
												Route Name	Length	From	To	Description	Existing Lanes	Proposed Lanes	Route			2008	2012	2014	2018	2020	2023	2030	2035
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4AD7211				0	Mt View Av	I-10	San Bernardino Av	Widen Mt View Av from I-10 to San Bernardino Av from 2 to 4 lanes (WEST SIDE ONLY)									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4120190				0	Mt View Ave	Railway Crossing		Widen Mt View Ave at railway crossing from 2 to 4 lanes, including grade improvements									2 in each direction							X		
San Bernardino	Local Highway	GRAND TERRACE	200808	200808	0	0	0	MT. VERNON			MT. VERNON AVE. WIDENING - WIDEN FROM 1-2 LANES NORTHBOUND FROM RAVEN WAY TO PICO ST	MT VERNON	0	RAVEN	PICO	WIDEN FROM 1-2 LANES N/B	1	2			X	X						
San Bernardino	Local Highway	COLTON, CITY OF	200856	200856	0	0	0	MT. VERNON BRIDGE			MT. VERNON BRIDGE OVER UPRR ON MT. VERNON AVE. FROM "M" ST TO I-10 ON RAMP. W DENING BRIDGE FROM 2-4 LANES (CA33B)	MT. VERNON BRIDGE	n/a	M ST.	I-10 ON RAMP	WIDEN BRIDGE FROM 2-4 LANES	2	4						X				
San Bernardino	Local Highway	FONTANA	4AD4401				0	Mulberry	Foothill Av	Slover Av	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	FONTANA	4AD4185				0	Mulberry	Valley Bl	San Bernardino Av	Widen Mulberry from 1 to 2 lanes each dir									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	FONTANA	4AD7271				0	Mulberry Ave	Juniper	Santa Ana	Mulberry Ave from Juniper Ave to Santa Ana Ave Widen from 2 to 4 lanes									Exist Config: 1 lane each direction			X						
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4GD7020				0	National Trails	at Oro Grande	Grade Sep	Widen underpass from 2-4 lanes									2 lanes in ea direction						X			
San Bernardino	Local Highway	VICTORVILLE	4AD7239				0	National Trails Hwy	Mojave River	1.6 mi. n/o Mojave River	Widen National Trails Highway from Mojave River to 1.6 mi. n/o Mojave River - 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	VICTORVILLE	4AD1339				0	National Trails Hwy	Mojave River	I-15	Widen from 1 to 2 lanes each dir (note: overlaps RTIP#SBD081-00 from Air Expwy to I-15)									Exist Config: 1 lane each direction			X						
San Bernardino	Local Highway	VICTORVILLE	4AD3025				0	National Trails Hwy	Mojave River		Widen National Trails Highway Bridge over Mojave River (#40, rep acts existing Bridge#6141)									Exist Config:						X			
San Bernardino	Local Highway	VICTORVILLE	4120235				0	National Trails Hwy	0.63 mi n/o Air Expressway	2.21 mi n/o Air Expwy	Widen National Trails Hwy from 0.63 mi n/o Air Expressway to 2.21 mi n/o Air Expwy									2 in each direction						X			
San Bernardino	Local Highway	APPLE VALLEY	4AD7071				0	Navajo Rd	SR-18	Thunderbird Rd	Widen Navajo Rd from SR-18 to Thunderbird Rd from 2 to 4 lanes									Exist Config: 1 lane in each direction					X				
San Bernardino	Local Highway	REDLANDS	4AD7312				0	Nevada St	Lugonia Ave	Palmetto	Widen Nevada St from Lugonia Ave to Palmetto from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4AD7093				0	New Connector	3rd St	5th St	Build a connector road between 3rd St and 5th St from 0 to 4 lanes									2 in each direction						X			
San Bernardino	Local Highway	MENTONE	4AD7091				0	Oak Glen Rd	Colorado St	Casa Blanca Ave	Widen Oak Glen Rd from Colorado St to Casa Blanca Ave from 2 to 4 lanes									Exist Config: 1 lane each direction							X		
San Bernardino	Local Highway	ADELANTO	4120094				0	Oleander	Aster	Caughlin Rd	Widen Oleander from Aster to Caughlin									Widen From 2 to 4 lanes, 2 in each direction							X		
San Bernardino	Local Highway	ADELANTO	4120084				0	Oleander	ECL	Adelanto Rd	Widen Oleander from ECL to Adelanto Rd									Widen From 2 to 4 lanes, 2 in each direction							X		
San Bernardino	Local Highway	CALTRANS	4AD7197				0	Olive Street	0.00/0.00 W, Jackson	1.00/0.00 W, Rancho Ave	Widen Olive Street from 0.00/0.00 W, Jackson to 0.00/0.00 W, Rancho Ave from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	ONTARIO	4AD3218				0	Ontario/Hellman Ave from Riverside Dr to Belgrave from 2 to 4 lanes	Riverside Dr.	Bellgrave	Widen Ontario/Hellman Ave from Riverside Dr to Belgrave from 2 to 4 lanes									2 lanes in each direction							X		
San Bernardino	Local Highway	REDLANDS	4120226				0	Orange St	I-10	Lugonia Ave	Widen Orange St from I-10 to Lugonia Ave from 2 to 4 lanes									2 in each direction						X			
San Bernardino	Local Highway	REDLANDS	4AD1248				0	Orange St	Lugonia Ave	San Bernardino Ave	Widen Orange St from Lugonia Ave to San Bernardino Ave from 2 to 4 lanes									2 in each direction						X			
San Bernardino	Local Highway	REDLANDS	4AD1247				0	Orange St	Pioneer Ave	N. City Limits	Widen Orange St from Pioneer Ave to N. City Limits from 2 to 4 lanes									2 in each direction						X			
San Bernardino	Local Highway	REDLANDS	4120177				0	Orange St	San Bernardino Ave	Pioneer Ave	Widen Orange St from San Bernardino Ave to Pioneer Ave from 2 to 4 lanes									2 in each direction						X			
San Bernardino	Local Highway	COLTON	4AD7054				0	Orange St	Colton Av	Lugonia Av	Widen from 1 to 2 lanes each dir - Caltrans (State Route 38)									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	VICTORVILLE	4AD7350				0	Ottawa St	Hesperia Rd	Industrial Blvd	Widen Ottawa St from Hesperia Rd to Industrial Blvd from 0 to 4 lanes									Exist Config: New road						X			
San Bernardino	Local Highway	VICTORVILLE	4AD1343				0	Ottawa St	Mariposa Rd	Ottawa Pl	Widen Ottawa St from Mariposa Rd to Ottawa Pl from 0 to 4 lanes									Exist Config: New road			X						
San Bernardino	Local Highway	HIGHLAND	4AD7275				0	Pacific St	2 Lanes w/o Cole	Palm Ave	Widen from 2 to 4 lanes									Exist Config: 2 lanes						X			
San Bernardino	Local Highway	HIGHLAND	4AD1349				0	Palm Av	3rd St	Baseline	Widen from 2 to 4 lanes									Exist Config: 2 lanes						X			
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4AD7147				0	Palm Av	Cajon Blvd	I-215	Widen Palm Av from Cajon Blvd to I-215 from 2 to 4 lanes,									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	HIGHLAND	4AD7323				0	Palm Av	Pacific Ave	Atlantic Ave	Widen Palm Ave from Pacific St to Atlantic Ave from 2 lanes to 4 lanes.									Exist Config: 2 lanes						X			
San Bernardino	Local Highway	SANBAG	200850	200850			0	PALM AVE			PALM AVE. GRADE SEPARATION - PALM AVE. APPROX. 512' S/O I-215 PALM AVE. INTERCHANGE TO APPROX. 1450 S/O CAJON BLVD. - CONSTRUCT AT GRADE RR SEPARATION + AUTO TRAFFIC OVERCROSSING TO ABATING TRAFFIC FROM BR CROSSING (NO ADDITIONAL LANES) 2-2 LANES (ONE/S)	n/a	n/a	n/a	n/a	n/a	n/a	n/a									
San Bernardino	Local Highway	ADELANTO	4120087				0	Palmdale Rd	Aster	Richardson	Widen Palmdale Rd from Aster to Richardson									Widen from 2 to 4 lanes, 2 in each direction									X
San Bernardino	Local Highway	ADELANTO	4120086				0	Palmdale Rd	Richardson Rd	Lessing	Widen Palmdale Rd from Richardson to Lessing									Widen from 2 to 4 lanes, 2 in each direction									X
San Bernardino	Local Highway	VICTORVILLE	4AD7093				0	Palmdale Rd	US-395	I-15	Widen Palmdale Rd from US-395 to I-15 from 4 to 6 lanes - 8.5 lane miles									Exist Config: 2 lanes each direction							X		
San Bernardino	Local Highway	ADELANTO	4120085				0	Palmdale Rd	US-395	Aster	Widen Palmdale Rd from US-395 to Aster									Widen from 2 to 4 lanes, 2 in each direction									X
San Bernardino	Local Highway	REDLANDS	4AD7154				0	Palmetto Ave	California St	Alabama St	Widen Palmetto Ave from California St to Alabama St from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	RIALTO	4AD7068				0	Pepper	Foothill	SR-210	Widen Pepper Ave from Foothill Blvd to SR-210 from 2 to 4 lanes									Exist Config:									X
San Bernardino	Local Highway	RIALTO	4AD7265				0	Pepper	Rialto	Foothill	Widen Pepper Ave from Rialto Ave to Foothill Blvd from 2 to 4 lanes									Exist Config:									X
San Bernardino	Local Highway	RIALTO	4120186				0	Pepper Ave	N. Terminus	Highland Ave	Widen Pepper Ave from N. Terminus to Highland Ave from 2 to 4 lanes									2 in each direction				X					
San Bernardino	Local Highway	RIALTO	4AD7200				0	Pepper Ave	Slover	Valley	Widen Pepper Ave from Slover to Valley from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	[redacted]	4120117				0	Pepper Ave	I-10	Acorn Mines Rd	Widen and extend Pepper Ave from I-10 to Agua Mansa Rd from 0/2 to 4 lanes									New construction (currently there is no road) 1 lane each direction							X		
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4AD7199				0	Perris Hill Park Rd	21st St	Apache St	Widen Perris Hill Park Rd from 21st St to Apache St from 2 to 4 lanes									2 in each direction						X			
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4AD1278				0	Phelan Rd	Sheep Creek Rd	Baldy Mesa Rd	Widen from 1 to 2 lanes, each dir									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	CHINO	4AD7192				0	Philadelphia	East End Av	Haven Ave	Widen Philadelphia Ave from East End Ave to Haven Ave from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	CHINO	4AD7193				0	Philadelphia	Los Angeles Cyn	East End Av	Widen Philadelphia Av from Los Angeles Cyn to East End Av from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	CHINO	4AD7194				0	Philadelphia	Ramona	Mexico Cyn	Widen Philadelphia Av from Ramona to Mexico Cyn from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	CHINO	4AD3042				0	Philadelphia St	Central Av	Benson Av	Widen from 2 to 3 lanes each dir									Exist Config: 2 lanes each direction					X				
San Bernardino	Local Highway	CHINO	4AD1043				0	Philadelphia St	LA County Line	Central Av	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction					X				

County	Sections	Lead Agency	RTP ID	FTIP ID	Begin PM	End PM	Route Number	Route Name	From	To	Description	Roadway Segment							Transit Segment	Additional Details	RTP Baseline	Network Year (Project Completion By)						
												Route Name	Length	From	To	Description	Existing Lanes	Proposed Lanes	Route			2008	2012	2014	2016	2020	2023	2030	2035
San Bernardino	Local Highway	[illegible]	[illegible]				0	Philadelphia St	Vineyard Av	Cucamonga Creek	Widen from 1 to 2 lanes each dir, incl bridge over cucamonga creek									Exist Config: 1 lane each direction					X				
San Bernardino	Local Highway	[illegible]	[illegible]				0	Philadelphia St from Campus Ave to 750' e/o Grove Ave from 2 to 4 lanes	Campus Ave	750' e/o Grove Ave	Widen Philadelphia St from Campus Ave to 750' e/o Grove Ave from 2 to 4 lanes									2 lanes in each direction								X	
San Bernardino	Local Highway	[illegible]	[illegible]				0	Phillips Blvd	East End Ave	Roswell Ave	Widen Phillips Blvd from East End Ave to Roswell Ave from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Phillips Blvd	Roswell Ave	Yorba Ave	Widen Phillips Blvd from Roswell Ave to Yorba Ave from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Phillips Blvd	Yorba Av	Benson Av	Widen Phillips Blvd from Yorba Av to Benson Av from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Phillips Blvd from LA County line to East End Ave from 2 to 4 lanes	LA County line	East End Ave	Widen Phillips Blvd from LA County Line to East End Ave from 2 to 4 lanes									2 lanes in each direction							X		
San Bernardino	Local Highway	[illegible]	[illegible]				0	Pine Av	Lucile Av	Helman	Widen from 2 to 3 lanes each dir									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Pine Av	Kenda Dr	Belmont Av	Widen Pine Ave from Kendall Dr to Belmont Ave from 2 to 4 lanes									Exist Config: 1 lane each direction							X		
San Bernardino	Local Highway	[illegible]	[illegible]				0	Pine Av	SR-71	Euclid Av	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction. Connection to SR71 Not complete						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Pine Ave	SR-71	Chino Creek	Widen Pine Ave from SR-71 to Chino Creek. Partial side ofset, in conjunct on with Chino project to 202327									Exist Config: 4 lane inter A					X				
San Bernardino	Local Highway	[illegible]	[illegible]				0	Pine Ave (Four Corners)	Pine Ave.	Riverside County line	New arterial corridor linking Pine Ave, Schleisman Ave, Arlington Ave (Riv. Co.)									Exist Config						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Pipeline Ave	Chino Av	Riverside Dr	Widen Pipeline Av from Chino Ave to Riverside Dr from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Pipeline Ave	Philadelphia	Mission Blvd	Widen Pipeline Av from Philadelphia Av to Mission Blvd from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Pipeline Ave	Riverside	Walnut	Widen Pipeline Av from Riverside Av to Walnut Av from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Pipeline Ave	Walnut	.25 m North	Widen Pipeline Av from Walnut Av to .25 m North from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Poplar Ave	Slover Ave	Valley Blvd	Widen Poplar Ave from Slover Ave to Valley Blvd from 0 to 4 lanes (I-10 Overcrossing)									2 in each direction							X		
San Bernardino	Local Highway	[illegible]	[illegible]				0	Raccoon	Air Expressway	El Mirage Rd	Widen Raccoon from Air Expressway to El Mirage									Widen from 2 to 4 lanes, 2 in each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Raccoon	Cactus	Air Expressway	Widen Raccoon from Cactus to Air Expressway									Widen from 2 to 4 lanes, 2 in each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Raccoon	Colusa	Oleander	Widen Raccoon from Colusa to Oleander									Widen from 2 to 4 lanes; 2 in each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Raccoon	El Mirage Rd	Colusa Rd	Widen Raccoon from El Mirage to Colusa									Widen from 2 to 4 lanes; 2 in each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Raccoon	Palmdale Rd	Vita	Widen Raccoon from Palmdale to Vita									Widen from 2 to 4 lanes; 2 in each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Ramona	Philadelphia	Phillips Blvd	Widen Ramona Av from Philadelphia to Phillips Blvd from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Rancheria Rd	Ringen	Corwin Rd	Widen Rancherias Rd from Racoon Rd to Corwin Rd from 2 to 4 lanes									Exist Config: mostly 1 lane in each direction, small portion not built yet							X		
San Bernardino	Local Highway	[illegible]	[illegible]				0	RANCHERO STREET			RANCHERO ST. FROM .3 M E/O MARIPOSA TO MESPERIA CL (1 MILES)-WIDEN 2-4 LANES	RANCHERO STREET	1 MILES	0.3 MILES E/O MARIPOSA	HESPERIA	WIDENING	2	4						X				
San Bernardino	Local Highway	[illegible]	[illegible]				0	Rancho	Cotton City Limits	5th St	Widen Rancho from Cotton City Limits to 5th St from 2 to 4 lanes									2 in each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Rancho Rd	2025 e/o Gasline Rd	At Power Line Easement	Widen Rancho Rd from 2025 e/o Gasline Rd to At Power Line Easement from 0 to 4 lanes									Exist Config: New road						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Rancho Rd	Amargosa	National Trails Hwy	Widen Rancho from Amargosa to National Trails Hwy from 0 to 4 lanes (includes rail crossing)									Exist Config: New road						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Rancho Rd	Amethyst	El Evado Rd	Widen Rancho Rd from Amethyst Rd to El Evado Rd from 0 to 4 lanes									Exist Config: New road						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Rancho Rd	Just w/o El Evado Rd	At Power Line Easement	Widen Rancho Rd from Just w/o El Evado to At Power Line Easement from 0 to 4 lanes									Exist Config: New road						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Rancho Rd	Just w/o Village Dr	At Power Line Easement	Widen Rancho Rd from Just w/o Village Dr to At Power Line Easement from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Rancho Rd	Kyala Rd	Cajalco Rd	New road, 2 lanes each dir plus turning lane									Exist Config						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Rancho Rd	National Trails Hwy	Stoddard Wells Rd	Widen Rancho Rd from National Trails Hwy to Stoddard wells Rd from 2 to 4 lanes.									Exist Config: New road				X					
San Bernardino	Local Highway	[illegible]	[illegible]				0	Rancho Rd	Pacoima	At Power Line Easement	Widen Rancho Rd from Pacoima to At Power Line Easement from 0 to 4 lanes									Exist Config: New road						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Rancho Road	Amethyst	US-395	Widen Rancho Road from Amethyst to US 395									Widen from 2 to 4 lanes, 2 in each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Rancho Road	Aster	Richardson	Widen Rancho Road from Aster to Richardson									Widen from 2 to 4 lanes, 2 in each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Rancho Road	Richardson Rd	Locking	Widen Rancho Road from Richardson to Lessing									Widen from 2 to 4 lanes; 2 in each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Rancho Road	US-395	Aster	Widen Rancho Road from US-395 to Aster									Widen from 2 to 4 lanes; 2 in each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Randall Ave	Alder	Cedar	Widen Randall Ave from Alder Ave to Cedar Ave from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Randall Ave	Alder Ave	Locust Ave	Widen Randall Ave from Alder Ave to Locust Ave from 2 to 4 lanes									2 in each direction							X		
San Bernardino	Local Highway	[illegible]	[illegible]				0	Randall Ave	Cherry Av	Poplar Ave	Widen Randall Ave from Cherry Av to Poplar Ave from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	RECHE CANYON			RECHE CANYON RD. FROM 1.20 M LES OF S. BARTON ROAD TO 0.42 MILES SOUTH OF BARTON RD (.078 MILES)-WIDEN FROM 2-4 LANES	RECHE CANYON RD	0.078 MILES	1.20 MILES OF S BARTON ROAD	0.42 MILES SOUTH OF BARTON RD	WIDENING	2	4						X				
San Bernardino	Local Highway	[illegible]	[illegible]				0	Reche Canyon Rd	Barton Rd	City Limits	Widen from 2 to 3 lanes each dir									Exist Config: 2 Lane Major Arterial Street					X				
San Bernardino	Local Highway	[illegible]	[illegible]				0	Reche Cnyn Rd	1.2m s/o Barton Rd	0.78m North Barton Rd	Widen Reche Cnyn Rd from 1.2m s/o Barton Rd to .78m North from 2 to 4 lanes									2 lanes in each direction							X		
San Bernardino	Local Highway	[illegible]	[illegible]				0	Reche Cnyn Rd	S. Crystal Ridge	Riverside County Line	Widen Reche Cnyn Rd from S. Crystal Ridge to Riverside County Line from 2 to 4 lanes									2 lanes in each direction							X		
San Bernardino	Local Highway	[illegible]	[illegible]				0	Reche Cnyn Rd	Washington St.	City Limits	Widen and realign Reche Cnyn Rd from Washington St to City Limits from 2 to 4 lanes									2 lanes in each direction							X		
San Bernardino	Local Highway	[illegible]	[illegible]				0	Redlands Bl	West City Limits	Colton Av	Widen from 2 to 4 lanes each dir									Exist Config: 2 lanes each direction							X		
San Bernardino	Local Highway	[illegible]	[illegible]				0	Redlands Blvd	Alabama St	Colton Av	Widen Redlands Blvd at intersections of Alabama St and Colton Ave									2 in each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Renaissance Pkwy	Alder Ave	Ayala Dr	Realign and reconstruct Renaissance Pkwy from Alder Ave to Ayala Dr									2 in each direction						X			
San Bernardino	Local Highway	[illegible]	[illegible]				0	Rialto	Sierra Rd	Lopezanos	Widen Rialto Av from Lytle Rd to Pepper Ave from 2 to 4 lanes									Exist Config: 1 lane each direction							X		
San Bernardino	Local Highway	[illegible]	[illegible]				0	Rialto	Riverside	East City Limits	Widen Rialto Ave from Riverside Ave to East City Limits From 2 to 4 lanes									Exist Config:					X				
San Bernardino	Local Highway	[illegible]	[illegible]				0	Rialto Ave	Sierra Wy	Waterman Ave	Widen Rialto Ave from Sierra Wy to Waterman Ave from 2 to 4 lanes									2 in each direction						X			

												Roadway Segment							Transit Segment		Network Year (Project Completion By)							
County	System	Lead Agency	RTP ID	FTIP ID	Begin PM	End PM	Route Number	Route Name	From	To	Description	Route Name	Length	From	To	Description	Existing Lanes	Proposed Lanes	Route	Additional Details	RTP Baseline	2008	2012	2014	2018	2020	2023	2030	2035
San Bernardino	Local Highway	ADELANTO	4120079				0	Richardson	Air Expressway	El Mirage Rd	Widen Richardson from Air Expressway to El Mirage									Widen from 2 to 4 Lanes; 2 in each direction							X		
San Bernardino	Local Highway	ADELANTO	4120077				0	Richardson	Cuesta	Oleander	Widen Richardson from Cuesta to Oleander									Widen from 2 to 4 Lanes; 2 in each direction							X		
San Bernardino	Local Highway	ADELANTO	4120078				0	Richardson	El Mirage Rd	Cuesta Rd	Widen Richardson from El Mirage to Cuesta									Widen from 2 to 4 Lanes; 2 in each direction							X		
San Bernardino	Local Highway	ADELANTO	4120080				0	Richardson	Mojave Dr	Air Expressway	Widen Richardson from Mojave to Air Expressway									Widen from 2 to 4 lanes; 2 in each direction							X		
San Bernardino	Local Highway	ADELANTO	4120083				0	Richardson	Palmdale Rd	Victor	Widen Richardson from Palmdale to Victor									Widen from 2 to 4 Lanes; 2 in each direction							X		
San Bernardino	Local Highway	RIALTO	4A07237				0	Riverside	Locust	Cedar	Widen Riverside Ave from Locust Ave to Cedar Ave from 3 to 4 lanes									Exist Config:				X					
San Bernardino	Local Highway	COLTON	4A01079				0	Riverside Av	Riverside County Line	North City Limit	Widen from 2 to 3 lanes each dir									Exist Config: 4 Lane Major Arterial Street							X		
San Bernardino	Local Highway	RIALTO	4A01256				0	Riverside Av	South City Limit	S Over Av	Widen from 2 to 3 lanes each dir									Exist Config:							X		
San Bernardino	Local Highway	RIALTO	4A01259				0	Riverside Av	Valley Bl	n/o Slover Av	Widen from 2 to 4 lanes each dir (note: overlaps RIP#SBD130015)									Exist Config:			Y						
San Bernardino	Local Highway	RIALTO	4130187				0	Riverside Ave	Gateway Plaza	San Bernardino Ave	Widen Riverside Ave from Gateway Plaza to San Bernardino Ave from 4 to 6 lanes									3 in each direction					X				
San Bernardino	Local Highway	RIALTO	4130188				0	Riverside Ave	Sierra Ave	Alder Ave	Widen Riverside Ave from Sierra Ave to Alder Ave from 3 to 5 lanes									3 in each direction						X			
San Bernardino	Local Highway	FONTANA	4130117				0	Riverside Ave	Riverside County Line	Santa Ana River	Widen Riverside Ave from Riv. County Line to Santa Ana River from 4 to 6 lanes									3 lane in each direction							X		
San Bernardino	Local Highway	COLTON	4130118				0	Riverside Ave	Santa Ana River	Agua Mansa Rd	Widen Riverside Ave from Santa Ana River to Agua Mansa Rd from 4 to 6 lanes									3 lane in each direction							X		
San Bernardino	Local Highway	CHINO	4A01046				0	Riverside Dr	Benson Av	Magnolia Av	Widen from 2 to 3 lanes each dir									Exist Config: 2 lanes each direction						X			
San Bernardino	Local Highway	CHINO	4A01047				0	Riverside Dr	Fern Av	Euclid Av	Widen from 1 to 3 lanes each dir									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	CHINO	4A01048				0	Riverside Dr	Mountain Av	Magnolia Av	Widen from 2 to 3 lanes each dir									Exist Config: 2 lanes each direction						X			
San Bernardino	Local Highway	CHINO	4A01049				0	Riverside Dr	Pipeline	Fern Av	Widen from 2 to 3 lanes each dir									Exist Config: 2 lanes each direction						X			
San Bernardino	Local Highway	CHINO	4A01050				0	Riverside Dr	West City Limits	Benson Av	Widen from 2 to 3 lanes each dir									Exist Config: 2 lanes each direction						X			
San Bernardino	Local Highway	CHINO	4120101				0	Riverside Dr	Central Ave	Mountain Ave	Widen Riverside Dr from Central Ave to Mountain Av from 4 to 6 lanes									3 lane in each direction						X			
San Bernardino	Local Highway	CHINO	4120102				0	Riverside Dr	Mountain Ave	Fern Ave	Widen Riverside Dr from Mountain Ave to Fern Ave from 2 to 6 lanes									3 lane in each direction						X			
San Bernardino	Local Highway	CHINO	4120103				0	Riverside Dr	Pipeline	Central Ave	Widen Riverside Dr from Pipeline Ave to Central Ave from 4 to 6 lanes									3 lane in each direction						X			
San Bernardino	Local Highway	CHINO	4120104				0	Riverside Dr	WCL	500' e/o Reservoir Ave	Widen Riverside Dr from WCL to 500' e/o Reservoir Ave from 4 to 5 lanes (N. Side Only)									2 lanes on North side						X			
San Bernardino	Local Highway	ONTARIO	4A04219				0	Riverside Dr from Euclid Ave to Milliken Ave from 2 to 4 lanes	Euclid Ave	Milliken Ave	Widen Riverside Dr from Euclid Ave to Milliken Ave from 2 to 4 lanes									2 lanes in each direction							X		
San Bernardino	Local Highway	HESPERIA	4A01368				0	Rock Springs Rd	Glendale Ave	E City Limits	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane in each direction						X			
San Bernardino	Local Highway	APPLE VALLEY	4A07082				0	Rock Springs Rd	Mojave River Cr	Kiowa Rd	Widen Rock Springs Rd from Mojave River Crto Kiowa Rd from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	APPLE VALLEY	4A07083				0	Rock Springs Rd	Glendale Ave	Mojave River Cr	Widen Rock Springs Rd from Glendale Ave to Mojave River Cr from 2 lanes to 4 lanes									2 lanes in each direction						X			
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	200816	200816	0	0	0	ROCK SPRINGS RD.			ROCK SPRINGS RD, FROM 0.25 MI. E/O GLENDALE AVE. TO KIOWA (1.86 MILES) WIDEN FROM 2-4 LANES	ROCK SPRINGS ROAD	1.86 MILES	0.25 MI. E/O GLENDALE AVE.	KIOWA	WIDENING	0	2						X						
San Bernardino	Local Highway	APPLE VALLEY	4AC7558				0	Roundup Wy	Kiowa	Central	Widen Roundup Wy from Kiowa Rd to Central from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	ONTARIO	4G0103/ 4G0109				0	San Antonio Av	n/o Ontario	(Alhambra) (Los Angeles)	Spot Widening (Low Option), Grade Separation (High Option) Widen 2-4 lanes									1 lane in each direction									X
San Bernardino	Local Highway	RIALTO	4A07401				0	San Bernardino	West City Limits	East City Limits	Widen San Bernardino from West City Limits to East City Limits from 2 to 4 lanes									Exist Config:						X			
San Bernardino	Local Highway	REDLANDS	4A01281				0	San Bernardino Av	Alabama St	California St	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction							X		
San Bernardino	Local Highway	COLTON	4A01020				0	San Bernardino Av	Pepper Av	Mercelin Av	Widen from 1 to 2 lanes each dir															X			
San Bernardino	Local Highway	REDLANDS	4A01342				0	San Bernardino Av	Route 30	Orange St	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction				X					
San Bernardino	Local Highway	REDLANDS	4A07147				0	San Bernardino Ave	Alabama St	Redlands Crl	Widen San Bernardino Ave from Alabama St to Redlands Crl from 2 to 6 lanes									Exist Config: 3 lane each direction						X			
San Bernardino	Local Highway	FONTANA	4A07033				0	San Bernardino Ave	Alder Ave	Laurel Ave	Widen San Bernardino Ave from Alder Ave to Laurel Ave from 2 to 4 lanes									Exist Config: 3 lane each direction						X			
San Bernardino	Local Highway	FONTANA	4A07072				0	San Bernardino Ave	Cherry Ave	Fontana City Limits Avenue	Widen San Bernardino Ave from Cherry Ave to Fontana City Limits from 2 to 4 lanes									Exist Config: 3 lane each direction						X			
San Bernardino	Local Highway	REDLANDS	4A03250				0	San Bernardino Ave	Church St	Wabash Ave	Widen San Bernardino Ave from Church St to Wabash Ave from 2 to 4 lanes									2 in each direction							X		
San Bernardino	Local Highway	COLTON	4120119				0	San Bernardino Ave	County Limit	Rancho Ave	Widen San Bernardino Ave from County Limit to Rancho Ave from 2 to 4 lanes									2 lanes in each direction						X			
San Bernardino	Local Highway	FONTANA	4A07109				0	San Bernardino Ave	Etiwanda Ave	Cherry Ave	Widen San Bernardino Ave from Etiwanda Ave to Cherry Ave from 5 to 6 lanes									Exist Config: 3 lanes each direction						X			
San Bernardino	Local Highway	RIALTO	4A07079				0	San Bernardino Ave	Laurel Ave	Rialto City Limits	Widen San Bernardino Ave from Laurel Ave to Rialto City Limits from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	REDLANDS	4120179				0	San Bernardino Ave	SR-210	Orange St	Widen San Bernardino Ave from SR-210 to Orange St from 3 to 4 lanes									2 in each direction							X		
San Bernardino	Local Highway	REDLANDS	4A07140				0	San Bernardino Ave	Wabash Av	Opal Av	Widen San Bernardino Ave from Wabash Av to Opal Av from 2 to 4 lanes									2 in each direction							X		
San Bernardino	Local Highway	COLTON	4120170				0	San Bernardino Ave	Pepper Ave	County Limit	Widen San Bernardino Ave from Pepper Ave to County Limit from 2 lanes to 4 lanes									2 lanes in each direction						X			
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	2A0285	2A0285	0	0	0	San Bernardino Ave.			WIDEN SAN BERNARDINO AVE. FROM E/O CITRUS AVE. TO FONTANA CITY LIMITS (LAST AVE 1/2 .28 MILES) WIDEN 2-4 LANES	SAN BERNARDINO AVE.	1.25 MILES	CITRUS AVE.	FONTANA CITY LIMITS (LAST AVE 1/2 .28 MILES)	W IDENING 2-4 LANES								X					

County	System	Lead Agency	RTP ID	FTIP ID	Begin PM	End PM	Route Number	Route Name	From	To	Description	Roadway Segment							Transit Segment	Additional Details	RTP Baseline	Network Year (Project Completion by)						
												Route Name	Length	From	To	Description	Existing Lanes	Proposed Lanes	Route			2009	2012	2014	2018	2020	2026	2030	2035
San Bernardino	Local Highway	MONTCLAIR	4A01184				0	San Bernardino St from LA County Line to Benson Ave from 4 to 6 lanes	LA County Line	Benson Ave	Widen San Bernardino St from LA County Line to Benson Ave from 4 to 6 lanes									3 lanes in each direction								X	
San Bernardino	Local Highway	FONTANA	4A02084				0	San Sevaine	Baseline	Summit	San Sevaine Rd from Baseline Ave to Summit Ave Widen from 2 to 4 lanes									Exist Config: 1 lane each direction					X				
San Bernardino	Local Highway	REDLANDS	4A01243				0	San Timoteo Can Rd	RR Crossing	Live Oak Can Rd	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction								X	
San Bernardino	Local Highway	FONTANA	4A07152				0	Santa Ana Ave	Cedar Ave	Cactus Ave	Widen Santa Ana Ave from Cedar Ave to Cactus Ave from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	FONTANA	4A07159				0	Santa Ana Ave	Locust	Cedar	Widen Santa Ana Ave from Locust Ave to Cedar Ave from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	FONTANA	4A07158				0	Santa Ana Ave	Mulberry Ave	Redwood Ave	Widen Santa Ana Ave from Mulberry Ave to Redwood Ave from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	FONTANA	4120136				0	Santa Ana Ave	Mulberry Ave	Almond Ave	Widen Santa Ana Ave from Mulberry Ave to Almond Ave from 2 to 4 lanes									2 in each direction								X	
San Bernardino	Local Highway	FONTANA	4A07153				0	Santa Ana Ave	Tamarind	Locust	Widen Santa Ana Ave from Tamarind to Locust Ave from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	CHINO	4A01011				0	Schaefer Av	Benson Av	Euclid Av	Widen from 2 to 3 lanes each dir									Exist Config: Partially completed		X							
San Bernardino	Local Highway	ONTARIO	4A04220				0	Schaefer Ave from Euclid Ave to Edison Ave from 2 to 4 lanes	Euclid Ave	Edison Ave	Widen Schaefer Ave from Euclid Ave to Edison Ave from 2 to 4 lanes									2 lanes in each direction								X	
San Bernardino	Local Highway	VICTORVILLE	4A07367				0	Seneca Rd	0.5 m. e/o Hesperia Rd	Road B	Widen Seneca Rd from .4 m e/o Hesperia Rd to Road B from 0 to 4 lanes									Exist Config: New road						X			
San Bernardino	Local Highway	VICTORVILLE	4A07350				0	Seneca Rd	2190 w/o El Evado Rd	At Power Line Easement	Widen Seneca Rd from 2190' w/o El Evado Rd to At Power Line Easement from 0 to 4 lanes									Exist Config: 3 lane each d section						X			
San Bernardino	Local Highway	VICTORVILLE	4A07365				0	Seneca Rd	2100 e/o US-395	At Power Line Easement	Widen Seneca Rd from 2100' e/o US-395 to At Power Line Easement from 0 to 4 lanes									Exist Config: New road						X			
San Bernardino	Local Highway	VICTORVILLE	4A07384				0	Seneca Rd	650' w/o Emerald Rd	At Power Line Easement	Widen Seneca Rd from 650' w/o Emerald Rd to At Power Line Easement from 0 to 4 lanes									Exist Config: New road						X			
San Bernardino	Local Highway	ADELANTO	4120083				0	Seneca Rd	Aster	Richardson	Widen Seneca Rd from Aster to Richardson									Widen from 2 to 4 lanes, 2 in each direction								X	
San Bernardino	Local Highway	VICTORVILLE	4A07369				0	Seneca Rd	Emerald Rd	Amethyst Rd	Widen Seneca Rd from Emerald Rd to Amethyst Rd from 2 to 4 lanes									Exist Config: 1 lane each d rection						X			
San Bernardino	Local Highway	VICTORVILLE	4A07378				0	Seneca Rd	Hesperia Rd	2 m e/o Hesperia Rd	Widen Seneca Rd from Hesperia Rd to 0.2 m e/o Hesperia Rd from 0 to 4 lanes									Exist Config: New road						X			
San Bernardino	Local Highway	ADELANTO	4120084				0	Seneca Rd	Richardson Rd	Caughlin Rd	Widen Seneca Rd from Richardson to Caughlin									Widen from 2 to 4 lanes; 2 in each direction								X	
San Bernardino	Local Highway	ADELANTO	4120082				0	Seneca Rd	US-395	Daisy	Widen Seneca Rd from US-395 to Daisy									Widen from 2 to 4 lanes; 2 in each direction								X	
San Bernardino	Local Highway	VICTORVILLE	4A01354				0	Seneca Rd	US-395	Topaz	Widen Seneca Rd from US-395 to Topaz from 0 to 4 lanes									2 in each direction								X	
San Bernardino	Local Highway	MENTONE	4A04420				0	SR 247	Abiadeen	Lane	Widen within ROW to accommodate passing lanes									Exist Config: 1 lane each direction					X				
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4A01367				0	Oxadow Rd	Helendale Rd	NTH	Grade Separation Bridge over Mojave river to 4 lanes									New Config					V				
San Bernardino	Local Highway	FONTANA	4A03186A				0	Sierra Av	I-15	Lytle Creek Rd	Widen from 2 to 3 lanes each dir									Exist Config: 2 lane each direction						X			
San Bernardino	Local Highway	FONTANA	4A04722				0	Sierra Av	San Bernardino Av	Foothill Blvd	Widen from 2 to 3 lanes each dir									Exist Config: 2 lane each direction					X				
San Bernardino	Local Highway	FONTANA	4A04125				0	Sierra Av	Slover Av	Valley D.	Widen from 3 to 4 lanes each dir									Exist Config: 3 lanes each d rection					X				
San Bernardino	Local Highway	FONTANA	4A04125				0	Sierra Av	Summit Av	I-15	Widen from 3 to 5 lanes each dir									Exist Config: 3 lane each direction		X							
San Bernardino	Local Highway	RIALTO	4A05181R				0	Sierra Ave	I-15	Lytle Creek Rd	Widen Sierra Ave from I-15 to Lytle Creek Rd from 3 to 4 lanes									2 in each direction							X		
San Bernardino	Local Highway	FONTANA	4A07036				0	Sierra Lakes Pkwy	Cherry	Alstertz	Sierra Lakes Pkwy from Cherry Ave to Alstertz Ave Widen from 2 to 4 lanes									Exist Config: 3 lane each direction					X				
San Bernardino	Local Highway	FONTANA	4120139				0	Sierra Lakes Pkwy	Cherry Ave	Beech Ave	Widen Sierra Lakes Pkwy from Cherry Ave to Beech Ave from 2 to 4 lanes									3 are in each direction									X
San Bernardino	Local Highway	APPLE VALLEY	4A07026				0	Stoddard Wells Rd	Apple Valley Rd	Navajo Rd	Widen Stoddard Wells Rd from Apple Valley Rd to Navajo Rd from 2 to 4 lanes									Exist Config: 3 lane in each direction						X			
San Bernardino	Local Highway	[redacted]	4120131				0	Slover	Pepper Ave	Riverside Ave	Widen Slover from Pepper Ave to Riverside Ave from 2 to 4 lanes									2 lanes in each direction							X		
San Bernardino	Local Highway	FONTANA	4A01285				0	Slover Av	Alder Av	Cactus Av	Widen from 1 to 2 lanes each dir									Exist Config: 3 lane each d rection						X			
San Bernardino	Local Highway	RIALTO	4A01280				0	Slover Av	Cactus Av	Riverside Av	Widen from 2 to 3 lanes each dir									Exist Config						X			
San Bernardino	Local Highway	FONTANA	4A07259				0	Slover Av	Tamarind	E. City Limits	Slover Av from Tamarind Av to E. City limits Widen from 4 to 6 lanes									Exist Config: 2 lane each d rection					X				
San Bernardino	Local Highway	VICTORVILLE	4A07075				0	Smoketree Rd	Topaz Rd	Amargosa Rd	Widen Smoketree Rd from Topaz Rd to Amargosa Rd from 0 to 4 lanes (includes wash crossing)									Exist Config: New road						X			
San Bernardino	Local Highway	FONTANA	4A07183				0	So. Highland Av	Baseline	Cherry	So. Highland from Baseline Rd to Cherry Av Widen from 0 lanes to 4 lanes.									Exist Config: Does not exist						X			
San Bernardino	Local Highway	FONTANA	4A07166				0	So. Highland Av	Sierra	Palmetto	So. Highland Ave from Sierra Ave to Palmetto Ave Widen from 2 to 4 lanes									Exist Config: 3 lane each d rection					X				
San Bernardino	Local Highway	ONTARIO	200804	200804	0		0	SOUTH ARCHIBALD			SOUTH ARCHIBALD AVE. GRADE SEPARATION AT MISSION BLVD; CONSTRUCT A N GHWAY AND RR GRADE SEPARTION AT EXISTING AT-GRADE CROSSING SOUTH OF ARCHIBALD AND THE UPPR LA LINE-PROJECT TO BUILD NEW FLY-OVER BRIDGE FOR NB--WIDENING FROM 2-6 LANES 3 LANES IN EACH D RECTION AND LEFT AND RIGHT TURN LANES; DRAINAGE IMPROVEMENTS	SOUTH ARCHIBALD AVE.	n/a	AT MISSION BLVD	n/a	WIDEN 2-6 LANES.	3	6				X				
San Bernardino	Local Highway	VICTORVILLE	4A07043				0	Spring Valley Pkwy	Huerta Rd	Driftwood Dr	Widen Spring Valley Pkwy from Huerta Rd to Driftwood Dr from 2 to 4 lanes									Exist Config: 1 lane each direction						X			
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07091				0	State St	Foothill Blvd	I-215	Widen State St from Foothill Blvd to I-215 from 2 to 4 lanes									2 in each direction									X
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4120191				0	State St	Highland Ave	n/o Cajon Blvd	Widen State St from Highland Ave to n/o Cajon Blvd from 2 lanes to 4 lanes									2 in each direction									X
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	250824	200824	0	0	0	STATE ST			STATE STREET FROM ADAMS NORTH TO NOLAN/SHORT ST. [2 C4 M PS W/ORN FROM 2-6 LANES - GRADE SEPARATION	STATE STREET	1.60 MILES	ADAMS NORTH	NOLAN/SHORT ST	CONSTRUCT GRADE SEPARATION	2	6			X					
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07050				0	State Street	Redlands Blvd		Widen to 3 lanes									Exist Config: 1 lane each direction Vertical p rofile						X			
San Bernardino	Local Highway	LOMA LINDA	250801	200801	0	0	0	STEWART STREET			STEWART STREET WIDENING W DEN FROM 2-4 LANES FROM ANDERSON TO CAMPUS ST.	STEWART STREET	n/a	ANDERSON STREET	CAMPUS STREET	WIDENING	2	4			X								
San Bernardino	Local Highway	VICTORVILLE	4A07348				0	Stoddard Wells	Dane St	I-15	Widen Stoddard Wells from Dane St to I-15 (Phase 1A) 2 lanes to 4 lanes									Exist Config: 3 lane each direction						X			
San Bernardino	Local Highway	VICTORVILLE	4A07221				0	Stoddard Wells PS	Los Padres	I-15	Widen Stoddard Wells Rd from Los Padres Rd to I-15 from 2 to 4 lanes									Exist Config: 3 lane each d rection						X			
San Bernardino	Local Highway	RIALTO	4A07212				0	Summit Ave	Cherry Av	San Sevaine	Summit Ave from Cherry Ave to San Sevaine Wash from 2 lanes to 4 lanes									Exist Config: 2 lane each d rection					X				
San Bernardino	Local Highway	CALIMESA	4A07051				0	Sunset Valley Rd	1.88m n/o San 10	n/o San 38	Widen Sunset Valley Rd from 1.88m N. of SR 38 to 2.78m (per PA)									Exist Config: 2 lane each d rection					X				
San Bernardino	Local Highway	REDLANDS	4A07065				0	Sunset Valley Rd	4.33m n/o San 10	n/o San 38	Widen Sunset Valley Rd from 4.33m N. of SR 38 to 4.60m (per PA)									Exist Config: 1 lane in each direction							X		

County	System	Lead Agency	RTP ID	FTIP ID	Begin PM	End PM	Route Number	Route Name	From	To	Description	Roadway Segment						Transit Segment	Additional Details	RTP Baseline	Network Year (Project Completion by)						
												Route Name	Length	From	To	Description	Existing Lanes	Proposed Lanes	Route			2008	2012	2024	2028	2029	2030	2035
San Bernardino	Local Highway	CALTRANS	4A07117				18	Summit Valley Rd	4.31m n/o SH-138	N/o SH-138 1.22m	Widen Summit Valley Rd from 4.31M N. SR 138 (HSR Ctr) N 1.22M (~SR Ctr)								Exist Config: 1 lane each direction					X				
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4A07097				18	Summit Valley Rd	SH 138	Mt Rd 1/4mi To Rancheros Rd	Widen Summit Valley Rd from SR 138 to Rancheros Rd from 2 to 4 lanes								Exist Config: 1 lane each direction									X
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4A07019				18	Sunburst Avenue	SH-62_N	Crestview	Widen existing traffic lanes, adjust vertical Profile safety								Exist Config: 1 lane in each direction Vertical profile					X				
San Bernardino	Local Highway	VICTORVILLE	4120216				18	Third Ave	0.25m s/o Nisqualli Rd	Nisqualli Rd	Widen Third Ave from .25 m s/o Nisqualli Rd to Nisqualli Rd from 2 to 4 lanes								2 in each direction									X
San Bernardino	Local Highway	VICTORVILLE	4120227				18	Third Ave	575' s/o Nisqualli Rd	Silica Dr	Widen Third Ave from 575' s/o Nisqualli Rd to Silica Dr from 0 to 4 lanes								2 in each direction									X
San Bernardino	Local Highway	VICTORVILLE	4120228				18	Third Ave	600' n/o Bear Valley Rd	Bear Valley Rd	Widen Third Ave from 600' n/o Bear Valley Rd to Bear Valley Rd from 0 to 4 lanes								2 in each direction									X
San Bernardino	Local Highway	APPLE VALLEY	4A01018				18	Yucca Loma Rd	Ranchertas Rd	Central Rd	Widen from 1 to 2 lanes each dir								Exist Config: 1 lane in each direction					X				
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07152				18	Tippecanoe	Mill St	Harriman	Widen Tippecanoe from Mill St to Harriman from 4 to 6 lanes								Exist Config: 2 lanes each direction			X						
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07005				18	Tippecanoe Ave	San Bernardino Ave	Santa Ana River	Widen Bridge from 4 to 6 lanes								Exist Config: 2 lanes each direction					X				
San Bernardino	Local Highway	CHINO HILLS	4C01002				0	Tonner Canyon (Four Corners)	Grand	SR-57	New arterial corridor connecting Chino Hills with SR-57 (LA/OR Co.) with 2 lanes each dir., access to SR-57 at Brea Cyn Rd or Tonner Cyn Rd, connection to Grand Ave and Eucalyptus Ave, no connection to Valencia Ave								Exist Config: n/a							X		
San Bernardino	Local Highway	VICTORVILLE	4A07379				18	Topaz Rd	360' n/o Seneca Rd	At power line easement	Widen Topaz Rd from 360' n/o Seneca Rd to At Powerline Easement from 0 to 4 lanes								Exist Config: New road					X				
San Bernardino	Local Highway	VICTORVILLE	4A07283				18	Topaz Rd	Eucalyptus	Smoketree Rd	Widen Topaz Rd from Eucalyptus Rd to Smoketree Rd from 0 to 4 lanes								Exist Config: New road					X				
San Bernardino	Local Highway	VICTORVILLE	4A07164				18	Topaz Rd	Hopland	Luna Rd	Widen Topaz Rd from Hopland St to Luna Road from 0 to 4 lanes								Exist Config: New road					X				
San Bernardino	Local Highway	VICTORVILLE	4A01361				18	Topaz Rd	Seneca Rd	Palmdale Rd	Widen from 1 to 2 lanes each dir								Exist Config: 1 lane each direction					X				
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07228				18	University Pkwy	Hallmark Pkwy	BNSF Grade Separation	Widen University Pkwy from Hallmark Pkwy to BNSF Grade Separation from 2 to 4 lanes								Exist Config: 1 lane each direction			X						
San Bernardino	Local Highway	FONTANA	4A07035				18	Valley	Cherry	Alder	Valley Blvd from Cherry to Alder Widen from 2 to 4 lanes												X					
San Bernardino	Local Highway	FONTANA	4A07022				18	Valley Blvd	Almond	Cherry	Valley Blvd from Almond Ave to Cherry Ave Widen from 4 to 6 lanes								Exist Config: 2 lane each direction					X				
San Bernardino	Local Highway	FONTANA	4A07024				18	Valley Blvd	Cherry Ave	Hemlock	Widen Valley Blvd from Cherry Ave to Hemlock Ave from 5 to 6 lanes								Exist Config: 2 lanes each direction						M			
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4A07201				18	Valley Blvd	Etiwanda Ave	Commerce Dr	Widen Valley Blvd from Etiwanda Ave to Commerce Dr from 5 to 6 lanes								Exist Config: 2 lanes each direction						M			
San Bernardino	Local Highway	FONTANA	4120138				18	Valley Blvd	Poplar Ave	Alder Ave	Widen Valley Blvd from Sierra Ave to Alder Ave from 4 to 6 lanes								3 lane in each direction									X
San Bernardino	Local Highway	RIALTO	4A01263				18	Valley Blvd	Spruce Av	Sycamore Av	Widen from 1 to 2 lanes each dir								Exist Config:					X				
San Bernardino	Local Highway	COLTON	4A01082				18	Valley Blvd	Sycamore Av	Mt. Vernon Av	Widen from 2 to 3 lanes each dir								Exist Config: 4 Lane Major Arterial Street						M			
San Bernardino	Local Highway	ADELANTO	4120086				18	Verbena	Air Expressway	El Mirage Rd	Widen Verbena from Air Expressway to El Mirage								Widen from 2 to 4 lanes; 2 in each direction									X
San Bernardino	Local Highway	ADELANTO	4120085				18	Verbena	Cactus	Air Expressway	Widen Verbena from Cactus to Air Expressway								Widen from 2 to 4 lanes; 2 in each direction									X
San Bernardino	Local Highway	ADELANTO	4120087				18	Verbena	El Mirage Rd	Calleja	Widen Verbena from El Mirage to Calleja								Widen from 2 to 4 lanes; 2 in each direction									X
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120151				18	Victoria Ave	I-15	I-15	Widen Victoria Ave from I-15 to I-15								2 lanes in each direction				X					
San Bernardino	Local Highway	ONTARIO	4F00105				18	Vineyard Av	Nr Ontario	(Alhambra)	Safety Upgrade (Low Option); Grade Separation <High Option>; Widen 4-6 lanes								3 lane in each direction					X				
San Bernardino	Local Highway	ONTARIO	4A01222				18	Vineyard Ave from 4th St to I-10 from 4 to 6 lanes	4th St	I-10	Widen Vineyard Ave from 4th St to I-10 from 4 to 6 lanes								3 in each direction							X		
San Bernardino	Local Highway	ONTARIO	4A04223				18	Vineyard Ave from Riverside Dr to Edison Ave from 2 to 6 lanes	Riverside Dr.	Edison Ave	Widen Vineyard Ave from Riverside Dr to Edison Ave from 2 to 6 lanes								3 in each direction							X		
San Bernardino	Local Highway	ADELANTO	4120088				18	Vinton	Air Expressway	El Mirage Rd	Widen Vinton from Air Expressway to El Mirage								Widen from 2 to 4 lanes; 2 in each direction						M			
San Bernardino	Local Highway	ADELANTO	4120089				18	Vinton	Desert Flower	Oleander	Widen Vinton from Desert Flower to Oleander								Widen from 2 to 4 lanes; 2 in each direction						M			
San Bernardino	Local Highway	ADELANTO	4120091				18	Vinton	El Mirage Rd	Cotissa Rd	Widen Vinton from El Mirage to Cotissa								Widen from 2 to 4 lanes; 2 in each direction						M			
San Bernardino	Local Highway	ADELANTO	4120092				18	Vinton	Mojave Dr	Air Expressway	Widen Vinton from Mojave to Air Expressway								Widen from 2 to 4 lanes; 2 in each direction						M			
San Bernardino	Local Highway	ADELANTO	4120090				18	Vinton	Palmdale Rd	Victor	Widen Vinton from Palmdale to Victor								Widen from 2 to 4 lanes; 2 in each direction						M			
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	200837	200837	0	0	18	VISTA RD.			VISTA ROAD GRADE SEPARATION-WIDEN 2-4 LANES AND CONSTRUCT GRADE SEPARATION	VISTA ROAD	1 MILE	0.2 MILES WEST OF NATIONAL TRAILS HIGHWAY	0.2 MI LES WEST OF NATIONAL TRAILS HIGHWAY	GRADE SEPARATION	2	4						X				
San Bernardino	Local Highway	LOMA LINDA	4A07196				18	W. Van Leuven St.	Evans St	Orange Grove St	New road, 1 lanes each dir								Exist Config: Does not exist			X						
San Bernardino	Local Highway	APPLE VALLEY	4A07079				18	Waalew Rd	Corwin Rd	Central	Widen Waalew Rd from Corwin Rd to Central Rd from 2 to 4 lanes								Exist Config: 1 lane in each direction						X			
San Bernardino	Local Highway	REDLANDS	4A07215				18	Wabash Av	.18m n/o Seventh St	.13m n/o Seventh St	Widen Wabash Av from .30 m s/o Seventh St to .13m n/o Seventh St from 2 to 4 lanes								2 in each direction						M			
San Bernardino	Local Highway	REDLANDS	4A07211				18	Wabash Av	6th Av to 5th Av from	5th Av	Widen Wabash Av from 6th Av to 5th Av from 2 to 4 lanes								2 in each direction						M			
San Bernardino	Local Highway	COLTON	4A07259				18	Wabash Av	Colton Av	SR 38	Widen Wabash Av from Colton Av to SR 38 from 2 to 4 lanes								Exist Config: 3 lane each direction						X			
San Bernardino	Local Highway	REDLANDS	4A07381				18	Wabash Av	Redlands City limits	I-10	Widen Wabash Av from Redlands City Limits to I-10 from 2 to 4 lanes								Exist Config: 3 lane each direction						X			
San Bernardino	Local Highway	REDLANDS	4A07254				18	Wabash Av	SR-38 to San Bernardino	San Bernardino	Widen Wabash Av from SR 38 to San Bernardino Ave from 2 to 4 lanes								2 in each direction						M			
San Bernardino	Local Highway	ONTARIO	4A01234				18	Walker Ave from Riverside Dr to City Limit	Riverside	City Limits	Widen Walker Ave from Riverside to City Limit								3 lanes in each direction							X		
San Bernardino	Local Highway	FONTANA	4A01077				18	Walnut	I-15	San Bernardino	Walnut Ave from I-15 to San Bernardino from 2 to 4 lanes								Exist Config: 3 Lane each direction				X					
San Bernardino	Local Highway	FONTANA	4A01137				18	Walnut Av	Alhambra	Sierra	Widen from 1 to 2 lanes each dir								Exist Config: 1 lane each direction			X						
San Bernardino	Local Highway	[redacted]	4A07194				18	Washington St	Barton Rd	I-215	Widen Washington from Barton Rd to I-215 from 4 to 6 lanes								Exist Config: 4 Lane Major Arterial Street						X			
San Bernardino	Local Highway	[redacted]	4120133				18	Washington St	Manzanita	La Cadena Dr	Widen Washington St from Aqueduct to La Cadena Dr from 2 to 3 lanes								1 lane in each direction							X		
San Bernardino	Local Highway	[redacted]	4120132				18	Washington St	Waterman	I-215	Widen Washington St from Waterman to I-215 from 4 to 6 lanes								3 lanes in each direction							X		
San Bernardino	Local Highway	SAN BERNARDINO, City Of	4A01152				18	Waterman Av	5th St	Baseline Av	Widen from 2 to 3 lanes each dir								Exist Config: 2 lanes each direction with 2-way left turn lane							X		

County	System	Lead Agency	RTP ID	FTIP ID	Begin PM	End PM	Route Number	Route Name	From	To	Description	Roadway Segment							Transit Segment		RTP Baseline	Network Year (Project Completion By)						
												Route Name	Length	From	To	Description	Existing Lanes	Proposed Lanes	Route	Additional Details		2008	2012	2014	2018	2020	2025	2030	2035
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07003				0	Waterman Ave/I-10	Hospitality Lane	Redlands Blvd	Replace I-10 Bridge to Widen Waterman Ave from 4 to 6 Lanes									Exist Config: 2 lanes each direction							X	
San Bernardino	Local Highway	YUCA PA	4A013176A				0	Widewood Canyon Rd	Calimesa Bl	Colorado St	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	YUCA PA	4A013768				0	Widewood Canyon Rd	Colorado St	Canyon Dr	Widen from 1 to 2 lanes each dir									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	YUCA PA	4A01022				0	Widewood Cyn Rd	Outer I 10	Calimesa Blvd (new Rt)	Widen Widewood Cyn Rd from Outer I-10 St to Calimesa Blvd from 2 lanes to 4 lanes.									Exist Config: 1 lane each direction					X			
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120130				0	Wilson Ave	East Ave	Wardman/Bullock	Widen Wilson Ave from East Ave to Wardman/Bullock from 0 to 4 lanes									2 in each direction							X	
San Bernardino	Local Highway	RANCHO CUCAMONGA	4120131				0	Wilson Ave	Milliken	Day Creek Blvd	Widen Wilson Ave from Milliken to Day Creek Blvd from 0 to 4 lanes									2 in each direction							X	
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4A07051				0	Wilson Ranch Road	Duncan Road	Palmdale	Pave dirt road, 1 lane each dir									Exist Config: Dirt Road					X			
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4A07089	20C836	0	0	10	YATES RD			YATES RD. FROM .3 MILE NORTH OF CHINQUAPIN TO .02 MILES SOUTH OF FORTUNA (1.5 MILES) -WIDEN 2-4 LANES	YATES ROAD	1.5 MILES	0.28 MILES NORTH OF CHINQUAPIN	0.2 MILES SOUTH OF FORTUNA	WIDENING	2	4						X				
San Bernardino	Local Highway	APPLE VALLEY	4120097				0	Yucca Loma Rd	West Town Limits	SR-18	Widen Yucca Loma Rd from West Town Limits to SR-18 from 2 to 4 lanes									2 lanes in each direction							X	
San Bernardino	Local Highway	YUCAIPA	4A04318				0	Yucca pa Bl	I-10	Bryant St	Widen from 2 to 3 lanes each dir									Exist Config: 2 lanes each direction					X			
San Bernardino	Local Highway	APPLE VALLEY	4120096				0	Yucca Loma Rd (Mojave Br)	Yates Rd	W. Town Limits	Widen Yucca Loma Rd (Mojave Br) from Yates Rd to W Town Limits from 0 to 4 lanes									2 lanes in each direction							X	
San Bernardino	Local Highway	HESPERIA	SBD011A4	SBD031184	0	0	0				"I" AVENUE FROM RANCHERO RD TO MAIN ST. WIDEN FROM 2 LANES TO 4 LANES	I AVENUE	n/a	RANCHERO RD	MAIN ST	WIDEN	2	4					X					
San Bernardino	Local Highway	COLTON	4A07106	201157	0		0				WASHINGTON ST. FROM .50 M LES WEST OF WASHINGTON ST. TO LA CADENA ST. VERNON CONSTRUCT NEW 4 LANE ROADWAY (FOR PA & ED ONLY)	WASHINGTON STREET	0.50 MILES	WEST END OF WASHINGTON STREET	LA CADENA DRIVE	EXTEND WASHINGTON STREET	n/a	4						X			
San Bernardino	Local Highway	VICTORVILLE	SBD031423	SBD051423	0	0	0				3RD AVENUE, BEAR VALLEY TO NISQUALLI ROAD. WIDEN FROM 2 LANES TO 4 LANES, & FLIED ROAD WIDEN 4 LANES	3RD AVENUE	n/a	BEAR VALLEY	NISQUALLI ROAD	WIDEN	2	4			X		X					
San Bernardino	Local Highway	VICTORVILLE	SBD031422	SBD051422	0	0	0				3RD AVENUE MOJAVE RIVER TO GREEN TREE BOULEVARD WIDEN FROM 2 LANES TO 4 LANES	3RD AVE	n/a	MOJAVE RIVER	GREEN TREE BLVD	WIDEN	2	4			X		X					
San Bernardino	Local Highway	HIGHLAND	4E00702	201185	0	0	0				3RD STREET FROM VICTORIA AVENUE TO PALM AVENUE - SHOULDER IMPROVEMENTS (REMAINS 4 LANES) (1 MILE) FORMERLY PART OF PROJECT ID 20040 M	3RD STREET	1 MILE	VICTORIA AVENUE	PALM AVENUE	SHOULDER IMPROVEMENTS	4	4						X				
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	SBD59019	SBD59019	0		0				40TH ST. FROM ACRE LANE TO ELECTRIC AVENUE: ACQUIRE ROW AND WIDEN ROAD FROM 2 TO 4 LANES (1,200 FT.)	40th ST	.23 MILES	ACRE LANE	ELECTRIC AVE	WIDEN 2-4 LANES	2	4						X				
San Bernardino	Local Highway	HIGHLAND	4A01368	201184	0		0				5TH ST FROM RIPPLECANOE AVENUE TO VICTORIA AVE. WIDEN FROM 2-4 LANES	5TH STREET	1 MILES	RIPPLECANOE AVENUE	VICTORIA AVENUE	WIDEN	2	4						X				
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4A07119	201170	0	0	0				5TH STREET FROM STERLING AVE TO VICTORIA AVE WIDEN FROM 2-4 LANES.	5TH STREET	1 MILE	STERLING AVE.	VICTORIA	WIDEN	2	4						X				
San Bernardino	Local Highway	FONTANA	4A07216	201358	0	0	0				AGUA MANSA FROM RIALTO CHANNEL TO RANCHO AVE. 2-4 LANE WIDENING. (PROGRAMMED FUNDING FOR PA & ED ONLY)	AGUA MANSA	1.30 MILES	RIALTO CHANNEL	RANCHO AVE.	WIDENING	2	4						X				
San Bernardino	Local Highway	HIGHLAND	SBD55031	SBD55031	0		0				ALABAMA STREET FROM 2ND STREET TO SOUTH CITY LIMITS - WIDEN FROM 2 TO 3 S/B LANES (0.25 MILES)	ALABAMA STREET	0.25 MILES	3RD STREET	SOUTH CITY LIMITS	WIDEN	2	3							X			
San Bernardino	Local Highway	REDLANDS	200419	200419	0	0	0				ALABAMA STREET WIDENING - WIDEN FROM 2-4 LANES FROM NORTH CITY LIMITS TO 3,000 FT. NORTH PALM ITO	ALABAMA ST	n/a	NORTH CITY LIMITS	3,000 N/O PALMETTO	WIDEN	2	4						X				
San Bernardino	Local Highway	TWENTYNINE PALMS	SBD04127	SBD04127	0	0	0				AMBOY ROAD - LEAR AVE TO ADOBE RD (5.5 MILES) CONSTRUCT NEW 2 LANE ROAD (ONE LANE IN EACH DIRECTION)	AMBOY RD	5.5 MILES	LEAR	ADOBE	NEW 2 LANE ROAD	n/a	2						X				
San Bernardino	Local Highway	VICTORVILLE	SBD031418	SBD051418	0	0	0				AMETHYST ROAD PALMDALE ROAD TO HIGHLAND STREET. WIDEN EXISTING ROAD FROM 2 LANES TO 4 LANES	AMETHYST ROAD	n/a	PALMDALE ROAD	HIGHLAND STREET	WIDEN	2	4			X		Y					
San Bernardino	Local Highway	FONTANA	SBD031233	SBD031233	0	0	0				ARROW BLVD EQUESTRIAN ALONG RD MAPLE AVENUE. WIDEN 2 LANES TO 4 LANES	ARROW BLVD	n/a	ALDER AVE	MAPLE AVE	WIDEN FROM 2-4 LANES	2	4			X			X				
San Bernardino	Local Highway	UPLAND	200830	201101	0	0	0				ARROW ROUTE WIDENING FROM 2 TO 4 LANES, BRIDGE AND STREET WIDENING FOR ARROW ROUTE, FROM MONTE VISTA AVENUE TO BENSON AVENUE (PROJECT WAS 20060 IN 2008 RTIP)	Arrow Rt	2600	Monte Vista	Benson	Widening	2	4				X						
San Bernardino	Local Highway	YUCAIPA	4A134	2011157	0	0	0				AVENUE E IMPROVEMENTS FROM BRYANT ST. TO 5TH STREET, WIDEN 2-4 LANES	AVENUE E	n/a	BRYANT ST.	5TH STREET	WIDEN 2-4 LANES	2	4					X					
San Bernardino	Local Highway	RIALTO	SBD031361	SBD031361	0	0	0				AVILA DRIVE BASELINE ROAD TO 5TH ST. WIDEN FROM 2 LANES TO 4 LANES	AVILA DRIVE	n/a	5TH ST	BASELINE	WIDEN FROM 2-4 LANES	2	4			X		X					
San Bernardino	Local Highway	LOMA LINDA	SBD031239	SBD031239	0	0	0				BARTON ROAD EAST CITY LIMITS TO WEST CITY LIMITS WIDEN FROM 4 LANES TO 6 LANES SPECIAL WIDENINGS	BARTON RD	n/a	EAST CITY LIMITS	WEST CITY LIMITS	WIDEN	4	6						X				
San Bernardino	Local Highway	HIGHLAND	RE60701	201187	0		0				BASE LINE BETWEEN SR-210 RAMPS - WIDEN FROM 4 LANES TO 6 LANES (0.3 MILES) WIDEN SR-210 BRIDGE ON BASELINE FROM 4 LANES TO 6 LANES	BASELINE	0.3 MILES	BETWEEN SR 210 RAMPS	n/a	BASELINE BETWEEN SR 210 RAMPS. WIDEN 4-6 LANES INCLUDING THE BRIDGE	4	6						X				
San Bernardino	Local Highway	HIGHLAND	RD40701	201191	0	0	0				BASE LINE FROM SEINE AVENUE TO STONEY CREEK DRIVE - WIDEN FROM 4-6 LANES (0.2 MILES)	BASE LINE	0.2 MILES	SEINE AVENUE	STONEY CREEK DRIVE	WIDEN	4	6							X			
San Bernardino	Local Highway	FONTANA	SBD031917	SBD031917	0	0	0				BEECH AVENUE FOOTHILL TO MILLER AVE WIDEN FROM 2 LANES TO 4 LANES	BEECH AVENUE	n/a	FOOTHILL	MILLER	WIDEN	2	4						X				
San Bernardino	Local Highway	HIGHLAND	200618	190018	0		0				BOULDER AV ACROSS CITY CREEK S/O BASELINE. RECONSTRUCT EXISTING BRIDGE FROM 2 TO 4 LANES; ALSO WIDEN BOULDER AVE FROM 190' NORTH TO 1,430' SOUTH OF BRIDGE FROM 2-4 LANES (SBD0548)	BOULDER AVENUE	ABOUT 0.3 MILES	190' NORTH OF BRIDGE	1,430' SOUTH OF BRIDGE	WIDEN BRIDGE FROM 2-4 LANES	2	4			X		X					
San Bernardino	Local Highway	HIGHLAND	SBD55033	SBD55033	0		0				BOULDER AVE. FROM GREENSPOT TO SOUTH CITY LIMITS - WIDEN FROM 2-4 LANES (0.70 MILES)	BOULDER AVENUE	0.7 MILES	GREENSPOT ROAD/5TH ST	SOUTH CITY LIMITS	WIDEN	2	4							X			
San Bernardino	Local Highway	RIALTO	4A01256	2011131	0	0	0				CACTUS WIDENING - WIDEN CACTUS FROM VALLEY TO WALNUT AVENUES FROM 2-4 LANES	CACTUS	n/a	VALLEY	WALNUT	WIDEN 2-4 LANES	2	4			X		X					
San Bernardino	Local Highway	LOMA LINDA	SBD31876	SBD31876	0	0	0				CALIFORNIA STREET BARTON ROAD TO REDLANDS BOULEVARD WIDEN FROM 2 TO 4 LANES	CALIFORNIA STREET	n/a	REDLANDS BOULEVARD	BARTON ROAD	WIDEN NG	2	4			X			X				
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	SBD59023	SBD59023	0		0				CAMPUS PKWY EXTENSION FROM TERMINUS TO CITY LIMIT - CONSTRUCT 4 LANE ROADWAY BETWEEN BASELINE DRIVE AND CITY LIMIT, PARTIAL DIAMOND INTERCHANGE FOR SUB (2 OF 3 PH)	CAMPUS PKWY	n/a	BASELINE DR.	CITY LIMIT	CONSTRUCT NEW 4 LANE ROAD	n/a	n/a								X		
San Bernardino	Local Highway	FONTANA	4A04034	201139	0	0	0				CASA GRANDE AVENUE FROM LYTLE CREEK ROAD TO MANGO AVENUE CONSTRUCT 4 LANES	CASA GRANDE AVENUE	n/a	LYTLE CREEK ROAD	MANGO AVENUE	CONSTRUCT NEW ROAD	n/a	4							X			
San Bernardino	Local Highway	RANCHO CUCAMONGA	200023	200023	0	0	0				CHERRY AV - FROM SOUTH CITY LIMITS TO WILSON AV - WIDEN FROM 2 TO 4 LANES	CHERRY AVE	8	SOUTH CITY LIMITS	WILSON AVE	WIDENING	2	4			X		X					
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	200409	200409	0	0	0				CHERRY AVE. AT SAN SEVAINE CHANNEL - WIDEN BRIDGE FROM 4-6 LANES ON CHERRY OVER RECREATIONAL TRAIL CROSSING (FROM MERRILL TO WHITTRAM)	CHERRY AVE AT SCEA RR CROSSING	1 MILE	MERRILL AVE	WHITTRAM	WIDEN BRIDGE FROM 4-6 LANES	4	6							X			
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	20V410	20V410	0	0	0				CHERRY AVE. WIDENING FROM WHITTRAM TO I-10 FWY. BLVD W/ 6 LANES	CHERRY AVE.	n/a	WHITTRAM	I-10 FWY	WIDENING	4	6			X		Y					
San Bernardino	Local Highway	FONTANA	SBD031190	SBD031190	0		0				CHERRY AVENUE/BASELINE AVENUE TO MILLS AVENUE WIDEN NB STREET FROM 3 LANES TO 6 LANES	CHERRY AVE	n/a	BASELINE	HIGHLAND	WIDEN	3	6			X				X			
San Bernardino	Local Highway	FONTANA	4A04107	201107	0	0	0				CHERRY AVENUE FROM SOUTH HIGHLAND TO I-10 WIDEN 2-6 LANES	CHERRY AVENUE	n/a	SOUTH HIGHLAND	I-10	WIDENING	2	6							X			

County	System	Lead Agency	RTP ID	FTIP ID	Begin PM	End PM	Route Number	Route Name	From	To	Description	Roadway Segment							Transit Segment	Additional Details	RTP Baseline	Network Year (Project Completion By)						
												Route Name	Length	From	To	Description	Existing Lanes	Proposed Lanes	Route			2008	2012	2014	2018	2020	2023	2030	2035
San Bernardino	Local Highway	HESPERIA	200209	200209	0	0	0				IN HESPERIA - PAVE ESCONDIDO ROAD FROM RANCHERO TO CEDAR (2.0 MILES). PAVE 4 LANES OF ROADWAY 2 IN EACH DIRECTION	ESCONDIDO RD	2 MILES	RANCHERO RD.	CEDAR RD	PAVE 2 LANE DIRT ROAD	n/a	4			X		X						
San Bernardino	Local Highway	HESPERIA	200211	200211	0	0	0				IN HESPERIA CITY STREET FROM MAIN ST. TO BEAR VALLEY RD APPROX. 4.4 MILES - WIDEN FROM 2-4 LANES	'I' STREET	4.4	MAIN ST.	BEAR VALLEY RD	WIDEN	2	4					X					
San Bernardino	Local Highway	RANCHO CUCAMONGA	20020134	20020134	0	0	0				IN RANCHO CUCAMONGA - ON ARROW RTE, FROM ETIWANDA AVENUE TO EAST STREET - WIDEN FROM 2-4 LANES (3,400 FEET)	ARROW ROUTE	n/a	ETIWANDA AVE	EAST AVE	WIDEN	2	4			X		X					
San Bernardino	Local Highway	FONTANA	SBD031227	SBD031227	0	0	0				JURUPA AVENUE ETIWANDA TO SIERRA AVENUE CONSTRUCT 6 LANE ROAD	JURUPA AVENUE	n/a	ETIWANDA AVE	SIERRA AVE	CONSTRUCT 6 LANE ROAD	n/a	6			X		X					
San Bernardino	Local Highway	FONTANA	4A04108	201144	0		0				JURUPA AVENUE FROM TAMARIN'S AVENUE TO ALDER AVENUE WIDEN FROM 2 TO 4 LANES	JURUPA AVENUE	n/a	TAMARIND AVENUE	ALDER AVENUE	WIDEN	2	4					X					
San Bernardino	Local Highway	COLTON	4A03069	20110501	0		0				ON CAJON BLVD OVER SANTA ANA RIVER, 1.5 MI SOUTH OF I-10 REPLACE EXISTING 4 LANE BRIDGE WITH 6 LANE BRIDGE (54C0077)	CAJON BLVD	n/a	OVER SANTA ANA RIVER	n/a	1.5 MI SOUTH OF I-10 REPLACE EXISTING 4 LANE BRIDGE WITH 6 LANE BRIDGE	4	6						X				
San Bernardino	Local Highway	HESPERIA	4S01155	201154	0	0	0				LEMON STREET/MAUNA LOA STREET NEW RR UNDERCROSSING THAT INCLUDES CONSTRUCTION OF A NEW OVERCROSSING BRIDGE AND REALIGNMENT AND RECONSTRUCTION OF LEMON AND MAUNA LOA STREETS FROM 3RD AVE TO JUST WEST OF F AVE	LEMON ST./MAUNA LOA ST.	500 FT	3RD AVENUE	E AVENUE	NEW RAILROAD UNDERCROSSING	n/a	4					X					
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	200607	200607	0	0	0				LENA ROAD EXTENSION PROJECT - EXTENSION OF LENA RD FROM MILL ST TO ORANGE SHOW RD. NEW 4 LANE ROAD ELEMENT WITH BOATS AFTER EU 41701	LENA RD	n/a	MILL ST.	ORANGE SHOW RD	NEW 4 LANE ROAD	n/a	4			X		X					
San Bernardino	Local Highway	SANBAG	200627	200627	0		0				KENWOOD GRADE SEPARATION - NORTH OF WEST MAIN ST; APPROX 400 FT N/O TO 600 FT S/O BASE AND SANTA FE RR RIGHT-OF-WAY-4 TRAVEL LANE GRADE SEPARATION (CAC27)	KENWOOD AVE	n/a	N OF WEST MAIN ST	600' N/O TO 600' S/O SANTA FE RR	GRADE SEPARATION, WIDEN NG	2	4					X					
San Bernardino	Local Highway	HESPERIA	SBD55025	SBD55025	0	0	0				MAIN STREET FROM I-15 TO MAPLE (PHASE 1) FROM MAPLE TO 11TH (PHASE 2) - I-15 TO SR 395 (PHASE 3); WIDEN AND RECONSTRUCT FROM 4 - 6 LANES, INCLUDING WIDENING OF BRIDGE OVER CALFORNIA AQUEDUCT (2.75 MILES)	MAIN ST	2.75 MILES	I-15	US395	WIDEN	4	6			X		X					
San Bernardino	Local Highway	FONTANA	SBD031434	SBD031434	0		0				MARIPOSA AVENUE ALDER TO MAPLE AVENUE - WIDEN FROM 2 TO 4 LANES	MARIPOSA AVENUE	n/a	ALDER AVENUE	MAPLE AVENUE	WIDEN	2	4			X			X				
San Bernardino	Local Highway	GRAND TERRACE	4A07068	201106	0		0				MICHIGAN AVENUE WIDENING (2-4 LANES) FROM COMMERCE WAY TO MAIN STREET	MICHIGAN AVENUE WIDENING	n/a	COMMERCE WAY	MAIN ST	WIDENING	2	4			X			X				
San Bernardino	Local Highway	ONTARIO	SBD031315	SBD031315	0		0				MISSION BOULEVARD GROVE TO HAVEN - WIDEN FROM 4 LANES TO 6 LANES, LANDSCAPED MEDIAN AND STORM DRAINS (3 MI) (T21-460) SEG 1 ARCHIBALD TO HAVEN AND SEG 2- GROVE TO ARCHIBALD	MISSION BLVD	n/a	GROVE AVE	ARCHIBALD AVE	WIDENING, LANDSCAPE MEDIAN	4	6			X			X				
San Bernardino	Local Highway	ONTARIO	SBD031315	SBD031315	0		0				MISSION BOULEVARD GROVE TO HAVEN - WIDEN FROM 4 LANES TO 6 LANES, LANDSCAPED MEDIAN AND STORM DRAINS (3 MI) (T21-460) SEG 1 ARCHIBALD TO HAVEN AND SEG 2- GROVE TO ARCHIBALD	MISSION BOULEVARD	n/a	ARCHIBALD AVE	HAVEN	WIDEN, LANDSCAPE MEDIAN	4	6			X			X				
San Bernardino	Local Highway	APPLE VALLEY	200949	200049	0		K				MOJAVE RIVER BRIDGE CROSSING FROM TERMINUS OF YUCCA LOMA RD TO TERMINUS OF GREEN TREE BLVD - PRE-ENVIRONMENTAL REVIEW FOR CONSTRUCTION OF NEW 4 LANE BRIDGE. INCLUDES A BRIDGE OVER THE BNSF R/R TO HESPERIA ROAD. (Project 97147 Environmental Doc is to be included in this project. If the bypass connect and environ doc is required that the whole project be will alert on both SBD97147 and 200049)	MOJAVE RIVER BRIDGE CROSSING	n/a	TERMINUS OF YUCCA LOMA RD	TERMINUS OF GREEN TREE BLVD	NEW 4 LANE BRIDGE - INCLUDES A BRIDGE OVER THE BNSF R/R TO HESPERIA ROAD	n/a	6		$395 of STPL added to project in OS RTIP Amend 12, October 2007. Funds were shifted from Perris Blvd widening project in RIV031205. Past CMAQ and STP obligations both covered in HP2135 (TIP ID# 7014) CMAQ obligation - 9/26/08 with STPL completion 9/24/08.	X			X				
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	200857	200857	0	0	0				MONTE VISTA AVE. FROM PHILLIPS BLVD TO MISSION BLVD (0.5 MILES)-WIDENING FROM 2-4 LANES	MONTE VISTA AVE	0.5 MILES	PHILLIPS BLVD	MISSION BLVD	WIDENING	2	4						X				
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	SBD41317	SBD41317	0		C				MT. VIEW AVE. BRIDGE AT MISSION CREEK CHANNEL WIDEN ROADWAY & SHOULDER WIDTH AND EXISTING BRIDGE AT MT. VIEW LA. NO. & SO. TO 2 LNS N/B & EXT. TURNS TO MAKE A TOTAL OF 4 LANES (2 IN EACH DIRECTION)	MT. VIEW	.63 MILES	MISSION CREEK	MT. VIEW	WIDEN FROM 2-4 LANES	2	4						X				
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4SBD0101	201140	0		C				MT. VIEW AVE. BRIDGE OVER SANTA ANA RIVER. CONSTRUCT NEW 4 LANE BRIDGE. MT. VIEW CURRENTLY TERMINATES AT SOUTH EDGE OF SANTA ANA RIVER. PROJECT WOULD EXTEND BY MEANS OF BRIDGE ACROSS RIVER.	MT. VIEW AVE BRIDGE	n/a	OVER SANTA ANA RIVER	n/a	CONSTRUCT NEW 4 LANE BRIDGE OVER SANTA ANA RIVER. PROJECT WOULD EXTEND BY MEANS OF BRIDGE ACROSS RIVER	n/a	4					X					
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	SBD41131E	SBD41131E	0	0	0				MT. VIEW AVE. RAILWAY GRADE CROSSING, 1500 FT. NORTH OF I-10 WIDEN RAILWAY GRADE CROSSING FROM 1 LANE NORTH & SOUTH TO 2 LANES NORTH & SOUTH & UPGRADE GATES (0.75 MILES)	MT VIEW RR CROSSING	n/a	I10	1 MILE NORTH AND SOUTH	WIDEN	1	2					X					
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	200909	200909	0	0	0				MT VIEW WIDEN NB/EXTENSION PROJECT- WIDEN S/B FROM 2-4LNS FROM COULSON TO RIVERVIEW (SOUTH OF SANTA ANA RIVER) (PROJECT IS SPLIT INTO 2 SEPARATE PHASES AS OF FHA 2011 LMTPR)	MT. VIEW	.35 MILES	RIVERVIEW	CENTRAL	CONSTRUCT NEW 4 LANE RD/BRIDGE	n/a	4					X					
San Bernardino	Local Highway	VICTORVILLE	SBD38140	SBD38140	0	0	0				NATIONAL TRAILS ROAD BETWEEN INTERSTATE 15 & AIRBASE RD. WIDEN FROM 2 LANES TO 4 LANES.	NATIONAL TRAILS	n/a	I-15	AIRBASE RD.	WIDEN	2	4			X	X						
San Bernardino	Local Highway	VICTORVILLE	4A104	201179	0	0	0				NATIONAL TRAILS HIGHWAY BETWEEN INTERSTATE 15 & A R EXPRESSWAY WIDEN FROM 2-4 LANES (1.9 MILES)	NATIONAL TRAILS HIGHWAY	1.9 MILES	120 FT. NORTH OF I-15	670 FT. NORTH OF NATIONAL TRAILS HIGHWAYS AND AIR EXPRESSWAY INTERSECTION	WIDEN	2	4					X					
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	20040209	20040209	0		0				NAVAL TRAILS HWAY FROM BRYMAN RD S/O MORNING GLORY ST TO BRYMAN TO N/O MARIGOLD- WIDEN EXIST'G 2 LN RD FOR PASSING LNS - 2 IN EA DIRECT., INCL TRANSITIONS Y (SO W/#200106)	NATIONAL TRAILS HWAY	n/a	BRYMAN RD S/O MORNING GLORY	BRYMAN RD. N/O MARIGOLD	WIDEN 2-4 LANES	2	4			X		X					
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	SBD031426	SBD031426	0		0				NEEDLES HIGHWAY FROM 'N' STREET TO NEVADA STATE LINE- REALIGN, REHABILITATE, WIDEN SHOULDERS, TURN LANES, PASSING LANES, AND ACCELERATION LANES (1 LANE IN EACH DIR.) RELOCATE UTIL. (CURRENTLY PROGRAMMED FOR PSE ONLY)	NEEDLES HIGHWAY	4000 FT	N STREET	NEVADA STATE LINE	WIDEN AND REHAB, WIDEN SHOULDERS, TURN LANES AND PASSING LANES AND ACCEL LANES	2	2						X				
San Bernardino	Local Highway	VICTORVILLE	SBD031327	SBD031327	0	0	0				MOJAVE RIVER BRIDGE REPLACEMENT AND WIDENING FROM 2 LANES TO 4 LANES, DRAINAGE IMPROVEMENTS, AND MINOR REALIGNMENT	MOJAVE RIVER BRIDGE	0.3 MILES	n/a	BALSAM RD	HESPERIA RD	WIDEN	2	4			X		X					
San Bernardino	Local Highway	HIGHLAND	200213	200213	0		0				ON BASELINE FROM MEDICAL CENTER WAY WIDEN BASELINE AVE. FROM 2 TO 4 LANES AND EXTEND 3RD ST. EASTERLY TO CONNECT 5TH ST.	3RD ST	0.5 MILES	PALM ST	5TH ST.	WIDEN	2	4			X		X					
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	200414	200414	0	0	0				IN DUNCAN ROAD FROM MESA ST. TO BALDY MESA, PAVE DIRT ROADS 1 LANE IN EACH DIRECTION INCLUDING STOP SIGNS AT RR CROSSING	DUNCAN ROAD	n/a	OAKS RD.	BALDY MESA	PAVE DIRT ROADS	n/a	2						X				
San Bernardino	Local Highway	REDLANDS	2A04d	201113	0	0	0				ORANGE STREET FROM VIDORIA TO SAN BERNARDINO AVE. - WIDEN THE EAST SIDE OF THE STREET TO PROVIDE A RETENTION WITH ROADWAY TRAVEL AREA. PROJECT INCLUDES ROAD PAVING, CURB AND GUTTER, SIDEWALK, STREET LIGHTING, STRIPING AND MARKING AND LANDSCAPE IMPROVEMENTS. THE PROJECT WILL IMPROVE PEDESTRIAN AND VEHICULAR SAFE TRAVEL AND CIRCULATION	ORANGE STREET	n/a	CALIFORNIA	SAN BERNARDINO AVE	n/a	n/a	n/a							X				

County	System	Lead Agency	RTP ID	FSTIP ID	Begin PM	End PM	Route Number	Route Name	From	To	Description	Roadway Segment							Transit Segment		Additional Details	RTP Baseline	Network Year (Project Completion By)							
												Route Name	Length	From	To	Description	Existing Lanes	Proposed Lanes	Route			2008	2012	2014	2018	2020	2023	2030	2035
San Bernardino	Local Highway	REDLANDS	200420	200420	0	0	0				ORANGE STREET WIDENING - FROM NORTH CITY LIMITS TO RIVERVIEW DRIVE - WIDEN STREET FROM 2-4 LANES	ORANGE STREET	n/a	NORTH CITY LIMITS	RIVERVIEW DRIVE	WIDEN	2	4								X						
San Bernardino	Local Highway	[redacted]	4A07200	201159	0	0	0				PEPPER AVE - Easement south of I-10 FROM SLOVER TO AGUA MANSA NEW 2 LANE CONNECTION. TRAFFIC SIGNAL AT PEPPER AND AGUA MANSA	PEPPER AVE.	0.80 MILES	S.SLOVER AVE.	AGUA MANSA RD	PAVE NEW ROAD FOR EXTENSION	n/a	2								X						
San Bernardino	Local Highway	FONTANA	200217C	20021700	0		0				PEPPER AVE - FOOTHILL BLVD TO SR 210 - WIDEN EXISTING 2 LANES TO 4 LANES (2 EACH DIR)	PEPPER AVE.	n/a	FOOTHILL BLVD	SR 210	WIDEN	2	4		A			X							
San Bernardino	Local Highway	CHINO HILLS	4A3001	20030401	0		0				PEYTON DRIVE FROM ENGLISH RD TO EUCALYPTUS; WIDEN PEYTON FROM 4-6 LANES WITH MARKED BIKE LANES IN EACH DIRECTION (PHASE 2; OF SBD041242	PEYTON DRIVE	1.0	ENGLISH RD	EUCALYPTUS AVE	WIDEN	4	6					X							
San Bernardino	Local Highway	CHINO HILLS	4A3002	20030402	0		0				PEYTON DRIVE FROM EUCALYPTUS TO SR 142; WIDEN PEYTON TO 2-4 LANES WITH MARKED BIKE LANES IN EACH DIRECTION	PEYTON DRIVE	n/a	EUCALYPTUS	SR 142	WIDEN PEYTON TO 2-4 LANES	2	4			5756 of STIP, accepted project in 06 RTP Amend 12, October 2007. Funds were shifted from Perris Blvd widening project in RIV112005. Past CMAQ and STP obligations both covered in MP2358PL-0027(C12). CMAQ obligation - 9/14/01 with STP, obligation 8/14/06	X				X					
San Bernardino	Local Highway	HESPERIA	SBD05028	SBD05028	0	0	0				RANCHERO RD. FROM DANBURY TO ARROWHEAD LAKE RD. - WIDEN FROM 2 TO 4 LANES (1 MILES)	RANCHERO RD	n/a	DANBURY	ARROWHEAD LAKE RD	W DEN	2	4							X					
San Bernardino	Local Highway	HESPERIA	SBD05030	SBD05030	0	0	0				RANCHERO RD. FROM I-15 TO 7TH ST. - WIDEN FROM 2 TO 4 LANES (5.50 MILES)	RANCHERO RD.	5.5 MILES	I-15	7TH STREET	WIDEN FROM 2-4 LANES	2	4		X			X							
San Bernardino	Local Highway	HESPERIA	SBD031276	SBD031276	0		0				RANCHERO ROAD 7TH AVENUE TO DANBURY REALIGN ROAD AND WIDEN ROAD 2-4 LANES AND CONSTRUCT RAILROAD UNDERCROSSING	RANCHERO ROAD	n/a	7TH AVENUE	DANBURY	CONSTRUCT RAILROAD UNDERCROSSING	2	4		X			X							
San Bernardino	Local Highway	HESPERIA	SBD041289	SBD041289	0	0	0				RANCHO LAS FLORES PARKWAY AND EAGLES CURRENTLY EXIST (DEVELOPER TO CONSTRUCT HIGHWAY 138 TO RANCHERO RD 2 LANES ON EACH DIRECTION.	RANCHO LAS FLORES	n/a	SR138	RANCHERO RD	CONSTRUCT NEW ROAD/NEW CONNECTION	n/a	4		X			X							
San Bernardino	Local Highway	FONTANA	4A07225	SBD031159	0	0	0				RANDALL AVENUE ALDER AVENUE TO MAPLE AVENUE - WIDEN FROM 2 TO 4 LANES	RANDALL AVENUE	n/a	ALDER AVENUE	MAPLE AVENUE	W DEN	2	4							X					
San Bernardino	Local Highway	LOMA LINDA	SBD031299	SBD031299	0	0	0				REDLANDS BOULEVARD EAST CITY LIMITS TO WEST CITY LIMITS - WIDEN FROM 4 LANES TO 5 LANES	REDLANDS BLVD	n/a	EAST CITY LIMITS	WEST CITY LIMITS	W DEN	4	5							X					
San Bernardino	Local Highway	BEALCO	200603	200603	0		0				RIVERS DE AVE OVER METROLINK AND RIVERSIDE DR. 2 LEGS OF I-10 REMOVE AND REPLACE EXISTING 4 LANE BRIDGE WITH 7 LANE BRIDGE (PASED ENVIR SCOPING FOR PROJECT. HIGH COST PROJECT AGREEMENT REQUIRED PRIOR TO PE AUTHORIZATION.	RIVERSIDE AVE	0.02	S/O I-10	SLOVER AVE	BR BRIDGE MODIFICATION	5	7							X					
San Bernardino	Local Highway	CHINO	SBD031352	SBD031352	0	0	0				RIVERS DE DRIVE AT SAN ANTONIO FLOOD CONTROL CHANNEL - WIDEN BRIDGE FROM 4 LANES TO 6 LANES	RIVERSIDE AVE	n/a	AT SAN ANTONIO FLOOD CONTROL	AT SAN ANTONIO FLOOD CONTROL	W DEN BRIDGE FROM 4-6 LANES	4	6		Y			X							
San Bernardino	Local Highway	FONTANA	SBD031368	SBD031368	0		0				SIERRA AVENUE FOOTHILL BOULEVARD TO BASELINE AVENUE - WIDEN FROM 4 TO 6 LANES	SIERRA AVENUE	n/a	FOOTHILL BOULEVARD	BASELINE AVENUE	WIDEN	4	6							X					
San Bernardino	Local Highway	FONTANA	4A04128	201145	0	0	0				SIERRA AVENUE FROM VALLEY BOULEVARD TO SAN BERNARDINO AVENUE WIDEN FROM 4 TO 6 LANES	SIERRA AVENUE	n/a	VALLEY BOULEVARD	SAN BERNARDINO	WIDEN	4	6		X			X							
San Bernardino	Local Highway	FONTANA	4A04127	201188	0	0	0				SIERRA LAKES PARKWAY FROM BEECH AVENUE TO CITRUS AVENUE WIDEN FROM 2 TO 4 LANES.	SIERRA LAKES PARKWAY	n/a	BEECH AVENUE	CITRUS AVENUE	WIDEN	2	4		X			X							
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4A01265	201151	0	0	0				SLOVER AVE. FROM ALDER AVE. EAST TO LINDEN AVENUE WIDEN 2-4 LANES	SLOVER AVENUE	n/a	ALDER AVENUE EAST	LINDEN AVENUE	W DEN	2	4		X			X							
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	4A01265	201150	0	0	0				SLOVER AVENUE FROM CEDAR AVE. EAST TO LARCH AVE. WIDEN FROM 2-4 LANES	SLOVER AVE.	n/a	CEDAR AVE.	EAST OF LARCH AVE	W DEN FROM 2-4 LANES	2	4		X			X							
San Bernardino	Local Highway	FONTANA	4A01132	201147	0	0	0				SLOVER AVENUE FROM ETIWANDA AVENUE TO 830 FEET EAST OF ETIWANDA AVENUE WIDEN FROM 2-4 LANES	SLOVER AVENUE	n/a	ETIWANDA AVENUE	830 FT. EAST OF ETIWANDA AVENUE	W DEN	2	4		X			X							
San Bernardino	Local Highway	CHINO HILLS	SBD041241	SBD041241	0		0				SOQUEL CANYON PARKWAY EXTENSION CONSTRUCT NEW 2 LANE ROAD W BIKE LANES FROM EXISTING TERMINUS OF SOQUEL CANYON PARKWAY AT PIPELINE AVE TO WOODVIEW ROAD AT MEDIAN INCLUDED ARE BICYCLE LANES MARKED IN EACH DIRECTION	SOQUEL CANYON PARKWAY	6198'	PIPELINE AVE	WOODVIEW	CONSTRUCT NEW 2 LANE RD	n/a	3							X					
San Bernardino	Local Highway	FONTANA	4A07056	201148	0	0	0				SOUTH HIGHLAND AVENUE FROM CHERRY AVENUE TO CITRUS AVENUE - WIDEN FROM 2 TO 4 LANES	SOUTH HIGHLAND AVENUE	n/a	CHERRY AVENUE	CITRUS AVENUE	W DEN	2	4						X						
San Bernardino	Local Highway	HIGHLAND	REG0701	201186	0		0				SR 210 RAMPS AT BASE LINE RAMP WIDENING - ADD LANES WIDEN ON AND OFF RAMPS AT SOUTHBOUND SR-210/BASE LINE IC	SR210 RAMPS	ABOUT 0.5 MILES ARE TOTAL	SR210	BASELINE	W DEN	2	n/a							X					
San Bernardino	Local Highway	CALIMESA	SBD04174	SBD04174	0	0	0				STATE RD., TE 62 CANYON TO SUNRISE - WIDEN FROM 4 TO 5 LANES FOR CONTINUOUS LEFT TURN LANE	SR62	n/a	CANYON RD	SUNRISE RD	W DEN FOR CONTINUOUS LEFT TURN LANE	4	5				X								
San Bernardino	Local Highway	TWENTYNINE PALMS	SBD04179	SBD04179	0	0	0				STATE ROUTE 62 (FT. DRIVE TO LUPINE DRIVE - WIDEN FROM 4 TO 5 LANES FOR CONTINUOUS LEFT TURN LANE	STATE ROUTE 62	n/a	LEE DRIVE	LUPINE DRIVE	WIDEN 4-5 LANES FOR CONTINUOUS LEFT TURN LANE	4	5				X								
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	SBD59021	SBD59021	0	0	0				STATE STREET FROM 16TH STREET TO FOOTHILL BLVD., EXTEND AND CONSTRUCT (4) LANES OF ROADWAY (1.5 MILES) TO CONNECT STATE STREET TO RANCHO AVENUE (NEW ROADS) PHASES TOTAL IN PROJECT	STATE ST	n/a	1ST ST.	FOOTHILL BLVD	CONSTRUCT NEW 2 LANE ROAD	n/a	4		X					X					
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	4CM0701	201184	0	0	0				STERLING AVE FROM 3RD STREET TO 5TH STREET - WIDEN FROM 2-4 LANES (0.13 MILES) FORMERLY PART OF PROJECT ID 200852	STERLING AVE	0.13 MILES	3RD STREET	5TH STREET	WIDEN	2	4							X					
San Bernardino	Local Highway	SAN BERNARDINO COUNTY	20040210	20040210	0		0				SUMMIT VALLEY ROAD - FROM SH 138 TO RANCHERO ROAD WIDEN FROM 2-4 LANES	SUMMIT VALLEY ROAD	n/a	SH 138	RANCHERO RD	W DEN	2	4							X					
San Bernardino	Local Highway	CHINO	4A0002	201135	0	0	0				THE CHINO-CORONA ROAD IMPROVEMENTS PROJECT IS LOCATED IN THE NEWLY ANNEXED AREA OF THE CITY OF CHINO. IMPROVEMENTS INCLUDE CONSTRUCTION OF A NEW BRIDGE CROSSING OVER MILL CREEK (BOX CULVER) WITH ROAD OVER EMBANKMENT, A NATURAL DRAINAGE SYSTEM OWNED AND MAINTAINED BY UNITED STATES ARMY CORPS OF ENGINEERS ALONG CHINO-CORONA ROAD	CHINO-CORONA ROAD	n/a	MILL CREEK	MILL CREEK	NEW BRIDGE	n/a	n/a		X			X							
San Bernardino	Local Highway	HIGHLAND	4A07282	201182	0	0	0				TIPPECANOE AVENUE FROM 3RD STREET TO 5TH STREET - WIDEN FROM 2-4 LANES (0.3 MILES) FORMERLY PART OF PROJECT ID 200852	TIPPECANOE	0.3 MILES	3RD STREET	5TH STREET	WIDEN	2	4							X					
San Bernardino	Local Highway	SAN BERNARDINO, CITY OF	200810	200810	0	0	0				TIPPECANOE WIDENING PROJECT - BETWEEN MILL AND SANTA ANA AVENUES FROM 4 TO 6 LANES (0.5 MILES)	TIPPECANOE	0	MILL ST	SANTA ANA AVENUE	W DEN	4	6					X							
San Bernardino	Local Highway	FONTANA	4A07274	201167	0	0	0				VALLEY BOULEVARD FROM BEECH AVENUE TO CITRUS AVENUE WIDEN FROM 4-6 LANES	VALLEY BOULEVARD	n/a	BEECH AVENUE	CITRUS AVENUE	W DEN	4	6								X				
San Bernardino	Local Highway	FONTANA	4A07273	201149	0	0	0				VALLEY BOULEVARD FROM CHERRY AVENUE TO BEECH AVENUE WIDEN FROM 4-6 LANES	VALLEY BOULEVARD	n/a	CHERRY AVENUE	BEECH AVENUE	WIDEN	4	6								X				
San Bernardino	Local Highway	FONTANA	4A07272	201169	0	0	0				VALLEY BOULEVARD FROM CITRUS AVENUE TO SIERRA AVENUE WIDEN FROM 4-6 LANES	VALLEY BOULEVARD	n/a	CITRUS AVENUE	SIERRA AVENUE	WIDEN	4	6								X				
San Bernardino	Local Highway	FONTANA	4A07293	201166	0	0	0				VALLEY BOULEVARD FROM LIME AVENUE NORTH TO AVENUE WIDEN FROM 4-6 LANES	VALLEY BOULEVARD	n/a	MEADOW & AVENUE	BEECH AVENUE	WIDEN	4	6								X				
San Bernardino	Local Highway	FONTANA	4A07291	201164	0	0	0				VALLEY BOULEVARD FROM SIERRA AVENUE TO ALDER AVENUE - WIDEN FROM 4-6 LANES	VALLEY BOULEVARD	n/a	SIERRA AVENUE	ALDER AVENUE	WIDEN	4	6								X				
San Bernardino	Local Highway	REDLANDS	200616	200616	0	0	0				WABASH AVENUE FROM 5TH ST TO I-10 - CONSTRUCT NEW 2 LANE STREET TO BE TO MATCH EXISTING AND ON RAMPS CONSTRUCT EXISTING LANE (1 LANE IN EACH DIRECTION) 1 MILE	WABASH AVE	n/a	5TH AVE	I-10 FREEWAY	CONSTRUCT 2 LANE ARTERIAL	n/a	2		X			X							

CITY of CYPRESS

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February 28, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Subject: OCCOG Letter of February 14, 2012

Dear Mr. Ikhrata:

On behalf of the Cypress City Council, I am contacting you to urge adoption of the comments made by OCCOG in their February 14, 2012 letter (attached) regarding the current RTP/SCS process and its corresponding/associated PEIR.

The work done by OCCOG was exhaustive, well considered and clearly demonstrates the commitment made by the member agencies to meaningfully participate in the preparation and review of a supportable and balanced RTP/SCS.

We are all aware of the scope and long term importance of these documents. The incorporation of the attached comments will contribute greatly to the viability of SCAG's efforts in this area and will result in an enhanced final product.

Thank you for coordinating this effort. The City of Cypress looks forward to a final document that incorporates these comments.

Sincerely,

Doug Bailey
Mayor

Attachment

Cc: City Council
City Manager
Director of Community Development

Doug Bailey, Mayor
Prakash Narain, M.D., Mayor Pro Tem **Phil Luebben**, Council Member
Leroy Mills, Council Member **Todd W. Seymore**, Council Member

Orange County
Council of Governments
Member Agencies

Aliso Viejo
Anaheim
Brea
Buena Park
Costa Mesa
Cypress
Dana Point
Fountain Valley
Fullerton
Garden Grove
Huntington Beach
Irvine
La Habra
La Palma
Laguna Beach
Laguna Hills
Laguna Niguel
Laguna Woods
Lake Forest
Los Alamitos
Mission Viejo
Newport Beach
Orange
Placentia
Rancho Santa Margarita
San Clemente
San Juan Capistrano
Santa Ana
Seal Beach
Stanton
Tustin
Villa Park
Westminster
Yorba Linda
County of Orange
OCTA
TCA
OC Sanitation District
ISDOC
South Coast AQMD

February 14, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Dear Hasan,

On behalf of the Orange County Council of Governments (OCCOG), I would like to commend the Southern California Association of Governments (SCAG) and its staff who worked hard to prepare the draft Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS), the Program Environmental Impact Report (PEIR), and associated documents. This effort was monumental and unprecedented in our history and throughout the process collaboration between SCAG and Orange County stakeholders has been exceptional.

The 34 Orange County local jurisdictions and six special districts that comprise OCCOG thank you for the opportunity to comment on the Draft 2012 RTP and associated PEIR.

As you know, Orange County took upon itself the task of developing a subregional SCS. The continued cooperation of SCAG staff and the numerous references throughout the document where the RTP/SCS expressly states that it incorporates the Orange County Sustainable Communities Strategy (OC SCS) into the RTP/SCS document is greatly appreciated.

The OCCOG Technical Advisory Committee (OCCOG TAC), made up of member agency planning staff, created an ad hoc committee dedicated to the review of the Draft RTP/SCS and PEIR. This committee met four times since January 3, 2012, and has collectively spent hundreds of hours since reviewing the draft plan and documents. The OCCOG TAC review and analysis was considered in late January by the OCCOG Board and serves as the basis for OCCOG's comments.

The following general comments and recommendations are offered by OCCOG on the draft 2012-2035 RTP and SCS (draft RTP/SCS) and associated Appendices and draft PEIR (draft PEIR). OCCOG requests that this letter and its attachments be included in the public record as our collective comments on the draft RTP/SCS, PEIR and associated documents.

1. GROWTH FORECASTS

Issue: Growth Projections: The 2012 growth projections identify population, housing and employment data for the six-county SCAG region, from 2008 (existing) to 2020 and 2035. These growth projections represent the best available information from local jurisdictions, the business community, and landowners. However, as time passes, what is feasible for any given project can change. The triggers for change to adopted growth projections can range from factors such as market conditions, new information or data, infrastructure availability, changes in funding availability (such as the dissolution of redevelopment agencies statewide), and changes to jurisdictional boundaries resulting from future annexations and incorporations of previously designated unincorporated territory. SCAG should continue to adopt the 2012 growth projections at a countywide level, consistent with past approvals of the RTP growth forecasts.

A county level of geography accommodates internal adjustments to changing conditions as described above, without compromising the integrity of the overall growth projections. However, approving the growth projections at any lower level of geography, such as at the city level, would be challenged with continual revisions and shifts to the total number of housing, population and employment within a city, among cities, and between cities and counties as a result of the factors described above. Adoption of the data at a level lower than the county would limit jurisdictional control and create inflexibility in a regional planning document. In addition, the level of geography in which RTP/SCS growth forecast is adopted should not be determined by other processes. For example, the Regional Housing Needs Allocation (RHNA) allocations must be consistent with the RTP/SCS; state law does not require that they be identical. The RTP/SCS can be adopted at the county level and the RHNA process may proceed independently until it is completed after the appeals, trades, and transfers are completed. The RHNA allocations that were derived from the growth forecast can still be determined to be consistent with the RTP/SCS, even if changes are made to the city totals during the appeals, trades, and transfers process.

Growth Projections Recommendation: SCAG's adoption of the growth forecast numbers should be at the county level, consistent with past RTPs, and not at a smaller level of geography such as city, census tract, or traffic analysis level.

Issue: Orange County Projections (OCP)-2010 Modified: On January 26, 2012, the update to the OCP-2010 dataset known as "OCP-2010 Modified" was officially approved by the OCCOG Board of Directors and is a data amendment to the OC SCS. The dataset includes the 2010 Census population and housing data, along with the 2010 Employment Development Department Benchmark data, consistent with SCAG's updated growth forecast dataset. The dataset was provided to SCAG staff in December 2011 and this letter also serves as the formal notice of the update that should be incorporated into the 2012 RTP/SCS, PEIR, and related documents.

OCP-2010 Modified Recommendation: All documents, tables, maps, narrative, modeling runs, PEIR Alternatives (including Alternate C/3/Envision 2) referencing

the Orange County growth forecasts should be updated with the Orange County Projections-2010 Modified Growth Projections, as adopted by the OCCOG Board of Directors and consistent with the subregional delegation Memorandum of Understanding (MOU) between OCCOG, OCTA and SCAG.

2. DRAFT RTP/SCS

Issue: 2012 Draft RTP/SCS: The RTP/SCS identifies strategies to reduce greenhouse gas (GHG) emissions from cars and light duty trucks. Because counties, jurisdictions and agencies have different needs and feasibility of implementation, we believe these strategies should be clearly identified as a menu of options that can be used to achieve the goal of reduced GHG emissions. However, the document can be construed to suggest that each of the strategies listed in the table on pages 150-153 are necessary to successfully implement the SCS, many of which are beyond SCAG's purview or control. It is requested that the language be clear that it is permissive.

2012 Draft RTP/SCS Requests:

1. **Revise language on page 149: "The following tables list specific implementation strategies that local governments, SCAG, and other stakeholders may use or consider while preparing specific projects which ~~that help can and should undertake in order~~ to successfully implement the SCS."**

2. **Please provide SCAG analysis supporting the strategies in the Draft RTP/SCS Chapter 4.**

3. **Please describe what municipal obligations are anticipated as a result of adopting these strategies as a list to be accomplished rather than a menu of options.**

Issue: OC SCS Strategies: There are strategies in the OC SCS that are not included in the regional SCS. Similarly, there are some strategies in the regional SCS that are not consistent with the strategies in the OC SCS. This creates confusion and clarification is needed.

Under SB 375 and only within the SCAG region, subregional councils of government were allowed to prepare subregional plans that SCAG is then required to incorporate into the regional SCS. In Orange County, the OCCOG and the Orange County Transportation Authority (OCTA) developed a countywide or subregional OC SCS that was to be incorporated in whole into the SCAG SCS. Local agencies in Orange County developed the OC SCS and approved it in June 2011. SCAG has incorporated the OC SCS in its entirety into the regional SCS as an appendix to the regional SCS, but it is unclear what the standing is of the OC SCS. The OC SCS contains a set of strategies that were agreed upon by local governments, agencies and other stakeholders within

Orange County and was accepted by SCAG and should represent the SCS that is applicable to the Orange County region.

OC SCS Strategies Recommendation: Please revise the text in the last paragraph on page 106 to state: "These subregional SCS documents are incorporated into the regional SCS and represent the SCS for each of these subregions."

3. DRAFT PEIR

Issue: Mitigation Monitoring Program Intent: It is unclear how SCAG intends to implement the Mitigation Monitoring Program with regard to the proposed mitigation measures, as may be implemented by local agencies. Section 1-5 of the PEIR specifically provides that "Lead agencies shall provide SCAG with documentation of compliance with mitigation measures through SCAG's monitoring efforts, including SCAG's Intergovernmental Review (IGR) process." It is infeasible for SCAG to require local jurisdictions to report when such mitigation measures are considered for any project. Noting that the SCAG region includes 6 counties, 14 subregional entities and 191 cities, this reporting requirement would surely fall short of expectations. Given this identified infeasibility, please clarify what obligations local agencies may have regarding SCAG's mitigation monitoring efforts.

Mitigation Monitoring Program Intent Requests/Recommendations:

1. **Does SCAG intend to require all jurisdictions that avail themselves of the mitigation measures to report to SCAG when such measures are considered for any project?**

2. **SCAG's approval of the PEIR needs to clearly state the intent and applicability of the mitigation measures and the PEIR reflective of our comments below and that mitigation measures do not supersede regulations under the jurisdiction of other regulatory agencies.**

3. **Add language to Executive Summary and Introduction: "Mitigation measures do not supersede regulations under the jurisdiction of other regulatory agencies."**

4. Feasibility and Applicability

On pages 1-5 and 1-7, the language should reflect that Lead agencies will determine the feasibility and applicability of measures and that the measures are intended to offer a menu of options available should a lead agency opt to utilize them. The PEIR makes the assertion on page 1-7 of the Project Description under Transportation Project Mitigation and Land Use Planning and Development Project Mitigation sections that the draft PEIR has made a preliminary determination that all of the mitigation measures in it are considered feasible. SCAG has not identified any analysis that supports the feasibility of the mitigation measures that are to be undertaken by entities other than

SCAG and SCAG staff has stated on numerous occasions that the mitigation measures were intended to be a menu of options for consideration by lead agencies.

Issue: Mitigation Measures Impose Obligations Beyond Scope of SB 375. Given the combination of the RTP and the SCS processes, as mandated by SB 375, we recognize that SCAG must undertake the difficult task of balancing the goal of having a coordinated regional transportation system with land use strategies that encourage a more compact use of land. However, a key principle of SB 375 is that it is not intended to supersede local agencies' authority to regulate land uses. Specifically, Government Code section 65080(b)(2)(K) provides, in relevant part that ". . . .Nothing in a sustainable communities strategy shall be interpreted as superseding the exercise of the land use authority of cities and counties within the region. . ."

In light of the limitation expressed at Government Code Section 65080(b)(2)(K), we find language in the PEIR, and specifically the mitigation measures therein, imposing affirmative obligations on local agencies within the SCAG region to be inappropriate and contrary to law. The proposed language as recommended below would remedy the legal conflict with Section 65080(b)(2)(K), yet achieve SCAG's recognition that project-specific environmental review is the appropriate level of review for projects that have their own unique, site-specific circumstances.

The revisions are further consistent with OCCOG's understanding that SCAG intended to provide the mitigation measures as a "toolbox" to local agencies for use within their discretion if and when appropriate for projects within their respective jurisdictions. Indeed, from materials presented by SCAG, including the January 26, 2012 workshop held at the City of Anaheim Council Chambers, SCAG explained that "**This PEIR offers a "toolbox" of mitigation measures** for future project-level environmental analyses. . . It also includes suggested mitigation measures for local agencies to consider for implementation, if appropriate and feasible (phrased as "can and should"). This language is permissive and not mandatory upon local agencies."

Mitigation Measures Impose Obligations Beyond Scope of SB 375 Recommendations:

1. **Please provide SCAG analysis supporting the feasibility of mitigation measures in the PEIR.**

2. **Change language on page 1-7 found in 2 places under MITIGATION MEASURES, subheadings Transportation Project Mitigation and Land Use Planning and Development Project Mitigation: "This Draft PEIR has made a preliminary determination that the proposed mitigation measures are feasible and effective. Therefore, it is reasonable to expect that these agencies will actually implement them where, in the agencies' independent discretion, the measures are deemed applicable in light specific circumstances at the project level."**

3. **Change language on page 1-5, first paragraph: "Mitigation Measures proposed in this PEIR <u>are available as tools for implementing agencies and local lead agencies to use as they deem applicable</u>. The implementing agencies and local lead agencies <u>are</u> responsible for ensuring adherence to the mitigation measures as 2012-2035 RTP/SCS projects are considered for approval over time."**

4. **Please make similar text amendments to other sections, including the Executive Summary, of the PEIR that reference how the mitigation measures are to be used by lead agencies.**

5. <u>"Can and Should"</u>

As indicated in the PEIR on page 1-6, state law provides that it is appropriate to indicate in mitigation measures that they "can and should" be implemented where the authority to implement the measures rests with agencies other than SCAG. The language conveys to local agencies an affirmative obligation to address each mitigation measure, irrespective of whether such agencies deem the measures applicable to a particular project or duplicative of their own or other governmental agencies' regulatory measures (as discussed in Section 14). OCCOG recognizes that SCAG's use of the words "can and should" are derived from California Environmental Quality Act (CEQA), at Public Resources Code sections 21081 and 2155.2(b)(5)(B)(ii) and CEQA Guidelines, including section 15091(a)(2). Nevertheless, given the express limitation of SB 375 upon respective local agencies' land use authority, OCCOG deems any language seemingly imposing affirmative obligations contrary to SB 375 inappropriate. As such, the use of the language "can and should" for mitigation measures addressed to local agencies is inappropriate.

<u>"Can and Should" Recommendations:</u> Change language in all mitigation measures identifying entities other than SCAG to read "~~can and~~ should <u>consider where applicable and feasible</u>." To clarify the intent that the mitigation measures are a menu of options for which feasibility has not been established for any given project, the "can and should" language should be changed in all mitigation measures identifying entities other than SCAG to read "should consider where applicable and feasible."

6. <u>CEQA Streamlining:</u>

One of the key components of SB 375 was the inclusion of incentives that provided CEQA streamlining for projects consistent with the objectives of the bill as well as consistent with the SCS. As identified on pages 1-10 through 1-12, for projects to qualify for these incentives, mitigation measures from the applicable environmental document must be incorporated into the project. It is not clear, however, which measures would need to be incorporated into a project for it to qualify, particularly in light of the intent of SCAG for the measures to be a toolbox.

CEQA Streamlining Recommendations: Please clarify how the "menu of mitigation measures" from this PEIR is expected to be used by a lead agency as well as which ones lead agencies should address in order for a project to qualify the use of the CEQA streamlining provisions of SB375.

7. RTP/SCS Policies

Please ensure that the discussion of the policies represented by the RTP/SCS in the draft PEIR is consistent with the policies actually in the RTP/SCS. In particular, the bullet list on the page 2-3 is stated to represent the land use strategies of the plan; however, the strategies listed are not specifically identified in the regional SCS. Including different language in the PEIR implies additional policy.

RTP/SCS Policies Recommendation: Amend the land use strategies identified on page 2-3 of the Project Description, under the section Purpose and Need for Action to reflect the strategies included in the SCS chapter of the RTP.

8. PEIR Mitigation Measures

By far the most concerning portion of the Draft 2012 RTP/SCS to OCCOG members is the PEIR. Specifically, the proposed mitigation measures included in the PEIR extend to and impact a broad spectrum of technical and policy areas. Many examples of these concerns are included on Attachments 1 and 2 of this letter. In sum, the concerns are that the mitigation measures:

- Appear to go above and beyond the requirements of the Regional Transportation Plan and Senate Bill 375;
- Are measures already required by State and Federal law or are regulated by other agencies such as the South Coast Air Quality Management District, California Department of Housing and Community Development, Fish and Game, and the Regional Water Control Boards;
- Appear to run counter to local control; and
- Are financially infeasible for the agencies responsible for implementation.

PEIR Mitigation Measures Recommendations.

1. **In order for the mitigation measures to truly be considered a toolbox of options for consideration by various entities in the SCAG region as intended, all mitigation measures in the PEIR intended for entities other than SCAG should be moved into an appendix to the PEIR and renamed "Sustainability Strategies". These strategies could then be identified for consideration by lead agencies as mitigation for future projects should**

a lead agency choose to do so and deem them applicable and feasible. The PEIR would only retain mitigation measures applicable to SCAG. This action would also require that the Executive Summary, Introduction, and Project Description be updated to reflect the nature of the new appendix of Sustainability Strategies.

2. **Remove language within mitigation measures that establishes policies not included in the RTP/SCS or modifies the measure to specify a policy or endorses specific technology which would limit agency authority.**

3. **In the draft PEIR, please replace text in all mitigation measures that identify policy for either SCAG or other entities with language that reflects either adopted SCAG policies or are policies that are included in the RTP and SCS. Mitigation measures should not be used to establish new policy for the region.**

For example:

- MM-TR 17: "SCAG shall (for its employees) and local jurisdictions ~~can and~~ should institute where applicable and feasible teleconferencing, telecommute, and/or flexible work hour programs ~~to reduce unnecessary employee transportation~~.

- MM-TR 23: "Local jurisdictions should consider when applicable and feasible coordinated and controlled intersections so that traffic passes more efficiently through congested areas. Where traffic signals or streetlights are installed, require the use of a feasible, energy efficient ~~Light Emitting Diode (LED)~~ technology."

- MM-TR 35: "Local jurisdictions should consider where applicable and feasible the adoption of a comprehensive parking policy that ~~discourages private vehicle use and~~ encourages the use of alternative transportation."

9. SCAG Authority

Several mitigation measures identify actions that SCAG shall undertake to mitigate impacts of the plan. Many appropriately direct SCAG to provide a discussion forum or serve as a central data repository for a broad range of topics that affect the region as a whole. However, many measures inappropriately direct SCAG to establish practices, standards, or policy in areas unrelated to what SCAG has purview over. Further, the measures often appear to be directed at policy implementation that is unrelated to the plan itself, such as implementing AB 32. Such measures will essentially require SCAG to establish policy in areas for which it has no authority. Additionally, it is not clear how SCAG would fund the work efforts because they are not directly related to its mission and, therefore, do not have funding. For example, MM-PS 118 states: "SCAG shall continue to develop energy efficiency and green building guidance to provide direction on specific approaches and models and to specify levels of performance for regionally

significant projects to be consistent with regional plans." Green building practices and energy efficiency measures are already addressed by various state and federal agencies, as well as by other local organizations. Further, SCAG does not have the authority to specify levels of performance for land use or buildings.

SCAG Authority Recommendation: Remove the following mitigation measures for SCAG which it does not have purview for under the law or directed to do by the Regional Council through policy direction. List may not be exhaustive.

MM-BIO/OS 44	MM-LU 42	MM-LU 77	MM-PS 68
MM-BIO/OS 45	MM-LU 47	MM-LU 80	MM-PS 71
MM-BIO/OS 46	MM-LU 48	MM-LU 81	MM-PS 95
MM-BIO/OS 48	MM-LU 51	MM-LU 82	MM-PS 121
MM-GHG 3	MM-LU 53	MM-LU 83	MM-TR 17
MM-GHG 8	MM-LU 56	MM-NO 12	MM-TR 23
MM-GHG 11	MM-LU 57	MM-NO 16	MM-TR 28
MM-LU 9	MM-LU 60	MM-POP 1	MM-TR 35
MM-LU 21	MM-LU 61	MM-PS 3	MM-TR 83
MM-LU 22	MM-LU 64	MM-PS 14	MM-TR 85
MM-LU 24	MM-LU 65	MM-PS 25	MM-TR 96
MM-LU 26	MM-LU 69	MM-PS 37	MM-W 34
MM-LU 32	MM-LU 71	MM-PS 39	MM-W 59
MM-LU 34	MM-LU 74	MM-PS 41	MM-W 60
MM-LU 41	MM-LU 75	MM-PS 67	MM-W 65

10. SCAG Mitigation Measures

It would be helpful to understand how SCAG will implement the mitigation measures that it is assigned to do. Many of the mitigation measures will expand SCAG's role into areas that are not currently under its purview and are under the jurisdiction of other entities. Many also constitute significant work efforts.

SCAG Mitigation Measures Request: Please explain how the actions and programs required by the measures SCAG is assigned to do would be funded to ensure that they are truly feasible for SCAG to undertake.

11. Ensuring Outcomes

SCAG has limited authority in many of the areas included in the measures and will not be able to ensure impacts are mitigated and that the outcomes identified do actually occur. SCAG can assist, offer information, educate, and provide discussion forums for topics outside its area of jurisdiction; however, it is not possible to "ensure" that outcomes are achieved for things that are outside of its purview.

Ensuring Outcomes Recommendation: **Remove all references within mitigation measures that SCAG will "ensure" or "shall minimize impacts" that result from a mitigation measures.**

Example:
MM-CUL17: "~~Impacts to cultural resources shall be minimized through cooperation, information sharing, and~~ SCAG's shall, through cooperation, information sharing and ongoing regional planning efforts such as web-based planning tools for local government including CA lots, and direct technical assistance efforts such as Compass Blueprint's Toolbox Tuesday series, provide information and assistance to local agencies to help them avoid impacts to cultural resources. Resource agencies, such as the Office of Historic Preservation, shall be consulted during this process."

12. Fees and Taxes

Several mitigation measures indicate that local jurisdictions or other entities should implement new fees or propose taxes to pay for a variety of programs or for acquisition of land for preservation. Increases to fees or taxes are issues that could require voter approval and, thus not be approved. They also represent prescriptive means to accomplish the mitigation.

Fees and Taxes Recommendations:

1. **Reword measures to indicate that a new or increased fee, new tax, or other increase is only an option as a way to implement the mitigation. The following list may not be exhaustive.**

MM-BIO/OS55	MM-PS15	MM-TR30	MM-TR88
MM-LU29	MM-PS63	MM-TR37	MM-TR94
MM-LU53	MM-PS75	MM-TR47	MM-TR96
MM-LU54	MM-PS76	MM-TR52	MM-W6
MM-LU80	MM-PS78	MM-TR60	MM-W32
MM-LU81	MM-PS92	MM-TR69	MM-W52
MM-LU82	MM-PS106	MM-TR74	MM-W58
MM-LU83	MM-PS107	MM-TR75	
MM-POP4	MM-PS113	MM-TR80	
MM-PS12	MM-TR28	MM-TR84	

2. **Please clarify whether it was assumed that these additional fees were considered feasible and if the new fees that are suggested were considered in the financial plan or economic analysis of the RTP.**

13. Guidance Documents

Guidance documents are there as information sources for consideration; however, they do not represent regulation or establish standards that are required to be achieved. For example, MM-AQ19 inappropriately indicates that project sponsors should comply with the CARB Air Quality and Land Use Handbook (June 2005) which is only a guidance document.

Guidance Documents Recommendation: Remove references that indicate a compliance with guidance documents from mitigation measures.

14. Duplicative/Existing Regulations

It is noted that many of the mitigation measures are duplicative of existing regulation or processes (e.g. CEQA review requirements). Under the CEQA, it is intended that measures be identified that will mitigate impacts of the project. Existing regulations are already assumed to be abided by in the evaluation of the impact and the significance of the impact is after all existing regulation is applied. Therefore, mitigation measures should address those actions that need to be undertaken in addition to existing regulation in order to mitigate the impact. Therefore, mitigation measures that simply restate existing regulation are not valid mitigation for purposes of CEQA. Further, it is possible for regulations to change over time. Because of this, restatement of the regulation in the mitigation measures could result in future conflict between the stated mitigation and the regulation. It has become common practice to state that existing regulation will be implemented. When this is done, it is common practice when compliance is used as a mitigation measure to simply state that the responsible entity will simply comply with the regulation. If mitigation measures that restate existing regulation are not removed, then it is requested that the wording of the measures be restated to simply read that compliance with all applicable laws and regulations will be undertaken. Language that could be used is: "Local jurisdictions, agencies, and project sponsors shall comply, as applicable, with existing federal, state, and local laws and regulations." Similar language is included in some mitigation measures. It is offered that MM-PS 13 is a good example of the type of appropriate language and reads "Project sponsors can and should ensure that projects are consistent with federal, state, and local plans that preserve open space."

The water section provides another example. The PEIR includes 68 mitigation measures in the Water Resources section regarding water quality. At least 35 of these are related to storm water runoff best management practices (BMPs) that are currently regulated through Municipal National Pollutant Discharge Elimination System (NPDES) Storm Water Permits issued by Regional Water Quality Control Boards. In the SCAG region, there are five water quality control boards each with its own Municipal NPDES Storm Water Permit. The regulations and requirements contained in these permits vary from each other. By listing specific measures in the PEIR that are not included in a project's applicable Municipal NPDES Storm Water Permit, the PEIR creates conflicting compliance requirements. To eliminate potential conflict with existing regulations, the

mitigation measures regarding specific BMPs should be removed and replaced with a single requirement that each project must comply with its applicable Municipal NPDES Storm Water Permit.

Duplicative/Existing Regulations Recommendations:

1. **Please remove all mitigation measures listed in Attachment 1 which are duplicative of existing regulations administered by or under the jurisdiction of other agencies. The list may not be exhaustive.**

2. **For each impact, please add the following language: "Local jurisdictions, agencies, and project sponsors should comply, as applicable, with existing federal, state, and local laws and regulations."**

15. Draconian Mitigation Measures

Many of the mitigation measures in the Draft PEIR are draconian and need to be removed. One prime example is MM-LU 85. It reads in part "Local jurisdictions can and should reduce heat gain from pavement and other hardscaping including: Reduce street rights-of-way and pavement widths to World War II widths (typically 22 to 34 feet for local streets and 30 to 35 feet for collector streets curb to curb)..." Although reduced street widths may be appropriate in some cases and have been implemented in many jurisdictions, it is inappropriate and counterproductive to require reduced street widths as a mitigation measure in the PEIR. Reduced street widths, for example, generally do not provide space for on-street parking which may result in greater, additional paved areas provided in separate parking lots. A second example is MM-LU15: "Project sponsors can and should ensure that at least one acre of unprotected open space is permanently conserved for each acre of open space developed as a result of transportation projects/improvements." Measures should support the SCAG Energy and Environment Committee which recommended that the programs build upon existing open space land acquisition and open space programs in the region, tailoring programs to each individual county in the region. These include, but are not limited to, OCTA's Measure M Mitigation Program, and Transportation Corridor Agency's open space mitigation program, which has protected 2,200 acres in perpetuity to date. Open space conservation should be pursued in a voluntary manner, working with willing private sector landowners and not be overly prescriptive and specific.

Draconian Mitigation Measures Recommendations: Remove mitigation measures that are very prescriptive, such as reducing street widths to WW II widths or specifying preferred technology.

In addition to the above comments, detailed technical comments, language changes, and questions on the RTP/SCS, Appendices, and PEIR documents are included in Attachment 2.

Conclusion

We recognize the immense efforts it took to prepare these documents. They represent incredibly complex technical work and have important and far-reaching policy impacts for our region. However, because of this importance and complexity, we would like to express concern about the timing of the release of the documents and hope that preparation of future RTP/SCS documents will take into account the need to accommodate adequate review, discussion and revision time for all of the documents. The current timeline of document releases, public comment period, and time allowed for the response to comments results in an inability to have credible discussion regarding possible changes because the timeline does not allow for recirculation or full discussion of requested changes. The documents were released over the holiday season and included the release of the draft PEIR document on December 30, 2011. The minimum 45-day public comment period closes on February 14, 2012. Only a few weeks are provided to prepare responses to comments and amend the documents to ensure that the Regional Council may consider the certification of the PEIR and the approval of the draft RTP/SCS on April 4, 2012.

We appreciate your consideration of all of the comments provided in this letter and its attachments and look forward to your responses. It is a shared goal to have an RTP/SCS adopted that is credible and defensible on all levels. If you have any questions, please do not hesitate to contact me or Dave Simpson, OCCOG's Executive Director.

Sincerely,

Peter Herzog
Chairman

cc: OCCOG Member Agencies
OCCOG Board of Directors
OCTA Board of Directors
Orange County City Managers Association

Attachment 1: Mitigation Measures Duplicative of Existing Regulation
(Listed by type of regulation measures duplicates)

Air Quality/AQMD	CDFG	Federal & state law	Federal law	Resource agencies
MM-AQ1	MM-BIO/OS1	MM-HM3	MM-LU14	MM-TR33
MM-AQ2	MM-BIO/OS3	MM-HM4	MM-LU30	MM-BIO/OS29
MM-AQ3	MM-BIO/OS4	MM-HM5		MM-BIO/OS30
MM-AQ4	MM-BIO/OS8	MM-HM6		MM-BIO/OS31
MM-AQ5	MM-BIO/OS10	MM-HM7	**NPDES**	MM-BIO/OS32
MM-AQ6	MM-BIO/OS11	MM-LU28	MM-AQ16	MM-BIO/OS33
MM-AQ7	MM-BIO/OS17	MM-NO18	MM-BIO/OS19	MM-BIO/OS34
MM-AQ8	MM-BIO/OS18	MM-PS13	MM-GEO5	MM-BIO/OS35
MM-AQ9	MM-BIO/OS21	MM-W36	MM-W1	MM-BIO/OS50
MM-AQ10	MM-BIO/OS22	MM-W37	MM-W13	MM-BIO/OS51
MM-AQ11	MM-BIO/OS23	MM-W38	MM-W58	
MM-AQ12	MM-BIO/OS24			
MM-AQ13	MM-BIO/OS25		**Flood control**	
MM-AQ14	MM-BIO/OS26		MM-HM8	
MM-AQ17	MM-BIO/OS27			
MM-AQ18	MM-BIO/OS28		**Local Agencies**	
	MM-BIO/OS14		MM-AV11	
	MM-BIO/OS7			

State law				
MM-AV3	MM-HM10	MM-PS4	MM-PS107	MM-W25
MM-AV6	MM-HM11	MM-PS8	MM-PS113	MM-W26
MM-AV12	MM-HM12	MM-PS10	MM-PS119	MM-W27
MM-BIO/OS20	MM-HM13	MM-PS12	MM-PS122	MM-W28
MM-CUL1	MM-HM14	MM-PS14	MM-TR29	MM-W29
MM-CUL2	MM-HM15	MM-PS16	MM-TR49	MM-W30
MM-CUL3	MM-HM16	MM-PS35	MM-TR55	MM-W31
MM-CUL4	MM-LU10	MM-PS36	MM-TR75	MM-W32
MM-CUL5	MM-LU11	MM-PS37	MM-TR89	MM-W39
MM-CUL6	MM-LU17	MM-PS42	MM-W6	MM-W43
MM-CUL7	MM-LU19	MM-PS43	MM-W8	MM-W46
MM-CUL8	MM-LU20	MM-PS48	MM-W9	MM-W47
MM-CUL9	MM-LU38	MM-PS55	MM-W10	MM-W48
MM-CUL10	MM-LU43	MM-PS56	MM-W11	MM-W49
MM-CUL11	MM-LU44	MM-PS57	MM-W12	MM-W50

MM-CUL12	MM-LU48	MM-PS59	MM-W15	MM-W51
MM-CUL13	MM-LU58	MM-PS61	MM-W16	MM-W52
MM-CUL15	MM-NO1	MM-PS67	MM-W17	MM-W54
MM-CUL16	MM-NO4	MM-PS69	MM-W18	MM-W55
MM-GEO1	MM-NO8	MM-PS71	MM-W19	MM-W56
MM-GEO2	MM-NO9	MM-PS73	MM-W20	MM-W61
MM-GEO3	MM-POP2	MM-PS77	MM-W21	MM-W62
MM-GEO4	MM-POP4	MM-PS89	MM-W22	MM-W64
MM-GEO6	MM-PS1	MM-PS92	MM-W23	MM-W66
MM-HM9	MM-PS2	MM-PS97	MM-W24	MM-W68

Attachment 2: Additional Technical Clarifications on documents are also offered as follows:

2012 RTP/SCS

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	all	*All chapter headings should include the Chapter number on each page for ease of reference.*
2	Clarification	1, left column	"The 2012 RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with SB 375, ~~both~~ improve public health, and meet the National Ambient Air Quality Standards as set forth by the federal Clean Air Act. As
3	Clarification	4, right column	"This region needs a long-term, sustainable funding plan that ensures the region receives its fair share of funding, supports an efficient and effective transportation system that grows the economy, provides mobility choices, and improves our quality of life."
4	Clarification	page 7- Table 2 and page 95- Table 3.3	*Is additional $0.15 gas tax the sum total of both state and federal taxes or $0.15 each?*
5	Clarification	40, left column	"Strategic investments, put forth by the private sector, that would remove barriers associated with telecommuting are expected..."
6	Correction	page 42- Table 2.2	241 toll road completion year is 2030
7	Please define in the text and add to a glossary	50, left column	"scrip"
8	Clarification	54, right column	"Express/HO T Lane Network Despite our concerted effort to reduce traffic congestion through years of infrastructure investment, the region's system demands continue to exceed available capacity during peak periods."
9	Clarification	70, 78	Greenhouse Gases and Air Quality SCAG seems to rely on CEQA to achieve the "maximum feasible" reductions in emissions from transportation. However, this is not consistent with the intent of SB 375's goal of achieving specific thresholds of 8% by 2020 and 13% by 2035 through a sustainable communities strategy plan.

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
			Please provide clarification to this section indicating if the air quality and greenhouse gas CEQA mitigation measures obligate regional agencies and project developers to undertake more strategies, programs and mandates beyond those included in the OC SCS.
10	Clarification	78, right column	"Greenhouse Gases On road emissions (from passenger vehicles and heavy duty trucks) constitute 93 percent of the transportation sector total. Emissions from passenger vehicles, which are the subject of SB 375 and this RTP/SCS, constitute % of the transportation sector's greenhouse gas emissions total."
11	Clarification	80, left column	Statements are made, such as the following, "the RTP has the ability to affect the distribution of that growth" (in population in the region). These statements could be interpreted to be contrary to SCAG's obligation under the Memorandum of Understanding with OCCOG to respect the strategies and local land use policies in the OC SCS. *Please clarify how it is in SCAG's ability to affect local change when the OC SCS is consistent with acceptance of local land use plans and planned population and employment distribution?* *Recommended text change:* "Transportation projects including new and expanded infrastructure are necessary to improve travel time and can enhance quality of life for those traveling throughout the region. However, these projects also have the potential to ~~induce~~ attract more of the regional population growth in certain areas of the region. This means that although ~~Although~~ SCAG does not anticipate that the RTP would affect the total growth in population in the region, the RTP has the ability to affect the distribution of that growth." "~~In addition to induced population growth,~~ transportation projects in the RTP also have the potential to divide established communities, primarily through acquisition of rights-of-way."

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
		82, right column	Text indicates that the RTP and projects in the RTP/SCS as "inducing" growth. It is noted that use of the term "induced growth" has a negative connotation and implies growth above and beyond what would occur naturally. However, it is stated in the RTP that the population, housing, and employment growth totals are fixed and only the distributions may change based on the plan. This means there will not be "new" growth and that the RTP and SCS may simply influence and shift the growth anticipated for the region. This moving of growth is the result of changes in distribution that are due to changes in land use or densities. Because of this, it is requested that references to "induced growth" be reworded to reflect the shifting of growth in the region. *Recommended text change:* "Cumulative impacts from the projected growth ~~induced by the RTP~~ include increased impervious surfaces;..."
12	Clarification	Chapter 3	SCAG's Financial Plan includes a significant portion of "New Revenue Sources and Innovative Financing Strategies" that are not currently in place or available. While some of the proposed revenues are within the control of SCAG or MPOs and County Transportation Commissions, the majority of the revenues (in terms of dollars) require either state or federal action to implement. *Please explain what the implications are if these new revenue sources and innovative financing strategies do not become available?*
13	Clarification	page 95- Table 3.3	~~"Mileage-based user fees would be implemented to replace gas tax and augment - estimated at about $0.05 (2011$) per mile and indexed to maintain purchasing power starting 2025."~~ Suggested language is from page 31 of Growth Forecast Appendix: "Current gasoline tax, estimated at about $0.05 (2011$) per mile will increase through 2025, then in 2026 it would be replaced with a mileage-based user fee indexed to maintain purchasing power."

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
14	Clarification	105, right column	"While the region was once known worldwide as the "capital of sprawl," the region today is projecting growth on only a small fraction of the ~~has little~~ raw land available in the region ~~left to accommodate additional growth~~."
15	Clarification	105, right column	"While the region was once known worldwide as the "capital of sprawl," the region today is projecting growth on only a small fraction of the ~~has little~~ raw land available in the region ~~left to accommodate additional growth~~."
16	Clarification	106	SCAG indicates that the OC SCS has been incorporated into the regional SCS. OCCOG was one of two subregions that undertook the arduous task and obligation of preparing an SCS. *Please add clarifying text that these subregional SCSs, including the OC SCS, represent the Sustainable Communities Strategies applicable to those subregions.*
17	Clarification	110, right column	"Municipal water and sewer systems, for example, ensure clean water. At the same time, ~~concrete stormwater runoff channels harm water quality~~ ~~and sprawl eats into open space~~ as areas become more urbanized and the percentage of impervious surface is increased, the hydrologic regime is dramatically altered. Drainage conveyances that once were natural and riparian are required to be engineered as hardened flood control channels to provide adequate protection of private property and public infrastructure from the increased frequency, duration, peak flow, and overall volume of stormwater runoff. With this armoring of once natural channels, water quality benefits from biofiltration are lost along with opportunities for infiltration and evapotranspiration, which can lead to hydromodifcation downstream in sections which are not yet engineered and hardened. Many strategies…"
18	Clarification	112, 117	The SCS documents the development of four scenarios to explore basic aspects of future growth. These scenarios were used in public outreach and the SCS and the associated Appendix states that "Using the public dialogue and feedback from the analysis of the SCS Scenarios, SCAG developed

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
			the 2012 RTP/SCS Plan alternatives." (Similar references are also include at RTP/SCS p. 117, and SCS Background Documentation p. 71). The RTP/SCS and Appendix then describes a process that led to the Plan alternatives. Neither the RTP/SCS, Appendix or PEIR expressly state or illustrate the fundamental land use and socioeconomic foundation for the SCS. *In order to confirm consistency with the OC SCS, it is requested that SCAG include appropriate tables, graphics and maps that provide the detail that confirm this consistency.*
19	Clarification	113, 122	The regional SCS states that the scenarios/alternatives were developed using the Local Sustainability Planning Tool (LSPT). The LSPT is a sketch planning tool that flattens geographical areas to a 5-acre grid cell. The OC SCS land use data was provided at much greater level of detail in that specific parcel data and detail were provided by each jurisdiction. A cursory review of some LSPT data reveals inconsistencies regarding interpretation of Orange County land uses. It is acknowledged that the regional SCS states, "Land use inputs for OCCOG SCS were unchanged". Yet use of the LSPT and SCAG Development and Community Types presented in the SCS leave open the question as to whether the OC SCS was altered, as noted above. *Please provide confirmation that the underlying OC SCS land use data was used without significant alteration and LSPT flattening and interpretation in the development of the regional SCS Plan and alternatives.*
20 17	Add to glossary	127, right column	"Gentrification"
21	Clarification	128, left column	"Thus, this adjustment allowed the land use pattern to conform more closely to local ~~expectations~~ general plans, while reducing the amount of vehicle miles traveled." *Whose/What are "local expectations?"*

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
22	Clarification	149, right column	*Revise language to clarify that SCAG intends policies, strategies, and measures are a menu of options.* "The following tables list specific implementation strategies that local governments, SCAG, and other stakeholders may use or consider while preparing specific projects which would help ~~can and should undertake in order~~ to successfully implement the SCS."
23	Clarification	150-152	The OC SCS was accepted by SCAG and represents the set of strategies and the growth distribution that outlines the best approach for how the requirements of SB 375 would be met within the subregion. Specifically, the OC SCS included 15 specific Sustainability Strategies, reflecting a menu of 222 practices and actions that OC agencies have agreed to pursue (or continue to pursue) to achieve GHG reductions that support SB 375. *Why doesn't the regional SCS specifically acknowledge these 15 strategies yet include other strategies and performance measures not included in the OC SCS (e.g., Locational Efficiency)?*
24	Add to glossary	166, right column	"Greenfield"
25	Clarification	194, right column	"In addition to these targeted outreach efforts, all regular and special meetings of the RTP task forces, the Transportation Committee (TC), the CEHD, the EEC, and the SCAG Regional Council are publicly noticed and …"
26	Clarification	201	*Please clarify whether the text stating "Long-term emission reduction for rail, with a goal of zero-emissions rail system" is intended to reflect a zero-emissions freight rail system, or whether this goal also applies to passenger rail.*
27	Clarification	202, 203- Table 7.1	Unfunded operational improvements, of which several are listed on page 203, Table 7.1, include transit station improvements in Irvine, Fullerton, and Santa Ana, bus rapid transit (BRT) in Orange County, and high speed rail (HSR) Phase II. *Please confirm that these are consistent with the OC SCS.*

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
28	Clarification	207	Strategic Finance *Please explain what will happen if reasonably foreseeable revenue sources of approximately $200 million do not become available?*
29	Add to glossary	205	"Active transportation"

GROWTH FORECAST APPENDIX

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Updated growth forecast numbers	23, Table 13	In December 2011, Orange County provided SCAG with the revised growth forecast dataset, OCP-2010 Modified, per the OC SCS MOU (official OCCOG Board action 1/26/2012). *Please incorporate revised Orange County numbers (i.e. OCP-2010 Modified) into all reports, tables, exhibits, alternatives, maps, and modeling runs for final RTP.*

PERFORMANCE MEASURES APPENDIX

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Clarification	1	The document states, "The performance measures are used to evaluate how well the RTP/SCS addresses the adopted goals and performance outcomes." *Is there any formal role for the performance measures?* ARB will evaluate for SB 375 compliance not based on these measures but based on ARB process. *Please include language clarifying that this is a requirement to demonstrate compliance with federal requirements and not for the obligations under SB 375.*

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
2	Clarification	1, end of first paragraph	Add statement: "Performance measures and expected outcomes will be used to monitor the RTP/SCS at the regional level; these measures and outcomes are not proposed for use at the subregional or project-specific level."
3	Clarification	1, column 2	The document states, "The Regional Council will formally adopt the goals and outcomes as part of the final 2012 RTP/SCS." *Does this bring any formal obligation to meet goals? Goals are general, flexible, and aspirational rather than specific, as on p.1.*
4	Clarification	13, Table 8	The RTP/SCS claims an extra 2% CO2e emissions reduction in 2035 from the NHTS post-processing analysis. While the RTP/SCS meets the ARB SB375 goal without the extra 2%, we would like to note that the extra 2% could be important if the attorney general raises concerns about backsliding. Consequently, the reliability of the extra 2% reduction should be checked. Questions on the NHTS model are below. It would be useful to know the answers to better judge the quality, although we do note that the report does look like it meets the standards or best practice.
5	Clarification	9	NHTS Model Documentation Report *Are the auto and bus accessibility variables included in the regression models for 30-mile rings?* *In "Number of trips" model – is number of cars, included as an independent variable, the actual or predicted value?* *The same question applies to other models.*
6	Clarification	23, Table 10	NHTS Model Documentation Report *Were the elasticities for the SCAG NHTS study calculated at sample means, or for each observation and then averaged for the sample?*

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
7	Clarification	24, Test 3	NHTS Model Documentation Report (Compare Trip-Based and NHTS Model): The final test was to compare the results of the Trip-Based Model and the NHTS Model for the same scenarios. *Please describe the scenarios tested.*

TRANSPORTATION FINANCE APPENDIX

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Clarification	General	*What are the implications if revenues other than core revenues do not become available?* *Please describe any implications to the ability of the region to meet SB 375 GHG emission reduction targets or the federally required air quality conformity?*

SCS BACKGROUND DOCUMENTATION APPENDIX

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Please define	53, right column	Housing Options and Mix: Define Larger-lot single family in text
2	Clarification	71-74, 80-83	Alternatives naming: A, B, C Names of Alternatives differ than those listed in the PEIR on pages ES-3 and 1-4. *Please be consistent with naming protocol for alternatives between two/all documents.*

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
3	Revise language to clarify	71, right column	"Plan Alternative (B) ... The alternative maintains city-level forecast control totals for both households and jobs, however, within city boundaries shifts are made to focus a much larger share of future growth in a more compact way around HQTAs, except in Gateway and Orange County COG subregions per their SCS delegation agreements. Future housing market demand is expected to shift significantly to small lot single-family, townhomes and multi-family ~~hosuing~~ housing."
4	Please define	71, right column	Plan Alternative (B) Define small lot single family in text
5	Revise language to clarify	71, right column	Plan Alternative (C) "As a result very suburban communities may experience no new housing or employment growth, while some urban areas with very good access to regional transit may experience significant increases in housing or employment growth."
6	Revise language to clarify	72, left column	"While each alternative is distinctive, a number of parameters remained constant across each alternative: the regional RTP/SCS forecast total for population, households and jobs;..." "Detailed forecast: the detailed distribution of population, households, and jobs across the region..."
7	Revise language to clarify	72, Table D1	Alternatives A & B: "Controlled to TAZ-based RTP/SCS Forecast for 2020; Controlled to city-level RTP/SCS Forecast for 2020-2035, except in Gateway and Orange County COG subregions per their SCS delegation agreements." Add statement to table notes: Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.
8	Revise language to clarify	74, Table D2	Alternatives A & B: Add statement: Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
9	Clarification	75, right column	"Development Types The alternatives are built on, and provides data at, the level of the TAZ, which includes housing units and employment." *Please clarify if TAZ is Tier 1, Tier 2, or both.*
10	Revise language to clarify	79, right column	"Subregional SCSs submitted by the Gateway Cities Council of Governments (GCCOG) and the Orange County Council of Governments (OCCOG) will be ~~respected~~ unchanged and integrated into the alternatives (with possible revisions for Alternative C only)."
11	Clarification	79	The section includes the following language: "Subregional SCSs submitted by the Gateway Cities Council of Governments (GCCOG) and the Orange County Council of Governments (OCCOG) will be respected and integrated into the alternatives (with possible revisions for Alternative C only)." *Please clearly indicate what the "possible revisions" are and what process would be used to coordinate with Orange County should changes to the socioeconomic data contained in the OC SCS be proposed?*
12	Revise language to clarify	80	Alternative A Add statement: Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
13	Revise language to clarify	81	Alternative B It is not clear whether Alternative B is the SCS land use plan. If it is, statements in the appendix lead one to believe the OC SCS foundation has been altered. For example, adjustments made to land uses to locate proximate to High Quality Transportation Areas (HQTA) and intensification of residential and employment development in HQTA that diverge from local General Plans as well as implementation of a vehicle user fee are not part of the OC SCS. *Is Alternative B the SCS land use plan?* *Add statement:* Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.
14	Clarification	115, left column	Transit Zoning Code Santa Ana 2011 *Is this a duplicate of the 2010 Santa Ana project?*

PEIR

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
1	Revise language to clarify	ES-2	ES contains matrix of mitigation measures which reference project sponsors, local agency, and project implementation agency without definitions. Add definitions into ES at end of ES.1: In general, the terms "local agency," "project sponsor" and "project implementing agency" are used throughout this PEIR to identify agencies, organizations, companies and individuals that will act as lead agencies or project applicants for different types of individual projects. Individual projects that are anticipated to occur pursuant to the 2012-2035 RTP/SCS consist of planning projects (general plans, specific plans, climate action plans, etc.), development projects (including Transit Priority Projects (TPPs) and other similar projects), and transportation projects. In general, "local agency" is used to refer to a public agency that would propose a planning project or a public infrastructure project and/or an agency that would be lead agency for individual projects. "Project sponsor" is typically used to refer to an applicant (that could be public or private, an organization or an individual) that proposes a project. "Project implementing agency" is used to refer to an agency responsible for implementing a project. In this document, project-implementing agencies are those that are responsible for carrying out (reviewing, approving, constructing) transportation projects.
2	Clarification	ES-3, 1-4, Chapter 4	Alternatives' Naming: No Project Alternative, Modified 2008 RTP Alternative, Envision 2 Alternative; Alternatives 1, 2, 3 Names of Alternatives differ than those listed in the SCS Background Documentation appendix on pages 71-74 and 80-83. *Please be consistent with naming protocol for alternatives between all documents.*

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
3	Fix numbering	ES-31	Duplicate naming of GHG11 and GHG12
4	Please define	ES-42	LU63- What are the smart growth principles?
5	Please define	ES-42	LU64- What are the benchmarks for smart growth?
6	Fix numbering	ES-51	PS17 & PS18 are missing
7	Fix numbering	ES-53	Duplicate naming of PS36 & PS37
8	Please define	ES-67	TR 34- what are the identified transportation benchmarks?
9	Please define	ES-83, 3.13-42 MM-W43	Define climate change hydrology
10	Please define	ES-40, 3.8-21 MM-LU42	Define urban growth boundary
11	Please define	ES-57, 3.11-49 MM-PS68 & ES-74, 3.12-43 MM-TR96	Define parking cash out program/ cashouts
12	Clarification	1-5	*Besides IGR, what other monitoring efforts is SCAG in charge of? (that would require lead agencies to provide SCAG with documentation of compliance with mitigation measures)*
13	Language correction	1-6, paragraph 3	Language correction: "The ~~latter~~ **former** finding…"
14	Language correction	2-5	Sustainability section should be separated. Language correction: **Sustainability**. The 2012-2035 RTP/SCS is subject to specific requirements for environmental performance. **New paragraph:** "Beyond simply meeting these requirements, a …"
15	Language correction	2-5, Table 2-2	"Align the plan investments and policies ~~with~~ **while** improving…"
16	Please define	2-14	Define "scrip"

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
17	Narrative	2-21	AB 32 is global warming solutions act. SB 375 was determined to be stand-alone legislation. RTP document is not forum to address global climate change and references distract from RTP goal and purpose. "Global warming" and "global climate change" are not interchangeable phrases. References should be removed or, where appropriate, language should be changed to "global warming". ~~Goods movement is also a major source of GHG emissions that contribute to global climate change.~~
18	Clarification	2-27 paragraph 4	Not in SCAG's authority, nor funding available. Delete sentence: ~~SCAG will work with local jurisdictions and community stakeholders to seek resources and provide assistance to address any possible gentrification effects of new development on existing communities and vulnerable populations.~~
19	Clarification	2-27 paragraph 5	"The 2012-2035 RTP/SCS land use development pattern accommodates over 50 percent of new housing and employment growth in HQTAs, while keeping jurisdictional totals consistent with local input." *Please confirm that there are no changes to the local land use inputs provided by Orange County.*

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
20	Clarification	2-29	"For purposes of SCAG's SCS, a Development Type reflects an estimated average density of 22 residential units per acre. However, it is important to note that the designation is a potential ultimate average for the TAZ—and is not an absolute project-specific requirement that must be met in order to determine consistency with the SCS. In other words, the SCS was not developed with the intent that each project to be located within any given TAZ must exactly equal the density and relative use designations that are indicated by the SCS Development Type in order for the project to be found consistent with the SCS's use designation, density, building intensity and applicable policies. Instead, any given project, having satisfied all of the statutory requirements of either a residential/mixed-use project or TPP, may be deemed by the lead agency to be consistent with the SCS so long as the project does not prevent achieving the estimated average use designations, densities and building intensities indicated by the Development Type within the TAZ, assuming that the TAZ will be built-out under reasonable local planning and zoning assumptions." *Does the above PEIR language create a requirement for average TAZ density levels in 2035 and a requirement that each local project not preclude those density levels?* *Additionally, please clarify whether in HQTAs, these densities could be exceeded as well as implications of an area that is already fully developed not redeveloping such that it ever achieves the identified densities.*
21	Please define	3.8-5 paragraph 3,	Define "open space"

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
22	Revise language to clarify	4-39	Envision 2 alternative contains growth projections that would place housing in flight paths, locate housing on sites for which housing is not allowed due to environmental contamination, would significantly impact existing industrial operations necessary to maintain quality jobs in the region, and does not include development projects that are legally allowed due to having existing entitlement for development. Because this alternative does not consider the existing health and safety of future residents nor the existing legal approvals of development in the region, it is not possible to determine if the alternative is actually superior to other alternatives. It is simply another alternative for consideration. *Please remove references to the Envision 2 (or any other name of this alternative) as being environmentally superior.* ~~ENVIRONMENTALLY SUPERIOR~~ ENVISION 2 ALTERNATIVE
23	Revise language to clarify	4-40	"Of the three alternatives, the Envision 2 Alternative would be considered by State CEQA guidelines as the environmentally superior alternative because it does not allow further use of land for single-family development..."

City of Diamond Bar

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February 14, 2012

Ms. Margaret Lin
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

Re: Draft Program Environmental Impact Report for the 2012-2035 Regional Transportation Plan and Sustainable Communities Plan (SCH# 2011051018)

Dear Ms. Lin:

The City of Diamond Bar recognizes the importance of the Southern California Association of Governments ("SCAG") Draft 2012 Regional Transportation Plan ("2012 RTP") and Draft Program Environmental Impact Report ("PEIR"). The City is supportive of strategies that improve the regional transportation system within the SCAG region.

Ling-Ling Chang
Mayor

Jack Tanaka
Mayor Pro Tem

Ron Everett
Council Member

Carol Herrera
Council Member

Steve Tye
Council Member

While the overall goal to reduce both the congestion impacts and environmental impacts is admirable, we continue to have significant concerns regarding the component of the 2012 RTP to designate only the Pomona (SR 60) Freeway as an East-West Freight Corridor ("Corridor") and the continued focus on the placement of 4 lanes of truck traffic within the San Jose Creek Wash ("SJC") which is located immediately adjacent to homes and business of many cities, including Diamond Bar. We have provided numerous comments to SCAG over the many months of discussion regarding the 2012 RTP public discussion outlining our concerns. Copies of our three most recent letters (dated September 29, 2011, October 28, 2011 and November 14, 2011) are attached describing our concerns in more detail. In addition, numerous cities along the SR-60 corridor have protested the proposal with their adoption of resolutions in opposition to the plan.

We believe it is pre-mature to identify the State Route 60 and the San Jose Creek Wash alignments as a viable East-West Freight Corridor Project in the 2012 RTP. We have the following specific concerns:

- No studies have been conducted regarding the localized air, noise, vibration, or visual impacts of an elevated facility along the Corridor.

Such studies may conclude that the impacts are significant, resulting in objections from surrounding communities and the need for costly mitigation (including ROW acquisition).

- While the SR-60 and the SJC are identified as "preferred" alignments, further studies may find it more practical/beneficial to select another alignment. There are pros/cons to each alignment, but selecting a final alignment will need to consider the results of the detailed studies for SR-60 and SJC, which have not yet been performed. Many of the possible routes were rejected in the planning process due to excessive ROW impacts. Further studies may find that the ROW impacts along SR-60 and the SJC (due to air, noise, vibration and/or visual) are as great or greater than other corridors.

- The desired electric technology does not have any large-scale application to verify that it is feasible for this vision. Even if it did exist, it is not clear what would motivate truck owners/operators to convert? SCAG's East-West Freight Corridor planning documents acknowledge that most of the truck traffic in this corridor is not going to/from the ports, so it is hard to believe that all of the independent truck owners would elect to convert. Furthermore, does the RTP specifically allow use of the truck-only freight corridor, from day one and thereafter, by only new technology, zero emission, "clean" trucks?

Given the above facts regarding the significant unknowns and that further studies are needed, it is our assertion that SCAG has under-stated the environmental impacts of the RTP by:

1. Inappropriately including the East-West Freight Corridor in the financially-constrained plan. Given the huge uncertainties in its actual cost, **it is not reasonable to assume the Corridor can be afforded within the constrained monies**. The RTP guidelines were changed several years ago to prevent agencies from including projects that could not reasonably be afforded in the planning horizon. The "constrained" plan should only include projects that, in aggregate, can be demonstrated as affordable within the available revenues. The costs of the Corridor cannot be estimated with any credibility, given the lack of technical studies and corresponding

lack of knowledge regarding right-of-way or mitigation costs. How the proposed Corridor connects to the SR 57/60 interchange is also undefined, which has potentially enormous cost. Much of the segment east of SR-57, within the SR-60 corridor, is severely constrained. It is not clear how the truck lane would be accommodated in this stretch; therefore, no reasonable estimate of cost can be derived. *The following citations support the above claim and are from the 2010 RTP Guidelines, California Transportation Commission*:

- Page 98- "Fiscal constraint is the demonstration of sufficient funding (Federal, State, local and private) to operate and maintain transportation facilities and services and to implement planned and programmed transportation system improvements."

- Page 100 - "If FHWA and FTA find an RTP or FTIP to be fiscally constrained and the planned/programmed projects are included based on outdated or invalid cost estimates, then FHWA/FTA will not make funding or environmental approval actions for the listed project(s)....."

- Page 101 – ".....costs of future transportation projects must use "year of expenditure dollars" rather than "constant dollars" in cost and revenue estimates to better reflect the time-based value of money."

2. The PEIR air quality analysis assumes that all trucks using the proposed east/west facility will be zero-emissions. **This is too speculative, given the discussion above, to take as fact in evaluating the air quality impacts of the RTP. Consequently, the emissions are understated in the PEIR**. The California Attorney General's office and other parties have filed suit challenging the legitimacy of the draft SANDAG RTP for the same reasons – namely, overly optimistic assumptions regarding the air quality analysis.

Attempts to focus truck lanes on the SR-60 and the San Jose Creek are not new. This type of proposal has been previously pursued. The City of Diamond Bar and other cities and communities along the proposed

Corridor are concerned about being put in another adversarial position. Based on past actions our constituents have been strongly opposed to proposals that require the SR-60 and the SJC "shoulder the burden" of east-west truck movements and have been willing to "go the distance" in our efforts against such proposal.

We respectfully request the 2012 RTP and PEIR to consider all possible routes to serve the ever-increasing demands of the east-west goods movement between I-710 and I-15. It is unreasonable to designate the SR-60 and the San Jose Creek as the singular east-west route.

Thank you in advance for your attention to our concerns. Should you have any questions regarding this letter, please contact Mr. David G. Liu, Director of Public Works/City Engineer at (909) 839-7041.

Sincerely,

for James DeStefano
City Manager

c: City Council
David G. Liu, Director of Public Works/City Engineer

Attachments: Letters dated September 29, 2011, October 28, 2011, November 14, 2011

City of Diamond Bar

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September 29, 2011

RE: Opposition To SCAG's Proposed East West Freight/Truck Lane Corridor

Dear SCAG Regional Council Members:

The Southern California Association of Governments (SCAG) is tasked with many conflicting mandates, often requiring very extensive and painstaking processes that often put member agencies and individual regional transportation proposals at odds. The City of Diamond Bar applauds the efforts of SCAG to meet its clean air mandates, but unfortunately we cannot sit idle while the Proposed East West Freight/Truck Lane Corridor is steamrolled into the 2012 Draft Regional Transportation Plan (RTP), with implications for not only Diamond Bar residents, but the millions of Southern California residents living along the proposed corridor.

The City of Diamond Bar has previously mentioned several concerns with regard to the SCAG proposed East-West Freight Corridor, which will run adjacent to the Union Pacific Railroad (UPRR) from I-710 to I-605, transitioning to a 50 foot elevated four lane structure along San Jose Creek to the SR-57/60 Interchange, and merging into the SR-60 with a terminus at I-15. The proposal is missing detailed engineering for the specific location of the proposed corridor and connectors, and will certainly impact the available right of way for previously approved Metro and SCAG/SGVCOG sponsored transportation projects that include the 57/60 Confluence Project, missing connectors between SR-60 and SR-57, SR-57 HOV lanes, I-605/SR-60 Mixed Flow and HOV direct connectors, and the Gold Line light rail extension from East Los Angeles to South El Monte near I-605. These are high priority projects that will be realized in the coming decades and are essential to all residents and businesses in Southern California that utilize public infrastructure on a daily basis.

I sincerely hope that the SCAG Transportation Committee and Regional Council exclude the proposal from the 2012 Draft Regional Transportation Plan. To interfere with even one approved project for a proposed freight corridor that will cost unforeseen billions of dollars at a time of economic uncertainty and without comprehensive review from agencies such as LA County Public Works and the Army Corps of Engineers is irresponsible.

Thank you for your attention to our concerns. I have also attached copies of Resolutions in opposition to the proposal adopted by the directly impacted Cities of Diamond Bar, South El Monte and Walnut. If you have any questions, please contact City Manager James DeStefano at (909) 839-7010 or email at jdestefano@diamondbarca.gov.

Sincerely,

Steve Tye, Mayor

CC: Cities of Azusa, Brea, Chino, Chino Hills, Claremont, Commerce, Covina, Duarte, El Monte, La Puente, Monrovia, Montebello, Monterey Park, Ontario, Pico Rivera, Pomona, Rosemead, San Dimas, San Gabriel, South El Monte, Walnut, West Covina, Whittier

Steve Tye
Mayor

Ling-Ling Chang
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Ron Everett
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Recycled paper

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September 29, 2011

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Steve Tye, Mayor

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Council Member

Carol Herrera
Council Member

Jack Tanaka
Council Member

Recycled paper

City of Diamond Bar

21825 Copley Drive • Diamond Bar, CA 91765-4178

(909) 839-7000 • Fax (909) 861-3117

www.diamondbarca.gov

October 28, 2011

RE: Opposition To SCAG's Proposed East West Freight/Truck Lane Corridor

Dear SCAG Regional Council Members:

On behalf of the City of Diamond Bar and the cities along the SR-60 Adjacent Freight Corridor, I urge the Southern California Association of Governments (SCAG) Regional Council to amend the Draft 2012 Regional Transportation Plan (RTP) to include all East-West corridors from I-710 to I-15 as a comprehensive Zero Emission Freight Corridor Network.

The proposed SR-60 Adjacent Freight Corridor would be an enormous undertaking, spanning from I-710 near the Hobart Rail Lines to the SR-60/I-15 Interchange. Although a portion of the corridor would be on the SR-60 freeway east of the SR-57/60 Interchange to I-15, the largest section would be on a 50 foot four lane elevated highway along the San Jose Creek and UPRR that bisects residential communities within a dozen cities and unincorporated areas. Additionally, the proposed corridor could potentially conflict with vital transportation projects that include the SR-57/60 Confluence Project, missing connectors between SR-60 and SR-57, SR-57 HOV lanes, I-605/SR-60 Mixed Flow and HOV direct connectors, and the Gold Line light rail extension from East Los Angeles to South El Monte near I-605.

Many cities along the proposed corridor have expressed concerns with the RTP process and have been unable to meet with SCAG prior to the release of the Draft RTP. As officials representing the public good for the entire region, it is imperative that the RTP process remain open and transparent. By incorporating the expanded East-West Freight Corridor Network into the Draft RTP, many of the concerns expressed by corridor cities could be ameliorated.

Lastly, with comment from Los Angeles County Public Works and the U.S. Army Corps of Engineers still pending, it would be ill advised for the Regional Council to move forward with releasing the Draft RTP if these agencies that own and operate a significant portion of the corridor were to object to the proposal. Amending the Draft RTP to incorporate all East-West freight corridors into an expanded Freight Corridor Network could prevent future confusion or EIR challenge if the proposal were to be found infeasible.

Thank you in advance for your consideration. If you have any questions, please contact City Manager James DeStefano at (909) 839-7010 or email at jdestefano@diamondbarca.gov.

Sincerely,

Steve Tye, Mayor

CC: Cities of Azusa, Brea, Chino, Chino Hills, Claremont, Commerce, Covina, Duarte, El Monte, La Puente, Monrovia, Montebello, Monterey Park, Ontario, Pico Rivera, Pomona, Rosemead, San Dimas, San Gabriel, South El Monte, Walnut, West Covina, Whittier

Steve Tye
Mayor

Ling-Ling Chang
Mayor Pro Tem

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November 14, 2011

RE: Opposition To SCAG's Proposed East West Freight/Truck Lane Corridor

Dear SGVCOG Governing Board:

The San Gabriel Valley Council of Governments (SGVCOG) has long partnered with regional planning entities such as the Southern California Association of Governments (SCAG) to spearhead regional transportation projects. The City of Diamond Bar, like many cities that are part of the SGVCOG, have benefitted from this partnership.

However, on behalf of the City of Diamond Bar and many cities in the region, I want to bring to your attention several concerns regarding the SCAG Draft 2012 Regional Transportation Plan (RTP). Specifically, the RTP includes a proposed East-West Freight Corridor that would span from I-710 to I-15. While a portion of the corridor would be on the SR-60 freeway east of the SR-57/60 Interchange to I-15, the largest section would be on a 50-foot four lane elevated highway adjacent to the freeway along the San Jose Creek and UPRR that bisects residential communities within a dozen cities and unincorporated areas.

SCAG's presentation at the November 17 SGVCOG meeting will likely state the proposed East-West Freight Corridor will not impact SGVCOG priority transportation projects that include the SR-57/60 Interchange, missing connectors between SR-60 and SR-57, SR 57 HOV lanes, I-605/SR-60 Mixed Flow and HOV direct connectors, and the Gold Line light rail extension from East Los Angeles to South El Monte near I-605. However, without the actual engineering and environmental analysis it is difficult to visualize how all the projects can work in such confined and limited rights of way.

Steve Tye
Mayor

Ling-Ling Chang
Mayor Pro Tem

Ron Everett
Council Member

Carol Herrera
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The City of Diamond Bar has proposed to SCAG that a comprehensive Freight Corridor Network consisting of all corridors from I-710 to I-15 should be considered. The City's proposal is consistent with the SGVCOG's official current position. I ask that before you take any action on the SCAG Draft 2012 RTP, that the Governing Board and all Committees and TAC's take adequate time to review the SCAG materials and postpone action until a later date when SGVCOG can thoroughly discuss the impacts to SGVCOG transportation priorities.

Lastly, the City of Diamond Bar, along with the cities of Chino Hills, Commerce, Montebello, Pico Rivera, South El Monte, Walnut, and West Covina have adopted resolutions in opposition to the SCAG SR-60/San Jose Creek proposal. When also considering the attached written response from Los Angeles County Public Works regarding the San Jose Creek East-West Freight Corridor Feasibility Study, adequate analysis is necessary before taking action on the proposal.

I sincerely request that you take adequate time to review the SCAG information before making a departure from the SGVCOG's current position and supporting a regional proposal that would have a disproportionate impact on SGVCOG cities.

Thank you in advance for your consideration. If you have any questions, please contact City Manager James DeStefano at (909) 839-7010 or email at jdestefano@diamondbarca.gov.

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November 14, 2011

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Sincerely,

Steve Tye

Steve Tye, Mayor

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CITY OF GLENDALE, CALIFORNIA
Management Services Division

613 East Broadway, Room 200
Glendale, California 91206-4391
Tel. (818) 548-4844 Fax (818) 547-6740
www.ci.glendale.ca.us

February 14, 2012

Jacob Lieb
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Transmitted via Email to lieb@SCAG.ca.ca.gov

Re: Draft 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Program Environmental Impact Report (PEIR).

Dear Mr. Lieb:

The City of Glendale respectfully submits the following comments on the Draft 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Program Environmental Impact Report (PEIR).

1. Under the Transit and Rail policies the RTP encourages local transit operators to expand and provide connections to planned rail and regional transit services as well as the major employment centers. While the City of Glendale supports such a policy, the plan fails to recognize the additional funding that will be necessary to fund such services by local agencies. Local transit operators currently provide key connection to the existing commuter rail, light rail, and BRT services using local transit funds. Any further expansion of these services although important in improving mobility, will create a hardship on local agencies.
2. Under Los Angeles Metro's 2009 Long Range Plan, the following projects were included as "Strategic Unfunded Projects" :
    a. Extension of the Orange line and Red Line to Bob Hope Airport.
    b. East-West Connector between North Hollywood Red Line/Orange Line and the Pasadena Gold Line via Burbank and Glendale to provide a "missing link" between San Fernando Valley and San Gabriel valley.
    c. Burbank – Glendale Light rail to Union Station or expansion/enhancement of the Metrolink service.

The above key transit projects should also be considered for implementation by using the "reasonably-available" revenues similar to RTP Financially Constrained Plan.

3. The California High Speed Rail (CHSR) in the RTP is included as currently being planned. However, the RTP fails to again address the impact of such a system on the local transit system such as the Beeline Service and the lack of funding for service connections to the High Speed Rail stations. Considering the tremendous capital and operating cost of the CHSR, we recommend implementation of alternatives such as increasing interregional connectivity of the existing systems (commuter rail, light rail and bus rapid transit) to improve mobility in the sub-regions at a lower cost and more immediate before the CHSR is constructed.

4. The RTP only allocates a little more than 1% of the funding to Active Transportation. We believe that that SCAG should consider increasing the funding for Active Transportation to between 5%-8% of the total funding in the RTP.

WE RECYCLE

5. The 2012 RTP Financial Plan assumes that the "core revenues" and the "reasonably- available revenues" will fund the RTP's Financially Constrained Plan. The following are key issues that need to be addressed in the Financial Plan:
    a. As stated above, there are no provisions for funding local transit services as a result of planned expansion of rail and commuter services.
    b. The "reasonably-available revenues" category in the amount of 226 billion dollars is in our opinion optimistic as to the possible adjustment to state and federal gas taxes, revenues from TOLL roads, and freight fees. There are no details about the controversial "vehicle mile user fees" that regional and local agencies have to enact to raise funding.
    c. Highway projects are front loaded as they are easiest to finance in comparison to transit projects by borrowing against future toll revenues. Highway project increase in Vehicle Miles Traveled (VMT) consequently raises compliance issues with SB375 to reduce greenhouse gas emissions. It is our recommendation that transit (bus and rail), bicycle and pedestrian projects take priority over highway projects as they can improve mobility and reduce emissions as well.
    d. It is recommended that the RTP/SCS Financial Plan include a full benefit/cost ration analysis and a Performance Criteria for major highway and rail projects contained in the "Constrained Financial" Plan.

Overall, we are concerned that the RTP's assumption regarding the "reasonably- available revenues" is optimistic and the PEIR should consider alternatives in the draft plan that identifies only projects that can be funded as part of the "core revenues" to make the plan more realistic with priority given to transit projects.

Lastly, as cited on p. 3.12-25 of the DEIR , "Locally-developed county transportation plans have identified projects to close these (highway network) gaps and complete the system , and they are included in the Plan .These projects include …the SR710 Gap Closure in Los Angeles County…". The position of the City of Glendale remains consistent with Resolution No. 09-111 approved by the Glendale City Council on July 28, 2009, which addresses both the tunnel "gap closure" alternative as well as the general subject of "gap closure" alternatives for the SR-710 freeway between the I-10 and SR-134/I-210 freeways. On behalf of City Council and the citizens of Glendale, I wish to reiterate our opposition to any "gap closure" alternative that has or could be developed. In addition, I wish to express our opposition to the continued effort and expenditure of tax-payer monies in exploring, studying, and developing any means to facilitate this "gap closure". It is Glendale's belief and desire that efforts instead be directed to the development of alternatives that more effectively and more thoroughly address the concerns of mobility, congestion, and the movement of goods in the SR-710 corridor, particularly from our ports. Such alternatives should expand mass transit systems, improve existing infrastructure, and limit the long-distance movement of cargo/freight from the ports to rail. The City of Glendale has opposed this project and recommends the development of a multi-modal solution in lieu of further consideration of this project.

The City of Glendale looks forward to working with SCAG to address issues listed above. We appreciate the opportunity to comment on the RTP/SCS and the PEIR.

Sincerely,

Scott Ochoa
City Manager

City of Hemet

PLANNING 445 EAST FLORIDA AVENUE · HEMET, CALIFORNIA 92543 (951) 765-2375

February 14, 2012

Mr. Hasan Ikhrata
Executive Director RTP@scag.ca.gov
SCAG
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

SUBJECT: City of Hemet Response to Draft 2012-2035 RTP/SCS

Dear Mr. Ikhrata:

The City of Hemet appreciates the opportunity to respond to the Draft RTP/SCS. Overall, we commend you on the comprehensiveness of the document and recognize the complexity of the task to update the RTP in concert with the region's first Sustainable Communities Strategy in compliance with SB 375. We also appreciate the time and effort that SCAG has taken to outreach and obtain input from the local agencies in the preparation of the RTP/SCS, and specifically in meeting with the City of Hemet staff regarding revisions to the growth and housing projections. The City of Hemet sincerely thanks you for accommodating our previous comments in the preparation of the Growth Forecast and draft RHNA numbers.

The City of Hemet has had an opportunity to review the Draft RTP/SCS document, and offers the following comments for your consideration.

Draft Regional Transportation Plan:

1. The two highway projects of major interest to the City of Hemet are the realignment and widening of SR 79 from Domenigoni Pkwy to Gilman Springs Road (FTIP ID RIV62024) and the completion of the Mid-County Parkway (FTIP ID RIV031218). The City's long-term growth projections, employment base, housing conditions, and overall economic health depend in large part upon the completion of these two thoroughfares. Specifically, our comments on the RTP regarding highways are noted below:

   a. Exhibit 2.1 Major Highway Improvements (2035) does not show the realigned SR 79 through the Hemet area and connecting to major east-west corridors to the north, or the Mid-County Pkwy. The City requests that these critical roadway improvements be included on Exhibit 2.1.

   b. Table 2.2 shows a list of Major Highway Projects in the region. For Riverside County, the CETAP Intercounty Corridor A is noted, however our understanding is the planning for that corridor is delayed. We suggest that Table 2.2 be updated to reflect more essential projects that are a higher priority for Riverside County, such as the Mid-County Pkwy and the SR 79 Realignment project noted above.

c. In the Highways & Arterials Report, Exhibit 4 and Exhibit 9 should be corrected to include the SR 79 and Mid-County Pkwy road projects, as noted above. In addition, Exhibits 11 and A16 also do not appear to include these critical roadways, although the scale of the map makes it difficult to determine if these roadways are included, or if the map reflects improvements to existing local arterials in the area. Please verify the highway improvements included on these Exhibits and update the exhibits as needed to address these roadways.

d. In the Financially-Constrained RTP list of projects, Warren Road from Domenigoni Pkwy to Esplanade Ave (ID Riv 3A01WT041), should be shown as widening from 2 lanes to 6 lanes, consistent with the City of Hemet's updated General Plan Circulation Element.

2. The City strongly supports the extension of a commuter rail line to Hemet. It will reduce vehicle miles traveled considerably and help spur residential and economic growth in the valley. However, the proposed Perris Valley Line (RTP ID 3CR0702) does not indicate a station in Downtown Hemet. Our recently adopted General Plan 2030 includes a high-density transit-oriented development strategy based upon the siting of a Metrolink station in the downtown area. In addition, SCAG previously prepared a Compass Blueprint Project for a Transit Village surrounding a future Metrolink station in Downtown Hemet. We request consideration of adding a station to this project in Downtown Hemet.

3. In addition, as noted in the RTP (ID 3CR0702), a station is proposed at the Hemet-Ryan Airport. The locations immediately around the airport are constrained by existing development and environmental factors. The City requests that the "Hemet Airport; Sanderson Ave @ Stetson Rd" location be replaced with "West Hemet @ Stetson Rd". This location is consistent with the recently adopted update to the City of Hemet's General Plan that anticipates transit-oriented development and mixed-use residential, commercial, and business park uses in the West Hemet area, adjacent to the Perris Valley Line.

4. The City would like to co-locate a bus transit center with the Hemet Downtown Metrolink station. FTIP ID RIV041030 on page 75 of the FTIP Project List indicates the location of the transit center at 700 Scaramella Circle. This is the site of the RTA bus yard and not appropriate for passenger use. Please reference "in the vicinity of State Street and Devonshire Avenue" as the location for the new Hemet Transit Center in the FTIP. The City is currently working with RTA on locating a transit center at this location in Hemet's Downtown area which would be adjacent to a future Metrolink Station, as well as a proposed Courthouse facility and mixed-use Transit Village.

Draft Sustainable Communities Strategy:

5. The City is committed to the SCS tenets and concepts. We recently updated our General Plan and incorporated many sustainability and mixed-use development measures in accordance with these principles. However, it appears that the only way to determine ongoing consistency with the SCS is to use the Local Sustainability Planning Tool (LSPT), which is not practical for us. Our jurisdiction does not have the resources to access or use the tool, although we did submit our comments and revisions to the map during the local input process. We are not able to completely ascertain whether our comments have been integrated into the SCS land use model and mapping, based upon the regional scale of the maps provided to date in the SCS.

6. We are also unclear as to whether consistency with the SCS is determined on the basis of the revised city-wide Growth Forecast numbers submitted and approved by Hemet and the WRCOG's member jurisdictions, or a land use distribution pattern that has been aggregated and shown in the SCS in very broad terms? We have only recently become aware of growth maps based on TAZ data that has not been confirmed by the City of Hemet or other WRCOG jurisdictions, and have concerns regarding the land use accuracy and future application of these maps in determining consistency with the SCS or our adopted General Plan. The City of Hemet concurs with and supports the comments submitted by WRCOG in their comment letter dated February 13, 2012 regarding the use of TAZ data and mapping for anything other than scenario modeling purposes. Please provide a clarification as to the use of the TAZ data and additional review time to analyze the recently released maps at a scale that we can determine consistency with our existing and future land use patterns.

7. Thank you for recognizing that Hemet and other cities on the region's periphery have less housing capacity than the original forecast assumptions. We sincerely appreciate SCAG's effort to revise the Growth Forecast numbers and continue to support the Revised Growth Forecast for the City of Hemet, as adopted by WRCOG, and the 2035 build-out projections.

8. Per the comments noted above for the locations of Metrolink and Transit Stations in the City of Hemet, Exhibit 4.9 of the SCS needs to be updated to reflect the appropriate transit locations. In addition, it appears that the HQTA nodes shown do not align with the actual rail line locations. Again, it is difficult to determine at the scale of the map provided in the SCS.

The City of Hemet is committed to the RTP/SCS plan and process and sincerely appreciates the outreach SCAG has provided to local government to participate in this important regional plan. The City has been impressed with the level of cooperation and consideration that SCAG has made to the concerns raised by the City of Hemet and the Western Riverside County region in the development of the many components of the plan. We recognize that well-designed and well-functioning transportation systems aligned with sustainable land use policies are imperative to our future growth and development. We respectfully request that you consider the comments noted above as you prepare the final RTP/SCS for adoption, and request that we be informed as to future hearing dates regarding the Plan.

Sincerely,

Deanna Elliano
Community Development Director

CC: Hemet City Council
Margaret Lin, SCAG
Rick Bishop, WRCOG
Shirley Medina, RCTC
Gordon Robinson, RTA
Lorelle Moe-Luna, RTA
Brian Nakamura, Hemet City Manager
Jorge Biagioni, Hemet Engineering Director

City of HIGHLAND Inc. 1987

February 28, 2012

Mr. Hasan Ikhrata
Southern California Association of Governments
818 West 7th Street, 12th Floor
Los Angeles, CA 90017-3435

27215 Base Line
Highland, CA 92346
(909) 864-6861
(909) 862-3180 FAX
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City Council

Mayor
Larry McCallon

Mayor Pro Tem
Penny Lilburn

Sam J. Racadio
Jody Scott
John P. Timmer

City Manager
Joseph A. Hughes

Subject: Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and associated draft Program Environmental Impact Report (DEIR) Comments

Dear Mr. Ikhrata:
This letter is to officially inform you that the City of Highland is in support of SANBAG's comments concerning the subject Draft RTP/SCS and DEIR as outlined in their February 14, 2012 letter (see attached).

In addition, the City respectfully request SCAG make additional adjustments to the City's Growth Distribution as presented by SANBAG and illustrated on the attached Table. Adjustments are highlighted in "**Bold**". No adjustments to the City's Growth Forecast is requested, only the "distribution" of Growth.

Should you have any questions please contact me at (909) 864-8732, Ext. 213, or Mr. Lawrence Mainez, City Planner at Ext. 215.

Sincerely,

John Jaquess
Community Development Director

Attachments:

A - SANBAG letter dated February 14, 2012
B - City of Highland Proposed Tier 3 Growth Distribution Adjustments

Cc: Joseph Hughes, City Manager
Lawrence Mainez, City Planner
Steve Smith, SANBAG - Chief of Planning

ATTACHMENT – A
SANBAG comment letter dated February 14, 2012

Governments
SANBAG
Working Together

San Bernardino Associated Governments
1170 W. 3rd Street, 2nd Floor San Bernardino, CA 92410-1715
Phone: (909) 884-8276 Fax: (909) 885-4407 Web: www.sanbag.ca.gov

TRANSPORTATION MEASURE I

- San Bernardino County Transportation Commission
- San Bernardino County Transportation Authority
- San Bernardino County Congestion Management Agency
- Service Authority for Freeway Emergencies

February 14, 2012

Mr. Hasan Ikhrata
Southern California Association of Governments
818 West 7th Street, 12th Floor
Los Angeles, CA 90017-3435

Dear Mr. Ikhrata:

This letter transmits San Bernardino Associated Governments' (SANBAG's) comments on the Southern California Association of Governments' (SCAG's) draft 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and associated draft Program Environmental Impact Report (PEIR). This is pursuant to SCAG's request for comments, with a closing date of February 14, 2012.

SANBAG recognizes and appreciates the extensive effort and deliberations that went into the RTP/SCS by SCAG staff and policy committees. We recognize that the RTP/SCS has been developed in the context of the largest and most geographically and demographically diverse metropolitan area in the United States, involving a great number of complex and challenging issues. SANBAG commends the efforts of SCAG staff and supports approval of the Plan by the April deadline, with some suggested clarifications. Our comments on the draft RTP/SCS and PEIR are as follows:

1. The RTP/SCS growth forecasts should be adopted at the County-level, not at the city or transportation analysis zone (TAZ) level. SANBAG needs the ability to adapt the forecasts to development trends and new information that will inevitably come to light at the small-area level over the next 4-year RTP/SCS cycle. This is consistent with SCAG's approvals in the past.

2. The growth distribution at the transportation analysis zone (TAZ) level needs to be adjusted to be consistent with the distribution of growth for households and employment being submitted by SANBAG in parallel with the comment letter. The growth distribution is based on the distribution of households and employment previously submitted by SANBAG, together with adjustments for the Plan Alternative of the RTP/SCS. No change is being suggested in the city-level distribution of growth.

Cities of: Adelanto, Barstow, Big Bear Lake, Chino, Chino Hills, Colton, Fontana, Grand Terrace, Hesperia, Highland, Loma Linda, Montclair, Needles, Ontario, Rancho Cucamonga, Redlands, Rialto, San Bernardino, Twentynine Palms, Upland, Victorville, Yucaipa
Towns of: Apple Valley, Yucca Valley County of San Bernardino

3. Please confirm that the East-West Freight Corridor (dedicated truck lanes) will continue from SR-60 northerly on the I-15 and terminate just to the north of I-10, with appropriate connector ramps to and from I-10 east of I-15. This is stated in the text of the draft RTP/SCS, but some of the maps and the transportation model networks are not yet consistent with this.

4. The Program EIR uses the phrase "local jurisdictions can and should..." or "project sponsors can and should..." in most of the local-level and project-level mitigation measures referenced in the EIR. SANBAG's understanding is that the mitigation measures are designed to provide local jurisdictions and project sponsors with choices, not requirements, as they seek to implement local transportation and development projects in the context of the RTP/SCS goals and objectives. However, CEQA also requires that mitigation measures be feasible and enforceable (CEQA Guidelines Section 15126.4). As drafted with the language "local jurisdictions can and should," the mitigation measures are implied to be feasible and enforceable. Therefore, SANBAG requests the mitigation measures be revised to clarify their intent. SANBAG suggests replacing the wording "local jurisdictions can and should..." or "project sponsors can and should..." with "SCAG shall encourage local jurisdictions to ...." SCAG should continue to play a role of facilitation for local jurisdictions and subregional agencies to build technical expertise, provide grant funds, disseminate information, and coordinate responses to regional issues. These are actions that are under the control of SCAG, the responsible party under CEQA, and can be monitored and enforced.

5. SANBAG recommends that those mitigation measures that are either the same as or similar to an existing regulation simply reference the regulation without restating the contents of the regulation. Local jurisdictions and project sponsors are already responsible for complying with regulations, and restating or paraphrasing a regulation in the PEIR could cause confusion in the future as regulations are modified. A summary of the regulation can be provided as information, but a restatement of the regulation in the PEIR with the "can and should" language may be counterproductive. The PEIR should also be careful to distinguish between guidelines and regulations. These changes will avoid potential future conflicts between a PEIR mitigation measure and an adopted regulation.

We would also like to request the following modifications to the project list, as submitted to SCAG staff through the standard RTP long-range project list modification and FTIP database update processes. These changes have been previously communicated to SCAG staff subsequent to the release of the Draft RTP and are being confirmed below.

Major project modifications include:

- 1830 – I-10 Cedar interchange – Schedule Change
- SBD41339 – I-10 Pepper interchange- Schedule Change
- 200152 – I-15 Arrow Rte. Interchange - Schedule Change
- 0H1300 – I-15 Duncan Canyon Interchange - Schedule Change
- 20061201 – I-15/215 Devore Interchange- Schedule Change
- SBD031279 – I-15 Ranchero Interchange - Schedule Change
- 35556 – I-15 VV-Barstow - Schedule Change
- 200451 – US 395 from I-15 to 1.8 Miles S. of Desert Flower Road – Interim Widening from 2-4 lanes
- 34040 – US 395 Expressway – Widen from 2-4 lanes from High Desert Corridor to Farmington Road
- 981118 – Omnitrans Bus Service - Schedule Change
- 20040804 – Needles – I-40 Connector – Downscope project

Major project deletions/completions include:

- SBD31808 – I-10 Riverside – Completed Project
- 0H930 – I-10 Waterman – Completed Project
- 43320 – I-10 Live Oak – Completed Project
- 47221 – I-15 Etiwanda (rehab. SHOPP) – Completed Project
- 34041 and 34042 – US 395 New Expressway – Deleted Combined Projects
- 4G0117-LR – Safety Upgrade – Milliken Ave. – Delete Project
- 4A07039-LR – Valley from Cherry to Alder (2-4 lanes) – Delete Project
- 4H01011-LR – HOV Connector (I-10/I-15 North to West) – Delete Project
- 4H01010-LR – HOV Connector (I-10/I-15 South to West) – Delete Project
- 4H01009-LR – HOV Connector (I-10/I-215 South to East) – Delete Project

We look forward to a productive discussion of all the comments in the coming weeks and the approval of the RTP/SCS in April.

Sincerely,

Larry McCallon
President, San Bernardino Associated Governments
Mayor, City of Highland

HI120214-lm

ATTACHMENT – B
City of Highland Proposed Tier 3 Growth Distribution Adjustments

City of Highland

Proposed Tier 3 Growth Distribution
Growth Map 2008-2035 San Bernardino County

A. SANBAG (see SANBAG comment letter February 14, 2012)			B. City of Highland proposed Growth Distribution		
Tier 3 Zone	Household Growth:	Employment Growth:	Household Growth - Adj:	Employment Growth Adj.:	
			(change in "**Bold**")		
53810101	10.03	815.15	**0**	815.15	
53810102	5.27	172.87	**0**	**503.87**	
53812102	2.43	27.7	2.43	27.7	
53815102	158.23	28.93	**50**	28.93	
53815201	30.85	80.43	**20.58**	80.43	
53815202	36.71	5.6	**25**	5.6	
53820101	20.5	7.15	20.5	7.15	
53820102	554.26	1617.21	**250**	**800**	
53820201	59.58	10.74	**10**	10.74	
53820202	419.5	63.75	**50**	63.75	
53821101	53.3	74.17	53.3	74.17	
53821102	43.27	24.98	**40**	24.98	
53823201	28.64	6.53	**0**	6.53	
53823301	0.13	60.55	0.13	60.55	
53828102	136.85	28.26	**40**	28.26	
53828201	83.57	441.09	**40**	441.09	
53828302	3.12	81.92	3.12	81.92	Town Center Policy Area
53828303	18.27	32.49	**50**	32.49	Town Center Policy Area
53828401	22.12	9.12	22.12	9.12	
53828402	19.65	37.37	19.65	37.37	
53828501	3.72	68.35	3.72	68.35	
53828502	16.9	10.23	16.9	10.23	
53828601	17.47	51.58	17.47	51.58	
53831101	68.36	7.35	**40**	7.35	
53831102	10.63	2.96	10.63	2.96	
53831103	0	12.41	0	12.41	
53831201	14.82	21.02	**50**	21.02	Town Center Policy Area
53831202	9.14	68.61	**20**	68.61	
53831203	0	39.27	**0**	39.27	
53831301	242.52	11.68	**80**	11.68	
53831302	234.9	100.58	**40**	100.58	

53831303	0.06	382.55	0	290.37		
53831401	78.11	86.93	0	86.93		
53831402 *	156.34	302.78	700	1000	Golden Triangle Policy Area	
53831501	0.75	2.48	0.75	2.48		
53831601	0	8.92	0	8.92		
53838101	29.57	3.8	29.57	3.8		
53838301	0	50.17	0	50.17		
53838302	18.52	2.82	18.52	2.82		
53838401	17.42	4.21	17.42	4.21		
53838501	41.59	9.01	10	9.01		
53838502	7.28	3.02	7.28	3.02		
53838601	29.54	53.32	29.54	53.32		
53838602	104.64	11.19	0	11.19		
53842101	83.64	38.33	50	38.33		
53842102	0.78	177.42	0	177.42		
53842201	76.52	40.17	100	40.17		
53842301	0.15	31.85	0.15	31.85		
53842401	23.64	7.36	23.64	7.36		
53842402	258.25	39.33	90	39.33		
53842403	9.19	1.4	9.19	1.4		
53842404	23.98	3.66	23.98	3.66		
53842405	38.47	5.94	0	5.94		
53842501	38.47	43.74	0	43.74		
53842502	177.96	168.83	150	50		
53848203 *	155.18	92	400	92	Seven Oaks Policy Area	
53848301 *	1860.38	648.07	1800	648.07	Seven Oaks Policy Area	
53872203 *	180.42	141.37	1300	141.37	Seven Oaks Policy Area	
Totals:	5735.59	6380.72	5735.59	6380.72		

SEAN JOYCE, City Manager

www.cityofirvine.ca.us

City of Irvine, One Civic Center Plaza, P.O. Box 19575, Irvine, California 92623-9575 (949) 724-6249

February 13, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, California 90017-3435

RE: Comments on the Draft 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy and Program Environmental Impact Report

Dear Mr. Ikhrata:

The City of Irvine appreciates the opportunity to review and provide comments on the Draft 2012-2035 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) and Program Environmental Impact Report (PEIR). The City of Irvine commends the Southern California Association of Governments (SCAG) staff for the tremendous amount of work and effort in preparing these documents. The following general comments and recommendations are offered by the City of Irvine on the Draft 2012-2035 RTP/SCS, associated appendices, and the Draft PEIR. In support of this letter, please find attached more specific detailed comments from the City of Irvine related to the PEIR (Attachment 1) and technical comments from Orange County Council of Governments (OCCOG) (Attachment 2). The City of Irvine requests that this letter and all of its attachments be included in the public record as our collective comments on the Draft RTP/SCS, PEIR, associated documents, and online inventory of maps.

- **The City of Irvine concurs with the Orange County Council of Governments (OCCOG) and Orange County Transportation Authority comments.**

  The City of Irvine concurs with the comments SCAG will receive from the OCCOG and the Orange County Transportation Authority (OCTA). The City requests that SCAG respond to all of the comments detailed in the OCCOG and OCTA letters and to act upon any changes advocated by OCCOG, of which the City is a member agency.

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- **SCAG's adoption of the growth forecast numbers should be at the county level, consistent with past RTPs, not at a smaller level of geography such as city, census tract, or traffic analysis zone level.**

  The growth projections provided to SCAG represent the best available information from local jurisdictions, the business community, and landowners. However, as time passes, what is feasible for any given project can change. A county level of geography accommodates internal adjustments to changing conditions, without compromising the integrity of the overall growth projections. Approving the growth projections at any lower level of geography, such as the city level, would be challenged with continual revisions and shifts to the total number of housing, population, and employment within a city, among cities, and between cities and counties. Adoption of the data at a level lower than the county would also limit local jurisdictional control and create inflexibility in a regional planning document.

- **The Orange County Sustainable Communities Strategy (OC SCS) should be fully integrated into the regional RTP/SCS. Language should be incorporated into the document that indicates the OC SCS represents the SCS for the Orange County subregion.**

  The RTP and appendices include numerous references to the OC SCS and SCAG's total use of the document in the regional RTP/SCS. Yet numerous other references suggest SCAG may have modified elements of the OC SCS data. SCAG shall include a statement and should document all maps, tables, charts, and other information that is necessary to confirm all of the OC SCS land use, socioeconomic, and transportation data was incorporated into the regional RTP/SCS without changes. This would be consistent with statements made by SCAG staff to the OCCOG Board of Directors and at the 2012 RTP Workshops that the OC SCS data has not been and will not be altered. Furthermore, there should be a statement indicating that the OC SCS represents the SCS for the Orange County subregion in total and that anything to the contrary in the regional 2012 RTP/SCS shall have no standing for Orange County.

- **One City of Irvine project, which has both local and regional significance, does not appear to be included in the RTP/SCS. This project is identified in the Long Range Transportation Plan (LRTP) for Orange County with the Orange County Transportation Authority (OCTA) as lead agency. It is, therefore, requested that the following project be added to the RTP/SCS: Sand Canyon Grade Separation Project.**

- **All documents, tables, maps, narrative, modeling runs, and PEIR Alternatives (including Alternative C/3/Envision 2 referencing the Orange County growth forecasts) should be updated with Orange County**

County growth forecasts) should be updated with Orange County Projections 2010 Modified Growth Projections (OCP-2010 Modified), as adopted by the OCCOG Board of Directors and consistent with the subregional delegation MOU between OCCOG, OCTA, and SCAG.

Orange County Projections 2010 Modified (OCP-2010 Modified) was approved by the OCCOG Board of Directors on January 26, 2012 and is a data amendment to the OC SCS. The dataset includes the 2010 Census population and housing data, along with the 2012 Employment Development Department Benchmark data, consistent with SCAG's updated growth forecast dataset.

- **SCAG does not have the purview to implement or require mitigation for local jurisdictions, other agencies, and project sponsors. SCAG should remove all mitigation measures outside their purview and consider moving these "mitigation measures" to an appendix of the RTP/SCS that can be used by local jurisdictions, local agencies, and project sponsors as a menu of options or a toolbox of sustainability strategies. Please also see Attachment 1, City of Irvine Comments on Draft PEIR.**

  SCAG staff has stated on numerous occasions at the OCCOG Board of Directors meeting and at the RTP 2012 Workshops that it was their intent to have the mitigation measures serve as a tool box or menu of options that could be used by local jurisdictions, local agencies, and project sponsors. However, inclusion of these strategies as mitigation measures in the PEIR negates the ability of the local jurisdictions, local agencies, and project sponsors to use the strategies in that manner. The PEIR should contain only those mitigation measures SCAG has the purview to implement and monitor.

- **SCAG should remove all mitigation measures that are duplicative of existing regulations administered by or under the jurisdiction of other agencies. For each impact, SCAG could add the language "Local jurisdictions, agencies, and project sponsors should comply, as applicable, with existing federal, state, and local laws and regulations." Please also see Attachment 1, City of Irvine Comments on Draft PEIR.**

  Many of the mitigation measures in the PEIR are duplicative of existing regulation or processes. Under the California Environmental Quality Act (CEQA), it is intended that measures be identified that will mitigate the impacts of the projects. Existing regulations are assumed to be abided by in the evaluation of the impact. Therefore, mitigation measures that simply restate existing regulation are not valid mitigation for purposes of CEQA. Further, it is possible for regulations to change over time. Because of this, restatement of the regulation in the mitigation measures could result in future conflict between stated mitigation and the regulation.

- **The Draft 2012 RTP/SCS and PEIR indicate SCAG has determined the strategies and mitigation measures to be feasible. Where SCAG deems a mitigation measure is feasible, SCAG shall provide documentation of this feasibility. Please also see Attachment 1, City of Irvine Comments on Draft PEIR.**

  SCAG staff has not identified any analysis that supports the feasibility of the mitigation measures in the PEIR and the strategies in the Draft 2012 RTP/SCS that are to be undertaken by entities other than SCAG.

The City of Irvine appreciates your consideration of all the comments provided in this letter and its attachments and looks forward to your responses. It is a shared goal to have a Regional Transportation Plan and Sustainable Communities Strategy adopted on April 4, 2012 that represents the best in regional planning developed collaboratively with local jurisdictions and stakeholders in a manner that is credible and defensible on all levels. If you have any questions, please do not hesitate to contact me.

Sincerely,

Sean Joyce
City Manager

Attachments:

1. City of Irvine Comments on Draft PEIR
2. OCCOG Technical Comment List

cc: City Council
Sharon Landers, Assistant City Manager
Eric Tolles, Director of Community Development
Manuel Gomez, Director of Public Works
Eric Tolles, Director of Community Development
Barry Curtis, Manager of Planning Services
Katie Berg-Curtis, Project Development Administrator
Marika Modugno, Senior Planner
Dave Simpson, OCCOG
Jacob Lieb, SCAG

Attachment 1: City of Irvine Comments on the PEIR

I. INTRODUCTORY COMMENTS

This document provides comments, on behalf of the City of Irvine ("Irvine"), on the Draft Program Environmental Impact Report ("PEIR") prepared by the Southern California Association of Governments ("SCAG") for the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy ("2012-2035 RTP/SCS" and/or "Plan"). As explained below, the PEIR can and should be revised and clarified, so that it can (i) comply with the requirements of the California Environmental Quality Act ("CEQA") (Pub. Resources Code, § 21000, *et seq.*) and the CEQA Guidelines (Cal. Code Regs., Tit. 14, Ch. 3, § 15000, *et seq.*), and (ii) prove a useful tool in connection with the evaluation of future local and regional projects.

1. Useability of PEIR in Connection With Later Environmental Analyses

Irvine's most pressing concern with the PEIR is that the environmental document will create unnecessary confusion as to the content and requirements of future local level environmental analyses. The PEIR is replete with mitigation measures that SCAG claims "can and should" be implemented by local agencies. And, even with the implementation of those measures assumed, the PEIR concludes that "significant and unavoidable" impacts will exist on almost every environmental dimension.

That approach threatens to unnecessarily complicate future environmental analyses for local agencies, including Irvine. What if measures that are deemed "feasible" by SCAG at a program level prove infeasible at a project level? Even if those measures are implemented at a project level, will the local agency have to repeat SCAG's finding that impacts nevertheless remain significant and unavoidable? Even though SCAG's RTP/SCS may not be consistent with local jurisdictions' general plans and/or cumulative growth assumptions, will local agencies (at least for regionally significant projects have to annex the PEIR's forecast of near-universal "significant and unavoidable" impacts into the cumulative impact analyses of project-level EIRs? If so, will that require repeated local-agency statements of overriding considerations?

To assist local agencies that will have to wrestle with these issues, we suggest that the PEIR acknowledge in the Executive Summary section that while it "includes mitigation measures designed to help avoid or minimize significant environmental impacts," those measures were selected without the ability to evaluate each project that could occur as a result of the Plan. Further, the PEIR should note that many impacts were noted as "significant and unavoidable" *even though* they could be mitigated to "less than significant at the project-level," once such a project-level analysis is done. Finally, and consistent with the foregoing, the PEIR should acknowledge (as it does in Chapter 3) that "[p]roject specific environmental documents may adjust [the mitigation measures listed] as necessary to respond to site-specific conditions." (*See, e.g.*, Page 3.2-35, Page 3.3-45, Page 3.4-22, Page 3.12-30.)

2. Mitigation Measures

The PEIR's approach to mitigation suffers from a series of recurring flaws. First, the PEIR relies upon dozens of mitigation measures that the PEIR claims "can and should be implemented" by local jurisdictions or project sponsors. Unfortunately, for most of those mitigation measures, there is little if any data concerning the actual feasibility of implementation. Thus, the notion that measures either "can" or "should" be implemented is not supported by evidence in the record. That lack of information is important because CEQA only allows the imposition of "feasible" mitigation; if a measure is infeasible, then CEQA requires either (i) an identification of an alternative measure that *is* feasible, or (ii) the acknowledgment that the "post-mitigation" environmental impact will be more significant than if the (infeasible) mitigation were implemented.

Second, in most chapters, there is no clear means of gauging the effectiveness of the proposed mitigation measures. Most of the environmental analyses of anticipated "with project, without mitigation" conditions are so general that one cannot tell the severity of an identified impact with any certainty. Absent that information, it is difficult to discern whether and to what extent a mitigation measure would, if feasible and implemented, reduce the forecasted impacts. Consistent with this observation, most section of the PEIR do not include any clear explanation of how and to what extent identified mitigation measures reduce impacts that would occur but for the imposition of mitigation.

Third, in almost every case, the mitigation measures do not provide specific, articulable standards by which their efficacy may be determined. That approach results in measures that have uncertain application, and even more uncertain effectiveness. As one court put it, "[i]f, as so many courts have said, the EIR is the heart of CEQA, then to continue the anatomical metaphor, mitigation is the teeth of the EIR." (*Envtl. Council of Sacramento v. City of Sacramento* (2006) 142 Cal.App.4th 1018, 1039.) To have legally sufficient "teeth," mitigation measures must have definitive performance standards. (*Endangered Habitats League v. County of Orange* (2005) 131 Cal.App.4th 777, 794; *Gray v. County of Madera* (2007) 167 Cal.App.4th 1099, 1119, 1126.)

Fourth, the PEIR appears to confuse "existing regulations" with mitigation measures. Many existing regulatory requirements are characterized as "mitigation" even though those requirements would have to be honored with or without the approval of the PEIR. Proceeding in that manner tends to overstate impacts in the "with project, without mitigation" scenarios. Put another way, assuming compliance with existing regulations in the "with project, without mitigation" scenarios provides a more accurate forecast of the project's baseline impacts.

Fifth, the PEIR also appears to confuse "the project" with its mitigation measures. Indeed, many of the "mitigation measures" are framed as policy statements to be performed in the implementation of the project. As such, those actions should be re-framed and assumed as "part of the project" rather than mitigation for the project.

Sixth, the PEIR's reliance on measures that "can and should" be implemented by local jurisdictions has an unclear application. It appears that even though SCAG cannot ensure implementation of such measures, it nevertheless *assumes* that those measures will be implemented in the environmental analysis. A superior approach, used by many jurisdictions, is to identify measures that "can and should" be implemented by other jurisdictions, then adopt a

Statement of Overriding Considerations for the corresponding impact; thereby recognizing that the certifying agency (SCAG) has no power to compel implementation of the identified mitigation. While the PEIR ultimately finds almost every studied impact to be "significant and unavoidable" those determinations are made assuming that those measures that "can and should" be implemented will in fact be implemented.

All of the foregoing issues contribute to an overriding concern for Irvine: Once the PEIR is certified, it will be difficult (if not impossible) to either rely on the analysis in the PEIR or to prepare a tiered environmental document from the PEIR. The detail and structure of the environmental analysis is too general; the relationship between mitigation measures, existing regulations, and project components is too unclear; and the standards by which mitigation efficacy is to be judged are too vague to meaningfully build upon the first level, programmatic, discussion in the PEIR.

More detail on our concerns with the mitigation measures in the PEIR is provided in Attachment A.

II. CHAPTER-SPECIFIC PEIR COMMENTS

1. Section 1.0 Introduction

Item 1: At Page 1-1, second full paragraph of the Summary Section, the PEIR states that "Individual transportation projects are preliminarily identified in the 2012-2035 RTP/SCS; however, this PEIR analyzes potential environmental impacts from a regional perspective and is programmatic in nature. As such, it does not specifically analyze these individual projects," choosing instead to defer that analysis to a later time, stating: "Project-specific analysis will be undertaken by the appropriate implementing agency prior to individual projects being considered for adoption." Thus, the PEIR recognizes that individual transportation projects will require project-specific analysis. That recognition conflicts, however, with Page 1-7, at Transportation Project Mitigation, where the PEIR states, (emphasis added), "*This Draft PEIR has made a preliminary determination that the proposed mitigation measures are feasible and effective.* Therefore, it is reasonable to expect that these agencies will actually implement them." Please modify the PEIR to clarify that statements concerning the feasibility and effectiveness of mitigation are based on programmatic assumptions, not project-specific determinations, and that the ultimate determination of project level feasibility lies with local agencies.

2. Section 3.1 Aesthetics

Item 1: The mitigation measures listed in the Aesthetics and Views Impact section do not provide specific articulable standards by which their efficacy may be judged. Measures MM-AV1 through MM-AV12 provide guidelines and platitudes, but no measure of effectiveness. As an example, MM-AV8 states in general: "Project sponsors can and should design projects to minimize contrasts in scale and massing between the project and surrounding natural forms of development." This measure is posed as "mitigation" for the following impact: "Potential to create significant contrasts with the overall visual character of the existing landscape setting or add urban visual elements to an existing natural, rural, and open space area." As is apparent, the "mitigation measure" is functionally just a restatement of the "impact"; it has no "bite" in reality.

While the Plan is a programmatic one, and aims to address impacts at the program level, such that Mitigation Measures were not as detailed as if at the project level, the measures must still have a standard by which to determine efficacy so as to distinguish them from a mere suggestion (or restatement of the "impact" that they seek to mitigate).

Additionally, each of the impacts to Aesthetics listed in Section 3.1, assume performance of the mitigation, and even in such performance, concludes the impact is "significant and unavoidable." Unlike subsequent sections, this Section, in listing out its Mitigation Measures at Page 3.1-15, *does not note* that such Mitigation Measures can be modified or adjusted as necessary to respond to project-specific conditions. This conflicts with the PEIR's stated recognition of the need for project-specific analysis, and that "significant and unavoidable" conclusions as to Impact mitigation was determined due to the programmatic nature of the PEIR, and can change at the project-specific level. Please explain the differential treatment of impacts in this section.

3. Section 3.2 Air Quality

Item 1: In analyzing Impact 3.2-1, the PEIR states: "Mobile source emissions of ROG, NOx, CO, PM 10, PM 2.5, and SOx would stay approximately the same or decrease (often substantially) when compared to existing conditions. This is considered to be a beneficial impact. Re-entrained roadway dust would increase proportionate to VMT. This would be a significant impact." The PEIR further states that roadway construction activity would contribute to regional dust levels, and "re-entrained roadway dust" would be expected to increase under the Plan as compared to existing conditions. The PEIR also states that "[t]hese construction emissions, although unavoidable, would be partially controlled by air districts fugitive dust rules." The applicable "fugitive dust rules" are not clearly identified and explained in the PEIR. Please clarify and provide examples of such "fugitive dust rules," and explain how those rules would effectively deal with increased regional dust.

Item 2: At page 3.2-30, the PEIR states there is the "[p]otential to increase population within 500 feet of transportation facilities that could expose residents (schools and other sensitive receptors) to elevated (as compared to average) cancer and other health risks." The PEIR then recommends mitigation measure MM-AQ19 to reduce this impact to a less-than-significant level. MM-AQ19 requires compliance with the California Air Resources Board Air Quality and Land Use Handbook (June 2005) to achieve an acceptable interior air quality level for sensitive receptors. MM-AQ19 further suggests that project sponsors "can and should" incorporate "appropriate measures" into project building design.

This mitigation measure elevates the voluntary guidance from the California Air Resources Board Air Quality and Land Use Handbook to mandatory compliance on the part of project sponsors. Please explain and justify that approach. Furthermore, please explain how such compliance would achieve "acceptable interior air quality level for sensitive receptors."

Item 3: At page 3.2-32, the PEIR states "[m]itigation measures to reduce air quality impacts would be established in project-specific environmental documents," and that such impacts should be addressed at the project level analysis. Following that, the PEIR states that the overall impact of the 2012-2035 RTP/SCS Plan would create substantial emissions and that "Implementation of Mitigation Measures MM-AQ1 through MM-AQ18 would reduce criteria pollutant impacts;

however, impacts would remain significant." There is potentially a conflict between conducting project-specific environmental analysis and further having to implement MM-AQ1 through MM-AQ18 to reduce criteria pollutant impacts. This can likely be clarified by noting that the mitigation measures are subject to project-specific feasibility and effectiveness determinations by the project sponsor or agency with jurisdiction over the project, and that such project sponsor or agency has the authority to implement such measures as appropriate given project-specific analysis that is undertaken.

Item 4: At page 3.2-39 the PEIR states that "[t]ables 3.2-4 and 3.2-5 show the residential and workplace cancer risk, respectively." This should be changed to Tables 3.2-7 and 3.2-8."

Further, in the same paragraph, the PEIR states "[i]t is estimated that the Plan would result in 293,633 annual health incidences leading to $4,952,996,222 spent on healthcare. This is a 24 percent reduction when compared to the No Project Alternative." Please explain where the number of annual health incidences is derived and the associated costs as the tables do not indicate these numerical values, both in the amount spent in healthcare costs and the percentage decrease.

4. Section 3.3 Biological Resources & Open Space

Item 1: At page 3.3-45 the PEIR states that Mitigation Measures BIO/OS46 through BIO/OS49 and BIO/OS54 "would reduce open space/rangelands impacts." Please discuss how the concept of "induced growth" under MM-BIO/OS47 does not conflict with Measure M2.

Item 2: At page 3.3-45, "Cumulative Impacts 3.3-10" is noted as the "[p]otential to contribute to a cumulatively considerable loss of habitat and biological resources." The PEIR further states that implementation of Mitigation Measures BIO/OS1 through BIO/OS59 would reduce cumulative impacts; however, impacts would remain significant." As to MM-BIO/O55, the mitigation measure states that local agencies "can and should" establish *programs and funding mechanisms* to create protected conservation areas. This Mitigation Measure should include a standard to determine how effective imposition of additional taxes and fees in creating programs and funding to create conservation plans would reduce the negative impact or loss of habitat and biological resources.

5. Section 3.4 Cultural Resources

Item 1: Beginning at Page 3.4-22, MM-CUL1 and MM-CUL2 indicate that "the appropriate Information Center" should be contacted to determine whether a project-area has been previously surveyed and whether historic resources are identified, and if indicated as such, then a "qualified architectural historian" should be obtained by the project sponsors to "conduct historic architectural surveys as recommended by the Information Center." And that further, the "Information Center," in the event that no survey has been conducted, "will make a recommendation on whether a survey is warranted based on the sensitivity of the project area for historical resources within 1,000 feet of the project." Additionally, MM-CUL7, also references an "Information Center" that should be consulted to conduct proper surveys. Please clarify which "Information Center" MM-CUL1, MM-CUL2, and MM-CUL7 is referring to. For

example, MM-CUL6 notes it is the "Information Center of the California Archaeological Inventory" to be consulted to conduct the appropriate surveys.

6. Section 3.5 Geology, Soils & Mineral Resources

Item 1: At Page 3.5-23 the PEIR states that a "greater amount of transportation projects in the Plan would increase the amount of transportation infrastructure that would be subject to risk as a result of surface rupture, ground-shaking liquefaction, and landsliding and other risks associated with seismic events." Additionally, the "No Project Alternative would result in the construction of approximately 68,040 new lane miles compared with over 74,297 new lane miles in the 2012-2035 RTP/SCS," thereby drawing the conclusion that "Impacts related to geologic and seismic resources would be similar to the Plan under the No Project Alternative because the population would be the same and the entire region is subject to seismic risk."

This conclusion seems questionable if under the Plan, a greater number of transportation projects would be built, resulting in the 74,297 new lane miles, that would be subject to risk associated with seismic events. The conclusion appears to be drawn because the total population will be the same under both the No Project and the Plan, and that the region as a whole would be subject to seismic risk—however, the increase in transportation infrastructure and projects itself is at risk due to seismic events, and the increase of such infrastructure in comparison to a No Project scenario, would seem to conclude that there be a greater impact under the Plan than under the No Project alternative. Because there would be the same population increase and the region would be subject to seismic risk, does not preclude greater impacts under the Plan due to increases in transportation infrastructure.

7. Section 3.6 Greenhouse Gas Emissions

Item 1: At page 3.6-6 the paragraph on Assembly Bill 811 appears to be incomplete.

Item 2: Page 3.6-15, last paragraph on the page explains that Table 3.6-3 shows Greenhouse Gas Emissions by County. Second sentence states "Baseline (2005) emissions are estimated to be 142 million metric tons (MMT) of CO_{2e} compared to an estimated 144 MMT of CO_{2e} under existing (2011) conditions." According to Table 3.6-3, the total estimate for Baseline (2005) CO_{2e} emissions in MMT is 132, and the estimate for Existing (2011) CO_{2e} emissions in MMT is 130. Please explain the calculation reflected on Page 3.6-15 as opposed to the table numbers on Page 3.6-16.

8. Section 3.7 Hazardous Materials

Item 1: At pages 3.7-9 through 3.7-11, Impact 3.7-1 is discussed, which is the "Potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials." Within the discussion of Impact 3.7-1, on Page 3.7-10, first full paragraph, the PEIR states (emphasis added) "*In general*, it is anticipated that the increase in transport of hazardous materials would result in a *less-than-significant hazard* to the public and/or the environment, because handling and transport of hazardous materials and wastes are subject to numerous laws, regulations, and health and safety standards set forth by federal, State, and local authorities that regulate the proper handling of such materials and their containers." Further on Page 3.7-10, the PEIR notes that the "2012-2035 RTP/SCS directs growth adjacent to transit and transportation facilities, and with this increased growth, there would be greater potential for exposure of sensitive receptors as well as other uses to risks associated with

hazardous material transport" and that such a greater potential impact "would be analyzed on a case-by-case basis." Finally, on Page 3.7-11, the section concludes that "[a]lthough individual projects would be required to comply with all existing regulations, due to the volume of projects (transportation and development) contained within the RTP/SCS, *it is possible that significant impacts could occur*. Therefore, without Mitigation Measures MM-HM1 through MM-HM3, *impacts could be significant*."

Based on the above, the PEIR notes "in general" the increase in transport of hazardous materials is anticipated to result in a less-than-significant hazard, but that projects would have to be analyzed on a case-by-case basis, such that it is "possible" significant impacts could occur, and that without MM-HM1 through MM-HM3, impact could be significant. There does not appear to be a conclusion, however, that Impact 3.7-1 would be "significant and unavoidable," even with the undertaking of the mitigation measures. This is somewhat conflicting, given the general notion that it is anticipated the increase in transport of hazardous materials would result in less-than-significant hazard to the public and/or environment. This is further in conflict with the Executive Summary table, in which Impact 3.7-1 is listed on Page ES-33 as being "significant and unavoidable" after mitigation despite the statement at Page 3.7-11, that impacts "could" be significant, rather than "impacts would remain significant."

Item 2: Page 3.7-13, MM-HM1 and MM-HM2 both state that "SCAG shall encourage" the United States Department of Transportation, the Office of Emergency Service, the California Department of Transportation, and the California Highway Patrol to continue to take certain actions, such as conducting driver safety or enforcing speed limits." These mitigation measures only seek to "encourage" other departments to continue carrying out regulations currently enforced, and provides no determination of how to determine if such measures serve to mitigate Impact 3.7-1 and Impact 3.7-4, for which it is listed, and its effectiveness as a mitigation measure.

9. Section 3.8 Land Use & Agricultural Resources

Item 1: Page 3.8-12 to 3.8-13, the PEIR recognizes that despite attempts to work with local jurisdictions, including, counties, subregions and local city planners, it is likely that the 2012-2035 RTP/SCS has relied on general plans that are not current and the implementation of RTP/SCS transportation projects and resulting growth will be inconsistent with general plans, and therefore the RTP/SCS includes the "policy to continue public outreach efforts and incorporate local input" to develop a more accurate forecast in future RTP/SCSs.

The PEIR subsequently notes that SCAG "has no authority to adopt local land use plans or approve local land use projects that will implement the SCS" because "SB 375 specifically provides that nothing in the law supersedes the land use authority of cities and counties. In addition, cities and counties are not required to change their land use plans and policies, including general plans, to be consistent with an RTP/SCS. However, local jurisdictions are encourage by SCAG to consider the [methods discussed in Chapter 4 and Chapter 2]." In other words, SCAG encourages local jurisdictions to adopt and update general plans that are consistent with the 2012-2035 RTP/SCS in order to accomplish the goals of SB 375. To this end, implementation of Mitigation Measures MM-LU1 through MM-LU10 would reduce impacts

related to potential conflicts with an applicable land use plan, policy, or regulation of any agency with jurisdiction over the project; however, impacts would remain significant.

There appears to be an inconsistency with this recognition on Pages 3.8-12 to 3.8-13 that SCAG can only *encourage* local jurisdictions to adopt plans that would reduce the impact of inconsistent local land use plans and policies with the RTP/SCS, consistent with SB 375's protection of ultimate land use authority of cities and counties, with the actual Mitigation Measures listed, namely MM-LU3, MM-LU8, and MM-LU10.

a. MM-LU3 states "SCAG shall work with its member cities and counties to ensure that transportation projects and growth are consistent with the RTP and general plans." This mitigation measure seems to require that the project sponsors in fact comply with the RTP, when such projects and growth falls within the protection of SB 375 and is a local land use control issue, within the local jurisdiction's purview.

b. MM-LU8 states "SCAG shall use its Intergovernmental Review Process to provide review and comment on large development projects regarding their consistency with the RTP and other regional planning efforts." This proposed mitigation measure seems inconsistent with SB 375 and SCAG's role to encourage consistency.

c. MM-LU10 states "Local jurisdictions can and should provide for new housing consistent with the Regional Housing Needs Assessment (RHNA) to accommodate their share of the forecasted regional growth." This proposed mitigation measure is problematic because local jurisdictions are not required to provide housing, and thus such measure conflicts with local authority. This may be remedied by revising the language of MM-LU10 to reflect compliance with state law with regard to housing to accommodate forecasted regional growth.

Item 2: At page 3.8-15, the PEIR states that "substantial disturbance and/or loss of forestlands, prime farmlands and/or grazing lands, throughout the six-county SCAG region" is mitigated by MM-LU15, which states "Project sponsors can and should ensure that at least one acre of unprotected open space is permanently conserved for each acre of open space developed as a result of transportation projects/improvements." This proposed mitigation, however, could constitute a "taking" of property and mitigates for "induced growth." Furthermore, MM-LU16 through MM-LU35, suggested to mitigate Impact 3.8-3, are insufficient in that they state local jurisdictions or project sponsors "can and should" take on various measures without noting how such measures will be evaluated for effectiveness in mitigating Impact 3.8-3. For example, MM-LU26, states "Project sponsors and local jurisdictions can and should promote infill development and redevelopment to encourage the efficient use of land and minimize the development of agricultural and open space lands" is again seemingly not a measure that can be meaningfully evaluated and/or quantified in determining efficacy.

Item 3: At Pages 3.8-15 through 3.8-16, the PEIR discusses the "[p]otential to influence the pattern of urbanization in the region such that land use incompatibilities could occur," and MM-LU36 through MM-LU85 are recommended to reduce land use impacts and again are insufficient insofar as they claim that local jurisdictions "can and should" take on various measures without noting how such measures will be evaluated for effectiveness in mitigating

Impact 3.8-3. For example, MM-LU44 states "The improvement and expansion of one urban public facility or service can and should not stimulate development that significantly precedes the local jurisdiction's ability to provide all other necessary urban public facilities and services at adequate levels." It is unclear how to determine when one urban public facility or service will cause a significant impact on a local jurisdiction's ability to provide all other necessary urban public facilities and services at "adequate levels," given that such "adequate levels" are not identified.

Item 4: Page 3.8-21, MM-LU53 states "SCAG shall promote infill, mixed-use, and higher density development, and provide incentives to support the creation of affordable housing in mixed use zone." Please describe how SCAG will seek to provide such incentives to support the creation of affordable housing in mixed use zones.

Item 5: Page 3.8-23, MM-LU69 states "Local jurisdictions can and should promote greater linkage between land uses and transit, as well as other modes of transportation." This Mitigation Measures is vague in that it does not provide what "greater linkage" measures would include, and how its effectiveness to minimize the impact of incompatible land uses would be determined.

Item 6: Page 3.8-25, MM-LU84 states "Local jurisdictions can and should give preference for infrastructure improvements that support or enhance desired land uses and projects." It is unclear what are the "desired land uses and projects" in MM-LU84, and how local jurisdictions are to give preference to such infrastructure improvement such as how it should be determined that such improvements actually enhance a desired land use and project, to be implemented by a local jurisdiction, and what measures of effectiveness should be applied.

Item 7: Page 3.8-25, MM-LU85 states "Local jurisdictions can and should reduce heat gain from pavement and other hardscaping, including . . . Reduce street rights-of-way and pavement widths to pre-World War II widths (typically 22 to 34 feet for local streets, and 30 to 35 feet for collector streets, curb to curb), unless landscape medians or parkway strips are allowed in the center of roadways." Please explain how reducing streets to pre-World War II widths will not conflict with local fire department required street access. Further, please explain how to measure the effectiveness of MM-LU85 in reducing Impact 3.8-4.

10. Section 3.11 Public Services and Utilities

Item 1: At page 3.11-6, the PEIR indicates that the Plan has the potential to increase exposure to wildfires and hazards due to new or expanded infrastructure. Additionally, at Page 3.11-9, in the PEIR's analysis of Direct Impacts, in comparing the Plan with the No Project Alternative, the PEIR notes that "under the No Project Alternative, it is anticipated that 83,990 households would be exposed to extreme wildfire threats; whereas under the 2012-2035 RTP/SCS, the number would be reduced to 71,553. This would be a 14 percent decrease in households exposed to extreme wildfire threats, as measures to reduce wildfire threats are implemented with planned 2012-2035 RTP/SCS projects." The PEIR notes what the expected number of households exposed to wildfire threats would be in 2035 under a No Project scenario, and notes the decrease by 14 percent in relation to the number of households exposed under the Plan, however the PEIR

does not note the current number of households exposed, to reflect a corresponding potential increase under the Plan.

Item 2: At page 3.11-47, just above Table 3.11-11, the PEIR states that the Table reflects that "urban development and growth that would be accommodated by the transportation investments in the 2012-2035 RTP/SCS would result in less overall use of energy resources in 2035 than in 2011." The total use of electricity and natural gas consumption as reflected in Table 3.11-11 is *actually higher* compared from 2035 under the Plan to the current 2011 energy consumption. What the Table reflects is a less overall use of energy resources in 2035 as between a No Project scenario and the Plan scenario. Thus, the statement that the "urban development and growth that would be accommodated by the transportation investments in the 2012-2035 RTP/SCS would *result in less overall use of energy resources in 2035 than in 2011*" should be amended accordingly.

Item 3: At page 3.11-49, MM-PS64 states "[s]tate and federal lawmakers and regulatory agencies can and should pursue the design of programs to either require or incentivize the expanded availability including the expansion of alternative fuel filling stations and use of alternative-fuel vehicles to reduce the impact of shifts in petroleum fuel supply and price." This mitigation is assigned to State and Federal agencies and lawmakers, who are outside of SCAG's purview.

Item 4: At pages 3.11-51 through 3.11-52, MM-PS91 and MM-PS92 require local jurisdictions to take on mitigation measures that will likely directly increase the cost of housing, but do not include measures by which to determine the effectiveness of requiring energy audits in achieving mitigation of Impact 3.11-11.

Item 5: At page 3.11-53, mitigation measure MM-PS106 states "[l]ocal jurisdictions can and should provide, where feasible, creative financing for renewable energy projects, including subsidized or other low-interest loans, and the option to pay for system installation through long-term assessments on individual property tax bills." This mitigation measure is currently a voluntary program, and should be made clear that it will remain voluntary for local jurisdictions, to determine when such programs are "feasible" in accordance with the project-specific analysis that will be conducted at the project level.

11. Section 3.12 Transportation, Traffic, and Security

Item 1: MM-TR1 serves as an example of a mitigation measure that provides no articulable standard by which to determine its efficacy. MM-TR1 states, "SCAG shall establish a forum where policy-makers can be educated and can develop consensus on regional transportation safety and security policies." It is unclear how exactly such requirement shall be measured for effectiveness and how such measure will mitigate the impacts discussed in Section 3.12.

Item 2: At page 3.12-33, MM-TR26 and MM-TR27 both note that "SCAG shall encourage local agencies to fully implement these policies and projects." It appears that both mitigation measures are more of a suggestion that local agencies fully implement the measures included in the Plan, but has no measure of effectiveness if such measures are adopted or that such measures must be implemented.

Item 3: At page 3.12-36, MM-TR34 states "[l]ocal jurisdictions can and should meet an identified transportation-related benchmark." Please explain what would be an "identified transportation-related benchmark" and who would determine such benchmark, and the standards by which the effectiveness of meeting such a benchmark would achieve in mitigating Impact 3.12-1.

Item 4: At page 3.12-36, MM-TR37 states "[l]ocal jurisdictions and transit agencies can and should provide public transit incentives such as free or low-cost monthly transit passes to employees, or free ride areas to residents and customers." Please describe or explain how the subsidies are to be provided for by local jurisdictions and transit agencies in accordance with this proposed mitigation measure.

Item 5: At page 3.12-37, MM-TR52 states"[l]ocal jurisdictions can and should reduce VMT-related emissions by encouraging the use of public transit through adoption of new development standards that would require improvements to the transit system and infrastructure, increase safety and accessibility, and provide other incentives." Please describe or explain how local jurisdictions are to determine these "new development standards" and how the effectiveness of such standards will be measured to determine effectiveness of such a mitigation measure.

Item 6: At page 3.12-37, MM-TR56 deals with System Interconnectivity, stating that "Local jurisdictions can and should create an interconnected transportation system that allows a shift in travel from private passenger vehicles to alternative modes, including public transit, ride sharing, car sharing, bicycling and walking, by incorporating the following . . ." which includes (i) "study the feasibility of providing free transit to areas with residential densities of 15 dwelling units per acre or more, including options such as removing service from less, dense underutilized areas to do so" and (ii) "use park-and-ride facilities to access transit stations only at ends of regional transitways or where adequate feeder bus service is not feasible." Please explain how this measure was determined, that free transit be provided to areas with residential densities of 15 dwelling units per acre or more.

Item 7: At page 3.12-38, MM-TR59 states that local jurisdictions "can and should prioritize transportation funding to support a shift from private passenger vehicles to transit and other modes of transportation" and sets forth two methods to do so, including "Give funding preference to improvements in public transit over other new infrastructure for private automobile traffic" and "before funding transportation improvements that increase roadway capacity and VMT, evaluate the feasibility and effectiveness of funding projects that support alternative modes of transportation and reduce VMT, including transit, and bicycle and pedestrian access." Please explain how this mitigation measure does not conflict with all local transportation measures already in place, including Measure M2 and Measure R in Los Angeles County.

Item 8: Page 3.12-40, MM-TR74: "Low- and No- Travel Employment Opportunities: Local jurisdictions can and should facilitate employment opportunities that minimize the need for private vehicle trips, including" the measure that local jurisdictions "encourage telecommuting options with new and existing employers, through project review and incentives, as appropriate." Please describe or explain how the telecommuting networks will be implemented and whether such incentives would mean the need for new taxpayer funded subsidies.

Item 9: At page 3.12-43, MM-TR97 states "Travel Mitigation: Local jurisdictions can and should mitigate business-related travel, especially air travel, through the annual purchase of verified carbon offsets." This measure requires that local jurisdictions purchase carbon offsets, without setting forth benchmarks or standards to determine the effectiveness of such a measure in reducing Impact 3.12-1 and 3.12-3.

Item 15: At page 3.12-43, MM-TR98 states "Transit Access to Municipal Facilities: Local jurisdiction and agency facilities can and should be located on major transit corridors, unless their use is plainly incompatible with other uses located along major transit corridors." Please explain locating municipal facilities in a "major transit corridor" will effectively mitigate Impact 3.12-1 and 3.12-3.

Item 16: Page 3.12-30: Impact 3.14-6 should read Impact 3.12-6.

12. Section 3.13 Water Resources

Item 1: At page 3.13-39, MM-WR26imposes more regulations than the current National Pollutant Discharge Elimination System (NPDES) permit requirements, regulated by the State Water Resources Control Board as delegated by the U.S. Environmental Protection Agency, and would require mitigation on project sites smaller than one acre in size. Please explain and justify that approach.

13. Section 4.0 Alternatives

Item 1: While an EIR need not include an in depth discussion of the alternatives that were not considered feasible, according to CEQA Guidelines, section 15126.6(c), it should briefly identify alternatives rejected as infeasible and explain why they were rejected. It does not appear that this PEIR does so.

Item 2: Page 4-4 lists brief descriptions of the Alternative 2 and Alternative 3 projects. Alternative 2 only describes Modified 2008 RTP Alternative as an "update of the adopted 2008 RTP to reflect the most recent growth estimates and transportation planning decisions and assumptions" and goes on to say that the alternatives "does not include urban form strategies included within the SCS, but includes all of the modifications and projects in the 2008 RTP through RTP Amendment 4. The growth scenario for the Modified 2008 RTP Alternative is a combination of local input and existing general plan and land use date provided by local jurisdictions."

This does not include enough description of Alternative 2 to verify that the conclusions made as to the comparative effects of that Alternative for each of the Impacts discussed in turn from Pages 4-22 through 4-30. The analysis of each Impact under the Modified 2008 RTP Alternative as compared to the Plan explains the difference in Impact, but without explanation of how such a conclusion were formulated/achieved.

For example, under Hazardous Materials at Page 4-27, it states "The Modified 2008 RTP Alternative would have similar impacts related to the accidental release of hazardous materials as compared to the Plan." The reasoning behind that conclusion should be provided, and would be

supported by a more thorough description of what the Modified 2008 RTP Alternative plan would entail.

14. Section 5.0 Long Term Effects

Item 1: Page 5-3, the PEIR states "Resources that would be permanently and continually consumed by the proposed project's implementation include water, electricity, natural gas, fossil fuels, and aggregate resources; however, the amount and rate of consumption of these resources would not result in significant environmental impacts related to the unnecessary, inefficient, or wasteful use of resources." To better understand how it was determined there would not be unnecessary, inefficient, or wasteful use of resources, resulting in irreversible, significant environmental effects, the reasoning behind such a conclusion should be provided.

III. Conclusion

For all of the foregoing reasons, Irvine respectfully believes the PEIR should be revised to clarify the PEIR's approach to mitigation, reflecting that feasibility and effectiveness of the Mitigation Measures were determined at a programmatic level, and that project-specific analysis will amend or adopt such Measures as appropriate upon further analysis, allowing for measures to be bypassed by local jurisdictions when project level analyses find the measures either infeasible or unnecessary. Additionally, the Mitigation Measures should be amended to include articulable standards by which to determine their efficacy in mitigating their corresponding Impacts recognized by the PEIR. A consensus should be reached as to how to conduct future Cumulative Impacts determinations upon local jurisdictional undertaking of project-specific analysis, given the findings of "significant and unavoidable" impacts at a programmatic, but not project-specific level.

Thank you for considering these comments.

ATTACHMENT A

MATRIX OF CONCERNS WITH RTP/SCS PEIR MITIGATION MEASURES

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
AESTHETIC RESOURCES					
AV1					X
AV2					X
AV3			X		X
AV4	X		X		X
AV5		X			X
AV6	X	X			X
AV7	X		X		X
AV8		X			X
AV9		X			X
AV10					X
AV11		X			X
AV12					X
AIR QUALITY					
AQ1		X	X		X
AQ2		X	X		X
AQ3			X		X
AQ4					X
AQ5					X
AQ6		X			X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
AQ7			X		X
AQ8			X		X
AQ9			X		X
AQ10			X		X
AQ11					X
AQ12					X
AQ13					X
AQ14		X			X
AQ15		X	X		X
AQ16					X
AQ17			X		X
AQ18					X
AQ19			X	X	X
AQ20					X
BIOLOGICAL RESOURCES AND OPEN SPACE					
BIO/OS1			X		X
BIO/OS2					X
BIO/OS3					X
BIO/OS4					X
BIO/OS5					X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
BIO/OS6					X
BIO/OS7					X
BIO/OS8					X
BIO/OS9					X
BIO/OS10					X
BIO/OS11					X
BIO/OS12					X
BIO/OS13					X
BIO/OS14					X
BIO/OS15			X		X
BIO/OS16					X
BIO/OS17					X
BIO/OS18		X			X
BIO/OS19			X		X
BIO/OS20			X		X
BIO/OS21			X		X
BIO/OS22			X		X
BIO/OS23			X		X
BIO/OS24			X		X
BIO/OS25			X		X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
BIO/OS26			X		X
BIO/OS27			X		X
BIO/OS28			X		X
BIO/OS29			X		X
BIO/OS30			X		X
BIO/OS31			X		X
BIO/OS32			X		X
BIO/OS33			X		X
BIO/OS34			X		X
BIO/OS35			X		X
BIO/OS36	X	X			X
BIO/OS37	X	X			X
BIO/OS38	X	X			X
BIO/OS39					X
BIO/OS40					X
BIO/OS41					X
BIO/OS42	X				X
BIO/OS43	X	X	X		X
BIO/OS44		X			
BIO/OS45	X	X			X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
BIO/OS46	X	X			
BIO/OS47	X	X			X
BIO/OS48	X	X			X
BIO/OS49			X		X
BIO/OS50					X
BIO/OS51		X			
BIO/OS52					X
BIO/OS53		X			X
BIO/OS54	X	X			X
BIO/OS55	X	X			X
BIO/OS56	X	X			X
BIO/OS57	X	X			X
BIO/OS58		X			X
BIO/OS59		X			X
CULTURAL RESOURCES					
CUL1		X			X
CUL2					X
CUL3			X		X
CUL4					X
CUL5			X		X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
CUL6					X
CUL7					X
CUL8					X
CUL9	X				X
CUL10			X		X
CUL11					X
CUL12					X
CUL13					X
CUL14	X				X
CUL15			X		X
CUL16			X		X
CUL17		X			X
GEOLOGY AND SOILS					
GEO1			X		X
GEO2			X		X
GEO3					X
GEO4					X
GEO5					X
GEO6					X
GEO7					X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
GEO8					X
GEO9					X
GEO10		X			
GEO11					
GEO12					X
GREENHOUSE GAS EMISSIONS					
GHG1		X			
GHG2		X			
GHG3		X			
GHG4		X			
GHG5		X			
GHG6		X			
GHG7		X			
GHG8		X			
GHG9		X	X		X
GHG10					X
GHG11		X			X
GHG12					X
GHG13		X			X
GHG14		X			X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
GHG15		X			X
HAZARDOUS MATERIALS					
HM1	X	X			
HM2	X	X			
HM3			X		X
HM4			X		X
HM5					X
HM6					X
HM7					X
HM8			X		X
HM9					X
HM10	X				X
HM11			X		X
HM12					X
HM13					X
HM14					X
HM15			X		X
HM16			X		X
LAND USE					
LU1		X		X	

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
LU2		X		X	
LU3		X		X	
LU4		X		X	
LU5		X		X	
LU6		X		X	
LU7		X		X	
LU8		X		X	
LU9		X		X	
LU10			X		X
LU11		X			X
LU12		X			X
LU13		X			X
LU14			X		X
LU15	X	X			X
LU16	X	X			X
LU17					X
LU18	X	X			X
LU19	X	X			X
LU20		X		X	
LU21				X	

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
LU22				X	X
LU23		X		X	X
LU24		X		X	X
LU25				X	X
LU26				X	X
LU27				X	X
LU28				X	X
LU29					X
LU30			X		X
LU31					
LU32				X	
LU33		X			X
LU34		X			
LU35		X			
LU36					X
LU37		X		X	
LU38	X	X		X	X
LU39	X	X		X	X
LU40	X	X		X	X
LU41	X	X		X	X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
LU42	X	X	X	X	X
LU43	X	X			X
LU44	X	X			X
LU45	X	X			X
LU46	X	X			X
LU47	X	X			X
LU48	X	X			X
LU49	X	X			X
LU50	X	X			X
LU51	X	X			X
LU52	X	X			X
LU53	X	X			
LU54	X	X			X
LU55	X	X			X
LU56	X	X			X
LU57	X	X			X
LU58	X	X			X
LU59	X	X			X
LU60	X	X			X
LU61	X	X			X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
LU62	X	X			X
LU63	X	X			X
LU64	X	X			X
LU65	X	X			X
LU66	X	X			X
LU67	X	X			X
LU68	X	X			X
LU69	X	X			X
LU70	X	X			X
LU71	X	X			X
LU72	X	X			X
LU73	X	X			X
LU74	X	X			X
LU75	X	X			
LU76	X	X			X
LU77	X	X			X
LU78	X				X
LU79	X				X
LU80	X				X
LU81	X				X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
LU82	X	X			X
LU83	X	X			X
LU84	X	X			X
LU85	X				X
NOISE					
NO1		X			X
NO2		X			X
NO3	X	X			X
NO4					X
NO5					X
NO6					X
NO7					X
NO8			X		X
NO9		X			X
NO10		X	X		X
NO11	X	X			X
NO12	X	X			X
NO13	X				X
NO14	X				X
NO15	X				X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
NO16	X				X
NO17	X	X			X
NO18	X				X
POPULATION AND HOUSING					
POP1		X			
POP2					X
POP3	X	X			X
POP4	X	X			X
POP5					
POP6					
PUBLIC SERVICES					
PS1			X	X	X
PS2				X	X
PS3				X	X
PS4		X		X	X
PS5		X		X	X
PS6					X
PS7				X	X
PS8				X	X
PS9				X	X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
PS10				X	X
PS11		X			X
PS12		X			X
PS13			X	X	X
PS14		X		X	X
PS15		X			X
PS16		X	X		X
PS17		X	X		X
PS18		X	X		X
PS19		X			X
PS20					X
PS21		X			X
PS22		X			X
PS23		X			X
PS24					X
PS25	X				X
PS26	X				X
PS27		X		X	
PS28		X		X	
PS29		X		X	

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
PS30		X		X	
PS31		X		X	
PS32		X		X	
PS33		X		X	
PS34		X		X	
PS35			X		X
PS36		X			X
PS37	X	X			
PS38	X	X			
PS39	X				X
PS40	X				X
PS41	X	X			X
PS42	X	X			X
PS43	X	X			X
PS44					X
PS45	X				X
PS46		X			X
PS47		X			X
PS48			X		X
PS49			X		X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
PS50					X
PS51	X				X
PS52	X	X			X
PS53	X	X			X
PS54		X			X
PS55			X		X
PS56			X	X	X
PS57				X	X
PS58			X	X	X
PS59			X	X	X
PS60		X		X	X
PS61				X	X
PS62		X		X	X
PS63	X	X		X	X
PS64	X	X		X	X
PS65	X	X		X	X
PS66	X	X		X	X
PS67	X	X		X	X
PS68	X			X	X
PS69	X			X	X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
PS70	X			X	X
PS71	X			X	X
PS72	X	X			X
PS73	X	X			X
PS74					X
PS75	X	X			X
PS76	X	X			X
PS77	X	X			X
PS78	X	X			X
PS79					X
PS80	X				X
PS81	X				X
PS82	X				X
PS83					
PS84		X			X
PS85	X				X
PS86	X				X
PS87	X				X
PS88	X				X
PS89	X				X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
PS90		X			X
PS91		X			X
PS92		X			X
PS93	X	X			X
PS94	X	X			X
PS95	X	X			X
PS96	X	X			X
PS97					X
PS98	X	X			X
PS99	X	X			X
PS100	X	X			X
PS101	X	X			X
PS102	X	X			X
PS103	X	X			X
PS104	X	X			X
PS105	X	X			X
PS106	X	X			X
PS107	X	X			X
PS108		X			X
PS109		X			X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
PS110	X	X			X
PS111					X
PS112	X	X			X
PS113	X				X
PS114		X			
PS115		X			
PS116		X			
PS117		X			
PS118		X			
PS119		X			
PS120		X			
PS121		X			
PS122		X			
PS123		X			
PS124		X			
TRANSPORTATION					
TR1		X			
TR2		X			
TR3		X			
TR4	X	X			

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
TR5		X			
TR6		X			
TR7		X			
TR8		X			
TR9		X			
TR10		X			
TR11		X			
TR12		X			
TR13					
TR14					
TR15		X			
TR16		X			
TR17		X			X
TR18					X
TR19					X
TR20	X				X
TR21		X			X
TR22		X			X
TR23	X	X			X
TR24					X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
TR25					X
TR26		X			
TR27		X			
TR28					X
TR29					X
TR30					X
TR31					X
TR32					X
TR33			X		X
TR34		X			X
TR35					X
TR36	X				X
TR37	X				X
TR38	X	X			X
TR39	X				X
TR40	X	X			X
TR41	X	X			X
TR42	X				X
TR43	X				X
TR44	X	X			X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
TR45					X
TR46					X
TR47	X				X
TR48	X				X
TR49		X			X
TR50	X				X
TR51					X
TR52					X
TR53	X				X
TR54	X				X
TR55					X
TR56	X				X
TR57	X				X
TR58					X
TR59	X				X
TR60	X				X
TR61	X				X
TR62	X				X
TR63	X				X
TR64	X				X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
TR65	X				X
TR66	X				X
TR67					X
TR68					X
TR69					X
TR70	X				X
TR71					X
TR72					X
TR73					X
TR74	X				X
TR75					X
TR76					X
TR77					X
TR78	X				X
TR79					X
TR80	X				X
TR81	X				X
TR82	X				X
TR83					X
TR84					X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
TR85	X				X
TR86					X
TR87					X
TR88					X
TR89					X
TR90					X
TR91		X			X
TR92	X				X
TR93		X			X
TR94					X
TR95					X
TR96					X
TR97	X				X
TR98	X				X
WATER					
W1	X	X			
W2	X	X			X
W3	X				X
W4		X			
W5					X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
W6	X				X
W7		X			X
W8			X		X
W9	X				X
W10			X		X
W11					X
W12			X		X
W13			X		X
W14		X			
W15			X		X
W16					X
W17			X		X
W18			X		X
W19			X		X
W20			X		X
W21	X	X			X
W22	X	X			X
W23	X				X
W24	X				X
W25					X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
W26	X				X
W27	X		X		X
W28			X		X
W29					X
W30			X		X
W31					X
W32					X
W33	X				X
W34	X				X
W35	X				X
W36	X				X
W37	X		X		X
W38		X			X
W39		X			X
W40	X				X
W41		X			
W42		X			
W43	X	X			X
W44					X
W45		X			

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
W46					X
W47					X
W48					X
W49					X
W50					X
W51					X
W52					X
W53					X
W54		X			X
W55					X
W56					X
W57					X
W58					X
W59					X
W60					X
W61					X
W62					X
W63		X			
W64					X
W65					X

	Insufficient Analysis of Feasibility	No Articulable Standard/Deferred Mitigation	Improper Integration of Regulatory Requirement	Improper Integration of Project Component	Assumption of Implementation Even though Within the Control of Another Agency
W66					X
W67		X			
W68		X			X

Attachment 2: OCCOG Technical Comments on the Draft 2012-2035 RTP/SCS and PEIR

1. GROWTH FORECASTS

Issue: Growth Projections: The 2012 growth projections identify population, housing and employment data for the six-county SCAG region, from 2008 (existing) to 2020 and 2035. These growth projections represent the best available information from local jurisdictions, the business community and landowners. However, as time passes, what is feasible for any given project can change. The triggers for change to adopted growth projections can range from factors such as market conditions, new information or data, infrastructure availability, changes in funding availability (such as the dissolution of redevelopment agencies statewide), and changes to jurisdictional boundaries resulting from future annexations and incorporations of previously-designated unincorporated territory. SCAG should continue to adopt the 2012 growth projections at a countywide level, consistent with past approvals of Regional Transportation plan growth forecasts. A county level of geography accommodates internal adjustments to changing conditions as described above, without compromising the integrity of the overall growth projections. However, approving the growth projections at any lower level of geography, such as at the city level, would be challenged with continual revisions and shifts to the total number of housing, population and employment within a city, among cities, and between cities and counties as a result of the factors described above. Adoption of the data at a level lower than the county would limit jurisdictional control and create inflexibility in a regional planning document. In addition, the level of geography in which RTP/SCS growth forecast is adopted should not be determined by other processes. For example, the RHNA allocations must be consistent with the RTP/SCS; state law does not require that they be identical. The RTP/SCS can be adopted at the county level and the RHNA process may proceed independently until it is completed after the appeals, trades, and transfers are completed. The RHNA allocations that were derived from the growth forecast can still be determined to be consistent with the RTP/SCS, even if changes are made to the city totals during the appeals, trades, and transfers process.

Growth Projections Recommendation: SCAG's adoption of the growth forecast numbers should be at the county level, consistent with past RTPs, and not at a smaller level of geography such as city, census tract, or traffic analysis level.

Issue: OCP-2010 Modified: On January 26, 2012, the update to the OCP-2010 dataset known as "OCP-2010 Modified" was officially approved by the OCCOG Board of Directors and is a data amendment to the OC SCS. The dataset

includes the 2010 Census population and housing data, along with the 2010 EDD Benchmark data, consistent with SCAG's updated growth forecast dataset. The dataset was provided to SCAG staff in December 2011 and this letter also serves as the formal notice of the update that should be incorporated into the 2012 RTP/SCS, PEIR, and related documents.

OCP-2010 Modified Recommendation: All documents, tables, maps, narrative, modeling runs, PEIR Alternatives (including Alternate C/3/Envision 2 referencing the Orange County growth forecasts) should be updated with the Orange County Projections-2010 Modified Growth Projections, as adopted by the OCCOG Board of Directors and consistent with the subregional delegation MOU between OCCOG, OCTA and SCAG.

2. DRAFT RTP/SCS

Issue: 2012 Draft RTP/SCS: The RTP/SCS identifies strategies to reduce greenhouse gas emissions from cars and light duty trucks. Because counties, jurisdictions and agencies have different needs and feasibility of implementation, we believe these strategies should be clearly identified as a menu of options that can be used to achieve the goal of reduced GHG emissions. However, the document can be construed to suggest that each of the strategies listed in the table on pages 150-153 are necessary to successfully implement the SCS, many of which are beyond SCAG's purview or control. It is requested that the language be clear that it is permissive.

2012 Draft RTP/SCS Requests:

1. **Revise language on page 149: "The following tables list specific implementation strategies that local governments, SCAG, and other stakeholders may use or consider while preparing specific projects which that help ~~can and should undertake in order~~ to successfully implement the SCS."**

2. **Please provide SCAG analysis supporting the strategies in the Draft RTP/SCS Chapter 4.**

3. **Please describe what municipal obligations are anticipated as a result of adopting these strategies as a list to be accomplished rather than a menu of options.**

Issue: OC SCS Strategies: There are strategies in the Orange County SCS that are not included in the regional SCS. Similarly, there are some strategies in the regional SCS that are not consistent with the strategies in the OC SCS. This creates confusion and clarification is needed.

Under SB 375 and only within the SCAG region, subregional councils of government were allowed to prepare subregional SCS's that SCAG is then required to incorporate into the regional SCS. In Orange County, the Orange County Council of Governments (OCCOG) and the Orange County Transportation Authority (OCTA) developed a countywide or subregional SCS (OC SCS) that was to be incorporated in whole into the SCAG SCS. Local agencies in Orange County developed the OC SCS and approved it in June 2011. SCAG has incorporated the OC SCS in its entirety into the regional SCS as an appendix to the regional SCS, but it is unclear what the standing is of the OC SCS. The OC SCS contains a set of strategies that were agreed upon by local governments, agencies and other stakeholders within Orange County and was accepted by SCAG and should represent the SCS that is applicable to the Orange County region.

OC SCS Strategies Recommendation: Please revise the text in the last paragraph on page 106 to state: "These subregional SCS documents are incorporated into the regional SCS and represent the SCS for each of these subregions."

3. **DRAFT PEIR**

Issue: Mitigation Monitoring Program Intent: It is unclear how SCAG intends to implement the Mitigation Monitoring Program with regard to the proposed mitigation measures, as may be implemented by local agencies. Section 1-5 of the PEIR specifically provides that "Lead agencies shall provide SCAG with documentation of compliance with mitigation measures through SCAG's monitoring efforts, including SCAG's Intergovernmental Review (IGR) process." It is infeasible for SCAG to require local jurisdictions to report when such mitigation measures are considered for any project. Noting that the SCAG region includes 6 counties, 14 subregional entities and 191 cities, this reporting requirement would surely fall short of expectations. Given this identified infeasibility, please clarify what obligations local agencies may have regarding SCAG's mitigation monitoring efforts.

Mitigation Monitoring Program Intent Requests/Recommendations:

1. **Does SCAG intend to require all jurisdictions that avail themselves of the mitigation measures to report to SCAG when such measures are considered for any project?**

2. **SCAG's approval of the PEIR needs to clearly state the intent and applicability of the mitigation measures and the PEIR reflective of our comments below and that mitigation measures do not supersede regulations under the jurisdiction of other regulatory agencies.**

3. **Add language to Executive Summary and Introduction: "Mitigation measures do not supersede regulations under the jurisdiction of other regulatory agencies."**

4. **Feasibility and Applicability**

On pages 1-5 and 1-7, the language should reflect that Lead agencies will determine the feasibility and applicability of measures and that the measures are intended to offer a menu of options available should a lead agency opt to utilize them. The PEIR makes the assertion on page 1-7 of the Project Description under Transportation Project Mitigation and Land Use Planning and Development Project Mitigation sections that the draft PEIR has made a preliminary determination that all of the mitigation measures in it are considered feasible. SCAG has not identified any analysis that supports the feasibility of the mitigation measures that are to be undertaken by entities other than SCAG and SCAG staff has stated on numerous occasions that the mitigation measures were intended to be a menu of options for consideration by lead agencies.

Issue: Mitigation Measures Impose Obligations Beyond Scope of SB 375. Given the combination of the RTP and the SCS processes, as mandated by SB 375, we recognize that SCAG must undertake the difficult task of balancing the goal of having a coordinated regional transportation system with land use strategies that encourage a more compact use of land. However, a key principle of SB 375 is that it is not intended to supersede local agencies' authority to regulate land uses. Specifically, Government Code section 65080(b)(2)(K) provides, in relevant part that ". . . .Nothing in a sustainable communities strategy shall be interpreted as superseding the exercise of the land use authority of cities and counties within the region. . ."

In light of the limitation expressed at Government Code sec. 65080(b)(2)(K), we find language in the PEIR, and specifically the mitigation measures therein, imposing affirmative obligations on local agencies within the SCAG region to be inappropriate and contrary to law. The proposed language as recommended below would remedy the legal conflict with Section 65080(b)(2)(K), yet achieve SCAG's recognition that project-specific environmental review is the appropriate level of review for projects that that have their own unique, site-specific circumstances.

The revisions are further consistent with OCCOG's understanding that SCAG intended to provide the mitigation measures as a "toolbox" to local agencies for use within their discretion if and when appropriate for projects within their respective jurisdictions. Indeed, from materials presented by SCAG, including the January 26, 2012 workshop held at the City of Anaheim Council Chambers, SCAG explained that "**This PEIR offers a "toolbox" of mitigation measures** for future project-level environmental analyses. . . . It also includes suggested mitigation measures for local agencies to consider for implementation, if

appropriate and feasible (phrased as "can and should"). This language is permissive and not mandatory upon local agencies."

Mitigation Measures Impose Obligations Beyond Scope of SB 375 Recommendations:

1. **Please provide SCAG analysis supporting the feasibility of mitigation measures in the PEIR.**

2. **Change language on page 1-7 found in 2 places under MITIGATION MEASURES, subheadings Transportation Project Mitigation and Land Use Planning and Development Project Mitigation: "This Draft PEIR has made a preliminary determination that the proposed mitigation measures are feasible and effective. Therefore, it is reasonable to expect that these agencies will actually implement them where, in the agencies' independent discretion, the measures are deemed applicable in light specific circumstances at the project level.**

3. **Change language on page 1-5, first paragraph: "Mitigation Measures proposed in this PEIR are available as tools for implementing agencies and local lead agencies to use as they deem applicable. The implementing agencies and local lead agencies are responsible for ensuring adherence to the mitigation measures as 2012-2035 RTP/SCS projects are considered for approval over time."**

4. **Please make similar text amendments to other sections, including the Executive Summary, of the PEIR that reference how the mitigation measures are to be used by lead agencies, including the Executive Summary.**

5. **"Can and Should"**

As indicated in the PEIR on page 1-6, state law provides that it is appropriate to indicate in mitigation measures that they "can and should" be implemented where the authority to implement the measures rests with agencies other than SCAG. The language conveys to local agencies an affirmative obligation to address each mitigation measure, irrespective of whether such agencies deem the measures applicable to a particular project or duplicative of their own or other governmental agencies' regulatory measures. OCCOG recognizes that SCAG's use of the words "can and should" are derived from CEQA, at Public Resources Code sections 21081 and 2155.2(b)(5)(B)(ii) and CEQA Guidelines, including section 15091(a)(2). Nevertheless, given the express limitation of SB 375 upon respective local agencies' land use authority, OCCOG deems any language seemingly imposing affirmative obligations contrary to SB 375 inappropriate. As

such, the use of the language "can and should" for mitigation measures addressed to local agencies is inappropriate.

"Can and Should" Recommendations: Change language in all mitigation measures identifying entities other than SCAG to read "~~can and~~ should consider where applicable and feasible." To clarify the intent that the mitigation measures are a menu of options for which feasibility has not been established for any given project, the "can and should" language should be changed in all mitigation measures identifying entities other than SCAG to read "should consider where applicable and feasible."

6. **CEQA Streamlining:**

Pages 1-10 through 1-12 describe requirements for the CEQA streamlining offered under SB 375. In each section, it is indicated, consistent with SB 375, for projects to qualify for the CEQA streamlining, mitigation measures from the applicable environmental document must be incorporated into the project. Further, CEQA streamlining relative to the infill exemption under CEQA is also being developed pursuant to SB 226 passed last year.

CEQA Streamlining Recommendations: Please clarify how the "menu of mitigation measures" is expected from this PEIR for project to qualify for CEQA streamlining under SB 375 and, if possible, the regulations being developed under SB 224.

7. **RTP/SCS Policies**

Please ensure that the discussion of the policies represented by the RTP/SCS in the draft PEIR is consistent with the policies actually in the RTP/SCS. In particular, the bullet list on the page 2-3 is stated to represent the land use strategies of the plan; however, the strategies listed are not specifically identified in the regional SCS. Including different language in the PEIR implies additional policy.

RTP/SCS Policies Recommendation: Amend the land use strategies identified on page 2-3 of the Project Description, under the section Purpose and Need for Action to reflect the strategies included in the SCS chapter of the RTP.

8. **PEIR Mitigation Measures**

By far the most concerning portion of the Draft 2012 RTP/SCS to OCCOG members is the Draft Program Environmental Impact Report (PEIR). Specifically, the proposed mitigation measures included in the PEIR extend to and impact a broad spectrum of technical and policy areas. Many examples of these concerns

are included on Attachments 1 and 2 of this letter. In sum, the concerns are that the mitigation measures:

- Appear to go above and beyond the requirements of the Regional Transportation Plan and Senate Bill 375;

- Are measures already required by State and Federal law or are regulated by other agencies such as the South Coast Air Quality Management District, California Department of Housing and Community Development, Fish and Game, and the Regional Water Control Boards;
- Appear to run counter to local control; and

- Are financially infeasible for the agencies responsible for implementation.

PEIR Mitigation Measures Recommendations.

1. **In order for the mitigation measures to truly be considered a toolbox of options for consideration by various entities in the SCAG region as intended, all mitigation measures in the PEIR intended for entities other than SCAG be moved into an appendix to the PEIR and renamed "Sustainability Strategies". These strategies could then be identified for consideration by lead agencies as mitigation for future projects should a lead agency choose to do so and deem them applicable and feasible. The PEIR would only retain mitigation measures applicable to SCAG. This action would also require that the Executive Summary, Introduction, and Project Description be updated to reflect the nature of the new appendix of Sustainability Strategies.**

2. **Remove language within mitigation measures that establishes policies not included in the RTP/SCS or modifies the measure to specify a policy or endorses specific technology which would limit agency authority.**

3. **In the draft PEIR, please replace text in all mitigation measures that identify policy for either SCAG or other entities with language that reflects either adopted SCAG policies or are policies that are included in the RTP and SCS. Mitigation measures should not be used to establish new policy for the region.**

For example:

- MM-TR 17: "SCAG shall (for its employees) and local jurisdictions ~~can and~~ should institute where applicable and feasible teleconferencing, telecommute, and/or flexible work hour programs ~~to reduce unnecessary employee transportation~~.

- MM-TR 23: "Local jurisdictions should consider when applicable and feasible coordinated and controlled intersections so that traffic passes more efficiently through congested areas. Where traffic signals or streetlights are installed, require the use of a feasible, energy efficient ~~Light Emitting Diode (LED)~~ technology."

- MM-TR 35: "Local jurisdictions should consider where applicable and feasible the adoption of a comprehensive parking policy that ~~discourages private vehicle use and~~ encourages the use of alternative transportation."

9. SCAG Authority

Several mitigation measures identify actions that SCAG shall undertake to mitigate impacts of the plan. Many appropriately direct SCAG to provide a discussion forum or serve as a central data repository for a broad range of topics that affect the region as a whole. However, many measures inappropriately direct SCAG to establish practices, standards, or policy in areas unrelated to what SCAG has purview over. Further, the measures often appear to be directed at policy implementation that is unrelated to the plan itself, such as implementing AB 32. Such measures will essentially require SCAG to establish policy in areas for which it has no authority. Additionally, it is not clear how SCAG would fund the work efforts because they are not directly related to its mission and, therefore, do not have funding. For example, MM-PS 118 states: "SCAG shall continue to develop energy efficiency and green building guidance to provide direction on specific approaches and models and to specify levels of performance for regionally significant projects to be consistent with regional plans." Green building practices and energy efficiency measures are already addressed by various state and federal agencies, as well as by other local organizations. Further, SCAG does not have the authority to specify levels of performance for land use or buildings.

SCAG Authority Recommendation: Remove the following mitigation measures for SCAG which it does not have purview for under the law or directed to do by the Regional Council through policy direction. List may not be exhaustive.

MM-BIO/OS 44	MM-LU 42	MM-LU 77	MM-PS 68
MM-BIO/OS 45	MM-LU 47	MM-LU 80	MM-PS 71
MM-BIO/OS 46	MM-LU 48	MM-LU 81	MM-PS 95
MM-BIO/OS 48	MM-LU 51	MM-LU 82	MM-PS 121
MM-GHG 3	MM-LU 53	MM-LU 83	MM-TR 17
MM-GHG 8	MM-LU 56	MM-NO 12	MM-TR 23
MM-GHG 11	MM-LU 57	MM-NO 16	MM-TR 28
MM-LU 9	MM-LU 60	MM-POP 1	MM-TR 35

MM-LU 21	MM-LU 61	MM-PS 3	MM-TR 83
MM-LU 22	MM-LU 64	MM-PS 14	MM-TR 85
MM-LU 24	MM-LU 65	MM-PS 25	MM-TR 96
MM-LU 26	MM-LU 69	MM-PS 37	MM-W 34
MM-LU 32	MM-LU 71	MM-PS 39	MM-W 59
MM-LU 34	MM-LU 74	MM-PS 41	MM-W 60
MM-LU 41	MM-LU 75	MM-PS 67	MM-W 65

10. SCAG Mitigation Measures

It would be helpful to understand how SCAG will implement the mitigation measures that it is assigned to do. Many of the mitigation measures will expand SCAG's role into areas that are not currently under its purview and are under the jurisdiction of other entities. Many also constitute significant work efforts.

SCAG Mitigation Measures Request: Please explain how the actions and programs required by the measures SCAG is assigned to do would be funded to ensure that they are truly feasible for SCAG to undertake.

11. Ensuring Outcomes

SCAG has limited authority in many of the areas included in the measures and will not be able to ensure impacts are mitigated and that the outcomes identified do actually occur. SCAG can assist, offer information, educate, and provide discussion forums for topics outside its area of jurisdiction; however, it is not possible to "ensure" that outcomes are achieved for things that are outside of its purview.

Ensuring Outcomes Recommendation: Remove all references within mitigation measures that SCAG will "ensure" or "shall minimize impacts" that result from a mitigation measures.

Example:
MM-CUL17: "~~Impacts to cultural resources shall be minimized through cooperation, information sharing, and~~ SCAG's shall, through cooperation, information sharing and ongoing regional planning efforts such as web-based planning tools for local government including CA lots, and direct technical assistance efforts such as Compass Blueprint's Toolbox Tuesday series, provide information and assistance to local agencies to help them avoid impacts to cultural resources. Resource agencies, such as the Office of Historic Preservation, shall be consulted during this process."

12. **Fees and Taxes**

Several mitigation measures indicate that local jurisdictions or other entities should implement new fees or propose taxes to pay for a variety of programs or for acquisition of land for preservation. Increases to fees or taxes are issues that could require voter approval and, thus not be approved. They also represent prescriptive means to accomplish the mitigation.

Fees and Taxes Recommendations:

1. **Reword measures to indicate that a new or increased fee, new tax, or other increase is only an option as a way to implement the mitigation. The following list may not be exhaustive.**

MM-BIO/OS55	MM-PS15	MM-TR30	MM-TR88
MM-LU29	MM-PS63	MM-TR37	MM-TR94
MM-LU53	MM-PS75	MM-TR47	MM-TR96
MM-LU54	MM-PS76	MM-TR52	MM-W6
MM-LU80	MM-PS78	MM-TR60	MM-W32
MM-LU81	MM-PS92	MM-TR69	MM-W52
MM-LU82	MM-PS106	MM-TR74	MM-W58
MM-LU83	MM-PS107	MM-TR75	
MM-POP4	MM-PS113	MM-TR80	
MM-PS12	MM-TR28	MM-TR84	

2. **Please clarify whether it was assumed that these additional fees were considered feasible and if the new fees that are suggested were considered in the financial plan or economic analysis of the RTP.**

13. **Guidance Documents**

Guidance documents are there as information sources for consideration; however, they do not represent regulation or establish standards that are required to be achieved. For example, MM-AQ19 inappropriately indicates that project sponsors should comply with the CARB Air Quality and Land Use Handbook (June 2005) which is only a guidance document.

Guidance Documents Recommendation: Remove references that indicate a compliance with guidance documents from mitigation measures.

14. **Duplicative/Existing Regulations**

It is noted that many of the mitigation measures are duplicative of existing regulation or processes (e.g. CEQA review requirements). Under the California

Environmental Quality Act, it is intended that measures be identified that will mitigate impacts of the project. Existing regulations are already assumed to be abided by in the evaluation of the impact and the significance of the impact is after all existing regulation is applied. Therefore, mitigation measures should address those actions that need to be undertaken in addition to existing regulation in order to mitigation the impact. Therefore, mitigation measures that simply restate existing regulation are not valid mitigation for purposes of CEQA. Further, it is possible for regulations to change over time. Because of this, restatement of the regulation in the mitigation measures could result in future conflict between the stated mitigation and the regulation. It has become common practice to state that existing regulation will be implemented. When this is done, it is common practice when compliance is used as a mitigation measure to simply state that the responsible entity will simply comply with the regulation. If mitigation measures that restate existing regulation are not removed, then it is requested that the wording of the measures be restated to simply read that compliance with all applicable laws and regulations will be undertaken. Language that could be used is: "Local jurisdictions, agencies, and project sponsors shall comply, as applicable, with existing federal, state law, and local laws and regulations." Similar language is included in some mitigation measures. It is offered that MM-PS 13 is a good example of the type of appropriate language and reads "Project sponsors can and should ensure that projects are consistent with federal, state, and local plans that preserve open space."

It is noted that many of the mitigation measures are duplicative of existing regulation or processes (e.g. CEQA review requirements). Under the California Environmental Quality Act, it is intended that measures be identified that will mitigate impacts of the project. Existing regulations are already assumed to be abided by in the evaluation of the impact and the significance of the impact is after all existing regulation is applied. Therefore, mitigation measures should address those actions that need to be undertaken in addition to existing regulation in order to mitigation the impact. Therefore, mitigation measures that simply restate existing regulation are not valid mitigation for purposes of CEQA. Further, it is possible for regulations to change over time. Because of this, restatement of the regulation in the mitigation measures could result in future conflict between the stated mitigation and the regulation. It has become common practice to state that existing regulation will be implemented. When this is done, it is common practice when compliance is used as a mitigation measure to simply state that the responsible entity will simply comply with the regulation. If mitigation measures that restate existing regulation are not removed, then it is requested that the wording of the measures be restated to simply read that compliance with all applicable laws and regulations will be undertaken. Language that could be used is: "Local jurisdictions, agencies, and project sponsors shall comply, as applicable, with existing federal, state law, and local laws and regulations." Similar language is included in some mitigation measures. It is offered that MM-PS 13 is a good example of the type of

appropriate language and reads "Project sponsors can and should ensure that projects are consistent with federal, state, and local plans that preserve open space." The water section provides another example. The PEIR includes 68 mitigation measures in the Water Resources section regarding water quality. At least 35 of these are related to stormwater runoff best management practices (BMPs) that are currently regulated through Municipal National Pollutant Discharge Elimination System (NPDES) Stormwater Permits issued by Regional Water Quality Control Boards. In the SCAG region there are five water quality control boards each with its own Municipal NPDES Stormwater Permit. The regulations and requirements contained in these permits vary from each other. By listing specific measures in the PEIR that are not included in a project's applicable Municipal NPDES Stormwater Permit, the PEIR creates conflicting compliance requirements. To eliminate potential conflict with existing regulations, the mitigation measures regarding specific BMPs should be removed and replaced with a single requirement that each project must comply with its applicable Municipal NPDES Stormwater Permit.

Duplicative/Existing Regulations Recommendations:

1. **Please remove all mitigation measures listed in Attachment 1 which are duplicative of existing regulations administered by or under the jurisdiction of other agencies. The list may not be exhaustive.**

2. **For each impact, please add the following language: "Local jurisdictions, agencies, and project sponsors should comply, as applicable, with existing federal, state, and local laws and regulations."**

15. Draconian Mitigation Measures

Many of the mitigation measures in the Draft PEIR are draconian and need to be removed. One prime example is MM-LU 85. It reads in part "Local jurisdictions can and should reduce heat gain from pavement and other hardscaping including: Reduce street rights-of-way and pavement widths to World War II widths (typically 22 to 34 feet for local streets and 30 to 35 feet for collector streets curb to curb)..." Although reduced street widths may be appropriate in some cases and have been implemented in many jurisdictions, it is inappropriate and counterproductive to require reduced street widths as a mitigation measure in the PEIR. Reduced street widths, for example, generally do not provide space for on-street parking which may result in greater, additional paved areas provided in separate parking lots. A second example is MM-LU15: "Project sponsors can and should ensure that at least one acre of unprotected open space is permanently conserved for each acre of open space developed as a result of transportation projects/improvements." Measures should support the SCAG Energy and Environment Committee which recommended that the programs

build upon existing open space land acquisition and open space programs in the region, tailoring programs to each individual county in the region. These include, but are not limited to, OCTA's Measure M Mitigation Program, and TCA's open space mitigation program, which has protected 2,200 acres in perpetuity to date. Open space conservation should be pursued in a voluntary manner, working with willing private sector landowners and not overly prescriptive and specific.

Draconian Mitigation Measures Recommendations: Remove mitigation measures that are very prescriptive, such reducing street widths to WWII widths or specifying preferred technology.

Mitigation Measures Duplicative of Existing Regulation
(Listed by type of regulation measures duplicates)

Air Quality/AQMD	CDFG	Federal & state law	Federal law	Resource agencies
MM-AQ1	MM-BIO/OS1	MM-HM3	MM-LU14	MM-TR33
MM-AQ2	MM-BIO/OS3	MM-HM4	MM-LU30	MM-BIO/OS29
MM-AQ3	MM-BIO/OS4	MM-HM5		MM-BIO/OS30
MM-AQ4	MM-BIO/OS8	MM-HM6		MM-BIO/OS31
MM-AQ5	MM-BIO/OS10	MM-HM7	**NPDES**	MM-BIO/OS32
MM-AQ6	MM-BIO/OS11	MM-LU28	MM-AQ16	MM-BIO/OS33
MM-AQ7	MM-BIO/OS17	MM-NO18	MM-BIO/OS19	MM-BIO/OS34
MM-AQ8	MM-BIO/OS18	MM-PS13	MM-GEO5	MM-BIO/OS35
MM-AQ9	MM-BIO/OS21	MM-W36	MM-W1	MM-BIO/OS50
MM-AQ10	MM-BIO/OS22	MM-W37	MM-W13	MM-BIO/OS51
MM-AQ11	MM-BIO/OS23	MM-W38	MM-W58	
MM-AQ12	MM-BIO/OS24			
MM-AQ13	MM-BIO/OS25		**Flood control**	
MM-AQ14	MM-BIO/OS26		MM-HM8	
MM-AQ17	MM-BIO/OS27			
MM-AQ18	MM-BIO/OS28		**Local Agencies**	
	MM-BIO/OS14		MM-AV11	
	MM-BIO/OS7			

State law

MM-AV3	MM-HM10	MM-PS4	MM-PS107	MM-W25
MM-AV6	MM-HM11	MM-PS8	MM-PS113	MM-W26
MM-AV12	MM-HM12	MM-PS10	MM-PS119	MM-W27
MM-BIO/OS20	MM-HM13	MM-PS12	MM-PS122	MM-W28
MM-CUL1	MM-HM14	MM-PS14	MM-TR29	MM-W29
MM-CUL2	MM-HM15	MM-PS16	MM-TR49	MM-W30

MM-CUL3	MM-HM16	MM-PS35	MM-TR55	MM-W31
MM-CUL4	MM-LU10	MM-PS36	MM-TR75	MM-W32
MM-CUL5	MM-LU11	MM-PS37	MM-TR89	MM-W39
MM-CUL6	MM-LU17	MM-PS42	MM-W6	MM-W43
MM-CUL7	MM-LU19	MM-PS43	MM-W8	MM-W46
MM-CUL8	MM-LU20	MM-PS48	MM-W9	MM-W47
MM-CUL9	MM-LU38	MM-PS55	MM-W10	MM-W48
MM-CUL10	MM-LU43	MM-PS56	MM-W11	MM-W49
MM-CUL11	MM-LU44	MM-PS57	MM-W12	MM-W50
MM-CUL12	MM-LU48	MM-PS59	MM-W15	MM-W51
MM-CUL13	MM-LU58	MM-PS61	MM-W16	MM-W52
MM-CUL15	MM-NO1	MM-PS67	MM-W17	MM-W54
MM-CUL16	MM-NO4	MM-PS69	MM-W18	MM-W55
MM-GEO1	MM-NO8	MM-PS71	MM-W19	MM-W56
MM-GEO2	MM-NO9	MM-PS73	MM-W20	MM-W61
MM-GEO3	MM-POP2	MM-PS77	MM-W21	MM-W62
MM-GEO4	MM-POP4	MM-PS89	MM-W22	MM-W64
MM-GEO6	MM-PS1	MM-PS92	MM-W23	MM-W66
MM-HM9	MM-PS2	MM-PS97	MM-W24	MM-W68

Additional Technical Clarifications on documents are also offered as follows:

2012 RTP/SCS

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	all	*All chapter headings should include the Chapter number on each page for ease of reference.*
2	Clarification	1, left column	"The 2012 RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with SB 375, ~~both~~ improve public health, and meet the National Ambient Air Quality Standards as set forth by the federal Clean Air Act. As
3	Clarification	4, right column	"This region needs a long-term, sustainable funding plan that ensures the region receives its fair share of funding, supports an efficient and effective transportation system that grows the economy, provides mobility choices, and improves our quality of life."
4	Clarification	page 7- Table 2 and page 95- Table 3.3	*Is additional $0.15 gas tax the sum total of both state and federal taxes or $0.15 each?*
5	Clarification	40, left column	"Strategic investments, put forth by the private sector, that would remove barriers associated with telecommuting are expected..."
6	Correction	page 42- Table 2.2	241 toll road completion year is 2030
7	Please define in the text and add to a glossary	50, left column	"scrip"
8	Clarification	54, right column	"Express/HO T Lane Network Despite our concerted effort to reduce traffic congestion through years of infrastructure investment, the region's system demands continue to exceed available capacity during peak periods."
9	Clarification	70, 78	Greenhouse Gases and Air Quality SCAG seems to rely on CEQA to achieve the "maximum feasible" reductions in emissions from transportation. However, this is not consistent with the intent of SB 375's goal of achieving specific thresholds of 8% by 2020 and 13% by 2035 through a sustainable communities strategy plan.

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
			Please provide clarification to this section indicating if the air quality and greenhouse gas CEQA mitigation measures obligate regional agencies and project developers to undertake more strategies, programs and mandates beyond those included in the OC SCS.
10	Clarification	78, right column	"Greenhouse Gases On road emissions (from passenger vehicles and heavy duty trucks) constitute 93 percent of the transportation sector total. Emissions from passenger vehicles, which are the subject of SB 375 and this RTP/SCS, constitute ___% of the transportation sector's greenhouse gas emissions total."
11	Clarification	80, left column	Statements are made, such as the following, "the RTP has the ability to affect the distribution of that growth" (in population in the region). These statements could be interpreted to be contrary to SCAG's obligation under the Memorandum of Understanding with OCCOG to respect the strategies and local land use policies in the OC SCS. *Please clarify how it is in SCAG's ability to affect local change when the OC SCS is consistent with acceptance of local land use plans and planned population and employment distribution?* *Recommended text change:* "Transportation projects including new and expanded infrastructure are necessary to improve travel time and can enhance quality of life for those traveling throughout the region. However, these projects also have the potential to ~~induce~~ attract more of the regional population growth in certain areas of the region. This means that although ~~Although~~ SCAG does not anticipate that the RTP would affect the total growth in population in the region, the RTP has the ability to affect the distribution of that growth." "~~In addition to induced population growth,~~ transportation projects in the RTP also have the potential to divide established communities, primarily through acquisition of rights-of-way."
		82, right	

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
		column	Text indicates that the RTP and projects in the RTP/SCS as "inducing" growth. It is noted that use of the term "induced growth" has a negative connotation and implies growth above and beyond what would occur naturally. However, it is stated in the RTP that the population, housing, and employment growth totals are fixed and only the distributions may change based on the plan. This means there will not be "new" growth and that the RTP and SCS may simply influence and shift the growth anticipated for the region. This moving of growth is the result of changes in distribution that are due to changes in land use or densities. Because of this, it is requested that references to "induced growth" be reworded to reflect the shifting of growth in the region. *Recommended text change:* "Cumulative impacts from the projected growth ~~induced by the RTP~~ include increased impervious surfaces;..."
12	Clarification	Chapter 3	SCAG's Financial Plan includes a significant portion of "New Revenue Sources and Innovative Financing Strategies" that are not currently in place or available. While some of the proposed revenues are within the control of SCAG or MPOs and County Transportation Commissions, the majority of the revenues (in terms of dollars) require either state or federal action to implement. *Please explain what the implications are if these new revenue sources and innovative financing strategies do not become available?*
13	Clarification	page 95-Table 3.3	~~"Mileage-based user fees would be implemented to replace gas tax and augment estimated at about $0.05 (2011$) per mile and indexed to maintain purchasing power starting 2025."~~ Suggested language is from page 31 of Growth Forecast Appendix: "Current gasoline tax, estimated at about $0.05 (2011$) per mile will increase through 2025, then in 2026 it would be replaced with a mileage-based user fee indexed to maintain purchasing power."

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
14	Clarification	105, right column	"While the region was once known worldwide as the "capital of sprawl," the region today is projecting growth on only a small fraction of the ~~has little~~ raw land available in the region ~~left to accommodate additional growth~~."
15	Clarification	105, right column	"While the region was once known worldwide as the "capital of sprawl," the region today is projecting growth on only a small fraction of the ~~has little~~ raw land available in the region ~~left to accommodate additional growth~~."
16	Clarification	106	SCAG indicates that the OC SCS has been incorporated into the regional SCS. OCCOG was one of two subregions that undertook the arduous task and obligation of preparing an SCS. *Please add clarifying text that these subregional SCSs, including the OC SCS, represent the Sustainable Communities Strategies applicable to those subregions.*
17	Clarification	110, right column	"Municipal water and sewer systems, for example, ensure clean water. At the same time, ~~concrete stormwater runoff channels harm water quality~~ and ~~sprawl eats into open space~~ as areas become more urbanized and the percentage of impervious surface is increased, the hydrologic regime is dramatically altered. Drainage conveyances that once were natural and riparian are required to be engineered as hardened flood control channels to provide adequate protection of private property and public infrastructure from the increased frequency, duration, peak flow, and overall volume of stormwater runoff. With this armoring of once natural channels, water quality benefits from biofiltration are lost along with opportunities for infiltration and evapotranspiration, which can lead to hydromodifcation downstream in sections which are not yet engineered and hardened. Many strategies
18	Clarification	112. 117	The SCS documents the development of four scenarios to explore basic aspects of future growth. These scenarios were used in public outreach and the SCS and the associated Appendix states that "Using the public dialogue and feedback from the analysis of the SCS Scenarios, SCAG developed

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
			the 2012 RTP/SCS Plan alternatives." (Similar references are also include at RTP/SCS p. 117, and SCS Background Documentation p. 71). The RTP/SCS and Appendix then describes a process that led to the Plan alternatives. Neither the RTP/SCS, Appendix or PEIR expressly state or illustrate the fundamental land use and socioeconomic foundation for the SCS. *In order to confirm consistency with the OC SCS, it is requested that SCAG include appropriate tables, graphics and maps that provide the detail that confirm this consistency.*
19	Clarification	113, 122	The regional SCS states that the scenarios/alternatives were developed using the Local Sustainability Planning Tool (LSPT). The LSPT is a sketch planning tool that flattens geographical areas to a 5-acre grid cell. The OC SCS land use data was provided at much greater level of detail in that specific parcel data and detail were provided by each jurisdiction. A cursory review of some LSPT data reveals inconsistencies regarding interpretation of Orange County land uses. It is acknowledged that the regional SCS states, "Land use inputs for OCCOG SCS were unchanged". Yet use of the LSPT and SCAG Development and Community Types presented in the SCS leave open the question as to whether the OC SCS was altered, as noted above. *Please provide confirmation that the underlying OC SCS land use data was used without significant alteration and LSPT flattening and interpretation in the development of the regional SCS Plan and alternatives.*
20 17	Add to glossary	127. right column	"Gentrification"
21	Clarification	128. left column	"Thus, this adjustment allowed the land use pattern to conform more closely to local ~~expectations~~ general plans, while reducing the amount of vehicle miles traveled."

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
			Whose/What are "local expectations?"
22	Clarification	149, right column	*Revise language to clarify that SCAG intends policies, strategies, and measures are a menu of options.* "The following tables list specific implementation strategies that local governments, SCAG, and other stakeholders may use or consider while preparing specific projects which would help ~~can and should undertake in order~~ to successfully implement the SCS."
23	Clarification	150-152	The OC SCS was accepted by SCAG and represents the set of strategies and the growth distribution that outlines the best approach for how the requirements of SB 375 would be met within the subregion. Specifically, the OC SCS included 15 specific Sustainability Strategies, reflecting a menu of 222 practices and actions that OC agencies have agreed to pursue (or continue to pursue) to achieve GHG reductions that support SB 375. *Why doesn't the regional SCS specifically acknowledge these 15 strategies yet include other strategies and performance measures not included in the OC SCS (e.g., Locational Efficiency)?*
24	Add to glossary	166, right column	"Greenfield"
25	Clarification	194, right column	"In addition to these targeted outreach efforts, all regular and special meetings of the RTP task forces, the Transportation Committee (TC), the CEHD, the EEC, and the SCAG Regional Council are publicly noticed and ..."
26	Clarification	201	*Please clarify whether the text stating "Long-term emission reduction for rail, with a goal of zero-emissions rail system" is intended to reflect a zero-emissions freight rail system, or whether this goal also applies to passenger rail.*
27	Clarification	202, 203- Table 7.1	Unfunded operational improvements, of which several are listed on page 203, Table 7.1, include transit station improvements in Irvine, Fullerton, and Santa Ana, bus rapid transit (BRT) in Orange County, and high speed rail (HSR) Phase II. *Please confirm that these are consistent with the*

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
			OC SCS.
28	Clarification	207	Strategic Finance *Please explain what will happen if reasonably foreseeable revenue sources of approximately $200 million do not become available?*
29	Add to glossary	205	"Active transportation"

GROWTH FORECAST APPENDIX

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Updated growth forecast numbers	23, Table 13	In December 2011, Orange County provided SCAG with the revised growth forecast dataset, OCP-2010 Modified, per the OC SCS MOU (official OCCOG Board action 1/26/2012). *Please incorporate revised Orange County numbers (i.e. OCP-2010 Modified) into all reports, tables, exhibits, alternatives, maps, and modeling runs for final RTP.*

PERFORMANCE MEASURES APPENDIX

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Clarification	1	The document states, "The performance measures are used to evaluate how well the RTP/SCS addresses the adopted goals and performance outcomes." *Is there any formal role for the performance measures?* ARB will evaluate for SB 375 compliance not based on these measures but based on ARB process. *Please include language clarifying that this is a requirement to demonstrate compliance with federal requirements and not for the obligations under SB 375.*

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
2	Clarification	1, end of first paragraph	Add statement: "Performance measures and expected outcomes will be used to monitor the RTP/SCS at the regional level; these measures and outcomes are not proposed for use at the subregional or project-specific level."
3	Clarification	1, column 2	The document states, "The Regional Council will formally adopt the goals and outcomes as part of the final 2012 RTP/SCS." *Does this bring any formal obligation to meet goals? Goals are general, flexible, and aspirational rather than specific, as on p.1.*
4	Clarification	13, Table 8	The RTP/SCS claims an extra 2% CO2e emissions reduction in 2035 from the NHTS post-processing analysis. While the RTP/SCS meets the ARB SB375 goal without the extra 2%, we would like to note that the extra 2% could be important if the attorney general raises concerns about backsliding. Consequently, the reliability of the extra 2% reduction should be checked. Questions on the NHTS model are below. It would be useful to know the answers to better judge the quality, although we do note that the report does look like it meets the standards or best practice.
5	Clarification	9	NHTS Model Documentation Report *Are the auto and bus accessibility variables included in the regression models for 30-mile rings?* *In "Number of trips" model – is number of cars, included as an independent variable, the actual or predicted value?* *The same question applies to other models.*

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
6	Clarification	23, Table 10	NHTS Model Documentation Report *Were the elasticities for the SCAG NHTS study calculated at sample means, or for each observation and then averaged for the sample?*
7	Clarification	24, Test 3	NHTS Model Documentation Report (Compare Trip-Based and NHTS Model): The final test was to compare the results of the Trip-Based Model and the NHTS Model for the same scenarios. *Please describe the scenarios tested.*

TRANSPORTATION FINANCE APPENDIX

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Clarification	General	*What are the implications if revenues other than core revenues do not become available?* *Please describe any implications to the ability of the region to meet SB 375 GHG emission reduction targets or the federally required air quality conformity?*

SCS BACKGROUND DOCUMENTATION APPENDIX

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Please define	53, right column	Housing Options and Mix: Define Larger-lot single family in text
2	Clarification	71-74, 80-83	Alternatives naming: A, B, C Names of Alternatives differ than those listed in the PEIR on pages ES-3 and 1-4. *Please be consistent with naming protocol for alternatives between two/all documents.*

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
3	Revise language to clarify	71, right column	"Plan Alternative (B) … The alternative maintains city-level forecast control totals for both households and jobs, however, within city boundaries shifts are made to focus a much larger share of future growth in a more compact way around HQTAs, except in Gateway and Orange County COG subregions per their SCS delegation agreements. Future housing market demand is expected to shift significantly to small lot single-family, townhomes and multi-family ~~hosuing~~ housing."
4	Please define	71, right column	Plan Alternative (B) Define small lot single family in text
5	Revise language to clarify	71, right column	Plan Alternative (C) "As a result very suburban communities may experience no new housing or employment growth, while some urban areas with very good access to regional transit may experience significant increases in housing or employment growth."
6	Revise language to clarify	72, left column	"While each alternative is distinctive, a number of parameters remained constant across each alternative: the regional RTP/SCS forecast total for population, households and jobs;…" "Detailed forecast: the detailed distribution of population, households, and jobs across the region…"
7	Revise language to clarify	72, Table D1	Alternatives A & B: "Controlled to TAZ-based RTP/SCS Forecast for 2020; Controlled to city-level RTP/SCS Forecast for 2020-2035, except in Gateway and Orange County COG subregions per their SCS delegation agreements." Add statement to table notes: Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
8	Revise language to clarify	74, Table D2	Alternatives A & B: Add statement: Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.
9	Clarification	75, right column	"Development Types The alternatives are built on, and provides data at, the level of the TAZ, which includes housing units and employment." *Please clarify if TAZ is Tier 1, Tier 2, or both.*
10	Revise language to clarify	79, right column	"Subregional SCSs submitted by the Gateway Cities Council of Governments (GCCOG) and the Orange County Council of Governments (OCCOG) will be ~~respected~~ unchanged and integrated into the alternatives (with possible revisions for Alternative C only)."
11	Clarification	79	The section includes the following language: "Subregional SCSs submitted by the Gateway Cities Council of Governments (GCCOG) and the Orange County Council of Governments (OCCOG) will be respected and integrated into the alternatives (with possible revisions for Alternative C only)." *Please clearly indicate what the "possible revisions" are and what process would be used to coordinate with Orange County should changes to the socioeconomic data contained in the OC SCS be proposed?*
12	Revise language to clarify	80	Alternative A Add statement: Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
13	Revise language to clarify	81	Alternative B It is not clear whether Alternative B is the SCS land use plan. If it is, statements in the appendix lead one to believe the OC SCS foundation has been altered. For example, adjustments made to land uses to locate proximate to High Quality Transportation Areas (HQTA) and intensification of residential and employment development in HQTA that diverge from local General Plans as well as implementation of a vehicle user fee are not part of the OC SCS. *Is Alternative B the SCS land use plan?* *Add statement:* Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.
14	Clarification	115, left column	Transit Zoning Code Santa Ana 2011 *Is this a duplicate of the 2010 Santa Ana project?*

PEIR

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
1	Revise language to clarify	ES-2	ES contains matrix of mitigation measures which reference project sponsors, local agency, and project implementation agency without definitions. Add definitions into ES at end of ES.1: In general, the terms "local agency," "project sponsor" and "project implementing agency" are used throughout this PEIR to identify agencies, organizations, companies and individuals that will act as lead agencies or project applicants for different types of individual projects. Individual projects that are anticipated to occur pursuant to the 2012-2035 RTP/SCS consist of planning projects (general plans, specific plans, climate action plans, etc.), development projects (including Transit Priority Projects (TPPs) and other similar projects), and transportation projects. In general, "local agency" is used to refer to a public agency that would propose a planning project or a public infrastructure project and/or an agency that would be lead agency for individual projects. "Project sponsor" is typically used to refer to an applicant (that could be public or private, an organization or an individual) that proposes a project. "Project implementing agency" is used to refer to an agency responsible for implementing a project. In this document, project-implementing agencies are those that are responsible for carrying out (reviewing, approving, constructing) transportation projects.

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
2	Clarification	ES-3, 1-4, Chapter 4	Alternatives' Naming: No Project Alternative, Modified 2008 RTP Alternative, Envision 2 Alternative; Alternatives 1, 2, 3 Names of Alternatives differ than those listed in the SCS Background Documentation appendix on pages 71-74 and 80-83. *Please be consistent with naming protocol for alternatives between all documents.*
3	Fix numbering	ES-31	Duplicate naming of GHG11 and GHG12
4	Please define	ES-42	LU63- What are the smart growth principles?
5	Please define	ES-42	LU64- What are the benchmarks for smart growth?
6	Fix numbering	ES-51	PS17 & PS18 are missing
7	Fix numbering	ES-53	Duplicate naming of PS36 & PS37
8	Please define	ES-67	TR 34- what are the identified transportation benchmarks?
9	Please define	ES-83, 3.13-42 MM-W43	Define climate change hydrology
10	Please define	ES-40, 3.8-21 MM-LU42	Define urban growth boundary
11	Please define	ES-57, 3.11-49 MM-PS68 & ES-74, 3.12-43 MM-TR96	Define parking cash out program/ cashouts
12	Clarification	1-5	*Besides IGR, what other monitoring efforts is SCAG in charge of? (that would require lead agencies to provide SCAG with documentation of compliance with mitigation measures)*
13	Language correction	1-6, paragraph 3	Language correction: "The ~~latter~~ **former** finding…"

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
14	Language correction	2-5	Sustainability section should be separated. Language correction: **Sustainability**. The 2012-2035 RTP/SCS is subject to specific requirements for environmental performance. **New paragraph:** "Beyond simply meeting these requirements, a ..."
15	Language correction	2-5, Table 2-2	"Align the plan investments and policies ~~with~~ **while** improving..."
16	Please define	2-14	Define "scrip"
17	Narrative	2-21	AB 32 is global warming solutions act. SB 375 was determined to be stand-alone legislation. RTP document is not forum to address global climate change and references distract from RTP goal and purpose. "Global warming" and "global climate change" are not interchangeable phrases. References should be removed or, where appropriate, language should be changed to "global warming". ~~Goods movement is also a major source of GHG emissions that contribute to global climate change~~.
18	Clarification	2-27 paragraph 4	Not in SCAG's authority, nor funding available. Delete sentence: ~~SCAG will work with local jurisdictions and community stakeholders to seek resources and provide assistance to address any possible gentrification effects of new development on existing communities and vulnerable populations.~~
19	Clarification	2-27 paragraph 5	"The 2012-2035 RTP/SCS land use development pattern accommodates over 50 percent of new housing and employment growth in HQTAs, while keeping jurisdictional totals consistent with local input." *Please confirm that there are no changes to the local land use inputs provided by Orange County.*

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
20	Clarification	2-29	"For purposes of SCAG's SCS, a Development Type reflects an estimated average density of 22 residential units per acre. However, it is important to note that the designation is a potential ultimate average for the TAZ—and is not an absolute project-specific requirement that must be met in order to determine consistency with the SCS. In other words, the SCS was not developed with the intent that each project to be located within any given TAZ must exactly equal the density and relative use designations that are indicated by the SCS Development Type in order for the project to be found consistent with the SCS's use designation, density, building intensity and applicable policies. Instead, any given project, having satisfied all of the statutory requirements of either a residential/mixed-use project or TPP, may be deemed by the lead agency to be consistent with the SCS so long as the project does not prevent achieving the estimated average use designations, densities and building intensities indicated by the Development Type within the TAZ, assuming that the TAZ will be built-out under reasonable local planning and zoning assumptions." *Does the above PEIR language create a requirement for average TAZ density levels in 2035 and a requirement that each local project not preclude those density levels?* *Additionally, please clarify whether in HQTAs, these densities could be exceeded as well as implications of an area that is already fully developed not redeveloping such that it ever achieves the identified densities.*
21	Please define	3.8-5 paragraph 3,	Define "open space"

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
22	Revise language to clarify	4-39	Envision 2 alternative contains growth projections that would place housing in flight paths, locate housing on sites for which housing is not allowed due to environmental contamination, would significantly impact existing industrial operations necessary to maintain quality jobs in the region, and does not include development projects that are legally allowed due to having existing entitlement for development. Because this alternative does not consider the existing health and safety of future residents nor the existing legal approvals of development in the region, it is not possible to determine if the alternative is actually superior to other alternatives. It is simply another alternative for consideration. *Please remove references to the Envision 2 (or any other name of this alternative) as being environmentally superior.* ~~ENVIRONMENTALLY SUPERIOR~~ ENVISION 2 ALTERNATIVE
23	Revise language to clarify	4-40	"Of the three alternatives, the Envision 2 Alternative would be considered by State CEQA guidelines as the environmentally superior alternative because it does not allow further use of land for single-family development..."

CITY COUNCIL

David A. Spence, Mayor
Stephen A. Del Guercio, Mayor Pro Tem
Michael T. Davitt
Laura Olhasso
Donald R. Voss

February 9, 2012

Mr. Jacob Lieb
Ms. Margaret Lin
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

Re: Draft 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Program Environmental Impact Report (PEIR)

Sent: Via e-mail (rtp@scag.ca.gov and 2012PEIR@scag.ca.gov) and via 1st Class Mail

Dear Mr. Lieb and Ms. Lin:

On behalf of the City Council of the City of La Cañada Flintridge, please accept these comments regarding the SCAG 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and associated Transportation Conformity Report and Draft Program Environmental Impact Report (PEIR).

The City's comments are as follows:

1. **PURSUANT TO FEDERAL REGULATIONS, PROJECTS SHOULD NOT BE INCLUDED IN THE RTP/SCS CONSTRAINED PLAN WHICH HAVE ONLY SECURED A SMALL PORTION OF THE REQUIRED FUNDING NEEDED TO COMPLETE THE PROJECT:**

   The RTP/SCS, according to federal regulations, in "nonattainment and maintenance areas," (which includes the area covered by the RTP/RCS) must "address the specific financial strategies required to ensure the implementation of projects and programs to reach air quality compliance" (23 CFR § 450.322 (b) (11) (part)). Projects which only have secured a small portion of the needed funding, and which rely on speculative funding, such as potential and/or possible tolling authority, should not be included in the RTP/SCS, since this inclusion does not meet the federal requirements for a fiscally constrained plan.

2. LANGUAGE SHOULD BE INCLUDED IN THE RTP/SCS REQUIRING A FULL COST/BENEFIT ANALYSIS FOR ALL PROJECTS IN THE CONSTRAINED PLAN:

Language should be included in the RTP/SCS that clearly states that a full cost/benefit analysis shall be completed for each project contained in the RTP/SCS constrained plan. These cost benefit analyses should then be used, in an era of limited financial resources, to prioritize projects. A model for the cost/benefit analysis of every project in the RTP/SCS should be built and put into the Plan. The RTP/SCS should reflect this process and model in its language.

3. SCAG SHOULD VIGOROUSLY PURSUE PROJECTS WHICH WOULD PROVIDE ENVIRONMENTALLY SUPERIOR ALTERNATIVES TO THOSE CURRENTLY IN THE PLAN IN ORDER TO BEST COMPLY WITH EXISTING ENVIRONMENTAL LEGISLATION:

The PEIR states that: (1) *"Re-entrained roadway dust would increase proportionate to VMT. This would be a significant impact;"* (2) *"Impacts related to total GHG (Greenhouse Gas) emissions were determined to be significant even after mitigation.;"* (3) the PM10 Emissions Exhaust Only for Heavy Duty Trucks will increase (Table 3.2-4).; and (4) the *"Plan would result in a significant and unavoidable impact related to heavy-duty truck VHD [Vehicle Hours Driven], among other impacts."*

SCAG should vigorously pursue projects under CEQA, the Clean Air Act, SB375 and AB 32 which would provide environmentally superior alternatives to those currently in the Plan, such as freight to rail mixed with additional transit. Additionally, sensitive receptors, such as schools and residences, must have adequate mitigation measures that, at a minimum, satisfy or exceed these legal requirements.

4. MAJOR HIGHWAY EXPANSION PROJECTS SHOULD NOT BE FRONTLOADED IN THE RTP/SCS:

The RTP/SCS frontloads highway modalities by disproportionately allocating funding and anticipated completion dates. This is evidenced by comparing Table 2.2 - *Major Highway Completion Project* against Table 2.5, *Major Transit Projects,* in chapter 2 of the RTP/SCS. Transit projects are built in segments with the final project not being completed until 2030-2035. Expanding highways induces VMT and therefore frontloading major highway completion before transit projects does not comply with the tenets of SB 375 and AB 32 to reduce greenhouse gas emissions by reducing VMT. Additionally, it is well documented that land uses adjacent to freeways are prone to increased toxins which cause negative health impacts.

According to SCAG staff, highway projects may be more easily financed than transit projects by borrowing against future toll revenues. They state that this is the reason that the highway projects are frontloaded. This financial reasoning does not justify sacrificing environmental concerns by building the highway projects prior to transit projects.

5. **THE TERM "SR-710 GAP CLOSURE" USED IN THE PLAN SHOULD BE SUBSTITUTED WITH "710 NORTH EXTENSION":**

The "SR 710 Gap Closure" language, already in the 2008 RTP, should be modified to consistency with Metro's stated intent, which should serve to ease, if not eliminate, the current polarizing language. The shift in title from "710 North Extension" to "710 Gap Closure" is invalid, since there is no gap. SR-710 terminates at Valley Boulevard. There is no northerly extension to connect to, since the portion of the 210 interchange including Del Mar Boulevard was built conditioned upon the fact that it "would have no effect on the decision as to the ultimate freeway location and will not foreclose alternatives to the proposed ultimate ...Freeway." This title seems to create a sense of inevitability or priority for this project over competing ones and cannot be justified.

6. **SCAG ASSUMPTIONS REGARDING THE "SR-710 GAP CLOSURE" PROJECT PRODUCING CONGESTION RELIEF AND LOWER GREENHOUSE GAS EMISSIONS ARE FLAWED, BASED UPON EMPIRICAL RESEARCH ON OTHER HIGHWAY PROJECTS THAT HAVE BEEN BUILT:**

The PEIR states that "The Plan would increase VMT when compared to existing conditions." (SCAG RTP/SCS p. 3.2-25). Specifically, decreasing VMT is the goal of SB 375 and should also be the goal of the RTP/SCS. The increase in VMT is the Plan's reliance on freeway (whether tunnel freeway or above ground freeway) expansion to meet the region's mobility needs. Notably, the RTP/SCS describes the SR-710 tunnel as a tunnel with 4 lanes in each direction. This is a major highway expansion being introduced into the region. To the extent that this causes the widening of other freeways (such as the I-210), it will further expand the freeway system. The region would be better served with an alternate project which is not highway oriented and which would potentially decrease VMT, rather than increasing it.

SCAG assumes that the SR-710 extension will produce congestion relief and lower greenhouse gas emissions. These assumptions are not borne out by recent research, and there are a host of other previous studies showing that an increase in highway capacity increases VMT and that once the project is built, congestion, within a few years returns. These SCAG assumptions are flawed.

7. **THE DEFINITION OF THE SR-710 GAP CLOSURE PROJECT FROM ONE PRECISE POINT TO ANOTHER THREATENS PROGRAM-LEVEL CONFORMITY IN THE PLAN AND PREJUDICES FUTURE ENVIRONMENTAL ANALYSES:**

The Plan has modeled the SR-710 extension from one precise point north to another. Unfortunately, this assumption removes the low-build or multi-modal solution to the congestion problem. Under federal regulations, because of this specificity, the Plan and the PEIR threaten program-level conformity and prejudice future project-level environmental analyses.

In addition, this definition differs significantly from that used by the Los Angeles County Metropolitan Transportation Authority, which is currently conducting the EIR for the project and is the lead agency for the project. Metro says, *"We are beginning with a fresh perspective to initiate an environmental review process that will focus on a range of solutions to specifically evaluate the effects of the SR 710 gap. This process involves an education and public involvement program to seek both regional and community-based solutions that are suggested by you, your friends and family, your neighbors, and everyone else in your community. As our public involvement program name (SR-710 Conversations) suggests, the process for identifying these solutions will be through dialogue and conversation. These solutions from you can come in any possible form – from maintaining the status quo to considering new infrastructure, from single-modal to multi-modal approaches."*

This project should not be characterized as a single solution. The solution to the congestion problem in the area of the proposed project should be multi-fold. It could include the Green Rail Intelligent Development (GRID) project, for example, along with better bus service, a multi-modal approach, a low-build option, better traffic light synchronization, a better intersection of the SR-710 and the I-10, or other projects.

The SCAG "project" should reflect the same process being currently used by Metro.

8. THE SR-710 "GAP CLOURE PROJECT" SHOULD BE TAKEN OUT OF THE RTP/SCS ALTOGETHER DUE TO EMPIRICAL EVIDENCE OF HEALTH IMPACTS ON CHILDREN AND ADULTS ONCE THE PROJECT IS CONSTRUCTED:

Dr. Rob McConnell, representing the USC Keck School of Medicine stated, "The increase in truck and automobile traffic on the I-210 freeway resulting from the proposed SR-710 extension would increase the exposure of surrounding communities to vehicular pollutants that may cause asthma and other respiratory diseases." Supported by empirical research, USC has also stated that there is an "emerging scientific consensus that residential or school proximity to major traffic corridors is associated with respiratory impairment in children and in adults." Further, it has been shown, in a 12-community Southern California study that a group of pollutants associated with residential proximity is a strong predictor of "debilitating lung disease and mortality in later life."

The City of La Cañada Flintridge has twelve schools in close proximity to the I-210, which would likely be impacted by the "SR-710 Gap Closure" project. These schools existed prior to the freeway being constructed and would be adversely impacted in the worst possible way by increased vehicular pollutants.

The Preliminary Final Draft of a SCAG study, done for the Arroyo Verdugo Region, called the "SR-710 Missing Link Truck Study," conducted by Iteris, Inc. Traffic Engineers, showed that there would be a 25% increase in daily traffic volumes on the I-210, that 30,000 incremental vehicles would go through the communities of La Cañada Flintridge, Pasadena, La Crescenta and Glendale, and that 2,500 of these would be heavy

duty trucks in peak hours (an incremental truck every four seconds). It can also be concluded from that study that 75% of local streets in the region, such as Fair Oaks Avenue, Fremont Avenue, Los Robles Avenue and Atlantic Boulevard would still be over capacity, as well as twelve arterial streets which would actually experience higher traffic volumes regionally as a result of the project. Additionally, the study showed that there would be more delay, gas consumption and air pollution as a result of the study (regionally). It can also be concluded as a result of the study that the system-wide, regional benefit would only be an increase of .6 miles per hour. Importantly, the study showed that motorists would still be driving farther and spending more time on the road if the tunnel is built.

Regionally, a Metro study concluded that "in the peak (northbound) direction, the gap closure is projected to operate at LOS F..." This means gridlock in the proposed tunnel and idling at the portals, where congestion and air pollution already exist and should be alleviated rather than exacerbated.

The previously discussed SCAG conclusions that there would be lower greenhouse gas emissions and that congestion relief would be produced appear to lack foundation, in the face of one of its own studies, along with the others cited.

The City of La Cañada Flintridge wants to see the regional congestion problem resolved in a way that is the best solution for all stakeholders. We believe that this all-stakeholder congestion relief is possible, if you implement our comments, and particularly if you eliminate the "SR-710 Gap Closure" as the primary (if not the only) alternative in this particular region for congestion relief. Congressman Adam Schiff said, *"I believe the next logical step should be to consider a broad range of transportation options that might provide the same congestion relief and improvement in the quality of life for residents of the region at a cost equal to or lower than the amount Metro estimates it would take to build one of the five tunnel alternatives."* We concur with this statement.

Thank you for your consideration of our comments.

Sincerely,

David A. Spence

David A. Spence
Mayor

c: City Council Members, City of La Cañada Flintridge
The Honorable Adam Schiff, Congressman
Mark R. Alexander, City Manager

City of La Habra

"A Caring Community"

ADMINISTRATIVE BUILDING

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La Habra, CA 90633-0785
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February 13, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

SCAG
FEB 14 2012
MAIL RECEIVED

Re: SCAG Draft RTP/SCS and PEIR

Dear Mr. Ikhrata,

On behalf of the City of La Habra I would like to commend the Southern California Association of Governments (SCAG) and its staff who worked hard to prepare the draft Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) the Program Environmental Impact Report (PEIR), and associated documents. This effort was monumental and unprecedented in our history and throughout the process collaboration between SCAG and Orange County stakeholders has been exceptional.

As you are aware, Orange County took upon itself the task of developing a subregional SCS. The continued cooperation of SCAG staff and the numerous references throughout the document where the RTP/SCS expressly states that it incorporates the Orange County Sustainable Communities Strategy (OC SCS) into the RTP/SCS document is greatly appreciated.

The OCCOG Technical Advisory Committee (OCCOG TAC), of which the City of La Habra is an active member, created an ad hoc committee dedicated to the review of the Draft RTP/SCS.

The following general comments and recommendations are offered by the City of La Habra in conjunction with the OCCOG on the draft 2012-2035 Regional Transportation Plan and Sustainable Communities Strategy (draft RTP/SCS) and associated Appendices and draft Program Environmental Impact Report (draft PEIR). The City of La Habra requests that this letter and its attachments be included in public record as our collective comments on the draft RTP/SCS, PEIR and associated documents.

1. GROWTH FORECASTS

Issue: Growth Projections: The 2012 growth projections identify population, housing and employment data for the six-county SCAG region, from 2008 (existing) to 2020 and 2035. These growth projections represent the best available information from local

jurisdictions, the business community and landowners. However, as time passes, what is feasible for any given project can change. The triggers for change to adopted growth projections can range from factors such as market conditions, new information or data, infrastructure availability, changes in funding availability (such as the dissolution of redevelopment agencies statewide), and changes to jurisdictional boundaries resulting from future annexations and incorporations of previously-designated unincorporated territory. SCAG should continue to adopt the 2012 growth projections at a countywide level, consistent with past approvals of Regional Transportation plan growth forecasts. A county level of geography accommodates internal adjustments to changing conditions as described above, without compromising the integrity of the overall growth projections. However, approving the growth projections at any lower level of geography, such as at the city level, would be challenged with continual revisions and shifts to the total number of housing, population and employment within a city, among cities, and between cities and counties as a result of the factors described above. Adoption of the data at a level lower than the county would limit jurisdictional control and create inflexibility in a regional planning document. In addition, the level of geography in which RTP/SCS growth forecast is adopted should not be determined by other processes. For example, the RHNA allocations must be consistent with the RTP/SCS; state law does not require that they be identical. The RTP/SCS can be adopted at the county level and the RHNA process may proceed independently until it is completed after the appeals, trades, and transfers are completed. The RHNA allocations that were derived from the growth forecast can still be determined to be consistent with the RTP/SCS, even if changes are made to the city totals during the appeals, trades, and transfers process.

Growth Projections Recommendation: SCAG's adoption of the growth forecast numbers should be at the county level, consistent with past RTPs, and not at a smaller level of geography such as city, census tract, or traffic analysis level.

Issue: OCP-2010 Modified: On January 26, 2012, the update to the OCP-2010 dataset known as "OCP-2010 Modified" was officially approved by the OCCOG Board of Directors and is a data amendment to the OC SCS. The dataset includes the 2010 Census population and housing data, along with the 2010 EDD Benchmark data, consistent with SCAG's updated growth forecast dataset. The dataset was provided to SCAG staff in December 2011 and this letter also serves as the formal notice of the update that should be incorporated into the 2012 RTP/SCS, PEIR, and related documents.

OCP-2010 Modified Recommendation: All documents, tables, maps, narrative, modeling runs, PEIR Alternatives (including Alternate C/3/Envision 2 referencing the Orange County growth forecasts) should be updated with the Orange County Projections-2010 Modified Growth Projections, as adopted by the OCCOG Board of Directors and consistent with the subregional delegation MOU between OCCOG, OCTA and SCAG.

2. DRAFT RTP/SCS

Issue: 2012 Draft RTP/SCS: The RTP/SCS identifies strategies to reduce greenhouse gas emissions from cars and light duty trucks. Because counties, jurisdictions and agencies have different needs and feasibility of implementation, we believe these

strategies should be clearly identified as a menu of options that can be used to achieve the goal of reduced GHG emissions. However, the document can be construed to suggest that each of the strategies listed in the table on pages 150-153 are necessary to successfully implement the SCS, many of which are beyond SCAG's purview or control. It is requested that the language be clear that it is permissive.

2012 Draft RTP/SCS Requests:

1. **Revise language on page 149: "The following tables list specific implementation strategies that local governments, SCAG, and other stakeholders may use or consider while preparing specific projects which that help can and should undertake in order to successfully implement the SCS."**

2. **Please provide SCAG analysis supporting the strategies in the Draft RTP/SCS Chapter 4.**

3. **Please describe what municipal obligations are anticipated as a result of adopting these strategies as a list to be accomplished rather than a menu of options.**

Issue: OC SCS Strategies: There are strategies in the Orange County SCS that are not included in the regional SCS. Similarly, there are some strategies in the regional SCS that are not consistent with the strategies in the OC SCS. This creates confusion and clarification is needed.

Under SB 375 and only within the SCAG region, subregional councils of government were allowed to prepare subregional SCS's that SCAG is then required to incorporate into the regional SCS. In Orange County, the Orange County Council of Governments (OCCOG) and the Orange County Transportation Authority (OCTA) developed a countywide or subregional SCS (OC SCS) that was to be incorporated in whole into the SCAG SCS. Local agencies in Orange County developed the OC SCS and approved it in June 2011. SCAG has incorporated the OC SCS in its entirety into the regional SCS as an appendix to the regional SCS, but it is unclear what the standing is of the OC SCS. The OC SCS contains a set of strategies that were agreed upon by local governments, agencies and other stakeholders within Orange County and was accepted by SCAG and should represent the SCS that is applicable to the Orange County region.

On Page 8 discussion is provided regarding the Sustainable communities strategy 2012-2035 plans to SB 375 integrate the transportation network with new development but minimal discussion is provided as to how that will be achieved and how it will be funded.

Discussion of the need for cities to dramatically increase the reach of transit in our communities is provided on Page 13 but no definition of what "dramatically" means is provided. La Habra has no transit centers.

High speed rail is discussed on Page 21 but no approved alignment has been reached. It is very likely the BNSF right-of-way will be utilized. This being the case, very little benefit will be forthcoming to the City of La Habra due to the distance to the rail line.

The RTP suggests planning for electrification of the vehicle fleet and supporting new automobile technology on Page 30 but no discussion is provided as to how the improvements will be funded.

On page 53 there is discussion of making deficient sidewalks accessible to all. The City supports such action but minimal funds are made available to accomplish the task.

The RTP notes on page 80 that the transportation and safety mitigation program includes: increasing ride share and work at home opportunities, invest in land use transportation connection projects, investments to reduce heaving duty truck delays, enhance transportation infrastructure practices to enhance security and working to enhance emergency preparedness. There is no discussion as to how the improvements will be funded.

The City of La Habra is limited to bus service as a means of regional transportation. Alternative modes of transportation, as per page 81, to communities like La Habra need to be discussed further and how those improvements will be funded.

State or County agencies should be mandated to publish lists of contaminated properties where new development would disturb contaminants and provide them on a yearly basis to cities as suggested on Page 83.

A discussion of Measure M in Orange County should be included on page 133.

Page 139 discusses bringing the majority of sidewalks and intersections into compliance with ADA. The City of La Habra continues to make improvements to intersections when street improvements are proposed. What presents a challenge to the City are continued changes to the accessibility requirements which make recently completed improvements obsolete. The plan also suggests improved traffic signal synchronization projects but how those improvements will be funded are not discussed.

The City is limited to regional bus transportation. The land use growth strategies discussed on page 149 revolve around transportation centers typically associated with rail lines. Should the gold line be extended to Whittier, the proposed line could be extended into La Habra and onto Fullerton where it could connect to the Fullerton transit center then making it possible for a transit center in La Habra.

The conversion of the City's fleet to electric or other zero-emission transportation technologies as noted on page 153 could be possible if funds were made available for the construction of the infrastructure and vehicles themselves.

OC SCS Strategies Recommendation: Please revise the text in the last paragraph on page 106 to state: "These subregional SCS documents are incorporated into the regional SCS and represent the SCS for each of these subregions."

3. **DRAFT PEIR**

Issue: Mitigation Monitoring Program Intent: It is unclear how SCAG intends to implement the Mitigation Monitoring Program with regard to the proposed mitigation measures, as may be implemented by local agencies. Section 1-5 of the PEIR specifically provides that "Lead agencies shall provide SCAG with documentation of compliance with mitigation measures through SCAG's monitoring efforts, including SCAG's Intergovernmental Review (IGR) process." It is infeasible for SCAG to require local jurisdictions to report when such mitigation measures are considered for any project. Noting that the SCAG region includes 6 counties, 14 subregional entities and 191 cities, this reporting requirement would surely fall short of expectations. Given this identified infeasibility, please clarify what obligations local agencies may have regarding SCAG's mitigation monitoring efforts.

Mitigation Monitoring Program Intent Requests/Recommendations:

1. **Does SCAG intend to require all jurisdictions that avail themselves of the mitigation measures to report to SCAG when such measures are considered for any project?**

2. **SCAG's approval of the PEIR needs to clearly state the intent and applicability of the mitigation measures and the PEIR reflective of our comments below and that mitigation measures do not supersede regulations under the jurisdiction of other regulatory agencies.**

3. **Add language to Executive Summary and Introduction: "Mitigation measures do not supersede regulations under the jurisdiction of other regulatory agencies."**

4. **Feasibility and Applicability**

On pages 1-5 and 1-7, the language should reflect that Lead agencies will determine the feasibility and applicability of measures and that the measures are intended to offer a menu of options available should a lead agency opt to utilize them. The PEIR makes the assertion on page 1-7 of the Project Description under Transportation Project Mitigation and Land Use Planning and Development Project Mitigation sections that the draft PEIR has made a preliminary determination that all of the mitigation measures in it are considered feasible. SCAG has not identified any analysis that supports the feasibility of the mitigation measures that are to be undertaken by entities other than SCAG and SCAG staff has stated on numerous occasions that the mitigation measures were intended to be a menu of options for consideration by lead agencies.

Issue: Mitigation Measures Impose Obligations Beyond Scope of SB 375. Given the combination of the RTP and the SCS processes, as mandated by SB 375, we recognize that SCAG must undertake the difficult task of balancing the goal of having a coordinated regional transportation system with land use strategies that encourage a more compact use of land. However, a key principle of SB 375 is that it is not intended to supersede local agencies' authority to regulate land uses. Specifically, Government Code section 65080(b)(2)(K) provides, in relevant part that ". . . .Nothing in a

sustainable communities strategy shall be interpreted as superseding the exercise of the land use authority of cities and counties within the region. . ."

In light of the limitation expressed at Government Code sec. 65080(b)(2)(K), we find language in the PEIR, and specifically the mitigation measures therein, imposing affirmative obligations on local agencies within the SCAG region to be inappropriate and contrary to law. The proposed language as recommended below would remedy the legal conflict with Section 65080(b)(2)(K), yet achieve SCAG's recognition that project-specific environmental review is the appropriate level of review for projects that that have their own unique, site-specific circumstances.

The revisions are further consistent with OCCOG's understanding that SCAG intended to provide the mitigation measures as a "toolbox" to local agencies for use within their discretion if and when appropriate for projects within their respective jurisdictions. Indeed, from materials presented by SCAG, including the January 26, 2012 workshop held at the City of Anaheim Council Chambers, SCAG explained that "**This PEIR offers a "toolbox" of mitigation measures** for future project-level environmental analyses. . . . It also includes suggested mitigation measures for local agencies to consider for implementation, if appropriate and feasible (phrased as "can and should"). This language is permissive and not mandatory upon local agencies."

Mitigation Measures Impose Obligations Beyond Scope of SB 375 Recommendations:

1. **Please provide SCAG analysis supporting the feasibility of mitigation measures in the PEIR.**

2. **Change language on page 1-7 found in 2 places under MITIGATION MEASURES, subheadings Transportation Project Mitigation and Land Use Planning and Development Project Mitigation: "This Draft PEIR has made a preliminary determination that the proposed mitigation measures are feasible and effective. Therefore, it is reasonable to expect that these agencies will actually implement them where, in the agencies' independent discretion, the measures are deemed applicable in light specific circumstances at the project level.**

3. **Change language on page 1-5, first paragraph: "Mitigation Measures proposed in this PEIR are available as tools for implementing agencies and local lead agencies to use as they deem applicable. The implementing agencies and local lead agencies are responsible for ensuring adherence to the mitigation measures as 2012-2035 RTP/SCS projects are considered for approval over time."**

4. **Please make similar text amendments to other sections, including the Executive Summary, of the PEIR that reference how the mitigation measures are to be used by lead agencies, including the Executive Summary.**

5. **"Can and Should"**

As indicated in the PEIR on page 1-6, state law provides that it is appropriate to indicate in mitigation measures that they "can and should" be implemented where the authority to implement the measures rests with agencies other than SCAG. The language conveys to local agencies an affirmative obligation to address each mitigation measure, irrespective of whether such agencies deem the measures applicable to a particular project or duplicative of their own or other governmental agencies' regulatory measures (as discussed in Recommendation below). OCCOG recognizes that SCAG's use of the words "can and should" are derived from CEQA, at Public Resources Code sections 21081 and 2155.2(b)(5)(B)(ii) and CEQA Guidelines, including section 15091(a)(2). Nevertheless, given the express limitation of SB 375 upon respective local agencies' land use authority, OCCOG deems any language seemingly imposing affirmative obligations contrary to SB 375 inappropriate. As such, the use of the language "can and should" for mitigation measures addressed to local agencies is inappropriate.

"Can and Should" Recommendations: Change language in all mitigation measures identifying entities other than SCAG to read "~~can and~~ should consider where applicable and feasible." To clarify the intent that the mitigation measures are a menu of options for which feasibility has not been established for any given project, the "can and should" language should be changed in all mitigation measures identifying entities other than SCAG to read "should consider where applicable and feasible."

6. **CEQA Streamlining:**

Pages 1-10 through 1-12 describe requirements for the CEQA streamlining offered under SB 375. In each section, it is indicated, consistent with SB 375, for projects to qualify for the CEQA streamlining, mitigation measures from the applicable environmental document must be incorporated into the project. Further, CEQA streamlining relative to the infill exemption under CEQA is also being developed pursuant to SB 226 passed last year.

CEQA Streamlining Recommendations: Please clarify how the "menu of mitigation measures" is expected from this PEIR for project to qualify for CEQA streamlining under SB 375 and, if possible, the regulations being developed under SB 226.

7. **RTP/SCS Policies**

Please ensure that the discussion of the policies represented by the RTP/SCS in the draft PEIR is consistent with the policies actually in the RTP/SCS. In particular, the bullet list on the page 2-3 is stated to represent the land use strategies of the plan; however, the strategies listed are not specifically identified in the regional SCS. Including different language in the PEIR implies additional policy.

RTP/SCS Policies Recommendation: Amend the land use strategies identified on page 2-3 of the Project Description, under the section Purpose and Need for Action to reflect the strategies included in the SCS chapter of the RTP.

8. **PEIR Mitigation Measures**

By far the most concerning portion of the Draft 2012 RTP/SCS to OCCOG members is the Draft Program Environmental Impact Report (PEIR). Specifically, the proposed mitigation measures included in the PEIR extend to and impact a broad spectrum of technical and policy areas. Many examples of these concerns are included on Attachments 1 and 2 of this letter. In sum, the concerns are that the mitigation measures:

- Appear to go above and beyond the requirements of the Regional Transportation Plan and Senate Bill 375;

- Are measures already required by State and Federal law or are regulated by other agencies such as the South Coast Air Quality Management District, California Department of Housing and Community Development, Fish and Game, and the Regional Water Control Boards;
- Appear to run counter to local control; and

- Are financially infeasible for the agencies responsible for implementation.

PEIR Mitigation Measures Recommendations.

1. **In order for the mitigation measures to truly be considered a toolbox of options for consideration by various entities in the SCAG region as intended, all mitigation measures in the PEIR intended for entities other than SCAG be moved into an appendix to the PEIR and renamed "Sustainability Strategies". These strategies could then be identified for consideration by lead agencies as mitigation for future projects should a lead agency choose to do so and deem them applicable and feasible. The PEIR would only retain mitigation measures applicable to SCAG. This action would also require that the Executive Summary, Introduction, and Project Description be updated to reflect the nature of the new appendix of Sustainability Strategies.**

2. **Remove language within mitigation measures that establishes policies not included in the RTP/SCS or modifies the measure to specify a policy or endorses specific technology which would limit agency authority.**

3. **In the draft PEIR, please replace text in all mitigation measures that identify policy for either SCAG or other entities with language that reflects either adopted SCAG policies or are policies that are included in the RTP and SCS. Mitigation measures should not be used to establish new policy for the region.**

For example:

- MM-TR 17: "SCAG shall (for its employees) and local jurisdictions ~~can and~~ should institute where applicable and feasible teleconferencing, telecommute, and/or flexible work hour programs ~~to reduce unnecessary employee transportation~~.

- MM-TR 23: "Local jurisdictions should consider when applicable and feasible coordinated and controlled intersections so that traffic passes more efficiently through congested areas. Where traffic signals or streetlights are installed, require the use of a feasible, energy efficient ~~Light Emitting Diode (LED)~~ technology."

- MM-TR 35: "Local jurisdictions should consider where applicable and feasible the adoption of a comprehensive parking policy that ~~discourages private vehicle use and~~ encourages the use of alternative transportation."

9. SCAG Authority

Several mitigation measures identify actions that SCAG shall undertake to mitigate impacts of the plan. Many appropriately direct SCAG to provide a discussion forum or serve as a central data repository for a broad range of topics that affect the region as a whole. However, many measures inappropriately direct SCAG to establish practices, standards, or policy in areas unrelated to what SCAG has purview over. Further, the measures often appear to be directed at policy implementation that is unrelated to the plan itself, such as implementing AB 32. Such measures will essentially require SCAG to establish policy in areas for which it has no authority. Additionally, it is not clear how SCAG would fund the work efforts because they are not directly related to its mission and, therefore, do not have funding. For example, MM-PS 118 states: "SCAG shall continue to develop energy efficiency and green building guidance to provide direction on specific approaches and models and to specify levels of performance for regionally significant projects to be consistent with regional plans." Green building practices and energy efficiency measures are already addressed by various state and federal agencies, as well as by other local organizations. Further, SCAG does not have the authority to specify levels of performance for land use or buildings.

SCAG Authority Recommendation: Remove the following mitigation measures for SCAG which it does not have purview for under the law or directed to do by the Regional Council through policy direction. List may not be exhaustive.

MM-BIO/OS 44	MM-LU 42	MM-LU 77	MM-PS 68
MM-BIO/OS 45	MM-LU 47	MM-LU 80	MM-PS 71
MM-BIO/OS 46	MM-LU 48	MM-LU 81	MM-PS 95
MM-BIO/OS 48	MM-LU 51	MM-LU 82	MM-PS 121
MM-GHG 3	MM-LU 53	MM-LU 83	MM-TR 17
MM-GHG 8	MM-LU 56	MM-NO 12	MM-TR 23
MM-GHG 11	MM-LU 57	MM-NO 16	MM-TR 28
MM-LU 9	MM-LU 60	MM-POP 1	MM-TR 35
MM-LU 21	MM-LU 61	MM-PS 3	MM-TR 83
MM-LU 22	MM-LU 64	MM-PS 14	MM-TR 85
MM-LU 24	MM-LU 65	MM-PS 25	MM-TR 96
MM-LU 26	MM-LU 69	MM-PS 37	MM-W 34
MM-LU 32	MM-LU 71	MM-PS 39	MM-W 59

MM-LU 34	MM-LU 74	MM-PS 41	MM-W 60
MM-LU 41	MM-LU 75	MM-PS 67	MM-W 65

10. SCAG Mitigation Measures

It would be helpful to understand how SCAG will implement the mitigation measures that it is assigned to do. Many of the mitigation measures will expand SCAG's role into areas that are not currently under its purview and are under the jurisdiction of other entities. Many also constitute significant work efforts.

SCAG Mitigation Measures Request: Please explain how the actions and programs required by the measures SCAG is assigned to do would be funded to ensure that they are truly feasible for SCAG to undertake.

11. Ensuring Outcomes

SCAG has limited authority in many of the areas included in the measures and will not be able to ensure impacts are mitigated and that the outcomes identified do actually occur. SCAG can assist, offer information, educate, and provide discussion forums for topics outside its area of jurisdiction; however, it is not possible to "ensure" that outcomes are achieved for things that are outside of its purview.

Ensuring Outcomes Recommendation: Remove all references within mitigation measures that SCAG will "ensure" or "shall minimize impacts" that result from a mitigation measures.

> **Example:**
> **MM-CUL17: "~~Impacts to cultural resources shall be minimized through cooperation, information sharing, and~~ SCAG's shall, through cooperation, information sharing and ongoing regional planning efforts such as web-based planning tools for local government including CA lots, and direct technical assistance efforts such as Compass Blueprint's Toolbox Tuesday series, provide information and assistance to local agencies to help them avoid impacts to cultural resources. Resource agencies, such as the Office of Historic Preservation, shall be consulted during this process."**

12. Fees and Taxes

Several mitigation measures indicate that local jurisdictions or other entities should implement new fees or propose taxes to pay for a variety of programs or for acquisition of land for preservation. Increases to fees or taxes are issues that could require voter approval and, thus not be approved. They also represent prescriptive means to accomplish the mitigation.

Fees and Taxes Recommendations:

1. **Reword measures to indicate that a new or increased fee, new tax, or other increase is only an option as a way to implement the mitigation. The following list may not be exhaustive.**

MM-BIO/OS55	MM-PS15	MM-TR30	MM-TR88
MM-LU29	MM-PS63	MM-TR37	MM-TR94
MM-LU53	MM-PS75	MM-TR47	MM-TR96
MM-LU54	MM-PS76	MM-TR52	MM-W6
MM-LU80	MM-PS78	MM-TR60	MM-W32
MM-LU81	MM-PS92	MM-TR69	MM-W52
MM-LU82	MM-PS106	MM-TR74	MM-W58
MM-LU83	MM-PS107	MM-TR75	
MM-POP4	MM-PS113	MM-TR80	
MM-PS12	MM-TR28	MM-TR84	

2. **Please clarify whether it was assumed that these additional fees were considered feasible and if the new fees that are suggested were considered in the financial plan or economic analysis of the RTP.**

13. **Guidance Documents**

Guidance documents are there as information sources for consideration; however, they do not represent regulation or establish standards that are required to be achieved. For example, MM-AQ19 inappropriately indicates that project sponsors should comply with the CARB Air Quality and Land Use Handbook (June 2005) which is only a guidance document.

Guidance Documents Recommendation: Remove references that indicate a compliance with guidance documents from mitigation measures.

14. **Duplicative/Existing Regulations**

It is noted that many of the mitigation measures are duplicative of existing regulation or processes (e.g. CEQA review requirements). Under the California Environmental Quality Act, it is intended that measures be identified that will mitigate impacts of the project. Existing regulations are already assumed to be abided by in the evaluation of the impact and the significance of the impact is after all existing regulation is applied. Therefore, mitigation measures should address those actions that need to be undertaken in addition to existing regulation in order to mitigation the impact. Therefore, mitigation measures that simply restate existing regulation are not valid mitigation for purposes of CEQA. Further, it is possible for regulations to change over time. Because of this, restatement of the regulation in the mitigation measures could result in future conflict between the stated mitigation and the regulation. It has become common practice to state that existing regulation will be implemented. When this is done, it is common practice when compliance is used as a mitigation measure to simply state that the responsible entity will simply comply with the regulation. If mitigation measures that

restate existing regulation are not removed, then it is requested that the wording of the measures be restated to simply read that compliance with all applicable laws and regulations will be undertaken. Language that could be used is: "Local jurisdictions, agencies, and project sponsors shall comply, as applicable, with existing federal, state law, and local laws and regulations." Similar language is included in some mitigation measures. It is offered that MM-PS 13 is a good example of the type of appropriate language and reads "Project sponsors can and should ensure that projects are consistent with federal, state, and local plans that preserve open space."

It is noted that many of the mitigation measures are duplicative of existing regulation or processes (e.g. CEQA review requirements). Under the California Environmental Quality Act, it is intended that measures be identified that will mitigate impacts of the project. Existing regulations are already assumed to be abided by in the evaluation of the impact and the significance of the impact is after all existing regulation is applied. Therefore, mitigation measures should address those actions that need to be undertaken in addition to existing regulation in order to mitigation the impact. Therefore, mitigation measures that simply restate existing regulation are not valid mitigation for purposes of CEQA. Further, it is possible for regulations to change over time. Because of this, restatement of the regulation in the mitigation measures could result in future conflict between the stated mitigation and the regulation. It has become common practice to state that existing regulation will be implemented. When this is done, it is common practice when compliance is used as a mitigation measure to simply state that the responsible entity will simply comply with the regulation. If mitigation measures that restate existing regulation are not removed, then it is requested that the wording of the measures be restated to simply read that compliance with all applicable laws and regulations will be undertaken. Language that could be used is: "Local jurisdictions, agencies, and project sponsors shall comply, as applicable, with existing federal, state law, and local laws and regulations." Similar language is included in some mitigation measures. It is offered that MM-PS 13 is a good example of the type of appropriate language and reads "Project sponsors can and should ensure that projects are consistent with federal, state, and local plans that preserve open space." The water section provides another example. The PEIR includes 68 mitigation measures in the Water Resources section regarding water quality. At least 35 of these are related to stormwater runoff best management practices (BMPs) that are currently regulated through Municipal National Pollutant Discharge Elimination System (NPDES) Stormwater Permits issued by Regional Water Quality Control Boards. In the SCAG region there are five water quality control boards each with its own Municipal NPDES Stormwater Permit. The regulations and requirements contained in these permits vary from each other. By listing specific measures in the PEIR that are not included in a project's applicable Municipal NPDES Stormwater Permit, the PEIR creates conflicting compliance requirements. To eliminate potential conflict with existing regulations, the mitigation measures regarding specific BMPs should be removed and replaced with a single requirement that each project must comply with its applicable Municipal NPDES Stormwater Permit.

Duplicative/Existing Regulations Recommendations:

1. **Please remove all mitigation measures listed in Attachment 1 which are duplicative of existing regulations administered by or under the jurisdiction of other agencies. The list may not be exhaustive.**

2. **For each impact, please add the following language: "Local jurisdictions, agencies, and project sponsors should comply, as applicable, with existing federal, state, and local laws and regulations."**

15. **Draconian Mitigation Measures**

Many of the mitigation measures in the Draft PEIR are draconian and need to be removed. One prime example is MM-LU 85. It reads in part "Local jurisdictions can and should reduce heat gain from pavement and other hardscaping including: Reduce street rights-of-way and pavement widths to World War II widths (typically 22 to 34 feet for local streets and 30 to 35 feet for collector streets curb to curb)..." Although reduced street widths may be appropriate in some cases and have been implemented in many jurisdictions, it is inappropriate and counterproductive to require reduced street widths as a mitigation measure in the PEIR. Reduced street widths, for example, generally do not provide space for on-street parking which may result in greater, additional paved areas provided in separate parking lots. A second example is MM-LU15: "Project sponsors can and should ensure that at least one acre of unprotected open space is permanently conserved for each acre of open space developed as a result of transportation projects/improvements." Measures should support the SCAG Energy and Environment Committee which recommended that the programs build upon existing open space land acquisition and open space programs in the region, tailoring programs to each individual county in the region. These include, but are not limited to, OCTA's Measure M Mitigation Program, and TCA's open space mitigation program, which has protected 2,200 acres in perpetuity to date. Open space conservation should be pursued in a voluntary manner, working with willing private sector landowners and not overly prescriptive and specific.

Draconian Mitigation Measures Recommendations: Remove mitigation measures that are very prescriptive, such reducing street widths to WWII widths or specifying preferred technology.

In addition to the above comments, detailed technical comments, language changes, and questions on the RTP/SCS, Appendices, and PEIR documents are included in Attachment 2.

Conclusion

We recognize the immense efforts it took to prepare these documents. They are incredibly complex documents establishing important and far-reaching policy for the region. However, because of this importance and complexity, we would like to express concern about the timing of the release of the documents and hope that preparation of future RTP/SCS documents will take into account the need to accommodate adequate review, discussion and revision time for all of the documents. The timeline of document releases, public comment period, and time allowed for the response to comments results in an inability to have credible discussion regarding possible changes because

the timeline does not allow for recirculation or full discussion of requested changes. The documents were released over the holiday season and included the release of draft PEIR document on December 30, 2011. The minimum 45-day public comment period closes on February 14, 2012. Only a few weeks are provided to prepare responses to comments and amend the documents to ensure that the Regional Council may consider the certification of the PEIR and the approval of the draft RTP/SCS on April 4, 2012.

We appreciate your consideration of all of the comments provided in this letter and its attachments and look forward to your responses. It is a shared goal to have an RTP/SCS adopted that is credible and defensible on all levels. .

Sincerely,

Carlos Jaramillo
Deputy Director of Community Development

cc: Don Hanna, City Manager
Jennifer Cervantez, Assistant City Manager
Michael Haack, Director of Community Development
Chris Johansen, City Engineer
Roy Ramsland, Planning Manager

Attachment 1: Mitigation Measures Duplicative of Existing Regulation
(Listed by type of regulation measures duplicates)

Air Quality/AQMD	CDFG	Federal & state law	Federal law	Resource agencies
MM-AQ1	MM-BIO/OS1	MM-HM3	MM-LU14	MM-TR33
MM-AQ2	MM-BIO/OS3	MM-HM4	MM-LU30	MM-BIO/OS29
MM-AQ3	MM-BIO/OS4	MM-HM5		MM-BIO/OS30
MM-AQ4	MM-BIO/OS8	MM-HM6		MM-BIO/OS31
MM-AQ5	MM-BIO/OS10	MM-HM7	**NPDES**	MM-BIO/OS32
MM-AQ6	MM-BIO/OS11	MM-LU28	MM-AQ16	MM-BIO/OS33
MM-AQ7	MM-BIO/OS17	MM-NO18	MM-BIO/OS19	MM-BIO/OS34
MM-AQ8	MM-BIO/OS18	MM-PS13	MM-GEO5	MM-BIO/OS35
MM-AQ9	MM-BIO/OS21	MM-W36	MM-W1	MM-BIO/OS50
MM-AQ10	MM-BIO/OS22	MM-W37	MM-W13	MM-BIO/OS51
MM-AQ11	MM-BIO/OS23	MM-W38	MM-W58	
MM-AQ12	MM-BIO/OS24			
MM-AQ13	MM-BIO/OS25		**Flood control**	
MM-AQ14	MM-BIO/OS26		MM-HM8	
MM-AQ17	MM-BIO/OS27			
MM-AQ18	MM-BIO/OS28		**Local Agencies**	
	MM-BIO/OS14		MM-AV11	
	MM-BIO/OS7			

State law				
MM-AV3	MM-HM10	MM-PS4	MM-PS107	MM-W25
MM-AV6	MM-HM11	MM-PS8	MM-PS113	MM-W26
MM-AV12	MM-HM12	MM-PS10	MM-PS119	MM-W27
MM-BIO/OS20	MM-HM13	MM-PS12	MM-PS122	MM-W28
MM-CUL1	MM-HM14	MM-PS14	MM-TR29	MM-W29
MM-CUL2	MM-HM15	MM-PS16	MM-TR49	MM-W30
MM-CUL3	MM-HM16	MM-PS35	MM-TR55	MM-W31
MM-CUL4	MM-LU10	MM-PS36	MM-TR75	MM-W32
MM-CUL5	MM-LU11	MM-PS37	MM-TR89	MM-W39
MM-CUL6	MM-LU17	MM-PS42	MM-W6	MM-W43
MM-CUL7	MM-LU19	MM-PS43	MM-W8	MM-W46
MM-CUL8	MM-LU20	MM-PS48	MM-W9	MM-W47
MM-CUL9	MM-LU38	MM-PS55	MM-W10	MM-W48
MM-CUL10	MM-LU43	MM-PS56	MM-W11	MM-W49
MM-CUL11	MM-LU44	MM-PS57	MM-W12	MM-W50
MM-CUL12	MM-LU48	MM-PS59	MM-W15	MM-W51
MM-CUL13	MM-LU58	MM-PS61	MM-W16	MM-W52

MM-CUL15	MM-NO1	MM-PS67	MM-W17	MM-W54
MM-CUL16	MM-NO4	MM-PS69	MM-W18	MM-W55
MM-GEO1	MM-NO8	MM-PS71	MM-W19	MM-W56
MM-GEO2	MM-NO9	MM-PS73	MM-W20	MM-W61
MM-GEO3	MM-POP2	MM-PS77	MM-W21	MM-W62
MM-GEO4	MM-POP4	MM-PS89	MM-W22	MM-W64
MM-GEO6	MM-PS1	MM-PS92	MM-W23	MM-W66
MM-HM9	MM-PS2	MM-PS97	MM-W24	MM-W68

Attachment 2: Additional Technical Clarifications on documents are also offered as follows:

2012 RTP/SCS

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	all	*All chapter headings should include the Chapter number on each page for ease of reference.*
2	Clarification	1, left column	"The 2012 RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with SB 375, ~~both~~ improve public health, and meet the National Ambient Air Quality Standards as set forth by the federal Clean Air Act. As
3	Clarification	4, right column	"This region needs a long-term, sustainable funding plan that ensures the region receives its fair share of funding, supports an efficient and effective transportation system that grows the economy, provides mobility choices, and improves our quality of life."
4	Clarification	page 7- Table 2 and page 95- Table 3.3	*Is additional $0.15 gas tax the sum total of both state and federal taxes or $0.15 each?*
5	Clarification	40, left column	"Strategic investments, put forth by the private sector, that would remove barriers associated with telecommuting are expected…"
6	Correction	page 42- Table 2.2	241 toll road completion year is 2030
7	Please define in the text and add to a glossary	50, left column	"scrip"
8	Clarification	54, right column	"Express/HO T Lane Network Despite our concerted effort to reduce traffic congestion through years of infrastructure investment, the region's system demands continue to exceed available capacity during peak periods."
9	Clarification	70, 78	Greenhouse Gases and Air Quality SCAG seems to rely on CEQA to achieve the "maximum feasible" reductions in emissions from transportation. However, this is not consistent with the intent of SB 375's goal of achieving specific thresholds of 8% by 2020 and 13% by 2035 through a sustainable communities strategy plan. *Please provide clarification to this section indicating if the air quality and greenhouse gas CEQA*

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
			mitigation measures obligate regional agencies and project developers to undertake more strategies, programs and mandates beyond those included in the OC SCS.
10	Clarification	78, right column	"Greenhouse Gases On road emissions (from passenger vehicles and heavy duty trucks) constitute 93 percent of the transportation sector total. Emissions from passenger vehicles, which are the subject of SB 375 and this RTP/SCS, constitute ___% of the transportation sector's greenhouse gas emissions total."
11	Clarification	80, left column	Statements are made, such as the following, "the RTP has the ability to affect the distribution of that growth" (in population in the region). These statements could be interpreted to be contrary to SCAG's obligation under the Memorandum of Understanding with OCCOG to respect the strategies and local land use policies in the OC SCS. *Please clarify how it is in SCAG's ability to affect local change when the OC SCS is consistent with acceptance of local land use plans and planned population and employment distribution?* *Recommended text change:* "Transportation projects including new and expanded infrastructure are necessary to improve travel time and can enhance quality of life for those traveling throughout the region. However, these projects also have the potential to ~~induce~~ attract more of the regional population growth in certain areas of the region. This means that although ~~Although~~ SCAG does not anticipate that the RTP would affect the total growth in population in the region, the RTP has the ability to affect the distribution of that growth."
		82, right column	"~~In addition to induced population growth,~~ transportation projects in the RTP also have the potential to divide established communities, primarily through acquisition of rights-of-way." Text indicates that the RTP and projects in the RTP/SCS as "inducing" growth. It is noted that use of the term "induced growth" has a negative connotation and implies growth above and beyond

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
			what would occur naturally. ~~However~~, it is stated in the RTP that the population, housing, and employment growth totals are fixed and only the distributions may change based on the plan. This means there will not be "new" growth and that the RTP and SCS may simply influence and shift the growth anticipated for the region. This moving of growth is the result of changes in distribution that are due to changes in land use or densities. Because of this, it is requested that references to "induced growth" be reworded to reflect the shifting of growth in the region. *Recommended text change:* "Cumulative impacts from the projected growth ~~induced by the RTP~~ include increased impervious surfaces;..."
12	Clarification	Chapter 3	SCAG's Financial Plan includes a significant portion of "New Revenue Sources and Innovative Financing Strategies" that are not currently in place or available. While some of the proposed revenues are within the control of SCAG or MPOs and County Transportation Commissions, the majority of the revenues (in terms of dollars) require either state or federal action to implement. *Please explain what the implications are if these new revenue sources and innovative financing strategies do not become available?*
13	Clarification	page 95-Table 3.3	~~"Mileage-based user fees would be implemented to replace gas tax and augment – estimated at about $0.05 (2011$) per mile and indexed to maintain purchasing power starting 2025."~~ Suggested language is from page 31 of Growth Forecast Appendix: "Current gasoline tax, estimated at about $0.05 (2011$) per mile will increase through 2025, then in 2026 it would be replaced with a mileage-based user fee indexed to maintain purchasing power."
14	Clarification	105, right column	"While the region was once known worldwide as the "capital of sprawl," the region today is projecting growth on only a small fraction of the ~~has little~~ raw land available in the region ~~left to accommodate additional growth~~."
15	Clarification	105, right column	"While the region was once known worldwide as the "capital of sprawl," the region today is projecting growth on only a small fraction of the ~~has little~~ raw

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
			land available in the region ~~left to accommodate additional growth~~."
16	Clarification	106	SCAG indicates that the OC SCS has been incorporated into the regional SCS. OCCOG was one of two subregions that undertook the arduous task and obligation of preparing an SCS. *Please add clarifying text that these subregional SCSs, including the OC SCS, represent the Sustainable Communities Strategies applicable to those subregions.*
17	Clarification	110, right column	"Municipal water and sewer systems, for example, ensure clean water. At the same time, ~~concrete stormwater runoff channels harm water quality~~ and ~~sprawl eats into open space~~ as areas become more urbanized and the percentage of impervious surface is increased, the hydrologic regime is dramatically altered. Drainage conveyances that once were natural and riparian are required to be engineered as hardened flood control channels to provide adequate protection of private property and public infrastructure from the increased frequency, duration, peak flow, and overall volume of stormwater runoff. With this armoring of once natural channels, water quality benefits from biofiltration are lost along with opportunities for infiltration and evapotranspiration, which can lead to hydromodifcation downstream in sections which are not yet engineered and hardened. Many strategies…"
18	Clarification	112, 117	The SCS documents the development of four scenarios to explore basic aspects of future growth. These scenarios were used in public outreach and the SCS and the associated Appendix states that "Using the public dialogue and feedback from the analysis of the SCS Scenarios, SCAG developed the 2012 RTP/SCS Plan alternatives." (Similar references are also include at RTP/SCS p. 117, and SCS Background Documentation p. 71). The RTP/SCS and Appendix then describes a process that led to the Plan alternatives. Neither the RTP/SCS, Appendix or PEIR expressly state or illustrate the fundamental land use and socioeconomic foundation for the SCS. *In order to confirm consistency with the OC SCS, it is requested that SCAG include appropriate tables,*

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
			graphics and maps that provide the detail that confirm this consistency.
19	Clarification	113, 122	The regional SCS states that the scenarios/alternatives were developed using the Local Sustainability Planning Tool (LSPT). The LSPT is a sketch planning tool that flattens geographical areas to a 5-acre grid cell. The OC SCS land use data was provided at much greater level of detail in that specific parcel data and detail were provided by each jurisdiction. A cursory review of some LSPT data reveals inconsistencies regarding interpretation of Orange County land uses. It is acknowledged that the regional SCS states, "Land use inputs for OCCOG SCS were unchanged". Yet use of the LSPT and SCAG Development and Community Types presented in the SCS leave open the question as to whether the OC SCS was altered, as noted above. *Please provide confirmation that the underlying OC SCS land use data was used without significant alteration and LSPT flattening and interpretation in the development of the regional SCS Plan and alternatives.*
20 17	Add to glossary	127, right column	"Gentrification"
21	Clarification	128, left column	"Thus, this adjustment allowed the land use pattern to conform more closely to local ~~expectations~~ general plans, while reducing the amount of vehicle miles traveled." *Whose/What are "local expectations?"*
22	Clarification	149, right column	*Revise language to clarify that SCAG intends policies, strategies, and measures are a menu of options.* "The following tables list specific implementation strategies that local governments, SCAG, and other stakeholders may use or consider while preparing specific projects which would help ~~can and should undertake in order~~ to successfully implement the SCS."
23	Clarification	150-152	The OC SCS was accepted by SCAG and represents the set of strategies and the growth distribution that outlines the best approach for how

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
			the requirements of SB 375 would be met within the subregion. Specifically, the OC SCS included 15 specific Sustainability Strategies, reflecting a menu of 222 practices and actions that OC agencies have agreed to pursue (or continue to pursue) to achieve GHG reductions that support SB 375. *Why doesn't the regional SCS specifically acknowledge these 15 strategies yet include other strategies and performance measures not included in the OC SCS (e.g., Locational Efficiency)?*
24	Add to glossary	166, right column	"Greenfield"
25	Clarification	194, right column	"In addition to these targeted outreach efforts, all regular and special meetings of the RTP task forces, the Transportation Committee (TC), the CEHD, the EEC, and the SCAG Regional Council are publicly noticed and …"
26	Clarification	201	*Please clarify whether the text stating "Long-term emission reduction for rail, with a goal of zero-emissions rail system" is intended to reflect a zero-emissions freight rail system, or whether this goal also applies to passenger rail.*
27	Clarification	202, 203- Table 7.1	Unfunded operational improvements, of which several are listed on page 203, Table 7.1, include transit station improvements in Irvine, Fullerton, and Santa Ana, bus rapid transit (BRT) in Orange County, and high speed rail (HSR) Phase II. *Please confirm that these are consistent with the OC SCS.*
28	Clarification	207	Strategic Finance *Please explain what will happen if reasonably foreseeable revenue sources of approximately $200 million do not become available?*
29	Add to glossary	205	"Active transportation"

GROWTH FORECAST APPENDIX

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Updated growth forecast numbers	23, Table 13	In December 2011, Orange County provided SCAG with the revised growth forecast dataset, OCP-2010 Modified, per the OC SCS MOU (official OCCOG Board action 1/26/2012).

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
			Please incorporate revised Orange County numbers (i.e. OCP-2010 Modified) into all reports, tables, exhibits, alternatives, maps, and modeling runs for final RTP.

PERFORMANCE MEASURES APPENDIX

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Clarification	1	The document states, "The performance measures are used to evaluate how well the RTP/SCS addresses the adopted goals and performance outcomes." *Is there any formal role for the performance measures?* ARB will evaluate for SB 375 compliance not based on these measures but based on ARB process. *Please include language clarifying that this is a requirement to demonstrate compliance with federal requirements and not for the obligations under SB 375.*
2	Clarification	1, end of first paragraph	Add statement: "Performance measures and expected outcomes will be used to monitor the RTP/SCS at the regional level; these measures and outcomes are not proposed for use at the subregional or project-specific level."
3	Clarification	1, column 2	The document states, "The Regional Council will formally adopt the goals and outcomes as part of the final 2012 RTP/SCS." *Does this bring any formal obligation to meet goals? Goals are general, flexible, and aspirational rather than specific, as on p.1.*

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
4	Clarification	13, Table 8	The RTP/SCS claims an extra 2% CO2e emissions reduction in 2035 from the NHTS post-processing analysis. While the RTP/SCS meets the ARB SB375 goal without the extra 2%, we would like to note that the extra 2% could be important if the attorney general raises concerns about backsliding. Consequently, the reliability of the extra 2% reduction should be checked. Questions on the NHTS model are below. It would be useful to know the answers to better judge the quality, although we do note that the report does look like it meets the standards or best practice.
5	Clarification	9	NHTS Model Documentation Report *Are the auto and bus accessibility variables included in the regression models for 30-mile rings?* *In "Number of trips" model – is number of cars, included as an independent variable, the actual or predicted value?* *The same question applies to other models.*
6	Clarification	23, Table 10	NHTS Model Documentation Report *Were the elasticities for the SCAG NHTS study calculated at sample means, or for each observation and then averaged for the sample?*
7	Clarification	24, Test 3	NHTS Model Documentation Report (Compare Trip-Based and NHTS Model): The final test was to compare the results of the Trip-Based Model and the NHTS Model for the same scenarios. *Please describe the scenarios tested.*

TRANSPORTATION FINANCE APPENDIX

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Clarification	General	*What are the implications if revenues other than core revenues do not become available?* *Please describe any implications to the ability of the region to meet SB 375 GHG emission reduction targets or the federally required air quality*

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
			conformity?

SCS BACKGROUND DOCUMENTATION APPENDIX

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Please define	53, right column	Housing Options and Mix: Define Larger-lot single family in text
2	Clarification	71-74, 80-83	Alternatives naming: A, B, C Names of Alternatives differ than those listed in the PEIR on pages ES-3 and 1-4. *Please be consistent with naming protocol for alternatives between two/all documents.*
3	Revise language to clarify	71, right column	"Plan Alternative (B) … The alternative maintains city-level forecast control totals for both households and jobs, however, within city boundaries shifts are made to focus a much larger share of future growth in a more compact way around HQTAs, except in Gateway and Orange County COG subregions per their SCS delegation agreements. Future housing market demand is expected to shift significantly to small lot single-family, townhomes and multi-family ~~hosuing~~ housing."
4	Please define	71, right column	Plan Alternative (B) Define small lot single family in text
5	Revise language to clarify	71, right column	Plan Alternative (C) "As a result very suburban communities may experience no new housing or employment growth, while some urban areas with very good access to regional transit may experience significant increases in housing or employment growth."
6	Revise language to clarify	72, left column	"While each alternative is distinctive, a number of parameters remained constant across each alternative: the regional RTP/SCS forecast total for population, households and jobs;…" "Detailed forecast: the detailed distribution of population, households, and jobs across the region…"

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
7	Revise language to clarify	72, Table D1	Alternatives A & B: "Controlled to TAZ-based RTP/SCS Forecast for 2020; Controlled to city-level RTP/SCS Forecast for 2020-2035, except in Gateway and Orange County COG subregions per their SCS delegation agreements." Add statement to table notes: Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.
8	Revise language to clarify	74, Table D2	Alternatives A & B: Add statement: Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.
9	Clarification	75, right column	"Development Types The alternatives are built on, and provides data at, the level of the TAZ, which includes housing units and employment." *Please clarify if TAZ is Tier 1, Tier 2, or both.*
10	Revise language to clarify	79, right column	"Subregional SCSs submitted by the Gateway Cities Council of Governments (GCCOG) and the Orange County Council of Governments (OCCOG) will be ~~respected~~ unchanged and integrated into the alternatives (with possible revisions for Alternative C only)."
11	Clarification	79	The section includes the following language: "Subregional SCSs submitted by the Gateway Cities Council of Governments (GCCOG) and the Orange County Council of Governments (OCCOG) will be respected and integrated into the alternatives (with possible revisions for Alternative C only)." *Please clearly indicate what the "possible revisions" are and what process would be used to coordinate with Orange County should changes to the socioeconomic data contained in the OC SCS be proposed?*
12	Revise language to clarify	80	Alternative A Add statement: Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
13	Revise language to clarify	81	Alternative B It is not clear whether Alternative B is the SCS land use plan. If it is, statements in the appendix lead one to believe the OC SCS foundation has been altered. For example, adjustments made to land uses to locate proximate to High Quality Transportation Areas (HQTA) and intensification of residential and employment development in HQTA that diverge from local General Plans as well as implementation of a vehicle user fee are not part of the OC SCS. *Is Alternative B the SCS land use plan?* *Add statement:* Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.
14	Clarification	115, left column	Transit Zoning Code Santa Ana 2011 *Is this a duplicate of the 2010 Santa Ana project?*

PEIR

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
1	Revise language to clarify	ES-2	ES contains matrix of mitigation measures which reference project sponsors, local agency, and project implementation agency without definitions. Add definitions into ES at end of ES.1: In general, the terms "local agency," "project sponsor" and "project implementing agency" are used throughout this PEIR to identify agencies, organizations, companies and individuals that will act as lead agencies or project applicants for different types of individual projects. Individual projects that are anticipated to occur pursuant to the 2012-2035 RTP/SCS consist of planning projects (general plans, specific plans, climate action plans, etc.), development projects (including Transit Priority Projects (TPPs) and other similar projects), and transportation projects. In general, "local agency" is used to refer to a public agency that would propose a planning project or a public infrastructure project and/or an agency that would be lead agency for individual projects. "Project sponsor" is typically used to refer to an applicant (that could be public or private, an organization or an individual) that proposes a project. "Project implementing agency" is used to refer to an agency responsible for implementing a project. In this document, project-implementing agencies are those that are responsible for carrying out (reviewing, approving, constructing) transportation projects.
2	Clarification	ES-3, 1-4, Chapter 4	Alternatives' Naming: No Project Alternative, Modified 2008 RTP Alternative, Envision 2 Alternative; Alternatives 1, 2, 3 Names of Alternatives differ than those listed in the SCS Background Documentation appendix on pages 71-74 and 80-83. *Please be consistent with naming protocol for alternatives between all documents.*
3	Fix numbering	ES-31	Duplicate naming of GHG11 and GHG12
4	Please define	ES-42	LU63- What are the smart growth principles?

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
5	Please define	ES-42	LU64- What are the benchmarks for smart growth?
6	Fix numbering	ES-51	PS17 & PS18 are missing
7	Fix numbering	ES-53	Duplicate naming of PS36 & PS37
8	Please define	ES-67	TR 34- what are the identified transportation benchmarks?
9	Please define	ES-83, 3.13-42 MM-W43	Define climate change hydrology
10	Please define	ES-40, 3.8-21 MM-LU42	Define urban growth boundary
11	Please define	ES-57, 3.11-49 MM-PS68 & ES-74, 3.12-43 MM-TR96	Define parking cash out program/ cashouts
12	Clarification	1-5	*Besides IGR, what other monitoring efforts is SCAG in charge of? (that would require lead agencies to provide SCAG with documentation of compliance with mitigation measures)*
13	Language correction	1-6, paragraph 3	Language correction: "The ~~latter~~ **former** finding…"
14	Language correction	2-5	Sustainability section should be separated. Language correction: **Sustainability.** The 2012-2035 RTP/SCS is subject to specific requirements for environmental performance. **New paragraph:** "Beyond simply meeting these requirements, a …"
15	Language correction	2-5, Table 2-2	"Align the plan investments and policies ~~with~~ **while** improving…"
16	Please define	2-14	Define "scrip"

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
17	Narrative	2-21	AB 32 is global warming solutions act. SB 375 was determined to be stand-alone legislation. RTP document is not forum to address global climate change and references distract from RTP goal and purpose. "Global warming" and "global climate change" are not interchangeable phrases. References should be removed or, where appropriate, language should be changed to "global warming". ~~Goods movement is also a major source of GHG emissions that contribute to global climate change.~~
18	Clarification	2-27 paragraph 4	Not in SCAG's authority, nor funding available. Delete sentence: ~~SCAG will work with local jurisdictions and community stakeholders to seek resources and provide assistance to address any possible gentrification effects of new development on existing communities and vulnerable populations.~~
19	Clarification	2-27 paragraph 5	"The 2012-2035 RTP/SCS land use development pattern accommodates over 50 percent of new housing and employment growth in HQTAs, while keeping jurisdictional totals consistent with local input." *Please confirm that there are no changes to the local land use inputs provided by Orange County.*

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
20	Clarification	2-29	"For purposes of SCAG's SCS, a Development Type reflects an estimated average density of 22 residential units per acre. However, it is important to note that the designation is a potential ultimate average for the TAZ—and is not an absolute project-specific requirement that must be met in order to determine consistency with the SCS. In other words, the SCS was not developed with the intent that each project to be located within any given TAZ must exactly equal the density and relative use designations that are indicated by the SCS Development Type in order for the project to be found consistent with the SCS's use designation, density, building intensity and applicable policies. Instead, any given project, having satisfied all of the statutory requirements of either a residential/mixed-use project or TPP, may be deemed by the lead agency to be consistent with the SCS so long as the project does not prevent achieving the estimated average use designations, densities and building intensities indicated by the Development Type within the TAZ, assuming that the TAZ will be built-out under reasonable local planning and zoning assumptions." *Does the above PEIR language create a requirement for average TAZ density levels in 2035 and a requirement that each local project not preclude those density levels?* *Additionally, please clarify whether in HQTAs, these densities could be exceeded as well as implications of an area that is already fully developed not redeveloping such that it ever achieves the identified densities.*
21	Please define	3.8-5 paragraph 3,	Define "open space"

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
22	Revise language to clarify	4-39	Envision 2 alternative contains growth projections that would place housing in flight paths, locate housing on sites for which housing is not allowed due to environmental contamination, would significantly impact existing industrial operations necessary to maintain quality jobs in the region, and does not include development projects that are legally allowed due to having existing entitlement for development. Because this alternative does not consider the existing health and safety of future residents nor the existing legal approvals of development in the region, it is not possible to determine if the alternative is actually superior to other alternatives. It is simply another alternative for consideration. *Please remove references to the Envision 2 (or any other name of this alternative) as being environmentally superior.* ~~ENVIRONMENTALLY SUPERIOR~~ ENVISION 2 ALTERNATIVE
23	Revise language to clarify	4-40	"Of the three alternatives, the Envision 2 Alternative would be considered by State CEQA guidelines as the environmentally superior alternative because it does not allow further use of land for single-family development..."

CITY OF LAKE FOREST

Mayor
Kathryn McCullough

Mayor Pro Tem
Scott Voigts

Council Members
Peter Herzog
Marcia Rudolph
Mark Tettemer

City Manager
Robert C. Dunek

February 14, 2012

Jacob Lieb
SCAG
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

Via U.S. Mail and Email to: 2012PEIR@scag.ca.gov

Subject: Comments on the Draft PEIR for the 2012-2035 RTP/SCS

Dear Mr. Leib:

Thank you for the opportunity to comment on the Draft Program EIR for the 2012-2035 RTP/SCS. City of Lake Forest Staff has been involved with the review of the documents as facilitated by the Orange County Council of Governments (OCCOG) Technical Advisory Committee (TAC) and would like to express our sincere support and agreement with the comments submitted by the OCCOG Board. In addition to the comments of the OCCOG, the following comments are offered on the Draft 2012-2035 Regional Transportation Plan and Sustainable Communities Strategy (draft RTP/SCS) and the associated Appendices and draft Program Environmental Impact Report (draft PEIR).

General Comments

- Concern with the timeline. We recognize the immense efforts it took to prepare these documents. They are incredibly complex documents establishing important and far-reaching policy for the region. However, because of this importance and complexity, we would like to express concern about the timing of the release of the documents. The timeline of document release, public comment period, and time allowed for the response to comments results in an inability to have credible discussion regarding possible changes because the timeline does not allow for recirculation or full discussion of requested changes. The documents were released over the holiday season and included the release of draft PEIR document on December 30, 2011. The minimum 45-day public comment period closes on February 14, 2012. Only a few weeks are provided to prepare responses to comments and amend the documents to ensure that the Regional Council may consider the certification of the PEIR and the approval of the draft RTP/SCS on April 4, 2012.

- Growth Forecasts. It is requested that the adoption of the growth forecast numbers by the Regional Council and/or Joint Policy Committee be at the county level, consistent with past RTPs. Planning documents need to be flexible. Smaller geographic levels, such as at the subregional, city, census tract, TAZ, parcel, or grid cell would limit jurisdictional control over land use.

- Growth Forecasts. The OCCOG Board approved the update to the OCP-2010 dataset used in the OC SCS. OCP-2010 Modified was officially approved by the OCCOG Board on January 26, 2012 and is a data amendment to the OC SCS. The dataset includes the 2010 Census population and housing data, along with the 2010 EDD Benchmark data, consistent with SCAG's updated growth forecast dataset. The dataset was provided to SCAG staff in December 2011 and this is the formal notice of the update which should be incorporated into the 2012 RTP/SCS, PEIR, and related documents. To be consistent with the MOU on subregional delegation between OCTA, OCCOG, and SCAG, all documents, tables, maps, narratives, modeling runs, PEIR alternatives (including Alternate C/3/Envision 2), and datasets should be updated with the OCP-2010 Modified numbers.

- Intended Use of the PEIR. The applicability of the PEIR and its 550 mitigation measures to projects throughout the region should be clarified. Specifically, additional language is needed to reflect that lead agencies will determine the feasibility and applicability of measures to specific projects under local jurisdiction.

- PEIR Mitigation Measures. SCAG Staff has indicated that the mitigation measures in the PEIR are intended to represent a menu of options for implementation with projects, as determined appropriate and feasible. However, the concept of a menu of options is not clear in the PEIR. We request added language to clarify the applicability of the mitigation measures to projects undertaken or approved by local government.

- PEIR Mitigation Measures. Hundreds of mitigation measures in the PEIR use the language "can and should". For example – "Local jurisdictions can and should meet recognized 'smart growth' benchmarks." We are concerned that the word "can" indicates that the measure has already been determined to be feasible. Additionally, we are concerned that this language does not support the use of the mitigation measures as a menu of options for local use. We recommend that the words "can and" be removed in all instances, leaving the language "should" as clearly optional.

- PEIR Mitigation Measures. Many mitigation measures have been identified which appear to expand SCAG's purview. Specifically, the OCCOG Board's letter identifies in its attachments proposed mitigation measures which extend to a broad spectrum of technical and policy areas. We echo the concerns of the OCCOG Board and affirm that mitigation measures should not be used to establish policy for the region.

Should you have any questions regarding this letter, please contact Cheryl Kuta, Planning Manager at (949) 461-3479 or via email at ckuta@lakeforestca.gov.

Sincerely,
CITY OF LAKE FOREST

Gayle Ackerman

Gayle Ackerman, AICP
Director of Development Services

cc Mayor and City Council
Robert C. Dunek, City Manager
Dave Simpson, OCCOG Executive Director

CITY OF LOS ANGELES
CALIFORNIA

Jaime de la Vega
GENERAL MANAGER

DEPARTMENT OF TRANSPORTATION
100 S. Main St., 10th Floor
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(213) 972-8470
FAX (213) 972-8410

ANTONIO R. VILLARAIGOSA
MAYOR

February 14, 2012

Hasan Ikhrata, Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017

Re: Draft 2012 Regional Transportation Plan / Sustainable Communities Strategy

Dear Mr. Ikhrata:

The City of Los Angeles appreciates the opportunity to review and comment on the Southern California Association of Governments' (SCAG) Draft 2012 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS). SCAG is to be commended for an unprecedented multi-year effort to develop the 2012 RTP/SCS, which included extensive outreach. In particular, the City appreciates the exceptional effort on the part of SCAG staff to prepare the first Sustainable Communities Strategy, as required by SB 375.

After careful review of the draft RTP/SCS, the departments of Transportation, Airports and City Planning have provided comments that clarify the City's position regarding, and request modifications to, certain areas of the RTP/SCS. Accordingly, the Los Angeles Department of Transportation (LADOT) prepared the attached report to the City Council that includes comments on the draft 2012 RTP/SCS by all three City departments. The Los Angeles City Council, on February 10, 2012, adopted the attached report as the City's comments on the Draft 2012 RTP/SCS.

Included in the City's comments is a list of projects that the City requests be added to the Strategic Plan of the RTP/SCS. Moreover, as indicated in the attached report, the City requests that the City's adopted Bicycle Plan and Mobility Hubs initiative be included in the Strategic Plan, if not already included in the Constrained Plan.

We look forward to working with SCAG staff to substantially incorporate into the RTP/SCS those elements of the City's comments that are directed to the content of the

2012 RTP/SCS. After review of the attached comments, please contact Tom Carranza or Miles Mitchell of my staff for further discussions regarding LADOT's comments, and Ken Bernstein or Naomi Guth regarding comments from the Department of City Planning. We look forward to a continued mutually beneficial collaboration between the City and SCAG as we address future regional challenges and opportunities.

Sincerely,

Jaime de la Vega
General Manager

JTV:mm

Attachment

c: Borja Leon, Deputy Mayor Transportation
Matthew Karatz, Deputy Mayor Economic & Business Policy
Gerry Miller, Chief Legislative Analyst
Michael LoGrande, City Planning Department
Michael Feldman, Los Angeles World Airports

FORM GEN. 160 (Rev. 6-80)

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

Date: February 6, 2012 (Revised Report)

To: The Honorable City Council, City of Los Angeles
c/o City Clerk, Room 395
Attention: Honorable Bill Rosendahl, Chair, Transportation Committee
Attention: Honorable Ed Reyes, Chair, PLUM Committee

From: Jaime de la Vega, General Manager
Department of Transportation

Subject: **Draft 2012 Regional Transportation Plan / Sustainable Communities Strategy (CF 11-1223)**

Summary

This report recommends that the Council authorize the Los Angeles Department of Transportation (LADOT) to submit additional comments on behalf of the City of Los Angeles to the Southern California Association of Governments (SCAG) on the draft 2012 Regional Transportation Plan /Sustainable Communities Strategy (RTP/SCS).

Recommendations

1) APROVE the comments provided in this report as the City of Los Angeles' comments related to transportation in the SCAG draft 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

2) DIRECT LADOT to transmit comments to SCAG that are substantially consistent with those contained in this report, including the attached comments from other departments.

3) DIRECT LADOT to work with SCAG to incorporate the comments into the final RTP/SCS and related Program Environmental Impact Report (PEIR).

Background

Every four years the Southern California Association of Governments (SCAG) prepares a Regional Transportation Plan (RTP) for the six-county region. The 2012 RTP/SCS includes planned transportation projects and demographic assumptions through the year 2035. The plan presents a strategy for the investment of $524.7 billion in the region's transportation system between 2012 and 2035 and, for the first time, a Sustainable Communities Strategy (SCS) for the six-county region.

The SCS, required by SB 375, focuses on reducing greenhouse gas emissions (GHGe)

from cars and light trucks by means of several strategies, including integration of land use and transportation planning, transit system expansion, and transportation demand management (TDM). The California Air Resources Board (CARB) established regional GHGe reduction goals of eight percent per capita by 2020 and thirteen percent per capita by 2035, compared with 2005 levels. SCAG's analysis indicates that the draft RTP/SCS would achieve the 2020 target, and would exceed the 2035 target with a GHGe reduction of sixteen percent.

According to SCAG's analysis and modeling, the draft RTP/SCS also meets the federal conformity requirements for air quality. It is important to note that reducing GHGe is not required for achieving air quality conformity. Therefore, although many of the strategies that achieve air quality conformity also assist with GHGe reductions, the two analyses are generally independent of each other.

A Regional Transportation Plan (RTP) also requires that there be reasonably available funding sources. The RTP proposes expenditures of $524.7 billion, and SCAG states that without new revenue sources the RTP faces a funding shortfall of approximately $219.5 billion. Various means to make up the shortfall are set forth. The RTP suggests that $127.5 billion of the shortfall could be addressed by action at the State or Federal level to increase the gas tax $0.15 per gallon between 2017 and 2024. The RTP states the State and Federal government could then replace the gas tax with an indexed mileage-user fee of $0.05 per mile beginning in 2025. If the mileage-based fee was not implemented, then there would be a need to further increase the gas tax to generate the revenues that would have been created by the mileage-based user fee. Although these proposals depend primarily on State and/or Federal action, they deserve further discussion within the City as the implementation year of 2017 approaches.

SCAG is to be commended for a multi-year effort to develop the 2012 RTP/SCS, including an unprecedented outreach effort. In particular, the passage of SB 375 required an extensive public education campaign including outreach to cities, environmental, public health and business groups. SCAG conducted a series of periodic workshops across the region, which included preparation of in-depth graphic and narrative presentation materials. The City appreciates the outstanding outreach effort, both to the City itself and across the region.

Pursuant to the Council action of October 5, 2011, and in accordance with past practice, LADOT has reviewed the draft 2012 RTP/SCS and compiled proposed comments to SCAG. In addition, LADOT has coordinated the preparation of these comments on the RTP/SCS with other City departments that are most impacted by the RTP. LADOT very much appreciates the cooperation of the departments of Los Angeles World Airports (LAWA) and City Planning each of which have provided comments. The Port of LA has indicated that it does not have formal comments at this time. The Metro staff report on the RTP/SCS is attached as Attachment B.

Report to City Council, dated September 21, 2011
On October 5, 2011, the City Council adopted a joint report (Attachment A) by the Departments of City Planning and Transportation entitled "Alternatives Proposed by SCAG for the 2012 Regional Transportation Plan / Sustainable Communities Strategy" (CF 11-1223). This report, dated September 21, 2011, provided comments on four draft scenarios for the RTP/SCS, released by SCAG in July 2011. Specifically, Attachment A of the report identified proposed RTP/SCS strategies that City staff believed would, if adopted, have a potential impact on the City. For purposes of the report, "impact" was defined as a significant change from adopted City policy. Staff believes that the report, dated September 21, 2011, continues to reflect City policy with regard to many of the strategies presently included in the draft RTP/SCS.

One of the objectives of the report was for the City's comments to be incorporated into the RTP/SCS. We are pleased to report that to a large extent the City's comments appear to have been acknowledged by SCAG and therefore the RTP/SCS does not include several of the specific proposals of concern. Specifically, three of the concerns raised, and the status of the strategy in the draft RTP/SCS, are as follows:

1) Phased implementation of 5% of major arterials to have dedicated bus lanes. As requested by the City, the RTP does not include a specific percentage for implementation. As explained in the September 21st report, the City supports careful and selected implementation of bus lanes, but does not want to commit to implementing a specific percentage of bus lanes on City arterials.

2) 10% of primary and secondary arterials to include bike facilities. As requested by the City, the RTP does not include a specific percentage for implementation. As explained in the September 21st report, the City supports careful and selected implementation of bike lanes, but does not want to commit to implementing a specific percentage of bike lanes on City arterials. Rather, the City supports the specific implementation of its adopted Bicycle Plan.

3) Cordon pricing around key activity centers – initial pilot projects in downtown Los Angeles and potentially LAX complex. As requested by the City, this project has been included in the Strategic Plan portion of the RTP/SCS, which acknowledges that the project still requires further study and has not been officially approved by the City.

Discussion of Policy Concerns and Comments

Although most of the concerns raised in the September 21, 2011 report appear to have been addressed, LADOT has identified additional areas of concern with regard to the draft 2012 RTP/SCS, which was released for public comment on December 20, 2011.

LADOT has comments and concerns in the following areas:

Project List for RTP/SCS

The RTP includes an extensive project list. As stated in the Project List appendix, the list is divided into three sections, as follows: 1) The Federal Transportation Improvement Program (FTIP), which forms the foundation of the RTP project investment strategy and represents the first six years of already committed funding; 2) the Financially Constrained list of projects not included in the FTIP but which have "reasonably available" funding; and 3) the Strategic Plan representing an unconstrained list of potential projects that the region would pursue given additional funding and commitment.

As with past RTP cycles, LADOT has reviewed all three project lists. The FTIP and Constrained project lists appear to include, with one exception, all City of Los Angeles projects with either committed or reasonably available funding. These lists are developed through ongoing coordination between City, Metro and SCAG staff. The one project that should be added to the FTIP list is a Transit Bureau project as follows:

> TIP ID LAF5427 – DASH Clean Fuel - Five Higher Capacity Vehicles (Purchase five 35-foot CNG clean-fuel buses to replace five 30-foot propane vehicles). SCAG is aware that this project needs to be added to the FTIP project list, and it is pending to be added to the list.

Regarding the Strategic Plan list, in an effort to expedite many as yet unfunded City projects, LADOT has prepared the attached list (Attachment E) of approximately ninety projects that the City is requesting to be added to the Strategic Plan.

Additionally, LADOT wishes to draw attention to both the Los Angeles Bicycle Plan and Mobility Hubs initiatives (a First Mile/Last Mile strategy). These efforts support both the Active Transportation and Transportation Demand Management strategies of the RTP. The RTP includes numerous references to expanded bicycle facilities and other First Mile/Last Mile strategies, and therefore these strategies are presumably included with likely funding in the Financially Constrained plan. However, to the extent these initiatives are not included in the Constrained plan they should be added to the Strategic Plan.

Importantly, Metro staff has also reviewed the RTP and found that it includes all the projects and programs in the Metro 2009 Long Range Transportation Plan (LRTP). A copy of the Metro staff report, dated January 18, 2012, is attached for reference. The RTP does not model the 30/10 (Fast Forward) proposal for Measure R projects, because the proposal has not yet been approved by the Metro Board, and still requires federal approvals. However, SCAG is supportive of the 30/10 proposal and will likely amend the RTP if the proposal secures additional approvals.

The Metro report also highlights key projects, within Los Angeles County, included in the RTP which are not included in Metro's 2009 LRTP. These key projects include:

- East-West Freight Corridor will be studied along a five mile band generally following the SR-60 corridor between the I-710 and the I-15.

- Phase I of the California High Speed Rail Authority (CHSRA) is in the draft 2012 RTP in the Constrained Plan, pending an agreement between the CHSRA and Metrolink to identify funds to bring local systems up to higher speeds (110+ mph) where possible.

- A regional Express/HOT Lane Network that expands Metro's Fast Lanes pilot project to include the I-405 and SR-91. This goes beyond the federally funded pilot studies on the I-10 and I-110 freeways.

As an overall comment, the City wishes to emphasize that, for future RTP/SCS project lists, the City, Metro and SCAG need to continue the effort to improve connectivity between various transit systems. For example, in South Los Angeles County, there needs to be greater emphasis placed on the development of feeder systems to connect and support the Blue, Green, Expo and Crenshaw lines. These systems would include, but not be limited to, expanded Bus Rapid Transit and improved bicycle and pedestrian linkages.

Recommendation:

As described above, the City should request that SCAG include the attached list of projects to the Strategic Plan. Additionally, to the extent the Los Angeles Bicycle Plan and Mobility Hubs are not included in the Constrained Plan, they should be added to the Strategic Plan.

CEQA Streamlining

The adopted September 21, 2011 City report, prepared by the Planning and Transportation departments, included the following comments:

> "The Sustainable Communities Strategy will include land use maps which will facilitate CEQA streamlining of development projects. According to SCAG staff, the CEQA relief provided by SB 375 is substantial. Therefore, the City should carefully review the draft SCS land use maps to ensure the maps are consistent with adopted City land use plans.
>
> SB 375 allows for CEQA streamlining provided a proposed project qualifies as follows:
>
> 1) The project must be consistent with the land use designation contained in

the land use maps included in the Sustainable Communities Strategy. The maps will describe land use densities and types according to SCAG's Land Development Categories (LDC's).

2) The project qualifies as a Transit Priority Project (TPP), as defined by SB 375. To qualify as a TPP, a project must meet certain minimum density requirements and must be located within ½ mile of either a "major transit stop or high-quality transit corridor" (SB 375 - Section 21155). According to SCAG staff, most of the City qualifies as a TPP area because of existing transit stations and corridors.

CEQA streamlining, according to information provided by SCAG, will allow many projects meeting the above two criteria to receive the equivalent of a "mitigated negative declaration" in the development review process. This could impact development review by several departments, including Planning and Transportation.

The City requests that SCAG provide copies of the draft SCS land use maps for review by the Planning and Transportation departments, and the Council and Mayor, prior to SCS adoption."

Because the SCS will emphasize increased development within ½ mile of either a "major transit stop or high-quality transit corridor" there may be an increased need for transportation infrastructure in these areas. LADOT is concerned that CEQA streamlining could allow development to occur with impacts on transportation infrastructure.

Recommendation:

LADOT staff has consulted with staff of DCP and the City Attorney regarding the impact of CEQA streamlining on the City's development review process. Input received from these sources indicates that although CEQA streamlining of various types will occur following adoption of the RTP/SCS, the City may retain some degree of "discretionary approval" authority over development projects that are subject to CEQA streamlining. LADOT believes that this area deserves further study. This is a complex and important subject, and the City should carefully evaluate and prepare for the impact of CEQA streamlining following adoption of the RTP/SCS.

Comments from Other City Departments

Los Angeles World Airports (LAWA):

- LAWA emphasizes that its first priority is to "maintain safe and efficient airports." Like most airports, LAWA receives grant funds from the FAA for eligible

construction and noise mitigation projects. In return for federal grant monies, the FAA includes grant assurances that limit use of airport revenue solely for aviation-related uses on airport property.

- The RTP includes a proposal to promote a regional system of airport express buses, modeled in part on the FlyAway service currently operating at LAX. Although express buses are a "promising solution" to certain ground access problems, LAWA advises that express buses are most effective at airports with high passenger demand and in cities with concentrated populations of passengers and employees. Even then, high fares or significant subsidies have been required to maintain an effective level of service. LAWA cautions that its experience and studies have shown that the expansion of the express bus system at LAX will be challenging. Moreover, the expansion of express bus service, by itself, may not be effective in increasing passenger demand at "secondary" airports.
- LAWA agrees that "the aviation constraints in the region, and potential dispersion of that activity at other airports, should be re-examined in subsequent regional plans."
- LAWA requests that, if possible, SCAG utilize the 2011 Air Passenger Survey, most likely to be released in February, to update various data points in the Aviation and Airport Ground Access appendix.
- LAWA's comments are provided in Attachment C.

Department of City Planning (DCP):
The Department of City Planning has provided important comments which are highly technical and lengthy, hence they are attached to this report as Attachment D.

Conclusion

The draft 2012 RTP/SCS and PEIR, released by SCAG on December 20, 2011, represent an outstanding effort to meet both State and Federal planning requirements, as well as provide for the multifaceted needs of the region. As described in this report, including comments from other departments, City staff has provided comments in the areas of transportation and land use. City staff has provided recommended comments to SCAG for City Council and Mayor review regarding these proposals.

Fiscal Impact

This report contains comments regarding proposed policies and projects included in the draft 2012 RTP/SCS and related PEIR. The comments to be transmitted to SCAG will not impact the City's General Fund.

Attachments

A) Council Approval, dated October 5, 2011, of report entitled "Alternatives Proposed by SCAG for the 2012 Regional Transportation Plan / Sustainable Communities Strategy (CF 11-1223)," dated September 21, 2011.

B) Metro staff report, dated January 18, 2012, regarding the draft RTP/SCS

C) Los Angeles World Airports comments, dated January 20, 2012, regarding the draft RTP/SCS

D) Department of City Planning comments, dated January 30, 2012.

E) City of Los Angeles Projects Requested for Addition to the Strategic Plan

c: Mayor Antonio Villaraigosa
Attn: Borja Leon and Matthew Karatz
Gerry Miller, Chief Legislative Analyst
City Planning Department
Los Angeles World Airports
Port of Los Angeles

Attachment A

CITY OF LOS ANGELES
CALIFORNIA

JUNE LAGMAY
City Clerk

HOLLY L. WOLCOTT
Executive Officer

When making inquiries relative to this matter, please refer to the Council File No.

ANTONIO R. VILLARAIGOSA
MAYOR

Office of the
CITY CLERK

Council and Public Services
Room 395, City Hall
Los Angeles, CA 90012
General Information - (213) 978-1133
Fax: (213) 978-1040

www.cityclerk.lacity.org

October 7, 2011

To All Interested Parties:

The City Council adopted the action(s), as attached, under Council File No. 11-1223, at its meeting held October 5, 2011.

June Lagmay

City Clerk
srb

10/5/11

#23

File No. 11-1223

TO THE COUNCIL OF THE
CITY OF LOS ANGELES

Your PLANNING AND LAND USE MANAGEMENT COMMITTEE
and
TRANSPORTATION COMMITTEE

report as follows:

PLANNING AND LAND USE MANAGEMENT and TRANSPORTATION COMMITTEES' REPORT relative to Southern California Association of Governments (SCAG) proposed alternatives for the 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

Recommendations for Council action:

1. AUTHORIZE the Los Angeles Department of Transportation (LADOT) and City Planning Department (Planning) to:

    a. Submit to SCAG the comments contained in Attachment A of the joint LADOT and Planning report dated September 21, 2011 (contained in the Council file), inasmuch as the strategies identified therein may have a potential impact on the City.

    b. Convey the comments to SCAG requesting that they be incorporated into the 2012 RTP/SCS with the understanding that the comments may be modified and supplemented by the City, with Council and Mayor approval, as the RTP/SCS is further developed.

2. REQUEST SCAG to provide copies of the draft SCS land use maps for review by the LADOT and Planning, Council, and Mayor prior to SCS adoption, inasmuch as the maps will identify geographical areas of the City where projects can be eligible for California Environmental Quality Act streamlining and thereby potentially allow development projects to receive mitigated negative declarations in the development review process and thereby impact growth in the City.

Fiscal Impact Statement: The LADOT and Planning Departments report the potential fiscal impact to the City has not been determined. Further review and evaluation is necessary as more information on the ultimate preferred alternative is presented by SCAG.

Community Impact Statement: None submitted.

SUMMARY

At a joint meeting held on September 27, 2011, the Planning and Land Use Management and Transportation Committees considered a joint LADOT and Planning Departments report relative to Southern California Association of Governments proposed alternatives for the 2012 Regional Transportation Plan/Sustainable Communities Strategy. Representatives from the LADOT and Planning gave the Committees background information on the matter. The Committees requested SCAG to provide copies of the draft SCS land use maps for review by the LADOT and Planning Departments, Council and Mayor prior to SCS adoption.

After an opportunity for public comment was held, the Committees recommended Council approve the recommendations contained in the joint report as amended. This matter is now forwarded to the Council for its consideration.

Respectfully submitted,

PLANNING AND LAND USE MANAGEMENT COMMITTEE

TRANSPORTATION COMMITTEE

ADOPTED

OCT 5 2011

LOS ANGELES CITY COUNCIL

MEMBER	VOTE
REYES:	YES
HUIZAR:	YES
KREKORIAN:	YES

MEMBER	VOTE
ROSENDAHL:	YES
PARKS:	YES
KORETZ:	YES
PERRY:	ABSENT
HUIZAR:	YES

SG
9/27/11
#11/11-1223_rpt_plum_9-27-11.doc

Not Official Until Council Acts

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

213.922.2000 Tel
metro.net

Metro

REVISED
PLANNING AND PROGRAMMING COMMITTEE
JANUARY 18, 2012

SUBJECT: SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS' DRAFT 2012 REGIONAL TRANSPORTATION PLAN / SUSTAINABLE COMMUNITIES STRATEGY

ACTION: APPROVE COMMENT LETTER

RECOMMENDATION

Approve our comment letter on the Southern California Association of Governments' (SCAG) Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

ISSUE

In December 2011, SCAG released the Draft 2012 RTP/SCS for public comment. The RTP/SCS identifies regional transportation priorities for the six-county region through 2035. All 2009 Long Range Transportation Plan (LRTP) projects and priorities must be included in SCAG's RTP/SCS to be eligible for federal funds. We have reviewed the Draft 2012 RTP/SCS and Board authorization is being requested to transmit our comments to SCAG in time for their February 14, 2012 deadline.

DISCUSSION

As part of SCAG's role as a regional planning agency, they are responsible for addressing regional issues in the six-county area of Southern California. The 2012 RTP/SCS is the vehicle to provide solutions to regional mobility and land-use issues. For better integration of land-use and transportation, it must also demonstrate reduction of Greenhouse Gas Emissions (GHGe) from passenger vehicles. Per the requirements of SB 375, the Draft 2012 RTP/SCS includes Southern California's first SCS. The SCS is required to analyze how the collective impact of transportation policies, transportation investments and land-use policies affect the GHGe based on population projections in 2020 and 2035. Transportation issues are primarily addressed in the RTP portion of the Draft, and the SCS portion of the Draft presents strategies to meet GHGe targets.

SB 375 compelled SCAG to conduct a more extensive outreach process than has been historically required for RTP development. This process yielded unprecedented levels of public participation and engagement, particularly among environmental and public health advocates championing increased funding for active transportation to reduce GHGe and provide great opportunities for physical activity. The Los Angeles County Department of Public Health was a leading voice in this advocacy.

Regional Transportation Plan

In general, the Draft 2012 RTP/SCS is a well-written document that properly identifies many of the key transportation issues that the region is facing. It includes all of the projects and programs in our 2009 LRTP. SCAG has proposed new and innovative sources of funding beyond our LRTP program. These funds are for additional projects, regional maintenance of highway and transit facilities, and meeting Federal Clean Air Act conformity requirements.

There are new transportation projects proposed in the Draft 2012 RTP/SCS, within Los Angeles County, which are beyond revenues that the 2009 LRTP assumes to be available from traditional sources. Some of these projects are listed in the Key Projects subsection below. SCAG is assuming that these new projects are funded with a combination of innovative funding (e.g., container fees and public private partnerships) and increased revenues (e.g. gas tax changes and user-fee per mile).

The Draft 2012 RTP/SCS proposes targeted improvements in the transit network and increases in funding for Transportation Demand Management (TDM), Transportation System Management (TSM), and Active Transportation beyond the levels included in the six county transportation commissions' plans, including our 2009 LRTP.

Funding for these improvements is anticipated from a $0.15 per gallon increase in the gas tax starting in 2017 and ending entirely in 2024. After the gas tax phase-out in 2024, a proposed user-tax of $0.05 per mile driven, will be phased-in starting in 2025. The goal of the incremental phase-in is so that consumers will not have any large increases of taxes, yet also allow for an indexing to cover the increasing maintenance costs, due to the gas taxes not being indexed to inflation and not increasing with costs.

Key Projects beyond the LRTP

The following lists Los Angeles County projects identified in the Draft RTP that are not identified in the 2009 LRTP

- East-West Freight Corridor will be studied along a five mile band generally following the SR-60 corridor between the I-710 and the I-15.
- Phase I of the California High Speed Rail Authority (CHSRA) is in the Draft 2012 RTP/SCS in the Constrained Plan, pending an agreement between CHSRA,

Metrolink and LOSSAN to identify funds to bring local systems up to high speed (110+ MPH) where possible.

- A regional Express/HOT Lane Network that expands our Fast Lanes pilot project to include the I-405 and SR-91. This is beyond the federally funded pilot studies on I-10 and the I-110. The Board is on record supporting these two pilot projects, as well as studying the feasibility of a HOT lane on the I-405 from the Orange County Line to LAX.

Key Issues

There are several emerging issues that the Draft 2012 RTP/SCS addresses:

- A cordon pricing pilot project feasibility study to be developed with the City of Los Angeles that is included under TDM Measures, and Major Strategic Projects.
- Decreased funding available from federal and state sources and the need to identify new revenue sources is a key RTP concern. SCAG proposes to index the gas tax and to incrementally phase-in user-fees to replace the gas tax starting in 2025.
- The exponential cost of deferred maintenance on highway and transit systems, the need to maintain the regional system in a state of good repair, and the need for additional operations and maintenance funding, is also a key RTP concern.
- The region is anticipated to experience increasing energy costs – residential energy and water use is forecasted as $19,000 a year in 2035, and the strategies in the SCS reduce it to $16,000.

Sustainable Communities Strategy

The Draft 2012 RTP/SCS demonstrates that the region will achieve the GHGe reduction targets established for the region by the State of California Air Resources Board (ARB), as a requirement of California's Sustainable Communities and Climate Change Protection Act, or Senate Bill (SB) 375.

In addition to the transportation elements of the Draft 2012 RTP/SCS, the plan includes a land-use element that was developed in coordination with local jurisdictions. The land-use element responds to the region's changing demographics and housing market demand. It recommends a growth scenario that will more than double the share of households living in corridors that have frequent transit service by 2035. This land-use element is projected to increase the competitiveness of transit service and reduce vehicle miles travelled.

The land-use element in combination with transportation policies, such as the user tax per mile fee, and transportation investments (such as TDM, TSM and active

transportation), support the region in achieving the mandated ARB targets. The Draft 2012 RTP/SCS provides a projected 8% reduction in GHGe by 2020 and a 16% reduction in GHGe by 2035.

The SCS portion includes policies to increase the number of near-zero and zero emission vehicles operating within the region to reduce GHGe, improve air quality and lessen the region's dependency on fossil fuels.

The Draft 2012 RTP/SCS includes $6 billion for active transportation, a significant increase from $1.8 billion in the 2008 RTP. It acknowledges that additional analysis regarding active transportation needs to be conducted in order to develop a better understanding of the users and their needs (bicyclists and pedestrians). In cooperation with SCAG, we have initiated a joint study to develop a strategy to address first-last mile connections to transit in Los Angeles County.

The technical appendices to the Draft 2012 RTP were not available for staff review at the time of the writing of this Board report. Additional technical comments on these appendices may be added to the draft letter.

DETERMINATION OF SAFETY IMPACT

The comment letter on the Draft 2012 RTP/SCS will not have any adverse safety impacts for our employees and patrons.

FINANCIAL IMPACT

There is no impact on the FY 2012 budget, as we are only submitting a comment letter to SCAG on their Draft 2012 RTP/SCS.

ALTERNATIVES CONSIDERED

The Board can modify or choose not to release a formal comment letter. The alternative of not sending a letter is not recommended, as we would lose the opportunity to provide SCAG with comments to enhance the 2012 RTP/SCS document.

NEXT STEPS

Upon Board approval, the comment letter will be transmitted to SCAG for their consideration in developing their Final 2012 RTP/SCS. SCAG is scheduled to adopt their Final 2012 RTP/SCS at their April 2012 General Assembly meeting.

ATTACHMENTS

A. Draft comment letter to SCAG

Prepared by: Brad McAllester, Executive Officer, Long Range Planning
Heather Hills, Director, Long Range Planning
Lori Abrishami, Planning Manager, Long Range Planning

Martha Welborne, FAIA
Executive Director of Countywide Planning

Arthur T. Leahy
Chief Executive Officer

Attachment C

Los Angeles
World Airports

January 20, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

LAX
LA/Ontario
Van Nuys
City of Los Angeles
Antonio R. Villaraigosa
Mayor
Board of Airport
Commissioners
Michael A. Lawson
President
Valeria C. Velasco
Vice President
Joseph A. Aredas
Robert D. Beyer
Boyd Hight
Ann M. Hollister
Fernando M. Torres-Gil
Gina Marie Lindsey
Executive Director

Re: Comments on the Draft 2012 Regional Transportation Plan

Dear Mr. Ikhrata:

Los Angeles World Airports (LAWA) appreciates the opportunity to comment on the Draft 2012 Regional Transportation Plan (RTP), and is committed to working with all levels of government to address the future transportation needs of Southern California. As the operator of two of the region's commercial airports, Los Angeles International (LAX) and Ontario International (ONT), and operator of Van Nuys General Aviation Airport (VNY), LAWA plays an important role in meeting the region's demands for air travel and goods movement.

LAWA, as a proprietary department of the City of Los Angeles, is responsible for operating its airports in a safe, efficient, and fiscally responsible manner on behalf of our passengers and the citizens of each market service area. Furthermore, we must operate within the constraints placed upon our resources by federal law and regulation, along with our contractual obligations to our tenants and partner agencies. It is in this context that LAWA provides the following comments to the Aviation and Airport Ground Access portion of the RTP:

1. Use of Airport Funds

LAWA's first priority is to maintain safe and efficient airports. Our revenues and expenditures are used to support that effort and fulfill our commitment to supporting the national airspace system. All airports have a tremendous demand for capital improvements.

As such, most airports depend on financial support from the FAA via grant funds for eligible construction and noise mitigation projects. In return for federal grant monies, the FAA includes grant assurances that limit use of airport revenue solely for aviation-related uses on airport property. Using airport funds for non-airport functions violates federal law and jeopardizes the airport's ability to receive federal grants.

1 World Way Los Angeles California 90045-5803 Mail P.O. Box 92216 Los Angeles California 90009-2216 Telephone 310 646 5252 Internet www.lawa.com

Nevertheless, LAWA seeks to partner with SCAG to find solutions to support ground access improvements to airports, other primary transportation facilities, and "secondary" airports in the region.

2. Use of Airport Express Buses

The RTP includes an "Action Step" which would plan and promote a regional system of airport express buses, modeled in part on the FlyAway® service currently operating at LAX. LAWA agrees that express buses are a promising solution to certain ground access problems. However, it has been LAWA's experience that express buses are most effective at airports with high passenger demand and in cities with concentrated populations of passengers and employees. Even then, high fares or significant subsidies have been required to maintain an effective level of service.

LAWA has spent a great deal of resources carefully studying the feasibility of establishing new FlyAway® routes to serve LAX. However, even for LAX, with its extensive market area and passenger base, it has been a challenge to find station locations that are both viable and successful. LAWA invites SCAG to continue examining ways to bring similar projects to other airports, but cautions that these services, by themselves, may not be effective in increasing passenger demand at "secondary" airports.

3. Aviation Activity Constraints

LAWA agrees that the aviation activity constraints in the region, and potential dispersion of that activity at other airports, should be re-examined in subsequent regional plans.

4. Additional Technical Clarifications

LAWA also wants to offer the following technical clarifications and comments to the RTP:

- SCAG has reported a number of vehicle trips to LAX under existing conditions as well as under a future forecast for 2035, citing the LAX Master Plan EIR/EIS as a justification for those trip numbers. However, the numbers reported do not correspond to data that LAWA has previously reported or used in any environmental analysis. LAWA requests clarification of those data points.

- LAWA recommends the following changes to Tables 4-6 and 4-7 in the Aviation and Airport Ground Access sections of the RTP:

    - In Table 4-6, the following projects should be included in the list of projects completed since the project notice of preparation in 2008 (footnote 1): Douglas St., La Cienega Blvd., Lincoln Blvd. (all), Nash St.,

Sepulveda Blvd. (both), the I-105 westbound off-ramp at Sepulveda Blvd., and the I-405 at SR-90.

- Two other projects on Table 4-8, Arbor Vitae St., and the I-405 from I-10 to SR-101, are under construction as of January 2012.
- In Table 4-7, Project LAX-19, which includes Lincoln Blvd. improvements, has already been completed.

- LAWA recommends that SCAG include in the RTP a portion of the project referred to as LAX-10, widening Aviation Blvd. from Century Blvd. to Manhattan Beach Blvd. to 3 lanes in each direction.

5. 2011 Air Passenger Survey

Lastly, the 2006 LAX Air Passenger Survey was used to create several data points within this section of the RTP. LAWA is hoping to unveil the results of its 2011 Air Passenger Survey in February of this year. SCAG should consider updating its Appendix with this new data as it finalizes the RTP. LAWA will post the results of this survey on our website (http://www.lawa.org) once the report is completed.

Thank you for the opportunity to review the 2012 Draft RTP. We hope that these comments will be helpful in developing a successful plan for the region. If you have any questions regarding these comments, please contact Diego Alvarez, Regional Transportation Coordinator, at 424-646-5179 or dalvarez@lawa.org.

Sincerely,

Michael D. Feldman
Deputy Executive Director

MDF:DA:yl

DEPARTMENT OF
CITY PLANNING
200 N. SPRING STREET, ROOM 525
LOS ANGELES, CA 90012-4801
AND
6262 VAN NUYS BLVD., SUITE 351
VAN NUYS, CA 91401

CITY PLANNING COMMISSION

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CITY OF LOS ANGELES
CALIFORNIA

Attachment D

ANTONIO R. VILLARAIGOSA
MAYOR

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INFORMATION
www.planning.lacity.org

January 30, 2012

The Honorable City Council
City of Los Angeles
Room 395, City Hall

Dear Honorable Members:

DRAFT 2012-2035 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY

The Department of City Planning (DCP) has reviewed and prepared comments for your consideration regarding the Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) prepared by the Southern California Association of Governments (SCAG).

The 2012-2035 RTP/SCS includes land use strategies for addressing the region's mobility needs and desires for healthy, sustainable communities. DCP has worked with SCAG to ensure that the City's land use plans and programs are incorporated and the City's interests addressed in this long-range regional plan. This work has included collaboration with SCAG over the past two years to prepare the population, household and employment growth forecast for the City, ensure that this anticipated growth is consistent with the capacity reflected in City's land use plans, and ensure that this long-term growth is located according to the City's land use plans.

DCP staff has identified five issues related to land use, and recommends changes to the 2012-2035 RTP/SCS to better support the City's interests and role in the regional plan, presented in the draft letter to SCAG attached to this report. These include:

A. Clarify the definition of "High Quality Transit Areas" where growth is focused;
B. Clarify the definition of "Urban Centers" where growth is focused;
C. Correct inaccurate representations of land uses and potential growth around station areas;
D. Incorporate the 1,684 miles of bicycle facilities identified in the City's 2010 Bicycle Plan; and,
E. Clarify the role of recently enacted streamlining provisions under the California Environmental Quality Act.

RECOMMENDATIONS

1) **Approve** DCP staff recommendations regarding the Draft 2012-2035 RTP/SCS.
2) **Direct** DCP staff to forward recommendations to SCAG.

FISCAL IMPACT

The proposed recommendations will have no fiscal impact on the General Fund.

MICHAEL J. LOGRANDE
Director of Planning

ALAN BELL, AICP
Deputy Director

KEN BERNSTEIN, AICP
Principal City Planner

for FAISAL ROBLE
Senior City Planner

CLAIRE BOWIN, AICP
City Planner

NAOMI GUTH
City Planning Associate

Attachment

ATTACHMENT

[Date]

Ms. Margaret Lin
Southern California Association of Governments
818 W. Seventh St., 12th Floor
Los Angeles, CA 90017

Dear Ms. Lin:

DRAFT 2012-2035 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY

The purpose of this letter is to provide comments from the City of Los Angeles Department of City Planning (DCP) regarding the Draft 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). DCP appreciates the collaborative relationship with SCAG in developing this plan, which has included working together on the integrated growth forecast and understanding the City's land use plans and programs.

The following addresses five land use issues and recommends changes to the 2012-2035 RTP/SCS in order to better address the City's land use plans and projected growth. This includes:

A. Clarify the definition of "High Quality Transit Areas" where growth is focused;
B. Clarify the definition of "Urban Centers" where growth is focused;
C. Correct inaccurate representations of land uses and potential growth around station areas;
D. Incorporate the 1,684 miles of bicycle facilities identified in the City's 2010 Bicycle Plan; and,
E. Clarify the role of recently enacted streamlining provisions under the California Environmental Quality Act.

A. High Quality Transit Areas and Growth Patterns

The SCS frames growth patterns, in part, in terms of being within or outside of "High Quality Transit Areas (HQTAs)." An HQTA is defined as, "generally a walkable transit village or corridor, consistent with the adopted RTP/SCS , that has a minimum density of 20 dwelling units per acre and is within a ½ mile of a well-serviced transit stop with 15-minute or less service frequency during peak commute hours." HQTA boundaries are graphically portrayed in exhibits throughout the SCS. For the City of Los Angeles, the vast majority of the City's land area falls within HQTA boundaries, as seen in the following Exhibits: 4.4, 4.9, 4.13, 4.15, and Exhibits 19, 20 and 21 in the SCS Background Documentation (see Attachment).

These HQTA boundaries encompass all neighborhoods within a ½ mile radius and appear to indicate that growth will take place throughout the area, including low density single-family

neighborhoods and industrial districts. In fact, the City is far more discriminating, and adopted land use plans reflect carefully studied areas where growth can be absorbed. Generally, land use changes to accommodate growth are typically at transit stops and on parcels fronting transit corridors. Single-family neighborhoods are generally preserved.

Recommendation: The City recommends that additional explanation be included on pages 112-113 to better describe where growth is accommodated, as indicated by the following underlined text:

> "A HQTA is generally a walkable transit village or corridor, consistent with the adopted RTP/SCS , that has a minimum density of 20 dwelling units per acre and is within a ½ mile of a well-serviced transit stop with 15-minute or less service frequency during peak commute hours. This was represented by the proportion of Greenfield versus Refill (infill and redevelopment) growth in each of the scenarios. Within these boundaries, growth within a given jurisdiction is consistent with the integrated growth forecast for that jurisdiction and is distributed according to the jurisdiction's land use plans. Thus, while areas within ½ mile of a transit stop or corridor are walkable in relation to transit, not all such areas are targeted for growth and/or land use changes."

B. Urban Centers and Growth Patterns

The SCS frames the overall land use pattern across the SCAG region around six factors. The HQTAs, discussed above, are one factor. Another factor is the region's urbanized core versus peripheral areas. Urbanized core areas, or "core centers," are defined in the SCS as, "areas where strategies such as compact community design, mixed-use development, redevelopment of aging retail areas, greater housing variety, and additional transit service are more likely to succeed." Exhibit 4.5, Urban Centers SCAG Region (see Attachment), depicts the locations of these urban centers. However, these urban centers do not appear to align with the urban centers identified in Exhibit 4.15 for areas within the City of Los Angeles.

Recommendation: The City recommends that the relationship between Exhibit 4.5 and Exhibit 4.15 be clearly described. If the two exhibits are intended to illustrate the same urbanized areas, staff recommends that the color scheme used in Exhibit 4.15 also be used in Exhibit 4.5.

C. Land Uses around Station Areas

The SCS projects higher density in urban centers, and anticipates growth in transit rich areas throughout the City of Los Angeles in order to demonstrate a decrease in GHG emissions by 2035. DCP staff compared the city's General Plan Land Use to the SCS Land Use Pattern Maps and has found that in general the SCS is consistent with the City's land use density and land use designations. However, in closely examining 76 rail and bus transit station areas, DCP staff has found instances of inflated density, which inaccurately reflects the General Plan distribution of growth.

Exhibit 21 Land Use Pattern Map 2035 (see Attachment) identifies urban centers with densities that are not consistent the community plans for these areas. Such centers would have residential densities ranging from 82 to 120 housing units or more per acre. This density is typical in the Central City and some adjacent neighborhoods, and is proposed for the Warner Center, but it is generally not appropriate throughout the rest of the city.

In addition, the following issues were found in multiple station areas.

- Multi-Family neighborhoods
  - Densities up to 178, 145, or 61 units/acre that are too high for many sites
  - Densities too high in areas adjacent to single-family neighborhoods
- Single-Family neighborhoods
  - Increase in density in strictly single-family areas that are stable and where no growth is anticipated
  - Parcels and Corridors in Historic Preservation Overlay Zones reflect density designations that are too high; these areas are stable with no projected change
  - Residential uses reflected as commercial
- Commercial Corridors
  - Density projections are too high
- Industrial Land Use
  - Industrial areas that are to be preserved as industrial are inaccurately represented as commercial or retail
  - Industrial areas that show residential designations are an inaccurate reflection as these sites are preserved
- Public Facilities
  - Land use changes at school sites that are not projected to change
  - High residential densities or commercial uses projected on public facilities such as along freeways, county jail, open space

Recommendation: The City recommends that more appropriate representations of land use around station areas be made, which can be identified on detailed annotated maps of the station areas and provided under separate cover.

D. Proposed Bikeways

The SCS emphasizes the importance of active transportation options in meeting the mobility needs of the SCAG region, including walking and biking. While SCAG has proposed a regional bikeway network, the SCS includes the contributions of localities in developing bicycle networks within the locality and linking to other transit modes, reflected in Exhibit 4.11 Proposed Bikeway Network SCAG Region (see Attachment). However, it appears that the City of Los Angeles' recently adopted 2010 Bicycle Plan for 1,684 miles of bike facilities across Los Angeles is not included in this Exhibit. Some segments of this bicycle network are in development and have been identified for funding, and are therefore included in the 2012 RTP list of transportation investments. Including the full proposed bicycle network will support the long-term commitment to pursue resources for development of the network.

Recommendation: The City recommends that the SCS include the bicycle facilities identified in the City's 2010 Bicycle Plan.

E. CEQA Streamlining Incentives for Sustainable Land Use Patterns

The 2012-2035 RTP/SCS directly addresses the opportunity for relief under the California Environmental Quality Act (CEQA). Under Senate Bill 375, the requirement to prepare a Sustainable Communities Strategy (SCS) was coupled with incentives to encourage sustainable development and implementation of an SCS. The incentives are comprised of relief under CEQA, such as streamlined documentation or exemption from environmental review requirements, for specific development types in specific locations, as long as such development is consistent with the land use reflected in the SCS. As any proposed development is considered by local jurisdictions, this CEQA relief is at the discretion of local jurisdictions. However, as written, the 2012-2035 RTP/SCS can be construed to indicate that CEQA relief is part of the land use plan and is available by right to all development that meets the qualifications.

Recommendation: The City recommends that the 2012-2035 RTP/SCS better reflect the opportunity for CEQA streamlining incentives through the following changes:

1) In the discussion of the mandate to prepare an SCS (page 106 of the 2012-2035 RTP/SCS), amend the last sentence of the second to last paragraph:
"In addition, some projects consistent with the SCS ~~are~~ may be eligible for streamlined environmental review."

2) In Exhibits 4.1, 4.2 and 4.3 regarding population, employment and household growth, respectively (see Attachment), remove the depiction of Transit Priority Project (TPP) areas. A TPP is one particular type of development that qualifies for CEQA streamlining. Depicting this in these exhibits is confusing because a TPP is not defined. Furthermore, the depiction of TPP boundaries detracts from the purpose of the exhibits, which is to show where growth is directed over the planning period of the 2012-2035 RTP/SCS.

3) In the discussion of Transportation Analysis Zones (TAZs) and Development Types (page 122 of the 2012-2035 RTP/SCS), remove the brief discussion regarding CEQA streamlining and the adequacy of TAZ-level land use information. First, this point is difficult to understand as presented and requires further explanation. Second, this point pertains to incentives available to jurisdictions and developers, not to the modeling analysis. Lastly, this point detracts from the purpose of the section, which is to describe the approach to modeling land use and transportation information. This paragraph would thus read:

> "To conduct required modeling analysis for the RTP/SCS, SCAG distributes the growth forecast data to transportation analysis zones (TAZs) to capture localized effects of the interaction of land use and transportation. ~~Additionally, SB 375 offers local governments potential CEQA relief for qualified development projects consistent with an~~

~~adopted SCS. SCAG suggests that utilizing community types at the TAZ level of geography (with an average size of 160 square acres) offers local jurisdictions adequate information and flexibility to make appropriate consistency findings for projects to be eligible to receive CEQA streamlining benefits.~~
To further facilitate regional modeling of land use information from nearly 200 separate jurisdictions, SCAG developed a simplified series of Community Types to represent the land use categories taken from the region's many general plans..."

4) A reference to the summary of the CEQA incentive (page 148 of the 2012-2035 RTP/SCS) should be included under the section "RTP/SCS Next Steps" and the summary should be moved to follow this because the incentive can be used to encourage and facilitate implementation of the SCS and is therefore better understood as a "next step." In addition, the summary should include a discussion regarding a jurisdiction's discretion in certifying the environmental review for a project, regardless of eligibility for streamlining.

5) In the SCS Background Documentation, the summary of the CEQA exemption (page 84) should include a description of a jurisdiction's discretion in certifying the environmental review for a project, regardless of eligibility for streamlining.

Thank you for this opportunity to provide comments. If you have any questions or would like additional information, please contact Naomi Guth at (213) 978-3307 or by email at Naomi.Guth@lacity.org.

Sincerely,

MICHAEL J. LOGRANDE
Director of Planning

Attachment

CC: Ken Bernstein, Principal City Planner
Naomi Guth, City Planning Associate

EXHIBIT 4.4 Compass Blueprint Demonstration Projects

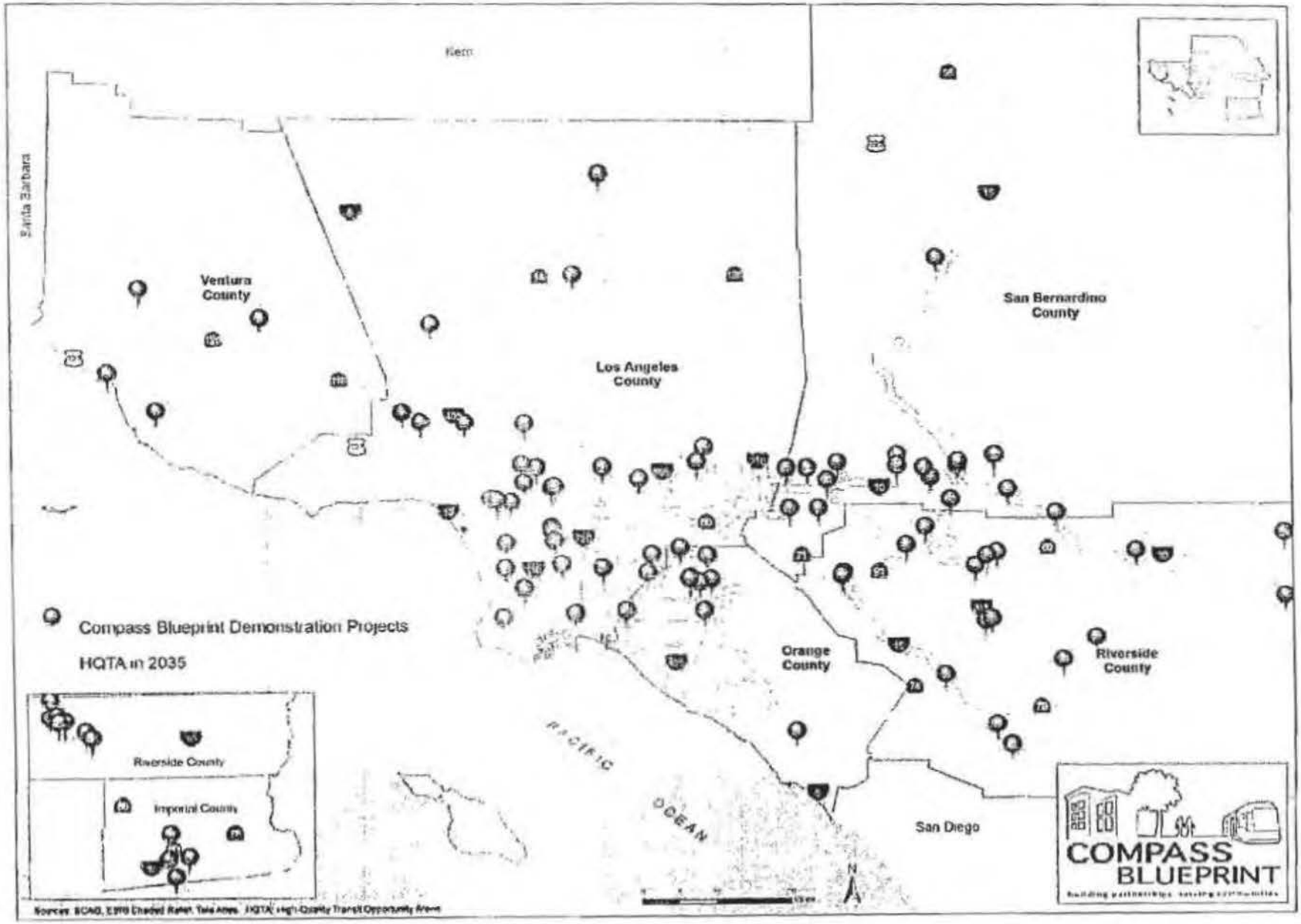


EXHIBIT 4.9 High-Quality Transit Areas (HQTA) SCAG Region

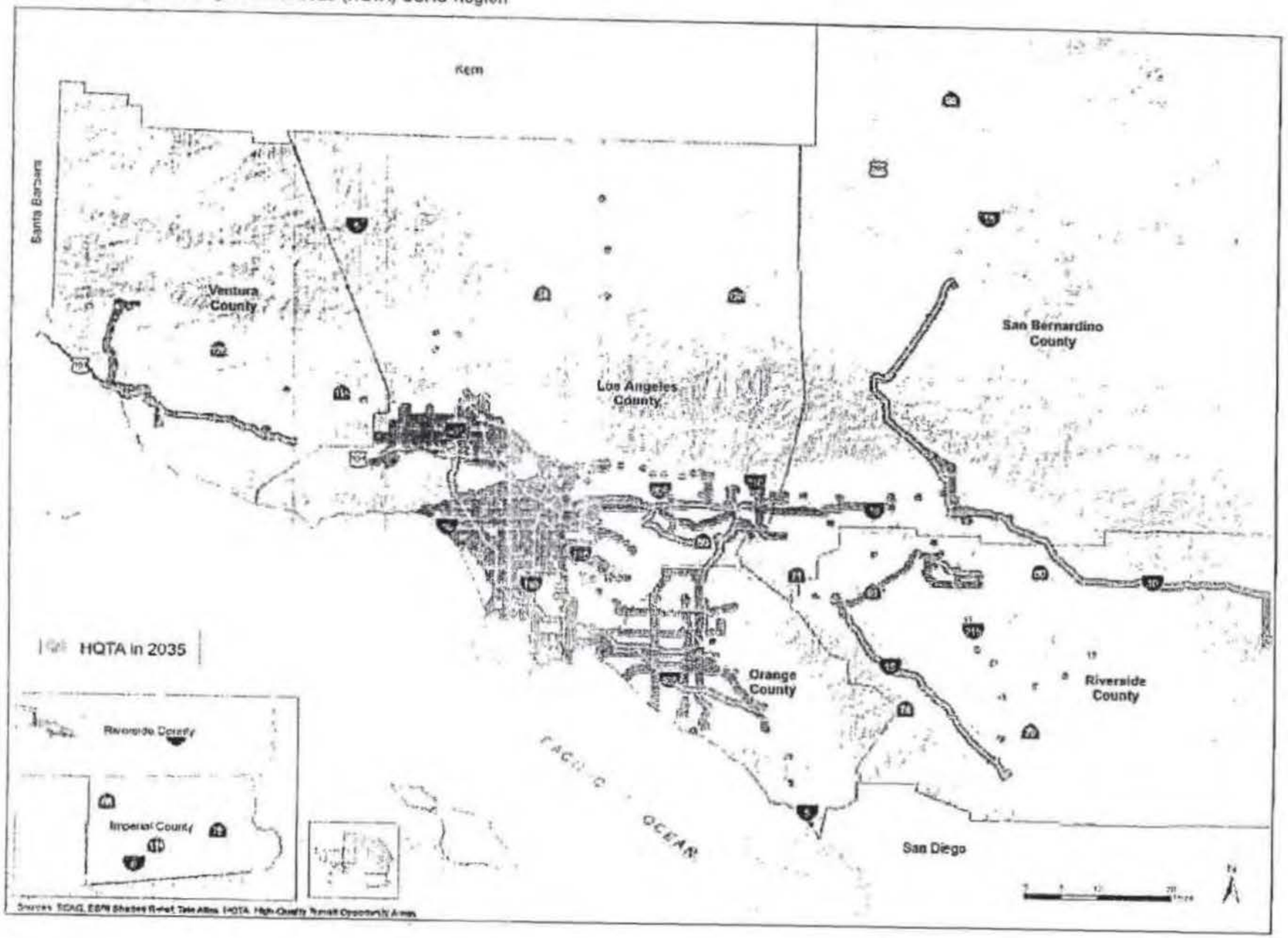


EXHIBIT 4.13 Land Use Pattern SCAG Region (2035)

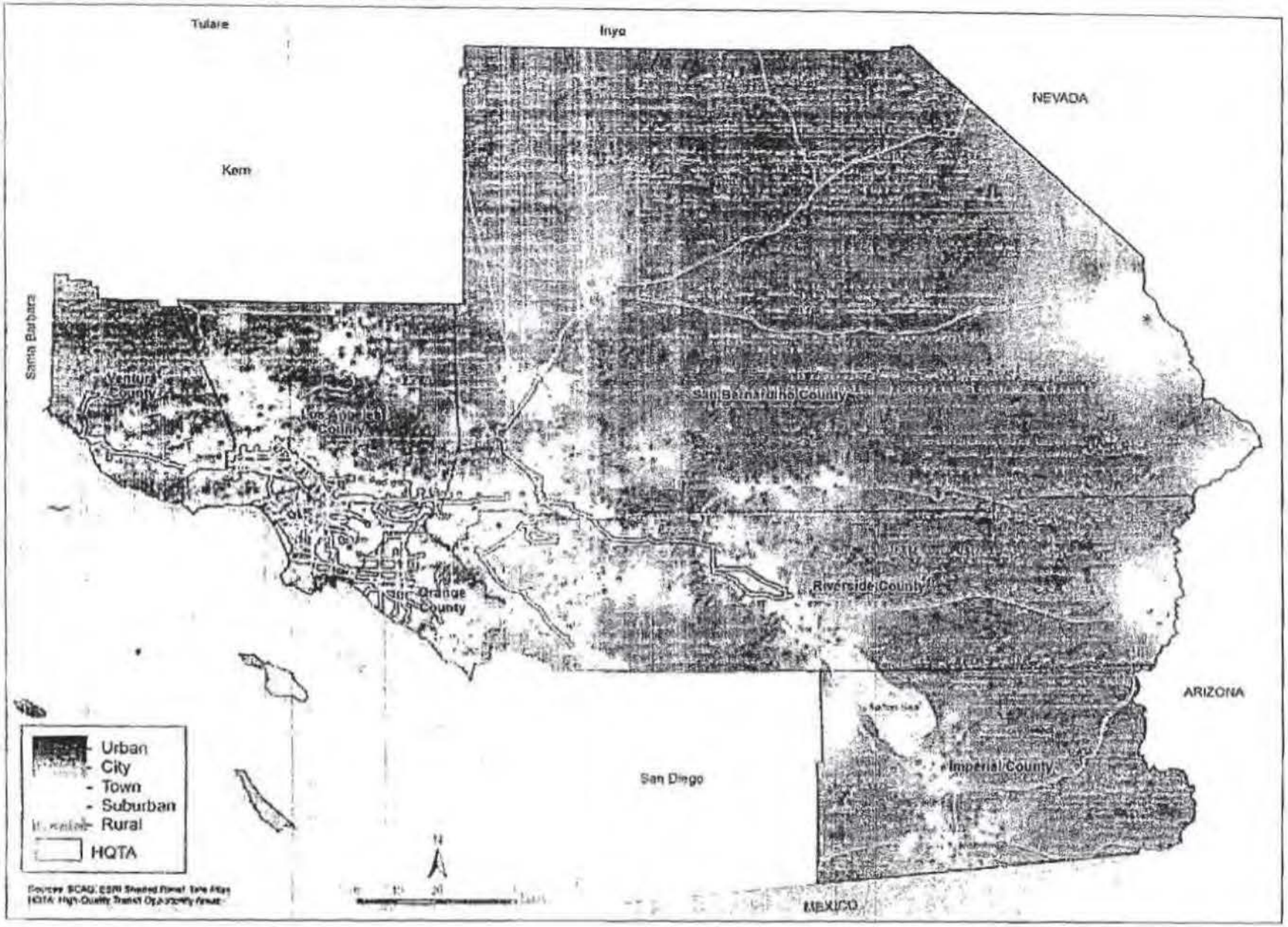


EXHIBIT 4.15 Land Use Pattern Los Angeles County (2035)

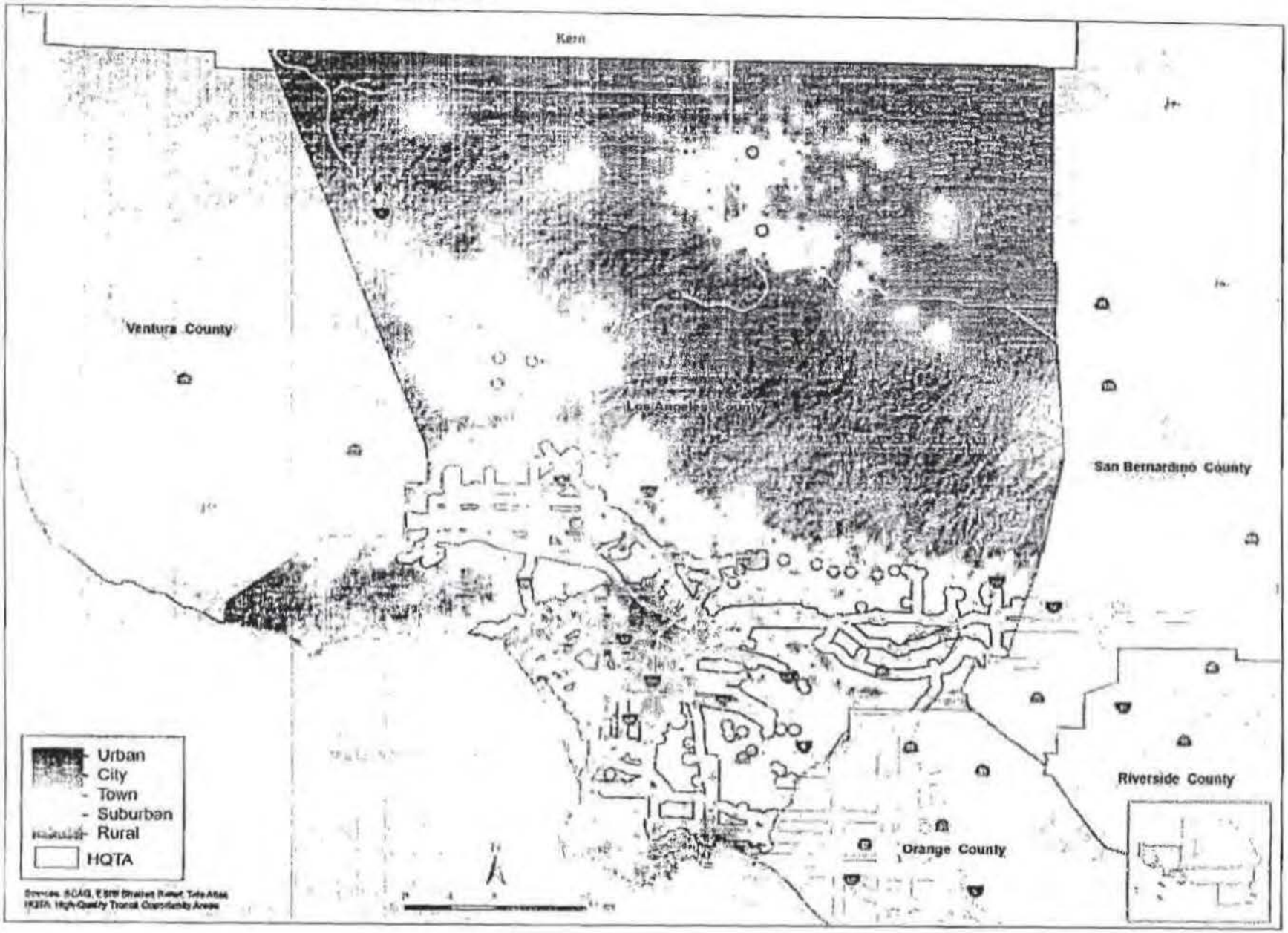


EXHIBIT 19 Land Use Pattern Map - City of Los Angeles 2008

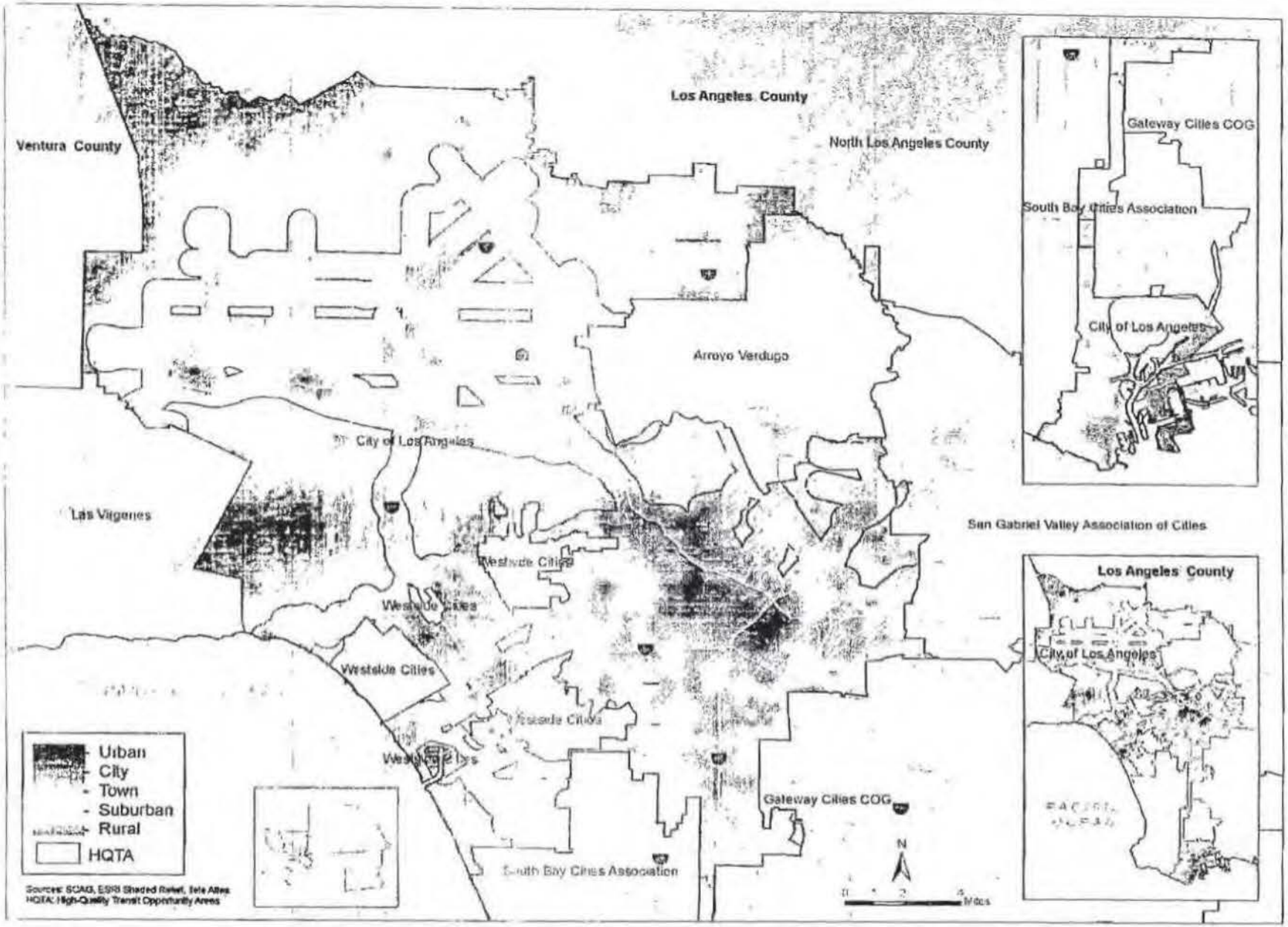


EXHIBIT 20 Land Use Pattern Map - City of Los Angeles 2020

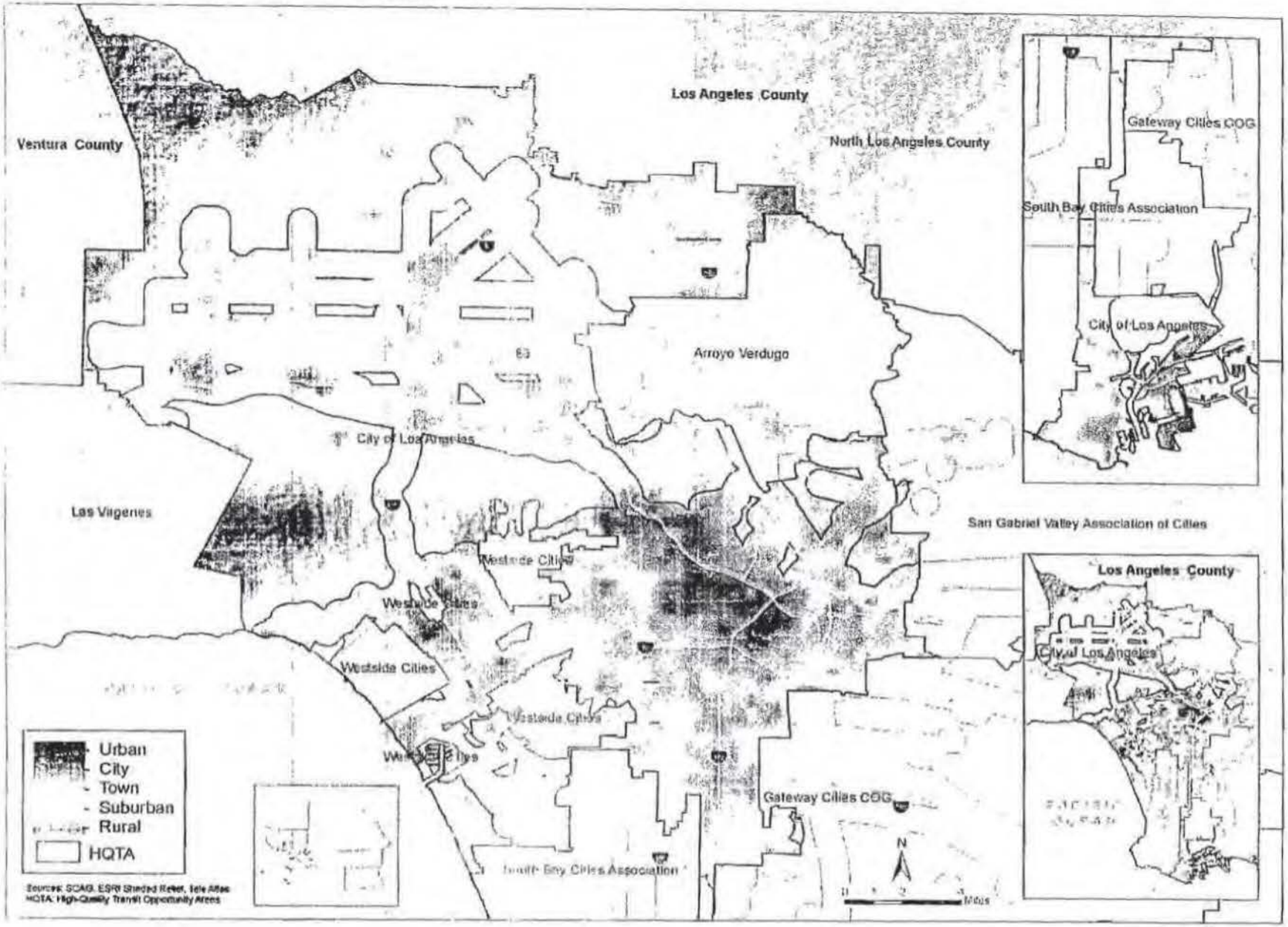


EXHIBIT 21 Land Use Pattern Map - City of Los Angeles 2035

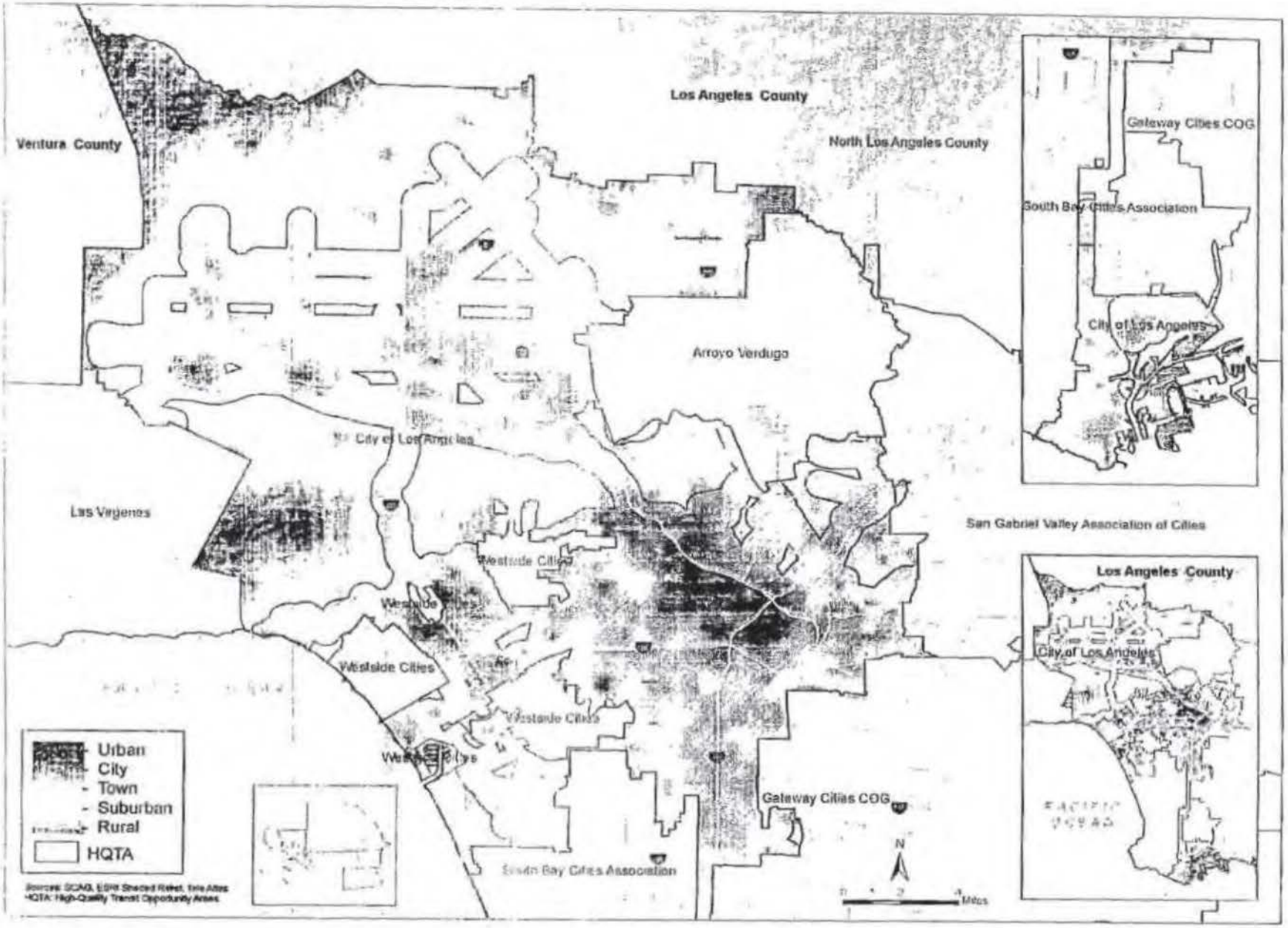


EXHIBIT 4.5 Urban Centers SCAG Region

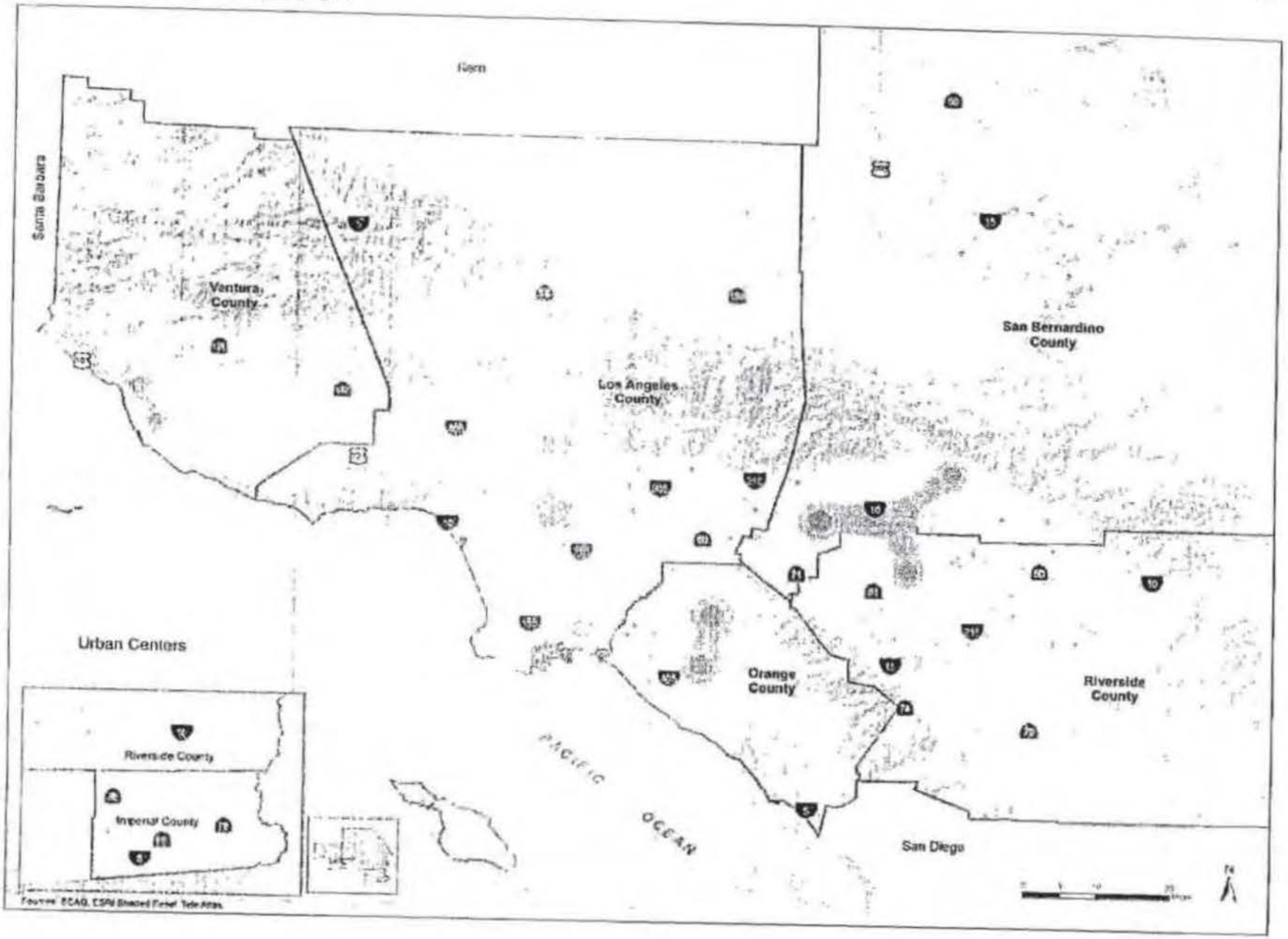


EXHIBIT 4.11 Proposed Bikeway Network SCAG Region

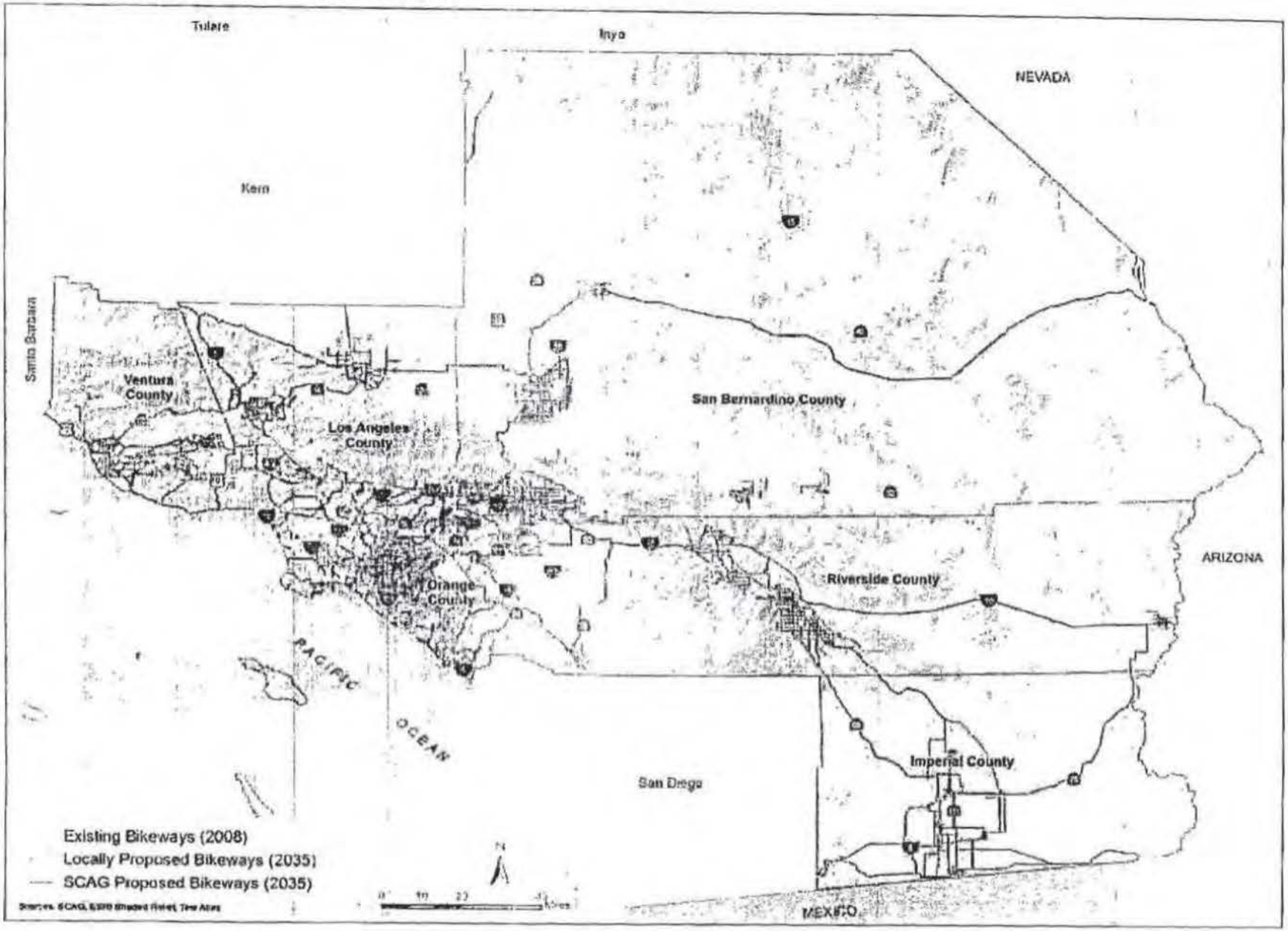


EXHIBIT 4.1 Population Growth SCAG Region (2035)

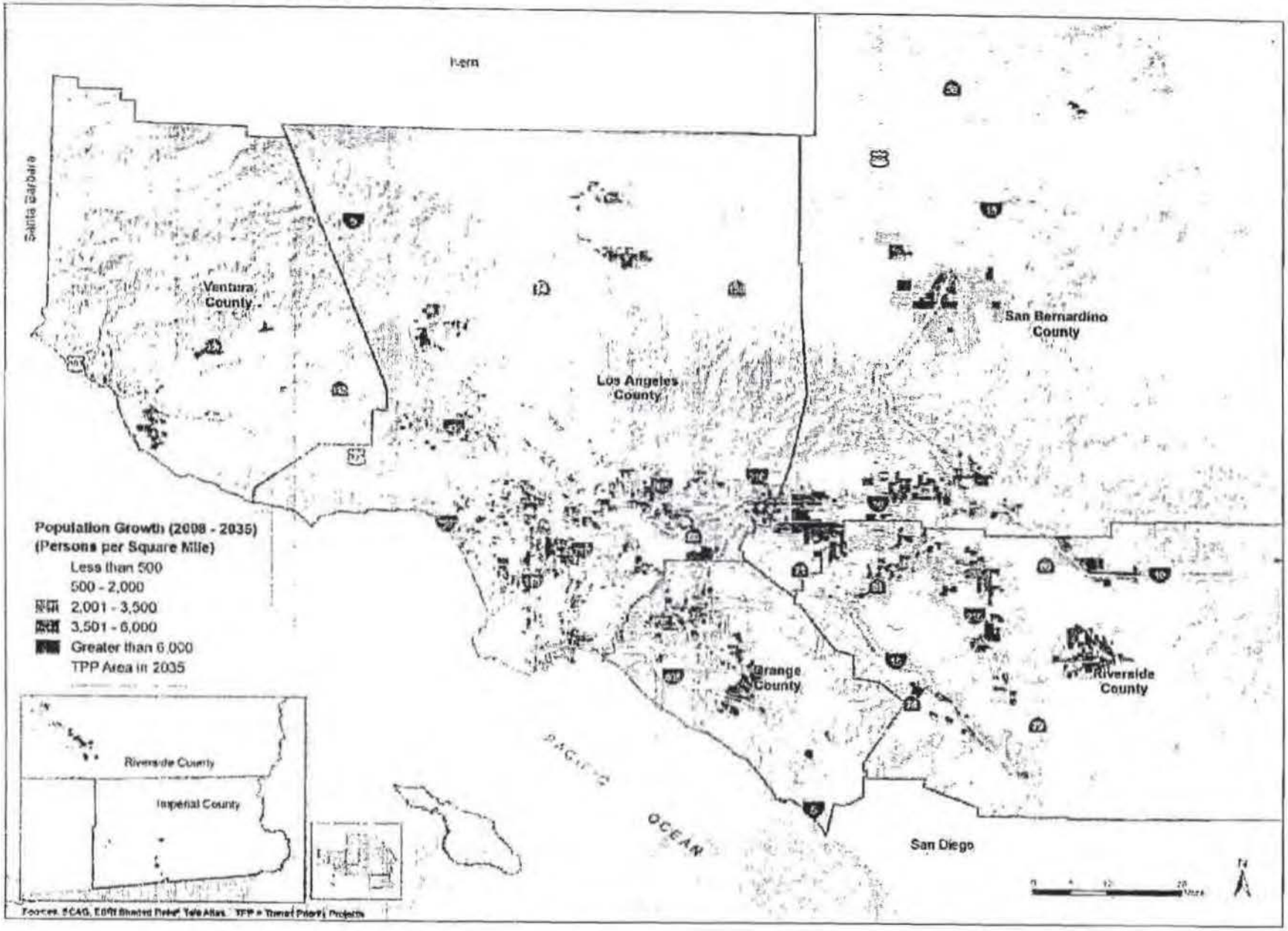


EXHIBIT 4.2 Employment Growth SCAG Region (2035)

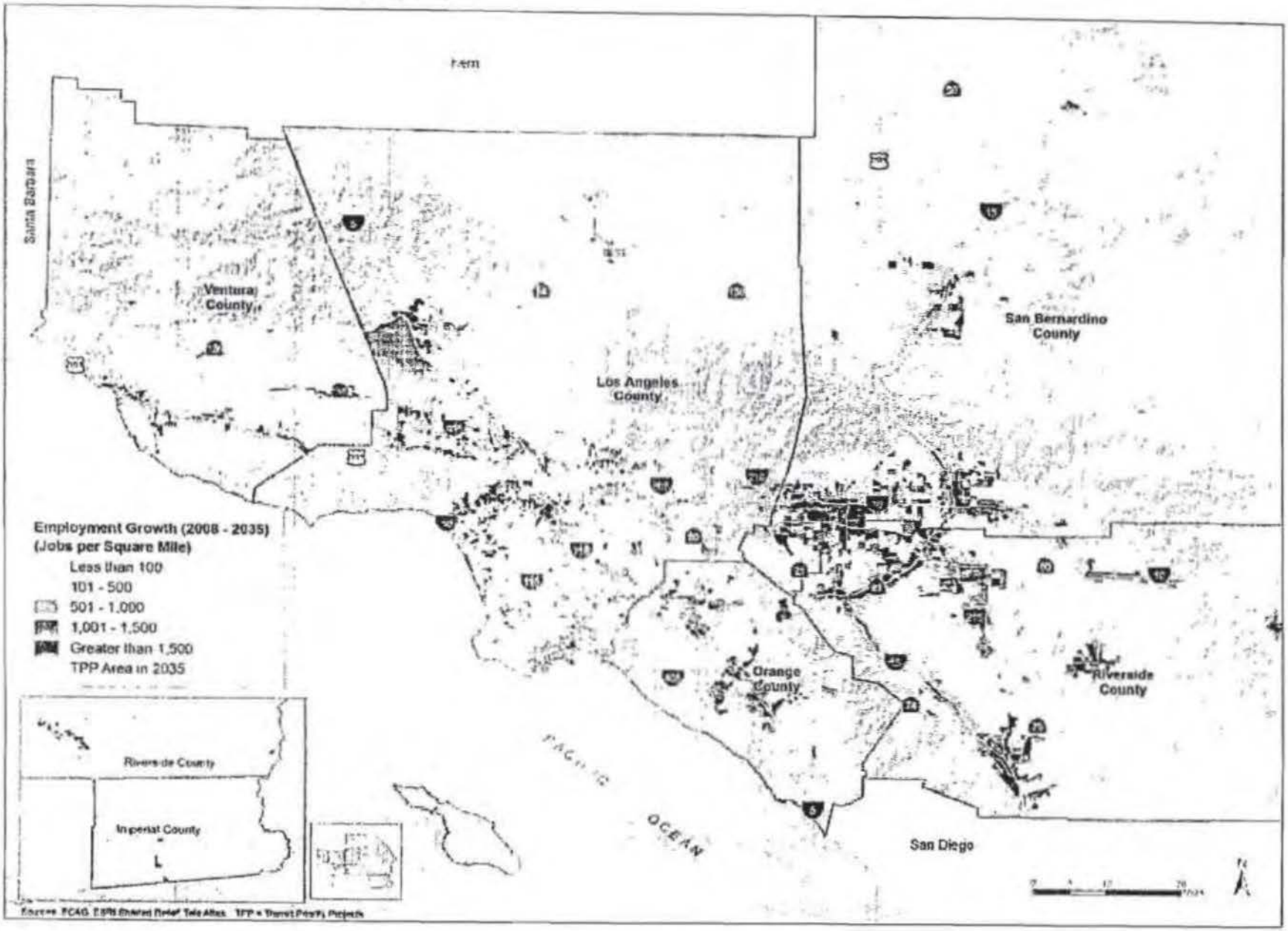
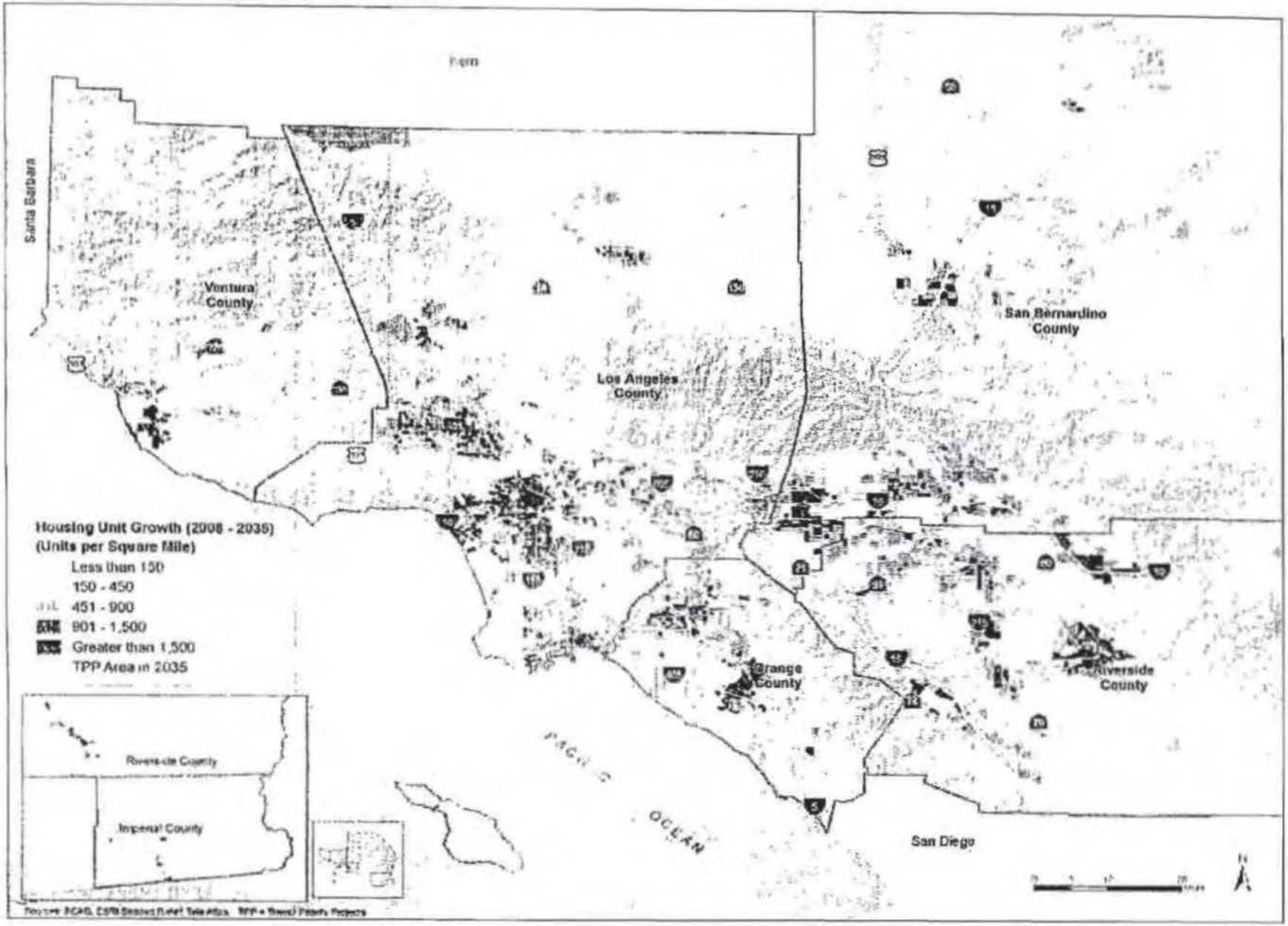


EXHIBIT 4.3 Housing Unit Growth SCAG Region (2035)



City of Los Angeles Projects Requested to be added to Strategic Plan - 2012 RTP/SCS (Attachment E)

Strategic Projects							
County	System	Category	Route Name	From/At	To	Project Description	Lead Agency
Los Angeles	Local Highway	Capacity	11th Street	Aviation Blvd	La Cienega Blvd	Widen and restripe to accommodate two through lanes in each direction	Los Angeles City
Los Angeles	Local Highway	Capacity	Alameda Street	US-101 Fwy	I-10 Fwy	Widen to 70 ft and remove embedded rails and ties, install left turn channelization and widen curb returns to reduce congestion and improve truck movement	Los Angeles City
Los Angeles	Local Highway	Capacity	Alameda Street	I-10 Fwy	7th St	Alameda St. from I-10 to Seventh St. - project includes rehabilitation of the roadway, removing enbedded rails and ties, installing left turn channelization, spot widening where needed to accommodate truck traffic	Los Angeles City
Los Angeles	Local Highway	Capacity	Alhambra Avenue	Lowell Ave	City of Alhambra city limits	Realign Alhambra Ave. between Lowell Ave. and the City of Alhambra city limits to smooth out an existing sharp s-curve and to enhance traffic and capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	Anaheim Street	Farragut Ave	Dominguez Channel	Widen Anaheim St. from 78' to 84' and restripe to accommodate an additional lane in each direction; this would improve the roadway from 4 lanes to 6 lanes	Los Angeles City
Los Angeles	Local Highway	Capacity	Aviation Boulevard	Arbor Vitae St	Imperial Hwy	Widen and restripe to accommodate three through lanes in each direction	Los Angeles City
Los Angeles	Local Highway	Capacity	Balboa Boulevard	Devonshire St		Widen east side of Balboa Blvd. south of Devonshire St. for approximately 500 ft., and restripe the intersection to provide dual left-turn lanes for the northbound and southbound approaches.	Los Angeles City
Los Angeles	Local Highway	Capacity	Barham Boulevard	US-101 Fwy Bridge		Replace the existing bridge to increase traffic capacity and widen/restripe southbound US-101 off-ramp at Barham Blvd to provide southbound double left turn lanes	Los Angeles City
Los Angeles	Local Highway	Capacity	Barham Boulevard	Coral Dr		Widen west side of Barham Blvd. to provide a southbound right-turn only lane on Barham Blvd. and to improve access to Universal Studios and to the 101 NB on-ramp.	Los Angeles City
Los Angeles	Local Highway	Capacity	Beverly Glen Boulevard	Mulholland Dr		Widen south leg of Beverly Glen Blvd to create a right turn only lane; ROW acquisition needed	Los Angeles City
Los Angeles	Local Highway	Capacity	Brandford Street	Laurel Canyon Blvd	Amboy Ave	Widen north side of Brandford St. to provide an additional westbound lane.	Los Angeles City
Los Angeles	Local Highway	Capacity	Broad Avenue	Harry Bridges Blvd	Water St	Build grade-separated access to waterfront area from rail lines, extend Broad Ave to Water Street, and install bike lanes and sidewalks on both side of Broad Ave	Los Angeles City
Los Angeles	Local Highway	Capacity	Bundy Drive	I-10 Fwy ramps		Reduce congestion on Bundy by reconfiguring the I-10 WB ramps (consolidate to one ramp location accommodating both the on and off ramps with new signal)	Los Angeles City
Los Angeles	Local Highway	Capacity	Burbank Boulevard	Clybourne Ave	Vineland Ave	Widen Burbank Blvd. to a major highway standard (80-foot roadway width) on both sides of street to improve roadway capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	Burbank Boulevard	US-101 Fwy WB		Widening to add second westbound through lane and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Canoga Avenue	US-101 WB off-ramp		Widen westbound off-ramp to prove a right turn only lane to Canoga Ave	Los Angeles City
Los Angeles	Local Highway	Capacity	Canoga Avenue	Burbank Blvd		Widening to add a second westbound left-turn lane and a dedicated northbound right-turn lane and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Transit	Canoga Avenue	Ventura Blvd	Canoga Orange Line Station	Purchase 20 new buses to add to a Local Circulator bus system between Ventura Boulevard adn Canoga Orange Line Station. Install new bus shelters and/or enhance the existing bus shelters along the route as required	Los Angeles City
Los Angeles	Local Highway	Capacity	Canoga Avenue	Saticoy St		Widening to add southbound through lane. Change sorthbound and eastbound phasing from left-turn permitted to protected.	Los Angeles City
Los Angeles	Local Highway	Capacity	Coldwater Canyon Boulevard	Ventura Blvd	Magnolia Blvd	Remove jut-outs to add one through lane in each direction	Los Angeles City
Los Angeles	Local Highway	Capacity	Corbin Avenue	Victory Blvd		Widening to add eastbound and westbound through lanes and upgrade traffic signal	Los Angeles City

City of Los Angeles Projects Requested to be added to Strategic Plan - 2012 RTP/SCS (Attachment E)

Strategic Projects

County	System	Category	Route Name	From/At	To	Project Description	Lead Agency
Los Angeles	Local Highway	Capacity	Crenshaw Boulevard	I-10 WB on-ramp		Widen SB Crenshaw Blvd to provide a SB right-turn only lane and redesign the WB off-ramp to reduce congestion and improve intersection operation	Los Angeles City
Los Angeles	Local Highway	Capacity	Culver Boulevard	Centinela Ave	I-405 Fwy	Improve traffic flow along Culver Blvd between Centinela Ave and I-405 Freeway including providing left-turn lanes at key signalized intersections (including Inglewood Blvd)	Los Angeles City
Los Angeles	Local Highway	Capacity	De Soto Aveue	Ventura Blvd	Clark St	Intersection widening to add through and/or turn lanes, and upgrade traffic signal to include new phasing as needed to improve intersection capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	De Soto Aveue	Saticoy St		Widening to add eastbound and westbound right turn lanes and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	De Soto Street	Parthenia St		Widening to add dedicated eastbound westbound right turn lane and northbound phasing from left-turn permitted to protected.	Los Angeles City
Los Angeles	Local Highway	Capacity	De Soto Street	Califa St		Widening to add northbound and westbound right-turn lanes and install new traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Enterprise Street	Mateo St (near WB I-10 off-ramp)		Widen Enterprise St at Mateo St (near WB-10 off-ramp) to improve truck movement at curb returns	Los Angeles City
Los Angeles	Local Highway	Capacity	Fallbrook Avenue	Victory Blvd		Widening to add westbound right turn lane and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Figueroa Street	146th St	Redondo Beach Blvd	Widen Figueroa St to major highway standard from 62 ft to 80 ft to provide three lanes in each direction	Los Angeles City
Los Angeles	Local Highway	Capacity	Fletcher Street Bridge	LA River		Widen to increase capacity and improve access to I-5 Fwy; add bike lanes and sidewalks	Los Angeles City
Los Angeles	Local Highway	Capacity	Foothill Boulevard	Balboa Blvd		Widen north of Balboa Blvd over culvert and widen west leg of Foothill Blvd at Balboa Blvd. Upgrade traffic signal to improve intersection capacity	Los Angeles City
Los Angeles	Local Highway	Capacity	Forest Lawn Drive	near SR-134 Bridge	/LA River	Construct a new bridge with bike path (including equestrian trail) over LA River at LAEC. Re-aligh the SR-134 freeway on/off ramps at Forest Lawn Dr. to improve flow and capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	Fountain Avenue	Sunset Blvd	Western Ave	Widen Fountain Ave to add a left-turn lane at each intersection-ROW acquisition needed	Los Angeles City
Los Angeles	Local Highway	Capacity	Glenoaks Boulevard	Sunland Blvd		Widen Glenoaks Blvd to provide an eastbound right-turn lane	Los Angeles City
Los Angeles	Local Highway	Capacity	Grand Avenue Bridge	Cesar Chavez Ave	Temple St	Widen bridge over US-101 Fwy to improve access to US-101, SR-110, future school and Grand Ave.	Los Angeles City
Los Angeles	Local Highway	Capacity	Grand Avenue Bridge	Over US 101 Fwy		Widen the Existing bridge to provide dual left-turn lane onto the 101 and 110 freeways on-ramps, includes, and add through lane and right-turn lane, and widen sidewalk.	Los Angeles City
Los Angeles	Local Highway	Capacity	Imperial Highway	Sepulveda Blvd	Pershing Dr	Widen to provide continuous three through lanes in each direction	Los Angeles City
Los Angeles	Local Highway	Capacity	Irwin Street	Owensmouth Ave	De Soto St	Intersection widening to add through and/or turn lanes, and upgrade traffic signal to include new phasing as needed to improve intersection capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	La Cienega Boulevard	Arbor Vitae St	111th St	Widen and restripe to accommodate three through lanes in each direction	Los Angeles City
Los Angeles	Local Highway	Capacity	La Tijera Boulevard	Airport Blvd	La Cienega Blvd	Widen and restripe to provide continuous three through lanes in each direction	Los Angeles City
Los Angeles	Local Highway	Capacity	Laurel Canyon Boulevard	Mulholland Dr		Widen the west side of Laurel Canyon Blvd south of Mulholland Dr to carry two southbound lanes through the intersection	Los Angeles City
Los Angeles	Local Highway	Capacity	Lincoln Boulevard	Jefferson Blvd	Fiji Way	Partnering with Caltrans & LA County, improve Lincoln Blvd between Jefferson Blvd & Fiji Way including removing the existing bottleneck by replacing/widening the existing bridge to provide an add'l lane in each direction & on-street bike lanes	Los Angeles City
Los Angeles	Local Highway	Capacity	Maclay Street	Gladstone Ave		Remove jut-outs on Maclay at Gladstone and install a new traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Magnolia Boulevard	Cahuenga Blvd	Vineland Ave (north side)	Widen the north side of Magnolia Blvd. to provide an additional lane in the westbound direction.	Los Angeles City

City of Los Angeles Projects Requested to be added to Strategic Plan - 2012 RTP/SCS (Attachment E)

Strategic Projects							
County	System	Category	Route Name	From/At	To	Project Description	Lead Agency
Los Angeles	Local Highway	Capacity	Mason Avenue	Saticoy St		Widening to add Exclusive right-turn lanes for all approaches and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Mission Road	Griffin Ave	Marengo St	Widen Mission Road to provide an additional through lane in each direction, and install new pedestrian signal at Sichel Street	Los Angeles City
Los Angeles	Local Highway	Capacity	Moorpark Avenue	Woodman Ave	Mammoth Ave	Widen Moorpark Ave. to increase capacity and install street lights, curb, and gutter.	Los Angeles City
Los Angeles	Local Highway	Capacity	North Main Street	Albion St		Grade seperate North Main Street over the exiting Metrolink and freight tracks; reduces delays for vehicles and transit riders traveling on Main Street	Los Angeles City
Los Angeles	Local Highway	Capacity	North Spring Street	Roundout St	Baker St	Widen N. Spring St. between Roundout St. to Baker St. from 44 ft. to an 80' roadway width and install landscaped medians	Los Angeles City
Los Angeles	Local Highway	Capacity	Olympic Boulevard	Soto St		Improvements to the intersection by increasing the curb return radius of all four corners and Olympic Blvd approaches. ROW required	Los Angeles City
Los Angeles	Local Highway	Capacity	Olympic Boulevard	Alameda St		Widen to improve truck movement (right-of-way required)	Los Angeles City
Los Angeles	Local Highway	Capacity	Olympic Boulevard	Santa Fe Ave		Widening curb retrun to improve truck movement through the intersection	Los Angeles City
Los Angeles	Local Highway	Capacity	Owensmouth Avenue	Canyon Creek Dr (Private)		Widening to add southbound and eastbound right-turn lanes, add a northbound left-turn lane, and upgrade traffic signal.	Los Angeles City
Los Angeles	Local Highway	Capacity	Owensmouth Avenue	Saticoy St		Widening to add northbound left-turn and upgrade traffic signal.	Los Angeles City
Los Angeles	Local Highway	Capacity	Oxnard Street	White Oak Ave	Lindley Ave	Oxnard Street widening from 75 ft. exiting ROW to 100 ft. (Require additional ROW) to allow through lane in each direction	Los Angeles City
Los Angeles	Local Highway	Capacity	Oxnard Street	AMC Dwy	De Soto St	Intersection widening to add through and/or turn lanes, and upgrade traffic signal to include new phasing as needed to improve intersection capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	Reseda Boulevard	Burbank Blvd	US-101 Fwy WB ramps	Intersection widening to add through and/or turn lanes, and upgrade traffic signal to include new phasing as needed to improve intersection capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	Riverside Drive	SR-134 Fwy		Widen the bridge to improve the capacity and to add the bike lane	Los Angeles City
Los Angeles	Local Highway	Capacity	Robertson Avenue	National Blvd	/I-10 Fwy Interchange	Reconfigure existing ramps and construct new ramps to improve capacity	Los Angeles City
Los Angeles	Local Highway	Capacity	Roxford Street	Sepulveda Blvd		Realign Roxford St. at Sepulveda Blvd. by widening curb radius to enhance traffic flow.	Los Angeles City
Los Angeles	Local Highway	Capacity	San Fernando Road	Sierra Hwy	Roxford St	Install a center-reversible lane on the Old Road to provide extra capacity during peak hours along an approximately 3 mile segment	Los Angeles City
Los Angeles	Local Highway	Capacity	Santa Fe Avenue	Porter St		Widening curb retrun to improve truck movement through the intersection.	Los Angeles City
Los Angeles	Local Highway	Capacity	Saticoy Street	Van Nuys Blvd	Woodman Ave	Construct grade seperation and extend roadway westerly from Woodman Ave to Van Nuys Blvd	Los Angeles City
Los Angeles	Local Highway	Capacity	Sepulveda Boulevard	National Blvd	Olympic Blvd	Widen to major highway standard and increase number of through lanes from two to three lanes	Los Angeles City
Los Angeles	Local Highway	Capacity	Sepulveda Boulevard Corridor	Wilshire Blvd	LAX	Partnering with Culver City & LA County, identify and implement ways of improving traffic flow, carrying capacity, and efficiency in the utilization of the Sepulveda Corridor from Wilshire to LAX.	Los Angeles City
Los Angeles	Local Highway	Capacity	Sepulveda Tunnel	Mulholland Bridge		Widen existing tunnel to provide additional traffic lanes and bike lanes	Los Angeles City
Los Angeles	Local Highway	Capacity	Sherman Way Avenue	Jordan Ave	De Soto St	Intersection widening to add through and/or turn lanes, and upgrade traffic signal to include new phasing as needed to improve intersection capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	Shoup Avenue	Irwin Ave		Widening to add northbound right turn lane and upgrade traffic signal to include northbound protected left-turn phasing	Los Angeles City

City of Los Angeles Projects Requested to be added to Strategic Plan - 2012 RTP/SCS (Attachment E)

Strategic Projects							
County	System	Category	Route Name	From/At	To	Project Description	Lead Agency
Los Angeles	Local Highway	Capacity	Shoup Avenue	Oxnard St		Widening to add northbound right turn lane and upgrade traffic signal to include westbound and northbound protected left-turn phasings	Los Angeles City
Los Angeles	Local Highway	Capacity	Shoup Avenue	Vanowen St		Widening to add eastbound right turn lane and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Shoup Avenue	Sherman Way		Widening to add northbound right turn lane and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Slauson Avenue	Crenshaw Blvd	Alameda St	Design and construction of street improvements and signage for local and regional traffic.	Los Angeles City
Los Angeles	Local Highway	Capacity	Topanga Canyon Boulevard	Mulhollland Dr		Widening toadd a southbound right-turn lane and upgrade traffic signal to include southbound right-turn overlap phase	Los Angeles City
Los Angeles	Local Highway	Capacity	Topanga Canyon Boulevard	Roscoes Bvd		Widening to add northbound left-turn and southbound right-turn lanes and traffic signal upgrade.	Los Angeles City
Los Angeles	Local Highway	Capacity	Topanga Canyon Boulevard	Vanowen St	Ventura Blvd	Intersection widening to add through and/or turn lanes, and upgrade traffic signal to include new phasing as needed to improve intersection capacity. Install new signal at Topanga Canyon Blvd. and Califa St.	Los Angeles City
Los Angeles	Local Highway	Capacity	Vaiel Avenue	Kittridge St		Widening to add eastbound and westbound through lanes and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Valley Boulevard	San Pablo St	Boca Ave	Improve capacity and enhance traffic flow at railroad crossing by widening to add lanes, to improve curb, and to upgrade signal systems and rail road equipment along Valley Blvd.	Los Angeles City
Los Angeles	Local Highway	Capacity	Van Ness Avenue	US-101 Fwy SB off-ramp	Sunset Blvd	Widen both sides of Van Ness Ave. to accommodate one additional southbound lane.	Los Angeles City
Los Angeles	Local Highway	Capacity	Vanalden Avenue	US-101 Fwy EB ramps	/Ventura Blvd	Widening to add westbound through lane and upgrade traffic signal to improve intersection capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	Vanowen Avenue	Owensmouth Ave	Mason Ave	Intersection widening to add through and/or turn lanes, and upgrade traffic signal to include new phasing as needed to improve intersection capacity.	Los Angeles City
Los Angeles	Local Highway	Transit	Variel Avenue	Oxnard St		Construction of a 4th Orange Line Station in Warner Center Area	Los Angeles City
Los Angeles	Local Highway	Capacity	Ventura Boulevard	Shoup Ave	US-101 SB ramps	Widen between Shoup Ave and US-101 freeway southbound ramps to provide double left-turn lanes	Los Angeles City
Los Angeles	Local Highway	Capacity	Vermont Avenue	Washington Blvd	I-10 Fwy WB off-ramp	Widen 10 ft. of east-side of Vermont Ave to provide left-turn lane	Los Angeles City
Los Angeles	Local Highway	Transit	Victory Boulevard	Owensmouth Ave to Oxnard	Variel Ave to Victory Blvd	Purchase 20 new buses to add to a Local Circulator bus system to operate from Victory to Owensmouth to Oxnard to Variel and back to Victory. Install new bus shelters and/or enhance the existing bus shelters along the route as required	Los Angeles City
Los Angeles	Local Highway	Capacity	Victory Boulevard	Owensmouth Ave	Winnetka Ave	Intersection widening to add through and/or turn lanes, and upgrade traffic signal to include new phasing as needed to improve intersection capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	Western Avenue	Florence Ave	80th St/Manchester Ave	Widen east side of Western Ave. to accomodate left-turn lanes at various intersections within the project limits.	Los Angeles City
Los Angeles	Local Highway	Capacity	Western Avenue	Exposition Blvd		Widen Western Blvd. to add northbound and southbound left-turn lanes at Exposition Blvd.	Los Angeles City
Los Angeles	Local Highway	Capacity	Wilshire Boulevard	San Vicente Blvd	Centinela Ave	Arterial widening to provide an additional lane in each direction.	Los Angeles City
Los Angeles	Local Highway	Capacity	Winnetka Avenue	Vanowen St		Widening to add northbound and southbound right-turn lanes and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Winnetka Avenue	Ventura Blvd		Change westbound right-turn lane to a shared through-right turn lane, add an eastbound left-turn lane, and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Winnetka Avenue	Oxnard St		Widening to add westbound right turn lane and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Woodlake Avenue	Victory Blvd		Widening to add northbound shared-through right turn lane and upgrade traffic signal	Los Angeles City

City of Los Angeles Projects Requested to be added to Strategic Plan - 2012 RTP/SCS (Attachment E)

Strategic Projects							
County	System	Category	Route Name	From/At	To	Project Description	Lead Agency
Los Angeles	Local Highway	Transit	Downtown L.A. Streetcar			Construct 4-mile fixed-rail urban streetcar circulator systems to serve downtown areas includes Bunker Hill, Grand Avenue and Music Center, Historic Broadway and the Historic Core, South Park, LA Live and the Los Angeles Convention Center.	Los Angeles City

FORM GEN. 160 (Rev. 6-80)

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

Date: January 30, 2012

To: The Honorable City Council, City of Los Angeles
c/o City Clerk, Room 395
Attention: Honorable Bill Rosendahl, Chair, Transportation Committee
Attention: Honorable Ed Reyes, Chair, PLUM Committee

From: Jaime de la Vega, General Manager
Department of Transportation

Subject: **Draft 2012 Regional Transportation Plan / Sustainable Communities Strategy (CF 11-1223)**

This report provides additional comments regarding the draft 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), being prepared by the Southern California Association of Governments (SCAG). These comments supplement those comments approved by Council and the Mayor as indicated in the attached Council action of October 5, 2011.

Recommendations

1) Approve the comments provided in this report as City of Los Angeles comments to SCAG on the 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Following the submittal of these comments to SCAG, the Department of Transportation will continue to collaborate with SCAG in an effort to have the City's comments substantially incorporated into the RTP/SCS and related Program Environmental Impact Report (PEIR).

2) Authorize the Department of Transportation to transmit comments to SCAG that are substantially consistent with those contained in this report, including the attached comments from other departments.

Summary

Every four years the Southern California Association of Governments (SCAG) prepares a Regional Transportation Plan (RTP) for the six-county region. The 2012 RTP/SCS includes planned transportation projects and demographic assumptions through the year 2035. The plan presents a strategy for the investment of $524.7 billion in the region's transportation system between 2012 and 2035 and, for the first time, a Sustainable Communities Strategy (SCS) for the six-county region.

The SCS, required by SB 375, focuses on reducing greenhouse gas emissions (GHGe)

from cars and light trucks by means of several strategies, including integration of land use and transportation planning, transit system expansion, and transportation demand management (TDM). The California Air Resources Board (CARB) established regional GHGe reduction goals of eight percent per capita by 2020 and thirteen percent per capita by 2035, compared with 2005 levels. SCAG's analysis indicates that the draft RTP/SCS would achieve the 2020 target, and would exceed the 2035 target with a GHGe reduction of sixteen percent.

According to SCAG's analysis and modeling, the draft RTP/SCS also meets the federal conformity requirements for air quality. It is important to note that reducing GHGe is not required for achieving air quality conformity. Therefore, although many of the strategies that achieve air quality conformity also assist with GHGe reductions, the two analyses are generally independent of each other.

A Regional Transportation Plan (RTP) also requires that there be reasonably available funding sources. The RTP proposes expenditures of $524.7 billion, and SCAG states that without new revenue sources the RTP faces a funding shortfall of approximately $219.5 billion. Various means to make up the shortfall are set forth. The RTP suggests that $127.5 billion of the shortfall could be addressed by action at the State or Federal level to increase the gas tax $0.15 per gallon between 2017 and 2024. The RTP states the State and Federal government could then replace the gas tax with an indexed mileage-user fee of $0.05 per mile beginning in 2025. If the mileage-based fee was not implemented, then there would be a need to further increase the gas tax to generate the revenues that would have been created by the mileage-based user fee. Although these proposals depend primarily on State and/or Federal action, they deserve further discussion within the City as the implementation year of 2017 approaches.

SCAG is to be commended for a multi-year effort to develop the 2012 RTP/SCS, including an unprecedented outreach effort. In particular, the passage of SB 375 required an extensive public education campaign including outreach to cities, environmental, public health and business groups. SCAG conducted a series of periodic workshops across the region, which included preparation of in-depth graphic and narrative presentation materials. The City appreciates the outstanding outreach effort, both to the City itself and across the region.

Pursuant to the Council action of October 5, 2011, and in accordance with past practice, LADOT has reviewed the draft 2012 RTP/SCS and compiled proposed comments to SCAG. In addition, LADOT has coordinated the preparation of these comments on the RTP/SCS with other City departments that are most impacted by the RTP. LADOT very much appreciates the cooperation of the departments of Los Angeles World Airports (LAWA) and City Planning each of which have provided comments. The Port of LA has indicated that it does not have formal comments at this time. In addition, the Metro staff report on the RTP/SCS is also attached for reference.

Report to City Council, dated September 21, 2011
On October 5, 2011, the City Council adopted a joint report by the Departments of City Planning and Transportation entitled "Alternatives Proposed by SCAG for the 2012 Regional Transportation Plan / Sustainable Communities Strategy" (CF 11-1223). This report, dated September 21, 2011, provided comments on four draft scenarios for the RTP/SCS, released by SCAG in July 2011. Specifically, Attachment A of the report identified proposed RTP/SCS strategies that City staff believed would, if adopted, have a potential impact on the City. For purposes of the report, "impact" was defined as a significant change from adopted City policy. Staff believes that the report, dated September 21, 2011, continues to reflect City policy with regard to many of the strategies presently included in the draft RTP/SCS.

One of the objectives of the report was for the City's comments to be incorporated into the RTP/SCS. We are pleased to report that to a large extent the City's comments appear to have been acknowledged by SCAG and therefore the RTP/SCS does not include several of the specific proposals of concern. Specifically, three of the concerns raised, and the status of the strategy in the draft RTP/SCS, are as follows:

1) Phased implementation of 5% of major arterials to have dedicated bus lanes. As requested by the City, the RTP does not include a specific percentage for implementation. As explained in the September 21st report, the City supports careful and selected implementation of bus lanes, but does not want to commit to implementing a specific percentage of bus lanes on City arterials.

2) 10% of primary and secondary arterials to include bike facilities. As requested by the City, the RTP does not include a specific percentage for implementation. As explained in the September 21st report, the City supports careful and selected implementation of bike lanes, but does not want to commit to implementing a specific percentage of bike lanes on City arterials. Rather, the City supports the specific implementation of its adopted Bicycle Plan.

3) Cordon pricing around key activity centers – initial pilot projects in downtown Los Angeles and potentially LAX complex. As requested by the City, this project has been included in the Strategic Plan portion of the RTP/SCS, which acknowledges that the project still requires further study and has not been officially approved by the City.

Discussion of Policy Concerns and Comments

Although most of the concerns raised in the September 21, 2011 report appear to have been addressed, LADOT has identified additional areas of concern with regard to the draft 2012 RTP/SCS, which was released for public comment on December 20, 2011.

LADOT has comments and concerns in the following areas:

Project List for RTP/SCS

The RTP includes an extensive project list. As stated in the Project List appendix, the list is divided into three sections, as follows: 1) The Federal Transportation Improvement Program (FTIP), which forms the foundation of the RTP project investment strategy and represents the first six years of already committed funding; 2) the Financially Constrained list of projects not included in the FTIP but which have "reasonably available" funding; and 3) the Strategic Plan representing an unconstrained list of potential projects that the region would pursue given additional funding and commitment.

As with past RTP cycles, LADOT has reviewed all three project lists. The FTIP and Constrained project lists appear to include, with one exception, all City of Los Angeles projects with either committed or reasonably available funding. These lists are developed through ongoing coordination between City, Metro and SCAG staff. The one project that should be added to the FTIP list is a Transit Bureau project as follows:

> TIP ID LAF5427 – DASH Clean Fuel - Five Higher Capacity Vehicles (Purchase five 35-foot CNG clean-fuel buses to replace five 30-foot propane vehicles). SCAG is aware that this project needs to be added to the FTIP project list, and it is pending to be added to the list.

Regarding the Strategic Plan list, in an effort to expedite many as yet unfunded City projects, LADOT has prepared the attached list of approximately ninety projects that the City is requesting to be added to the Strategic Plan.

Additionally, LADOT wishes to draw attention to both the Los Angeles Bicycle Plan and Mobility Hubs initiatives (a First Mile/Last Mile strategy). These efforts support both the Active Transportation and Transportation Demand Management strategies of the RTP. The RTP includes numerous references to expanded bicycle facilities and other First Mile/Last Mile strategies, and therefore these strategies are presumably included with likely funding in the Financially Constrained plan. However, to the extent these initiatives are not included in the Constrained plan they should be added to the Strategic Plan.

Importantly, Metro staff has also reviewed the RTP and found that it includes all the projects and programs in the Metro 2009 Long Range Transportation Plan (LRTP). A copy of the Metro staff report, dated January 18, 2012, is attached for reference. The RTP does not model the 30/10 (Fast Forward) proposal for Measure R projects, because the proposal has not yet been approved by the Metro Board, and still requires federal approvals. However, SCAG is supportive of the 30/10 proposal and will likely amend the RTP if the proposal secures additional approvals.

The Metro report also highlights key projects, within Los Angeles County, included in the RTP which are not included in Metro's 2009 LRTP. These key projects include:

- East-West Freight Corridor will be studied along a five mile band generally following the SR-60 corridor between the I-710 and the I-15.

- Phase I of the California High Speed Rail Authority (CHSRA) is in the draft 2012 RTP in the Constrained Plan, pending an agreement between the CHSRA and Metrolink to identify funds to bring local systems up to higher speeds (110+ mph) where possible.

- A regional Express/HOT Lane Network that expands Metro's Fast Lanes pilot project to include the I-405 and SR-91. This goes beyond the federally funded pilot studies on the I-10 and I-110 freeways.

As an overall comment, the City wishes to emphasize that, for future RTP/SCS project lists, the City, Metro and SCAG need to continue the effort to improve connectivity between various transit systems. For example, in South Los Angeles County, there needs to be greater emphasis placed on the development of feeder systems to connect and support the Blue, Green, Expo and Crenshaw lines. These systems would include, but not be limited to, expanded Bus Rapid Transit and improved bicycle and pedestrian linkages.

Recommendation:

As described above, the City should request that SCAG include the attached list of projects to the Strategic Plan. Additionally, to the extent the Los Angeles Bicycle Plan and Mobility Hubs are not included in the Constrained Plan, they should be added to the Strategic Plan.

Land Use Strategy and Sustainable Communities Strategy Map for 2035

As stated in the SCS Background Documentation appendix, page 110, one of the goals of the SCS is "to identify strategies that can reduce per capita vehicles miles traveled (VMT) over the next twenty-five years." Among other strategies such as Transportation Demand Management, Transit etc., one of the key strategies for reducing VMT is the land use strategy. Essentially, this strategy involves reducing VMT through the gradual implementation of smart growth policies, including Transit Oriented Development, whereby new development is focused near transit stations and high quality transit corridors. The City is supportive of smart growth policies and has been working for many years to advance smart growth planning in a variety of ways.

LADOT realizes that the Department of City Planning has a major role in the review of the land use strategy of the SCS. However, because the land use strategy involves

residential density increases near transit stops and transit corridors, the strategy, if implemented, will impact the City's transportation infrastructure needs by 2035. Accordingly, LADOT has reviewed the SCS land use strategy.

The 2012 SCS includes Land Use Pattern Maps for each SCAG subregion, based upon five Community Types (Urban, City, Town, Suburban and Rural). The maps show the development pattern, according to SCAG, that is "likely to occur" by 2020 and 2035. However, the maps utilizing Community Types are at a "macro" level. The five Community Types actually include thirteen Development Types which give a more detailed picture of the land use pattern that the SCS proposes.

Because LADOT wished to examine more closely SCAG's desired and projected land use pattern for the City, LADOT requested that SCAG provide a map of the City for 2035 in which development patterns are shown by the thirteen Development Types. Accordingly, SCAG provided a map entitled "City of Los Angeles Year 2035 Preferred Scenario by Development Type," dated November 7, 2011 (SCS map for 2035). The SCS map for 2035 represents what SCAG desires and believes is "likely to occur" by 2035, categorized by SCAG's thirteen Development Types. It therefore represents a developed, rather than merely a planned, environment.

LADOT has compared the SCS map for 2035 with many of the maps for the City's adopted 35 community plans, which are found on the Department of City Planning website. It is evident that the SCS Map for 2035 is not consistent with many of the Community Plan maps, and shows a level of residential density considerably higher than shown on the adopted Community Plan maps. In particular, the SCS Map appears to show much fewer single family neighborhoods, defined as approximately seven units per acre. Because the SCS map for 2035 shows residential densities that are different than shown in the adopted Community Plan maps, if implemented, the map would impact land use patterns and the need for transportation infrastructure.

It is true that the SCS states, and SB 375 provides, that the SCS does not supersede local land use policies (see page 158 of the RTP/SCS main document). Therefore, revising the City's land use policies to be generally consistent with the SCS map would be voluntary. However, although voluntary, the concern is that, unless the City indicates otherwise, the adoption of the RTP/SCS by the SCAG Regional Council may imply to SCAG and other parties that the City supports the implementation of the land use pattern described in the map. Moreover, the SCS states in Table 4.3 (page 150) that local jurisdictions should "Update local zoning codes, General Plans, and other regulatory policies to accelerate adoption of land use strategies included in the RTP/SCS Plan Alternative."

Recommendation:

The City should clarify that it is the City that determines its own land use policy, and the adoption of the RTP/SCS, including the land use strategy and maps, does not imply

that the City will implement the development pattern described in the land use strategy.

The City should indicate to SCAG that the SCS Map for 2035 appears to be inconsistent with many adopted Community Plan maps. Further, changes to adopted land use policies and plans must go through an established City process, subject to Mayor and Council approval. This process includes an extensive and robust community outreach effort. The SCS Map for 2035 represents SCAG's "vision" of the City's developed land use pattern for 2035. However, the City may or may not implement the land use pattern described on the SCS Map for 2035.

CEQA Streamlining

The adopted September 21, 2011 City report, prepared by the Planning and Transportation departments, included the following comments:

> "The Sustainable Communities Strategy will include land use maps which will facilitate CEQA streamlining of development projects. According to SCAG staff, the CEQA relief provided by SB 375 is substantial. Therefore, the City should carefully review the draft SCS land use maps to ensure the maps are consistent with adopted City land use plans.
>
> SB 375 allows for CEQA streamlining provided a proposed project qualifies as follows:
>
> 1) The project must be consistent with the land use designation contained in the land use maps included in the Sustainable Communities Strategy. The maps will describe land use densities and types according to SCAG's Land Development Categories (LDC's).
>
> 2) The project qualifies as a Transit Priority Project (TPP), as defined by SB 375. To qualify as a TPP, a project must meet certain minimum density requirements and must be located within ½ mile of either a "major transit stop or high-quality transit corridor" (SB 375 - Section 21155). According to SCAG staff, most of the City qualifies as a TPP area because of existing transit stations and corridors.
>
> CEQA streamlining, according to information provided by SCAG, will allow many projects meeting the above two criteria to receive the equivalent of a "mitigated negative declaration" in the development review process. This could impact development review by several departments, including Planning and Transportation.
>
> The City requests that SCAG provide copies of the draft SCS land use maps for review by the Planning and Transportation departments, and the Council and Mayor, prior to SCS adoption."

The above comments provide an overview of CEQA streamlining. A more complete description is provided on pages 84 and 85 of the SCS Background Documentation appendix for the draft 2012 RTP/SCS. This section begins by stating: "SB 375 amends CEQA (the California Environmental Quality Act) to add Chapter 4.2 Implementation of the Sustainable Communities Strategy, which allows for CEQA exemption for certain projects, as well as reduced CEQA analysis."

LADOT is concerned regarding the impact of CEQA streamlining if it is based, in part, on the SCS Map of 2035. As described in the Land Use Strategy and SCS Map section above, it appears that the SCS Map is not consistent with many of the land use maps of the adopted Community Plans. Accordingly, the concern is that CEQA streamlining could allow development to occur that is not consistent with adopted City plans, with related impacts on transportation infrastructure.

Recommendation:

LADOT staff has consulted with staff of DCP and the City Attorney regarding the impact of CEQA streamlining on the City's development review process. Input received from these sources indicates that although CEQA streamlining of various types will probably occur following adoption of the RTP/SCS, the City may retain some degree of "discretionary approval" authority over development projects that are subject to CEQA streamlining. Although this interpretation may be correct, LADOT believes that this area deserves further study. This is a complex and important subject, and the City should carefully evaluate and prepare for the impact of CEQA streamlining following adoption of the RTP/SCS. To the extent possible, the City's authority over its land use should be preserved.

Program Environmental Impact Report (PEIR) for 2012 RTP/SCS

The draft PEIR evaluates the potential environmental impacts associated with the adoption of the 2012-2035 RTP/SCS by SCAG. As stated in the PEIR, "The PEIR for the 2012-2035 RTP/SCS serves as an informational document to inform decision-makers and the public of the potential environmental consequences of approving the proposed Plan. The PEIR includes mitigation measures designed to help avoid or minimize significant environmental impacts." The PEIR is a program level document, generally followed by project-specific CEQA reviews which focus on project-specific impacts and mitigation measures.

The PEIR is over six hundred pages in length, and includes an Executive Summary (of 87 pages). The Executive Summary lists and describes mitigation measures in many areas, including, but not limited to: Air Quality, Biological Resources and Open Space, Greenhouse Gas Emissions, Land Use and Agricultural Resources, Public Services and Utilities, Transportation, Traffic and Security, and Water Resources. There are

over 500 mitigation measures listed, including 85 Land Use mitigation measures.

Concerns have been raised among various SCAG subregions regarding the extent and legal impact of the mitigation measures included in the PEIR. The mitigation measures extend to and impact a broad spectrum of technical and policy areas. A specific concern is with the use of the wording "can and should" throughout the PEIR. Two examples are as follows:

- "Transportation, Traffic and Security 35: Local jurisdictions can and should (emphasis added) adopt a comprehensive parking policy that discourages private vehicle use and encourages the use of alternative transportation."

- "Transportation, Traffic and Security 37: Local jurisdictions and transit agencies can and should (emphasis added) provide public transit incentives such as free or low-cost monthly transit passes to employees, or free ride areas to residents and customers."

While these measures may have merit, the concern is to what extent does the "can and should" language imply feasibility and create an expectation or requirement for these measures, as well as other mitigation measures in the draft PEIR, to be implemented by the City. In addition to the local control concern, some of the measures may actually not be financially feasible for the City.

Recommendation:

Throughout the SCAG region, the PEIR is still being studied. The City should continue to review the PEIR as well as gather input from staff of other SCAG subregions. It is recommended that the PEIR be revised to indicate that not all of the mitigation measures will apply to each city in the region (including the City of Los Angeles). Rather the mitigation measures should represent a kind of "menu" of measures for consideration by each SCAG member agency. It is also recommended that SCAG remove the "can and" from the "can and should" language in the mitigation measures as well as the SCS Chapter of the draft RTP/SCS.

Comments from Other City Departments

Los Angeles World Airports (LAWA):

- LAWA emphasizes that its first priority is to "maintain safe and efficient airports." Like most airports, LAWA receives grant funds from the FAA for eligible construction and noise mitigation projects. In return for federal grant monies, the FAA includes grant assurances that limit use of airport revenue solely for aviation-related uses on airport property.
- The RTP includes a proposal to promote a regional system of airport express buses, modeled in part on the FlyAway service currently operating at LAX.

Although express buses are a "promising solution" to certain ground access problems, LAWA advises that express buses are most effective at airports with high passenger demand and in cities with concentrated populations of passengers and employees. Even then, high fares or significant subsidies have been required to maintain an effective level of service. LAWA cautions that its experience and studies have shown that the expansion of the express bus system at LAX will be challenging. Moreover, the expansion of express bus service, by itself, may not be effective in increasing passenger demand at "secondary" airports.

- LAWA agrees that "the aviation constraints in the region, and potential dispersion of that activity at other airports, should be re-examined in subsequent regional plans."
- LAWA requests that, if possible, SCAG utilize the 2011 Air Passenger Survey, most likely to be released in February, to update various data points in the Aviation and Airport Ground Access appendix.

Department of City Planning (DCP):
The Department of City Planning has provided important comments which are highly technical and lengthy, hence they are attached to this report as Attachment D.

Conclusion

The draft 2012 RTP/SCS and PEIR, released by SCAG on December 20, 2011, represent an outstanding effort to meet both State and Federal planning requirements, as well as provide for the multifaceted needs of the region. However, as described in this report, City staff has identified several areas of concern related to potential impacts on land use and transportation planning in Los Angeles. City staff has provided recommended comments to SCAG for City Council and Mayor review regarding these proposals.

Fiscal Impact

This report contains comments regarding proposed policies and projects included in the draft 2012 RTP/SCS and related PEIR. The comments to be transmitted to SCAG will not impact the City's General Fund.

Attachments

A) Council Approval, dated October 5, 2011, of report entitled "Alternatives Proposed by SCAG for the 2012 Regional Transportation Plan /

Sustainable Communities Strategy (CF 11-1223)," dated September 21, 2011.

B) Metro staff report, dated January 18, 2012, regarding the draft RTP/SCS

C) Los Angeles World Airports comments, dated January 20, 2012, regarding the draft RTP/SCS

D) Department of City Planning comments, dated January 30, 2012.

E) City of Los Angeles Projects Requested for Addition to the Strategic Plan

c: Mayor Antonio Villaraigosa
Attn: Borja Leon and Matthew Karatz
Gerry Miller, Chief Legislative Analyst
City Planning Department
Los Angeles World Airports
Port of Los Angeles

Attachment A

CITY OF LOS ANGELES
CALIFORNIA

JUNE LAGMAY
City Clerk

HOLLY L. WOLCOTT
Executive Officer

When making inquiries relative to this matter, please refer to the Council File No.

ANTONIO R. VILLARAIGOSA
MAYOR

Office of the
CITY CLERK

Council and Public Services
Room 395, City Hall
Los Angeles, CA 90012
General Information - (213) 978-1133
Fax: (213) 978-1040

www.cityclerk.lacity.org

October 7, 2011

To All Interested Parties:

The City Council adopted the action(s), as attached, under Council File No. 11-1223, at its meeting held October 5, 2011.

June Lagmay

City Clerk
srb

10/5/11

#23

File No. 11-1223

TO THE COUNCIL OF THE
CITY OF LOS ANGELES

Your PLANNING AND LAND USE MANAGEMENT COMMITTEE
and
TRANSPORTATION COMMITTEE

report as follows:

PLANNING AND LAND USE MANAGEMENT and TRANSPORTATION COMMITTEES' REPORT relative to Southern California Association of Governments (SCAG) proposed alternatives for the 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

Recommendations for Council action:

1. AUTHORIZE the Los Angeles Department of Transportation (LADOT) and City Planning Department (Planning) to:

    a. Submit to SCAG the comments contained in Attachment A of the joint LADOT and Planning report dated September 21, 2011 (contained in the Council file), inasmuch as the strategies identified therein may have a potential impact on the City.

    b. Convey the comments to SCAG requesting that they be incorporated into the 2012 RTP/SCS with the understanding that the comments may be modified and supplemented by the City, with Council and Mayor approval, as the RTP/SCS is further developed.

2. REQUEST SCAG to provide copies of the draft SCS land use maps for review by the LADOT and Planning, Council, and Mayor prior to SCS adoption, inasmuch as the maps will identify geographical areas of the City where projects can be eligible for California Environmental Quality Act streamlining and thereby potentially allow development projects to receive mitigated negative declarations in the development review process and thereby impact growth in the City.

Fiscal Impact Statement: The LADOT and Planning Departments report the potential fiscal impact to the City has not been determined. Further review and evaluation is necessary as more information on the ultimate preferred alternative is presented by SCAG.

Community Impact Statement: None submitted.

SUMMARY

At a joint meeting held on September 27, 2011, the Planning and Land Use Management and Transportation Committees considered a joint LADOT and Planning Departments report relative to Southern California Association of Governments proposed alternatives for the 2012 Regional Transportation Plan/Sustainable Communities Strategy. Representatives from the LADOT and Planning gave the Committees background information on the matter. The Committees requested SCAG to provide copies of the draft SCS land use maps for review by the LADOT and Planning Departments, Council and Mayor prior to SCS adoption.

After an opportunity for public comment was held, the Committees recommended Council approve the recommendations contained in the joint report as amended. This matter is now forwarded to the Council for its consideration.

Respectfully submitted,

PLANNING AND LAND USE MANAGEMENT COMMITTEE

TRANSPORTATION COMMITTEE

ADOPTED

OCT 5 2011

LOS ANGELES CITY COUNCIL

MEMBER	VOTE
REYES:	YES
HUIZAR:	YES
KREKORIAN:	YES

MEMBER	VOTE
ROSENDAHL:	YES
PARKS:	YES
KDRETZ:	YES
PERRY:	ABSENT
HUIZAR:	YES

SG
9/27/11
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Not Official Until Council Acts

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

213.922.2000 Tel
metro.net

Metro

REVISED
PLANNING AND PROGRAMMING COMMITTEE
JANUARY 18, 2012

SUBJECT: SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS' DRAFT 2012 REGIONAL TRANSPORTATION PLAN / SUSTAINABLE COMMUNITIES STRATEGY

ACTION: APPROVE COMMENT LETTER

RECOMMENDATION

Approve our comment letter on the Southern California Association of Governments' (SCAG) Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

ISSUE

In December 2011, SCAG released the Draft 2012 RTP/SCS for public comment. The RTP/SCS identifies regional transportation priorities for the six-county region through 2035. All 2009 Long Range Transportation Plan (LRTP) projects and priorities must be included in SCAG's RTP/SCS to be eligible for federal funds. We have reviewed the Draft 2012 RTP/SCS and Board authorization is being requested to transmit our comments to SCAG in time for their February 14, 2012 deadline.

DISCUSSION

As part of SCAG's role as a regional planning agency, they are responsible for addressing regional issues in the six-county area of Southern California. The 2012 RTP/SCS is the vehicle to provide solutions to regional mobility and land-use issues. For better integration of land-use and transportation, it must also demonstrate reduction of Greenhouse Gas Emissions (GHGe) from passenger vehicles. Per the requirements of SB 375, the Draft 2012 RTP/SCS includes Southern California's first SCS. The SCS is required to analyze how the collective impact of transportation policies, transportation investments and land-use policies affect the GHGe based on population projections in 2020 and 2035. Transportation issues are primarily addressed in the RTP portion of the Draft, and the SCS portion of the Draft presents strategies to meet GHGe targets.

SB 375 compelled SCAG to conduct a more extensive outreach process than has been historically required for RTP development. This process yielded unprecedented levels of public participation and engagement, particularly among environmental and public health advocates championing increased funding for active transportation to reduce GHGe and provide great opportunities for physical activity. The Los Angeles County Department of Public Health was a leading voice in this advocacy.

Regional Transportation Plan

In general, the Draft 2012 RTP/SCS is a well-written document that properly identifies many of the key transportation issues that the region is facing. It includes all of the projects and programs in our 2009 LRTP. SCAG has proposed new and innovative sources of funding beyond our LRTP program. These funds are for additional projects, regional maintenance of highway and transit facilities, and meeting Federal Clean Air Act conformity requirements.

There are new transportation projects proposed in the Draft 2012 RTP/SCS, within Los Angeles County, which are beyond revenues that the 2009 LRTP assumes to be available from traditional sources. Some of these projects are listed in the Key Projects subsection below. SCAG is assuming that these new projects are funded with a combination of innovative funding (e.g., container fees and public private partnerships) and increased revenues (e.g. gas tax changes and user-fee per mile).

The Draft 2012 RTP/SCS proposes targeted improvements in the transit network and increases in funding for Transportation Demand Management (TDM), Transportation System Management (TSM), and Active Transportation beyond the levels included in the six county transportation commissions' plans, including our 2009 LRTP.

Funding for these improvements is anticipated from a $0.15 per gallon increase in the gas tax starting in 2017 and ending entirely in 2024. After the gas tax phase-out in 2024, a proposed user-tax of $0.05 per mile driven, will be phased-in starting in 2025. The goal of the incremental phase-in is so that consumers will not have any large increases of taxes, yet also allow for an indexing to cover the increasing maintenance costs, due to the gas taxes not being indexed to inflation and not increasing with costs.

Key Projects beyond the LRTP

The following lists Los Angeles County projects identified in the Draft RTP that are not identified in the 2009 LRTP

- East-West Freight Corridor will be studied along a five mile band generally following the SR-60 corridor between the I-710 and the I-15.
- Phase I of the California High Speed Rail Authority (CHSRA) is in the Draft 2012 RTP/SCS in the Constrained Plan, pending an agreement between CHSRA,

Metrolink and LOSSAN to identify funds to bring local systems up to high speed (110+ MPH) where possible.

- A regional Express/HOT Lane Network that expands our Fast Lanes pilot project to include the I-405 and SR-91. This is beyond the federally funded pilot studies on I-10 and the I-110. The Board is on record supporting these two pilot projects, as well as studying the feasibility of a HOT lane on the I-405 from the Orange County Line to LAX.

Key Issues

There are several emerging issues that the Draft 2012 RTP/SCS addresses:

- A cordon pricing pilot project feasibility study to be developed with the City of Los Angeles that is included under TDM Measures, and Major Strategic Projects.
- Decreased funding available from federal and state sources and the need to identify new revenue sources is a key RTP concern. SCAG proposes to index the gas tax and to incrementally phase-in user-fees to replace the gas tax starting in 2025.
- The exponential cost of deferred maintenance on highway and transit systems, the need to maintain the regional system in a state of good repair, and the need for additional operations and maintenance funding, is also a key RTP concern.
- The region is anticipated to experience increasing energy costs – residential energy and water use is forecasted as $19,000 a year in 2035, and the strategies in the SCS reduce it to $16,000.

Sustainable Communities Strategy

The Draft 2012 RTP/SCS demonstrates that the region will achieve the GHGe reduction targets established for the region by the State of California Air Resources Board (ARB), as a requirement of California's Sustainable Communities and Climate Change Protection Act, or Senate Bill (SB) 375.

In addition to the transportation elements of the Draft 2012 RTP/SCS, the plan includes a land-use element that was developed in coordination with local jurisdictions. The land-use element responds to the region's changing demographics and housing market demand. It recommends a growth scenario that will more than double the share of households living in corridors that have frequent transit service by 2035. This land-use element is projected to increase the competitiveness of transit service and reduce vehicle miles travelled.

The land-use element in combination with transportation policies, such as the user tax per mile fee, and transportation investments (such as TDM, TSM and active

transportation), support the region in achieving the mandated ARB targets. The Draft 2012 RTP/SCS provides a projected 8% reduction in GHGe by 2020 and a 16% reduction in GHGe by 2035.

The SCS portion includes policies to increase the number of near-zero and zero emission vehicles operating within the region to reduce GHGe, improve air quality and lessen the region's dependency on fossil fuels.

The Draft 2012 RTP/SCS includes $6 billion for active transportation, a significant increase from $1.8 billion in the 2008 RTP. It acknowledges that additional analysis regarding active transportation needs to be conducted in order to develop a better understanding of the users and their needs (bicyclists and pedestrians). In cooperation with SCAG, we have initiated a joint study to develop a strategy to address first-last mile connections to transit in Los Angeles County.

The technical appendices to the Draft 2012 RTP were not available for staff review at the time of the writing of this Board report. Additional technical comments on these appendices may be added to the draft letter.

DETERMINATION OF SAFETY IMPACT

The comment letter on the Draft 2012 RTP/SCS will not have any adverse safety impacts for our employees and patrons.

FINANCIAL IMPACT

There is no impact on the FY 2012 budget, as we are only submitting a comment letter to SCAG on their Draft 2012 RTP/SCS.

ALTERNATIVES CONSIDERED

The Board can modify or choose not to release a formal comment letter. The alternative of not sending a letter is not recommended, as we would lose the opportunity to provide SCAG with comments to enhance the 2012 RTP/SCS document.

NEXT STEPS

Upon Board approval, the comment letter will be transmitted to SCAG for their consideration in developing their Final 2012 RTP/SCS. SCAG is scheduled to adopt their Final 2012 RTP/SCS at their April 2012 General Assembly meeting.

ATTACHMENTS

A. Draft comment letter to SCAG

Prepared by: Brad McAllester, Executive Officer, Long Range Planning
Heather Hills, Director, Long Range Planning
Lori Abrishami, Planning Manager, Long Range Planning

Martha Welborne, FAIA
Executive Director of Countywide Planning

Arthur T. Leahy
Chief Executive Officer

Attachment C

Los Angeles
World Airports

January 20, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

LAX
LA/Ontario
Van Nuys
City of Los Angeles
Antonio R. Villaraigosa
Mayor
Board of Airport
Commissioners
Michael A. Lawson
President
Valeria C. Velasco
Vice President
Joseph A. Aredas
Robert D. Beyer
Boyd Hight
Ann M. Hollister
Fernando M. Torres-Gil
Gina Marie Lindsey
Executive Director

Re: Comments on the Draft 2012 Regional Transportation Plan

Dear Mr. Ikhrata:

Los Angeles World Airports (LAWA) appreciates the opportunity to comment on the Draft 2012 Regional Transportation Plan (RTP), and is committed to working with all levels of government to address the future transportation needs of Southern California. As the operator of two of the region's commercial airports, Los Angeles International (LAX) and Ontario International (ONT), and operator of Van Nuys General Aviation Airport (VNY), LAWA plays an important role in meeting the region's demands for air travel and goods movement.

LAWA, as a proprietary department of the City of Los Angeles, is responsible for operating its airports in a safe, efficient, and fiscally responsible manner on behalf of our passengers and the citizens of each market service area. Furthermore, we must operate within the constraints placed upon our resources by federal law and regulation, along with our contractual obligations to our tenants and partner agencies. It is in this context that LAWA provides the following comments to the Aviation and Airport Ground Access portion of the RTP:

1. Use of Airport Funds

LAWA's first priority is to maintain safe and efficient airports. Our revenues and expenditures are used to support that effort and fulfill our commitment to supporting the national airspace system. All airports have a tremendous demand for capital improvements.

As such, most airports depend on financial support from the FAA via grant funds for eligible construction and noise mitigation projects. In return for federal grant monies, the FAA includes grant assurances that limit use of airport revenue solely for aviation-related uses on airport property. Using airport funds for non-airport functions violates federal law and jeopardizes the airport's ability to receive federal grants.

1 World Way Los Angeles California 90045-5803 Mail P.O. Box 92216 Los Angeles California 90009-2216 Telephone 310 646 5252 Internet www.lawa.aero

Nevertheless, LAWA seeks to partner with SCAG to find solutions to support ground access improvements to airports, other primary transportation facilities, and "secondary" airports in the region.

2. Use of Airport Express Buses

The RTP includes an "Action Step" which would plan and promote a regional system of airport express buses, modeled in part on the FlyAway® service currently operating at LAX. LAWA agrees that express buses are a promising solution to certain ground access problems. However, it has been LAWA's experience that express buses are most effective at airports with high passenger demand and in cities with concentrated populations of passengers and employees. Even then, high fares or significant subsidies have been required to maintain an effective level of service.

LAWA has spent a great deal of resources carefully studying the feasibility of establishing new FlyAway® routes to serve LAX. However, even for LAX, with its extensive market area and passenger base, it has been a challenge to find station locations that are both viable and successful. LAWA invites SCAG to continue examining ways to bring similar projects to other airports, but cautions that these services, by themselves, may not be effective in increasing passenger demand at "secondary" airports.

3. Aviation Activity Constraints

LAWA agrees that the aviation activity constraints in the region, and potential dispersion of that activity at other airports, should be re-examined in subsequent regional plans.

4. Additional Technical Clarifications

LAWA also wants to offer the following technical clarifications and comments to the RTP:

- SCAG has reported a number of vehicle trips to LAX under existing conditions as well as under a future forecast for 2035, citing the LAX Master Plan EIR/EIS as a justification for those trip numbers. However, the numbers reported do not correspond to data that LAWA has previously reported or used in any environmental analysis. LAWA requests clarification of those data points.

- LAWA recommends the following changes to Tables 4-6 and 4-7 in the Aviation and Airport Ground Access sections of the RTP:

    - In Table 4-6, the following projects should be included in the list of projects completed since the project notice of preparation in 2008 (footnote 1): Douglas St., La Cienega Blvd., Lincoln Blvd. (all), Nash St.,

Sepulveda Blvd. (both), the I-105 westbound off-ramp at Sepulveda Blvd., and the I-405 at SR-90.

- Two other projects on Table 4-6, Arbor Vitae St., and the I-405 from I-10 to SR-101, are under construction as of January 2012.
- In Table 4-7, Project LAX-19, which includes Lincoln Blvd. improvements, has already been completed.

- LAWA recommends that SCAG include in the RTP a portion of the project referred to as LAX-10, widening Aviation Blvd. from Century Blvd. to Manhattan Beach Blvd. to 3 lanes in each direction.

5. 2011 Air Passenger Survey

Lastly, the 2006 LAX Air Passenger Survey was used to create several data points within this section of the RTP. LAWA is hoping to unveil the results of its 2011 Air Passenger Survey in February of this year. SCAG should consider updating its Appendix with this new data as it finalizes the RTP. LAWA will post the results of this survey on our website (http://www.lawa.org) once the report is completed.

Thank you for the opportunity to review the 2012 Draft RTP. We hope that these comments will be helpful in developing a successful plan for the region. If you have any questions regarding these comments, please contact Diego Alvarez, Regional Transportation Coordinator, at 424-646-5179 or dalvarez@lawa.org.

Sincerely,

Michael D. Feldman
Deputy Executive Director

MDF:DA:yl

PC DOC 294681

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CITY OF LOS ANGELES
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ANTONIO R. VILLARAIGOSA
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Attachment D

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INFORMATION
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January 30, 2012

The Honorable City Council
City of Los Angeles
Room 395, City Hall

Dear Honorable Members:

DRAFT 2012-2035 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY

The Department of City Planning (DCP) has reviewed and prepared comments for your consideration regarding the Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) prepared by the Southern California Association of Governments (SCAG).

The 2012-2035 RTP/SCS includes land use strategies for addressing the region's mobility needs and desires for healthy, sustainable communities. DCP has worked with SCAG to ensure that the City's land use plans and programs are incorporated and the City's interests addressed in this long-range regional plan. This work has included collaboration with SCAG over the past two years to prepare the population, household and employment growth forecast for the City, ensure that this anticipated growth is consistent with the capacity reflected in City's land use plans, and ensure that this long-term growth is located according to the City's land use plans.

DCP staff has identified five issues related to land use, and recommends changes to the 2012-2035 RTP/SCS to better support the City's interests and role in the regional plan, presented in the draft letter to SCAG attached to this report. These include:

A. Clarify the definition of "High Quality Transit Areas" where growth is focused;
B. Clarify the definition of "Urban Centers" where growth is focused;
C. Correct inaccurate representations of land uses and potential growth around station areas;
D. Incorporate the 1,684 miles of bicycle facilities identified in the City's 2010 Bicycle Plan; and,
E. Clarify the role of recently enacted streamlining provisions under the California Environmental Quality Act.

RECOMMENDATIONS

1) **Approve** DCP staff recommendations regarding the Draft 2012-2035 RTP/SCS.
2) **Direct** DCP staff to forward recommendations to SCAG.

FISCAL IMPACT

The proposed recommendations will have no fiscal impact on the General Fund.

MICHAEL J. LOGRANDE
Director of Planning

ALAN BELL, AICP
Deputy Director

KEN BERNSTEIN, AICP
Principal City Planner

for FAISAL ROBLE
Senior City Planner

CLAIRE BOWIN, AICP
City Planner

NAOMI GUTH
City Planning Associate

Attachment

ATTACHMENT

[Date]

Ms. Margaret Lin
Southern California Association of Governments
818 W. Seventh St., 12th Floor
Los Angeles, CA 90017

Dear Ms. Lin:

DRAFT 2012-2035 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY

The purpose of this letter is to provide comments from the City of Los Angeles Department of City Planning (DCP) regarding the Draft 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). DCP appreciates the collaborative relationship with SCAG in developing this plan, which has included working together on the integrated growth forecast and understanding the City's land use plans and programs.

The following addresses five land use issues and recommends changes to the 2012-2035 RTP/SCS in order to better address the City's land use plans and projected growth. This includes:

A. Clarify the definition of "High Quality Transit Areas" where growth is focused;
B. Clarify the definition of "Urban Centers" where growth is focused;
C. Correct inaccurate representations of land uses and potential growth around station areas;
D. Incorporate the 1,684 miles of bicycle facilities identified in the City's 2010 Bicycle Plan; and,
E. Clarify the role of recently enacted streamlining provisions under the California Environmental Quality Act.

A. High Quality Transit Areas and Growth Patterns

The SCS frames growth patterns, in part, in terms of being within or outside of "High Quality Transit Areas (HQTAs)." An HQTA is defined as, "generally a walkable transit village or corridor, consistent with the adopted RTP/SCS , that has a minimum density of 20 dwelling units per acre and is within a ½ mile of a well-serviced transit stop with 15-minute or less service frequency during peak commute hours." HQTA boundaries are graphically portrayed in exhibits throughout the SCS. For the City of Los Angeles, the vast majority of the City's land area falls within HQTA boundaries, as seen in the following Exhibits: 4.4, 4.9, 4.13, 4.15, and Exhibits 19, 20 and 21 in the SCS Background Documentation (see Attachment).

These HQTA boundaries encompass all neighborhoods within a ½ mile radius and appear to indicate that growth will take place throughout the area, including low density single-family

neighborhoods and industrial districts. In fact, the City is far more discriminating, and adopted land use plans reflect carefully studied areas where growth can be absorbed. Generally, land use changes to accommodate growth are typically at transit stops and on parcels fronting transit corridors. Single-family neighborhoods are generally preserved.

Recommendation: The City recommends that additional explanation be included on pages 112-113 to better describe where growth is accommodated, as indicated by the following underlined text:

> "A HQTA is generally a walkable transit village or corridor, consistent with the adopted RTP/SCS , that has a minimum density of 20 dwelling units per acre and is within a ½ mile of a well-serviced transit stop with 15-minute or less service frequency during peak commute hours. This was represented by the proportion of Greenfield versus Refill (infill and redevelopment) growth in each of the scenarios. Within these boundaries, growth within a given jurisdiction is consistent with the integrated growth forecast for that jurisdiction and is distributed according to the jurisdiction's land use plans. Thus, while areas within ½ mile of a transit stop or corridor are walkable in relation to transit, not all such areas are targeted for growth and/or land use changes."

B. Urban Centers and Growth Patterns

The SCS frames the overall land use pattern across the SCAG region around six factors. The HQTAs, discussed above, are one factor. Another factor is the region's urbanized core versus peripheral areas. Urbanized core areas, or "core centers," are defined in the SCS as, "areas where strategies such as compact community design, mixed-use development, redevelopment of aging retail areas, greater housing variety, and additional transit service are more likely to succeed." Exhibit 4.5, Urban Centers SCAG Region (see Attachment), depicts the locations of these urban centers. However, these urban centers do not appear to align with the urban centers identified in Exhibit 4.15 for areas within the City of Los Angeles.

Recommendation: The City recommends that the relationship between Exhibit 4.5 and Exhibit 4.15 be clearly described. If the two exhibits are intended to illustrate the same urbanized areas, staff recommends that the color scheme used in Exhibit 4.15 also be used in Exhibit 4.5.

C. Land Uses around Station Areas

The SCS projects higher density in urban centers, and anticipates growth in transit rich areas throughout the City of Los Angeles in order to demonstrate a decrease in GHG emissions by 2035. DCP staff compared the city's General Plan Land Use to the SCS Land Use Pattern Maps and has found that in general the SCS is consistent with the City's land use density and land use designations. However, in closely examining 76 rail and bus transit station areas, DCP staff has found instances of inflated density, which inaccurately reflects the General Plan distribution of growth.

Exhibit 21 Land Use Pattern Map 2035 (see Attachment) identifies urban centers with densities that are not consistent the community plans for these areas. Such centers would have residential densities ranging from 82 to 120 housing units or more per acre. This density is typical in the Central City and some adjacent neighborhoods, and is proposed for the Warner Center, but it is generally not appropriate throughout the rest of the city.

In addition, the following issues were found in multiple station areas.

- Multi-Family neighborhoods
  - Densities up to 178, 145, or 61 units/acre that are too high for many sites
  - Densities too high in areas adjacent to single-family neighborhoods
- Single-Family neighborhoods
  - Increase in density in strictly single-family areas that are stable and where no growth is anticipated
  - Parcels and Corridors in Historic Preservation Overlay Zones reflect density designations that are too high; these areas are stable with no projected change
  - Residential uses reflected as commercial
- Commercial Corridors
  - Density projections are too high
- Industrial Land Use
  - Industrial areas that are to be preserved as industrial are inaccurately represented as commercial or retail
  - Industrial areas that show residential designations are an inaccurate reflection as these sites are preserved
- Public Facilities
  - Land use changes at school sites that are not projected to change
  - High residential densities or commercial uses projected on public facilities such as along freeways, county jail, open space

Recommendation: The City recommends that more appropriate representations of land use around station areas be made, which can be identified on detailed annotated maps of the station areas and provided under separate cover.

D. Proposed Bikeways

The SCS emphasizes the importance of active transportation options in meeting the mobility needs of the SCAG region, including walking and biking. While SCAG has proposed a regional bikeway network, the SCS includes the contributions of localities in developing bicycle networks within the locality and linking to other transit modes, reflected in Exhibit 4.11 Proposed Bikeway Network SCAG Region (see Attachment). However, it appears that the City of Los Angeles' recently adopted 2010 Bicycle Plan for 1,684 miles of bike facilities across Los Angeles is not included in this Exhibit. Some segments of this bicycle network are in development and have been identified for funding, and are therefore included in the 2012 RTP list of transportation investments. Including the full proposed bicycle network will support the long-term commitment to pursue resources for development of the network.

Recommendation: The City recommends that the SCS include the bicycle facilities identified in the City's 2010 Bicycle Plan.

E. CEQA Streamlining Incentives for Sustainable Land Use Patterns

The 2012-2035 RTP/SCS directly addresses the opportunity for relief under the California Environmental Quality Act (CEQA). Under Senate Bill 375, the requirement to prepare a Sustainable Communities Strategy (SCS) was coupled with incentives to encourage sustainable development and implementation of an SCS. The incentives are comprised of relief under CEQA, such as streamlined documentation or exemption from environmental review requirements, for specific development types in specific locations, as long as such development is consistent with the land use reflected in the SCS. As any proposed development is considered by local jurisdictions, this CEQA relief is at the discretion of local jurisdictions. However, as written, the 2012-2035 RTP/SCS can be construed to indicate that CEQA relief is part of the land use plan and is available by right to all development that meets the qualifications.

Recommendation: The City recommends that the 2012-2035 RTP/SCS better reflect the opportunity for CEQA streamlining incentives through the following changes:

1) In the discussion of the mandate to prepare an SCS (page 106 of the 2012-2035 RTP/SCS), amend the last sentence of the second to last paragraph:
"In addition, some projects consistent with the SCS ~~are~~ may be eligible for streamlined environmental review."

2) In Exhibits 4.1, 4.2 and 4.3 regarding population, employment and household growth, respectively (see Attachment), remove the depiction of Transit Priority Project (TPP) areas. A TPP is one particular type of development that qualifies for CEQA streamlining. Depicting this in these exhibits is confusing because a TPP is not defined. Furthermore, the depiction of TPP boundaries detracts from the purpose of the exhibits, which is to show where growth is directed over the planning period of the 2012-2035 RTP/SCS.

3) In the discussion of Transportation Analysis Zones (TAZs) and Development Types (page 122 of the 2012-2035 RTP/SCS), remove the brief discussion regarding CEQA streamlining and the adequacy of TAZ-level land use information. First, this point is difficult to understand as presented and requires further explanation. Second, this point pertains to incentives available to jurisdictions and developers, not to the modeling analysis. Lastly, this point detracts from the purpose of the section, which is to describe the approach to modeling land use and transportation information. This paragraph would thus read:

> "To conduct required modeling analysis for the RTP/SCS, SCAG distributes the growth forecast data to transportation analysis zones (TAZs) to capture localized effects of the interaction of land use and transportation. ~~Additionally, SB 375 offers local governments potential CEQA relief for qualified development projects consistent with an~~

~~adopted SCS. SCAG suggests that utilizing community types at the TAZ level of geography (with an average size of 160 square acres) offers local jurisdictions adequate information and flexibility to make appropriate consistency findings for projects to be eligible to receive CEQA streamlining benefits.~~
To further facilitate regional modeling of land use information from nearly 200 separate jurisdictions, SCAG developed a simplified series of Community Types to represent the land use categories taken from the region's many general plans..."

4) A reference to the summary of the CEQA incentive (page 148 of the 2012-2035 RTP/SCS) should be included under the section "RTP/SCS Next Steps" and the summary should be moved to follow this because the incentive can be used to encourage and facilitate implementation of the SCS and is therefore better understood as a "next step." In addition, the summary should include a discussion regarding a jurisdiction's discretion in certifying the environmental review for a project, regardless of eligibility for streamlining.

5) In the SCS Background Documentation, the summary of the CEQA exemption (page 84) should include a description of a jurisdiction's discretion in certifying the environmental review for a project, regardless of eligibility for streamlining.

Thank you for this opportunity to provide comments. If you have any questions or would like additional information, please contact Naomi Guth at (213) 978-3307 or by email at Naomi.Guth@lacity.org.

Sincerely,

MICHAEL J. LOGRANDE
Director of Planning

Attachment

CC: Ken Bernstein, Principal City Planner
Naomi Guth, City Planning Associate

EXHIBIT 4.4 Compass Blueprint Demonstration Projects

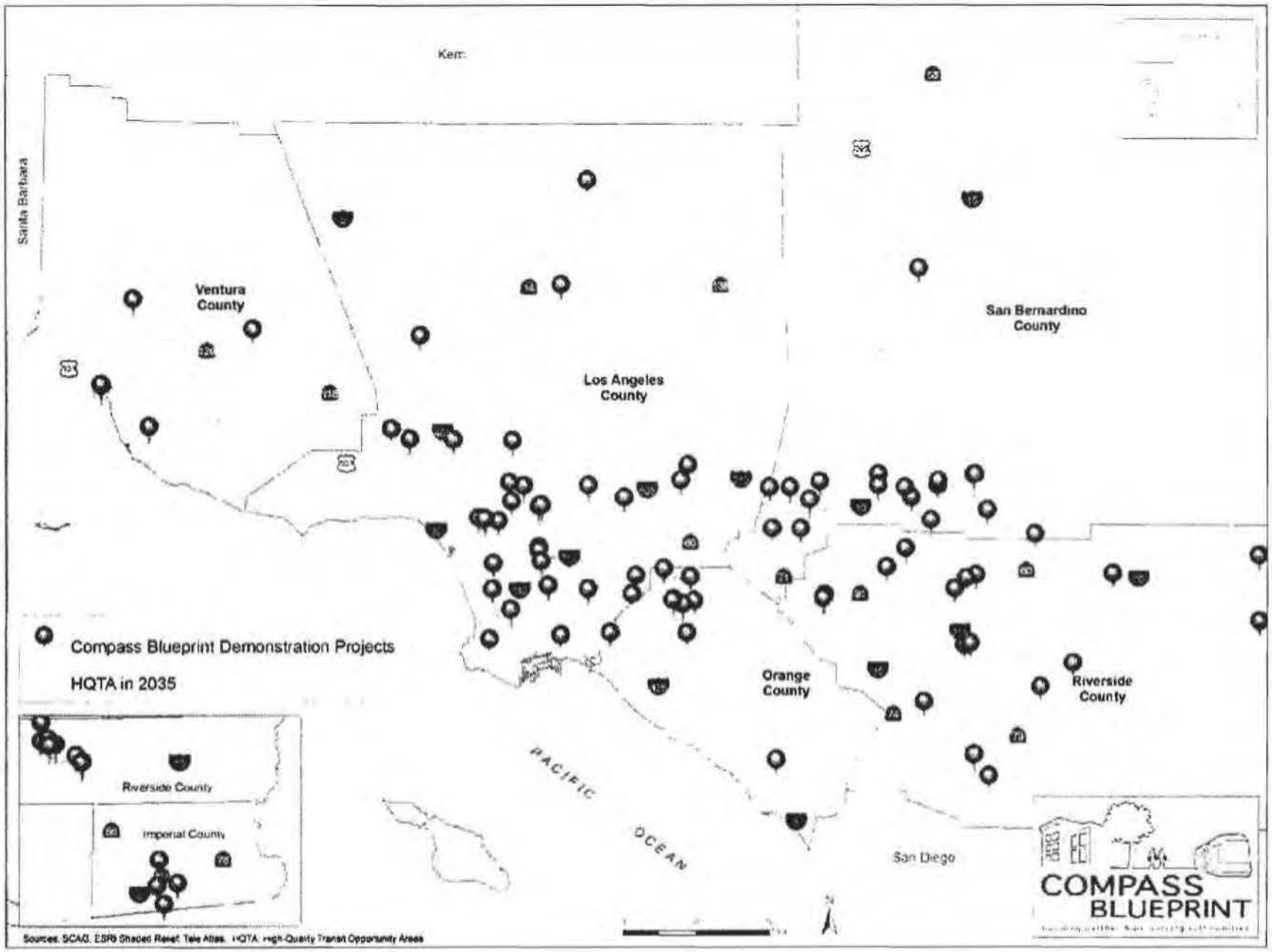


EXHIBIT 4.9 High-Quality Transit Areas (HQTA) SCAG Region

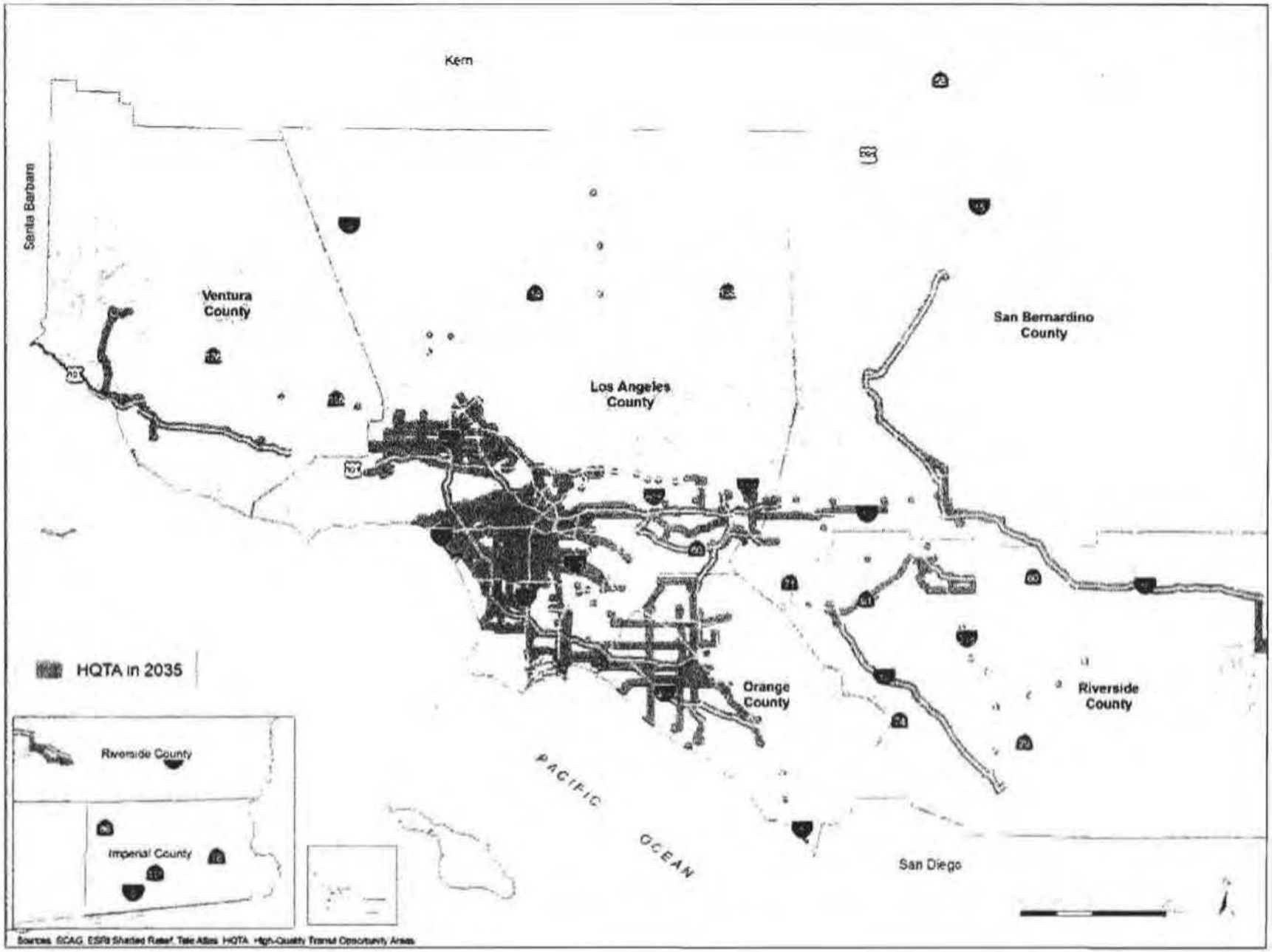


EXHIBIT 4.13 Land Use Pattern SCAG Region (2035)

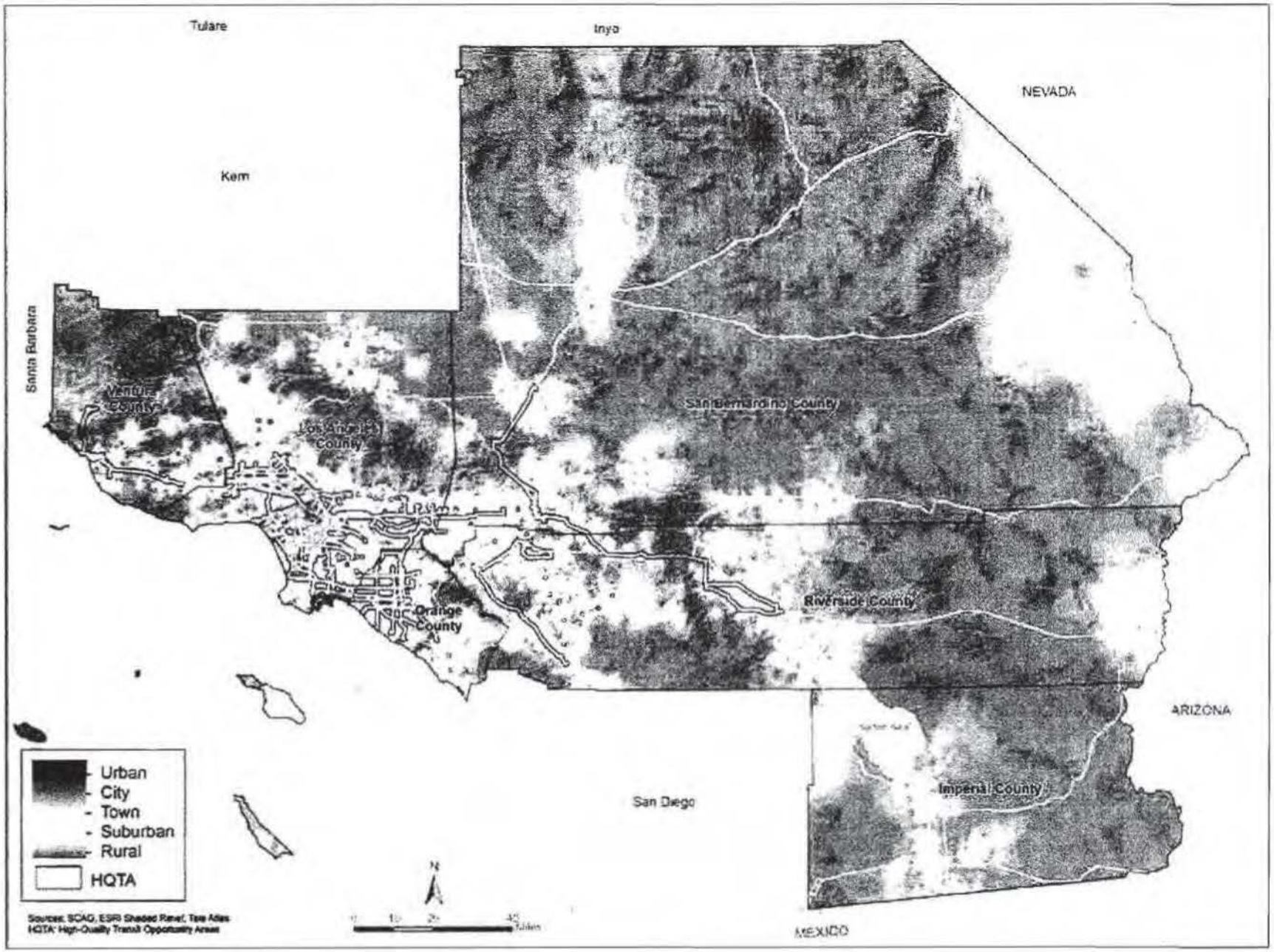


EXHIBIT 4.15 Land Use Pattern Los Angeles County (2035)

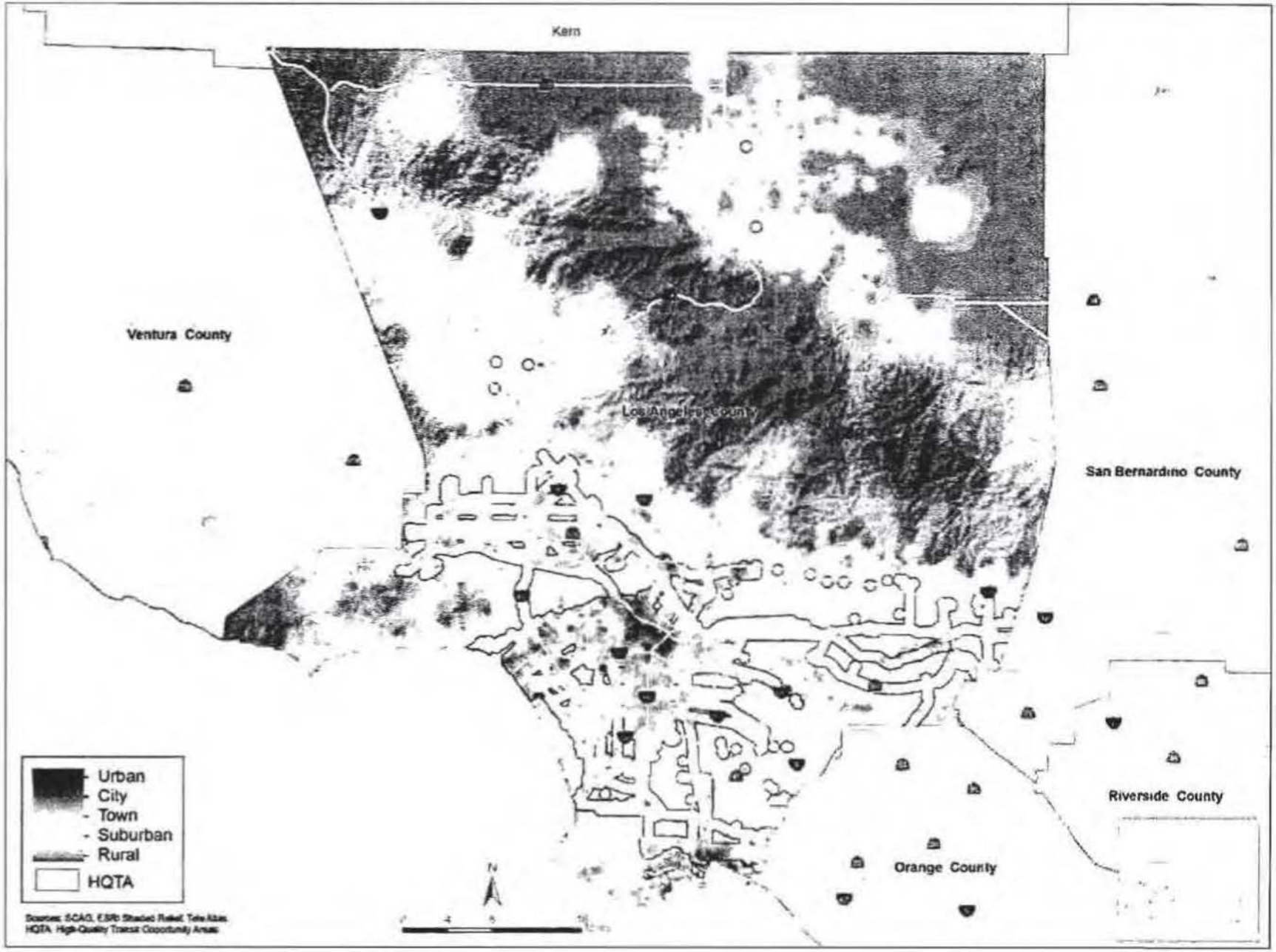


EXHIBIT 19 Land Use Pattern Map - City of Los Angeles 2008

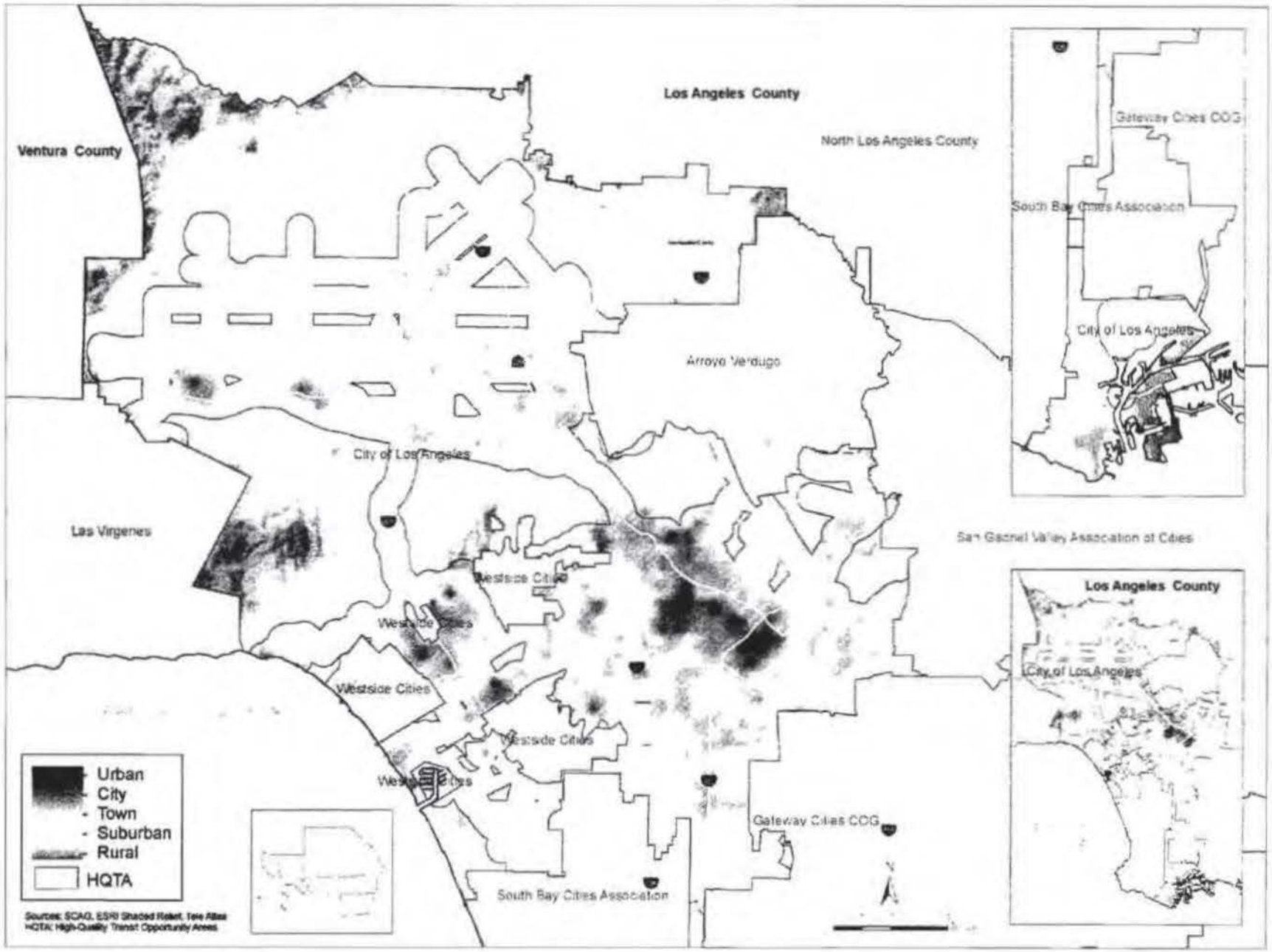


EXHIBIT 20 Land Use Pattern Map - City of Los Angeles 2020

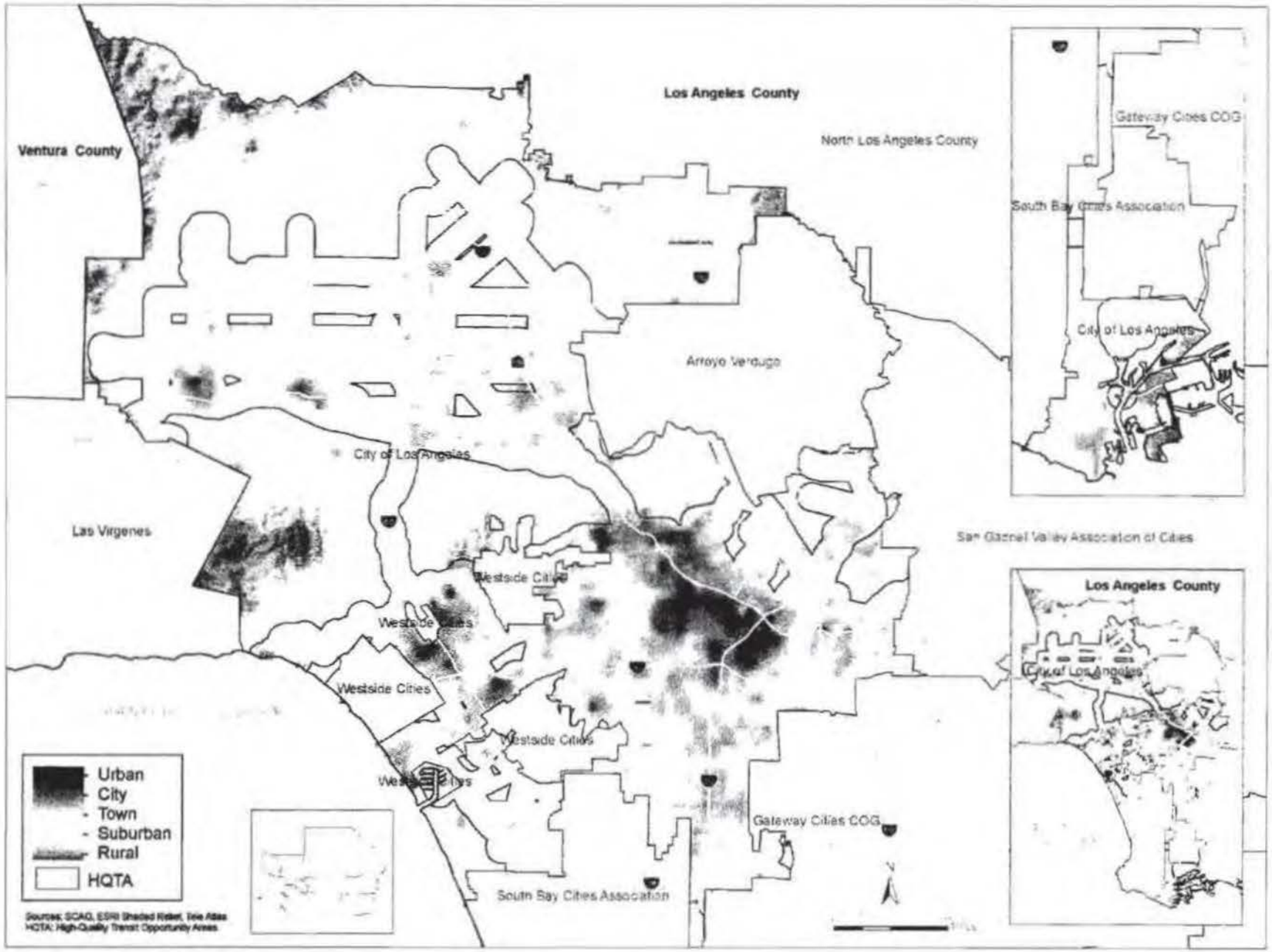


EXHIBIT 21 Land Use Pattern Map - City of Los Angeles 2035

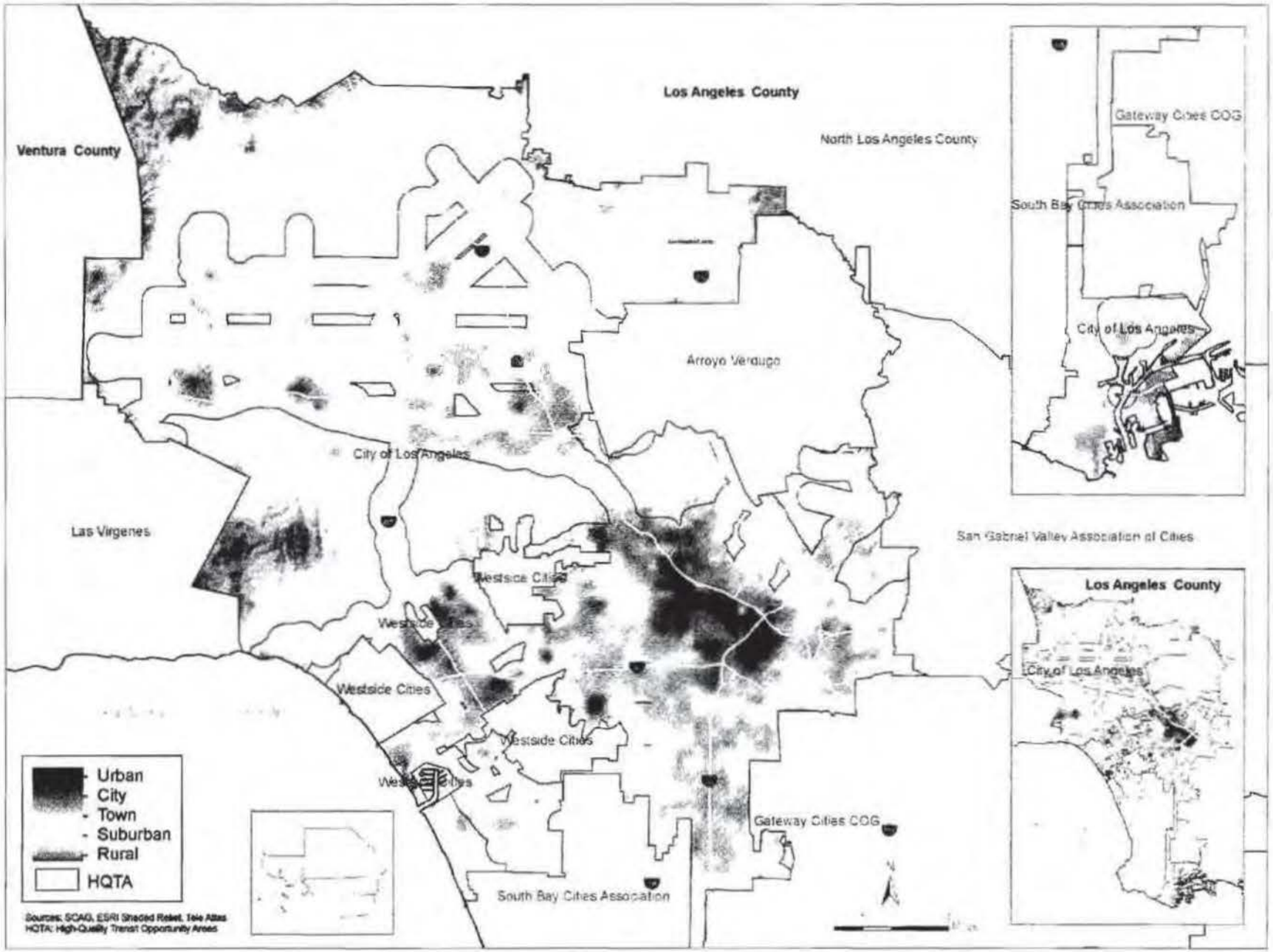


EXHIBIT 4.5 Urban Centers SCAG Region

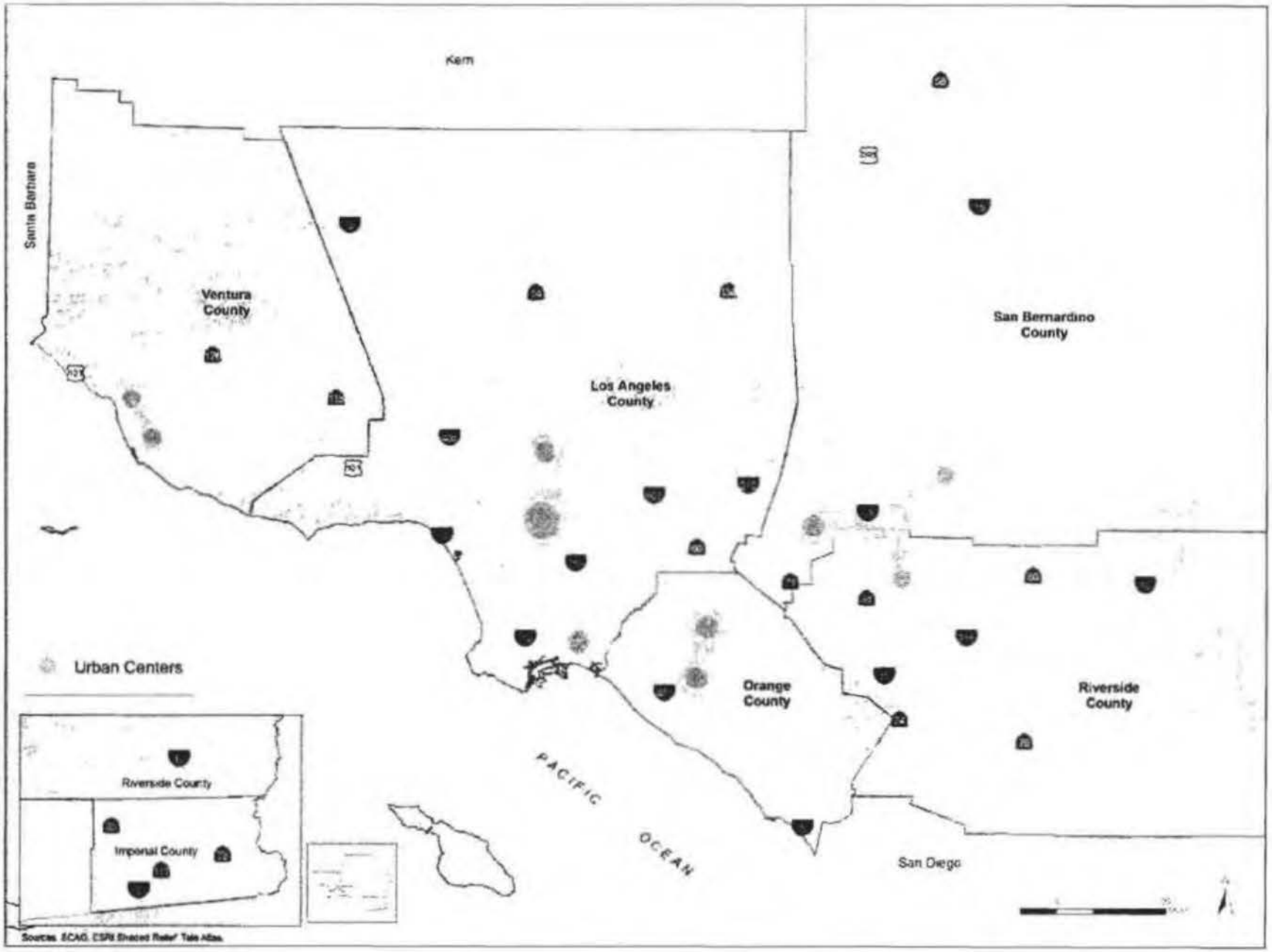


EXHIBIT 4.11 Proposed Bikeway Network SCAG Region

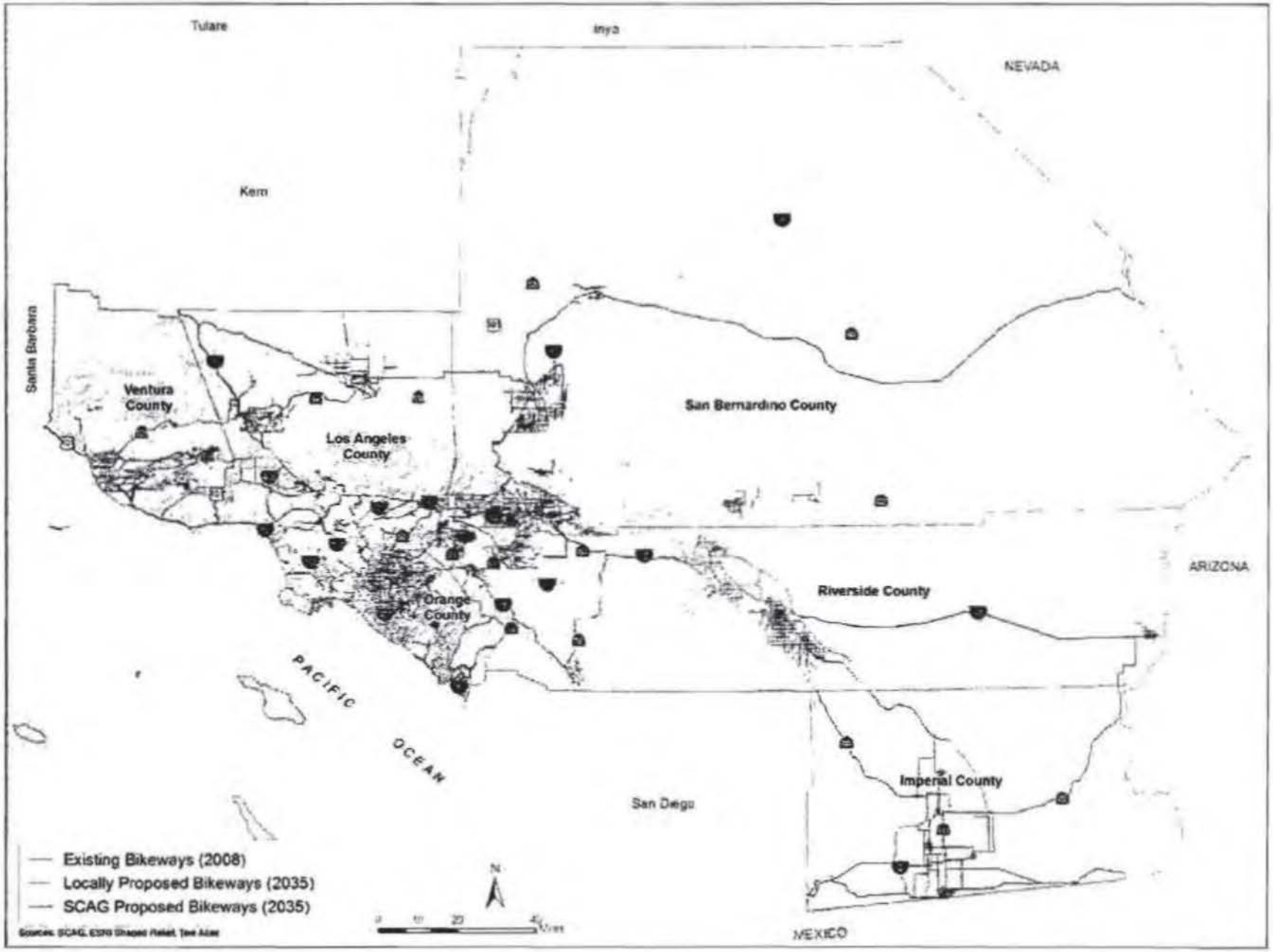


EXHIBIT 4.1 Population Growth SCAG Region (2035)

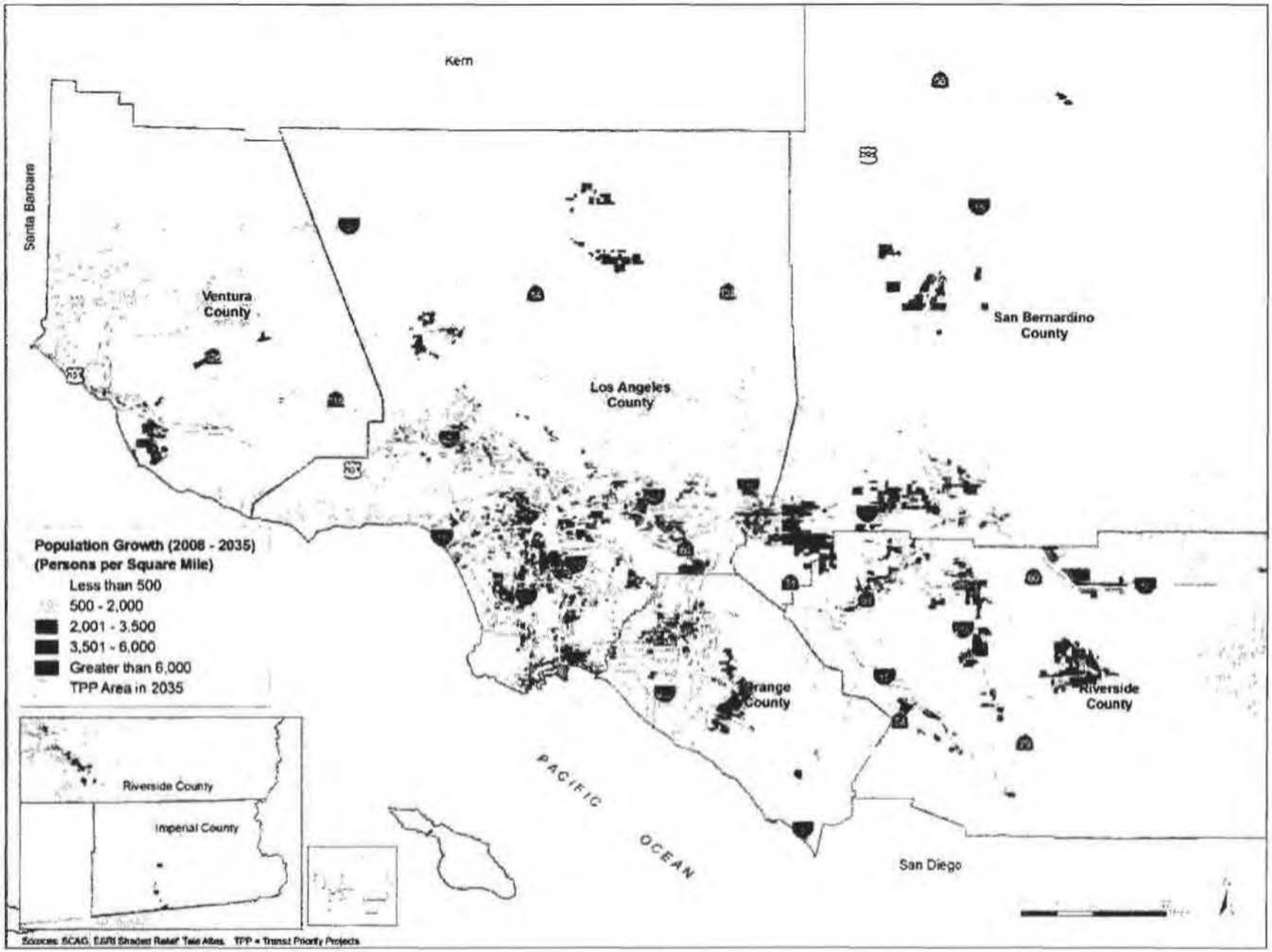


EXHIBIT 4.2 Employment Growth SCAG Region (2035)

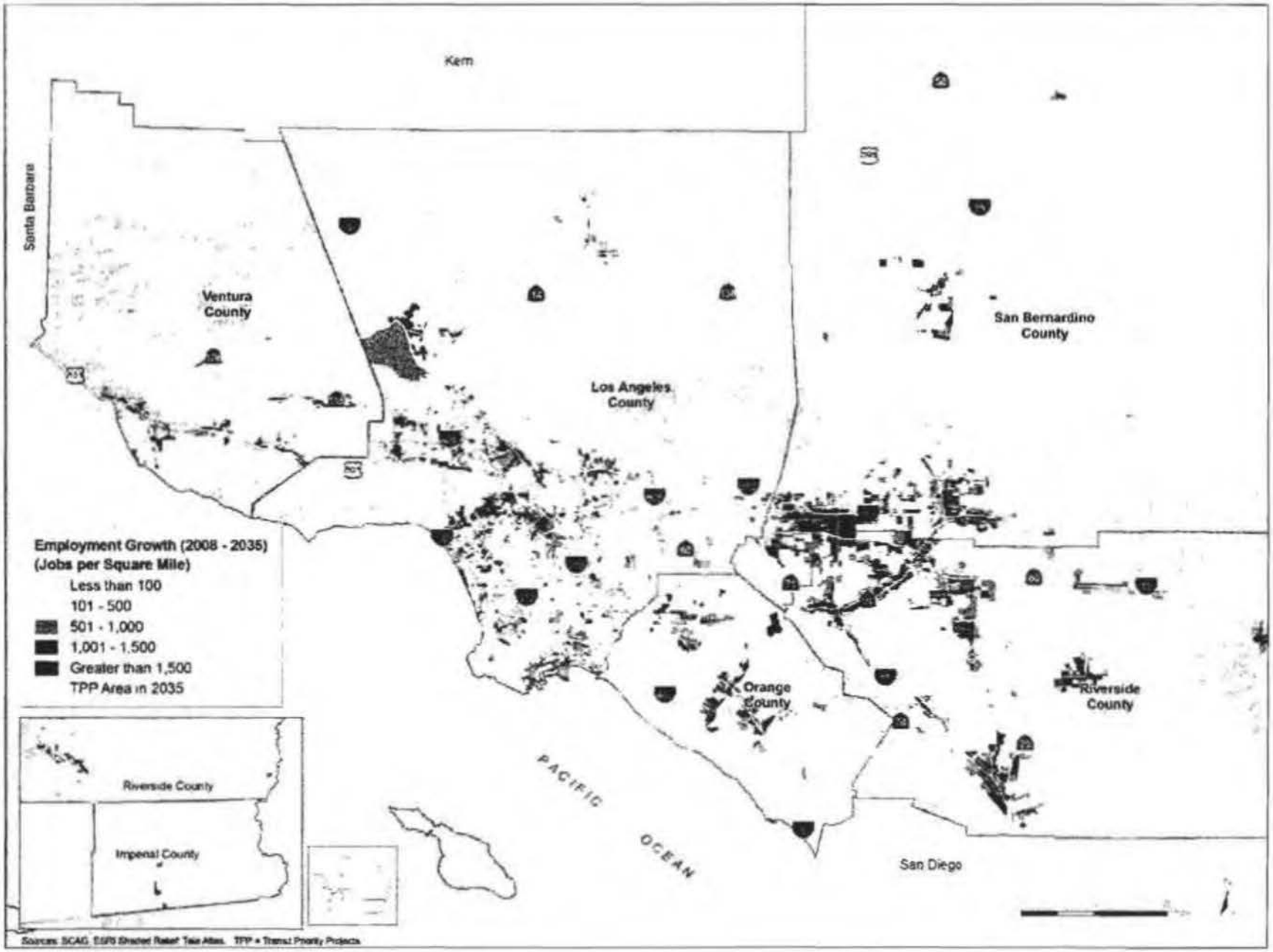
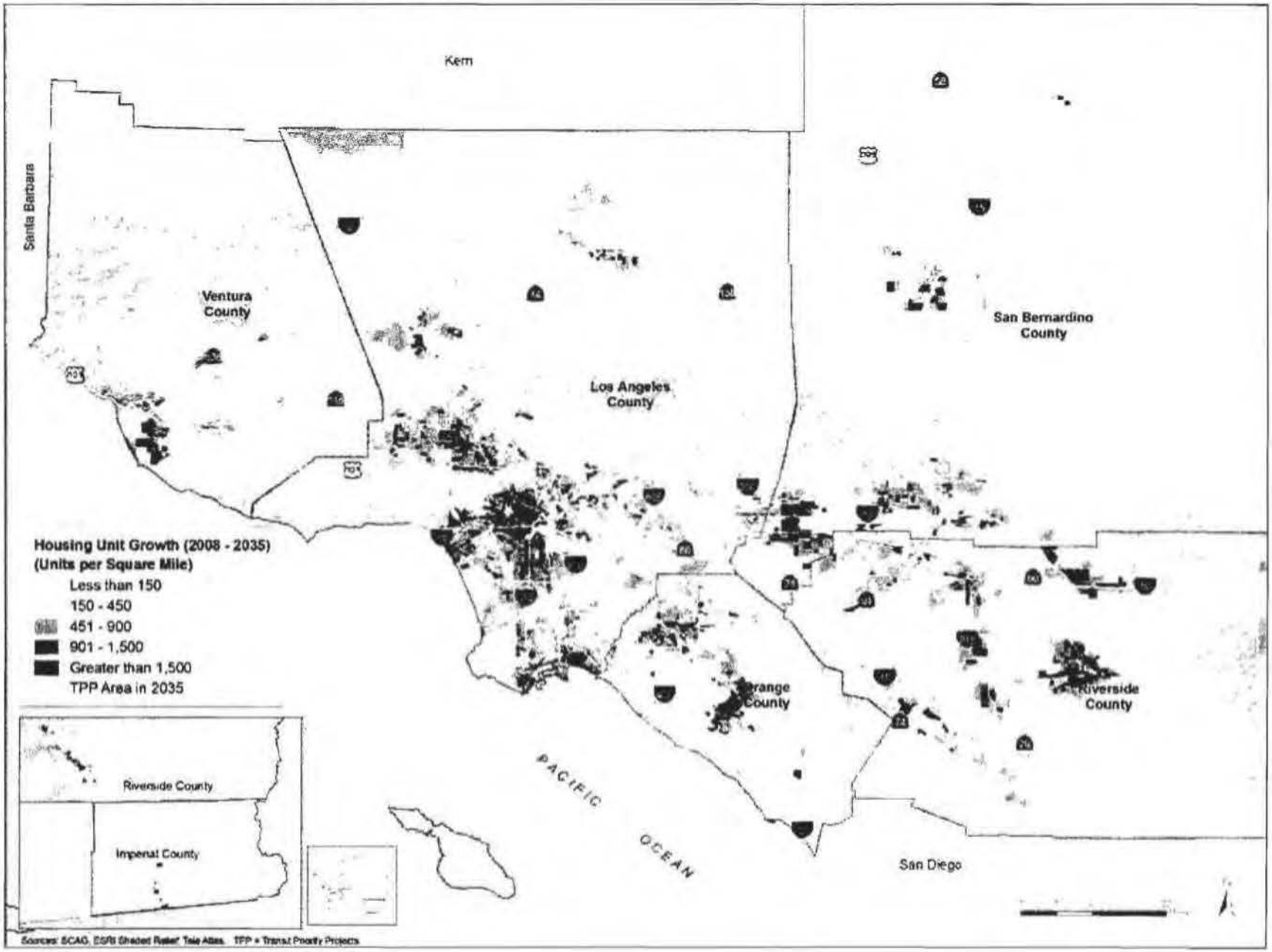


EXHIBIT 4.3 Housing Unit Growth SCAG Region (2035)



City of Los Angeles Projects Requested to be added to Strategic Plan - 2012 RTP/SCS

Strategic Projects							
County	**System**	**Category**	**Route Name**	**From/At**	**To**	**Project Description**	**Lead Agency**
Los Angeles	Local Highway	Capacity	11th Street	Aviation Blvd	La Cienega Blvd	Widen and restripe to accommodate two through lanes in each direction	Los Angeles City
Los Angeles	Local Highway	Capacity	Alameda Street	US-101 Fwy	I-10 Fwy	Widen to 70 ft and remove embedded rails and ties, install left turn channelization and widen curb returns to reduce congestion and improve truck movement	Los Angeles City
Los Angeles	Local Highway	Capacity	Alameda Street	I-10 Fwy	7th St	Alameda St. from I-10 to Seventh St. - project includes rehabilitation of the roadway, removing enbedded rails and ties, installing left turn channelization, spot widening where needed to accommodate truck traffic	Los Angeles City
Los Angeles	Local Highway	Capacity	Alhambra Avenue	Lowell Ave	City of Alhambra city limits	Realign Alhambra Ave. between Lowell Ave. and the City of Alhambra city limits to smooth out an existing sharp s-curve and to enhance traffic and capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	Anaheim Street	Farragut Ave	Dominguez Channel	Widen Anaheim St. from 78' to 84' and restripe to accommodate an additional lane in each direction; this would improve the roadway from 4 lanes to 6 lanes	Los Angeles City
Los Angeles	Local Highway	Capacity	Aviation Boulevard	Arbor Vitae St	Imperial Hwy	Widen and restripe to accommodate three through lanes in each direction	Los Angeles City
Los Angeles	Local Highway	Capacity	Balboa Boulevard	Devonshire St		Widen east side of Balboa Blvd. south of Devonshire St. for approximately 500 ft., and restripe the intersection to provide dual left-turn lanes for the northbound and southbound approaches.	Los Angeles City
Los Angeles	Local Highway	Capacity	Barham Boulevard	US-101 Fwy Bridge		Replace the existing bridge to increase traffic capacity and widen/restripe southbound US-101 off-ramp at Barham Blvd to provide southbound double left turn lanes	Los Angeles City
Los Angeles	Local Highway	Capacity	Barham Boulevard	Coral Dr		Widen west side of Barham Blvd. to provide a southbound right-turn only lane on Barham Blvd. and to improve access to Universal Studios and to the 101 NB on-ramp.	Los Angeles City
Los Angeles	Local Highway	Capacity	Beverly Glen Boulevard	Mulholland Dr		Widen south leg of Beverly Glen Blvd to create a right turn only lane; ROW acquisition needed	Los Angeles City
Los Angeles	Local Highway	Capacity	Brandford Street	Laurel Canyon Blvd	Amboy Ave	Widen north side of Brandford St. to provide an additional westbound lane.	Los Angeles City
Los Angeles	Local Highway	Capacity	Broad Avenue	Harry Bridges Blvd	Water St	Build grade-separated access to waterfront area from rail lines, extend Broad Ave to Water Street, and install bike lanes and sidewalks on both side of Broad Ave	Los Angeles City
Los Angeles	Local Highway	Capacity	Bundy Drive	I-10 Fwy ramps		Reduce congestion on Bundy by reconfiguring the I-10 WB ramps (consolidate to one ramp location accommodating both the on and off ramps with new signal)	Los Angeles City
Los Angeles	Local Highway	Capacity	Burbank Boulevard	Clybourne Ave	Vineland Ave	Widen Burbank Blvd. to a major highway standard (80-foot roadway width) on both sides of street to improve roadway capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	Burbank Boulevard	US-101 Fwy WB		Widening to add second westbound through lane and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Canoga Avenue	US-101 WB off-ramp		Widen westbound off-ramp to prove a right turn only lane to Canoga Ave	Los Angeles City
Los Angeles	Local Highway	Capacity	Canoga Avenue	Burbank Blvd		Widening to add a second westbound left-turn lane and a dedicated northbound right-turn lane and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Transit	Canoga Avenue	Ventura Blvd	Canoga Orange Line Station	Purchase 20 new buses to add to a Local Circulator bus system between Ventura Boulevard adn Canoga Orange Line Station. Install new bus shelters and/or enhance the existing bus shelters along the route as required	Los Angeles City
Los Angeles	Local Highway	Capacity	Canoga Avenue	Saticoy St		Widening to add southbound through lane. Change sorthbound and eastbound phasing from left-turn permitted to protected.	Los Angeles City
Los Angeles	Local Highway	Capacity	Coldwater Canyon Boulevard	Ventura Blvd	Magnolia Blvd	Remove jut-outs to add one through lane in each direction	Los Angeles City
Los Angeles	Local Highway	Capacity	Corbin Avenue	Victory Blvd		Widening to add eastbound and westbound through lanes and upgrade traffic signal	Los Angeles City

Attachment E

City of Los Angeles Projects Requested to be added to Strategic Plan - 2012 RTP/SCS

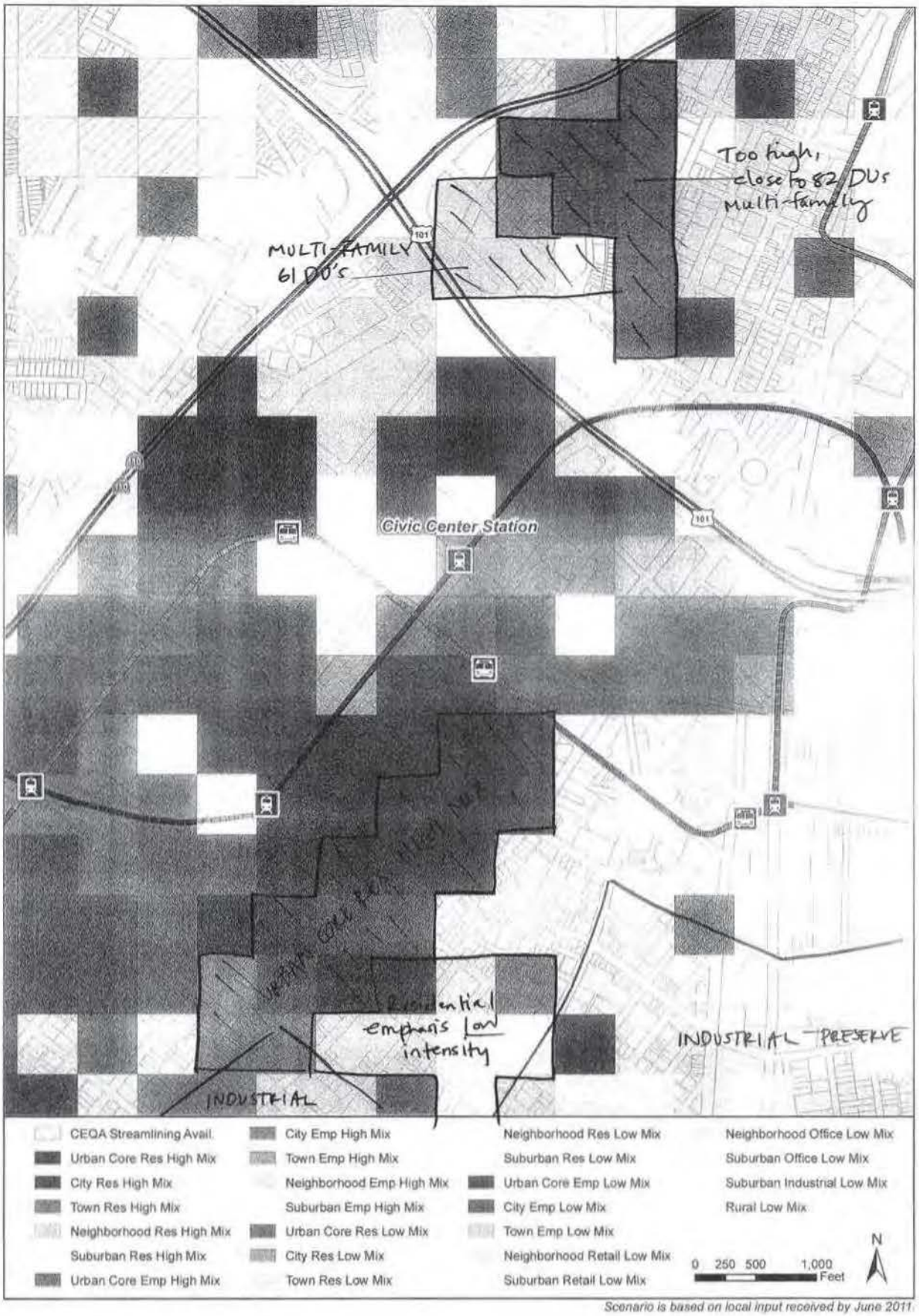
Strategic Projects							
County	System	Category	Route Name	From/At	To	Project Description	Lead Agency
Los Angeles	Local Highway	Capacity	Crenshaw Boulevard	I-10 WB on-ramp		Widen SB Crenshaw Blvd to provide a SB right-turn only lane and redesign the WB off-ramp to reduce congestion and improve intersection operation	Los Angeles City
Los Angeles	Local Highway	Capacity	Culver Boulevard	Centinela Ave	I-405 Fwy	Improve traffic flow along Culver Blvd between Centinela Ave and I-405 Freeway including providing left-turn lanes at key signalized intersections (including Inglewood Blvd)	Los Angeles City
Los Angeles	Local Highway	Capacity	De Soto Aveue	Ventura Blvd	Clark St	Intersection widening to add through and/or turn lanes, and upgrade traffic signal to include new phasing as needed to improve intersection capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	De Soto Aveue	Saticoy St		Widening to add eastbound and westbound right turn lanes and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	De Soto Street	Parthenia St		Widening to add dedicated eastbound westbound right turn lane and northbound phasing from left-turn permitted to protected.	Los Angeles City
Los Angeles	Local Highway	Capacity	De Soto Street	Califa St		Widening to add northbound and westbound right-turn lanes and install new traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Enterprise Street	Mateo St (near WB I-10 off-ramp)		Widen Enterprise St at Mateo St (near WB-10 off-ramp) to improve truck movement at curb returns	Los Angeles City
Los Angeles	Local Highway	Capacity	Fallbrook Avenue	Victory Blvd		Widening to add westbound right turn lane and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Figueroa Street	146th St	Redondo Beach Blvd	Widen Figueroa St to major highway standard from 62 ft to 80 ft to provide three lanes in each direction	Los Angeles City
Los Angeles	Local Highway	Capacity	Fletcher Street Bridge	LA River		Widen to increase capacity and improve access to I-5 Fwy; add bike lanes and sidewalks	Los Angeles City
Los Angeles	Local Highway	Capacity	Foothill Boulevard	Balboa Blvd		Widen north of Balboa Blvd over culvert and widen west leg of Foothill Blvd at Balboa Blvd. Upgrade traffic signal to improve intersection capacity	Los Angeles City
Los Angeles	Local Highway	Capacity	Forest Lawn Drive	near SR-134 Bridge	/LA River	Construct a new bridge with bike path (including equestrian trail) over LA River at LAEC. Re-align the SR-134 freeway on/off ramps at Forest Lawn Dr. to improve flow and capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	Fountain Avenue	Sunset Blvd	Western Ave	Widen Fountain Ave to add a left-turn lane at each intersection-ROW acquisition needed	Los Angeles City
Los Angeles	Local Highway	Capacity	Glenoaks Boulevard	Suniand Blvd		Widen Glenoaks Blvd to provide an eastbound right-turn lane	Los Angeles City
Los Angeles	Local Highway	Capacity	Grand Avenue Bridge	Cesar Chavez Ave	Temple St	Widen bridge over US-101 Fwy to improve access to US-101, SR-110, future school and Grand Ave.	Los Angeles City
Los Angeles	Local Highway	Capacity	Grand Avenue Bridge	Over US 101 Fwy		Widen the Existing bridge to provide dual left-turn lane onto the 101 and 110 freeways on-ramps, includes, and add through lane and right-turn lane, and widen sidewalk.	Los Angeles City
Los Angeles	Local Highway	Capacity	Imperial Highway	Sepulveda Blvd	Pershing Dr	Widen to provide continuous three through lanes in each direction	Los Angeles City
Los Angeles	Local Highway	Capacity	Irwin Street	Owensmouth Ave	De Soto St	Intersection widening to add through and/or turn lanes, and upgrade traffic signal to include new phasing as needed to improve intersection capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	La Cienega Boulevard	Arbor Vitae St	111th St	Widen and restripe to accommodate three through lanes in each direction	Los Angeles City
Los Angeles	Local Highway	Capacity	La Tijera Boulevard	Airport Blvd	La Cienega Blvd	Widen and restripe to provide continuous three through lanes in each direction	Los Angeles City
Los Angeles	Local Highway	Capacity	Laurel Canyon Boulevard	Mulholland Dr		Widen the west side of Laurel Canyon Blvd south of Mulholland Dr to carry two southbound lanes through the intersection	Los Angeles City
Los Angeles	Local Highway	Capacity	Lincoln Boulevard	Jefferson Blvd	Fiji Way	Partnering with Caltrans & LA County, improve Lincoln Blvd between Jefferson Blvd & Fiji Way including removing the existing bottleneck by replacing/widening the existing bridge to provide an add'l lane in each direction & on-street bike lanes	Los Angeles City
Los Angeles	Local Highway	Capacity	Maclay Street	Gladstone Ave		Remove jut-outs on Maclay at Gladstone and install a new traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Magnolia Boulevard	Cahuenga Blvd	Vineland Ave (north side)	Widen the north side of Magnolia Blvd. to provide an additional lane in the westbound direction.	Los Angeles City

City of Los Angeles Projects Requested to be added to Strategic Plan - 2012 RTP/SCS

Strategic Projects							
County	System	Category	Route Name	From/At	To	Project Description	Lead Agency
Los Angeles	Local Highway	Capacity	Mason Avenue	Saticoy St		Widening to add Exclusive right-turn lanes for all approaches and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Mission Road	Griffin Ave	Marengo St	Widen Mission Road to provide an additional through lane in each direction, and install new pedestrian signal at Sichel Street	Los Angeles City
Los Angeles	Local Highway	Capacity	Moorpark Avenue	Woodman Ave	Mammoth Ave	Widen Moorpark Ave. to increase capacity and install street lights, curb, and gutter.	Los Angeles City
Los Angeles	Local Highway	Capacity	North Main Street	Albion St		Grade seperate North Main Street over the exiting Metrolink and freight tracks; reduces delays for vehicles and transit riders traveling on Main Street	Los Angeles City
Los Angeles	Local Highway	Capacity	North Spring Street	Roundout St	Baker St	Widen N. Spring St. between Roundout St. to Baker St. from 44 ft. to an 80' roadway width and install landscaped medians	Los Angeles City
Los Angeles	Local Highway	Capacity	Olympic Boulevard	Soto St		Improvements to the intersection by increasing the curb return radius of all four corners and Olympic Blvd approaches. ROW required	Los Angeles City
Los Angeles	Local Highway	Capacity	Olympic Boulevard	Alameda St		Widen to improve truck movement (right-of-way required)	Los Angeles City
Los Angeles	Local Highway	Capacity	Olympic Boulevard	Santa Fe Ave		Widening curb retrun to improve truck movement through the intersection.	Los Angeles City
Los Angeles	Local Highway	Capacity	Owensmouth Avenue	Canyon Creek Dr (Private)		Widening to add southbound and eastbound right-turn lanes, add a northbound left-turn lane, and upgrade traffic signal.	Los Angeles City
Los Angeles	Local Highway	Capacity	Owensmouth Avenue	Saticoy St		Widening to add northbound left-turn and upgrade traffic signal.	Los Angeles City
Los Angeles	Local Highway	Capacity	Oxnard Street	White Oak Ave	Lindley Ave	[illegible] (Require additional ROW) to allow through lane in each	Los Angeles City
Los Angeles	Local Highway	Capacity	Oxnard Street	AMC Dwy	De Soto St	Intersection widening to add through and/or turn lanes, and upgrade traffic signal to include new phasing as needed to improve intersection capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	Reseda Boulevard	Burbank Blvd	US-101 Fwy WB ramps	Intersection widening to add through and/or turn lanes, and upgrade traffic signal to include new phasing as needed to improve intersection capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	Riverside Drive	SR-134 Fwy		Widen the bridge to improve the capacity and to add the bike lane	Los Angeles City
Los Angeles	Local Highway	Capacity	Robertson Avenue	National Blvd	/I-10 Fwy Interchange	Reconfigure existing ramps and construct new ramps to improve capacity	Los Angeles City
Los Angeles	Local Highway	Capacity	Roxford Street	Sepulveda Blvd		Realign Roxford St. at Sepulveda Blvd. by widening curb radius to enhance traffic flow.	Los Angeles City
Los Angeles	Local Highway	Capacity	San Fernando Road	Sierra Hwy	Roxford St	Install a center-reversible lane on the Old Road to provide extra capacity during peak hours along an approximately 3 mile segment.	Los Angeles City
Los Angeles	Local Highway	Capacity	Santa Fe Avenue	Porter St		Widening curb retrun to improve truck movement through the intersection.	Los Angeles City
Los Angeles	Local Highway	Capacity	Saticoy Street	Van Nuys Blvd	Woodman Ave	Construct grade seperation and extend roadway westerly from Woodman Ave to Van Nuys Blvd	Los Angeles City
Los Angeles	Local Highway	Capacity	Sepulveda Boulevard	National Blvd	Olympic Blvd	Widen to major highway standard and increase number of through lanes from two to three lanes	Los Angeles City
Los Angeles	Local Highway	Capacity	Sepulveda Boulevard Corridor	Wilshire Blvd	LAX	Partnering with Culver City & LA County, identify and implement ways of improving traffic flow, carrying capacity, and efficiency in the utilization of the Sepulveda Corridor from Wilshire to LAX	Los Angeles City
Los Angeles	Local Highway	Capacity	Sepulveda Tunnel	Mulholland Bridge		Widen existing tunnel to provide additional traffic lanes and bike lanes	Los Angeles City
Los Angeles	Local Highway	Capacity	Sherman Way Avenue	Jordan Ave	De Soto St	Intersection widening to add through and/or turn lanes, and upgrade traffic signal to include new phasing as needed to improve intersection capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	Shoup Avenue	Irwin Ave		Widening to add northbound right turn lane and upgrade traffic signal to include northbound protected left-turn phasing	Los Angeles City

City of Los Angeles Projects Requested to be added to Strategic Plan - 2012 RTP/SCS

Strategic Projects							
County	System	Category	Route Name	From/At	To	Project Description	Lead Agency
Los Angeles	Local Highway	Capacity	Shoup Avenue	Oxnard St		Widening to add northbound right turn lane and upgrade traffic signal to include westbound and northbound protected left-turn phasings	Los Angeles City
Los Angeles	Local Highway	Capacity	Shoup Avenue	Vanowen St		Widening to add eastbound right turn lane and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Shoup Avenue	Sherman Way		Widening to add northbound right turn lane and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Slauson Avenue	110 Fwy	Alameda St	Design and construction of street improvements and signage for commercial vehicles	Los Angeles City
Los Angeles	Local Highway	Capacity	Topanga Canyon Boulevard	Mulholland Dr		Widening toadd a southbound right-turn lane and upgrade traffic signal to include southbound right-turn overlap phase	Los Angeles City
Los Angeles	Local Highway	Capacity	Topanga Canyon Boulevard	Roscoes Bvd		Widening to add northbound left-turn and southbound right-turn lanes and traffic signal upgrade.	Los Angeles City
Los Angeles	Local Highway	Capacity	Topanga Canyon Boulevard	Vanowen St	Ventura Blvd	Intersection widening to add through and/or turn lanes, and upgrade traffic signal to include new phasing as needed to improve intersection capacity. Install new signal at Topanga Canyon Blvd. and Califa St.	Los Angeles City
Los Angeles	Local Highway	Capacity	Vaiel Avenue	Kittridge St		Widening to add eastbound and westbound through lanes and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Valley Boulevard	San Pablo St	Boca Ave	Improve capacity and enhance traffic flow at railroad crossing by widening to add lanes, to improve curb, and to upgrade signal systems and rail road equipment along Valley Blvd.	Los Angeles City
Los Angeles	Local Highway	Capacity	Van Ness Avenue	US-101 Fwy SB off-ramp	Sunset Blvd	Widen both sides of Van Ness Ave. to accommodate one additional southbound lane.	Los Angeles City
Los Angeles	Local Highway	Capacity	Vanalden Avenue	US-101 Fwy EB ramps	/Ventura Blvd	Widening to add westbound through lane and upgrade traffic signal to improve intersection capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	Vanowen Avenue	Owensmouth Ave	Mason Ave	Intersection widening to add through and/or turn lanes, and upgrade traffic signal to include new phasing as needed to improve intersection capacity.	Los Angeles City
Los Angeles	Local Highway	Transit	Variel Avenue	Oxnard St		Construction of a 4th Orange Line Station in Warner Center Area	Los Angeles City
Los Angeles	Local Highway	Capacity	Ventura Boulevard	Shoup Ave	US-101 SB ramps	Widen between Shoup Ave and US-101 freeway southbound ramps to provide double left-turn lanes	Los Angeles City
Los Angeles	Local Highway	Capacity	Vermont Avenue	Washington Blvd	I-10 Fwy WB off-ramp	Widen 10 ft. of east-side of Vermont Ave to provide left-turn lane	Los Angeles City
Los Angeles	Local Highway	Transit	Victory Boulevard	Owensmouth Ave to Oxnard	Variel Ave to Victory Blvd	Purchase 20 new buses to add to a Local Circulator bus system to operate from Victory to Owensmouth to Oxnard to Variel and back to Victory. Install new bus shelters and/or enhance the existing bus shelters along the route as required	Los Angeles City
Los Angeles	Local Highway	Capacity	Victory Boulevard	Owensmouth Ave	Winnetka Ave	Intersection widening to add through and/or turn lanes, and upgrade traffic signal to include new phasing as needed to improve intersection capacity.	Los Angeles City
Los Angeles	Local Highway	Capacity	Western Avenue	Florence Ave	80th St/Manchester Ave	Widen east side of Western Ave. to accomodate left-turn lanes at various intersections within the project limits.	Los Angeles City
Los Angeles	Local Highway	Capacity	Western Avenue	Exposition Blvd		Widen Western Blvd. to add northbound and southbound left-turn lanes at Exposition Blvd.	Los Angeles City
Los Angeles	Local Highway	Capacity	Wilshire Boulevard	San Vicente Blvd	Centinela Ave	Arterial widening to provide an additional lane in each direction.	Los Angeles City
Los Angeles	Local Highway	Capacity	Winnetka Avenue	Vanowen St		Widening to add northbound and southbound right-turn lanes and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Winnetka Avenue	Ventura Blvd		Change westbound right-turn lane to a shared through-right turn lane, add an eastbound left-turn lane, and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Winnetka Avenue	Oxnard St		Widening to add westbound right turn lane and upgrade traffic signal	Los Angeles City
Los Angeles	Local Highway	Capacity	Woodlake Avenue	Victory Blvd		Widening to add northbound shared-through right turn lane and upgrade traffic signal	Los Angeles City



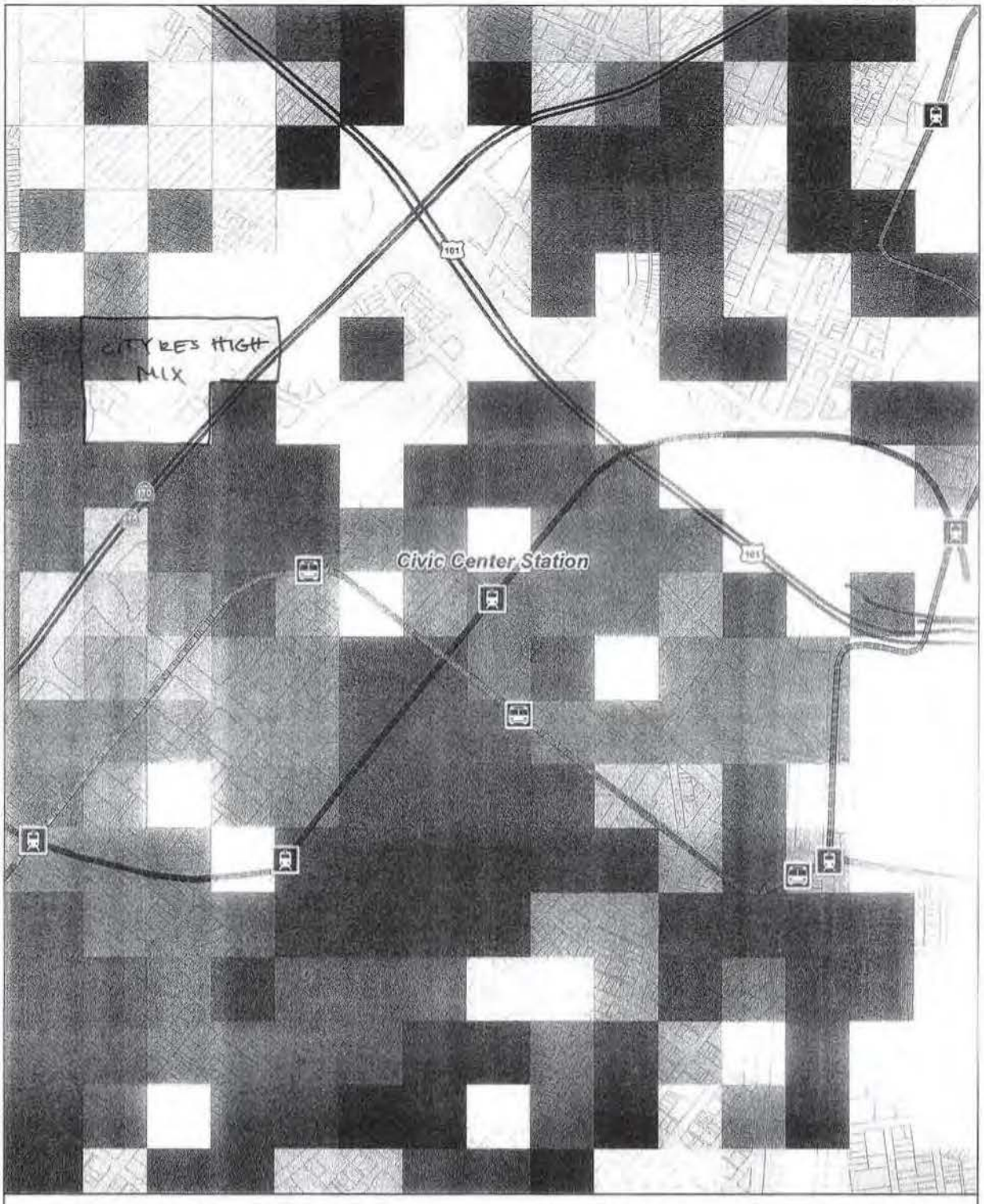
Scenario is based on local input received by June 2011

Civic Center Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

– Same as 08 w/ additional comment



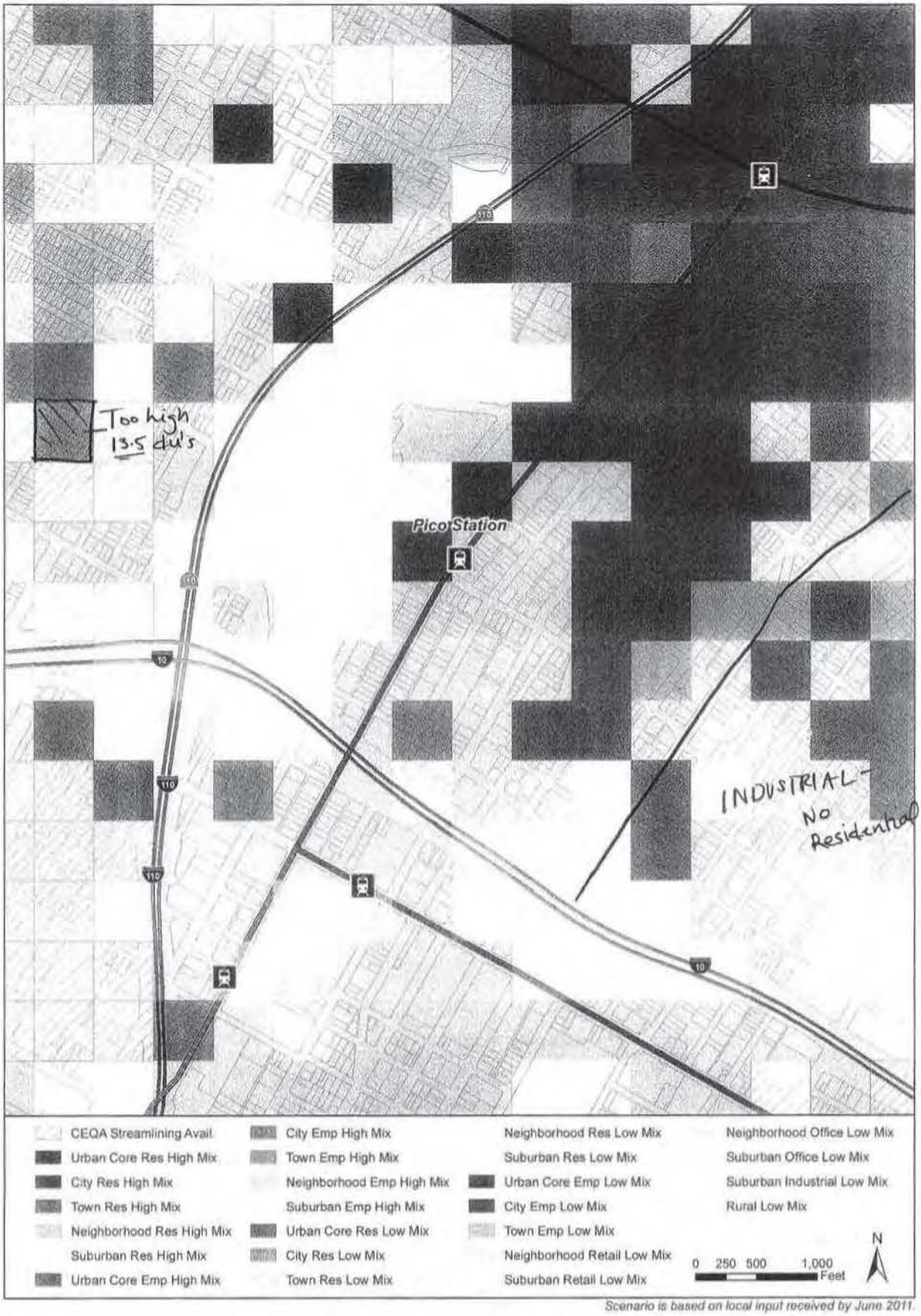
Scenario is based on local input received by June 2011.

Civic Center Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



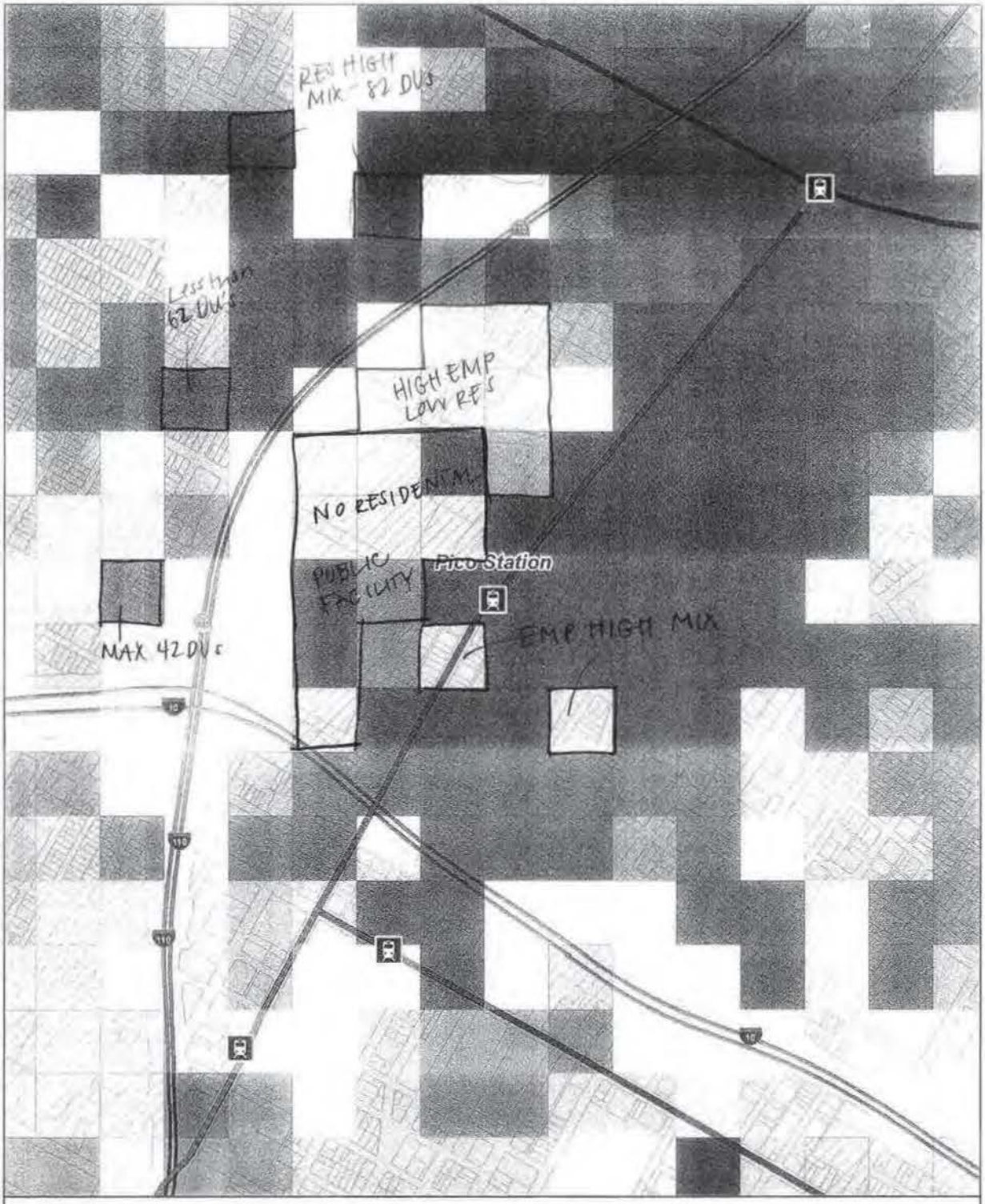
Scenario is based on local input received by June 2011.

Pico Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

- Same as 08 with additional comments

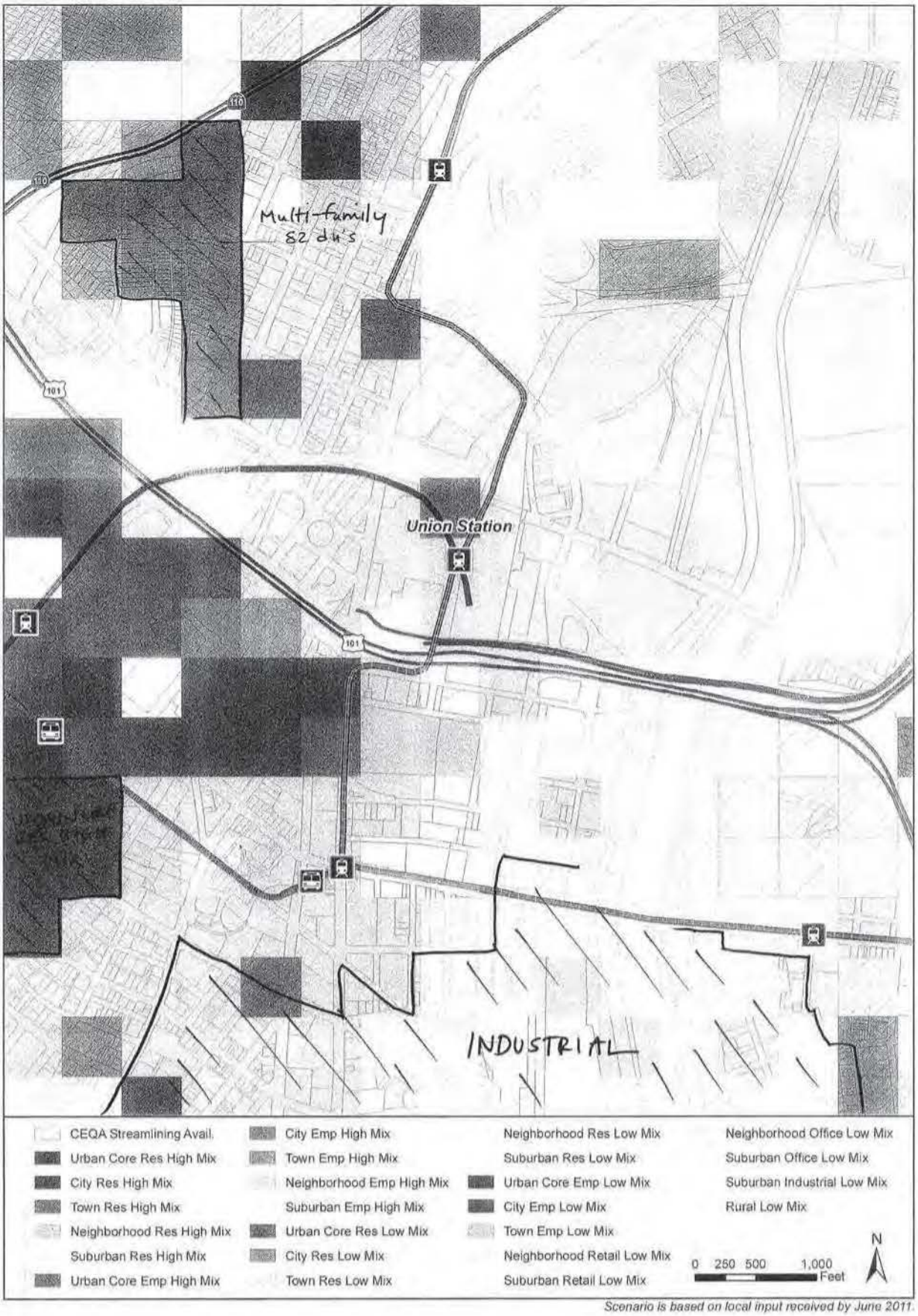


Scenario is based on local input received by June 2011

Pico Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



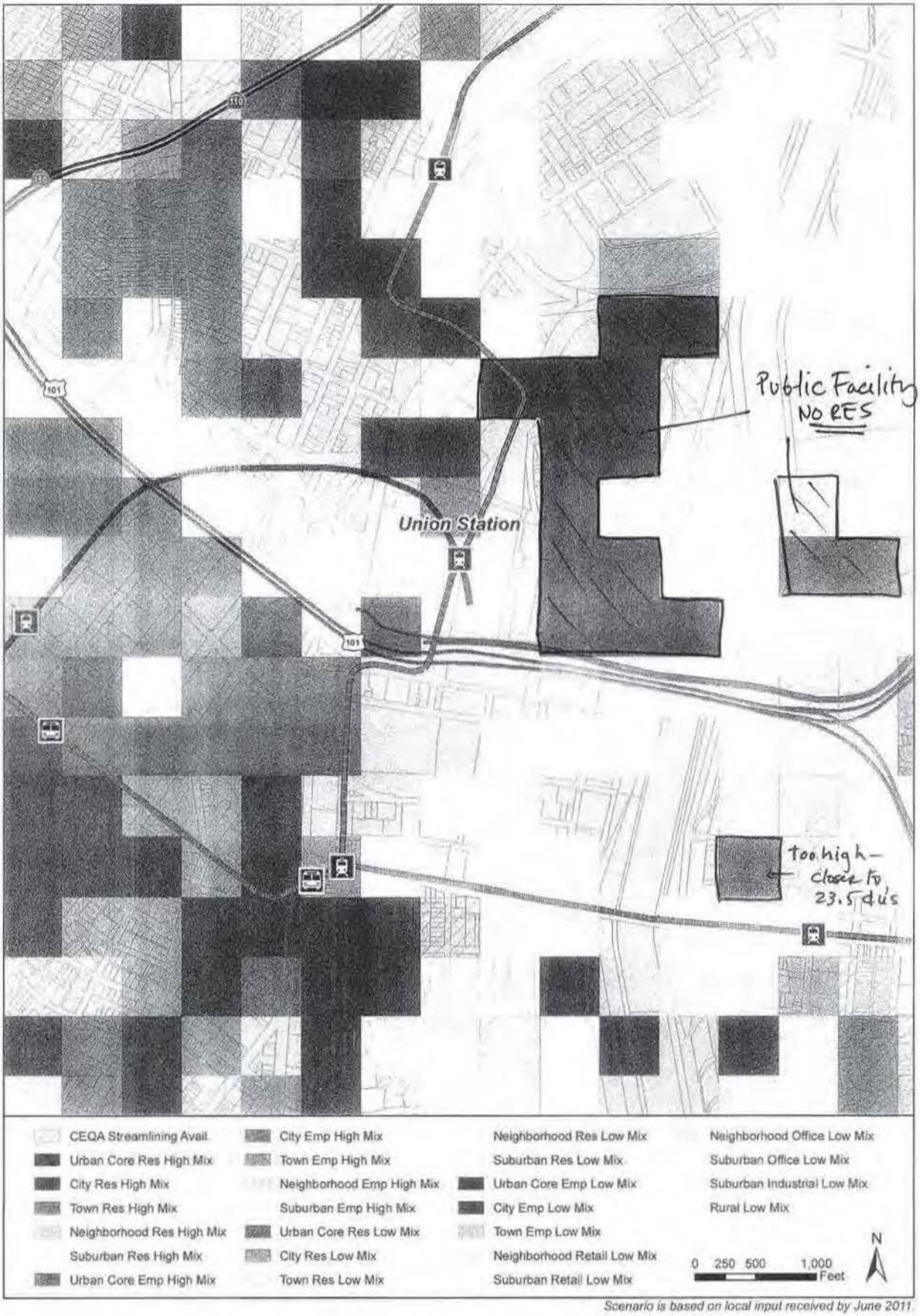
Scenario is based on local input received by June 2011.

Union Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

- Same as 08 w/ additional annotations below

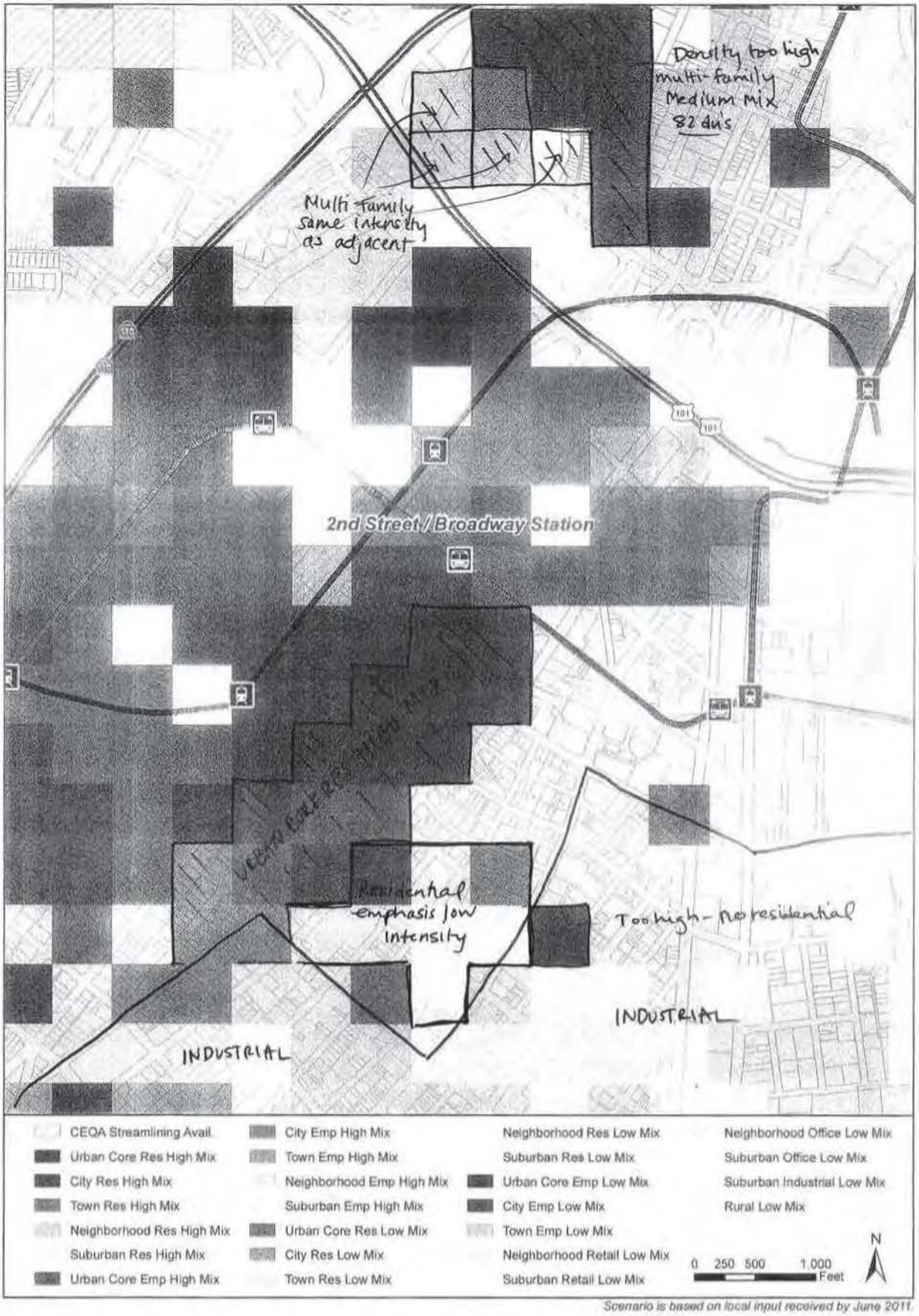


Scenario is based on local input received by June 2011.

Union Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



Scenario is based on local input received by June 2011.

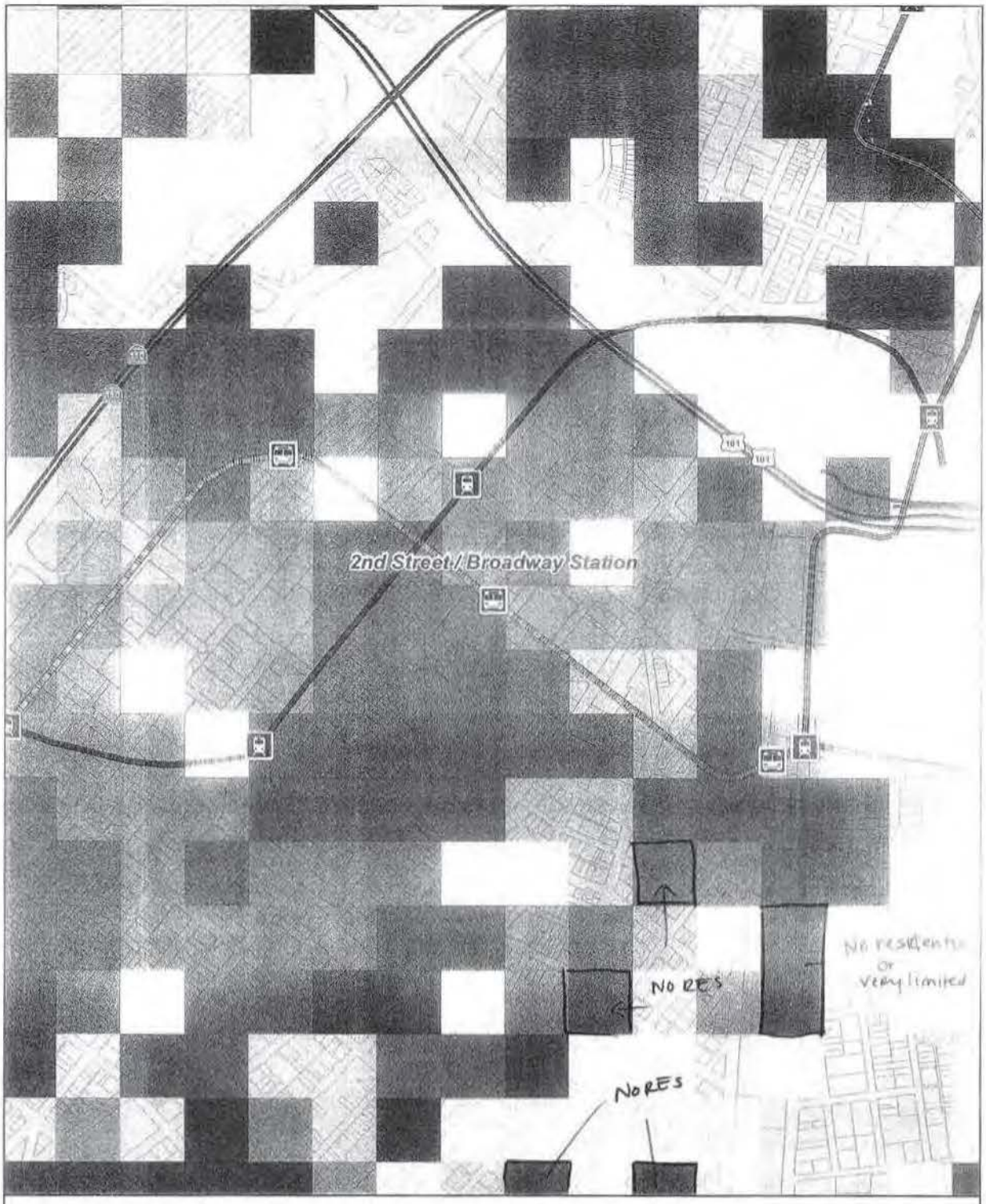
2nd Street / Broadway Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

– same as 08 w/ additional comments

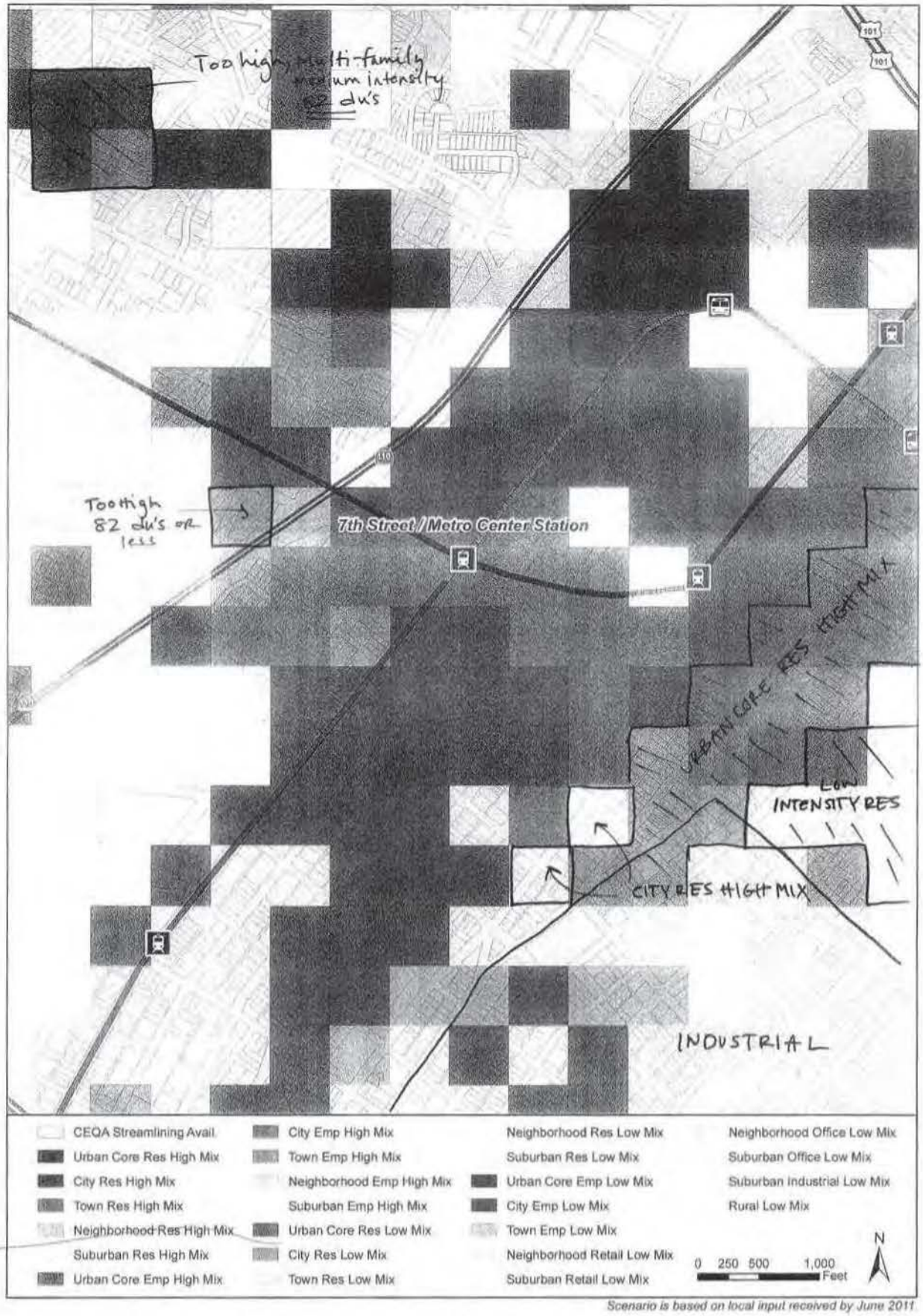


Scenario is based on local input received by June 2011

2nd Street / Broadway Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



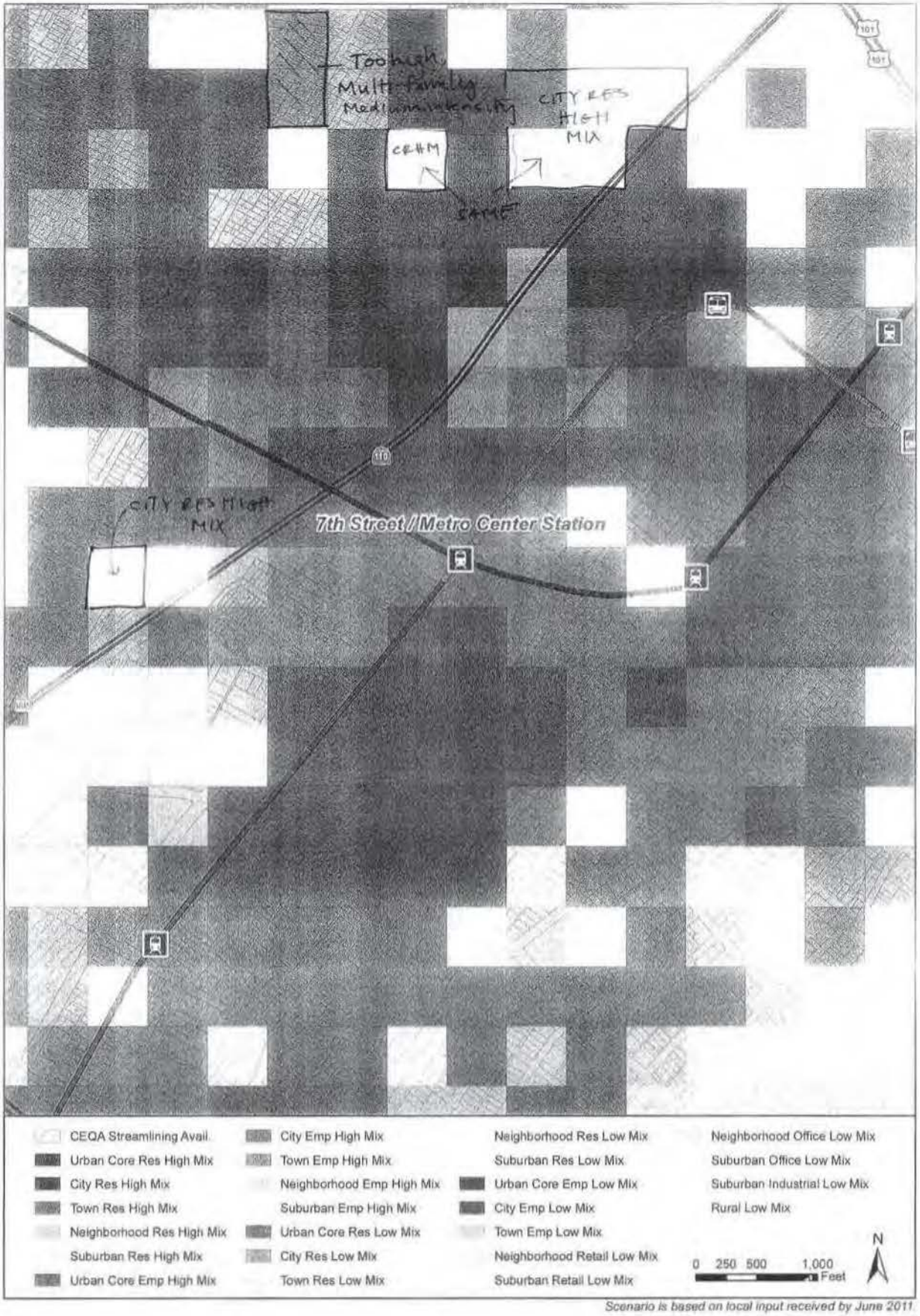
Scenario is based on local input received by June 2011

7th Street / Metro Center Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

– same as 08 with additional annotation below



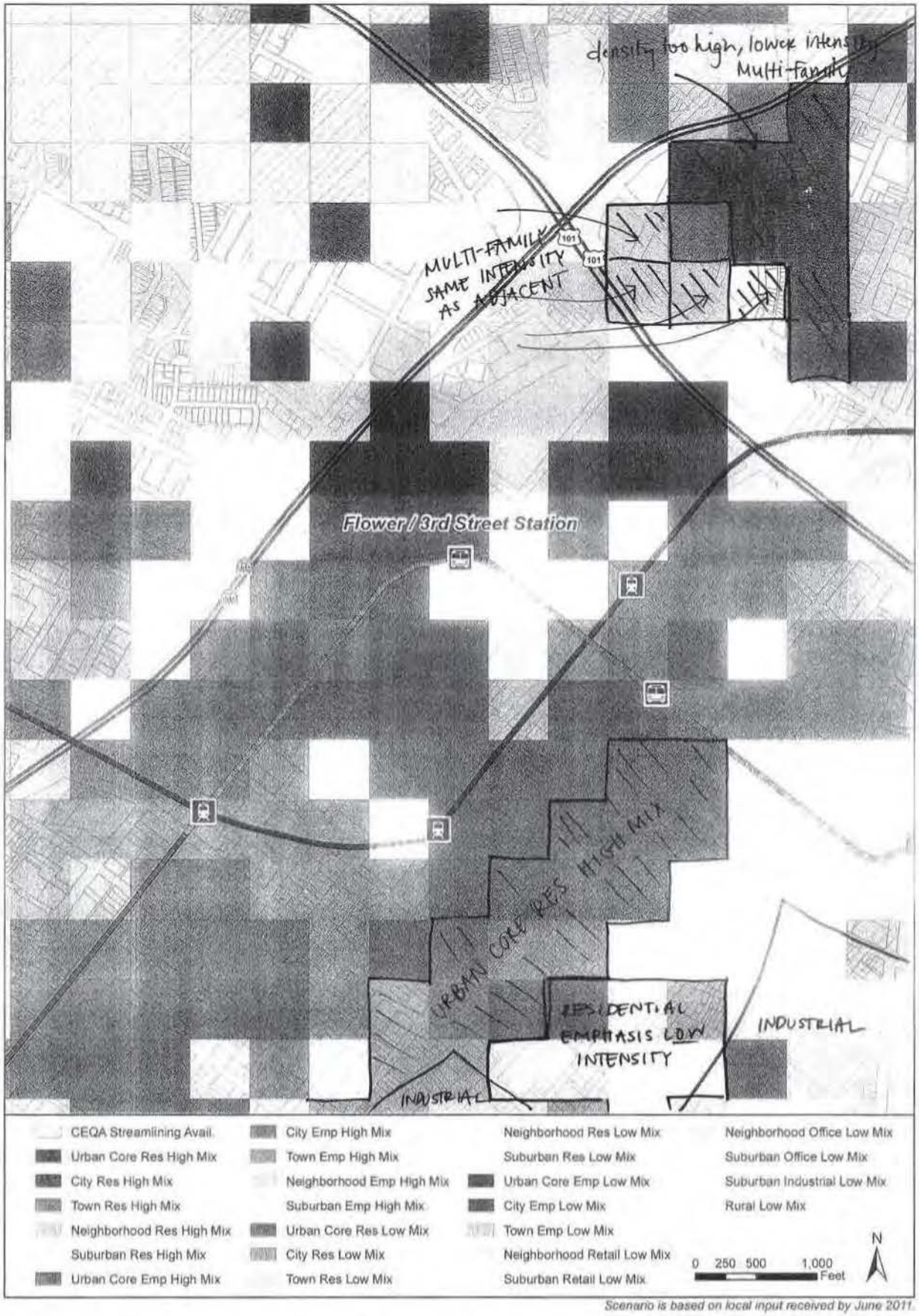
Scenario is based on local input received by June 2011

7th Street / Metro Center Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



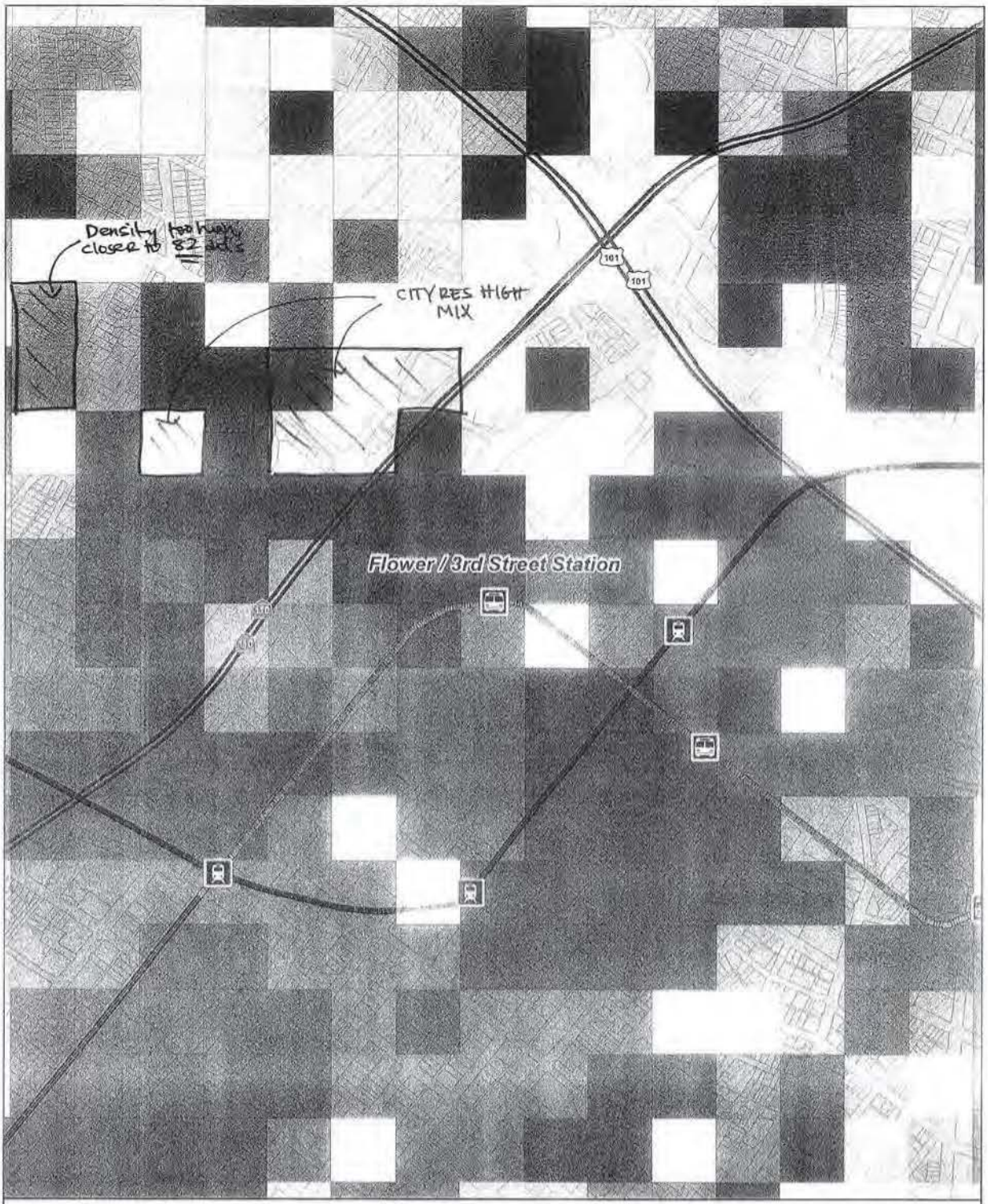
Scenario is based on local input received by June 2011.

Flower / 3rd Street Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

- same as 08 w/ additional annotation below

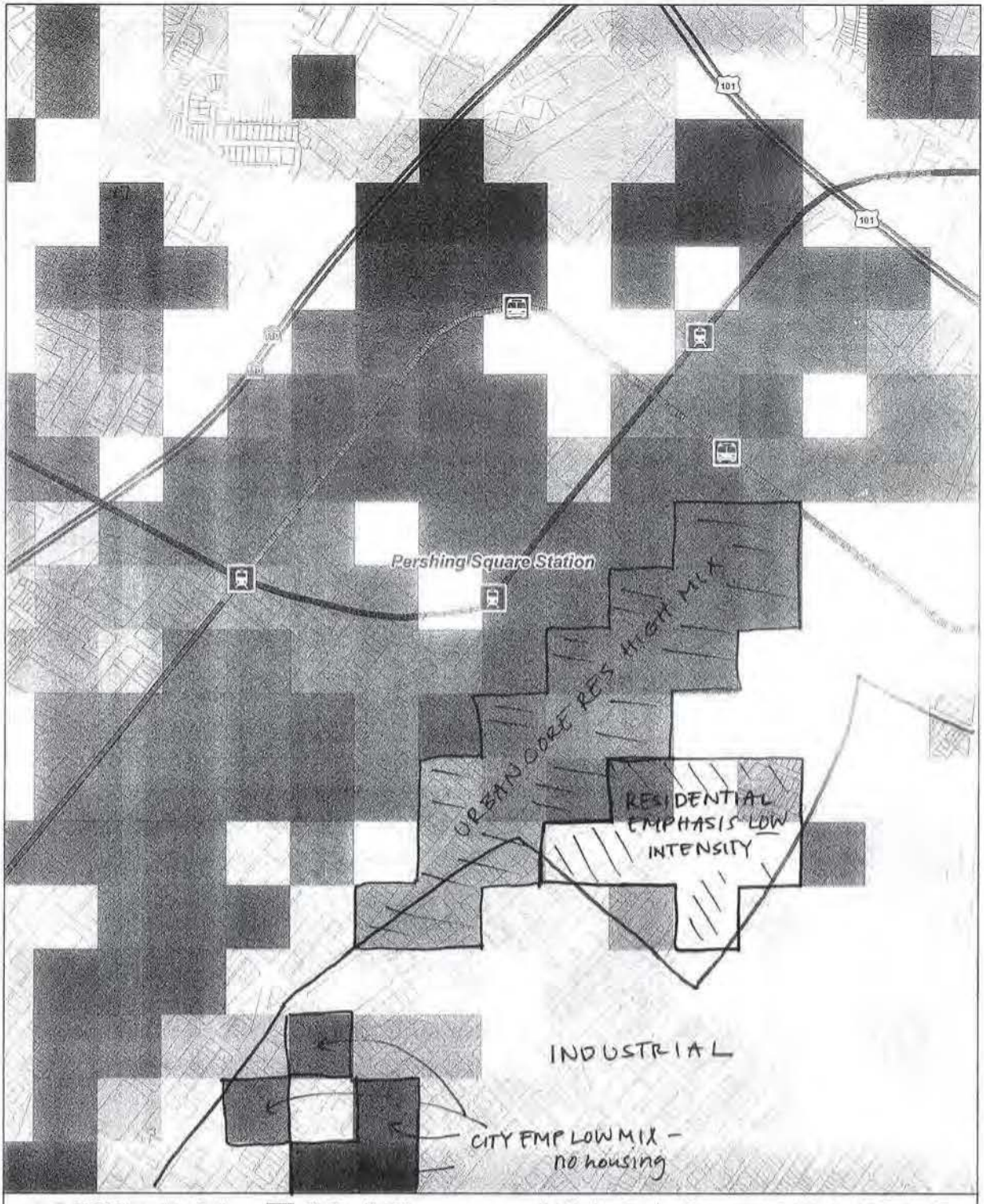


Scenario is based on local input received by June 2011.

Flower / 3rd Street Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



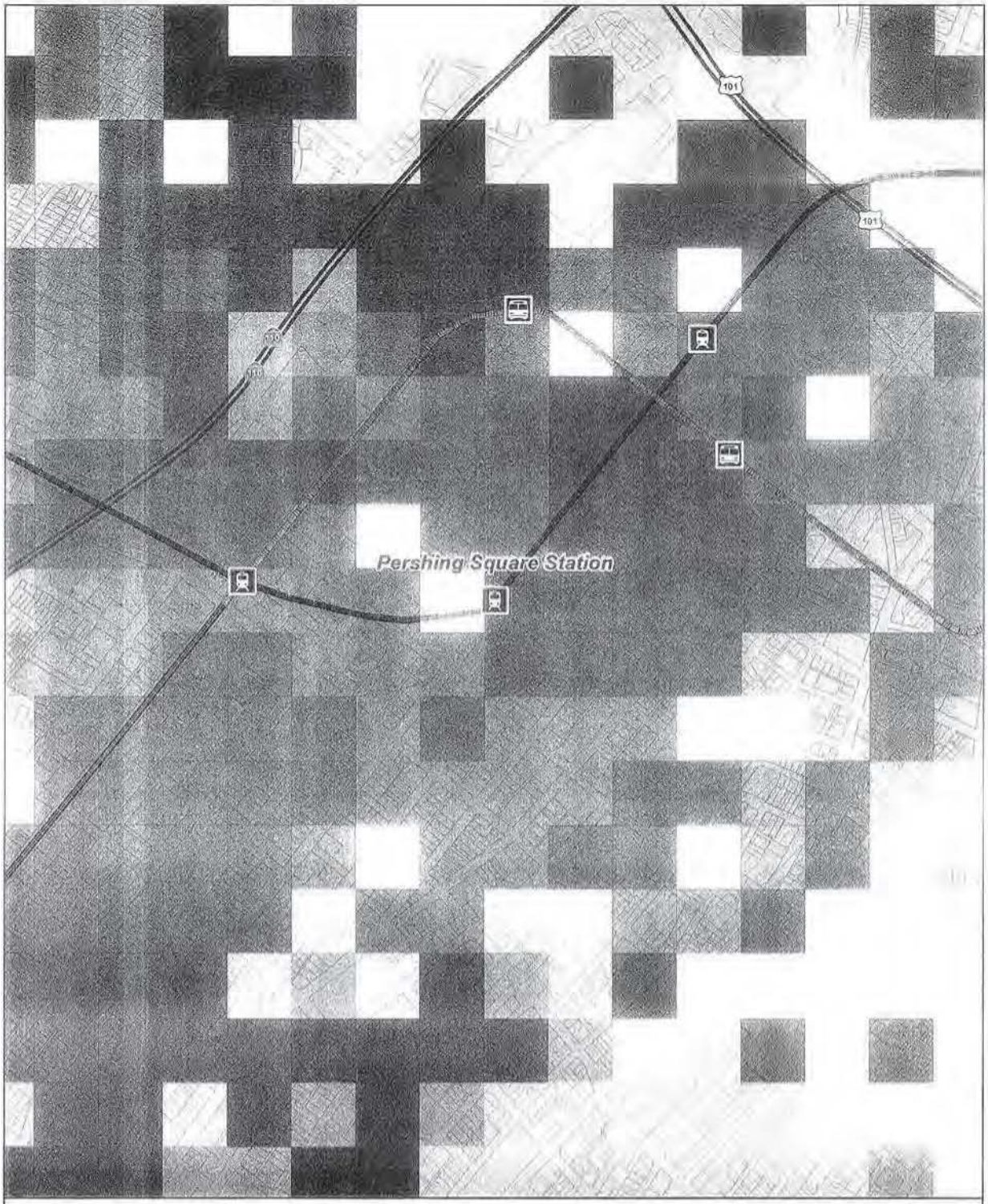
Scenario is based on local input received by June 2011

Pershing Square Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

Same as 08



CEQA Streamlining Avail.
Urban Core Res High Mix
City Res High Mix
Town Res High Mix
Neighborhood Res High Mix
Suburban Res High Mix
Urban Core Emp High Mix
City Emp High Mix
Town Emp High Mix
Neighborhood Emp High Mix
Suburban Emp High Mix
Urban Core Res Low Mix
City Res Low Mix
Town Res Low Mix
Neighborhood Res Low Mix
Suburban Res Low Mix
Urban Core Emp Low Mix
City Emp Low Mix
Town Emp Low Mix
Neighborhood Retail Low Mix
Suburban Retail Low Mix
Neighborhood Office Low Mix
Suburban Office Low Mix
Suburban Industrial Low Mix
Rural Low Mix

N

0 250 500 1,000 Feet

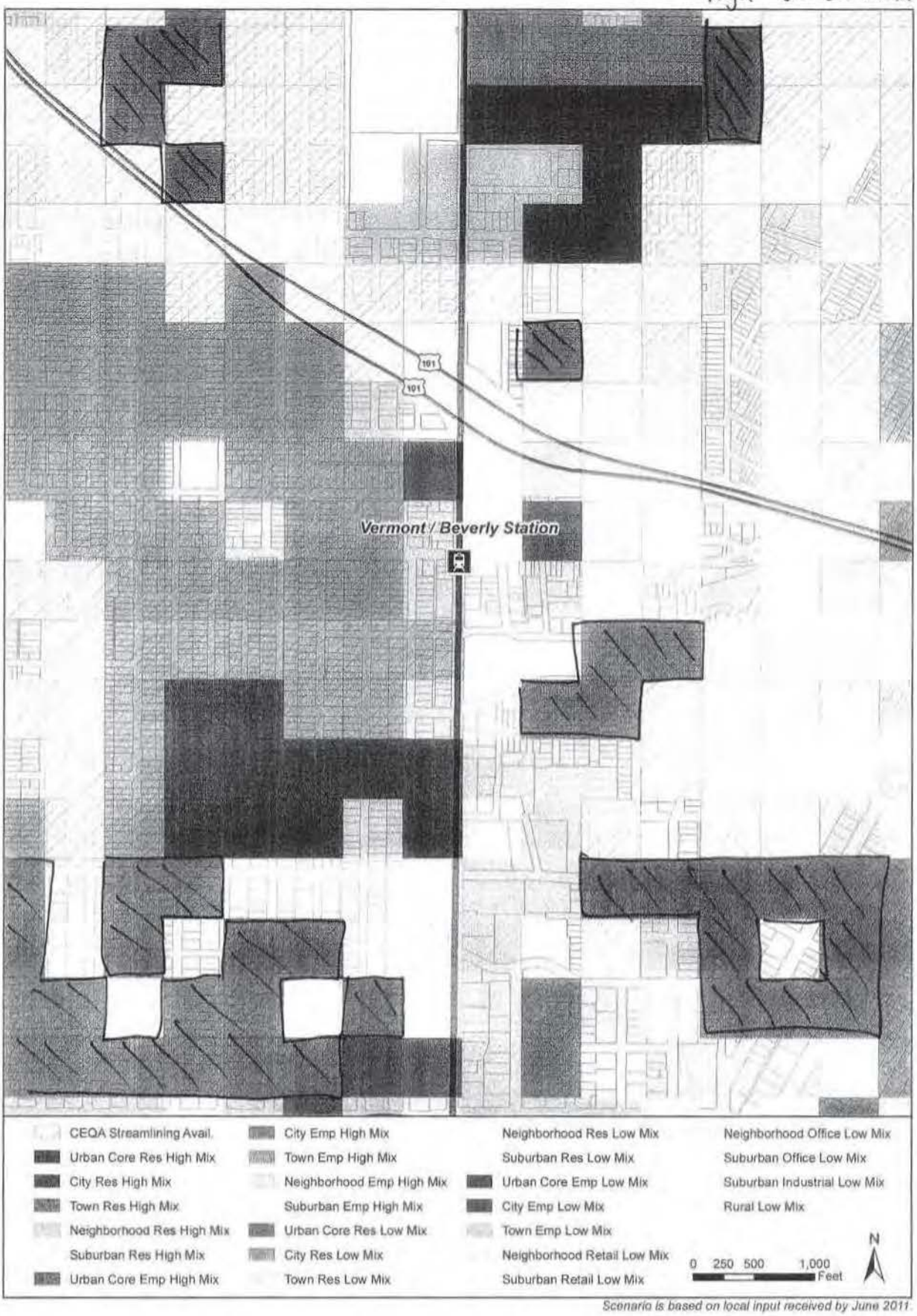
Scenario is based on local input received by June 2011.

Pershing Square Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

highlighted cells density too high 82 DU max



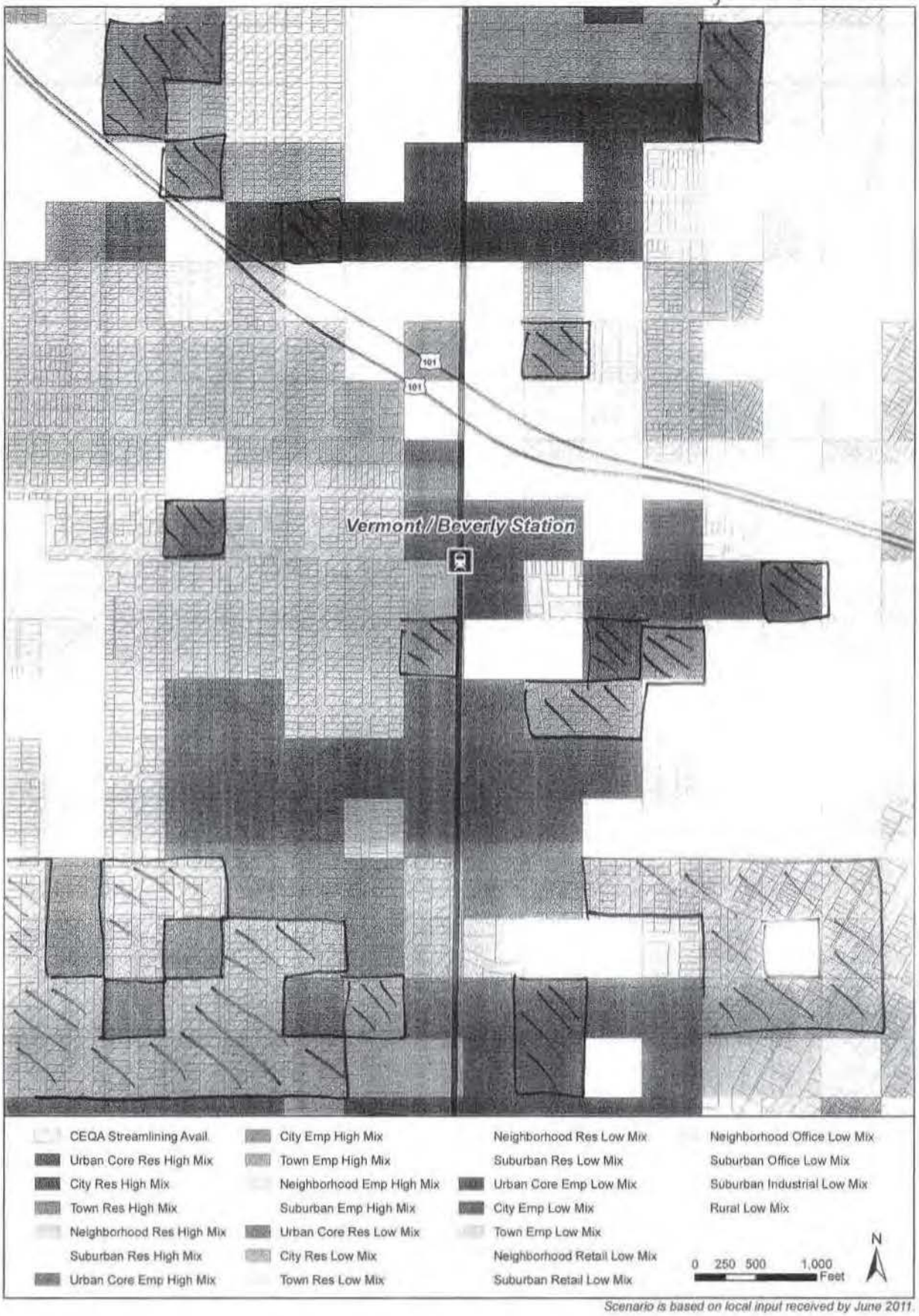
Scenario is based on local input received by June 2011

Vermont / Beverly Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

highlighted cells density too high 82 DU max



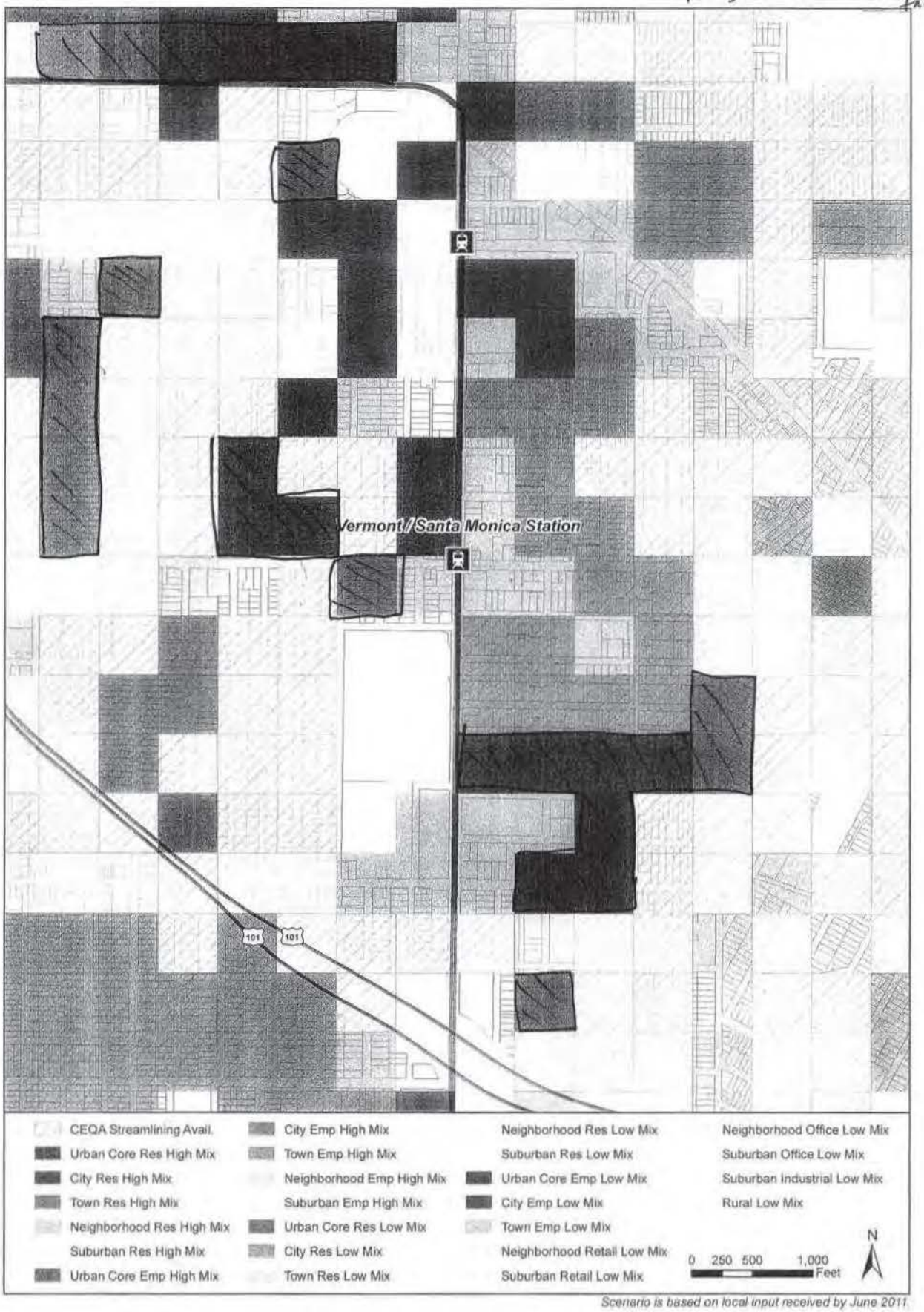
Scenario is based on local input received by June 2011.

Vermont / Beverly Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

highlighted cells too high
42 DUs max - Multi-Family



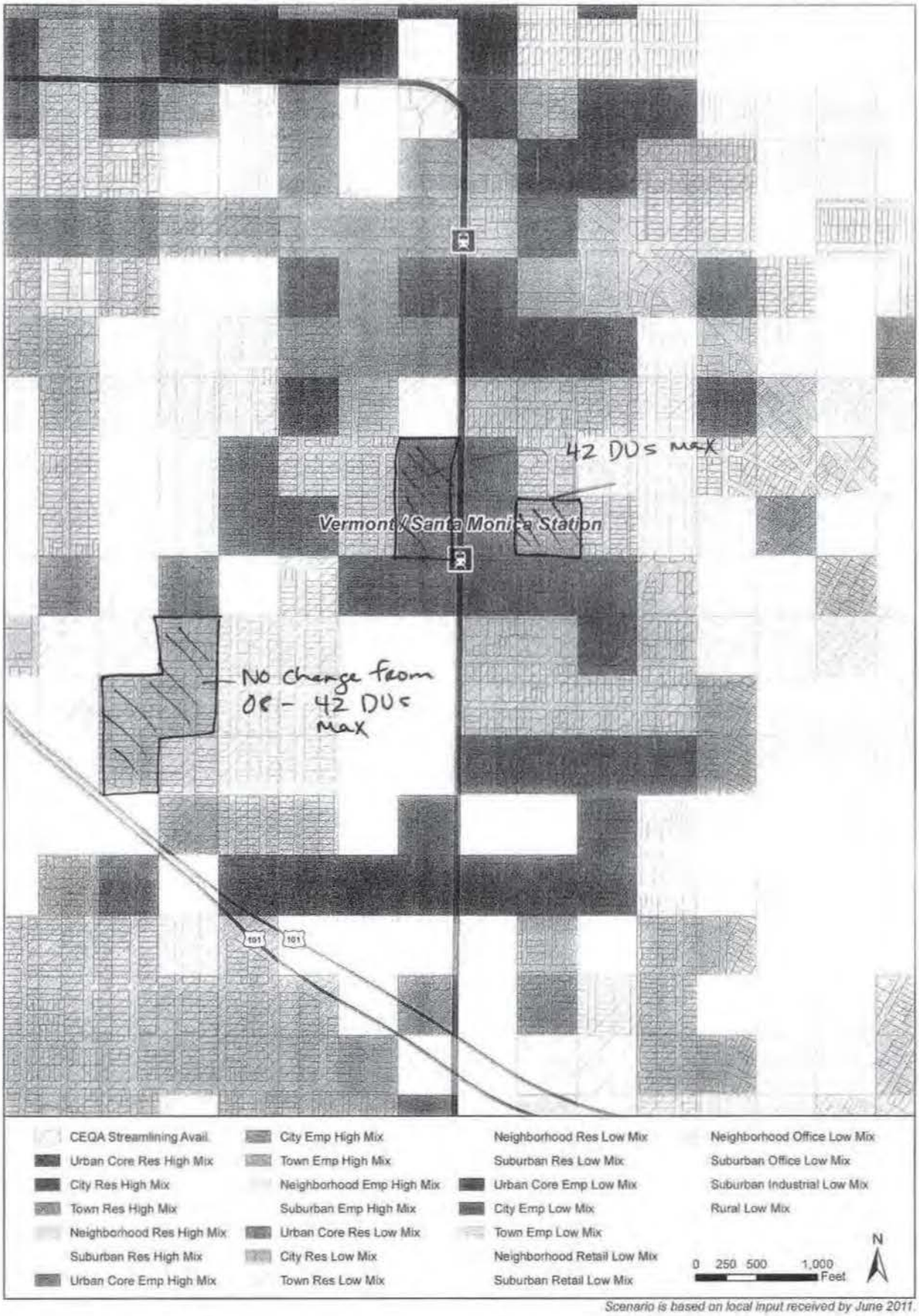
Scenario is based on local input received by June 2011

Vermont / Santa Monica Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

Same as 08 w/ additional comments



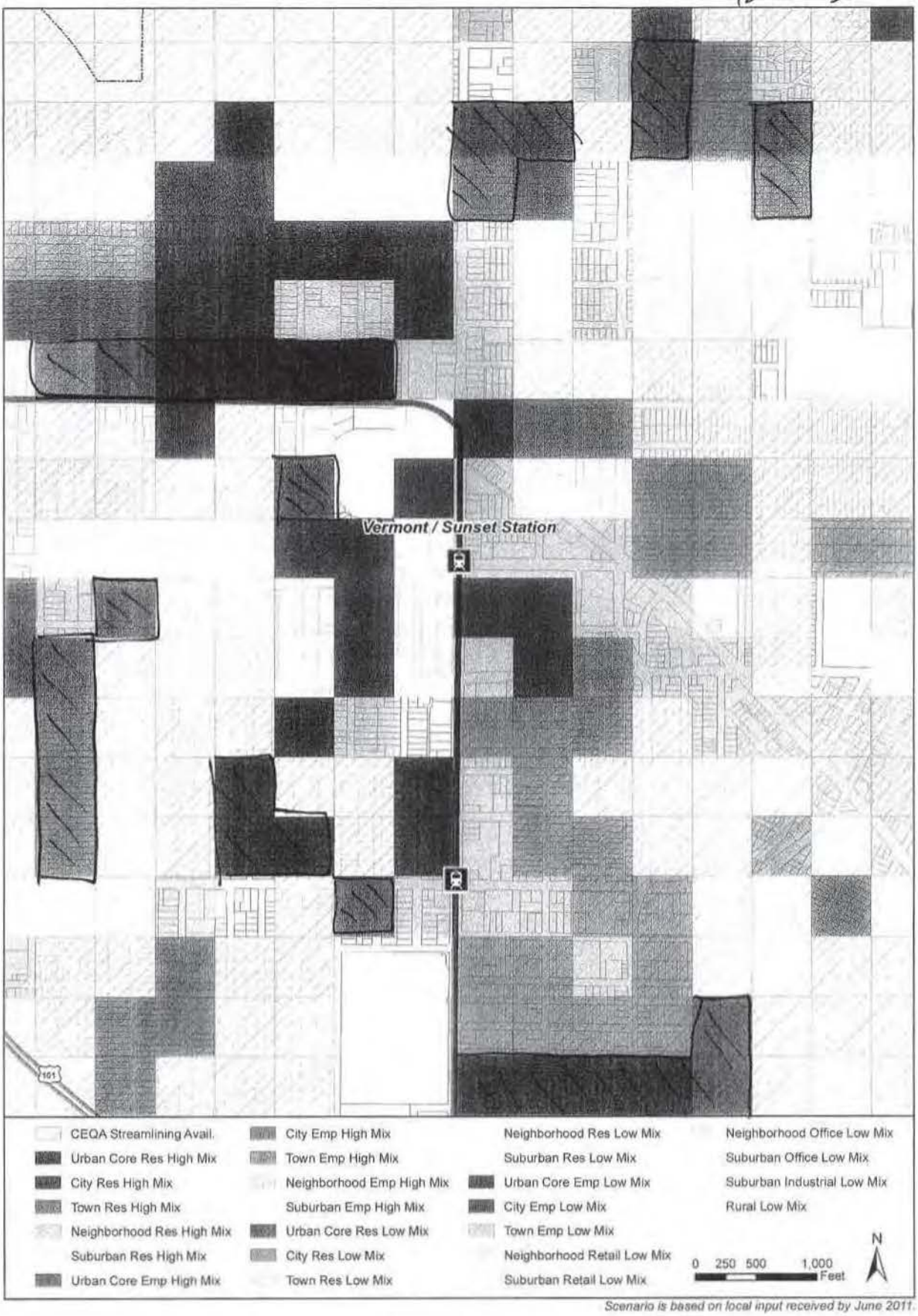
Scenario is based on local input received by June 2011.

Vermont / Santa Monica Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

highlighted cells too high
42 Max DU



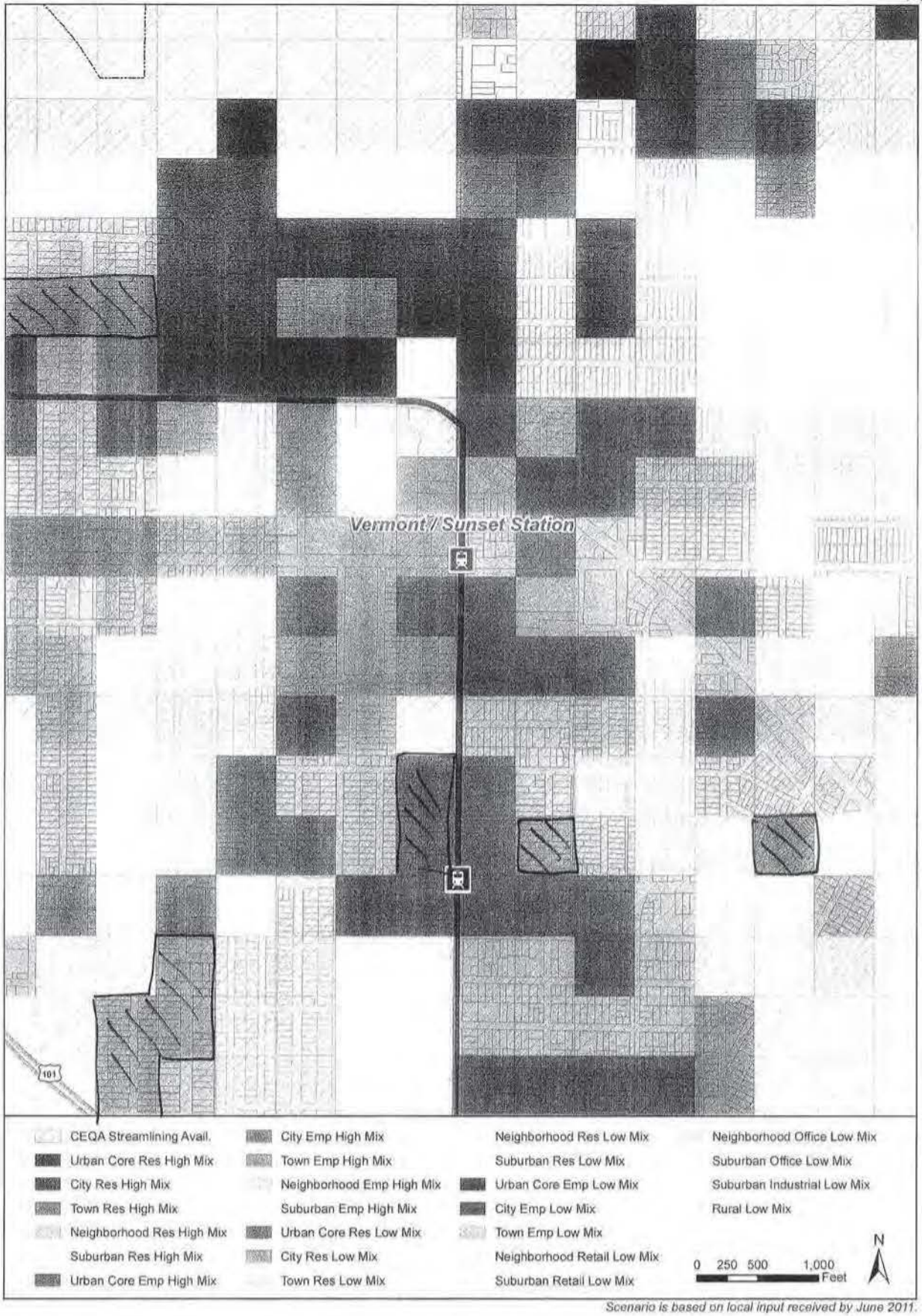
Scenario is based on local input received by June 2011.

Vermont / Sunset Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

Same as 08 with additional cells highlighted below, 42 DUs max

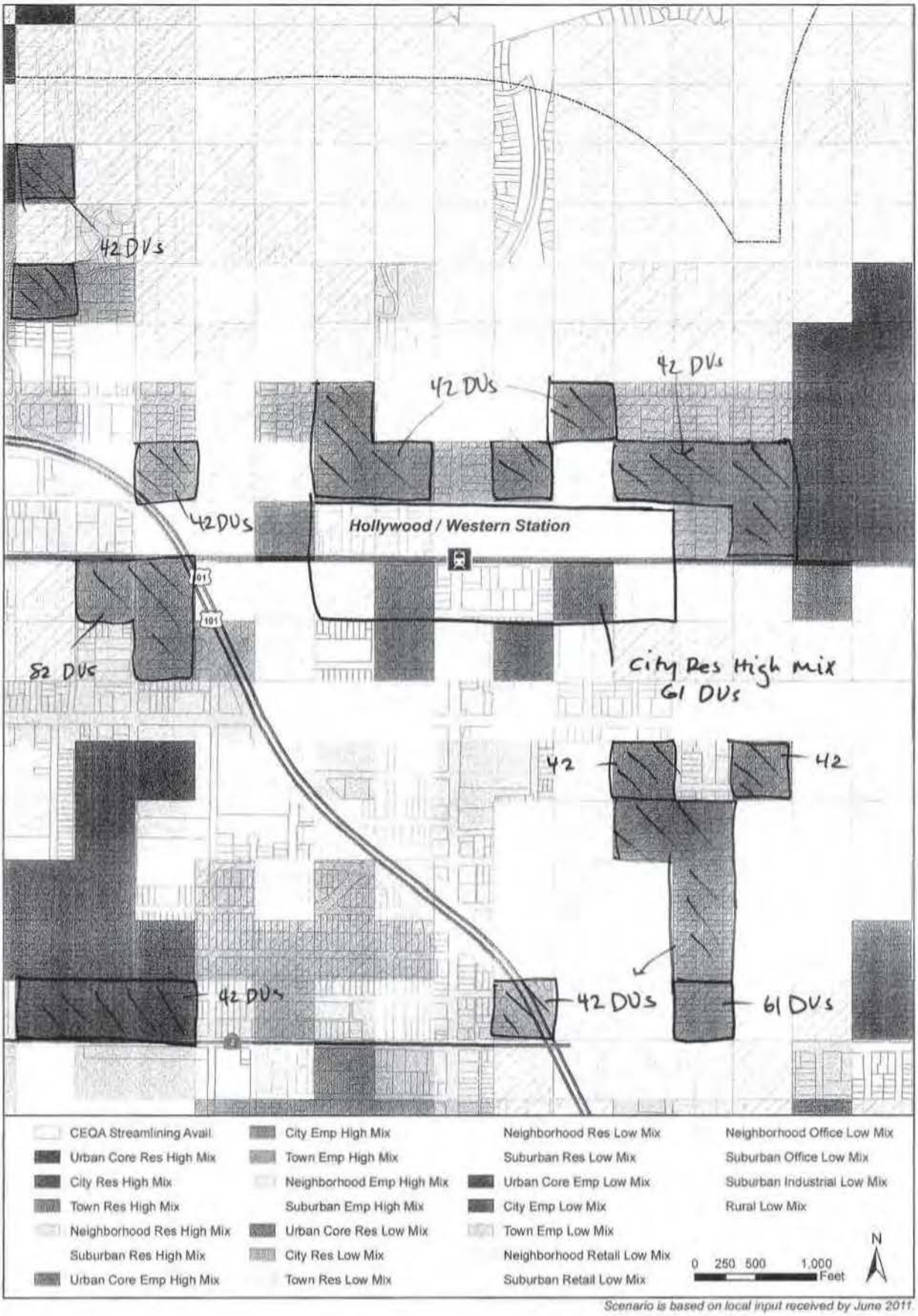


Scenario is based on local input received by June 2011.

Vermont / Sunset Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



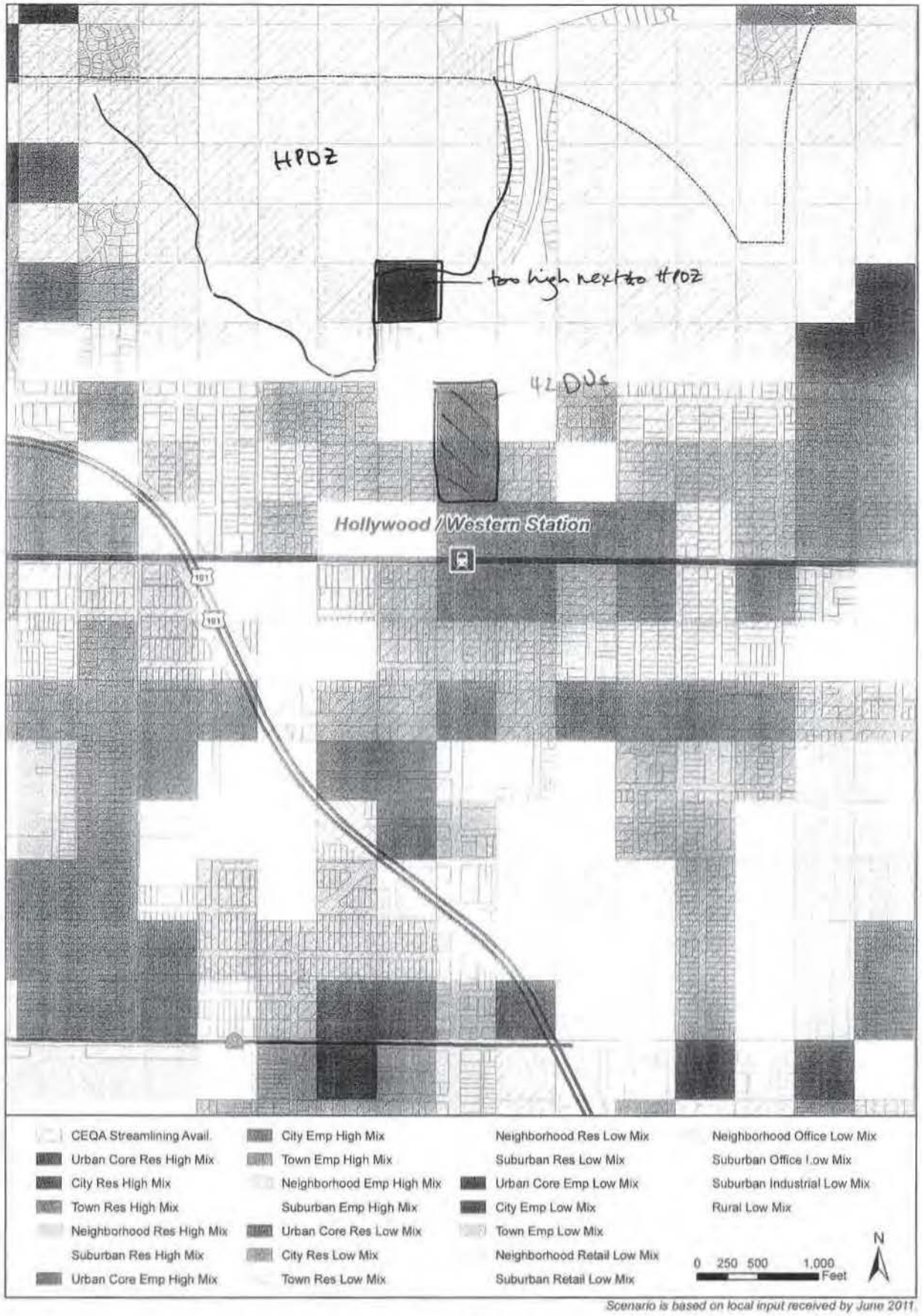
Scenario is based on local input received by June 2011.

Hollywood / Western Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

Same as 08 with additional comments

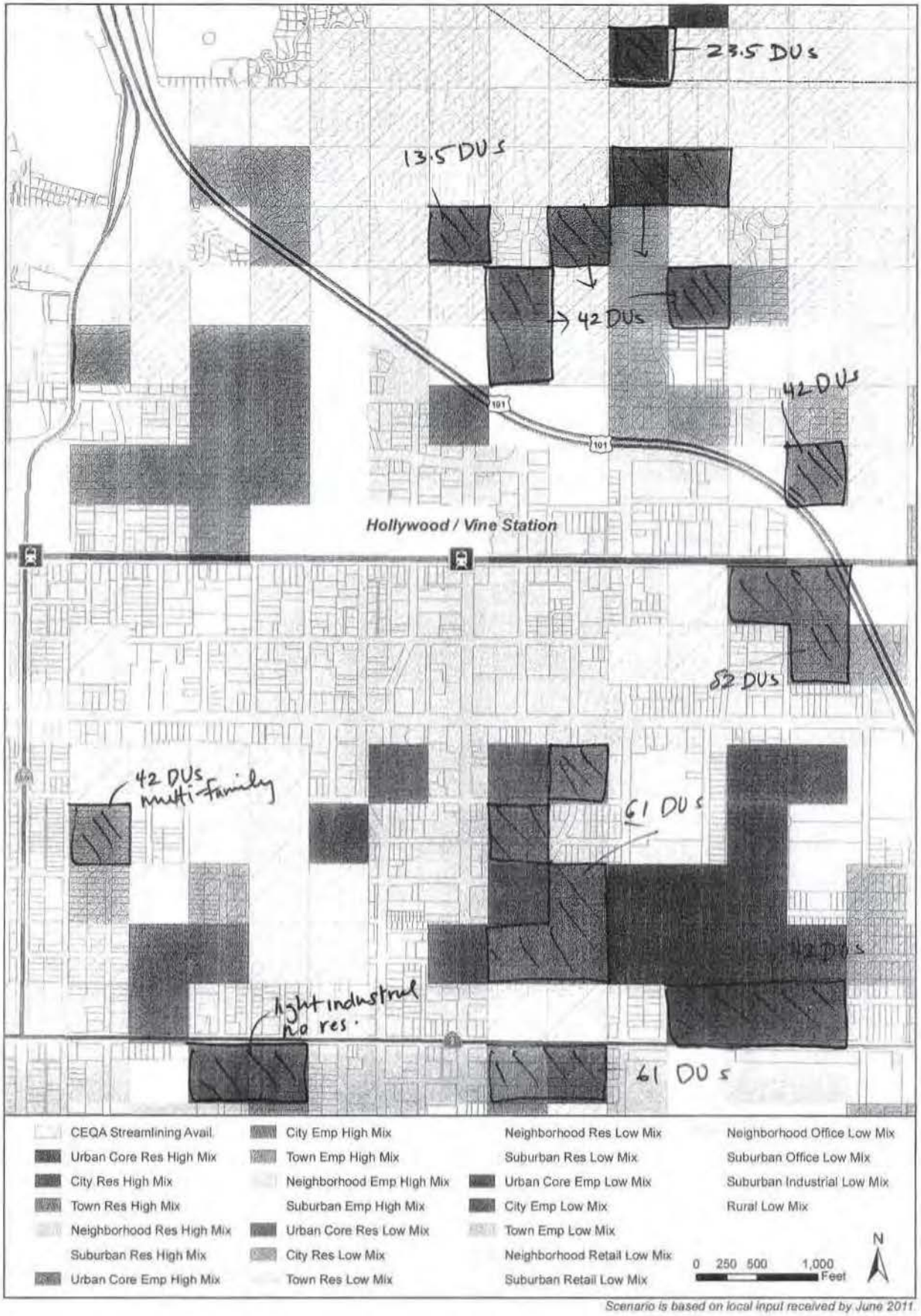


Scenario is based on local input received by June 2011.

Hollywood / Western Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

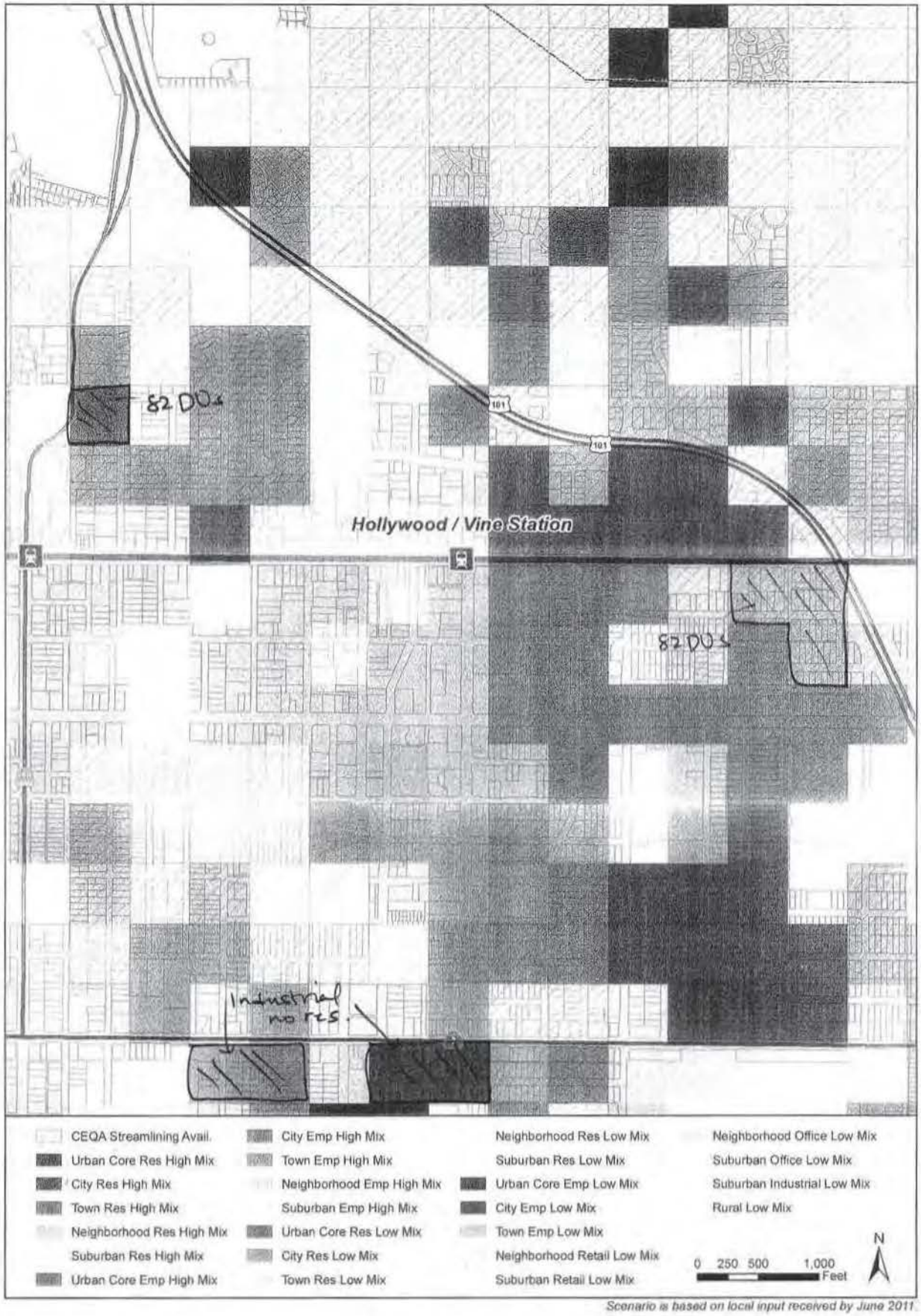


Scenario is based on local input received by June 2011

Hollywood / Vine Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

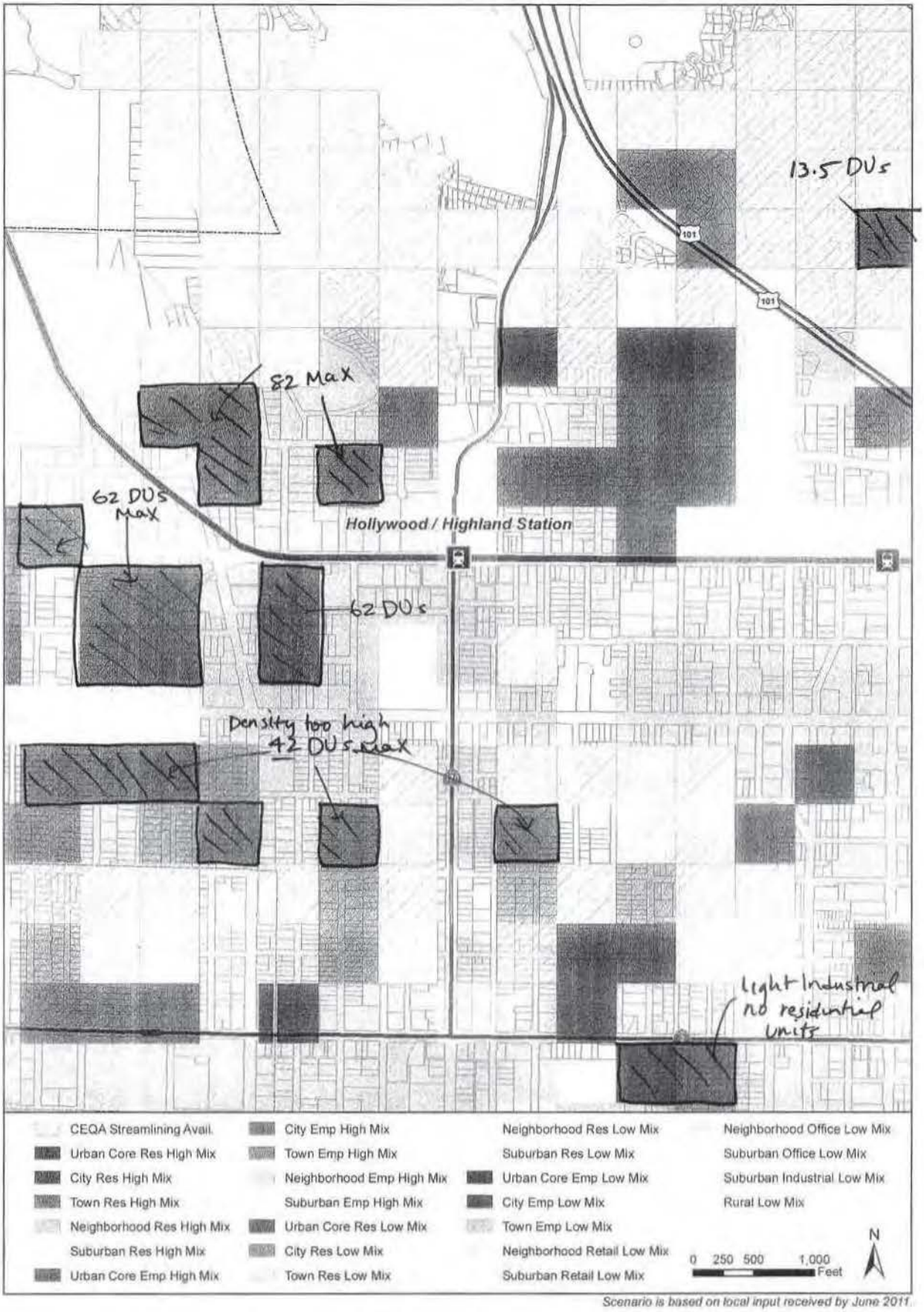


Scenario is based on local input received by June 2011

Hollywood / Vine Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

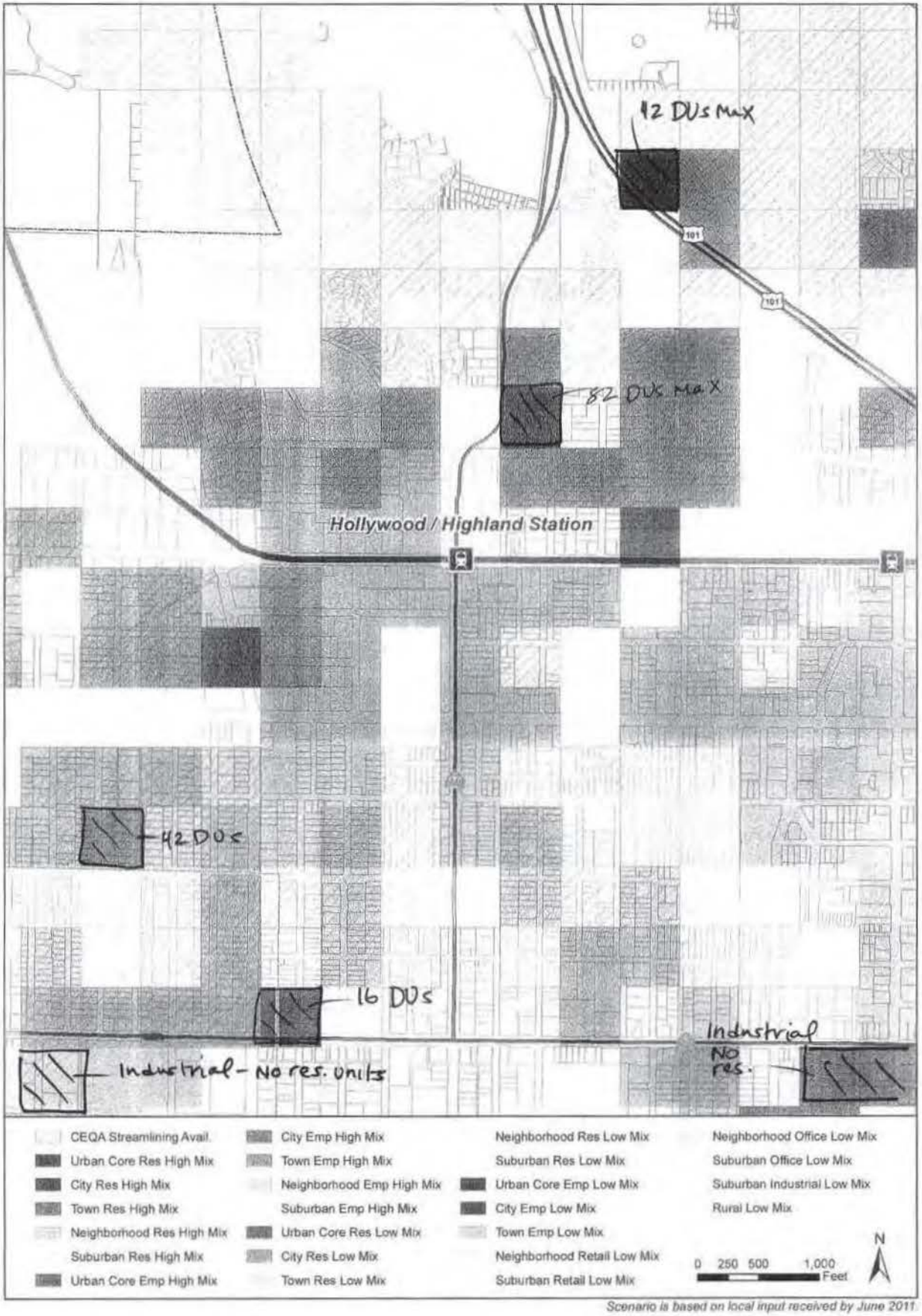


Scenario is based on local input received by June 2011

Hollywood / Highland Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

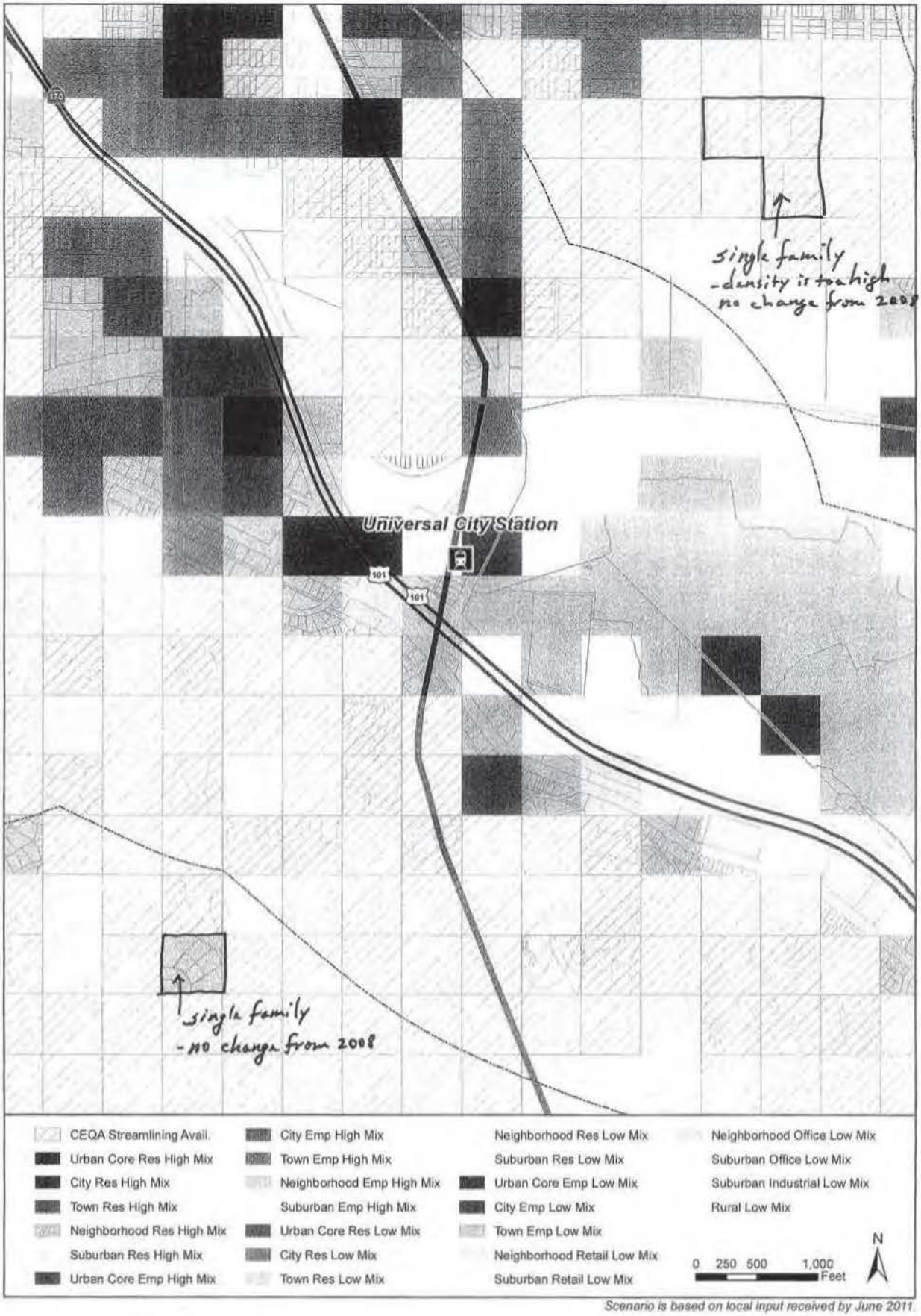


Scenario is based on local input received by June 2011

Hollywood / Highland Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

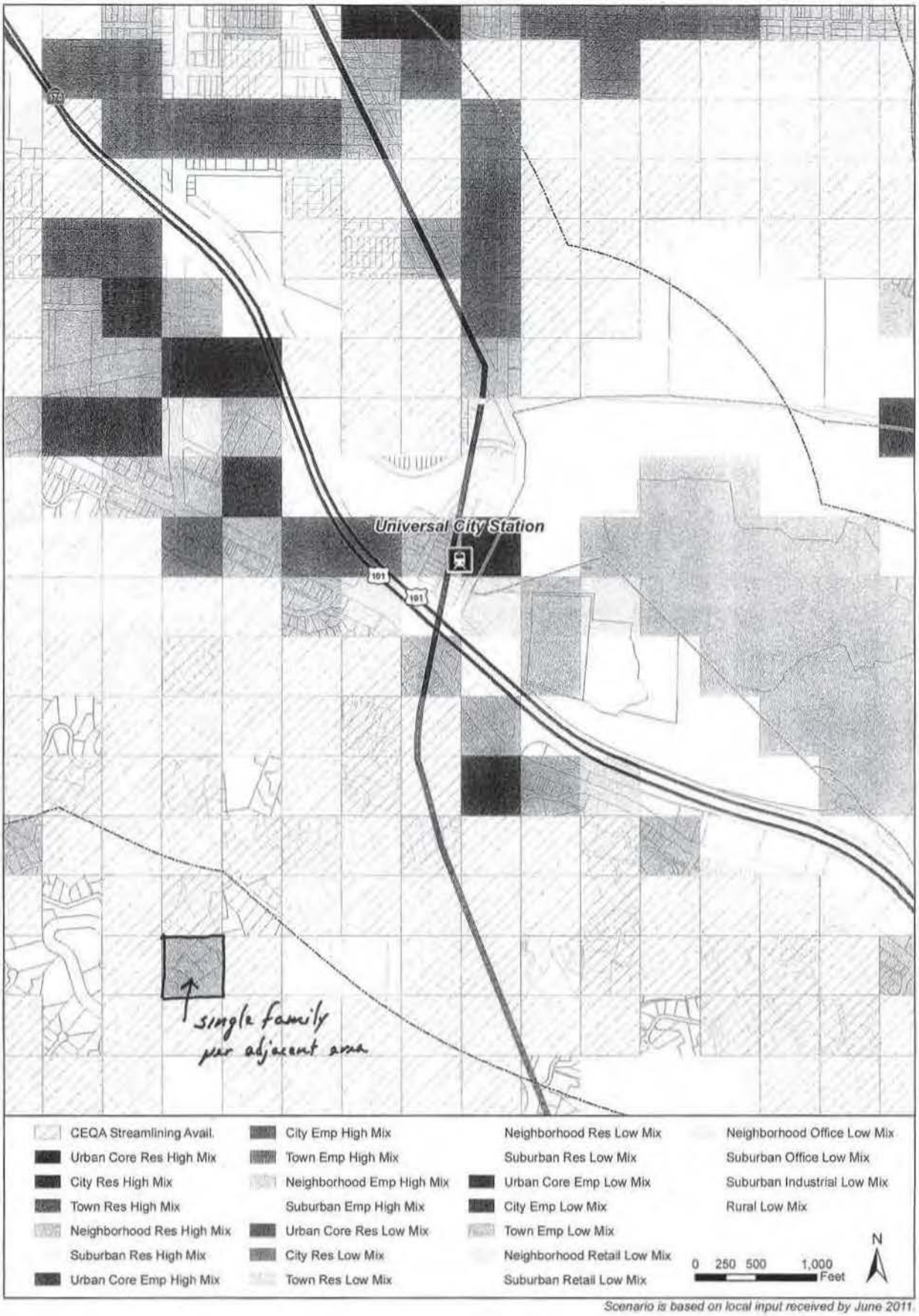


Scenario is based on local input received by June 2011

Universal City Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

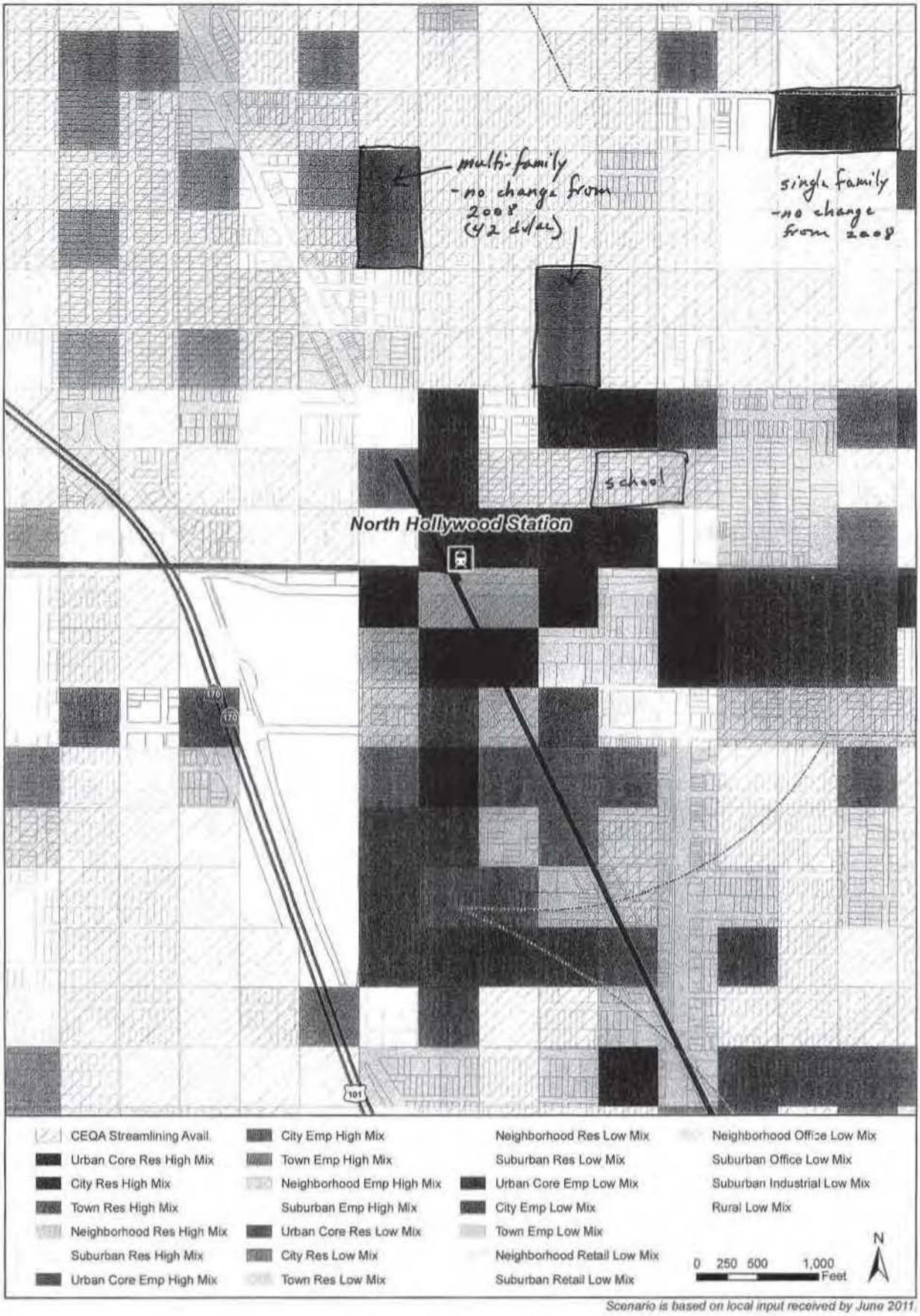


Scenario is based on local input received by June 2011.

Universal City Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

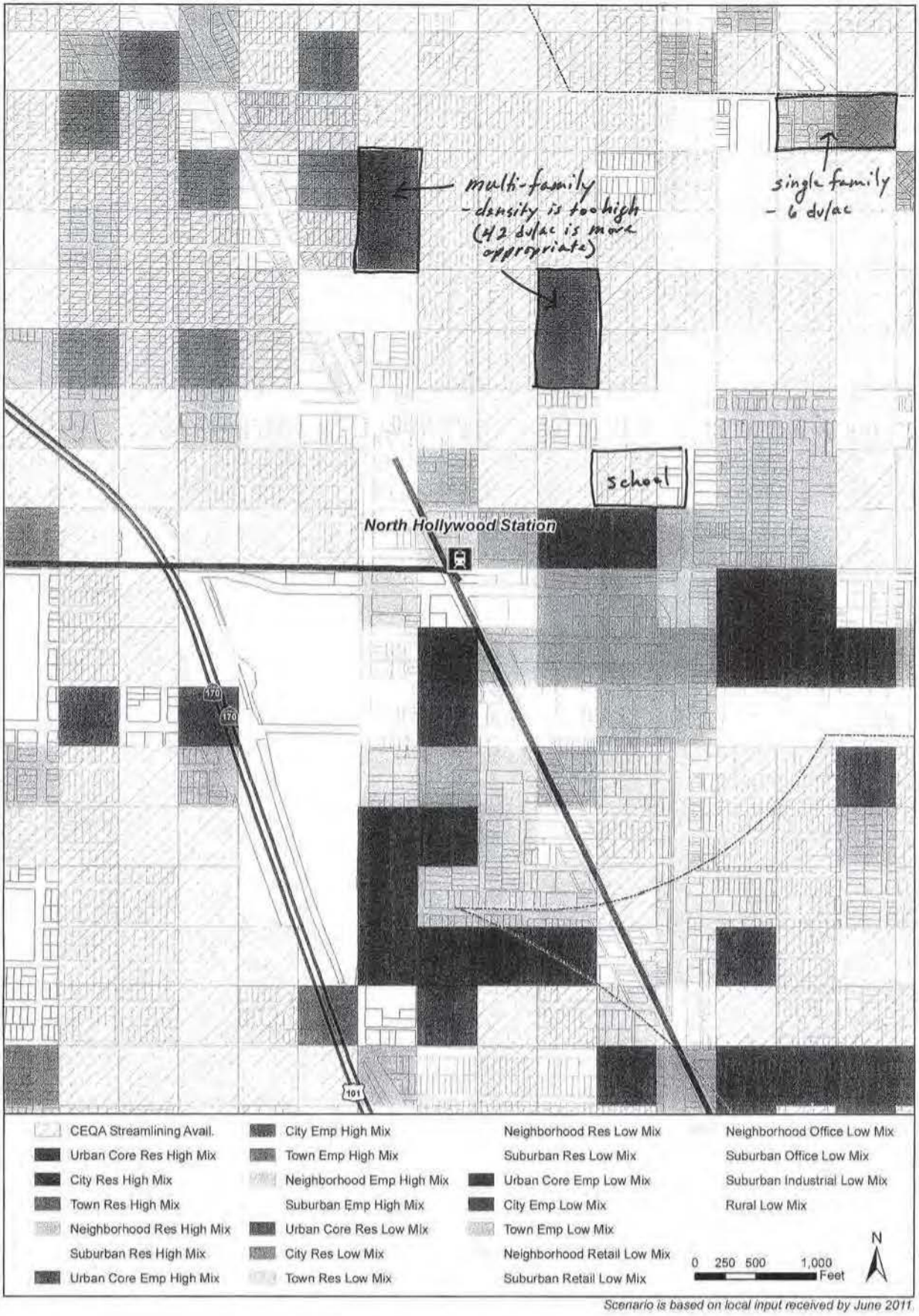


Scenario is based on local input received by June 2011

North Hollywood Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



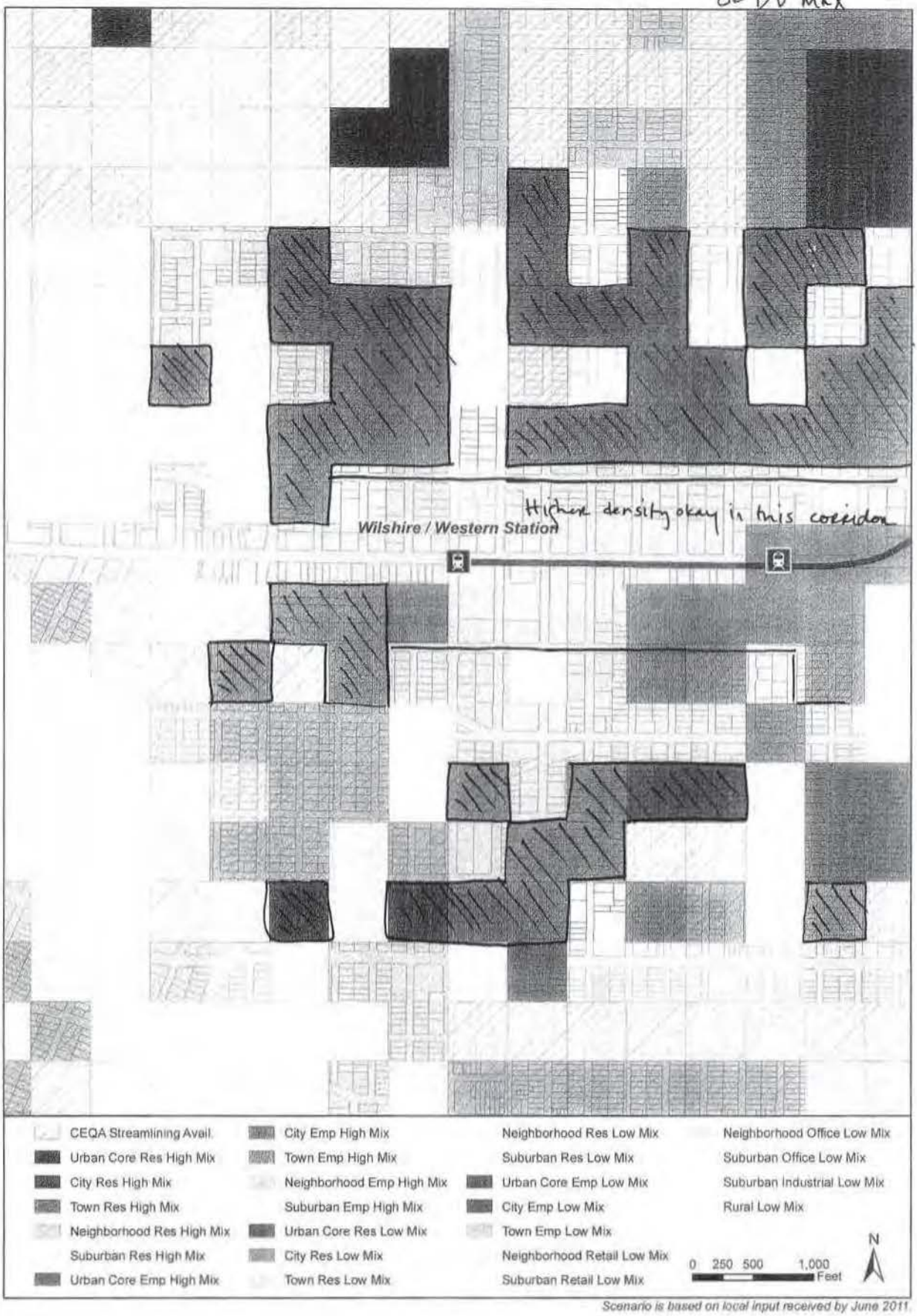
Scenario is based on local input received by June 2011

North Hollywood Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

– highlighted cells density too high
82 DU MIX



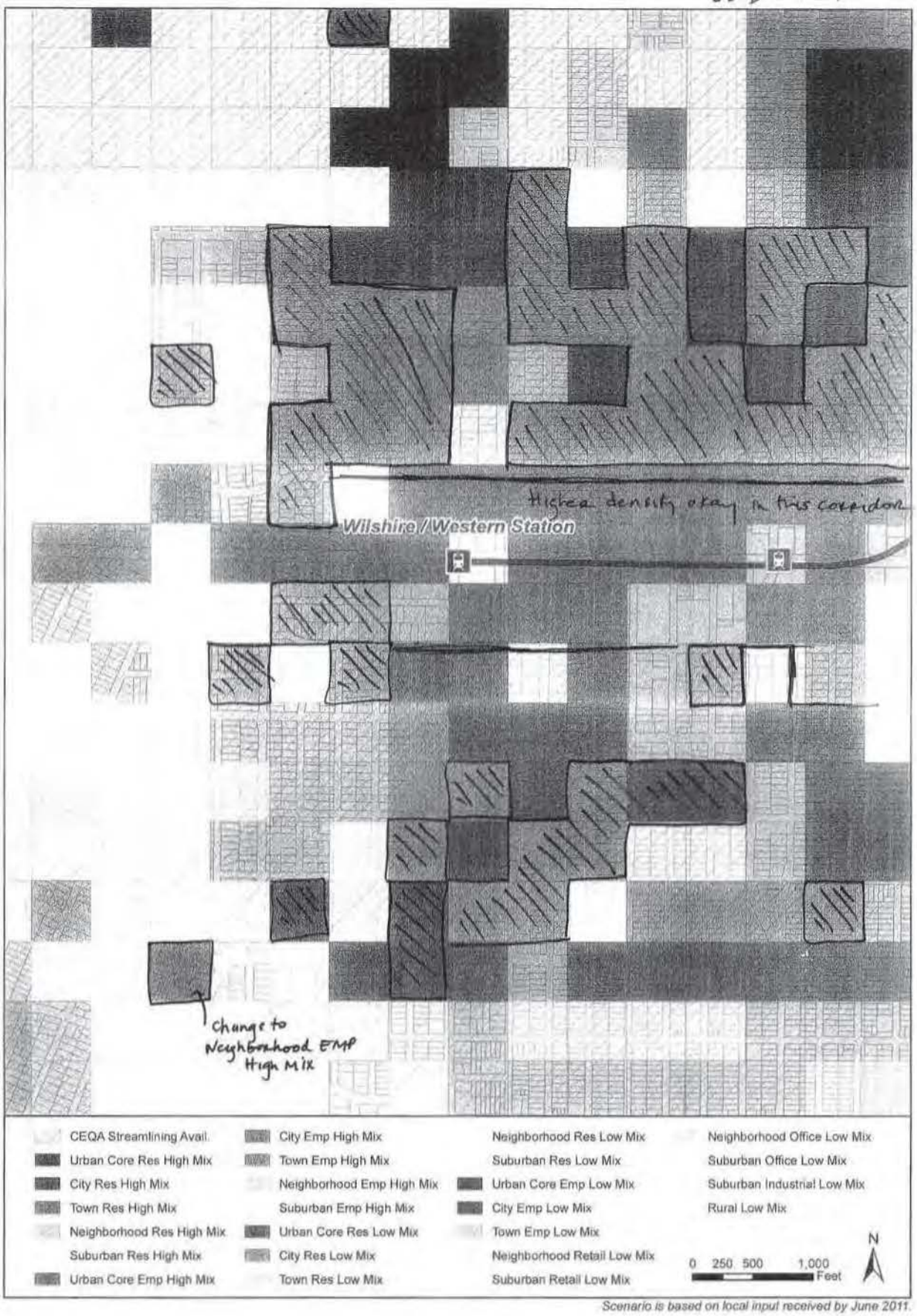
Scenario is based on local input received by June 2011.

Wilshire / Western Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

-highlighted cells density too high
82 DU max



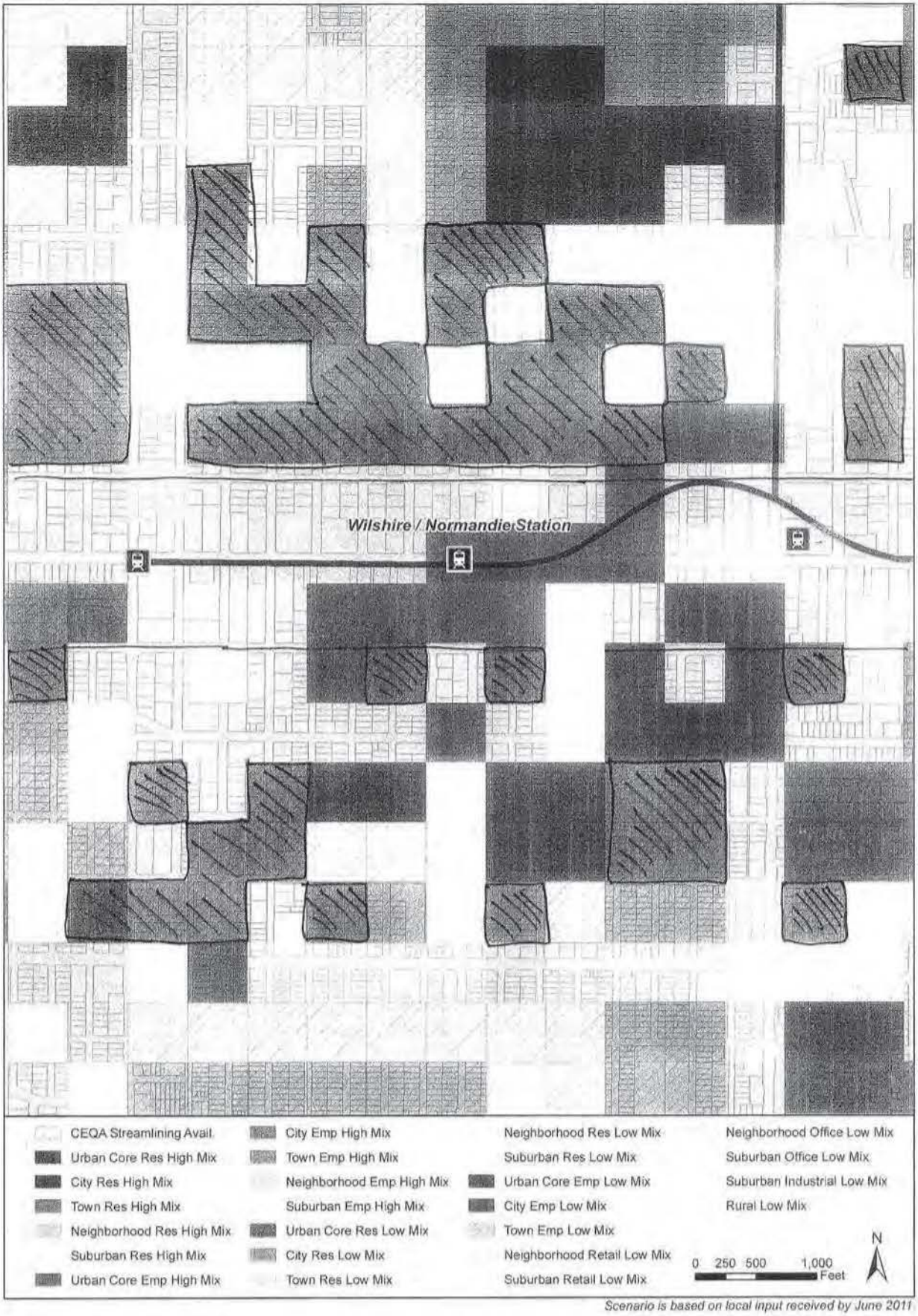
Scenario is based on local input received by June 2011.

Wilshire / Western Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

highlighted cells density too high
82 DU max



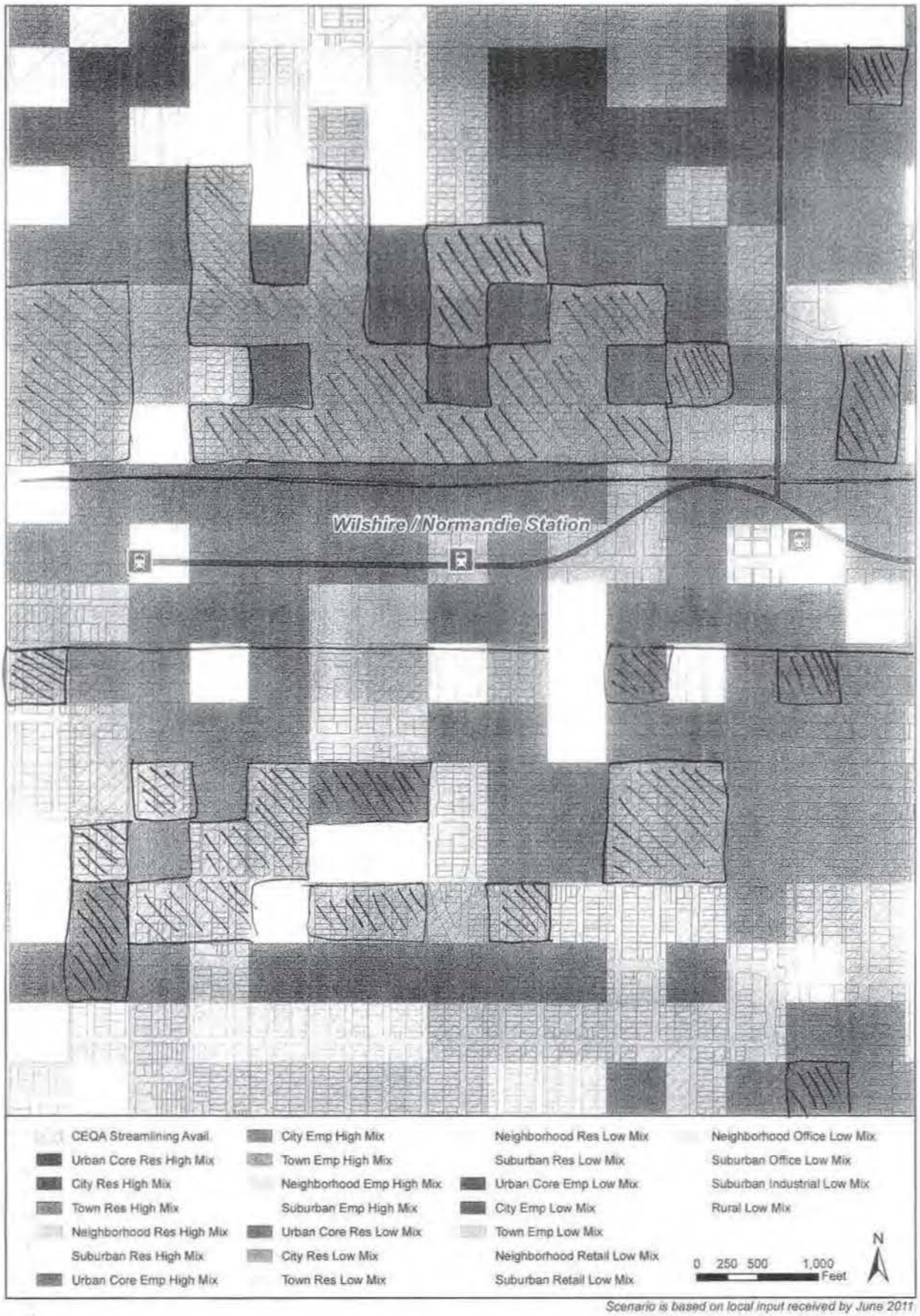
Scenario is based on local input received by June 2011

Wilshire / Normandie Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

highlighted cells density too high
≤2 DU max



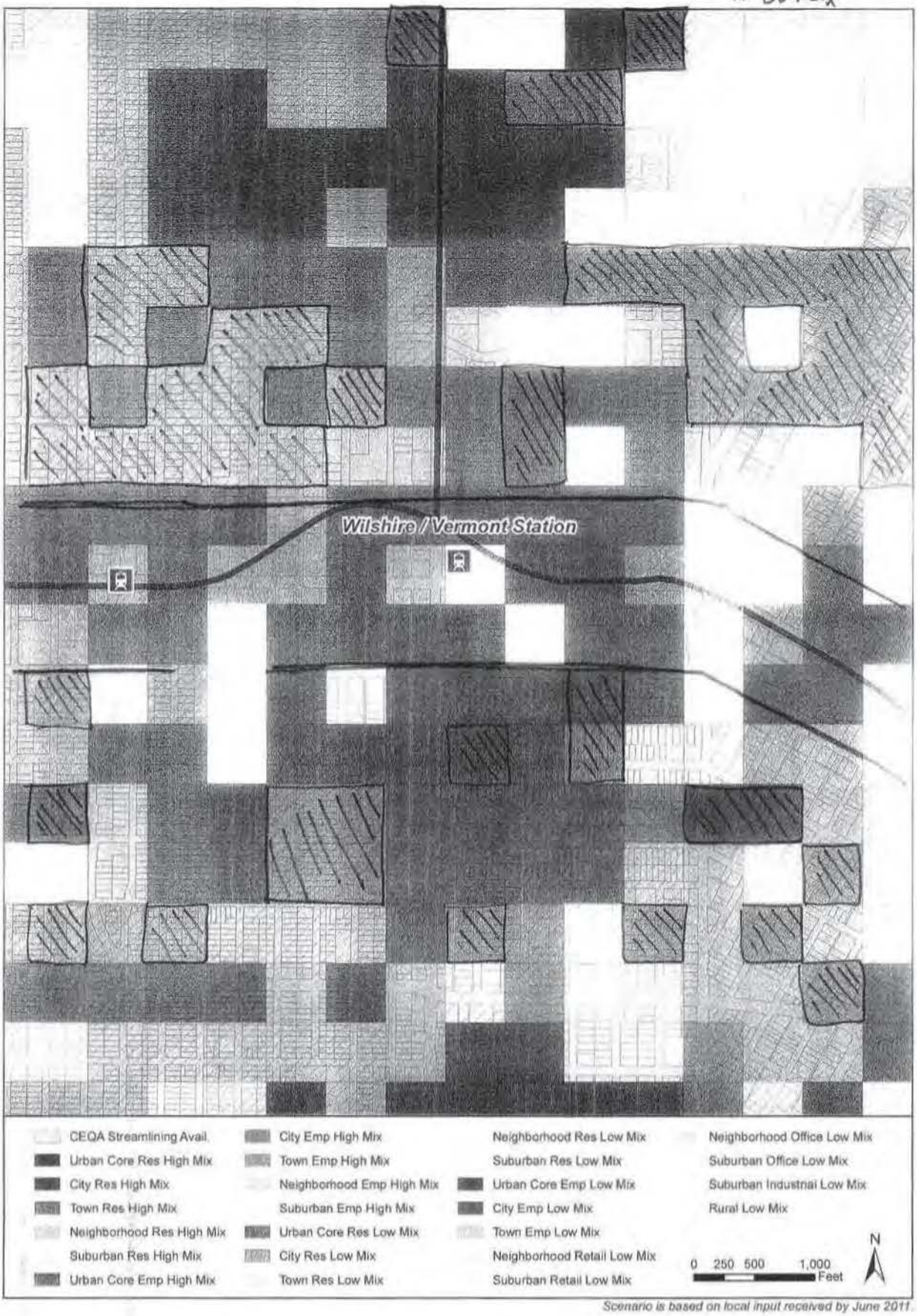
Scenario is based on local input received by June 2011

Wilshire / Normandie Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

highlighted cells density too high
P2 DU max



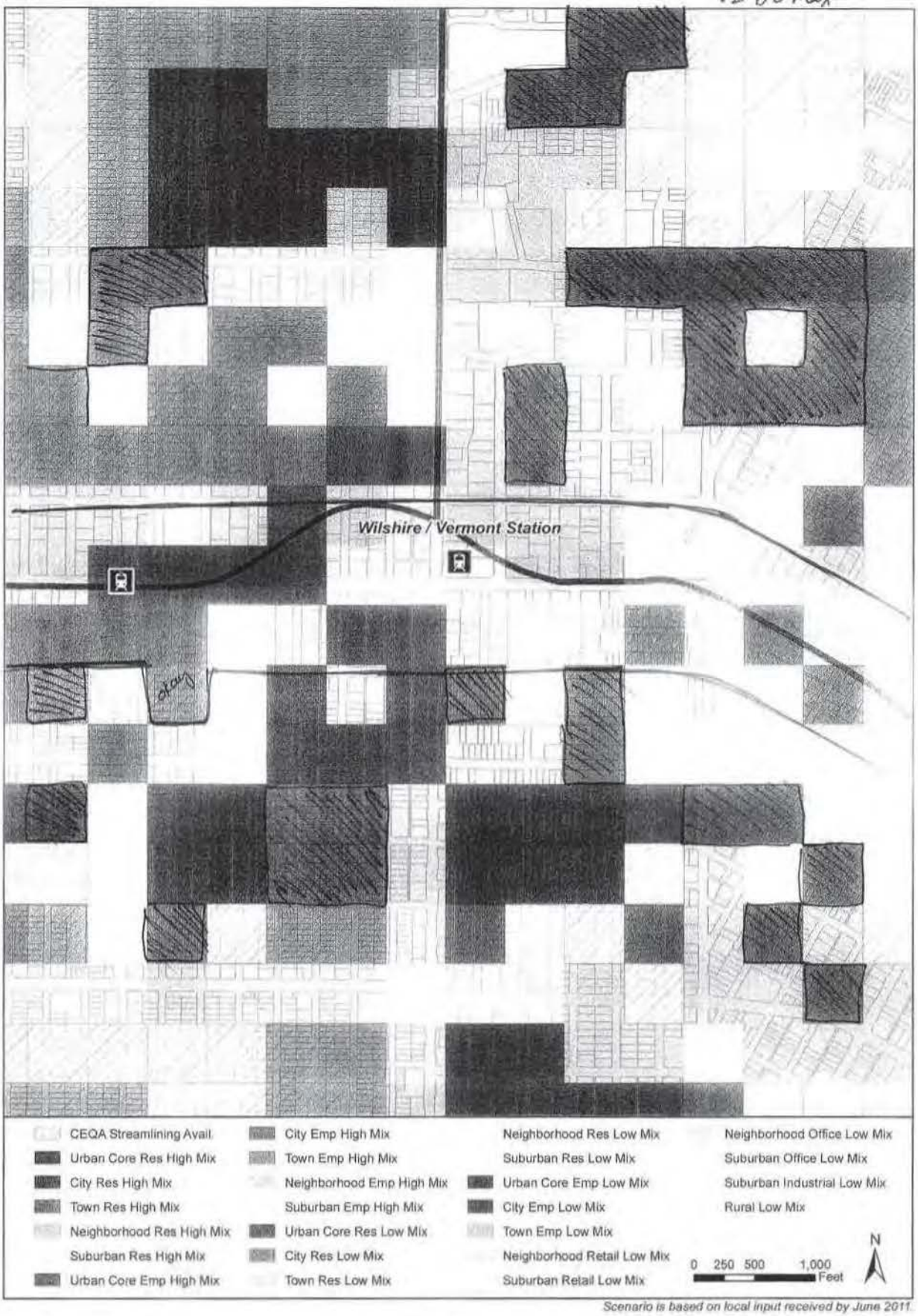
Scenario is based on local input received by June 2011

Wilshire / Vermont Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

highlighted cells density too high
82 DU max



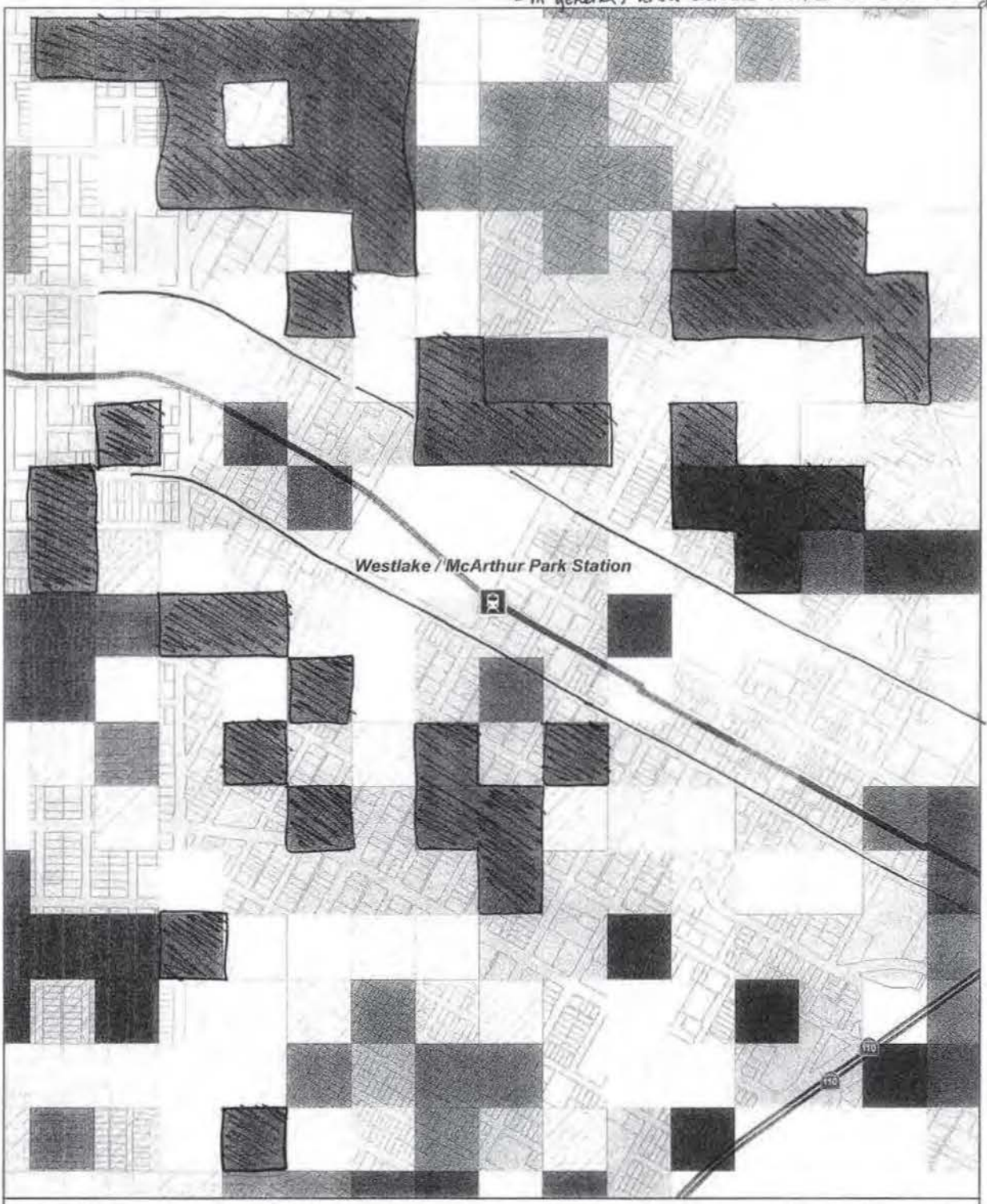
Scenario is based on local input received by June 2011

Wilshire / Vermont Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

- highlighted boxes have density designations that are too high. Need to reduce
- In general, area outside marked corridor has lower density



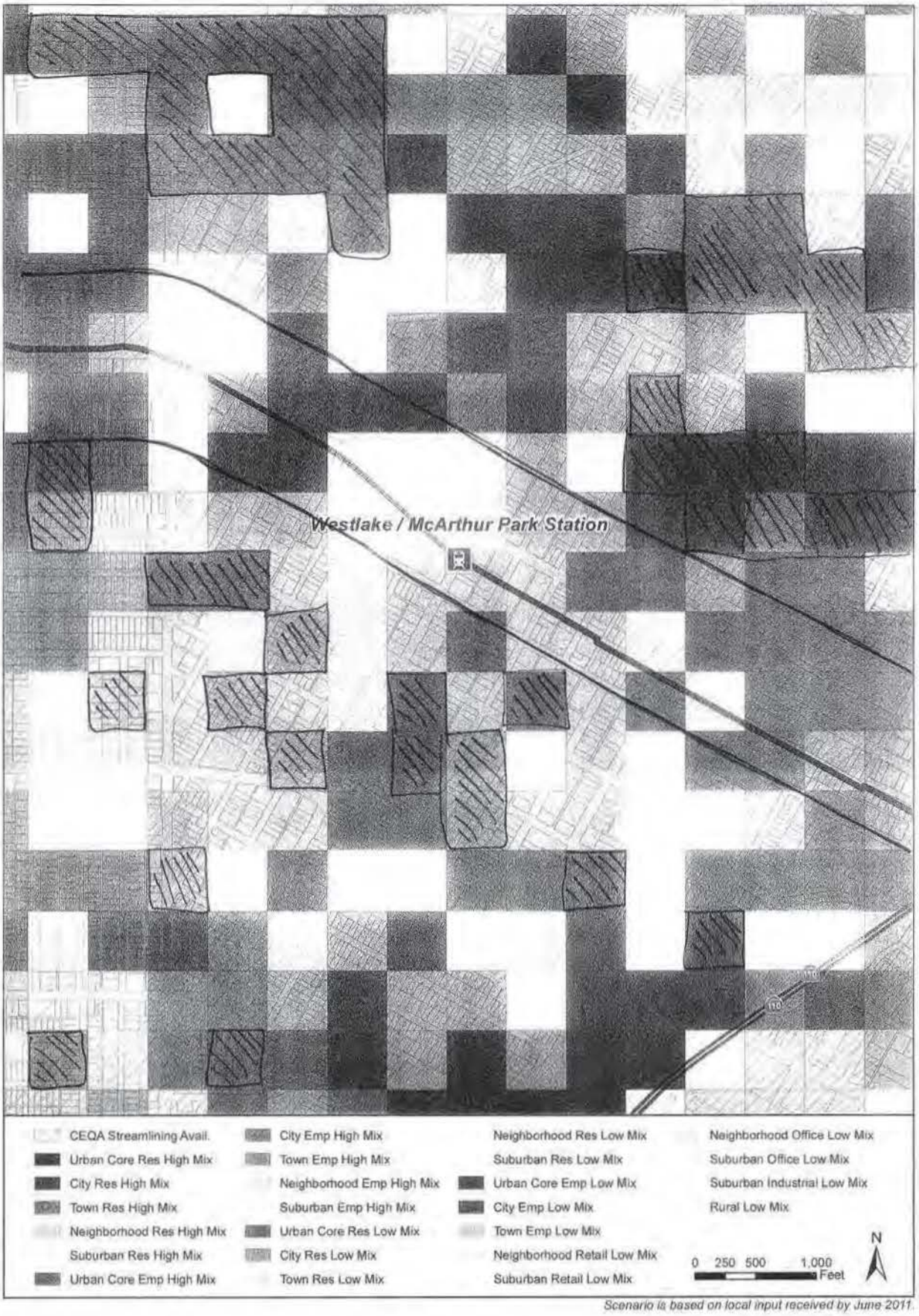
Scenario is based on local input received by June 2011.

Westlake / McArthur Park Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

highlighted cells density too high
82 DU max

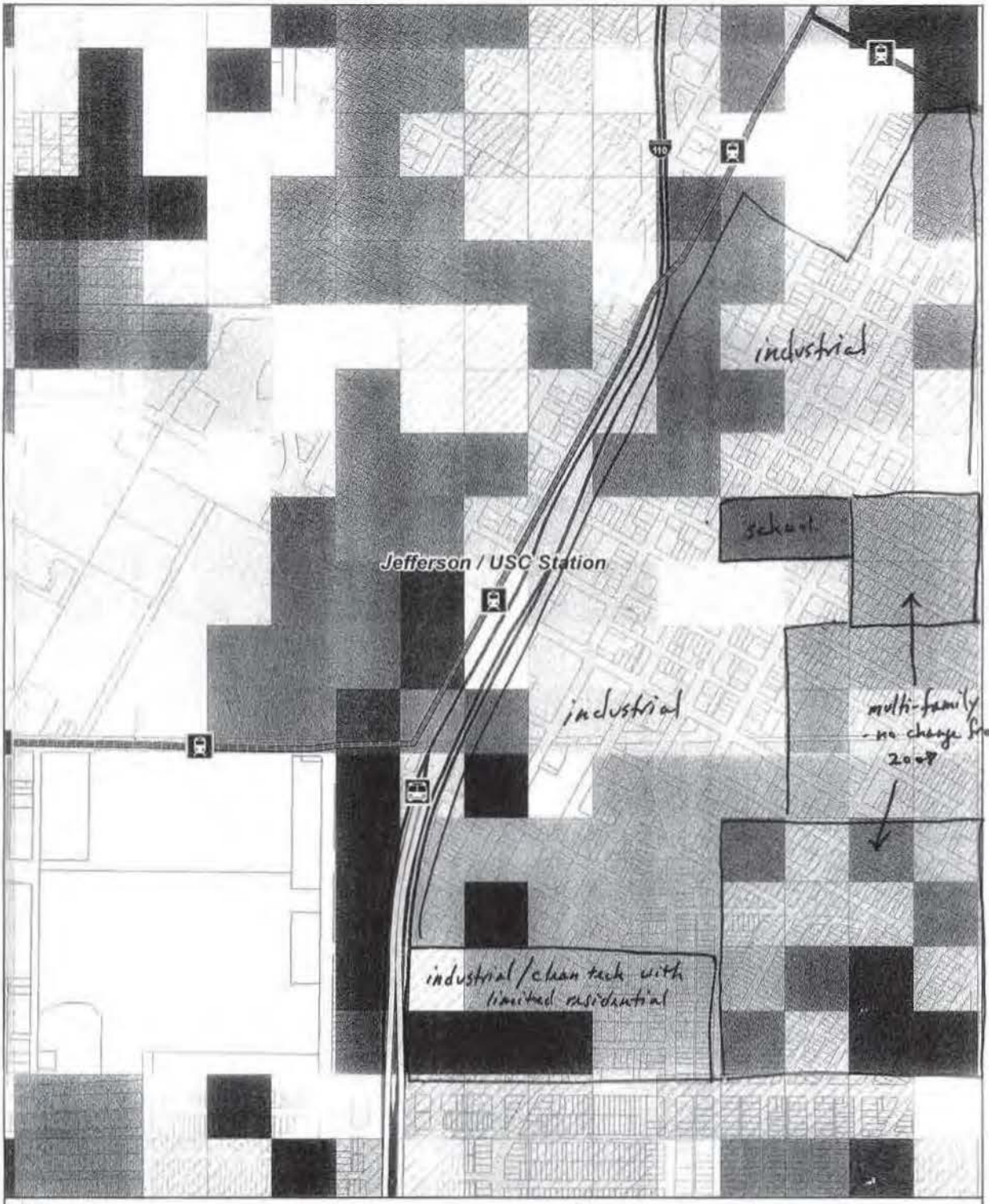


Scenario is based on local input received by June 2011.

Westlake / McArthur Park Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

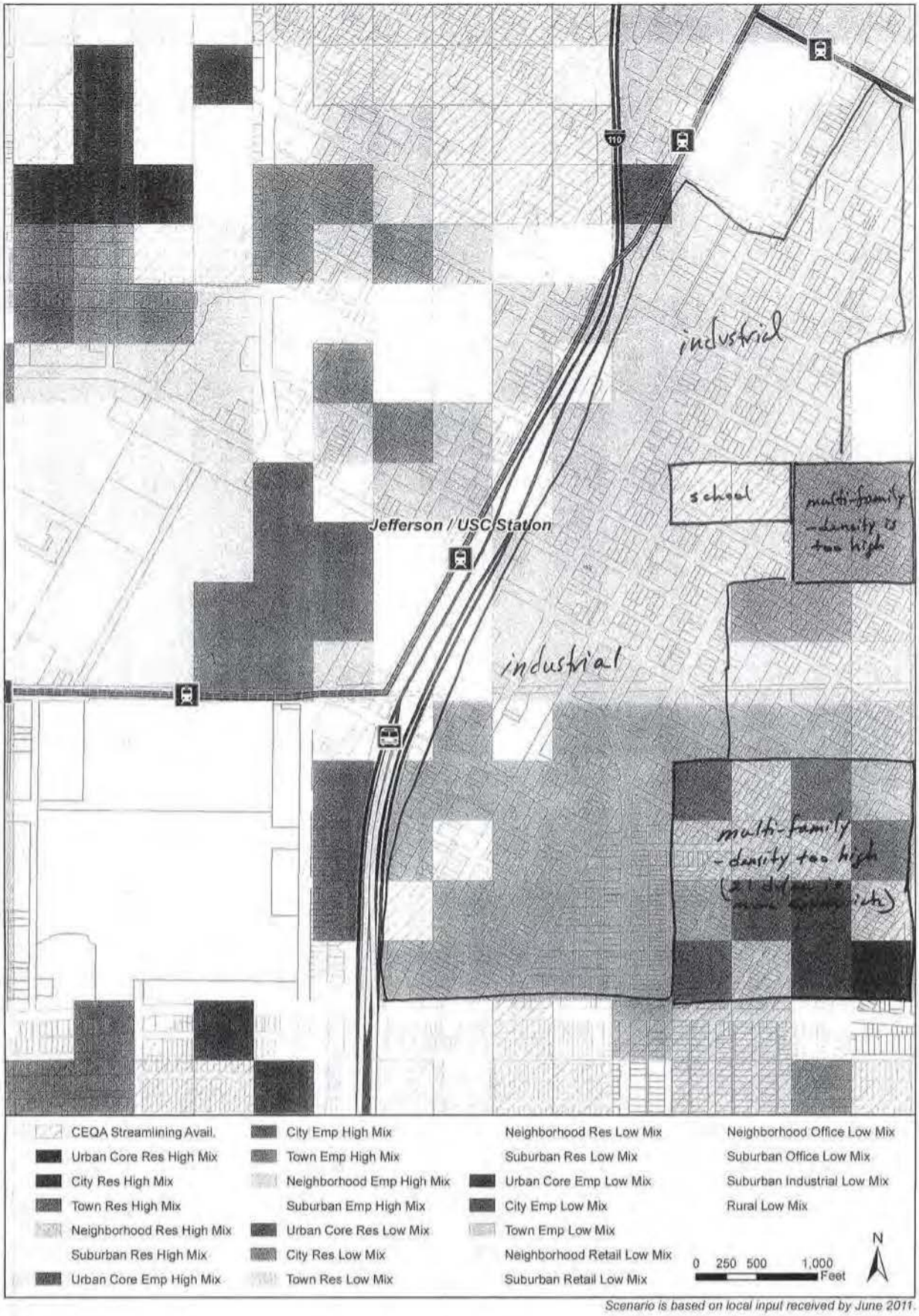


Scenario is based on local input received by June 2011.

Jefferson / USC Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

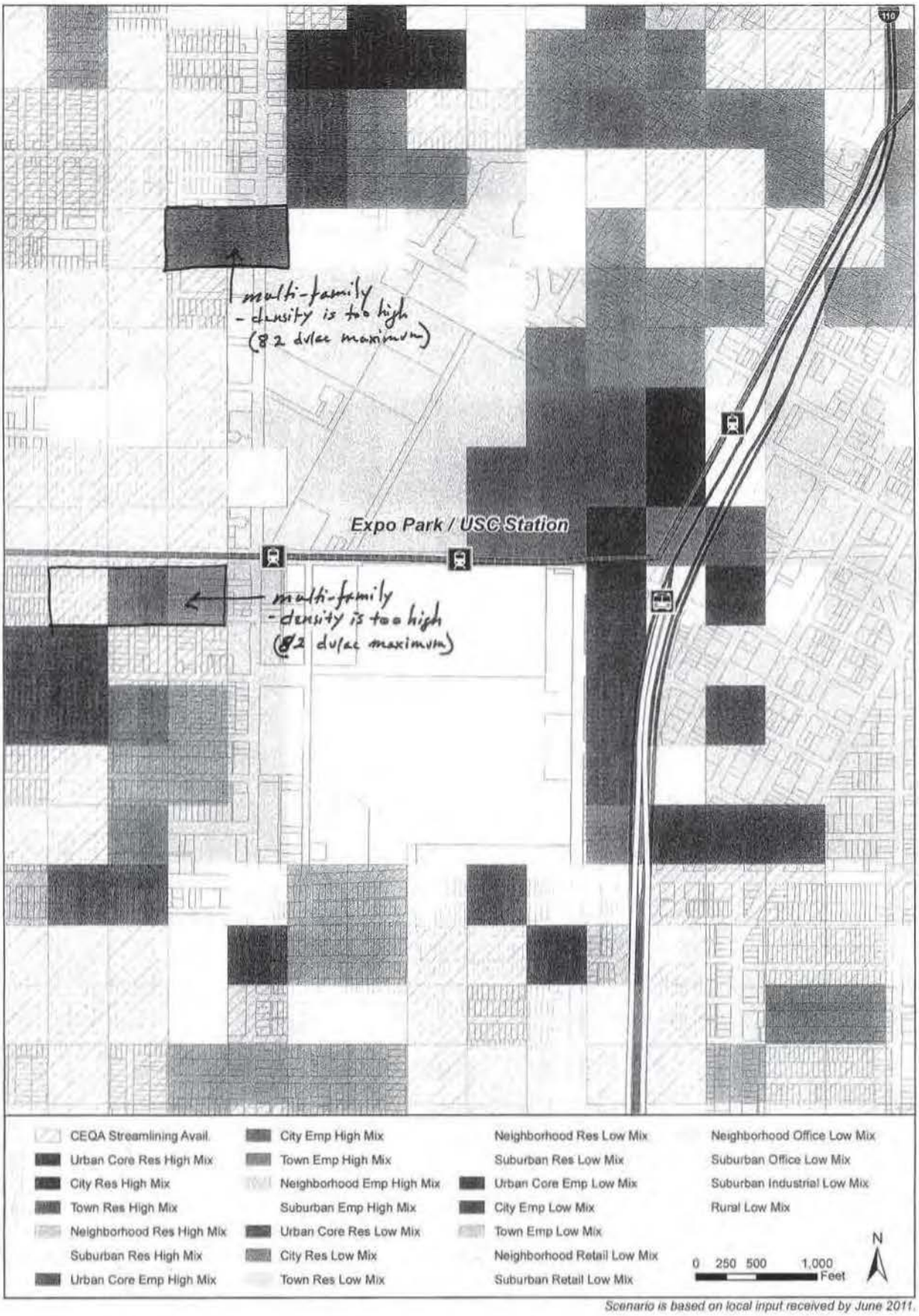


Scenario is based on local input received by June 2011.

Jefferson / USC Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



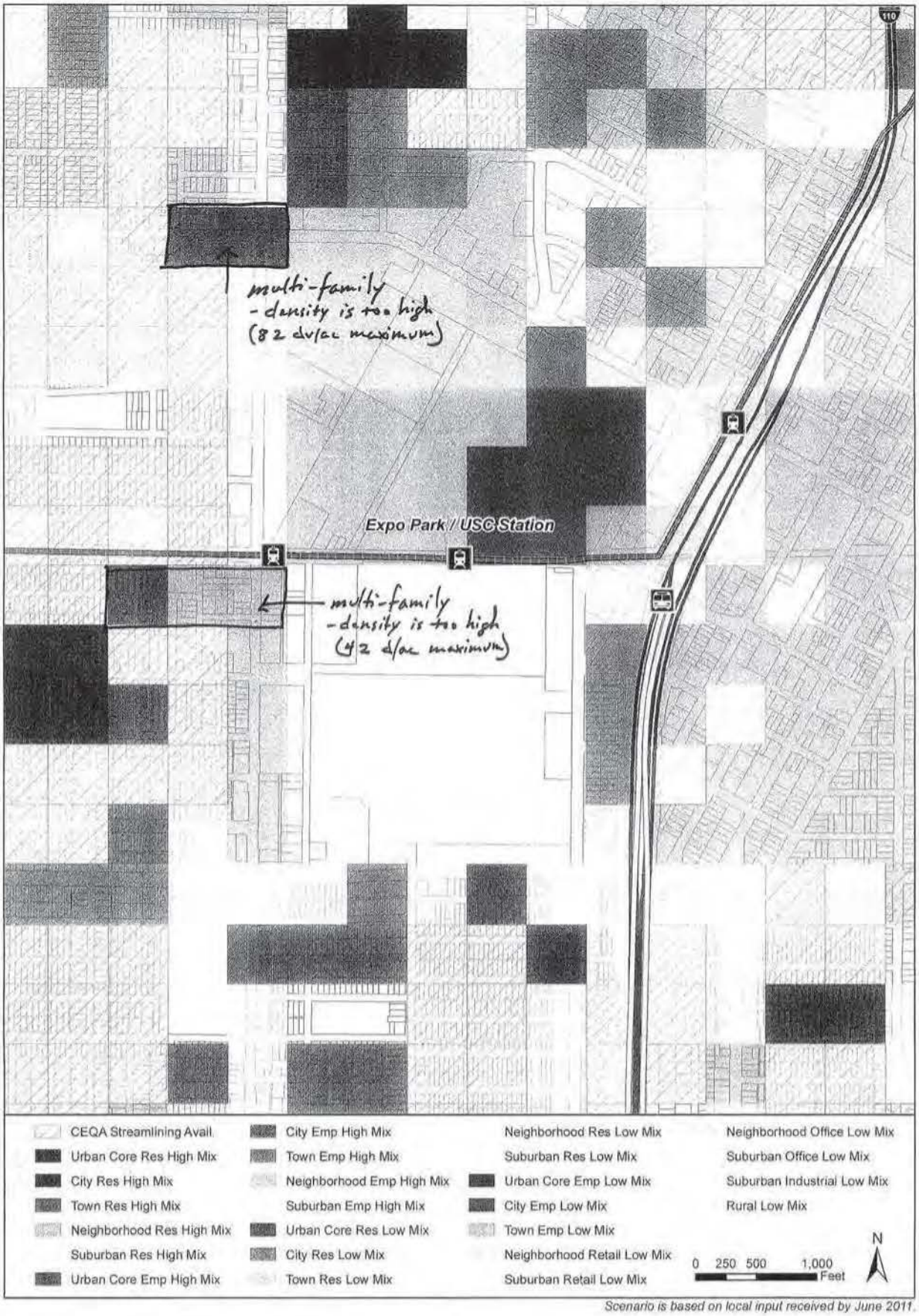
Scenario is based on local input received by June 2011.

Expo Park / USC Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

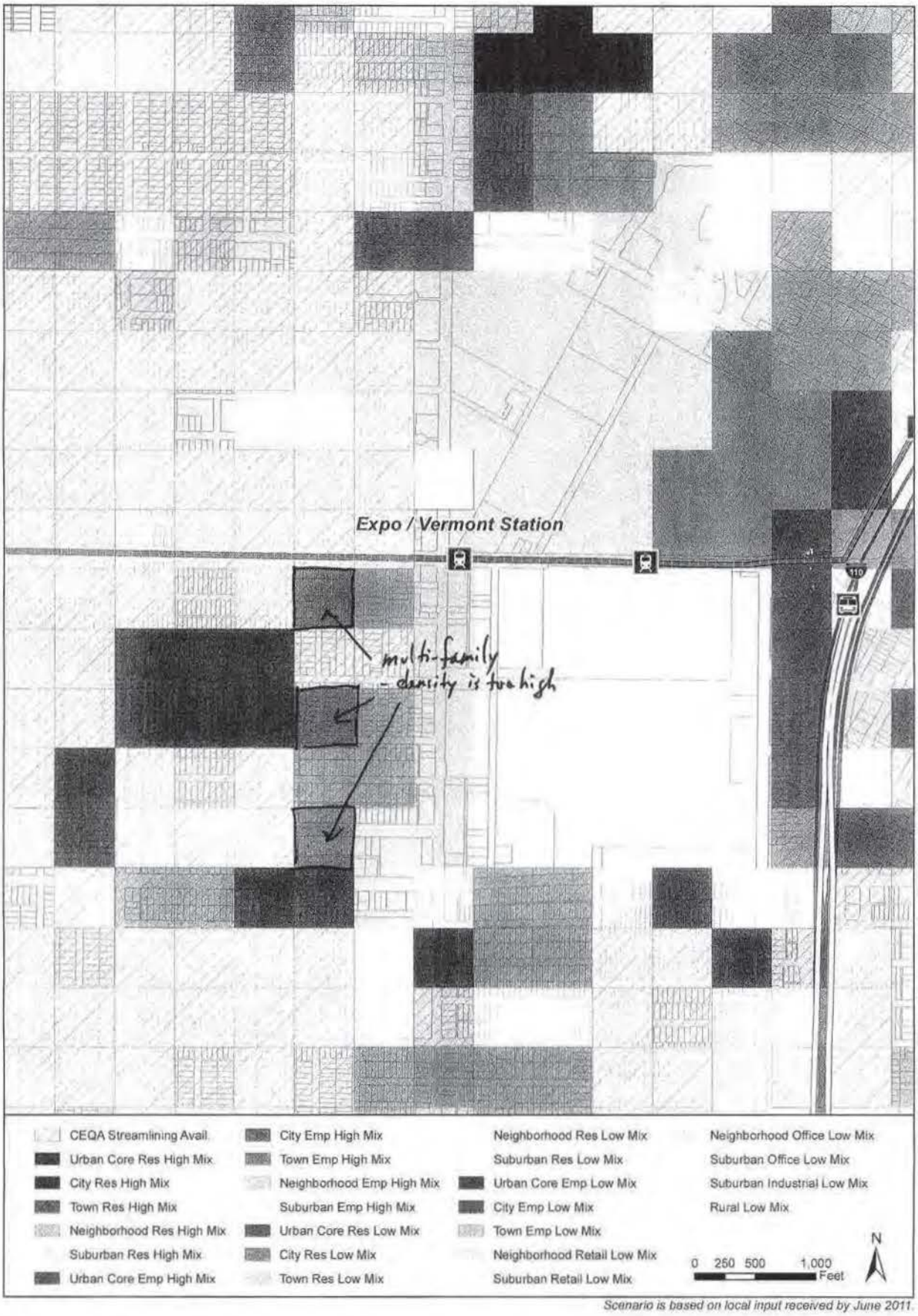


Scenario is based on local input received by June 2011.

Expo Park / USC Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



Scenario is based on local input received by June 2011.

Expo / Vermont Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

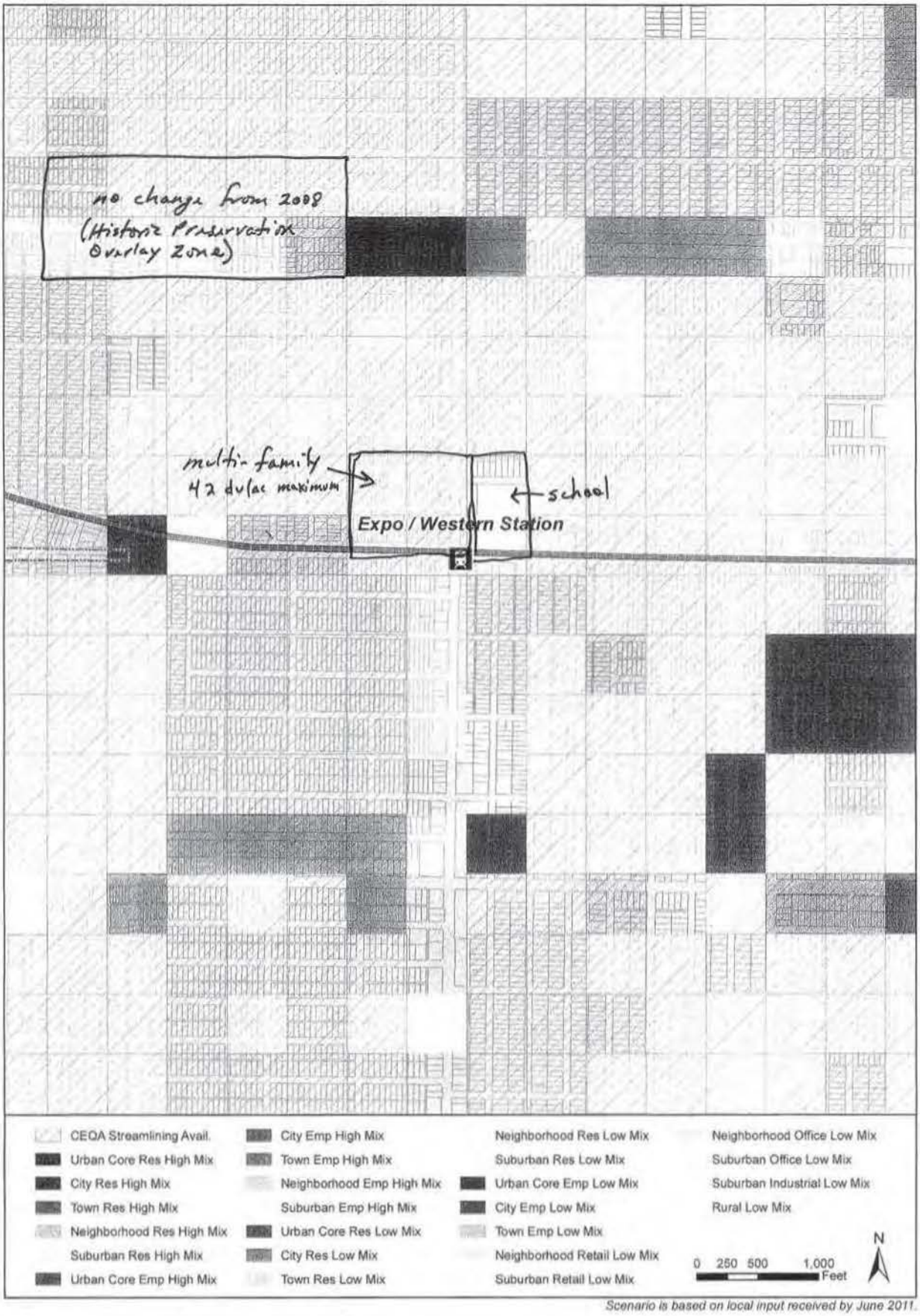


Scenario is based on local input received by June 2011.

Expo / Vermont Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

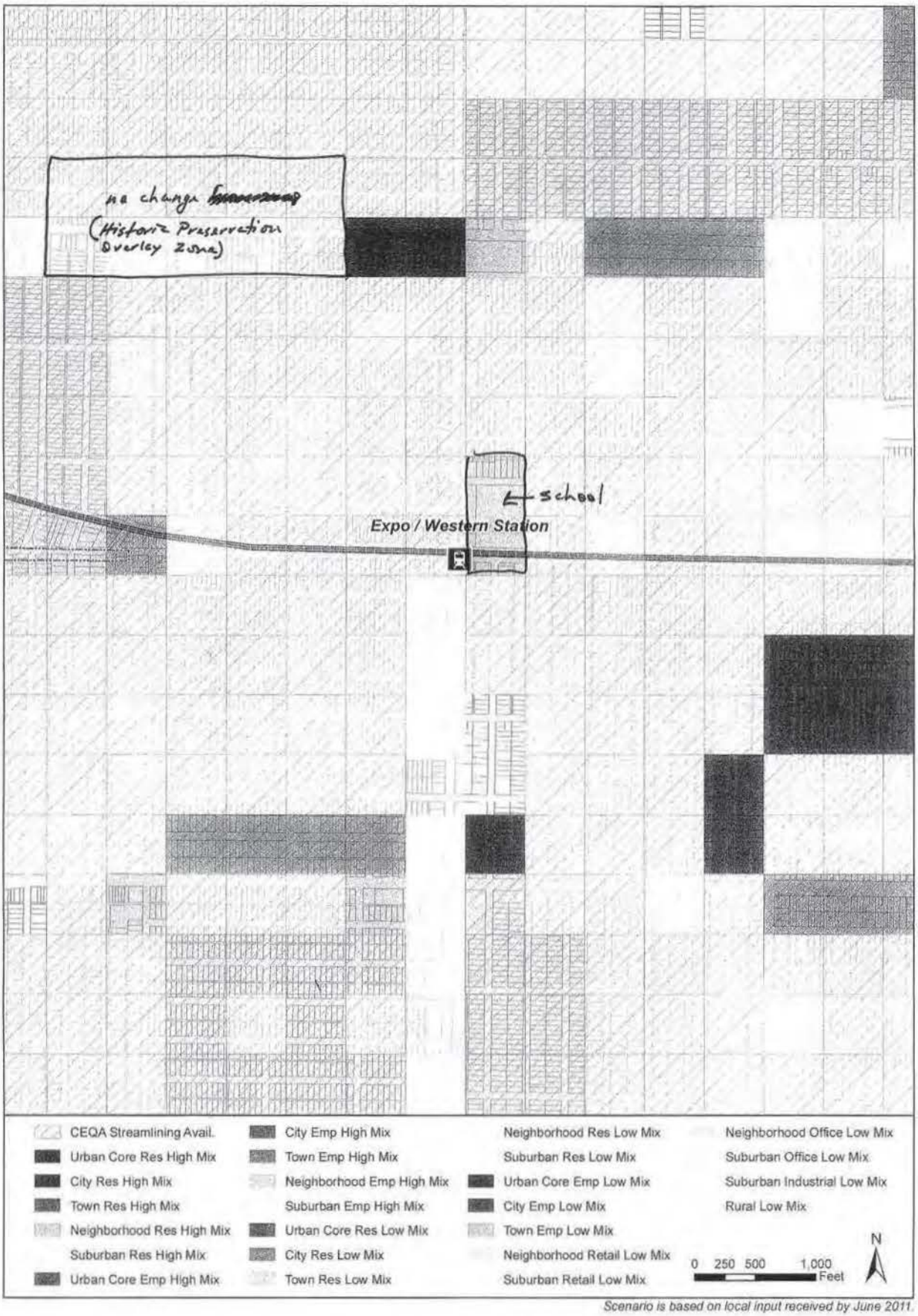


Scenario is based on local input received by June 2011.

Expo / Western Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

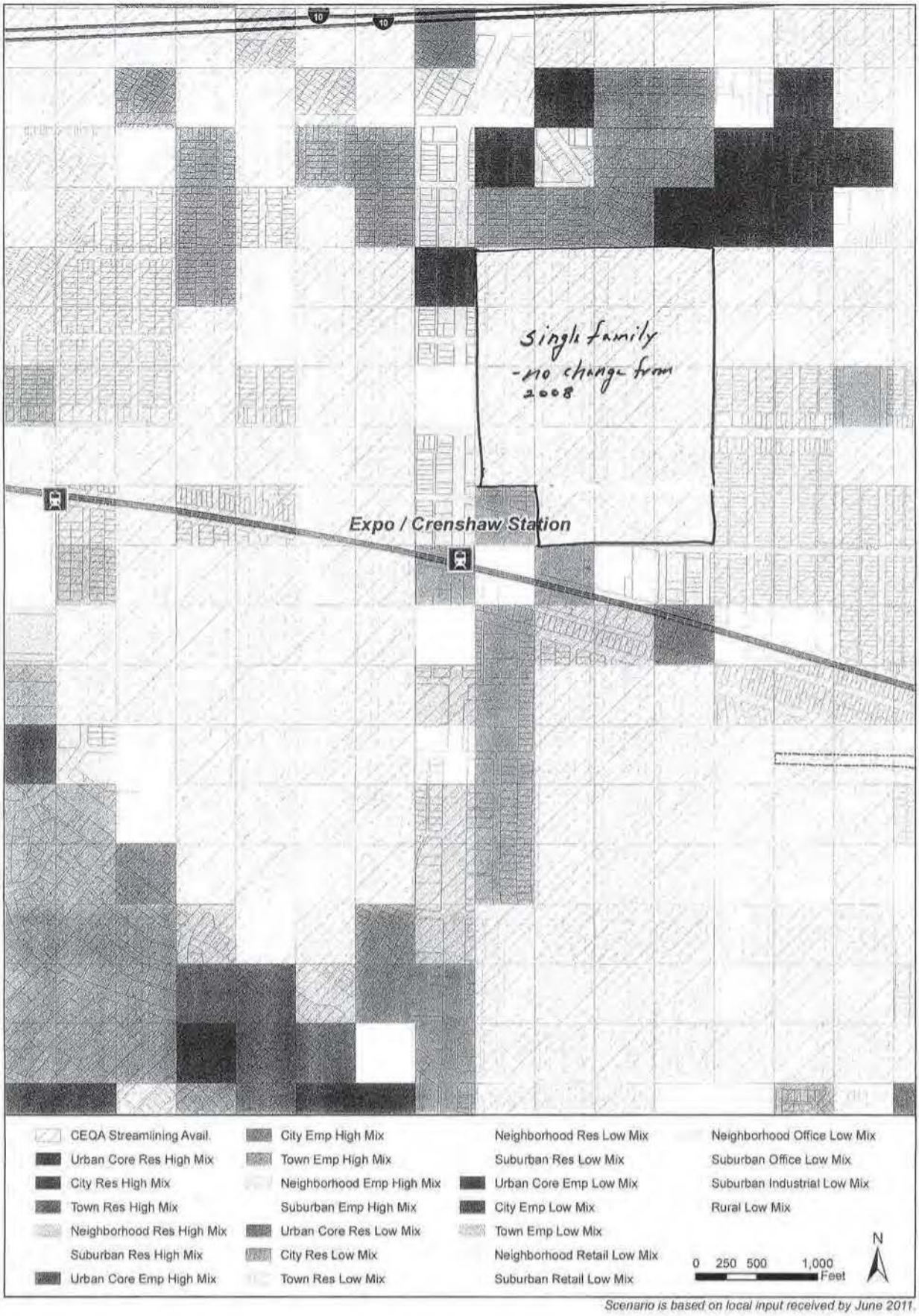


Scenario is based on local input received by June 2011.

Expo / Western Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



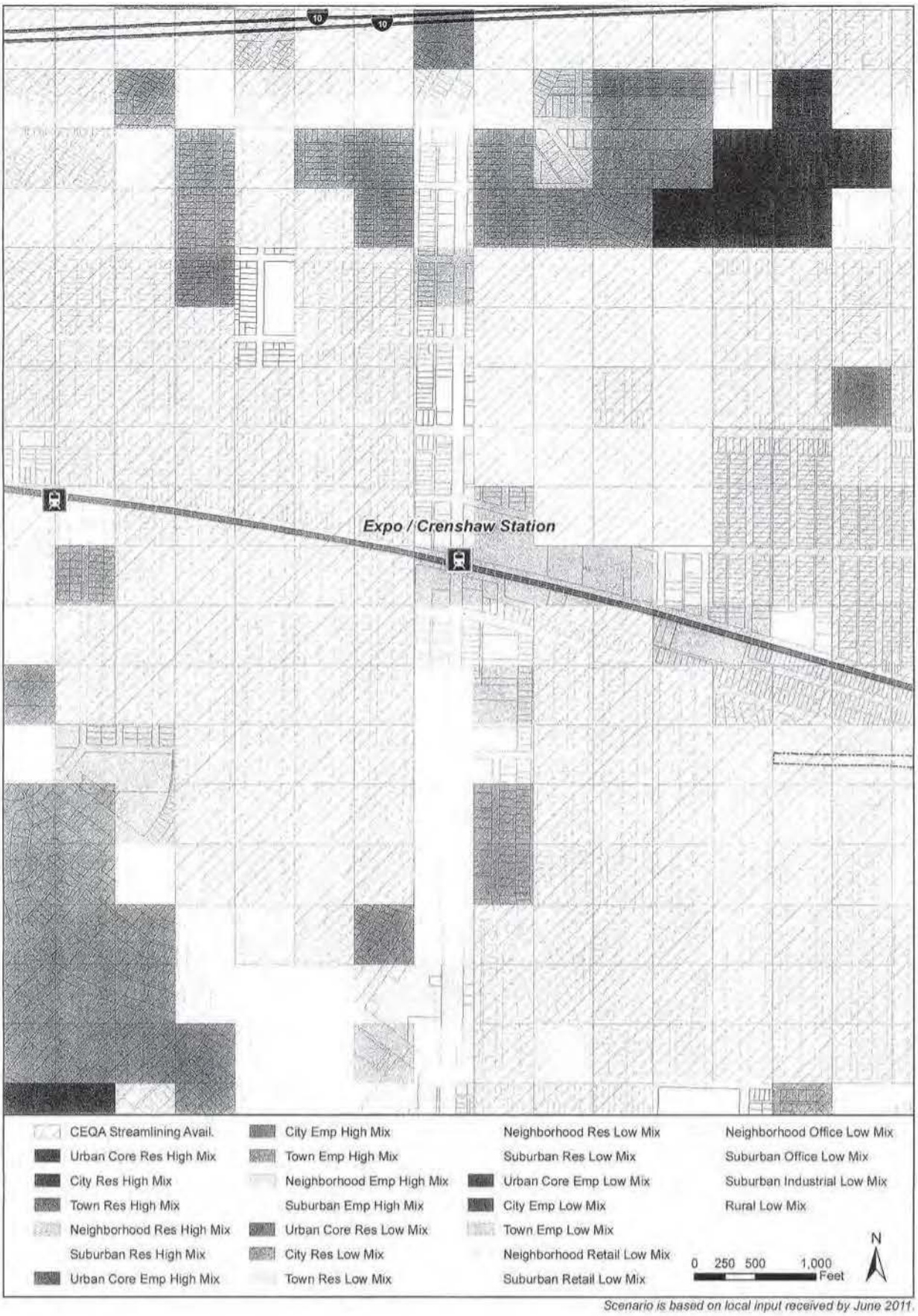
Scenario is based on local input received by June 2011.

Expo / Crenshaw Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

-No comment

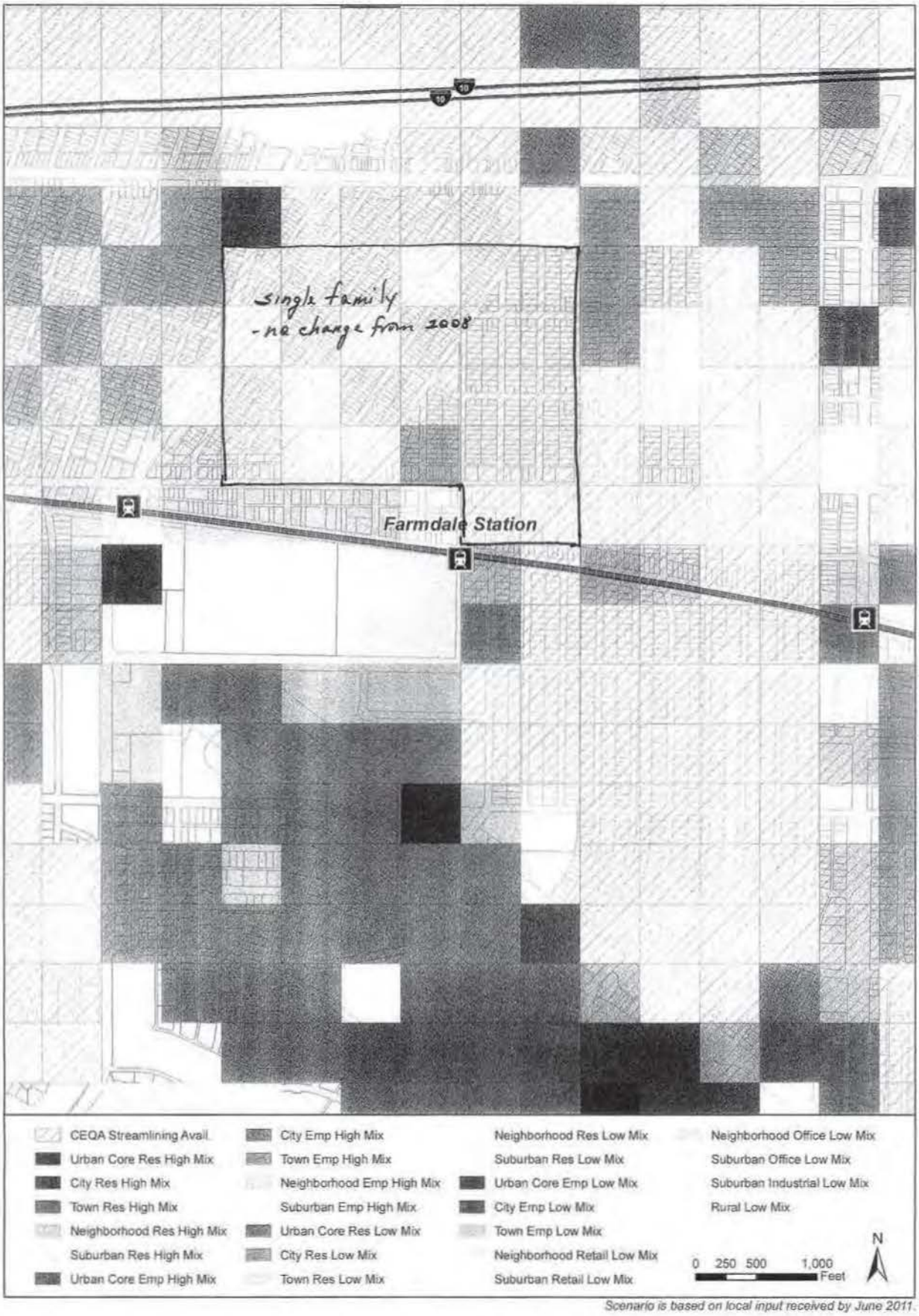


Scenario is based on local input received by June 2011.

Expo / Crenshaw Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



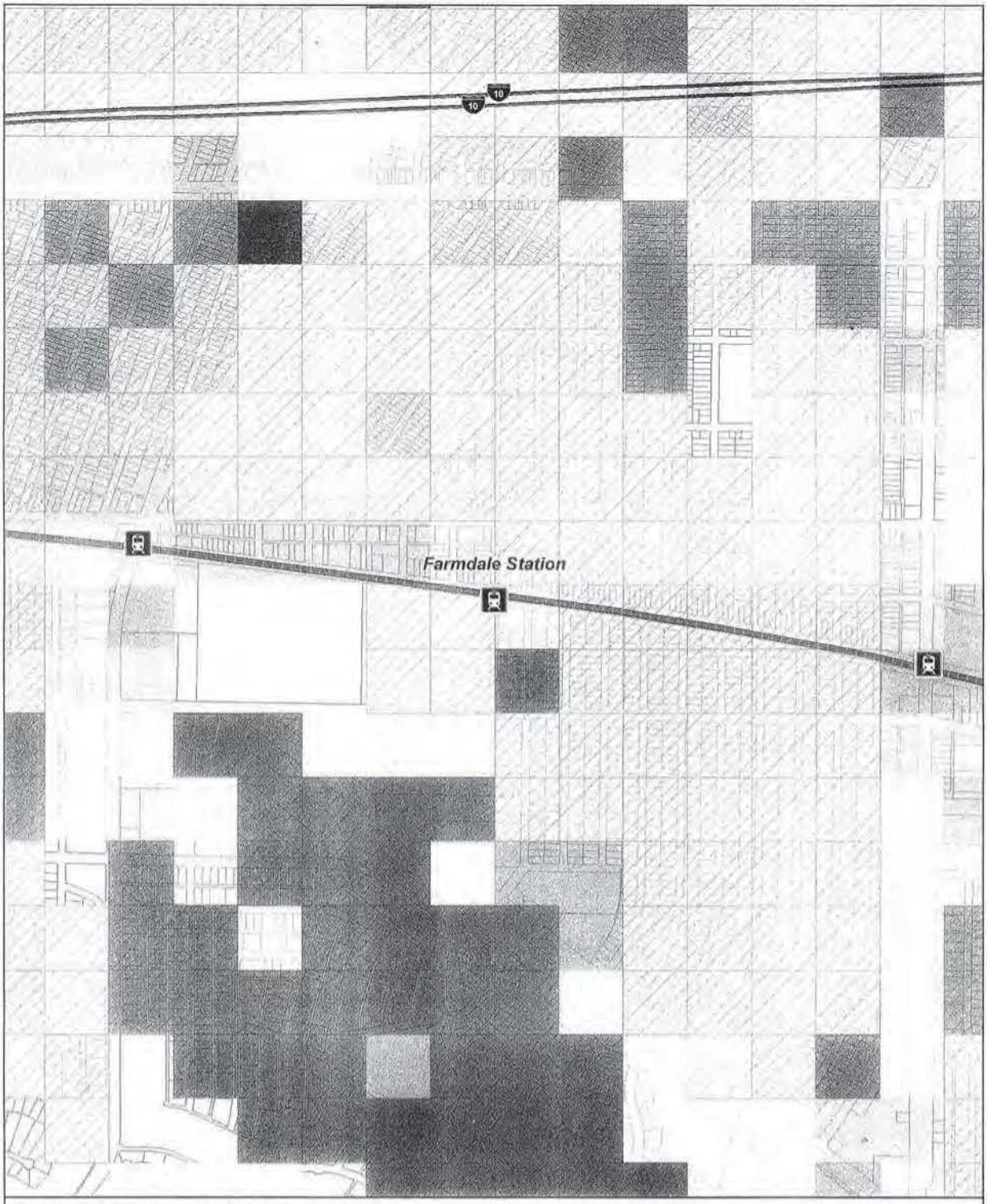
Scenario is based on local input received by June 2011.

Farmdale Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

No comment

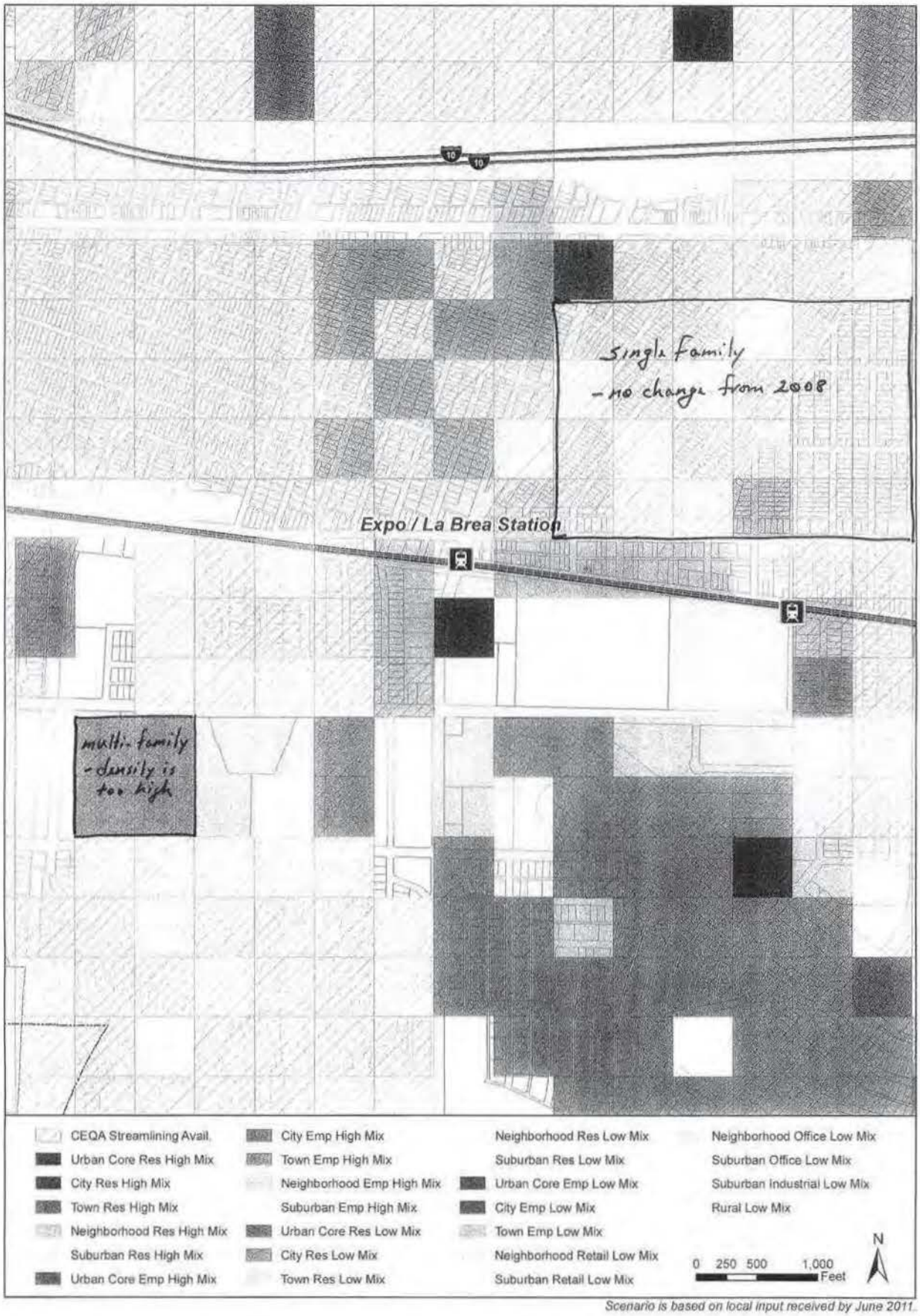


Scenario is based on local input received by June 2011.

Farmdale Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

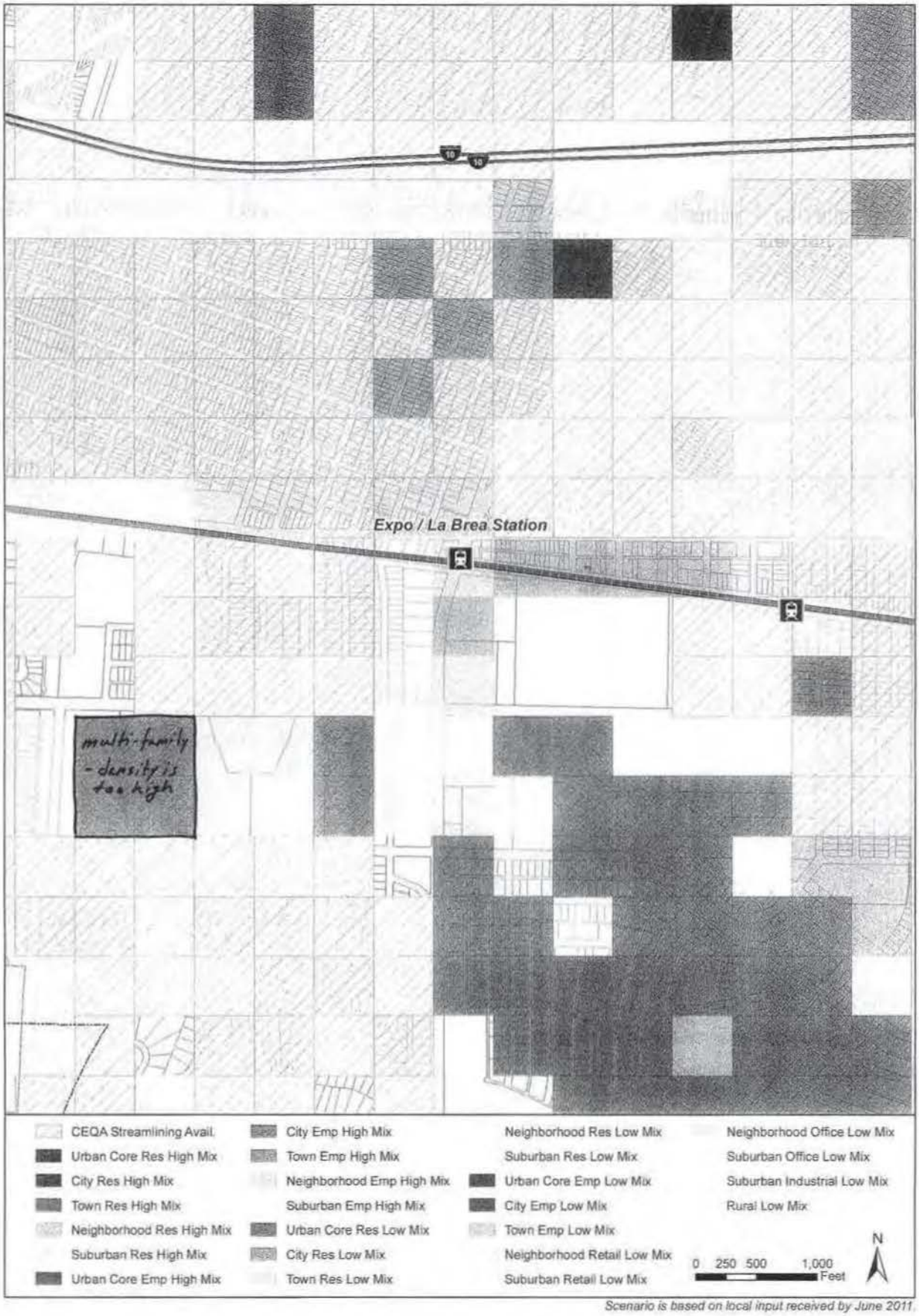


Scenario is based on local input received by June 2011.

Expo / La Brea Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



Scenario is based on local input received by June 2011

Expo / La Brea Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

No comment



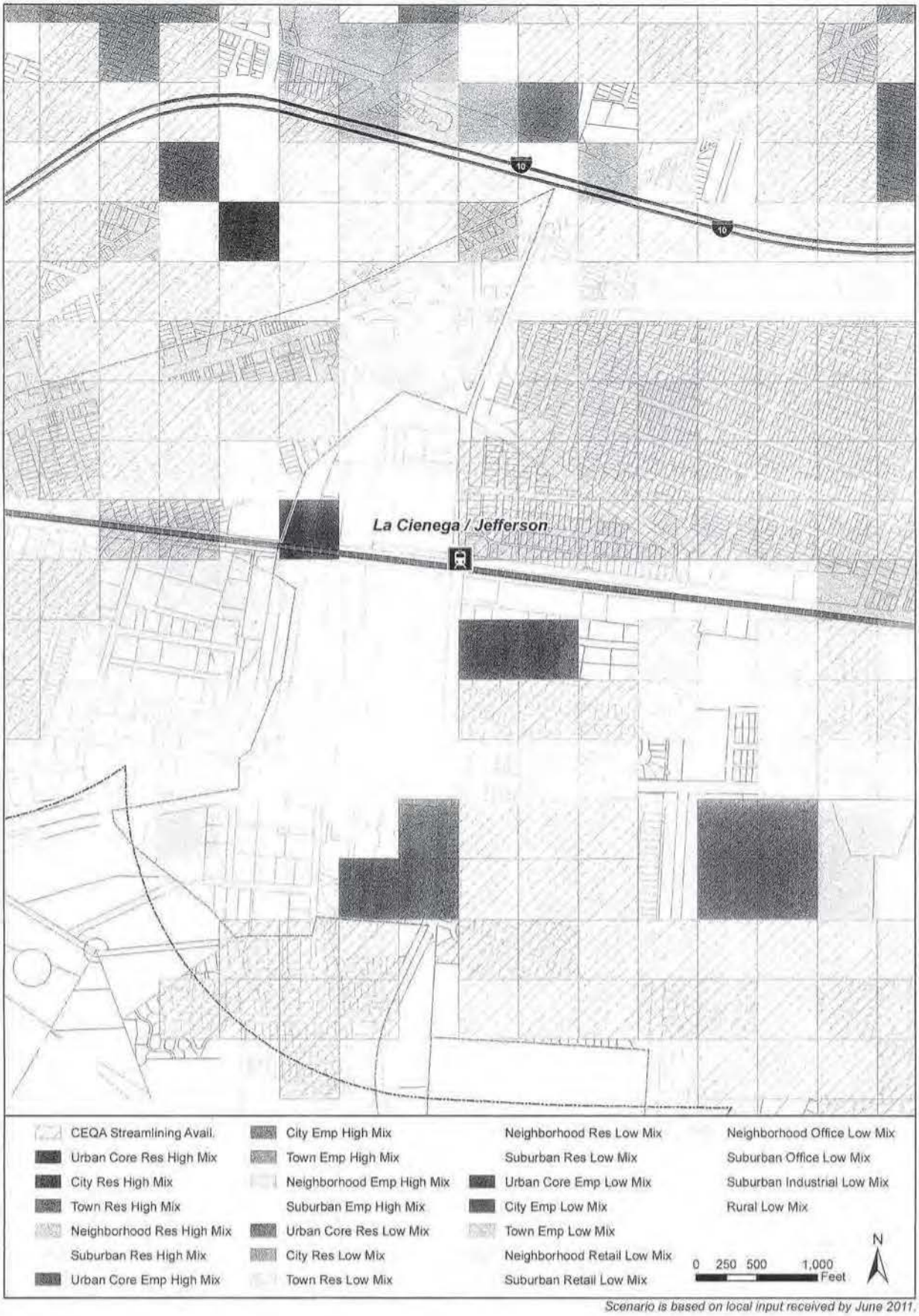
Scenario is based on local input received by June 2011

La Cienega / Jefferson Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

No comment

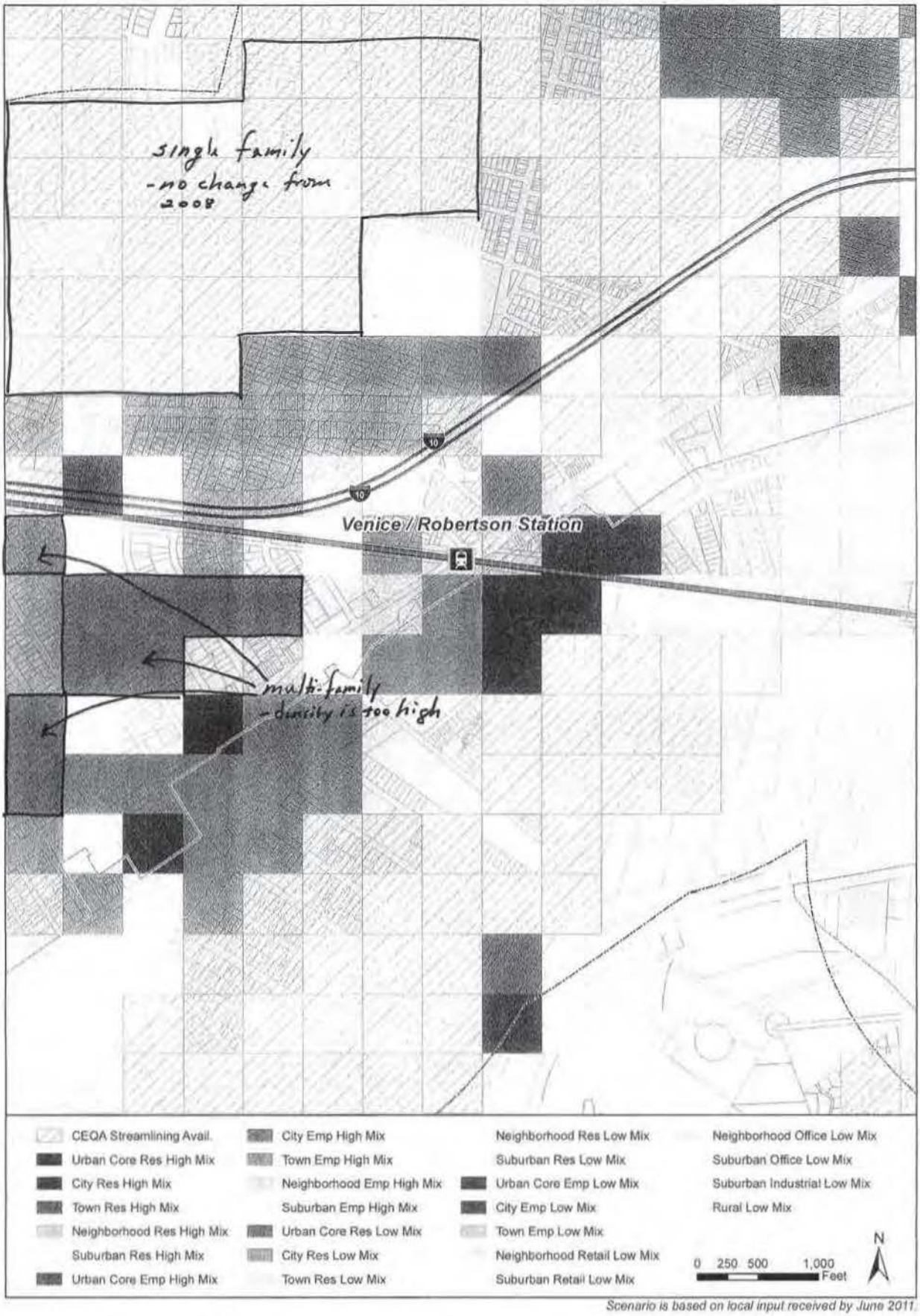


Scenario is based on local input received by June 2011.

La Cienega / Jefferson Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

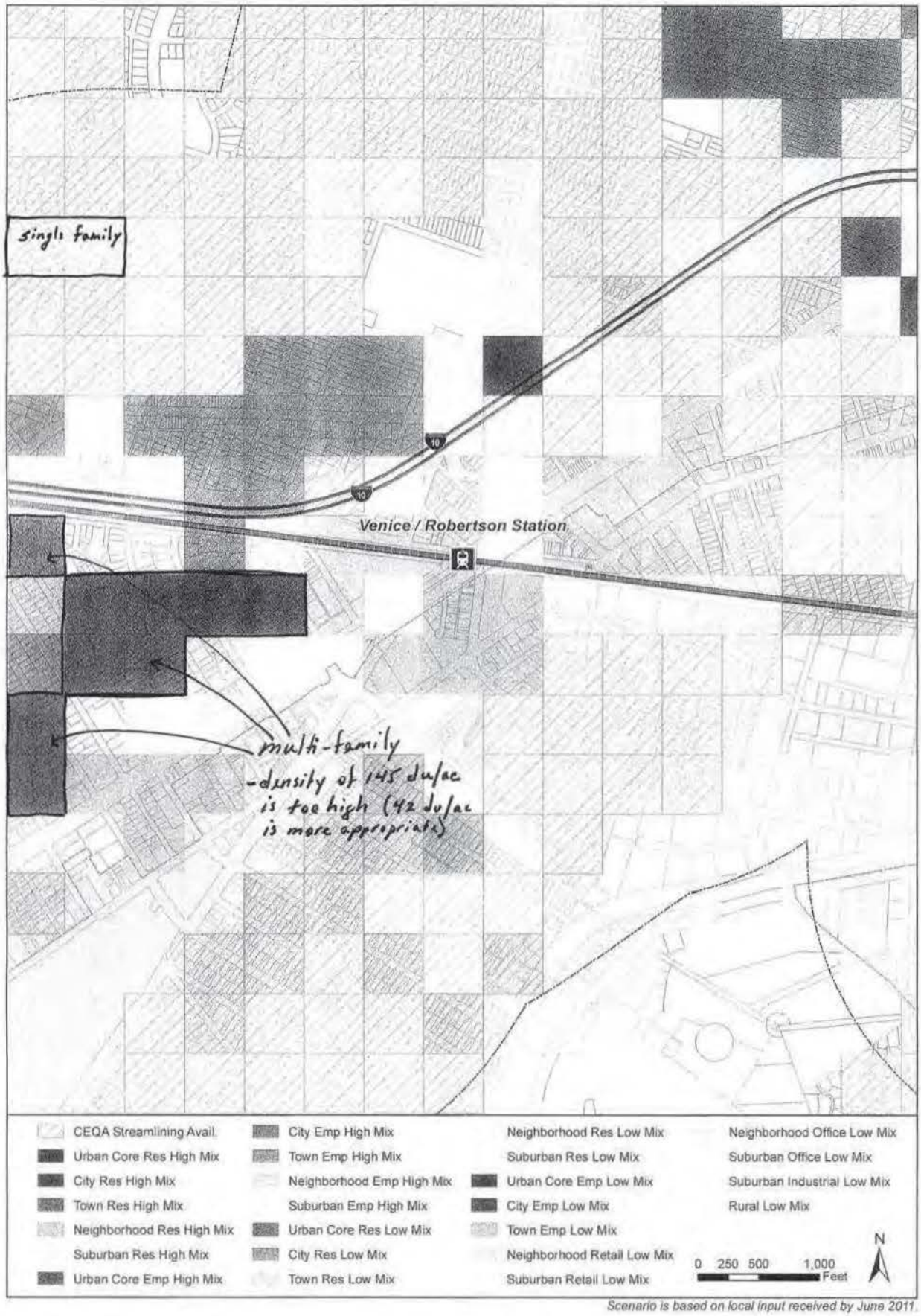


Scenario is based on local input received by June 2011

Venice / Robertson Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

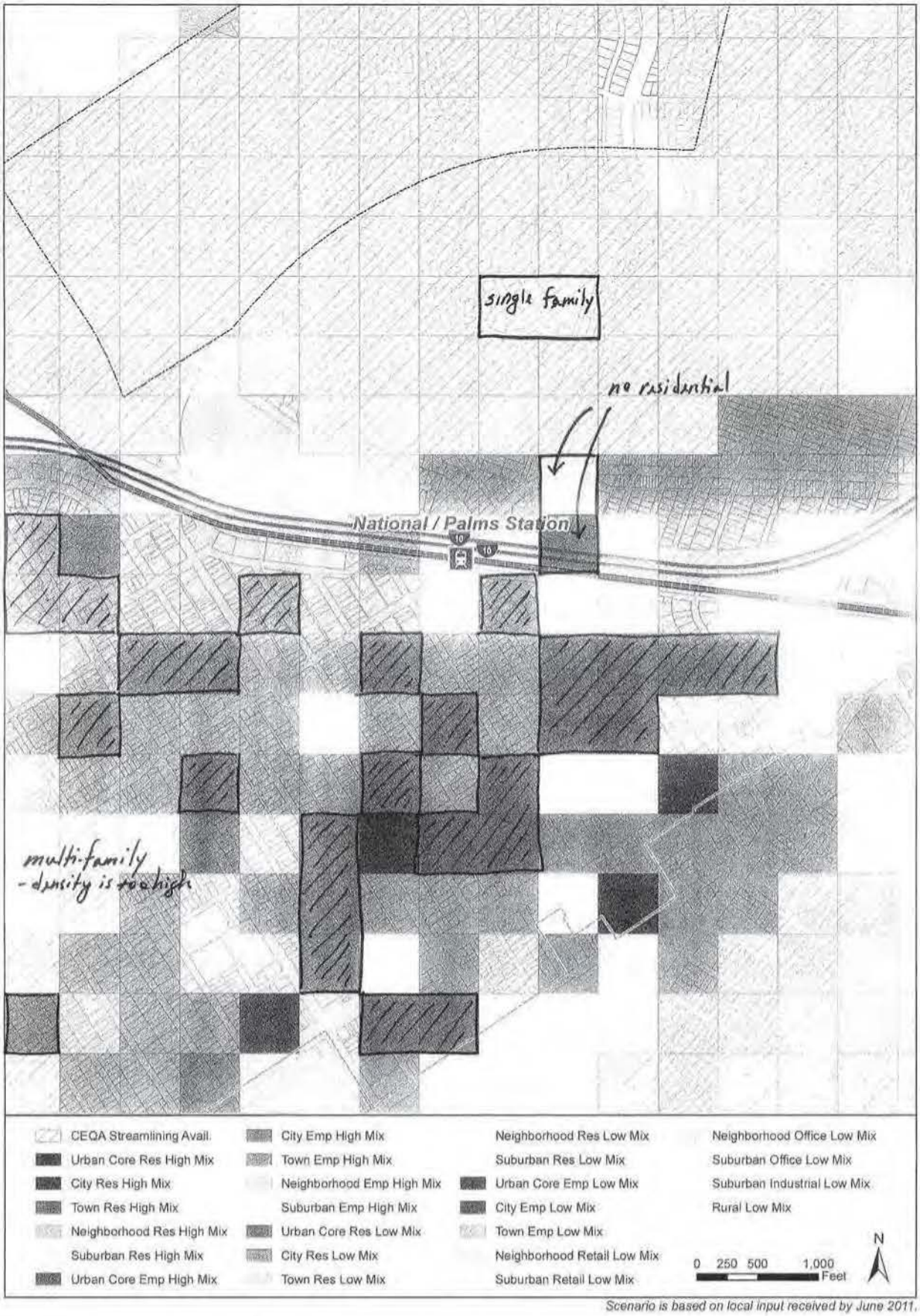


Scenario is based on local input received by June 2011.

Venice / Robertson Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

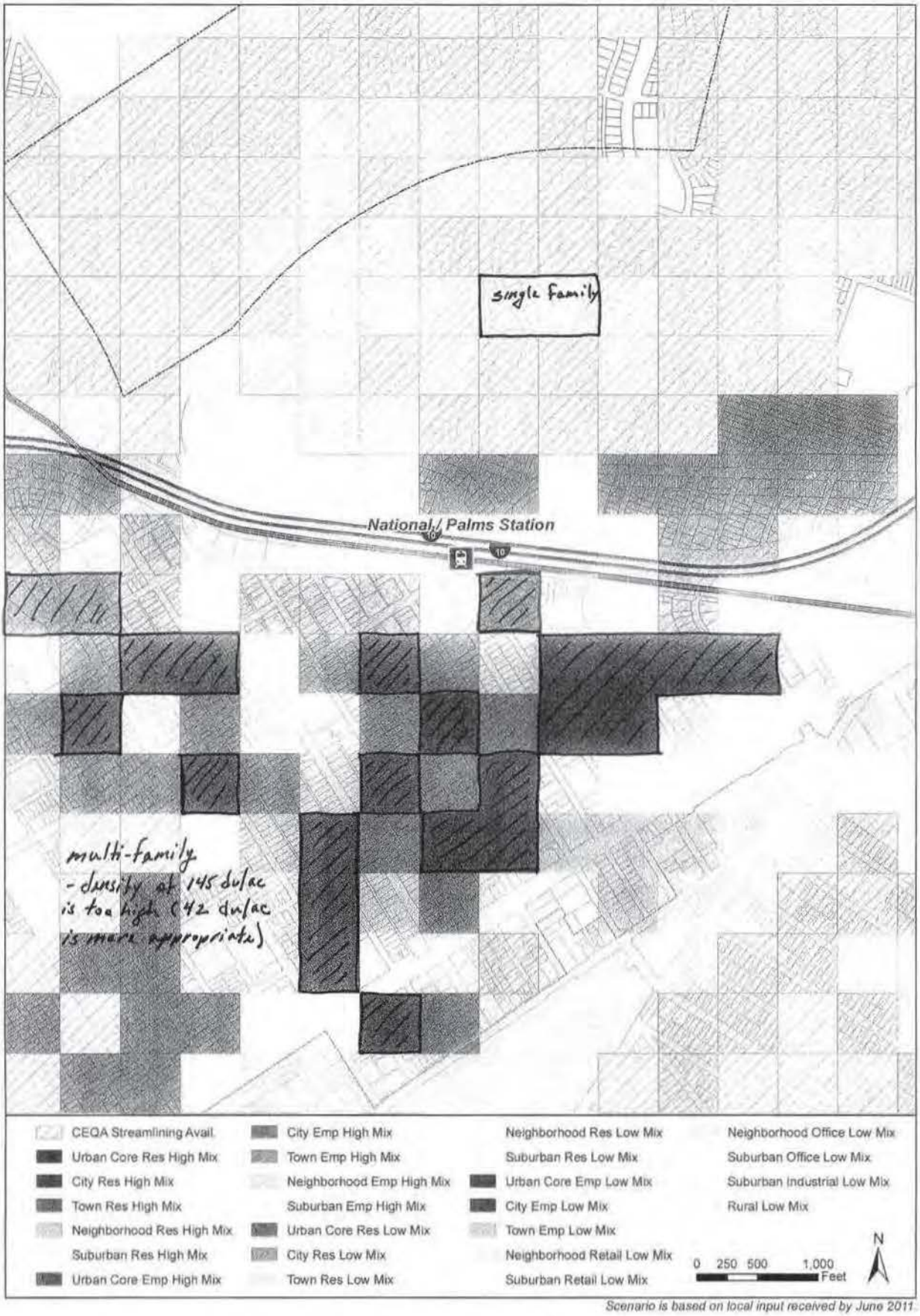


Scenario is based on local input received by June 2011.

National / Palms Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

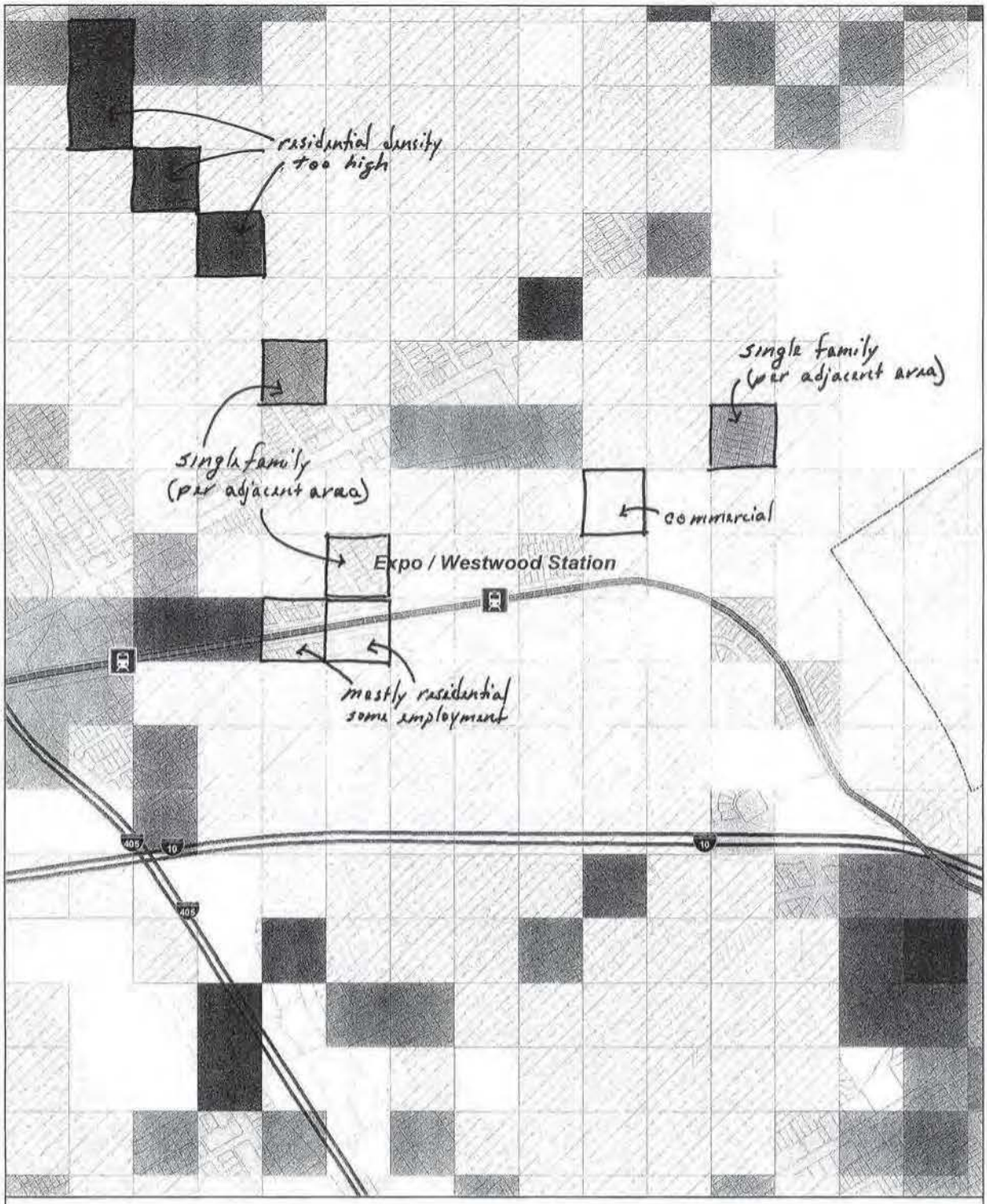


Scenario is based on local input received by June 2011

National / Palms Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



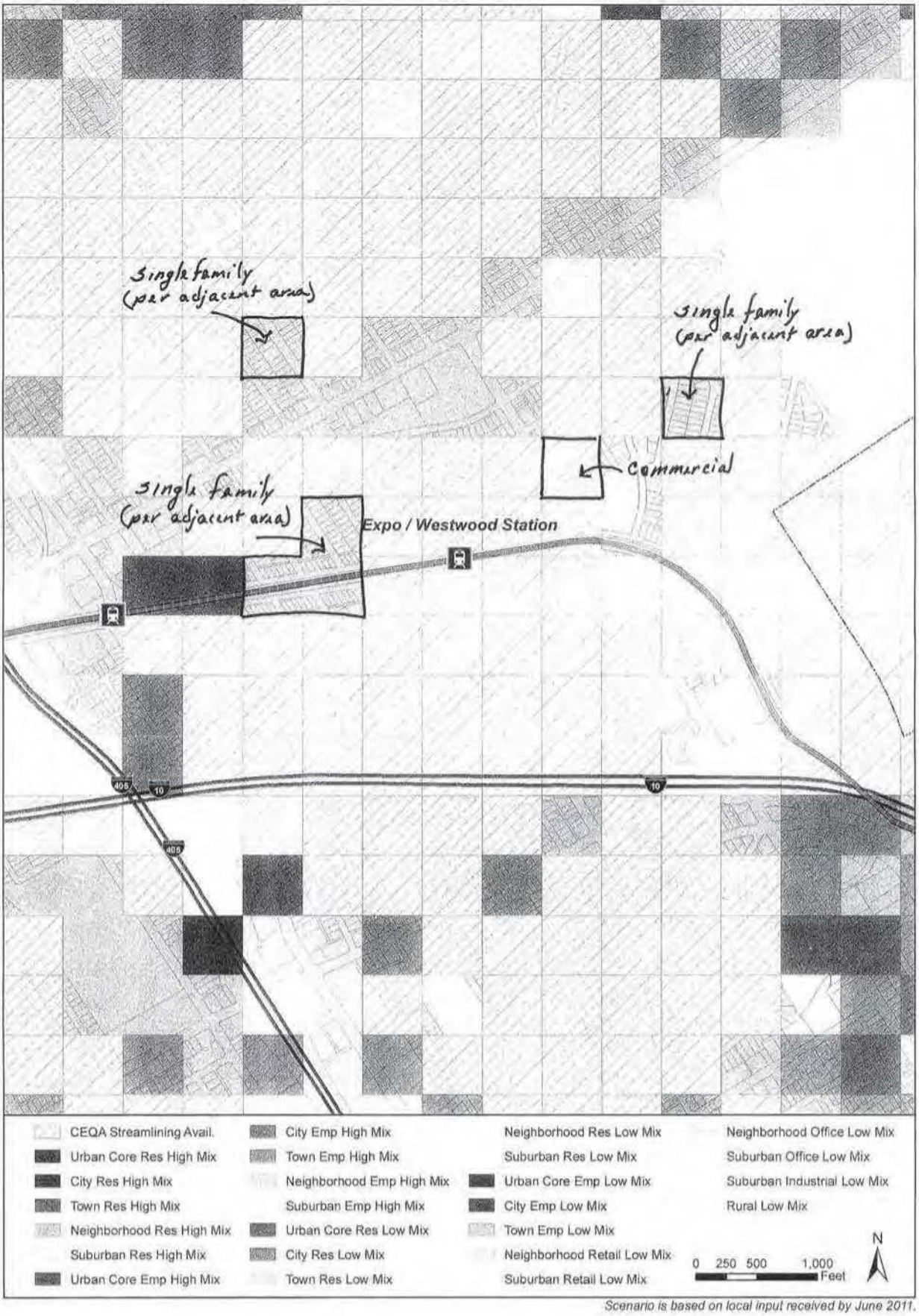
Scenario is based on local input received by June 2011.

Expo / Westwood Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

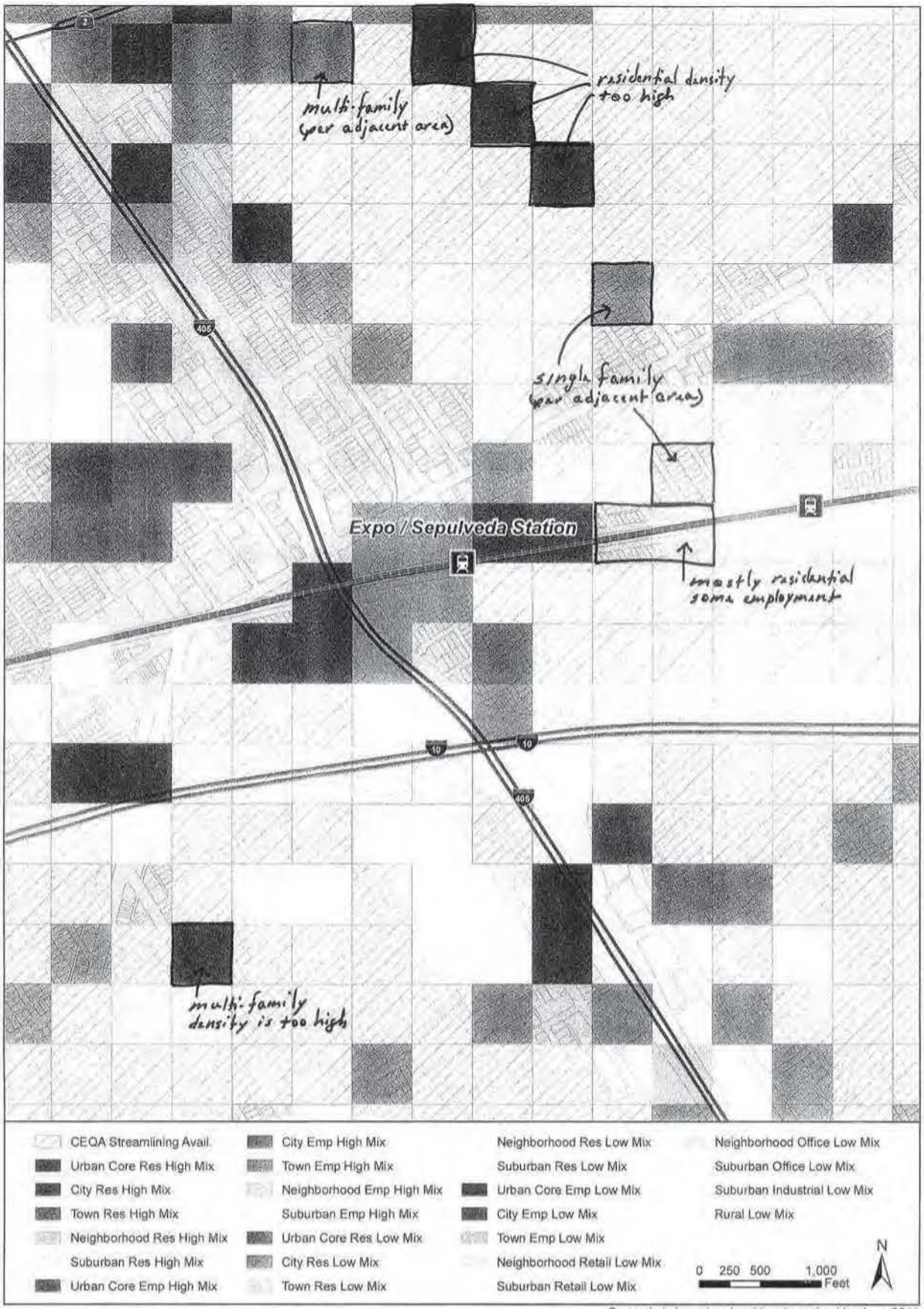


Scenario is based on local input received by June 2011.

Expo / Westwood Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

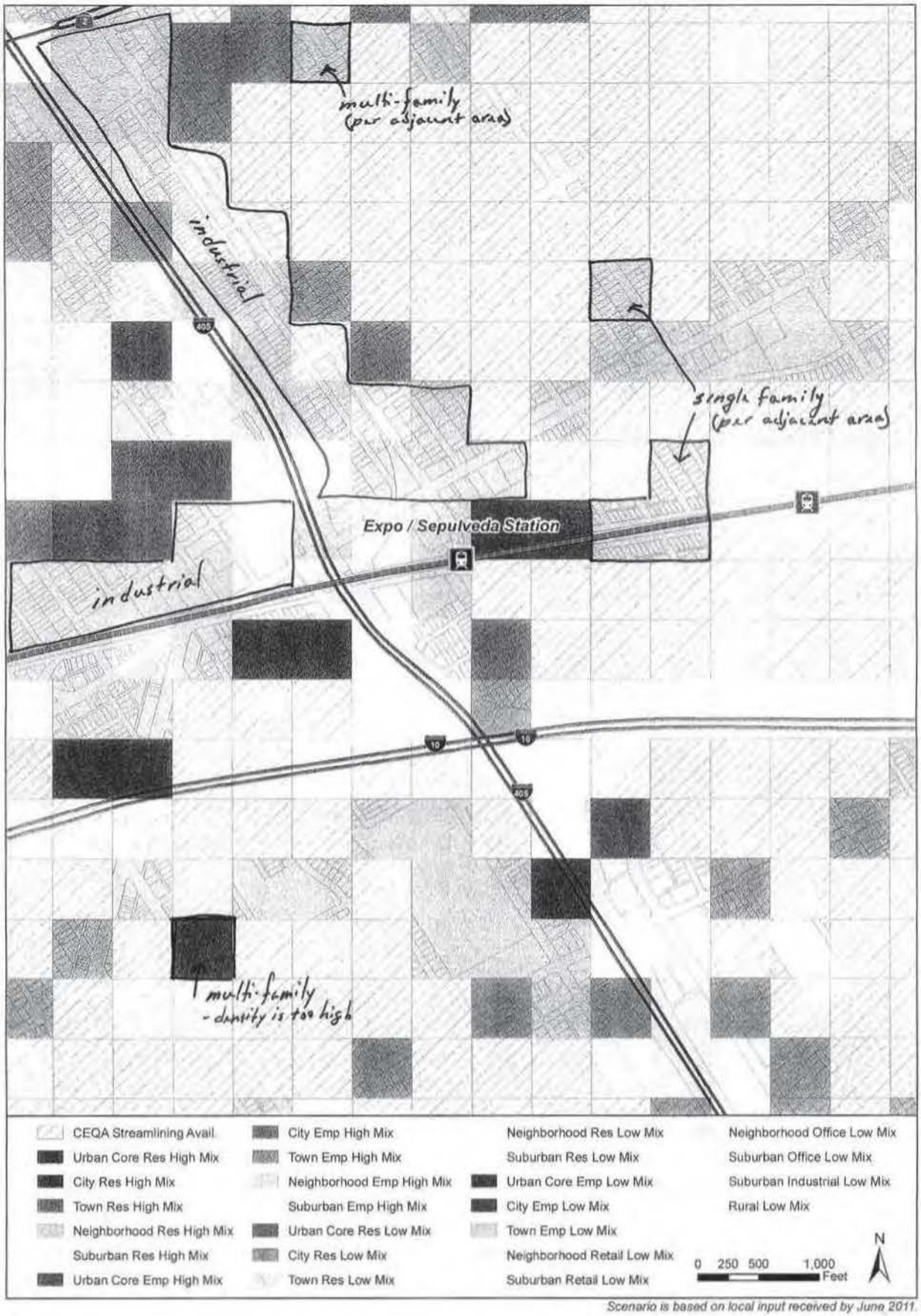


Scenario is based on local input received by June 2011.

Expo / Sepulveda Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

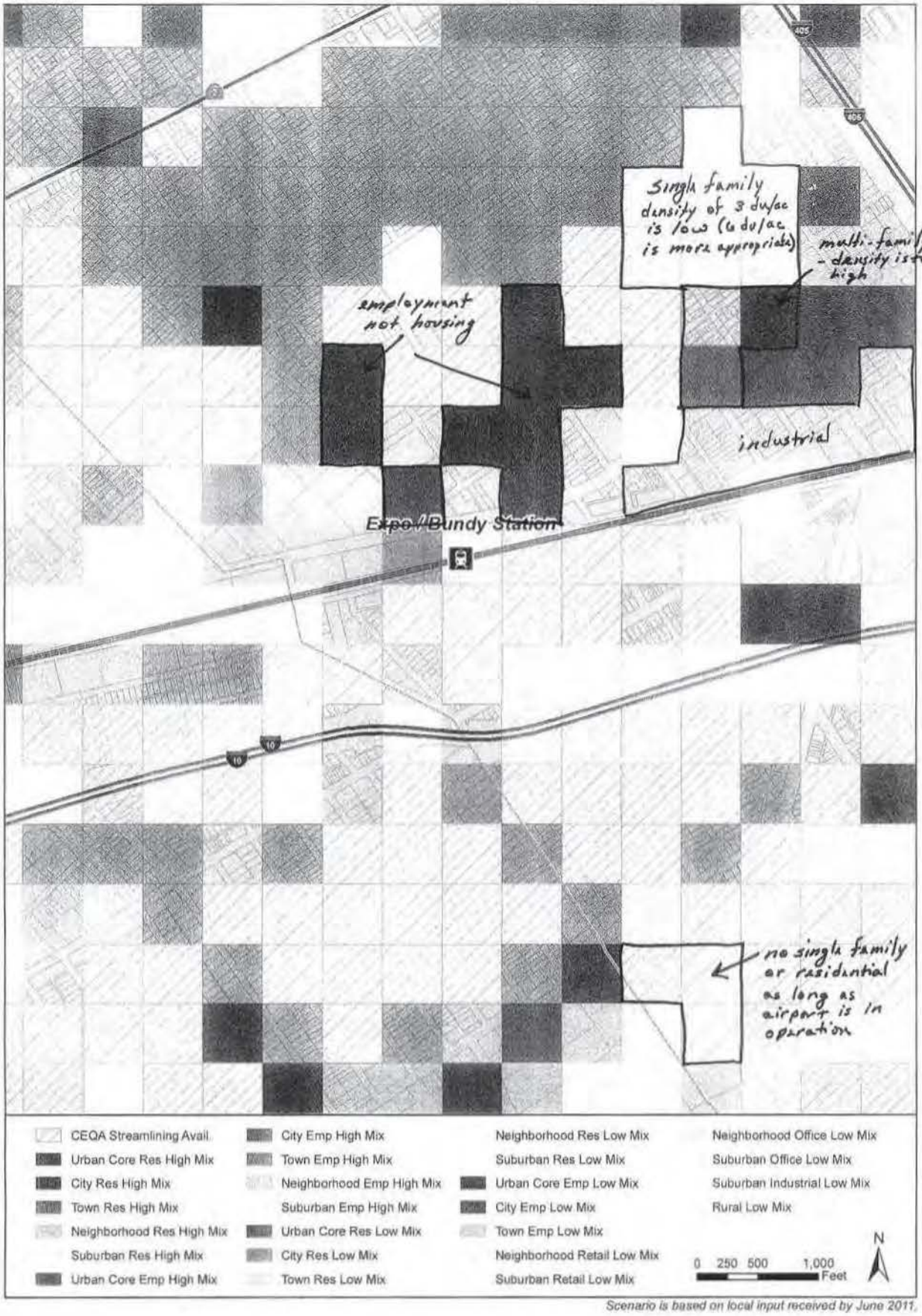


Scenario is based on local input received by June 2011.

Expo / Sepulveda Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



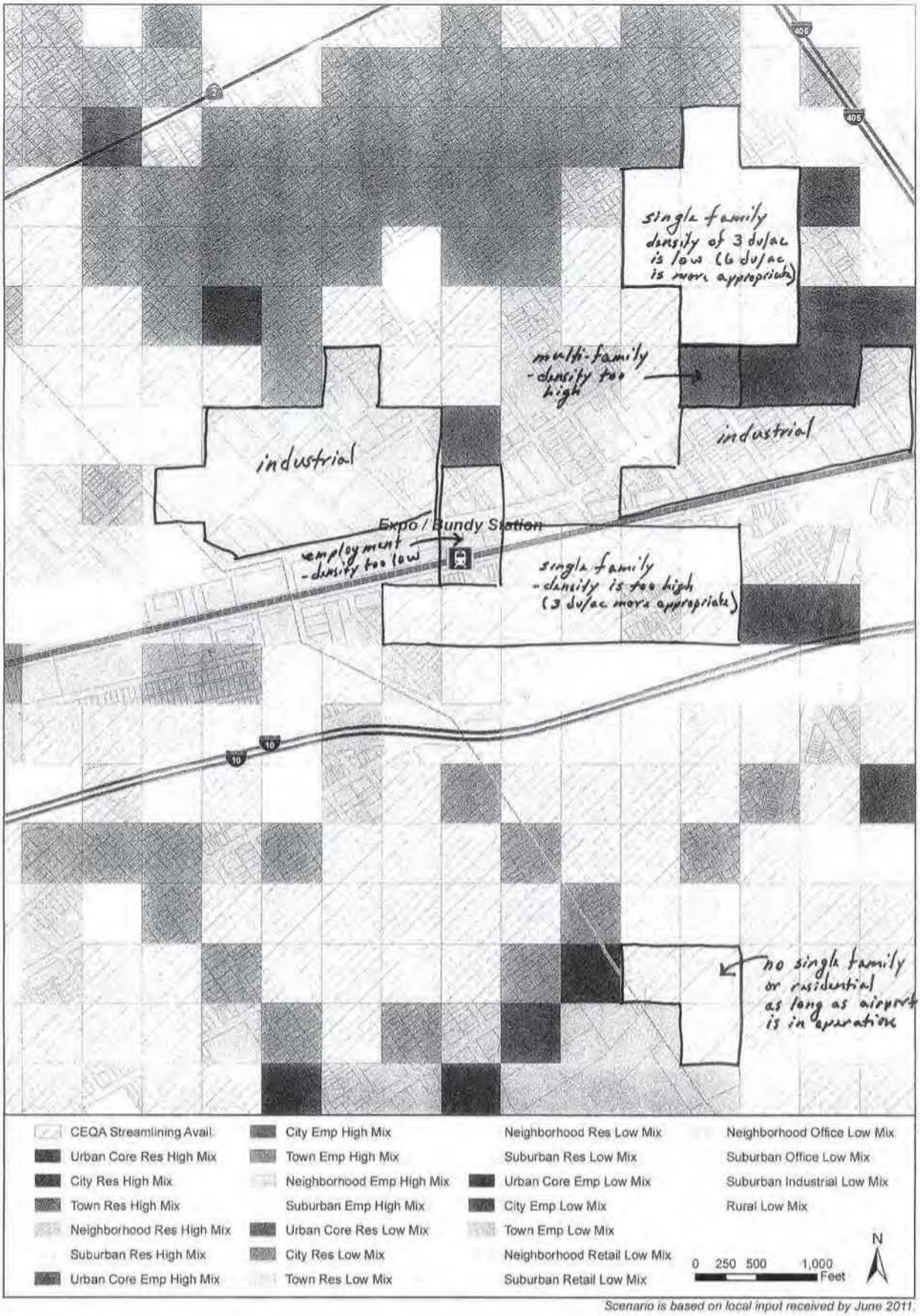
Scenario is based on local input received by June 2011.

Expo / Bundy Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



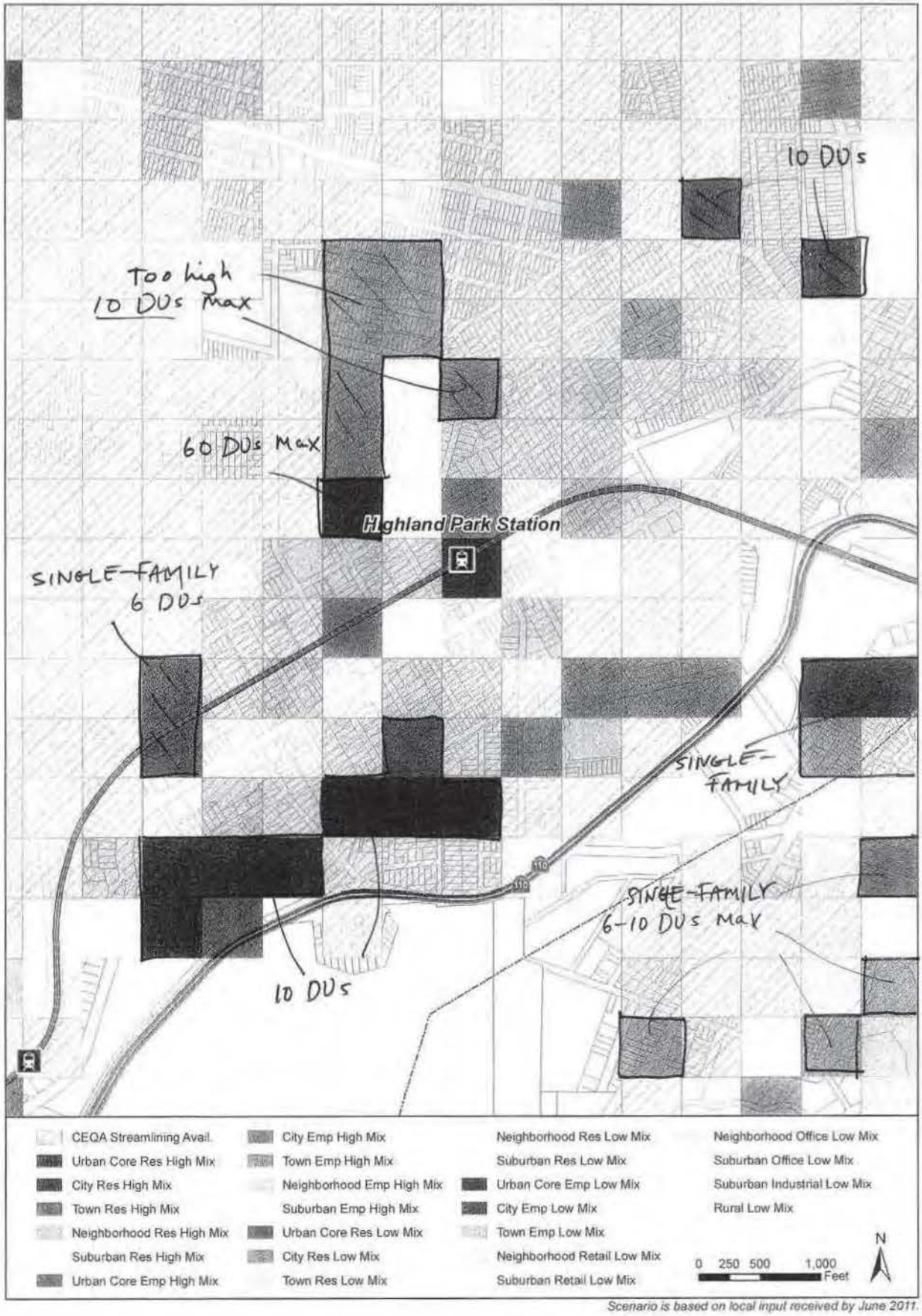
Scenario is based on local input received by June 2011.

Expo / Bundy Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

– same as 08 w/ additional comments

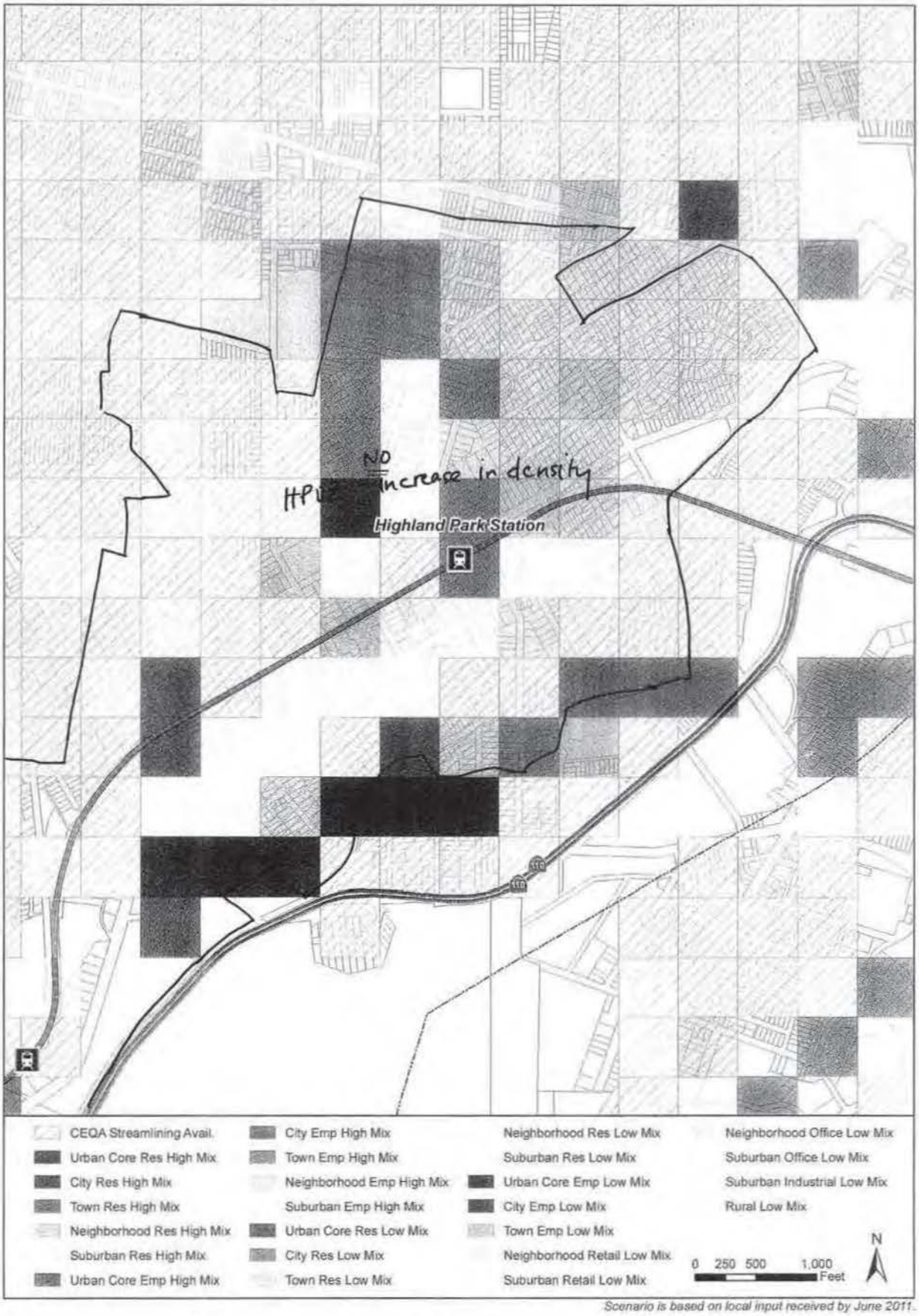


Scenario is based on local input received by June 2011.

Highland Park Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

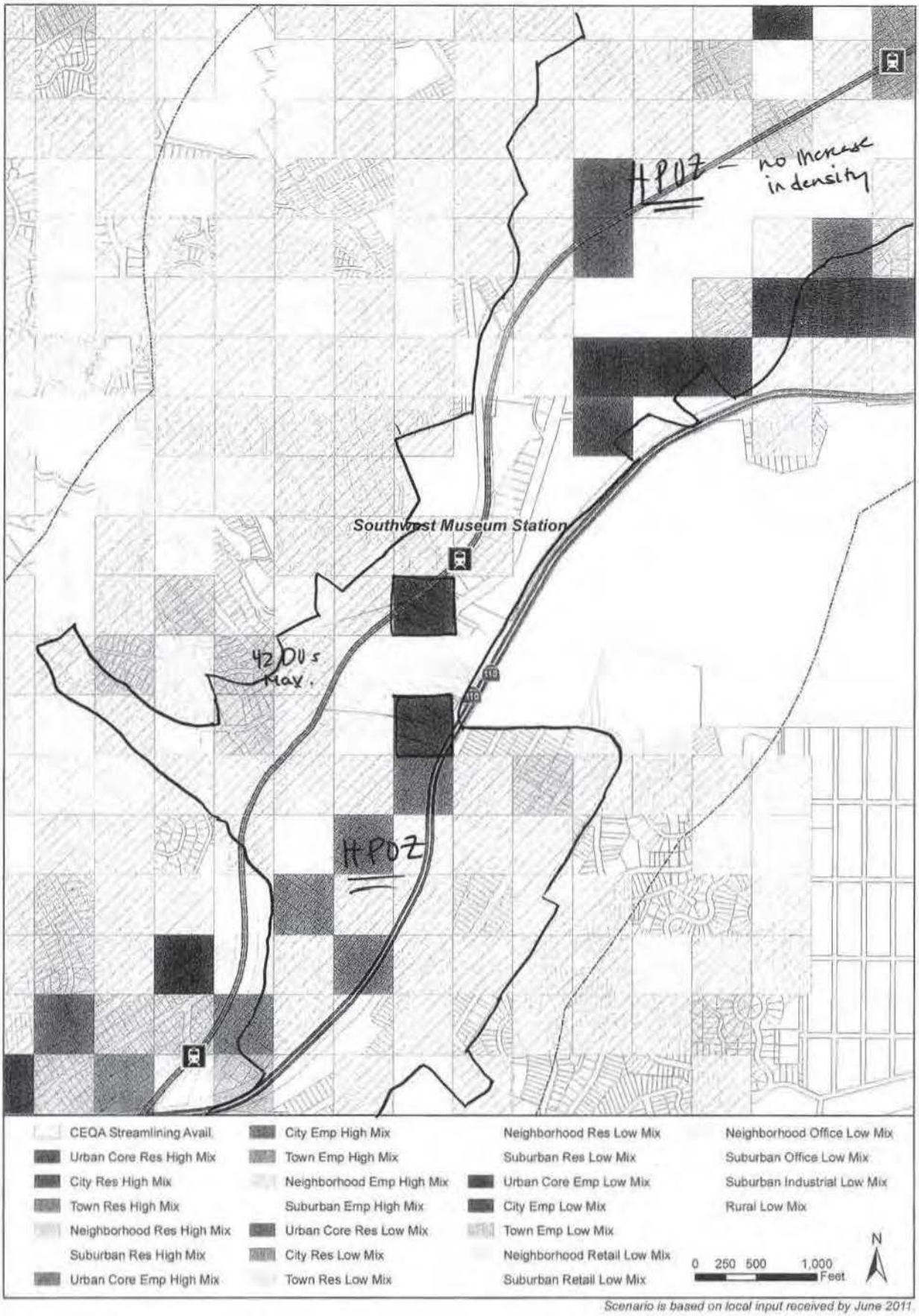


Scenario is based on local input received by June 2011.

Highland Park Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



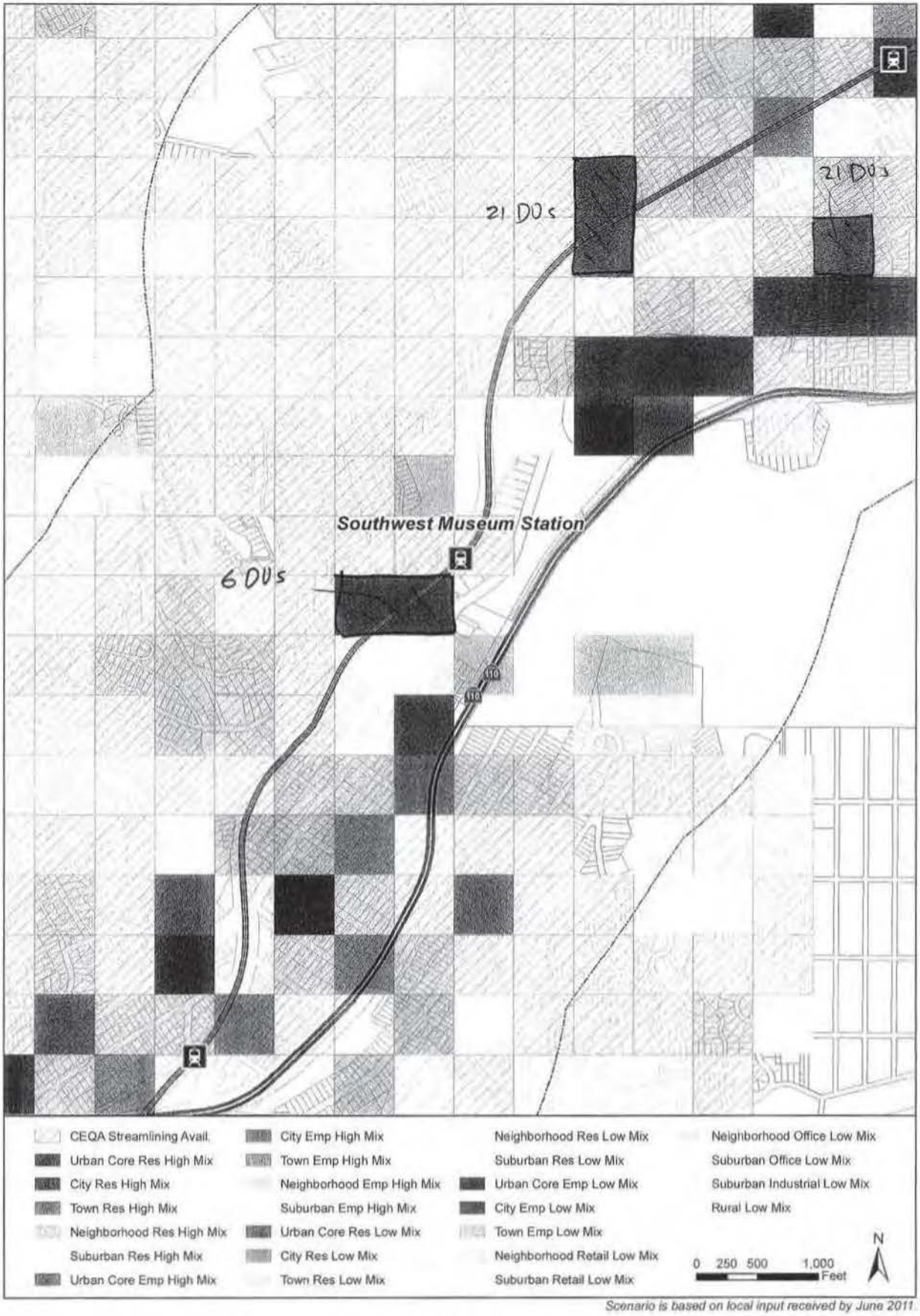
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Southwest Museum Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

– Same as 08 w/ additional comments below

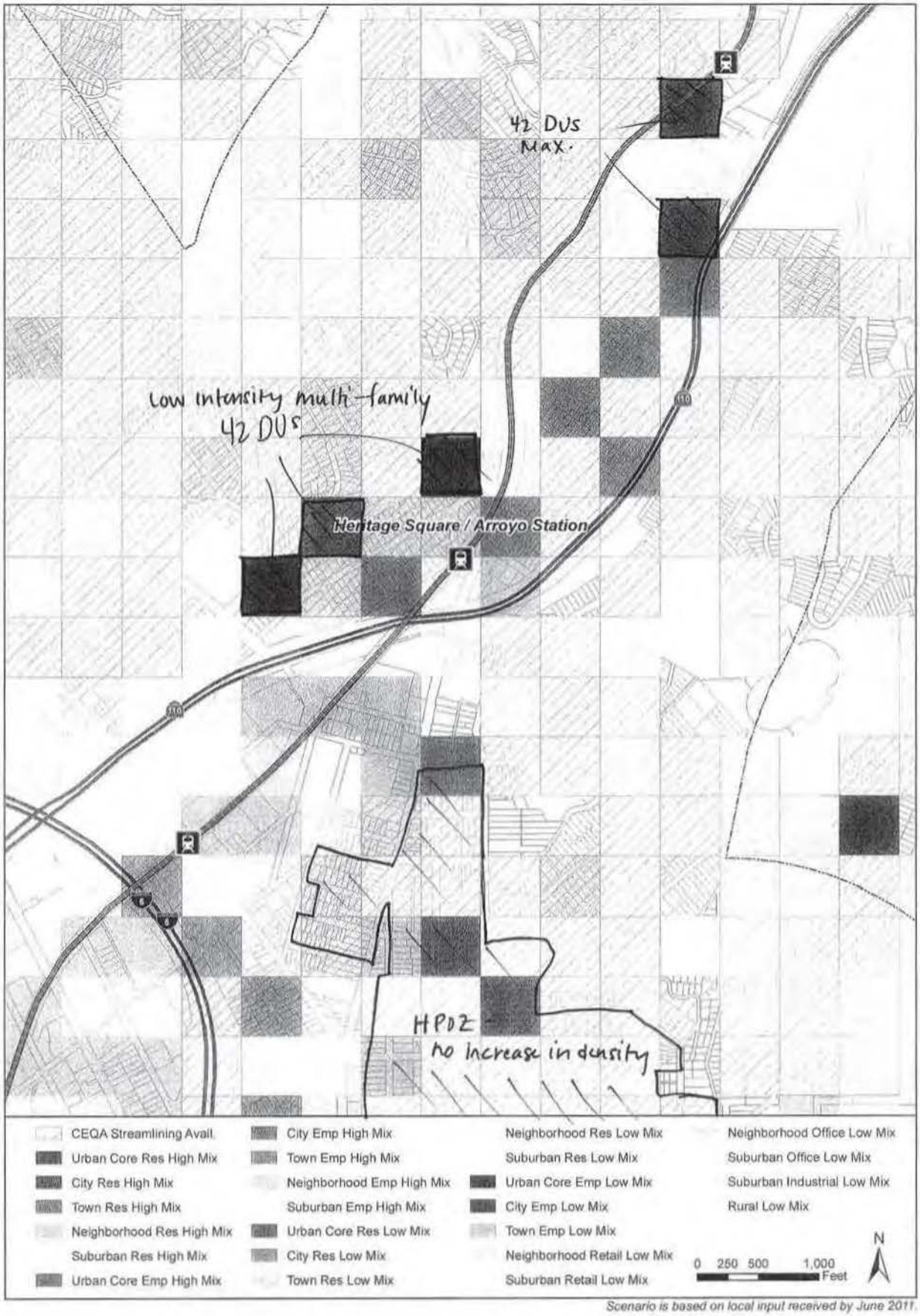


Scenario is based on local input received by June 2011

Southwest Museum Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



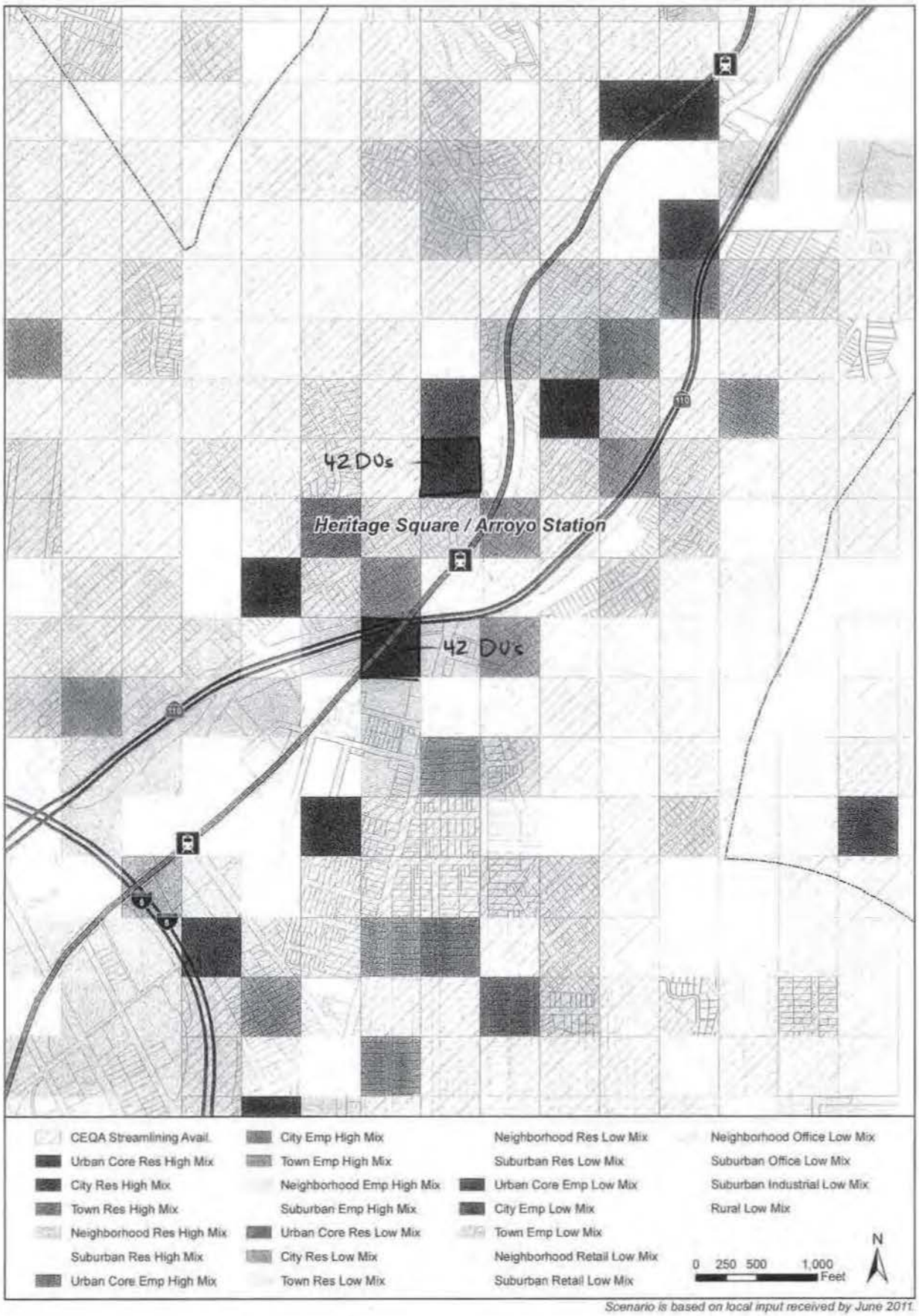
Scenario is based on local input received by June 2011.

Heritage Square / Arroyo Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

- Same as 08 w/ additional comments below

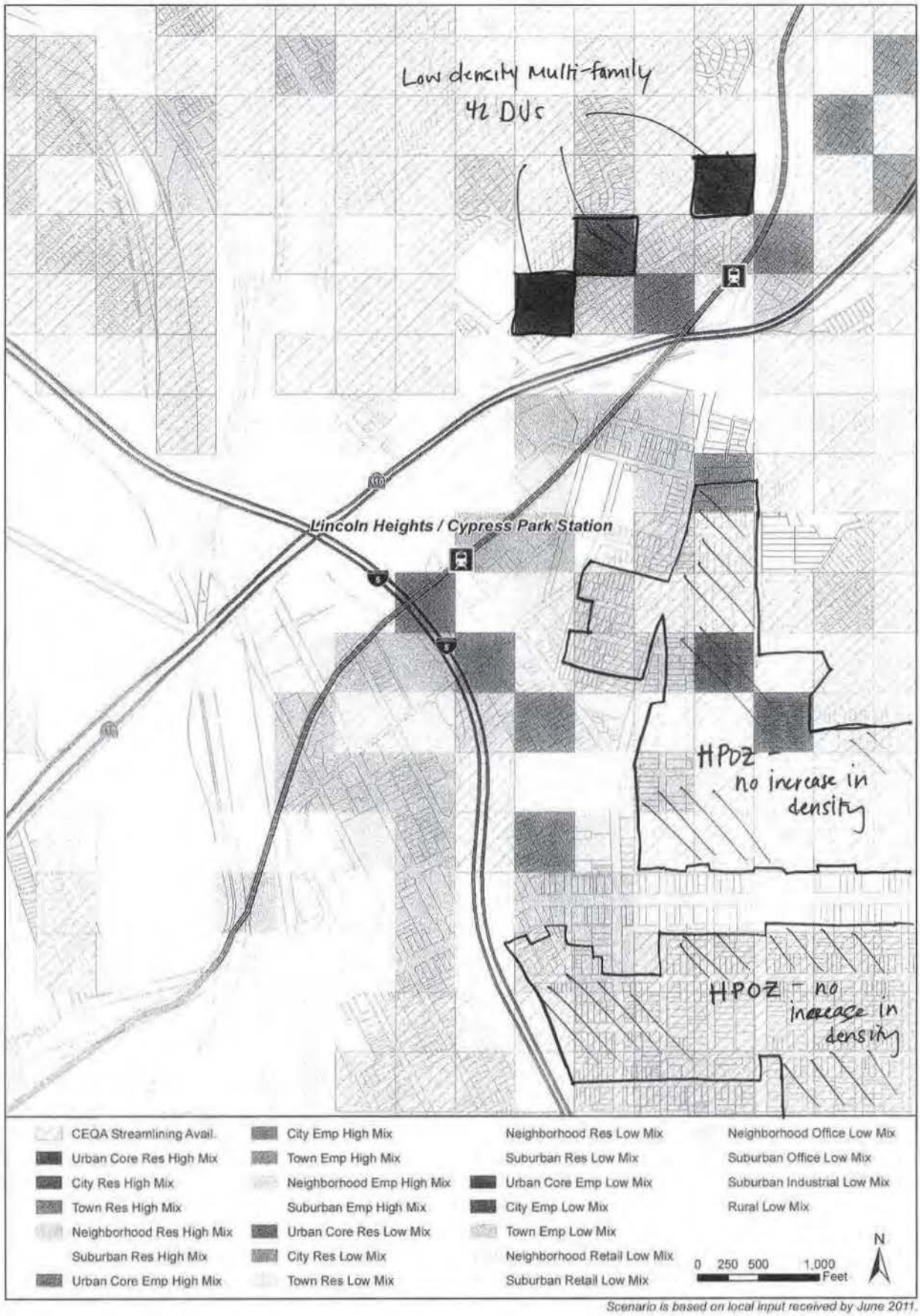


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Heritage Square / Arroyo Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



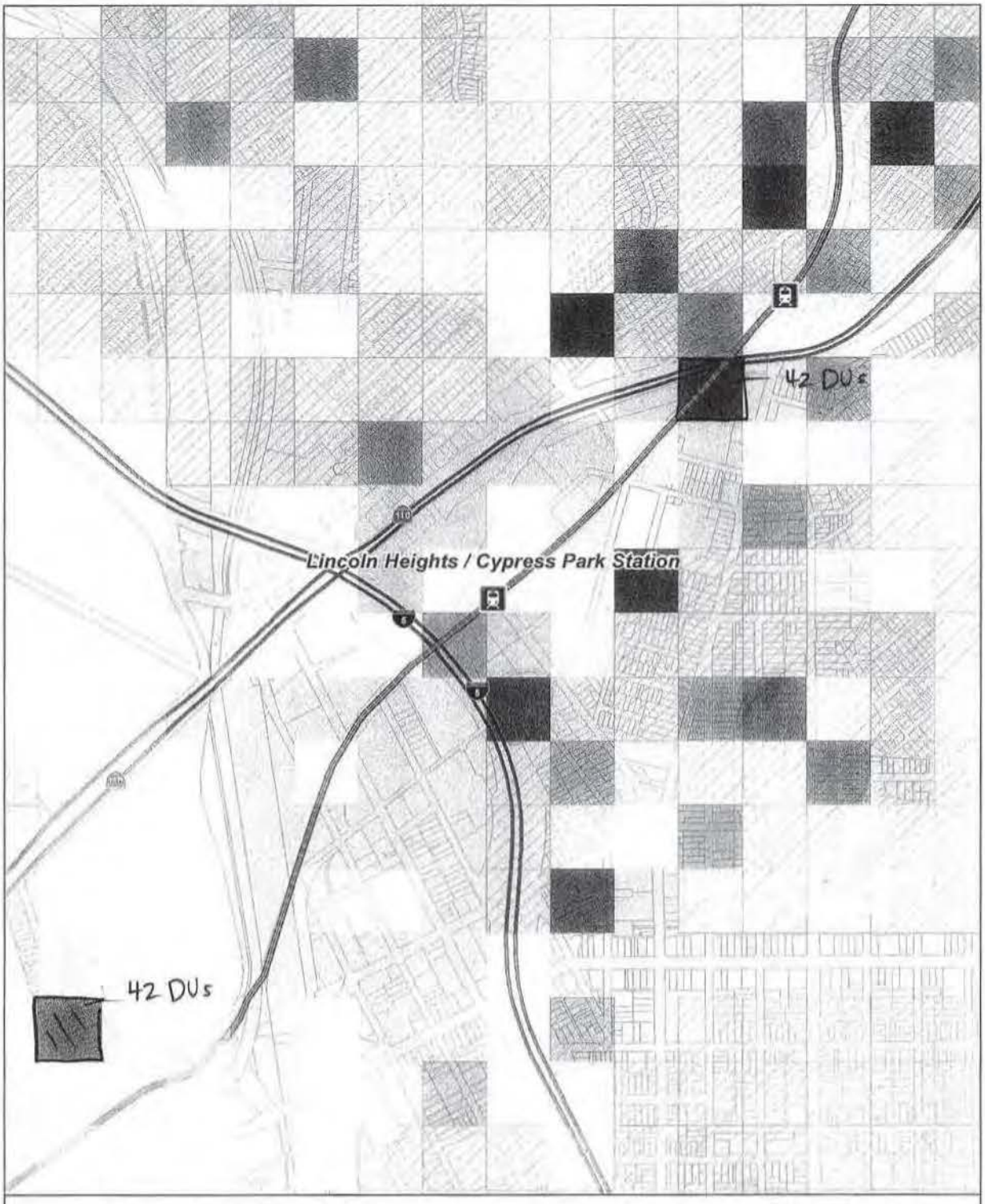
Scenario is based on local input received by June 2011.

Lincoln Heights / Cypress Park Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

– See 2008 comment w/ additional comments below



CEQA Streamlining Avail.
Urban Core Res High Mix
City Res High Mix
Town Res High Mix
Neighborhood Res High Mix
Suburban Res High Mix
Urban Core Emp High Mix
City Emp High Mix
Town Emp High Mix
Neighborhood Emp High Mix
Suburban Emp High Mix
Urban Core Res Low Mix
City Res Low Mix
Town Res Low Mix
Neighborhood Res Low Mix
Suburban Res Low Mix
Urban Core Emp Low Mix
City Emp Low Mix
Town Emp Low Mix
Neighborhood Retail Low Mix
Suburban Retail Low Mix
Neighborhood Office Low Mix
Suburban Office Low Mix
Suburban Industrial Low Mix
Rural Low Mix

0 250 500 1,000 Feet

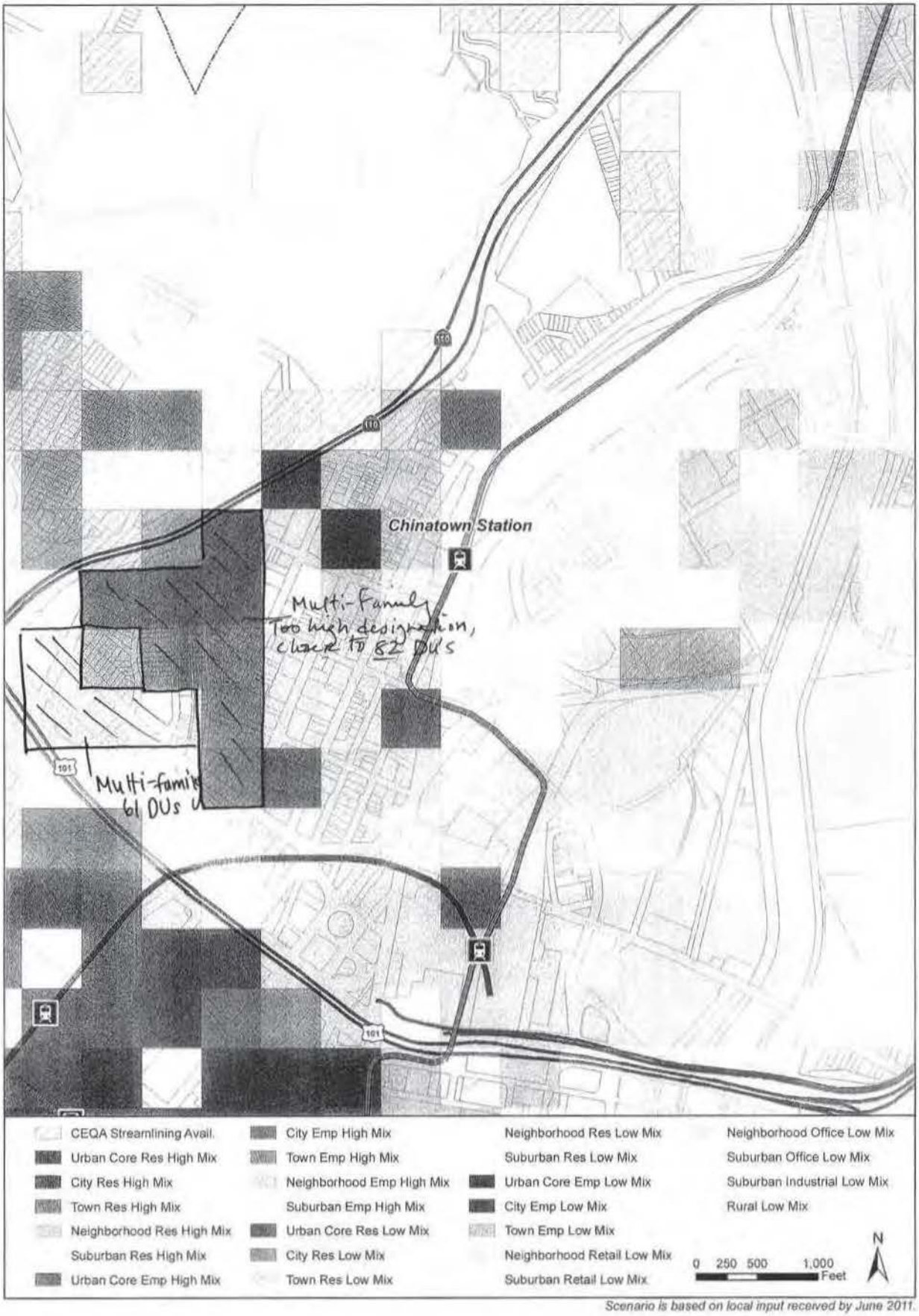
N

Scenario is based on local input received by June 2011.

Lincoln Heights / Cypress Park Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



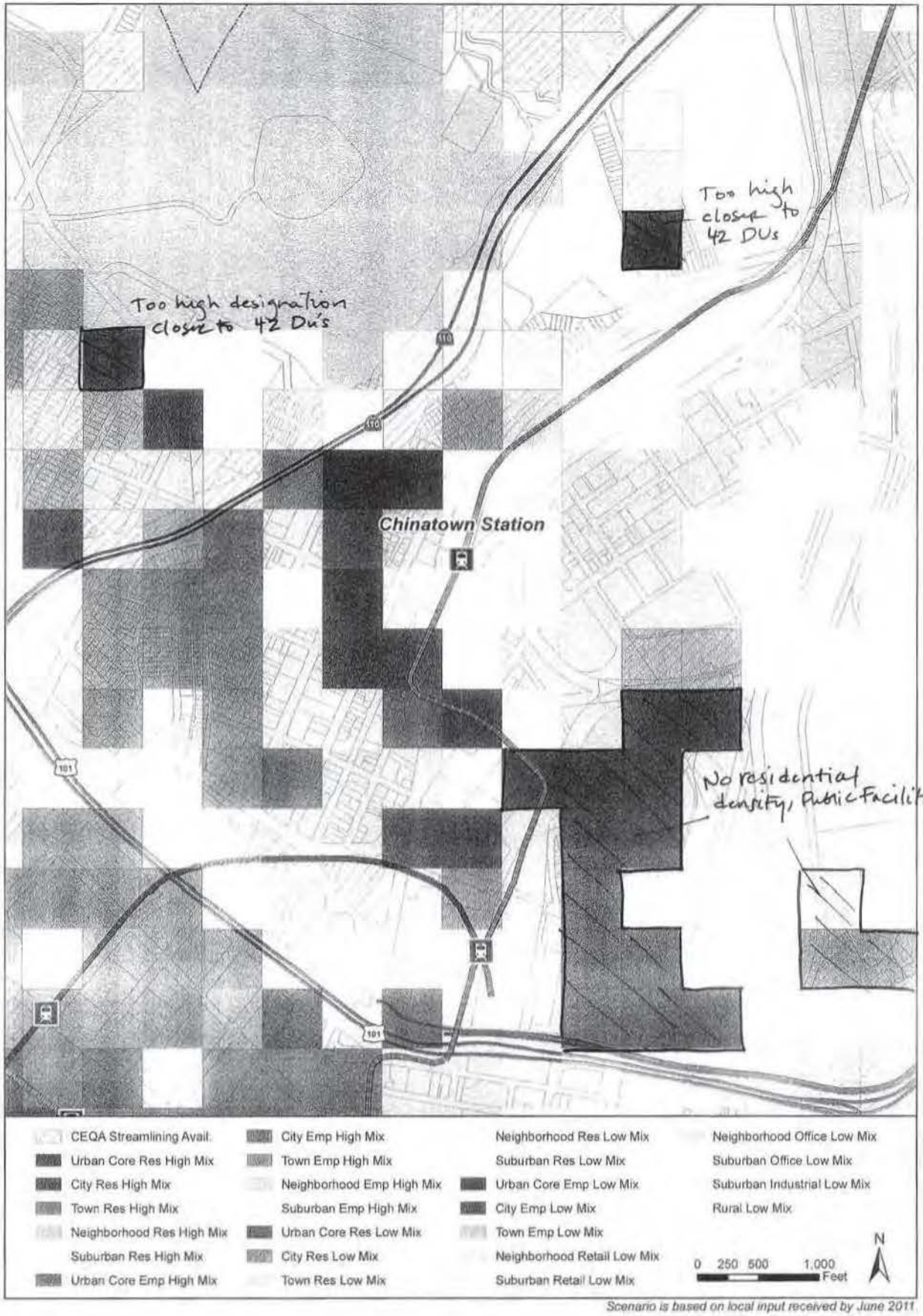
Scenario is based on local input received by June 2011.

Chinatown Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

- same as 08 with additional comments

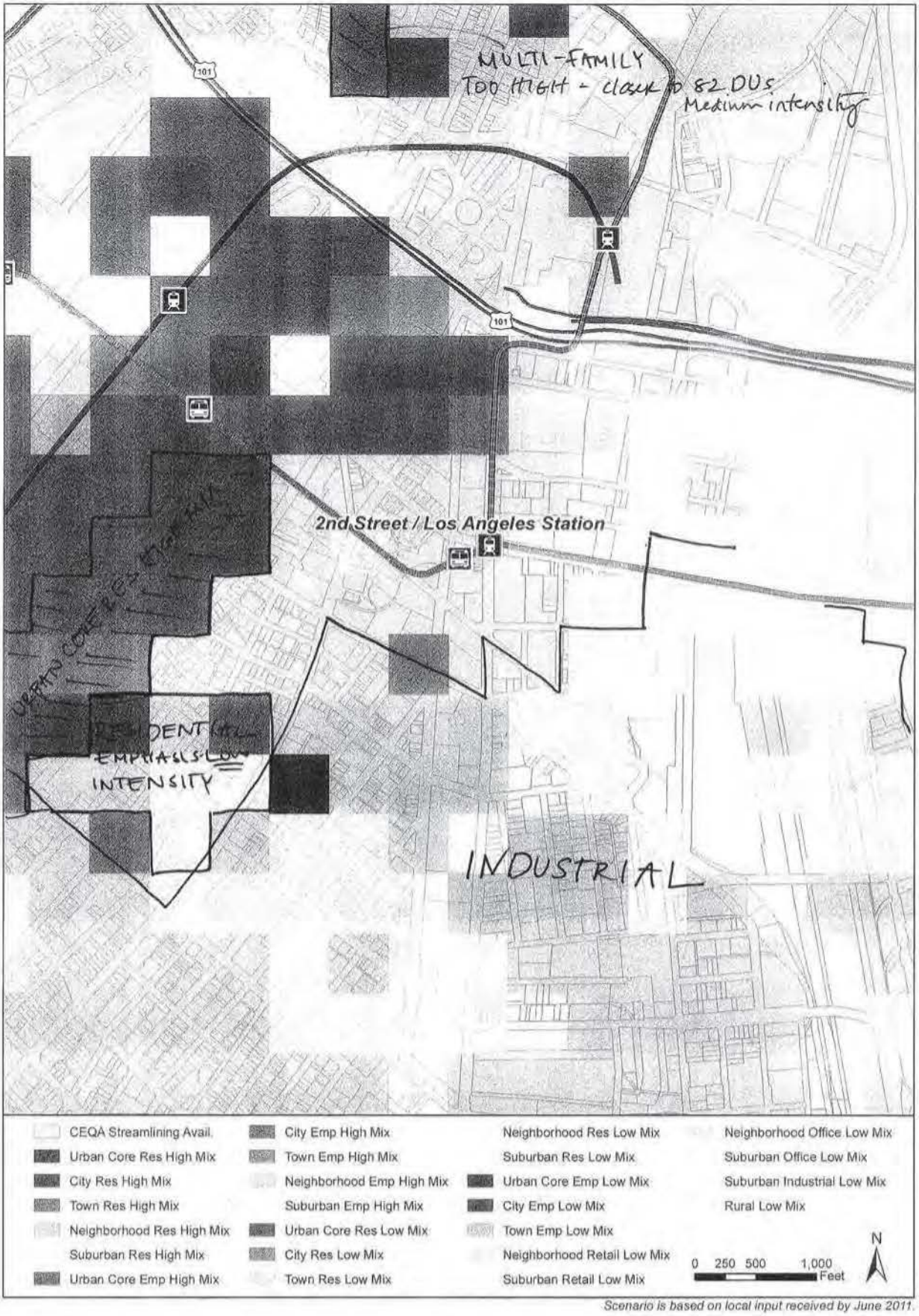


Scenario is based on local input received by June 2011

Chinatown Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



Scenario is based on local input received by June 2011.

2nd Street / Los Angeles Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

- same as 08 with additional comments



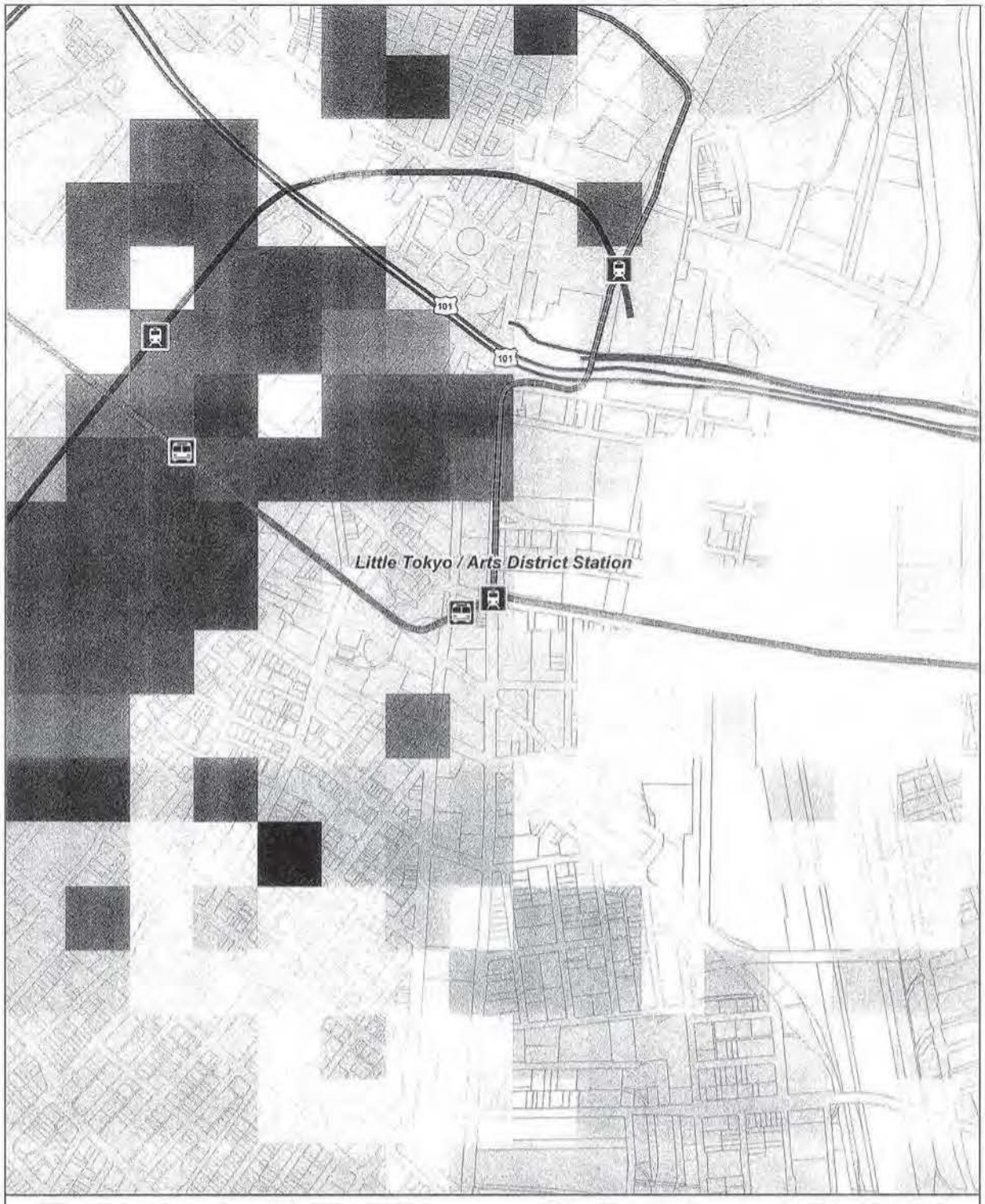
Scenario is based on local input received by June 2011.

2nd Street / Los Angeles Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

– See 2008 2nd street / Los Angeles station for comments



CEQA Streamlining Avail.
Urban Core Res High Mix
City Res High Mix
Town Res High Mix
Neighborhood Res High Mix
Suburban Res High Mix
Urban Core Emp High Mix
City Emp High Mix
Town Emp High Mix
Neighborhood Emp High Mix
Suburban Emp High Mix
Urban Core Res Low Mix
City Res Low Mix
Town Res Low Mix
Neighborhood Res Low Mix
Suburban Res Low Mix
Urban Core Emp Low Mix
City Emp Low Mix
Town Emp Low Mix
Neighborhood Retail Low Mix
Suburban Retail Low Mix
Neighborhood Office Low Mix
Suburban Office Low Mix
Suburban Industrial Low Mix
Rural Low Mix

0 250 500 1,000 Feet

N

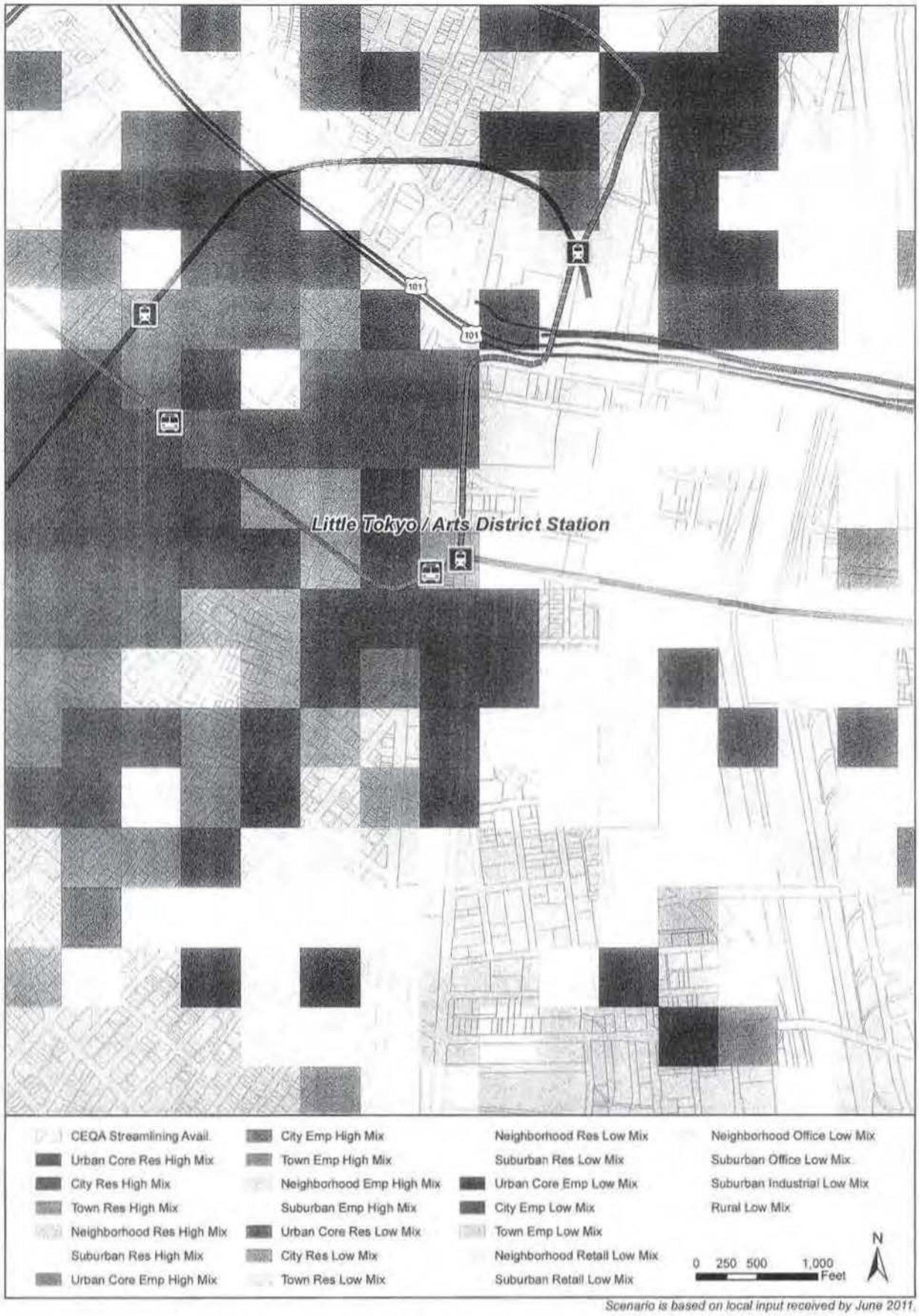
Scenario is based on local input received by June 2011.

Little Tokyo / Arts District Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

– See 2035 2nd street / Los Angeles station for comments

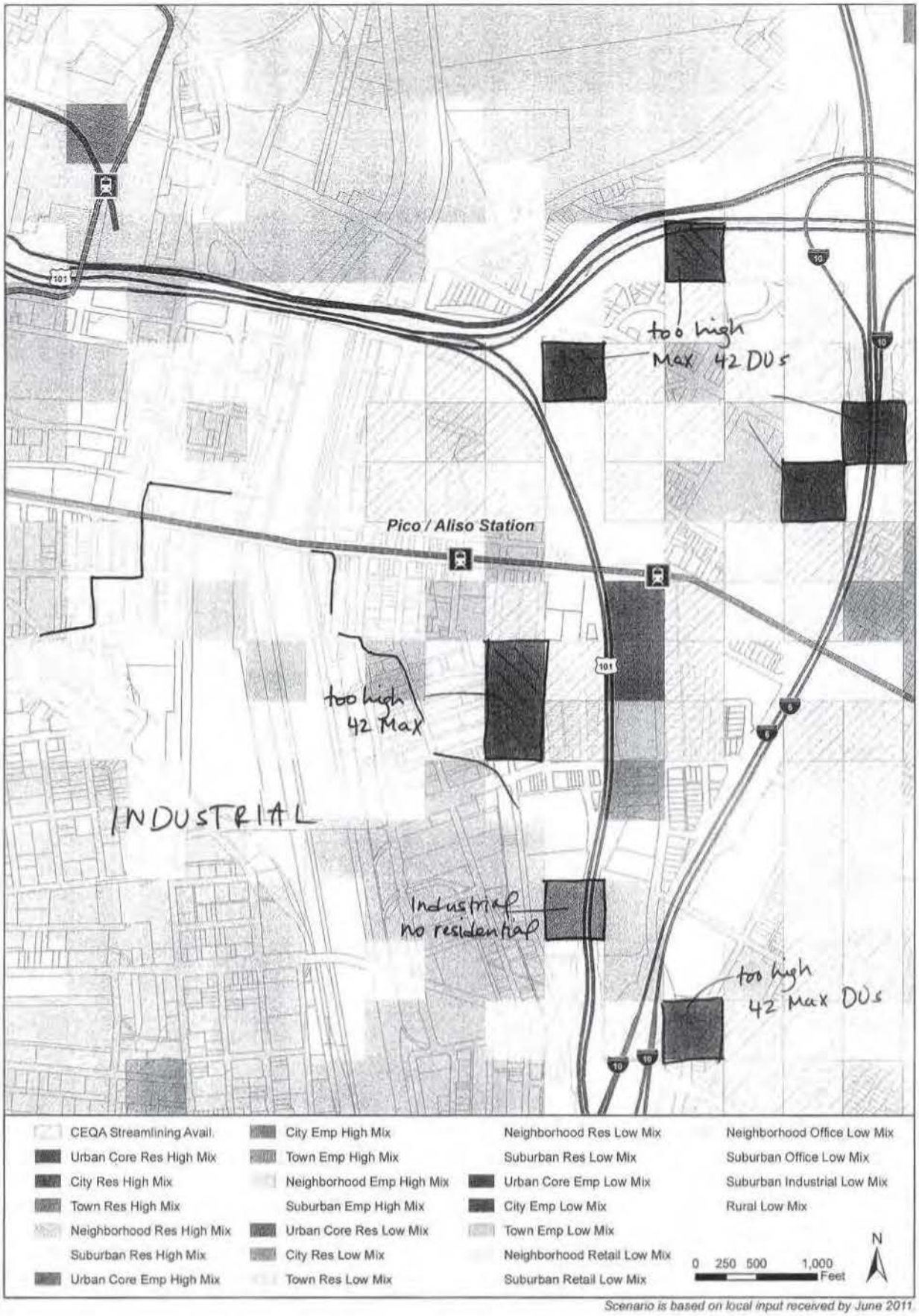


Scenario is based on local input received by June 2011.

Little Tokyo / Arts District Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



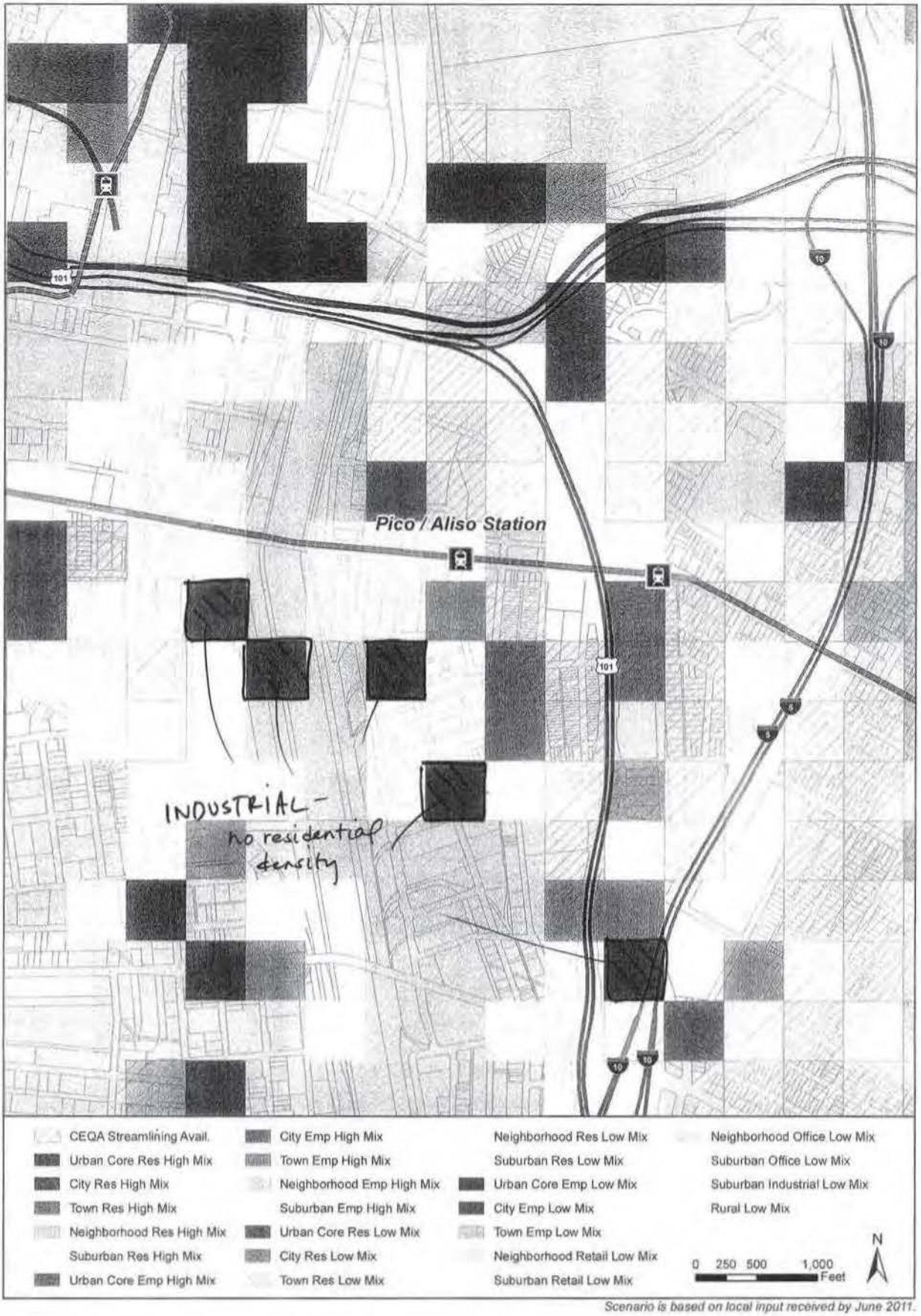
Scenario is based on local input received by June 2011

Pico / Aliso Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

Same as 08 with additional comments

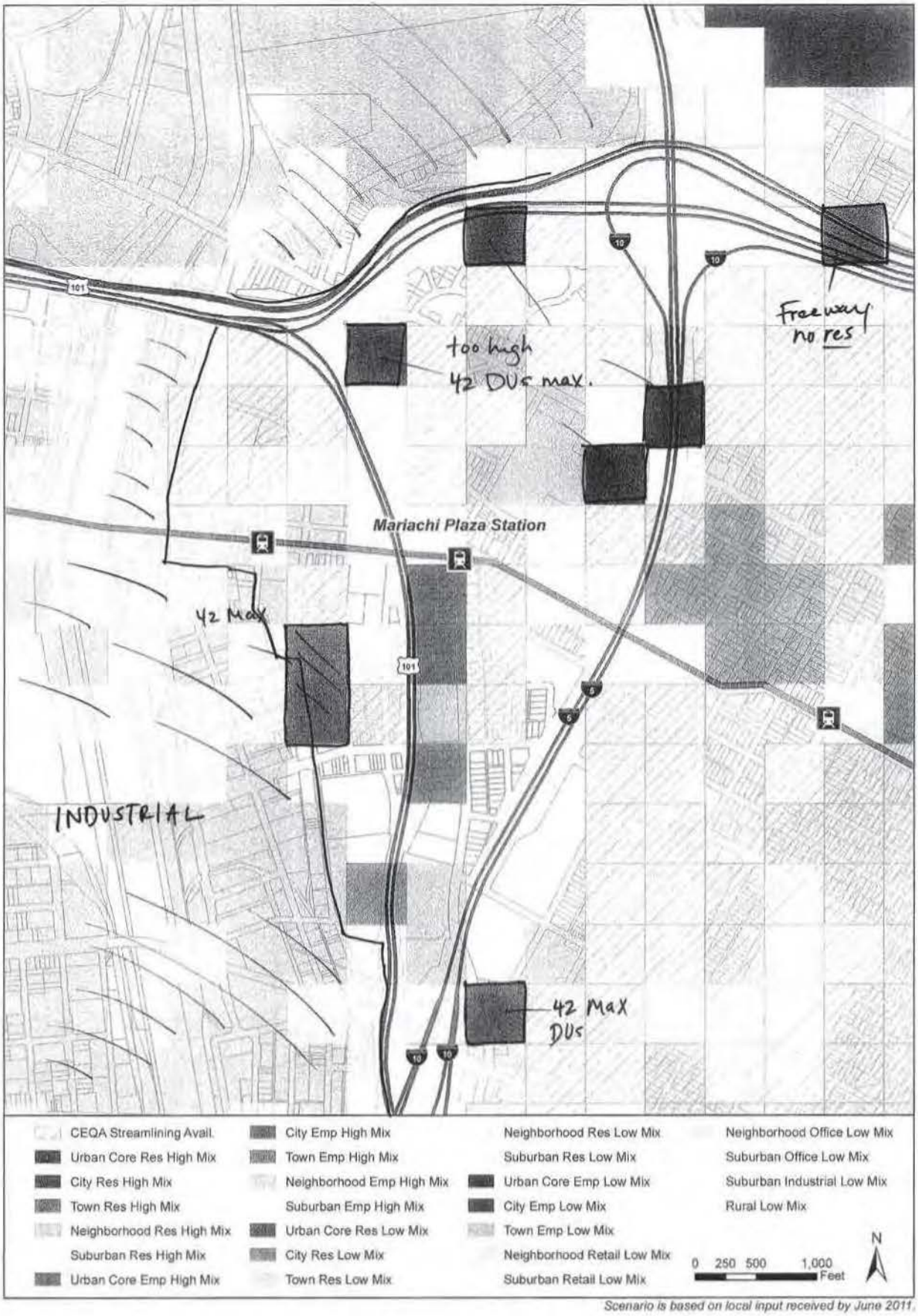


Scenario is based on local input received by June 2011.

Pico / Aliso Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



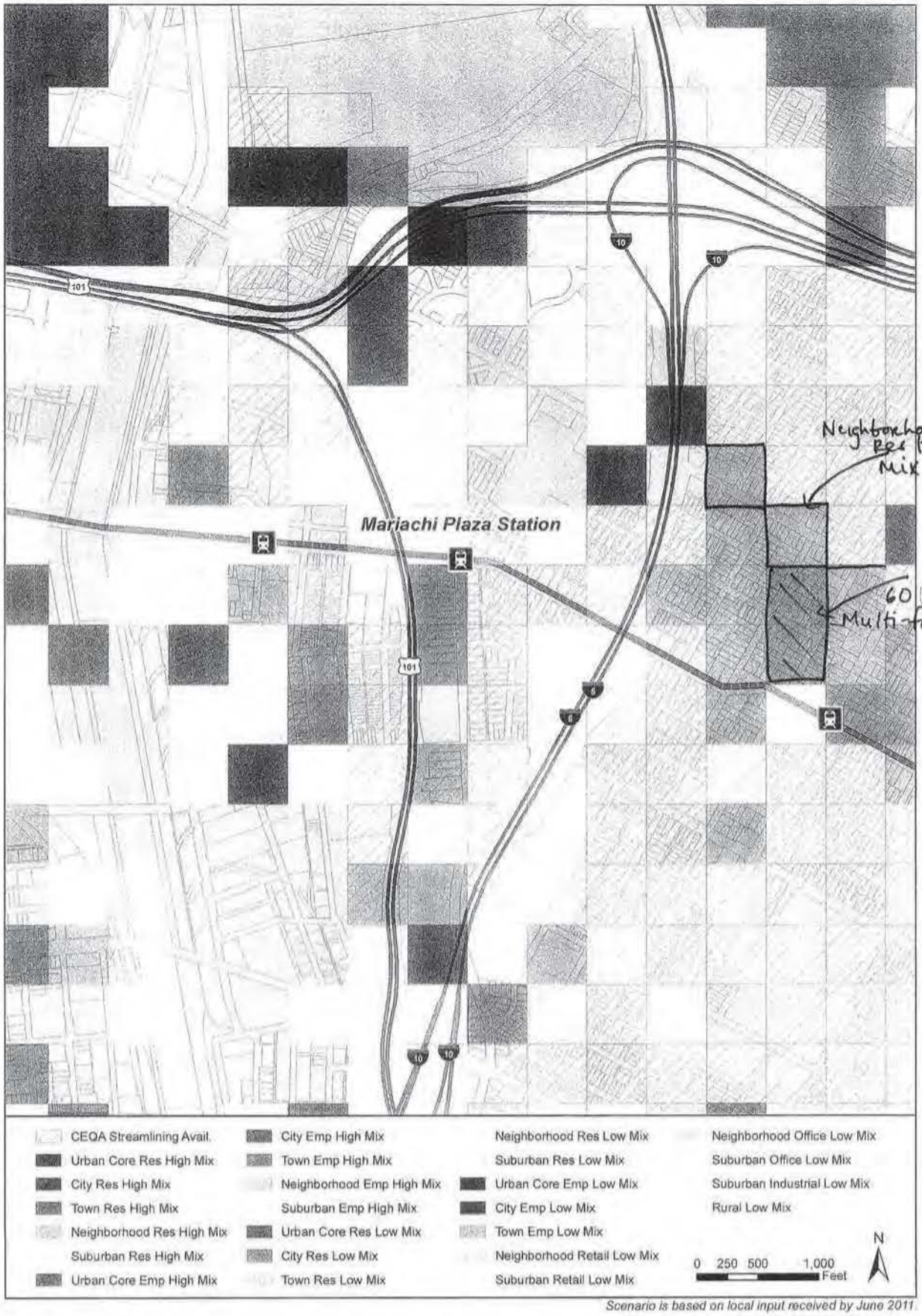
Scenario is based on local input received by June 2011.

Mariachi Plaza Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

- Same as 08 with additional comments

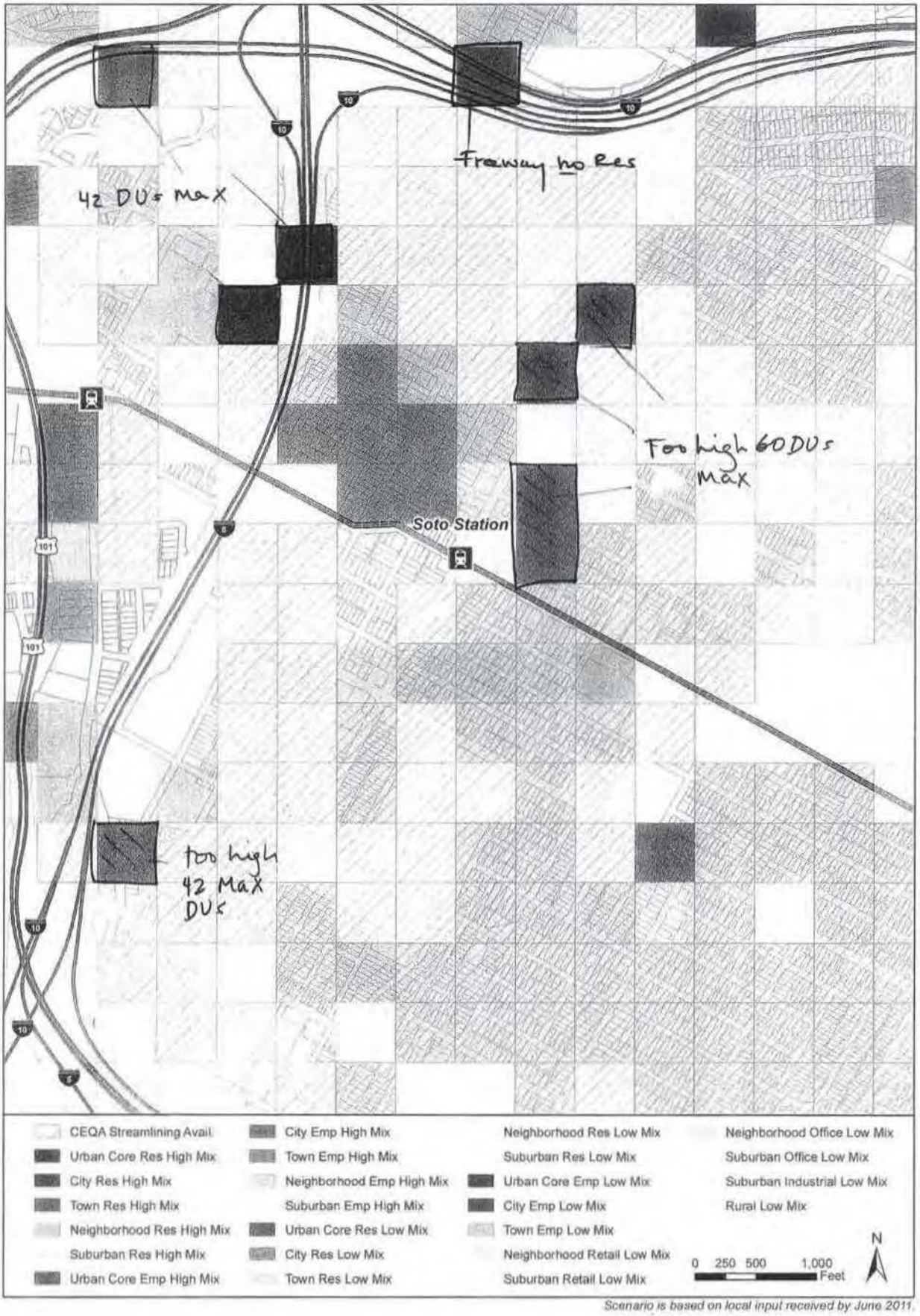


Scenario is based on local input received by June 2011

Mariachi Plaza Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



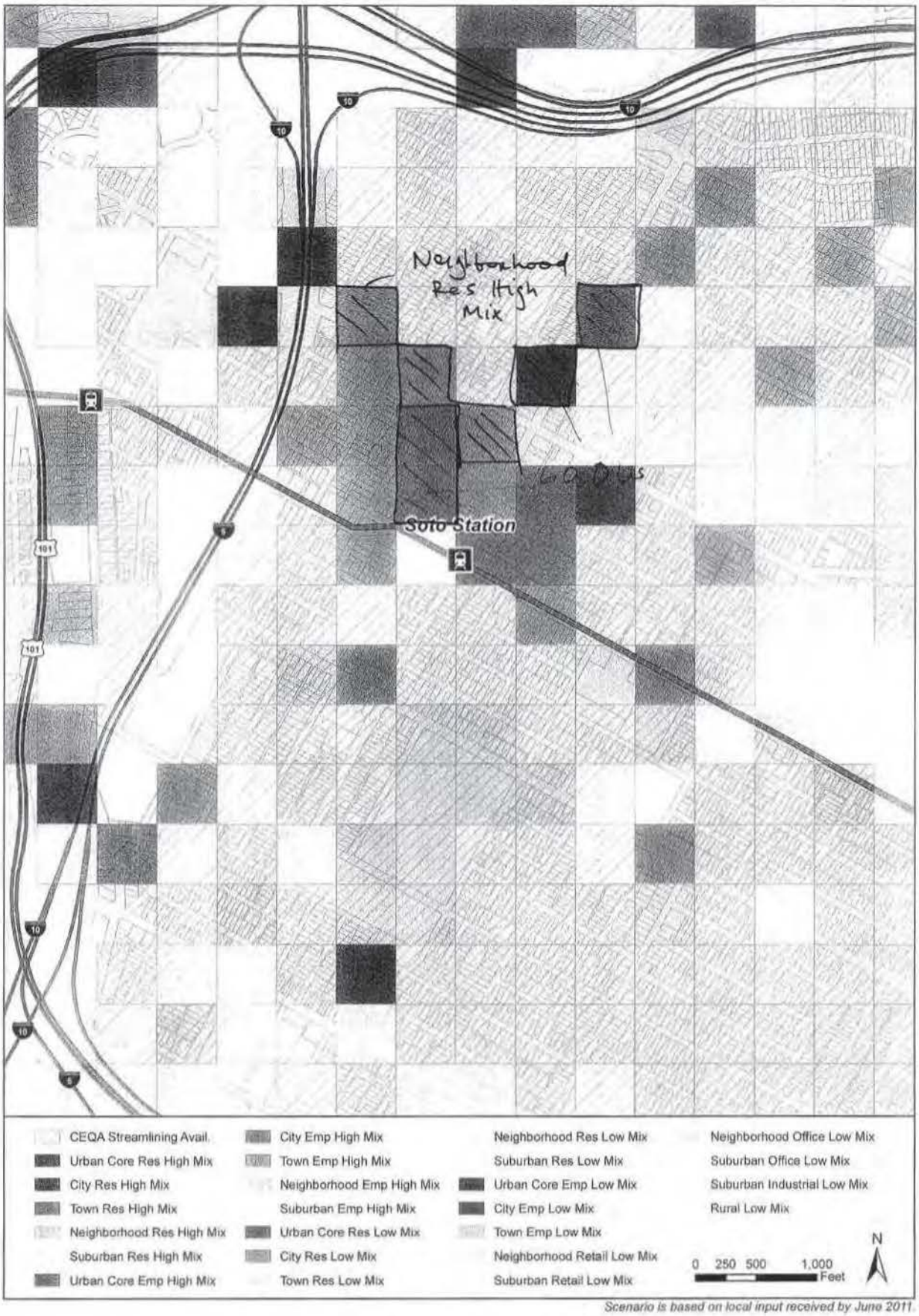
Scenario is based on local input received by June 2011.

Soto Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

See 08 w/ additional comments below



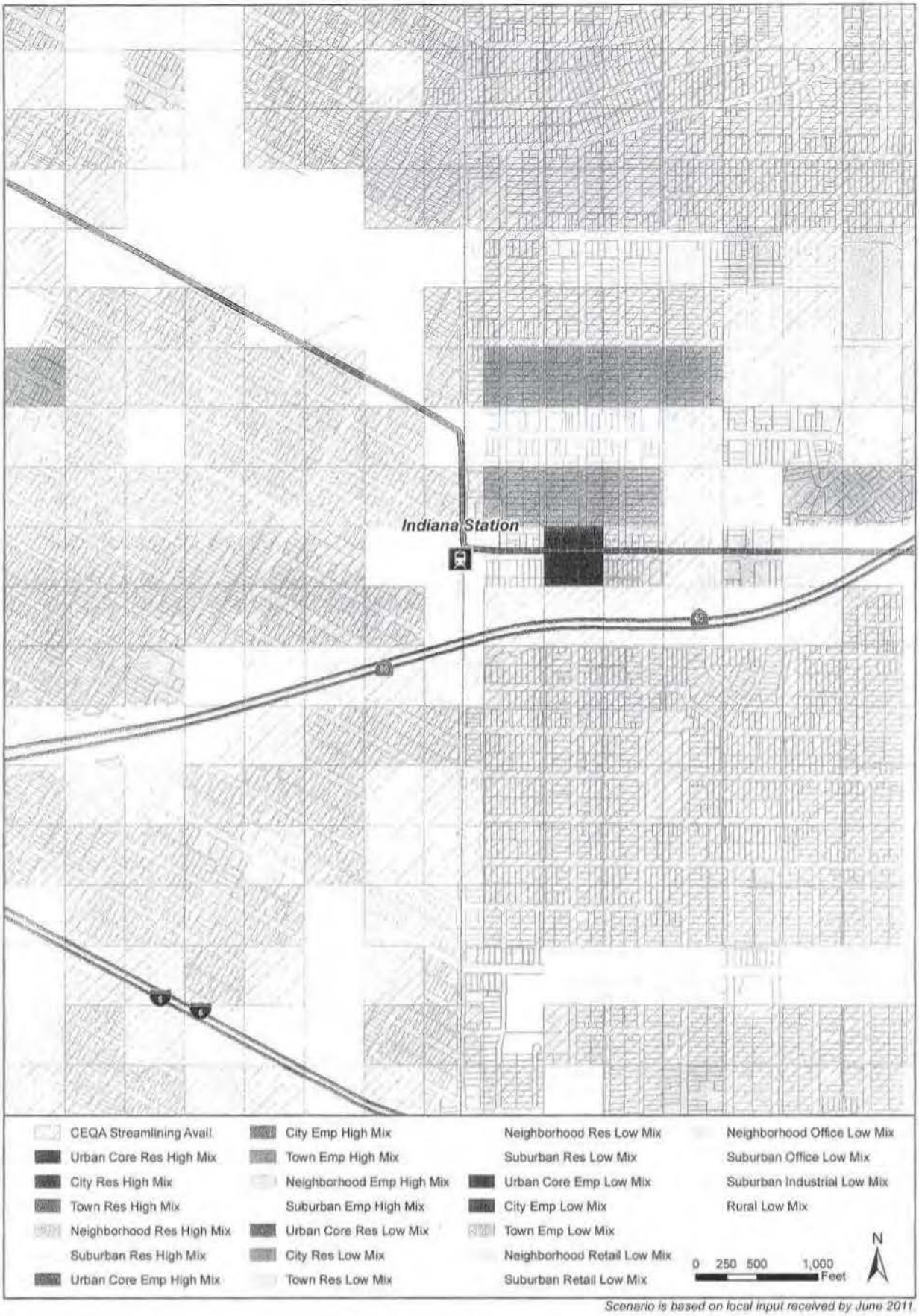
Scenario is based on local input received by June 2011.

Soto Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

- okay as it is

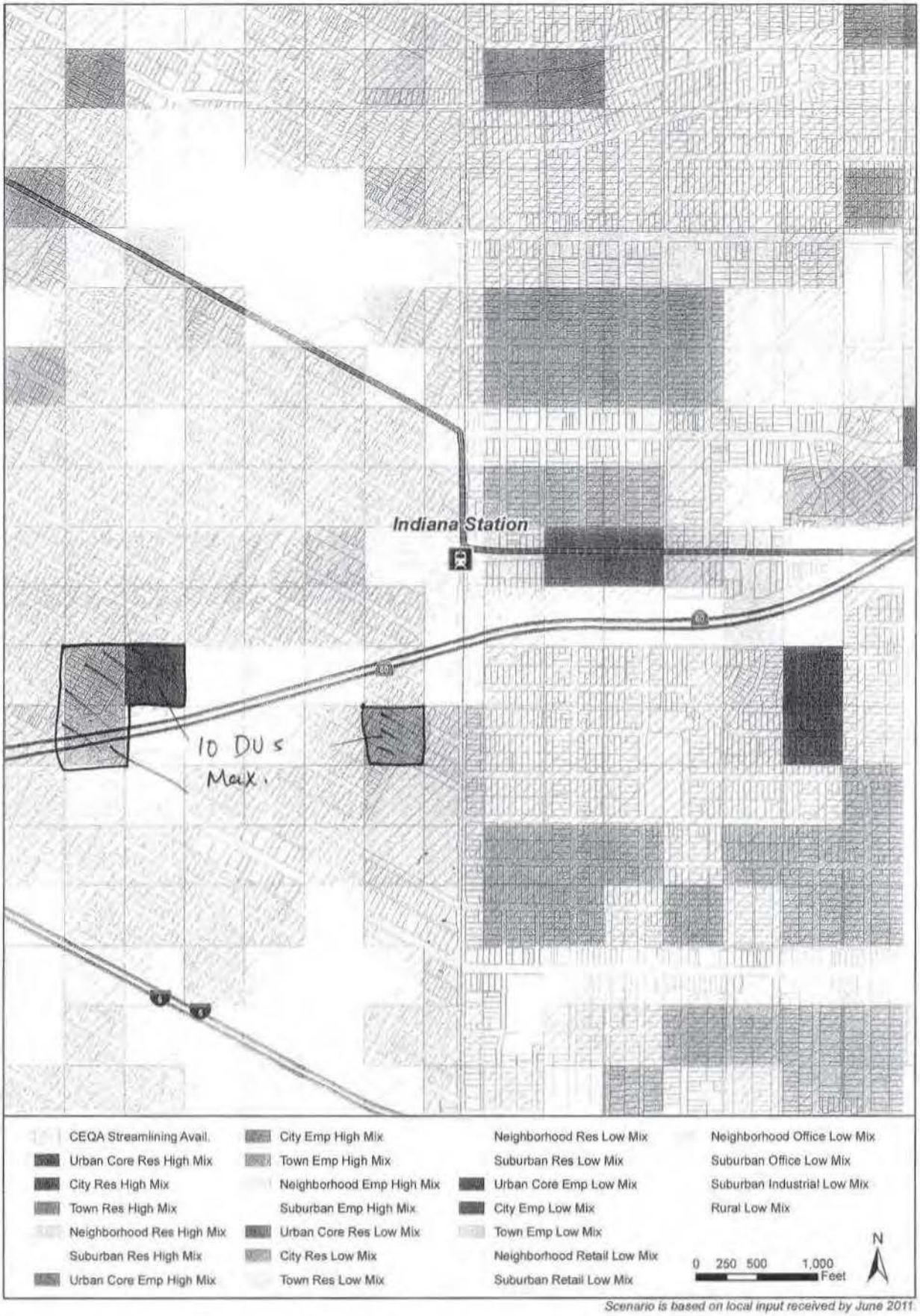


Scenario is based on local input received by June 2011

Indiana Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

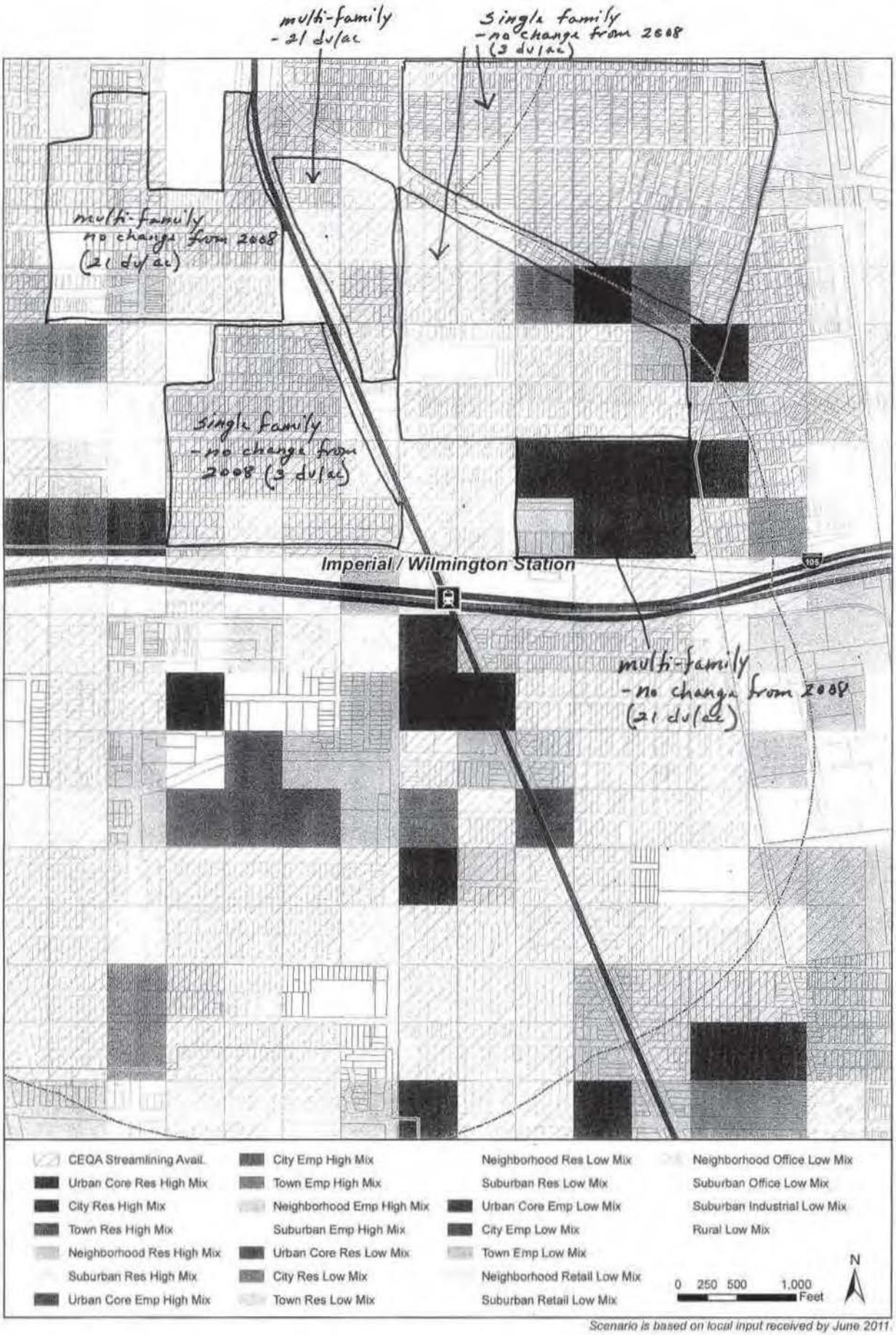


Scenario is based on local input received by June 2011

Indiana Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

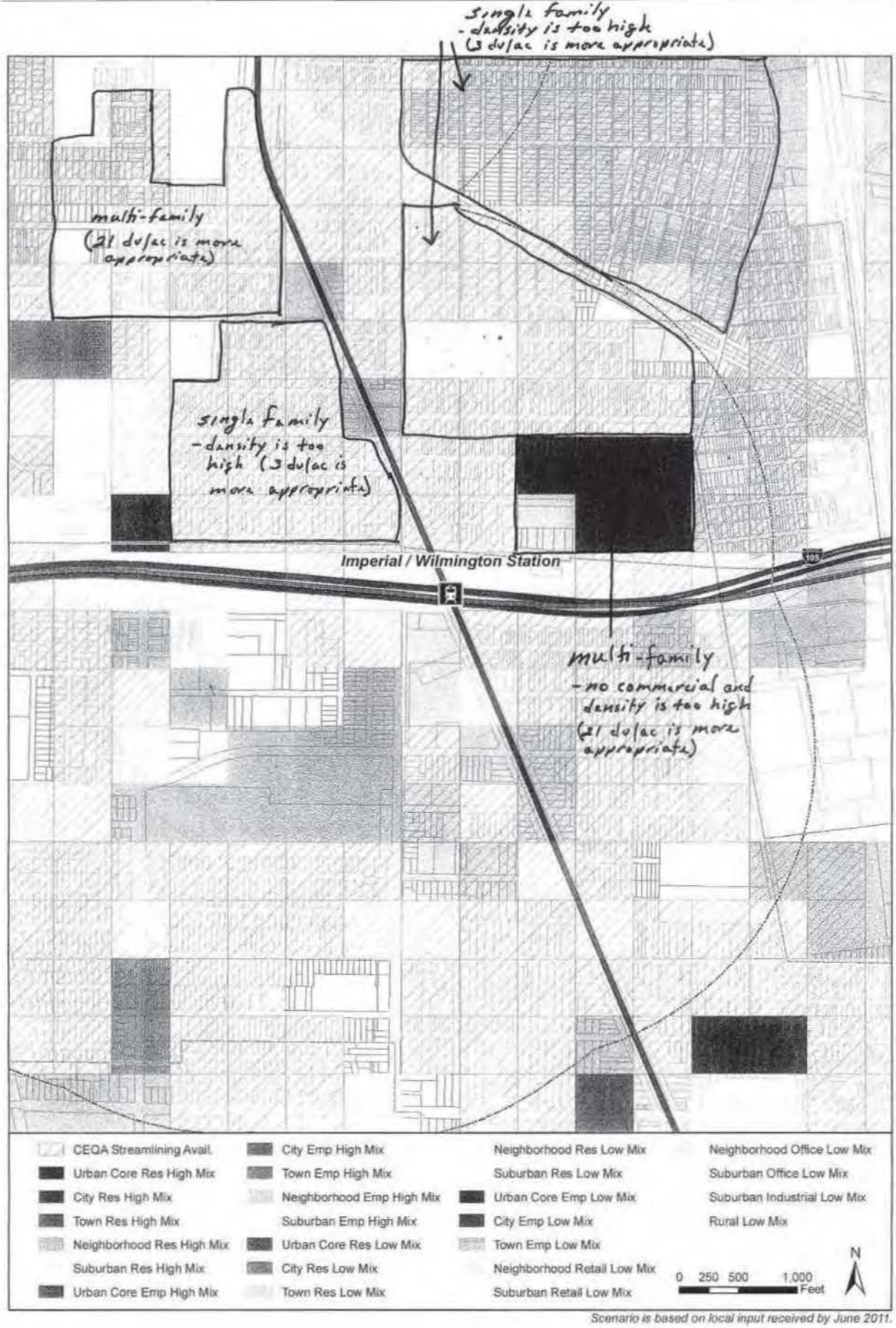


Scenario is based on local input received by June 2011.

Imperial / Wilmington Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

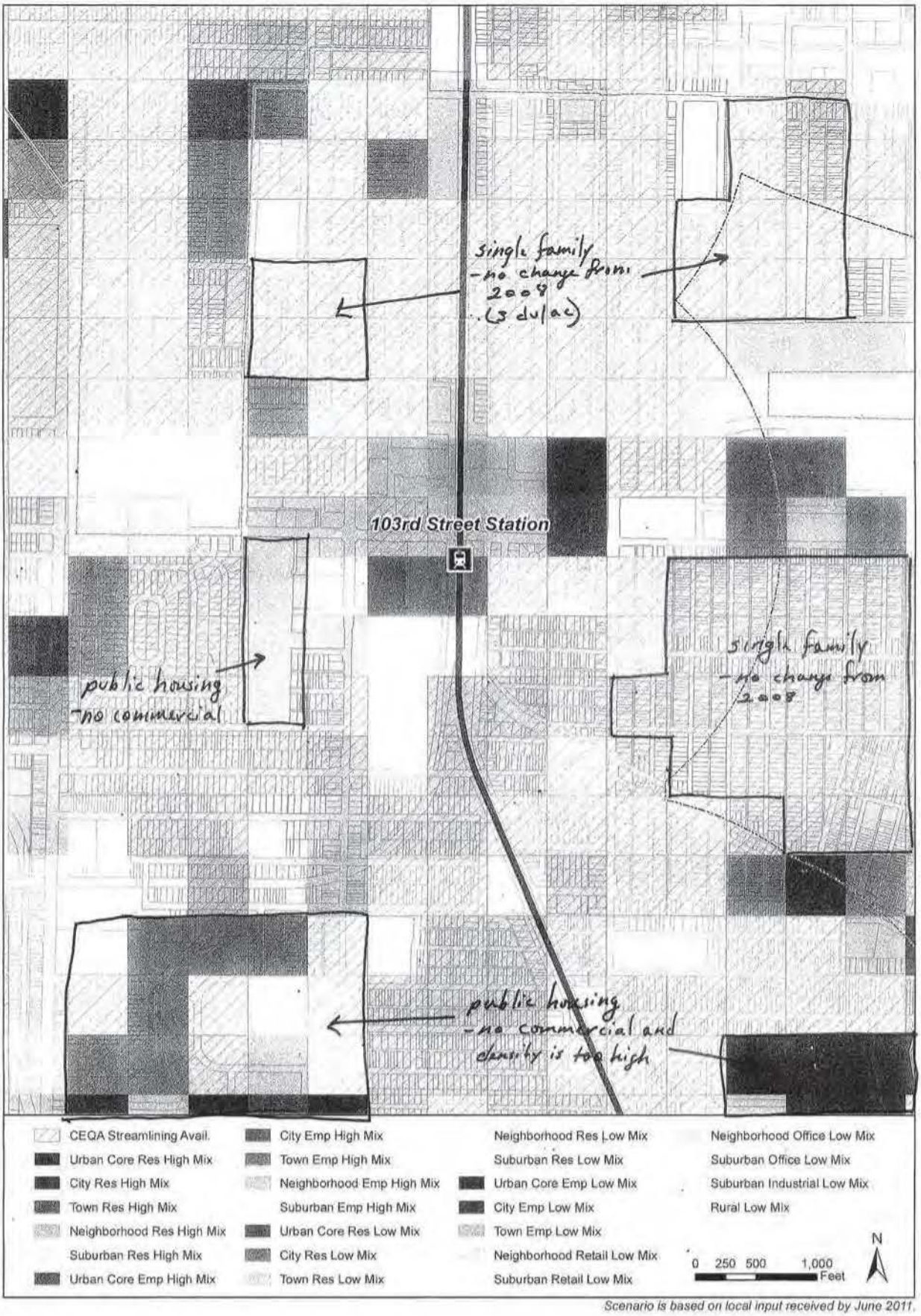


Scenario is based on local input received by June 2011.

Imperial / Wilmington Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

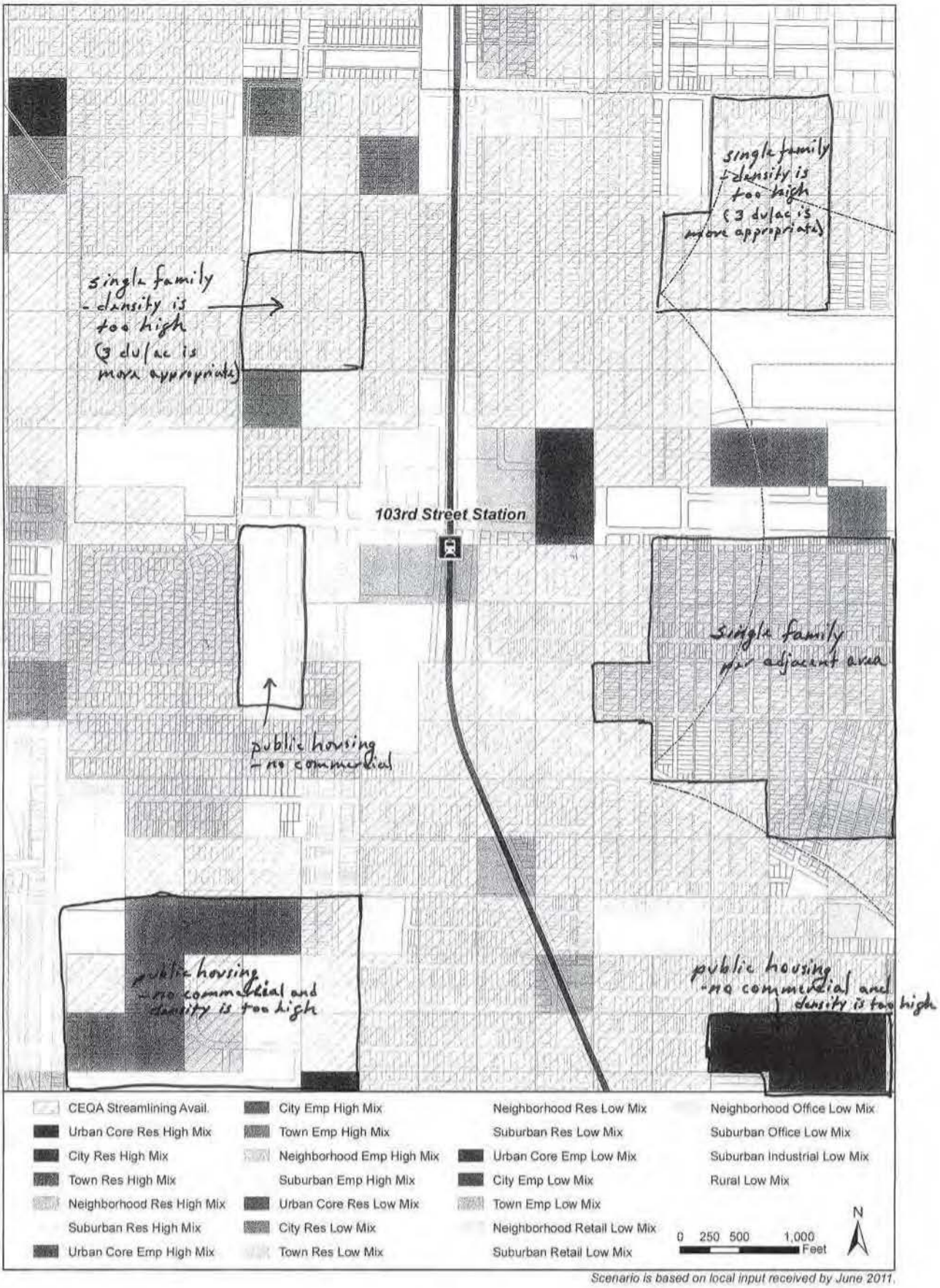


Scenario is based on local input received by June 2011.

103rd Street Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

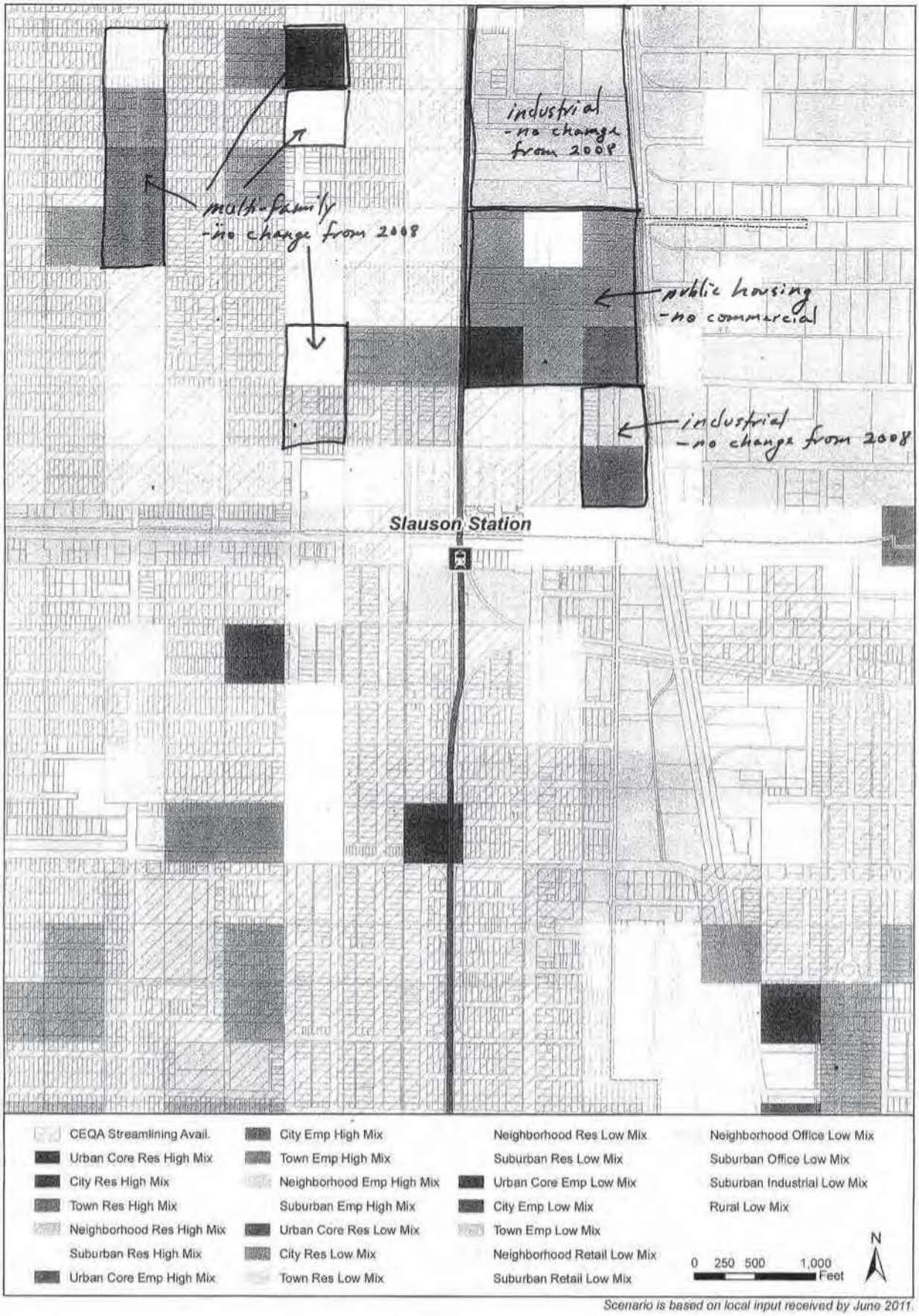


Scenario is based on local input received by June 2011.

103rd Street Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

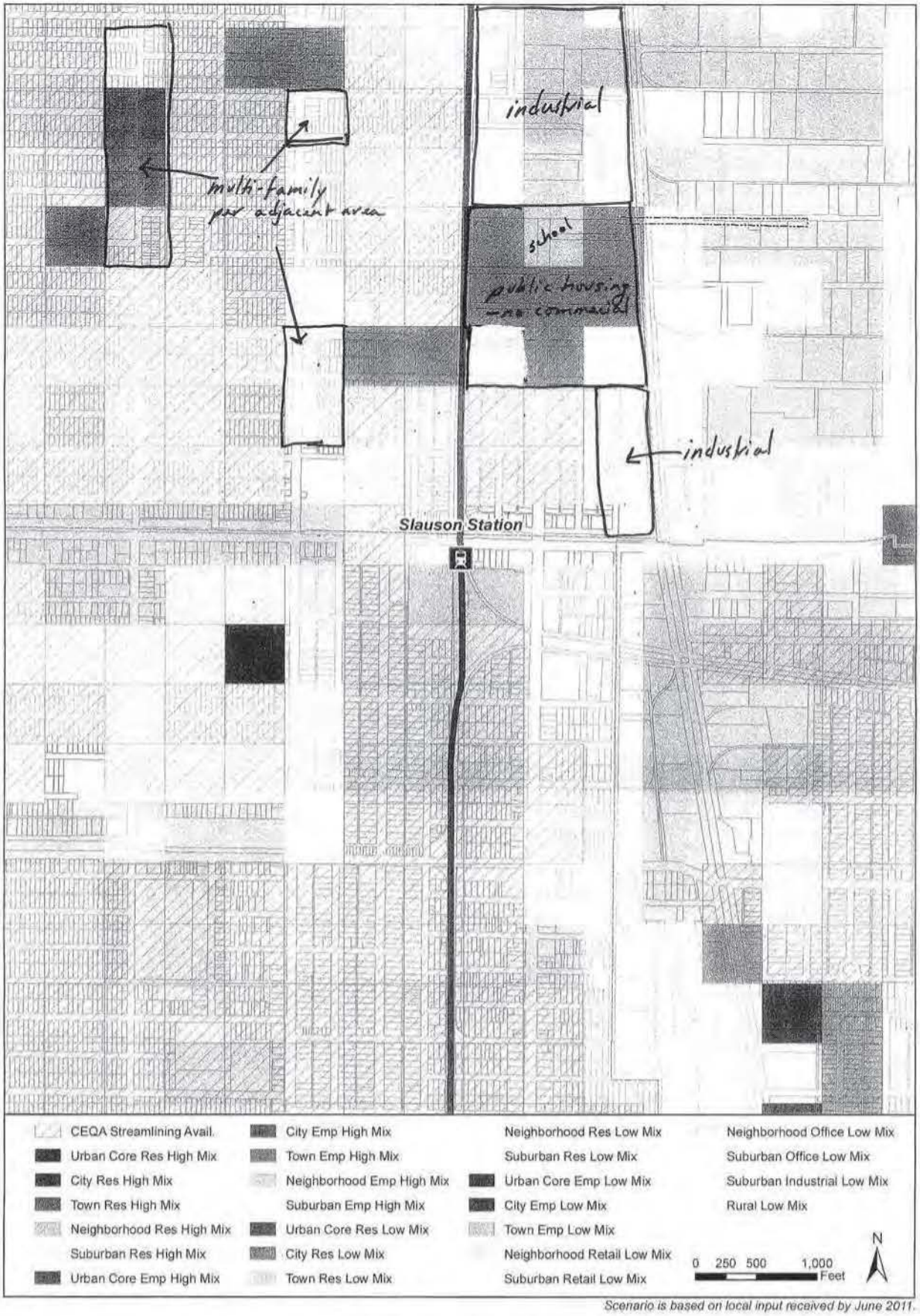


Scenario is based on local input received by June 2011.

Slauson Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

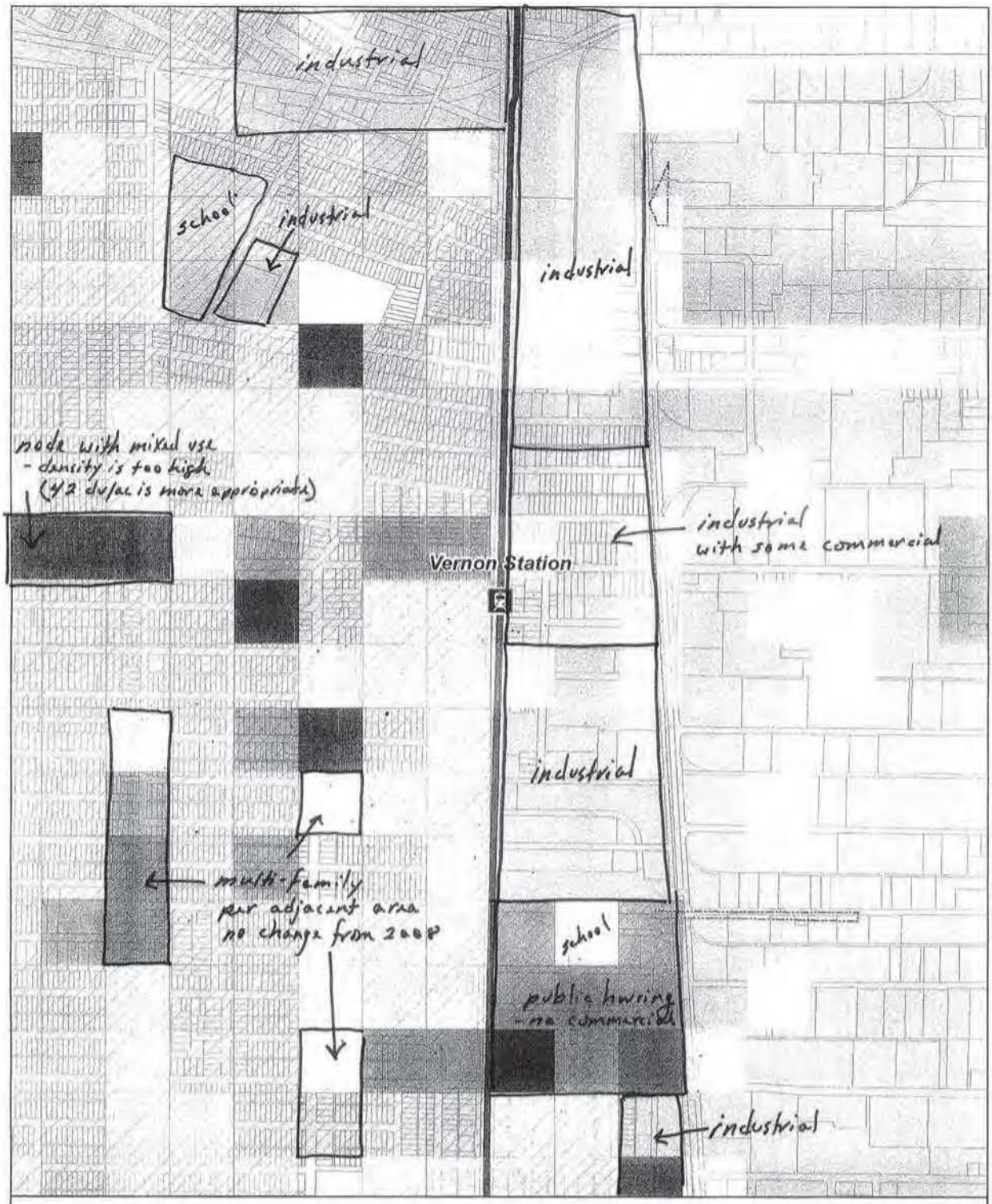


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Slauson Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

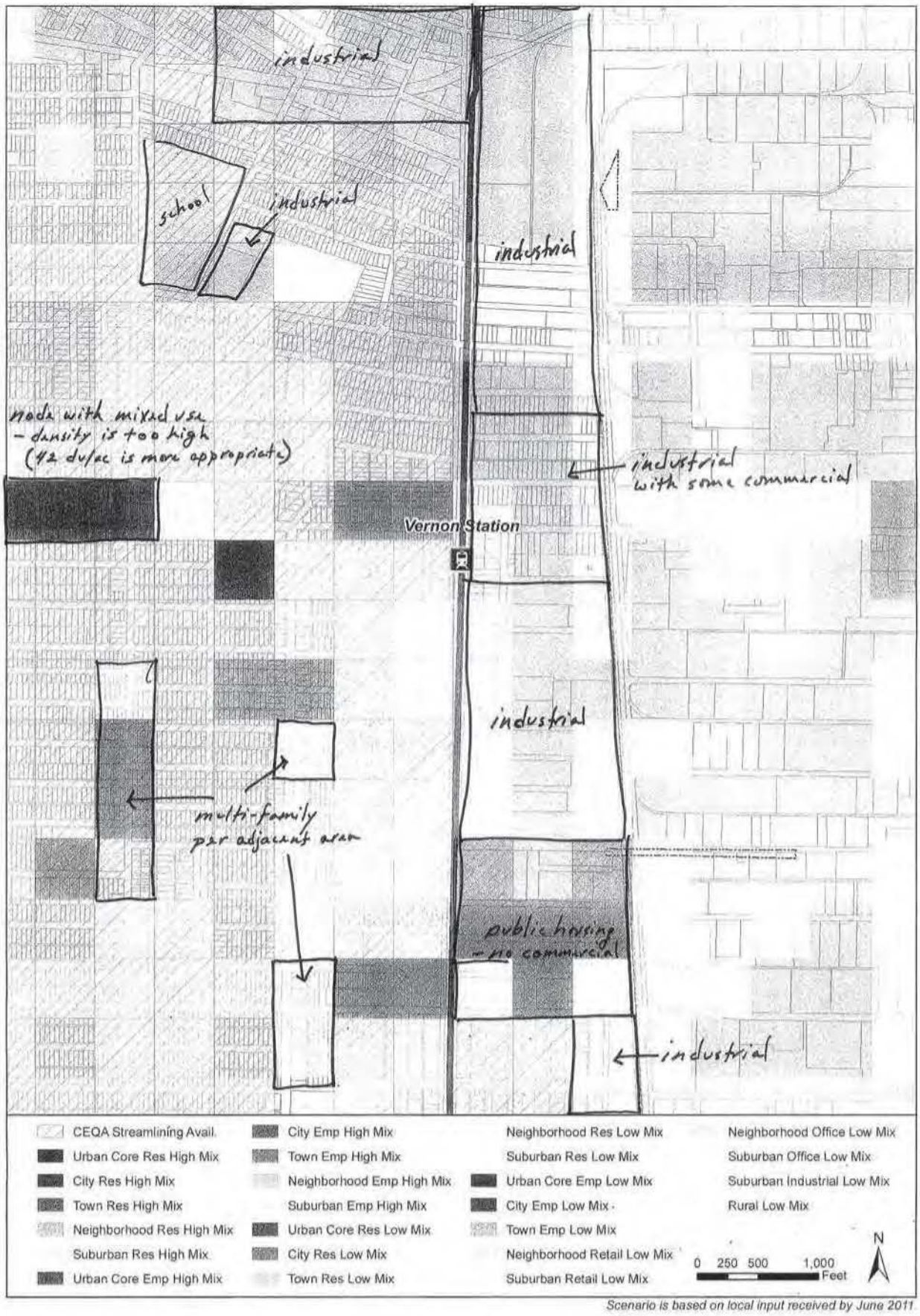


Scenario is based on local input received by June 2011.

Vernon Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

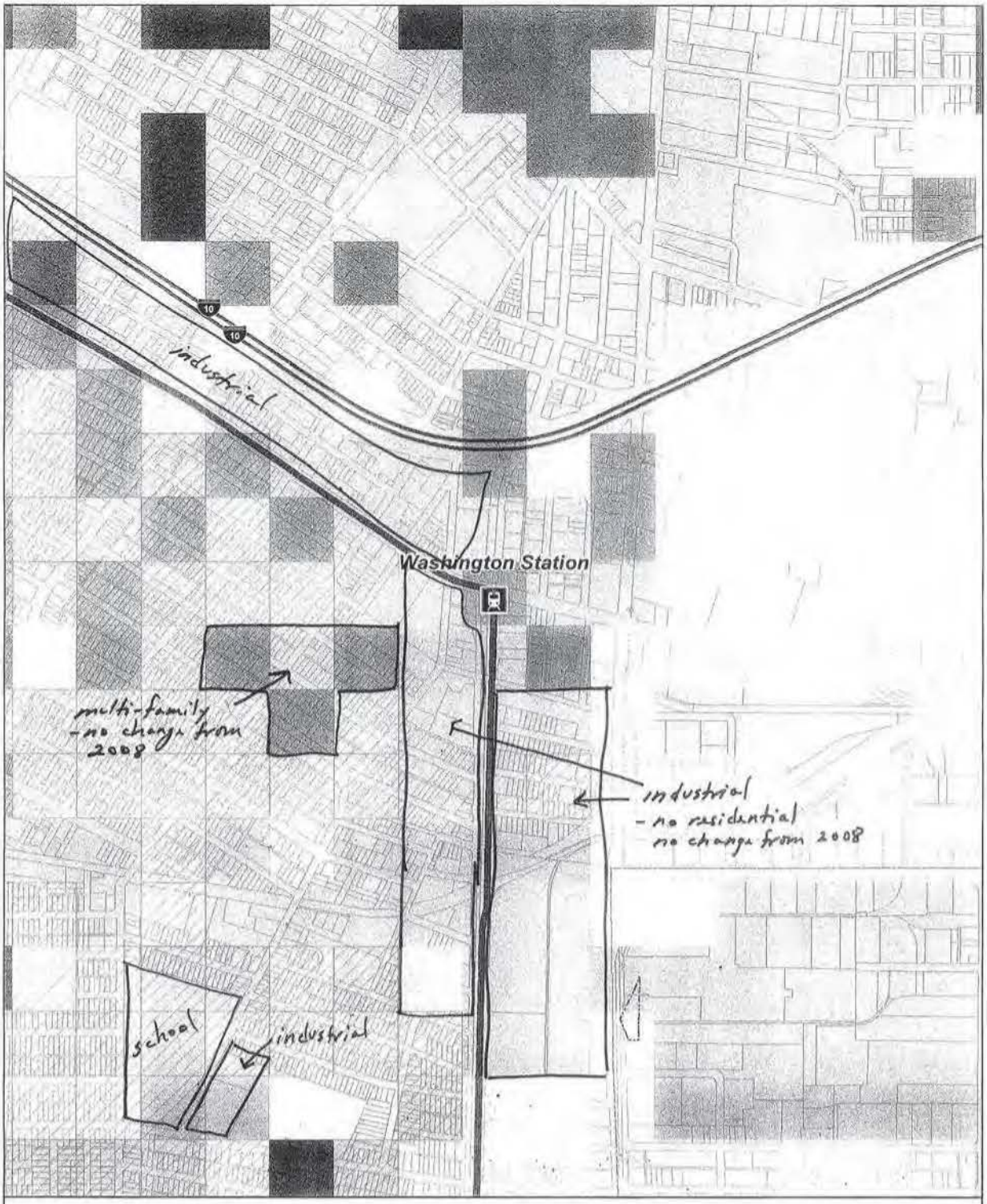


Scenario is based on local input received by June 2011

Vernon Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

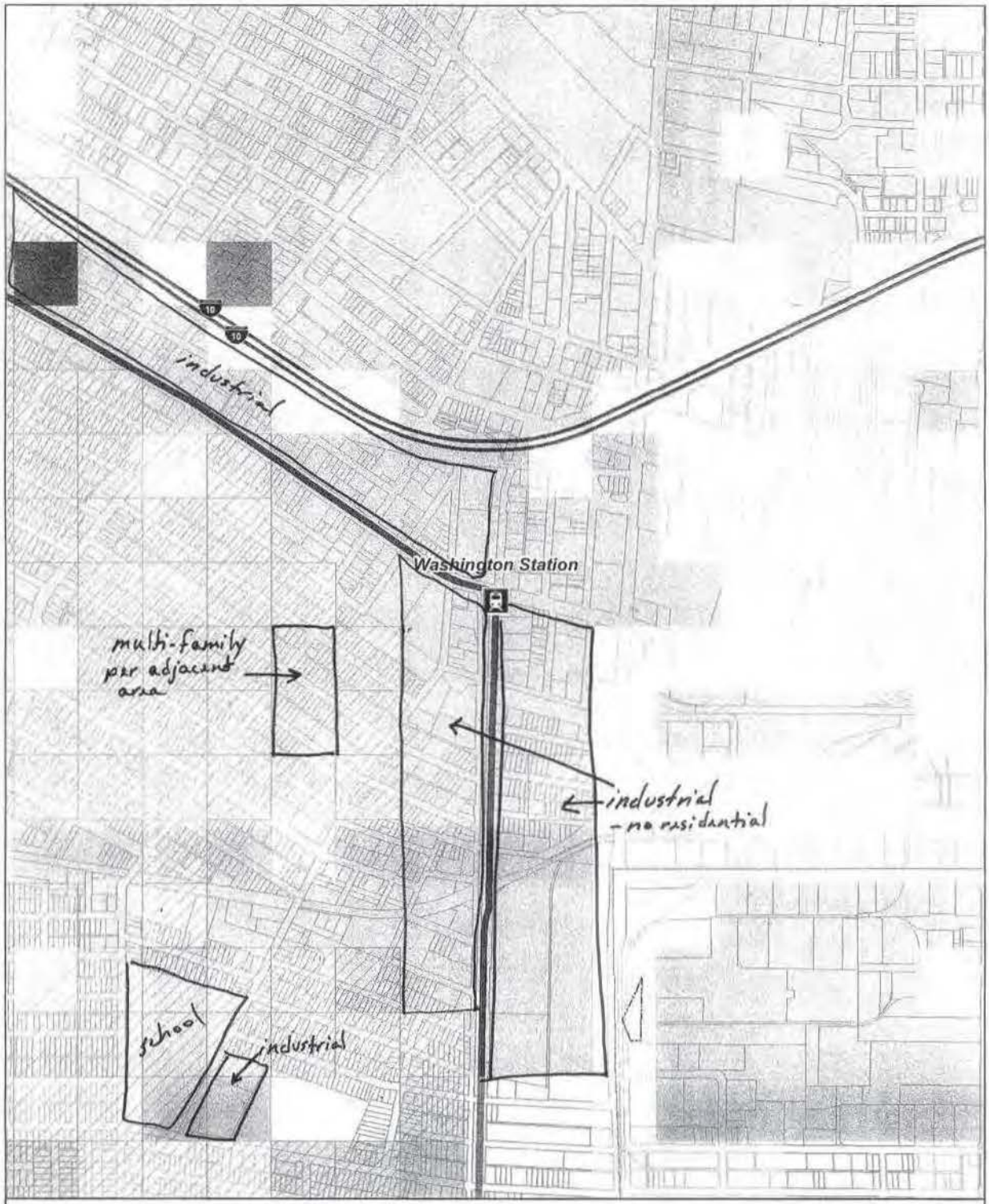


Scenario is based on local input received by June 2011.

Washington Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



CEQA Streamlining Avail.
Urban Core Res High Mix
City Res High Mix
Town Res High Mix
Neighborhood Res High Mix
Suburban Res High Mix
Urban Core Emp High Mix
City Emp High Mix
Town Emp High Mix
Neighborhood Emp High Mix
Suburban Emp High Mix
Urban Core Res Low Mix
City Res Low Mix
Town Res Low Mix
Neighborhood Res Low Mix
Suburban Res Low Mix
Urban Core Emp Low Mix
City Emp Low Mix
Town Emp Low Mix
Neighborhood Retail Low Mix
Suburban Retail Low Mix
Neighborhood Office Low Mix
Suburban Office Low Mix
Suburban Industrial Low Mix
Rural Low Mix

0 250 500 1,000 Feet

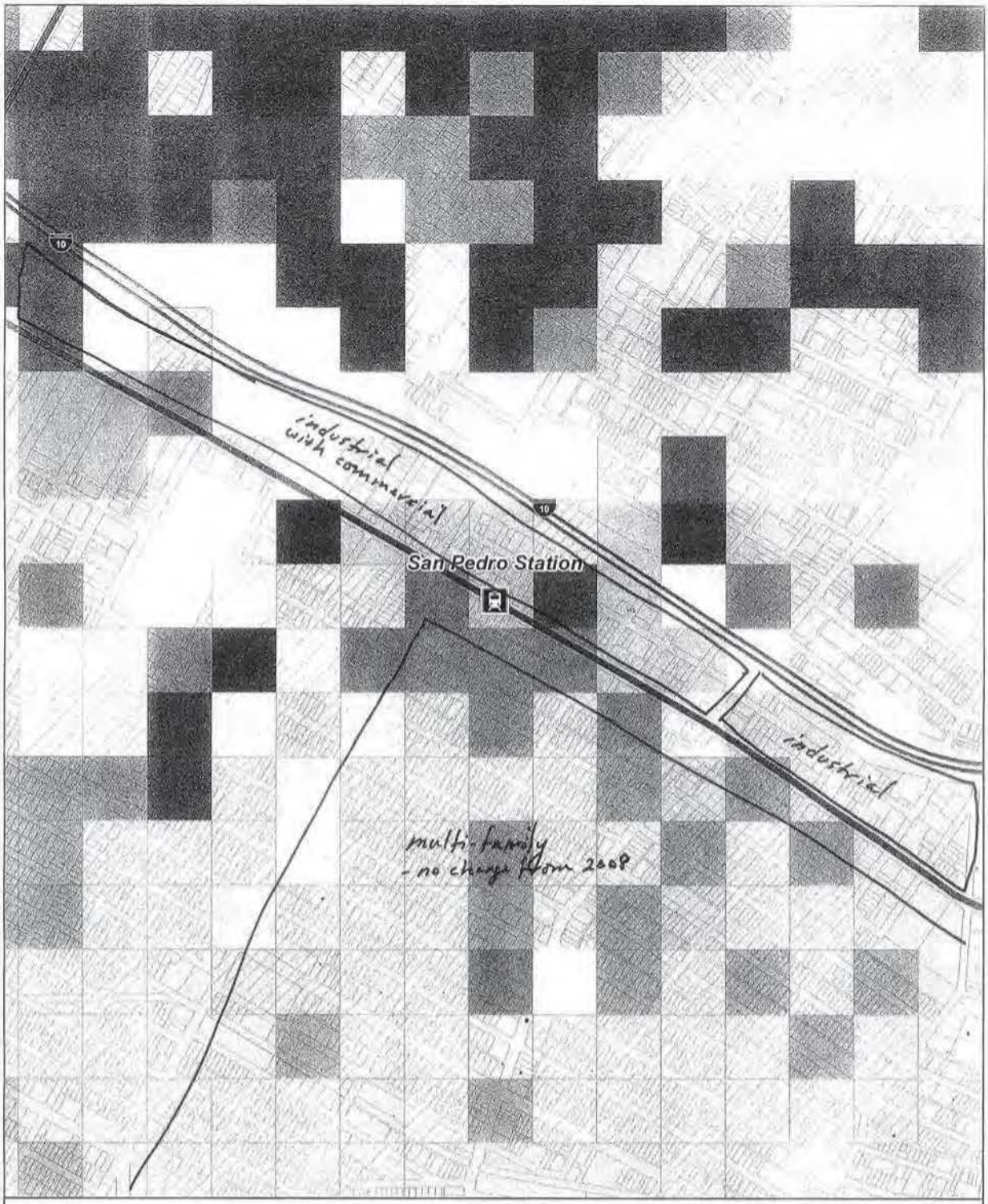
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Scenario is based on local input received by June 2011.

Washington Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

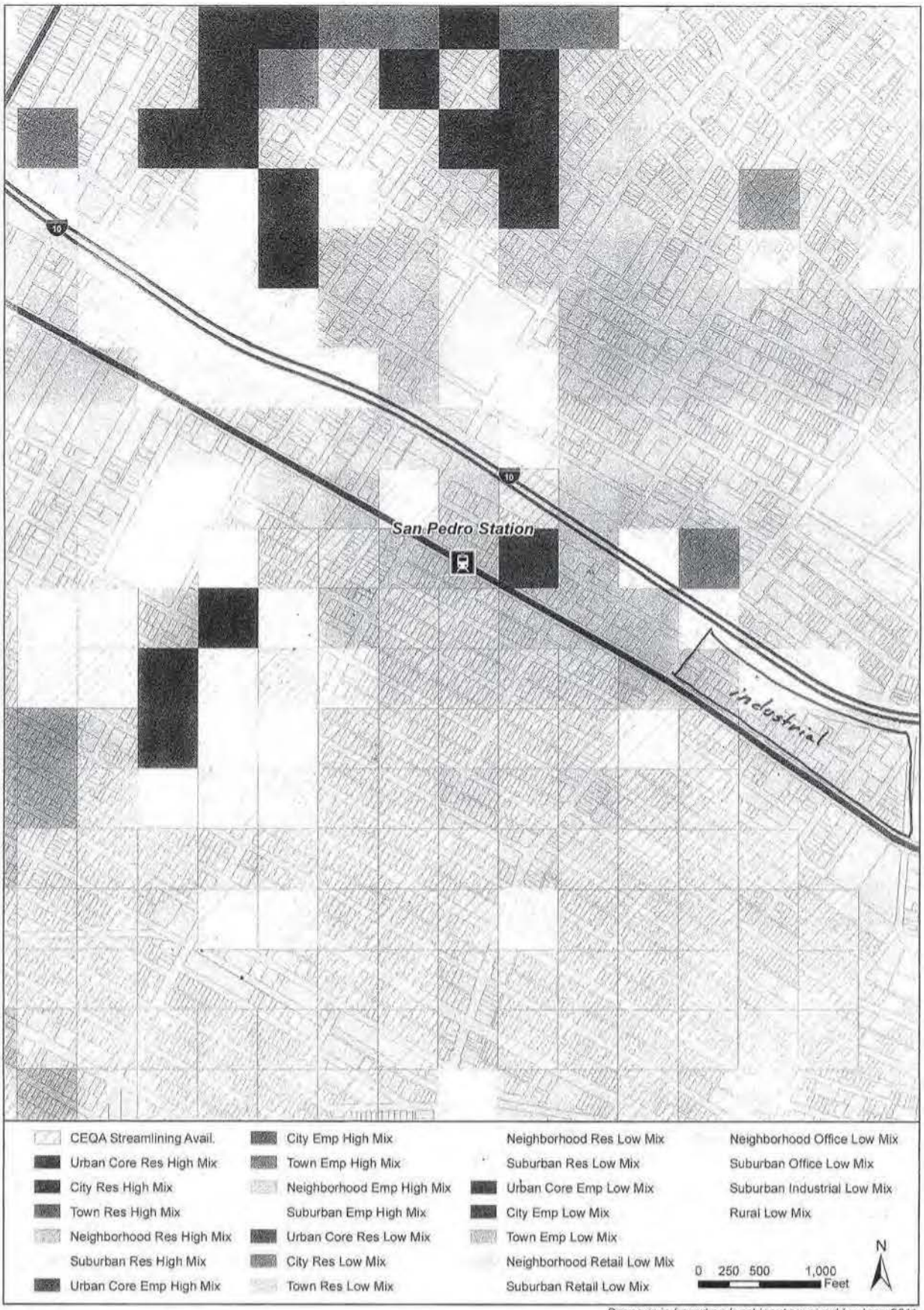


Scenario is based on local input received by June 2011.

San Pedro Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

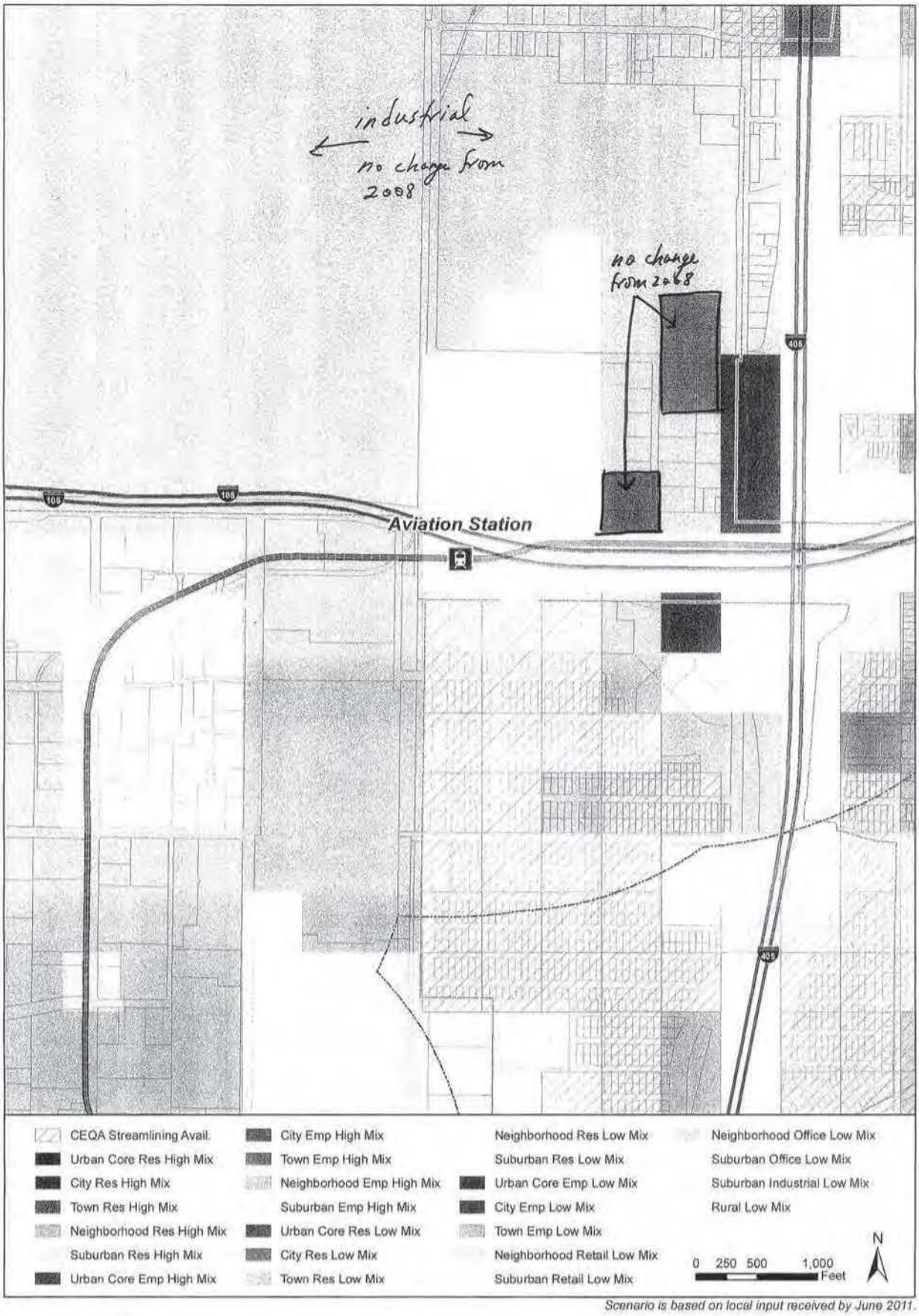


Scenario is based on local input received by June 2011.

San Pedro Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

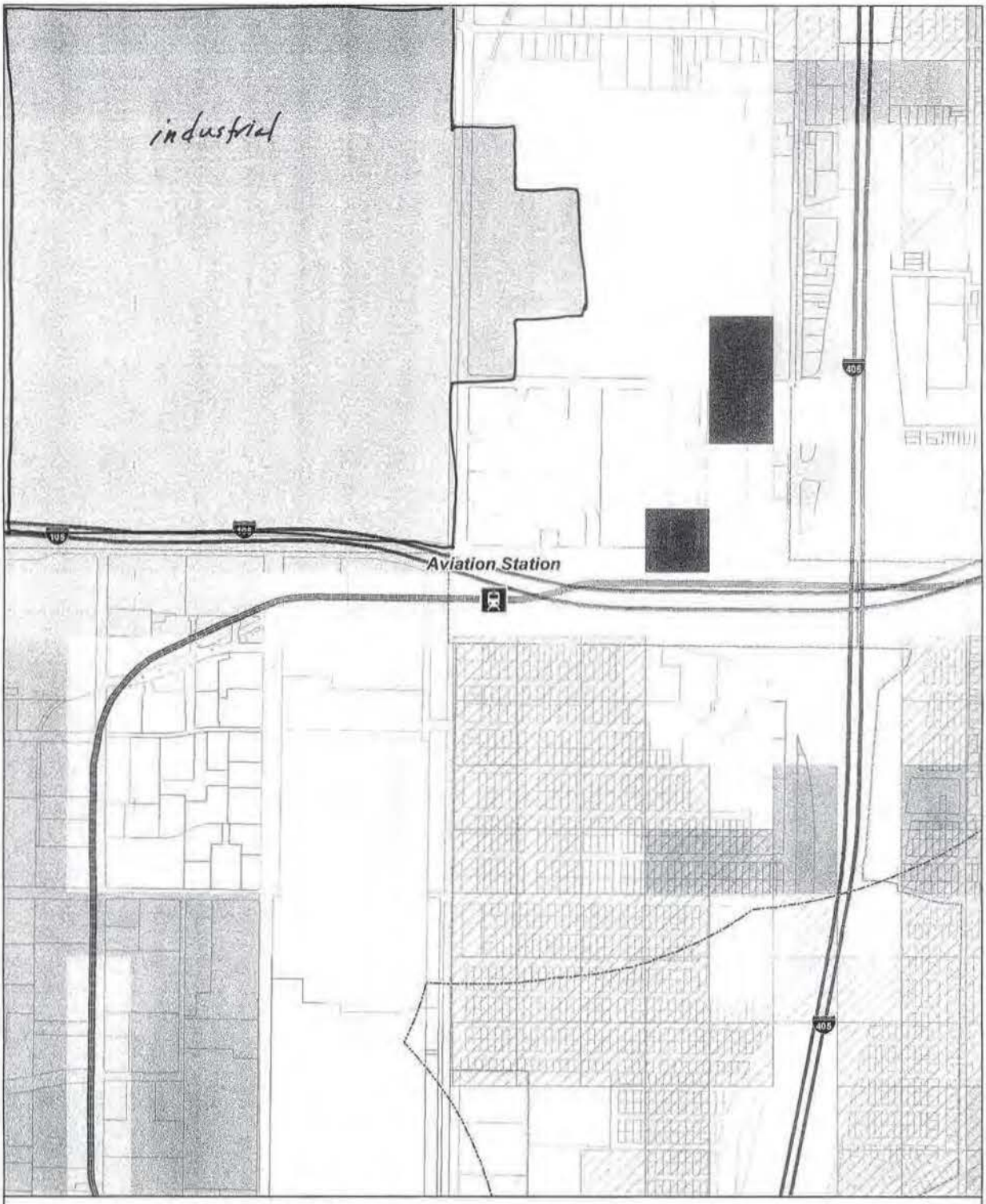


Scenario is based on local input received by June 2011.

Aviation Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

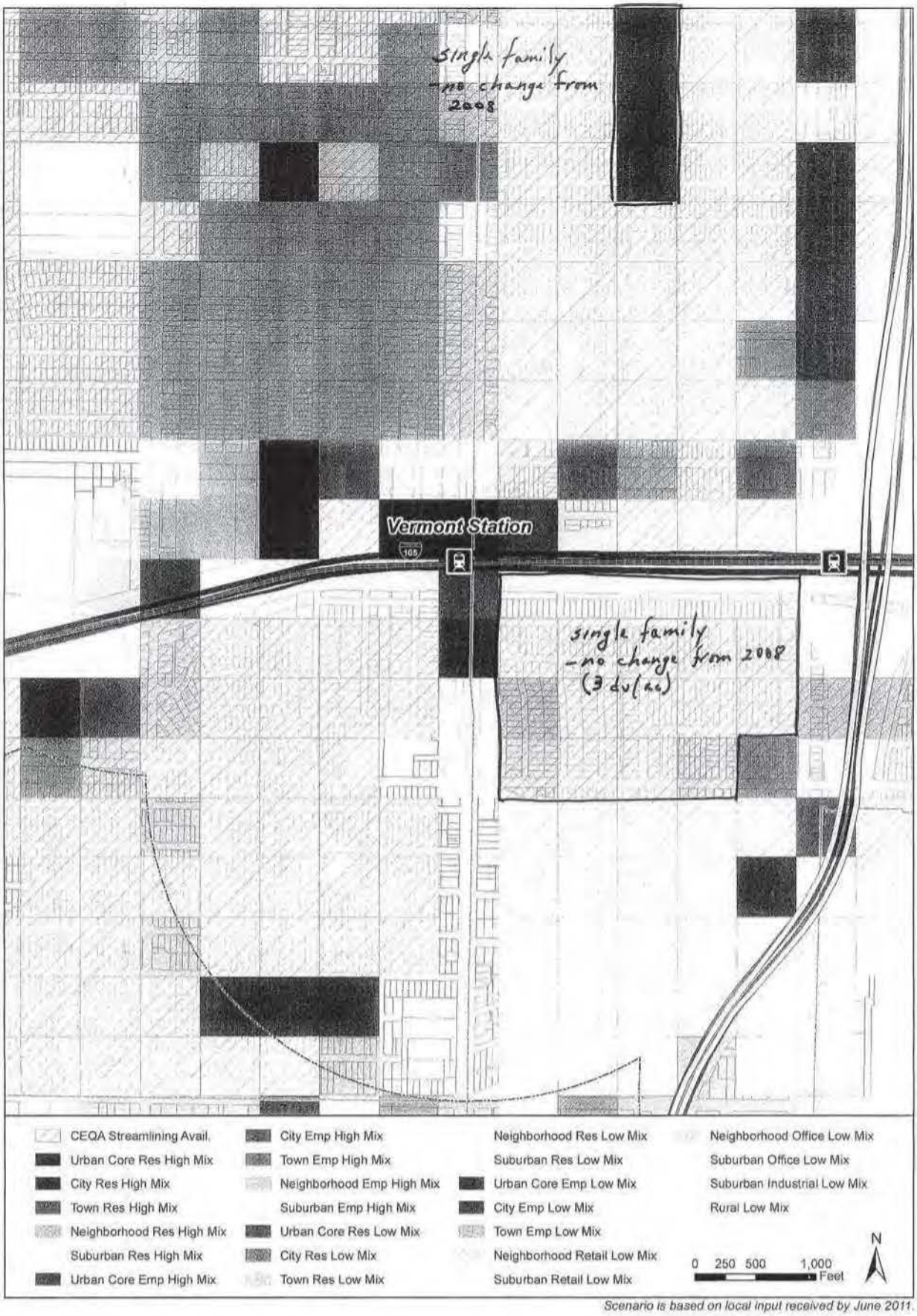


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Aviation Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

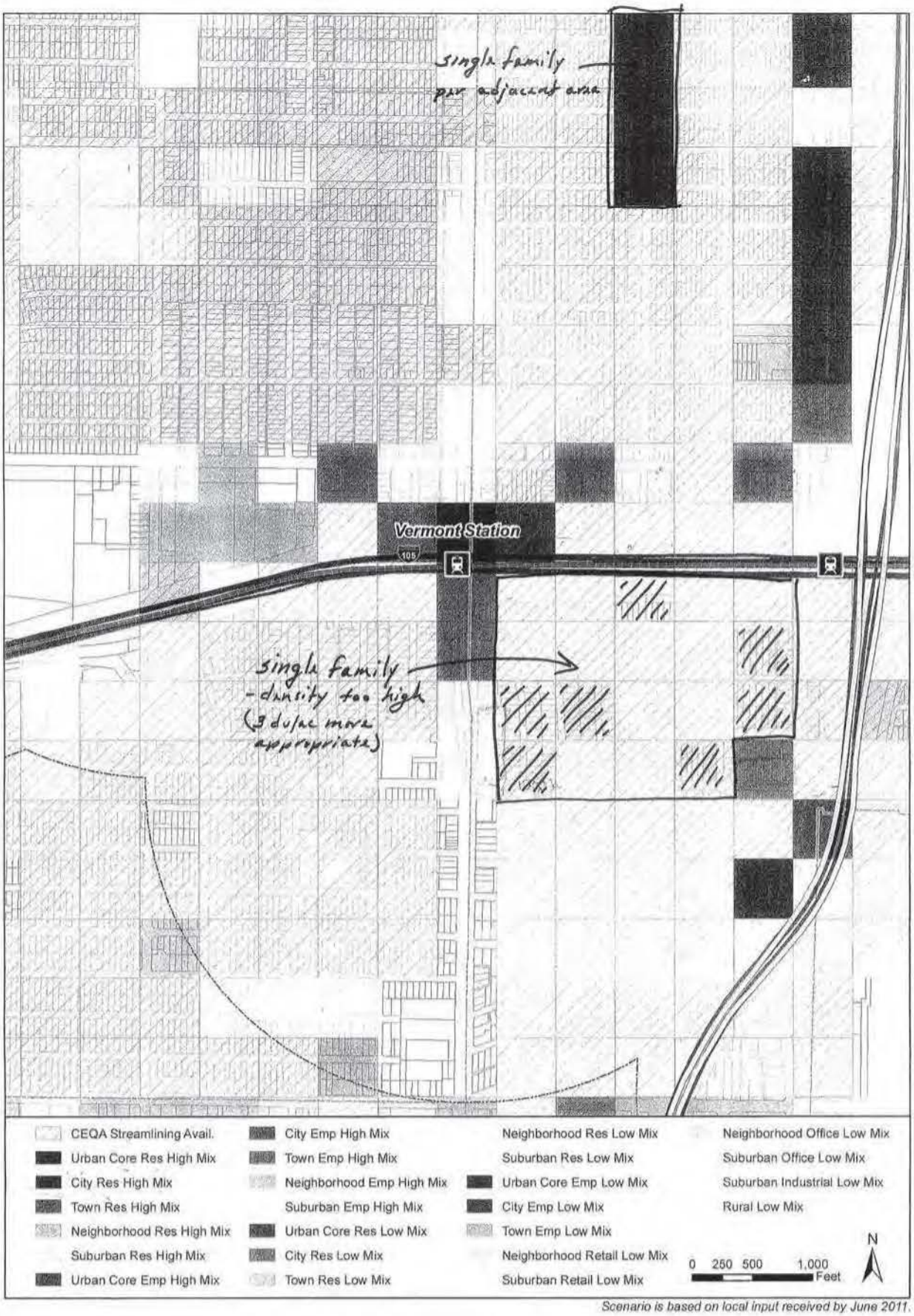


Scenario is based on local input received by June 2011.

Vermont Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

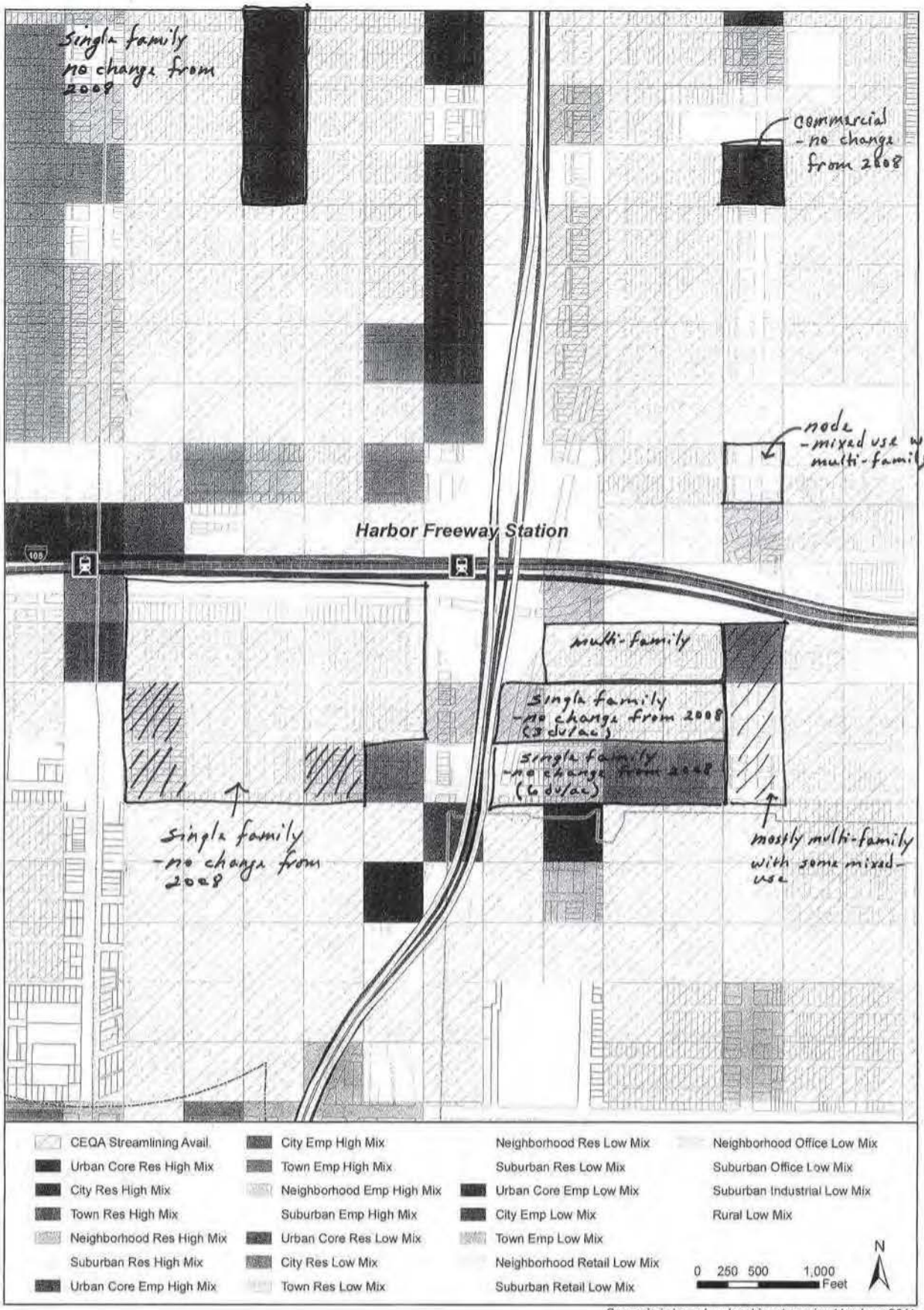


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Vermont Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

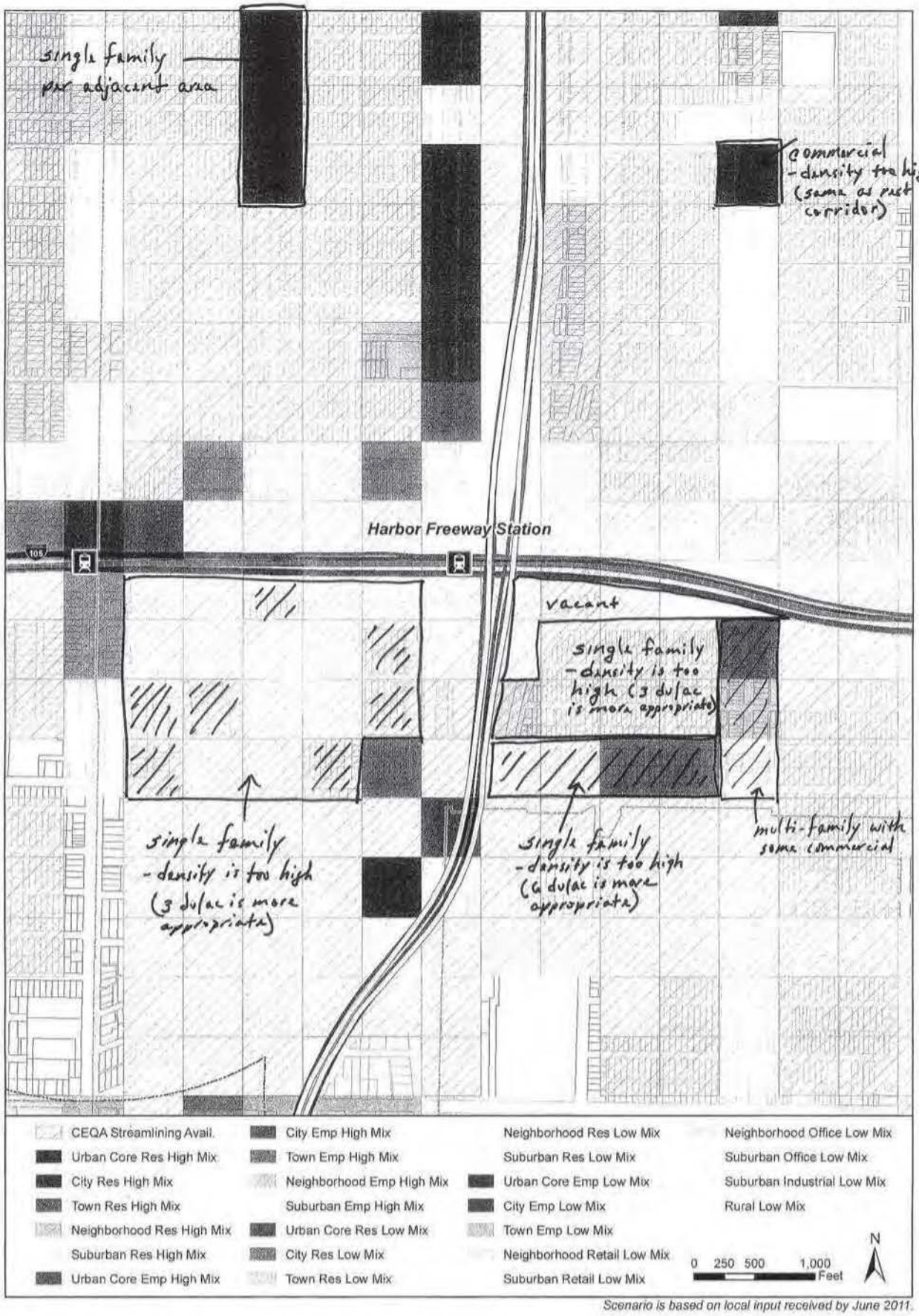


Scenario is based on local input received by June 2011.

Harbor Freeway Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

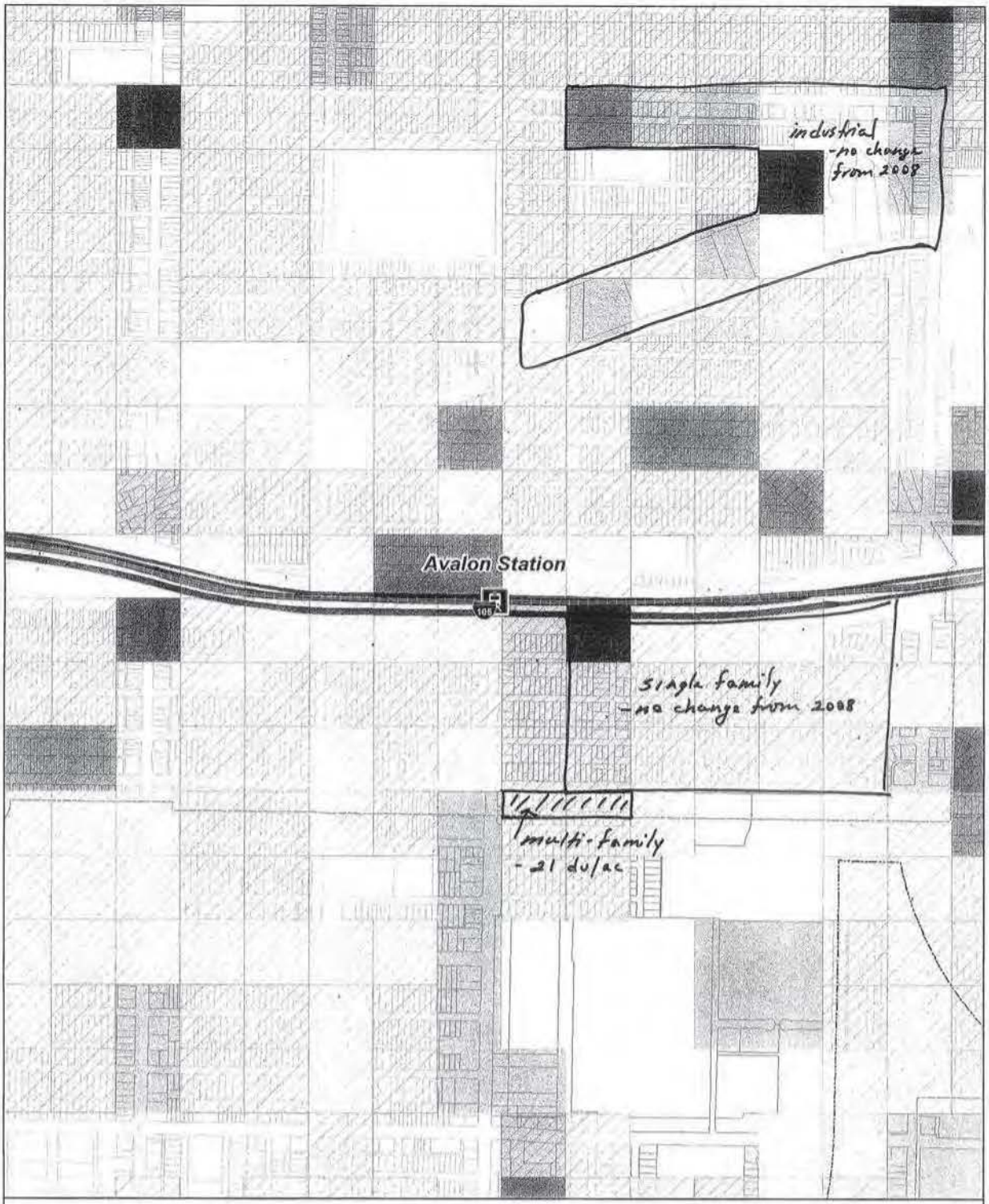


Scenario is based on local input received by June 2011.

Harbor Freeway Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



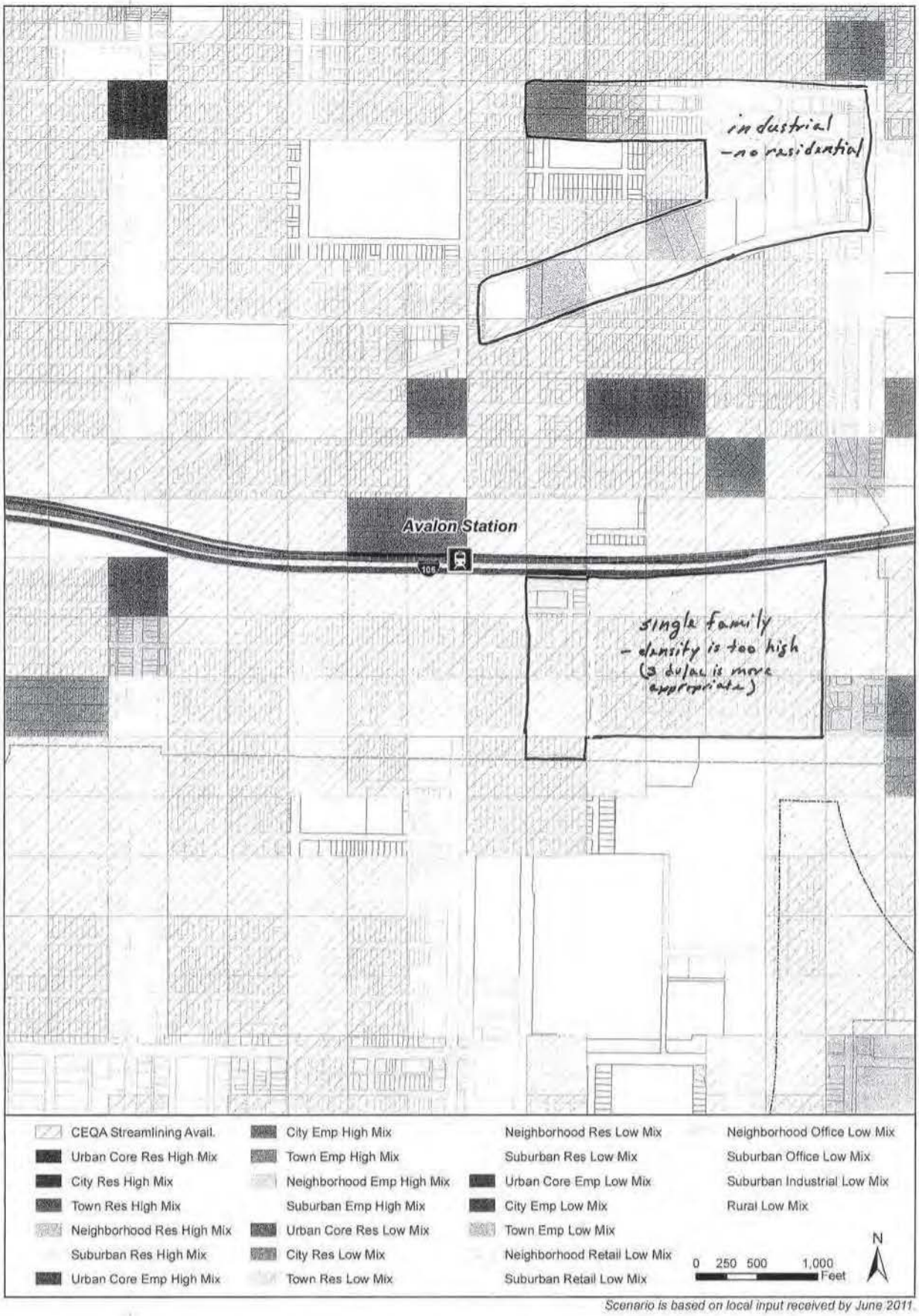
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Avalon Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

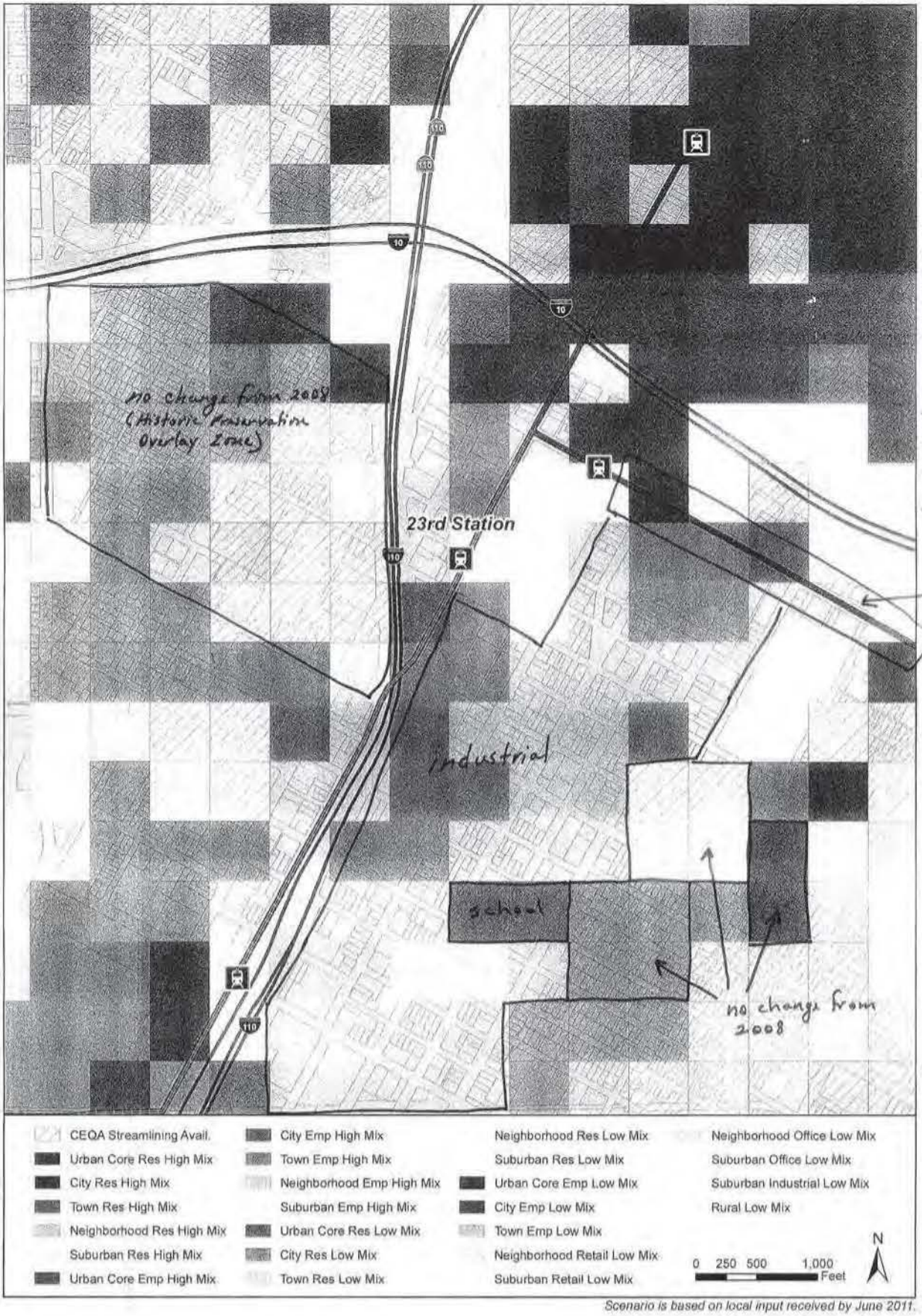


Scenario is based on local input received by June 2011

Avalon Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

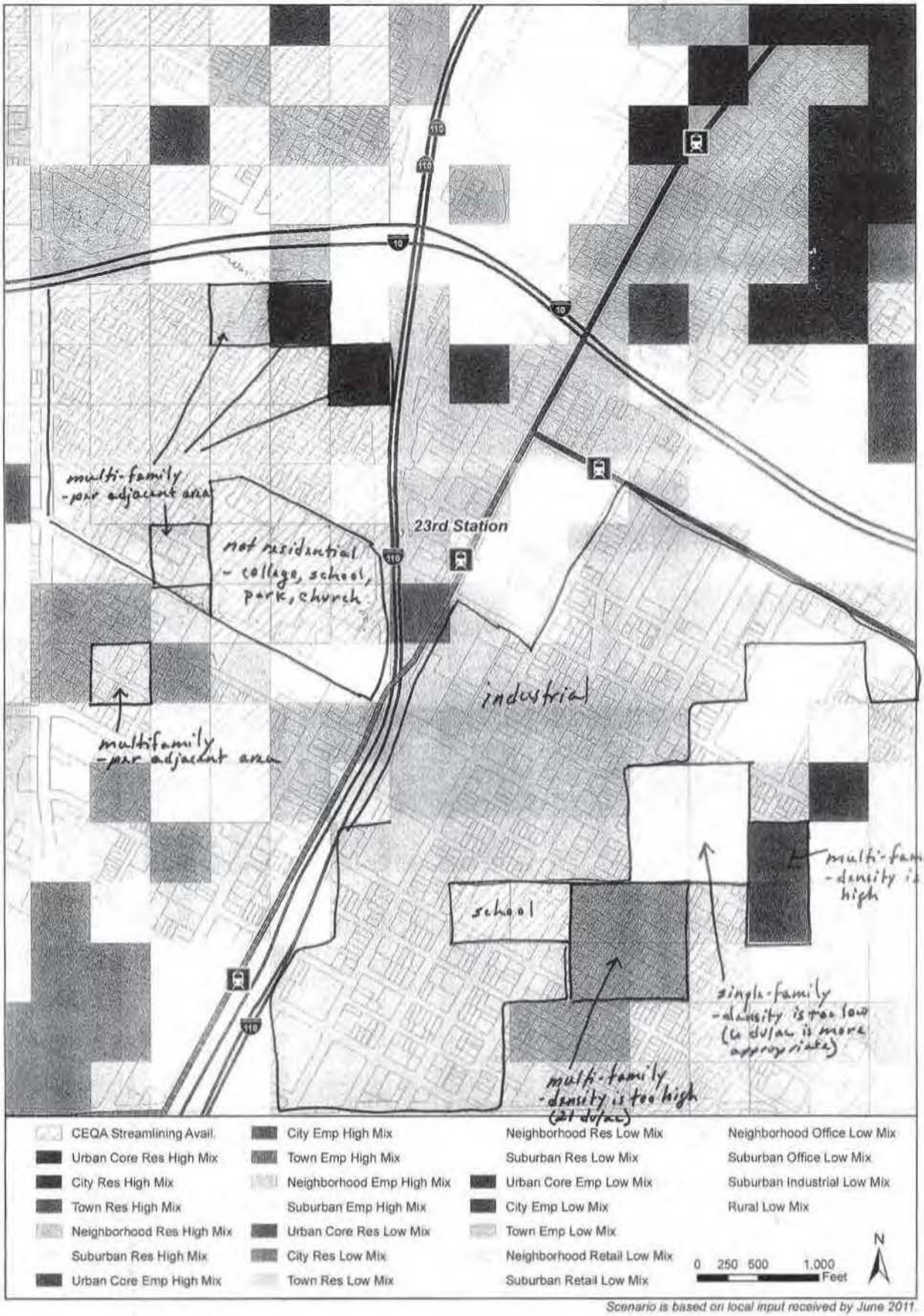


Scenario is based on local input received by June 2011.

23rd Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



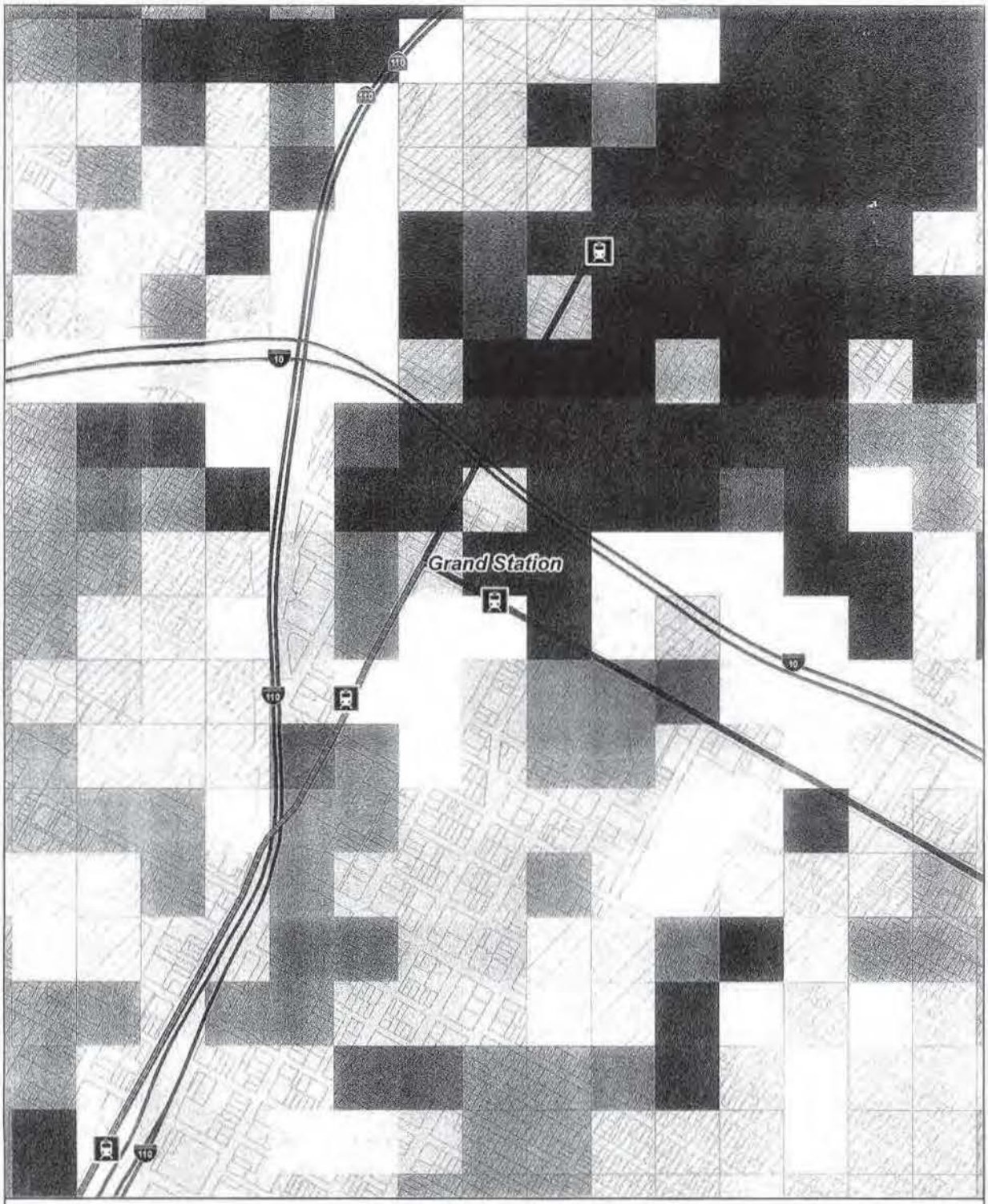
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23rd Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

See 23rd Station area



CEQA Streamlining Avail.
Urban Core Res High Mix
City Res High Mix
Town Res High Mix
Neighborhood Res High Mix
Suburban Res High Mix
Urban Core Emp High Mix
City Emp High Mix
Town Emp High Mix
Neighborhood Emp High Mix
Suburban Emp High Mix
Urban Core Res Low Mix
City Res Low Mix
Town Res Low Mix
Neighborhood Res Low Mix
Suburban Res Low Mix
Urban Core Emp Low Mix
City Emp Low Mix
Town Emp Low Mix
Neighborhood Retail Low Mix
Suburban Retail Low Mix
Neighborhood Office Low Mix
Suburban Office Low Mix
Suburban Industrial Low Mix
Rural Low Mix

0 250 500 1,000 Feet

N

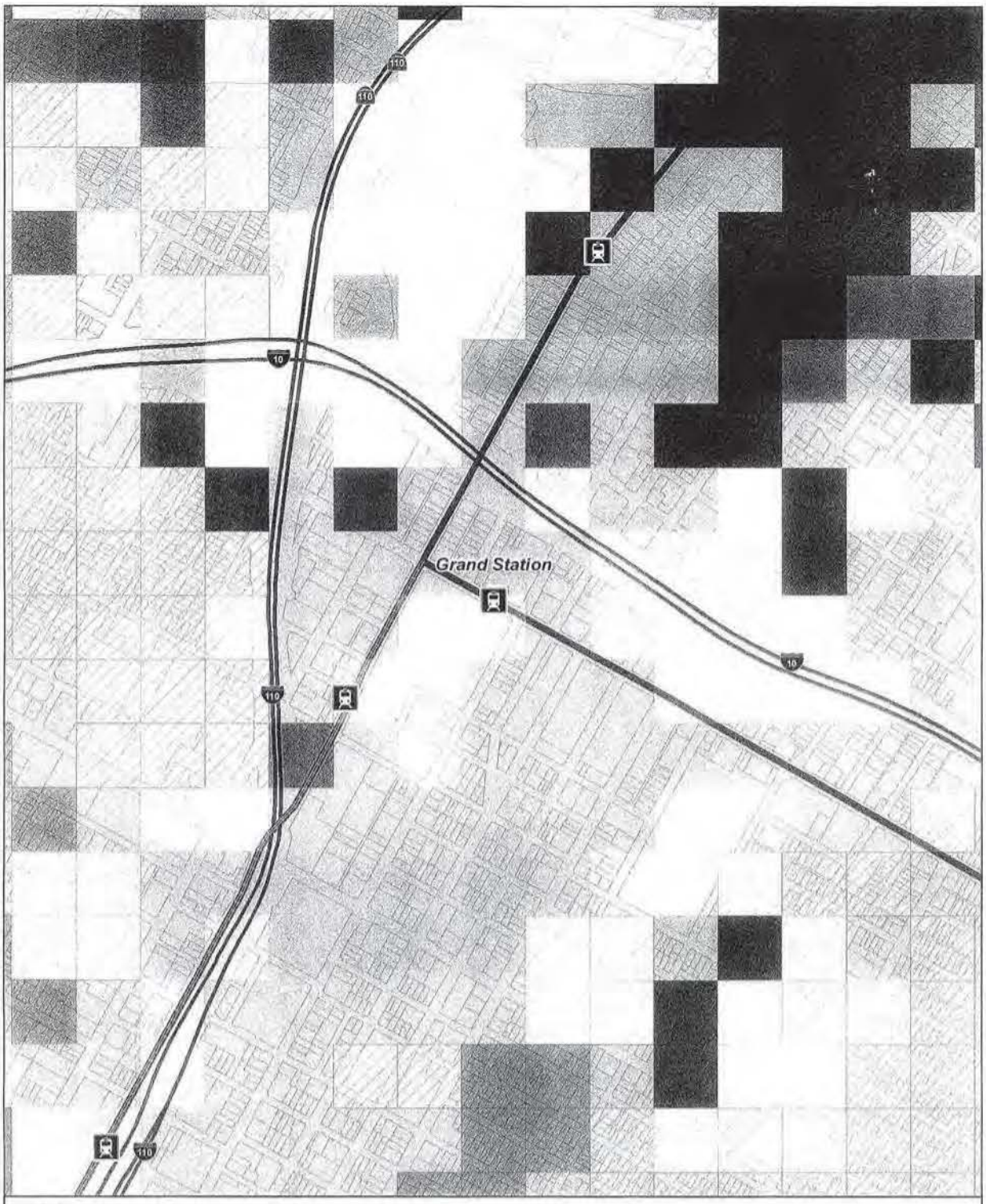
Scenario is based on local input received by June 2011.

Grand Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

See 23rd station area



CEQA Streamlining Avail.
Urban Core Res High Mix
City Res High Mix
Town Res High Mix
Neighborhood Res High Mix
Suburban Res High Mix
Urban Core Emp High Mix
City Emp High Mix
Town Emp High Mix
Neighborhood Emp High Mix
Suburban Emp High Mix
Urban Core Res Low Mix
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Town Res Low Mix
Neighborhood Res Low Mix
Suburban Res Low Mix
Urban Core Emp Low Mix
City Emp Low Mix
Town Emp Low Mix
Neighborhood Retail Low Mix
Suburban Retail Low Mix
Neighborhood Office Low Mix
Suburban Office Low Mix
Suburban Industrial Low Mix
Rural Low Mix

0 250 500 1,000 Feet

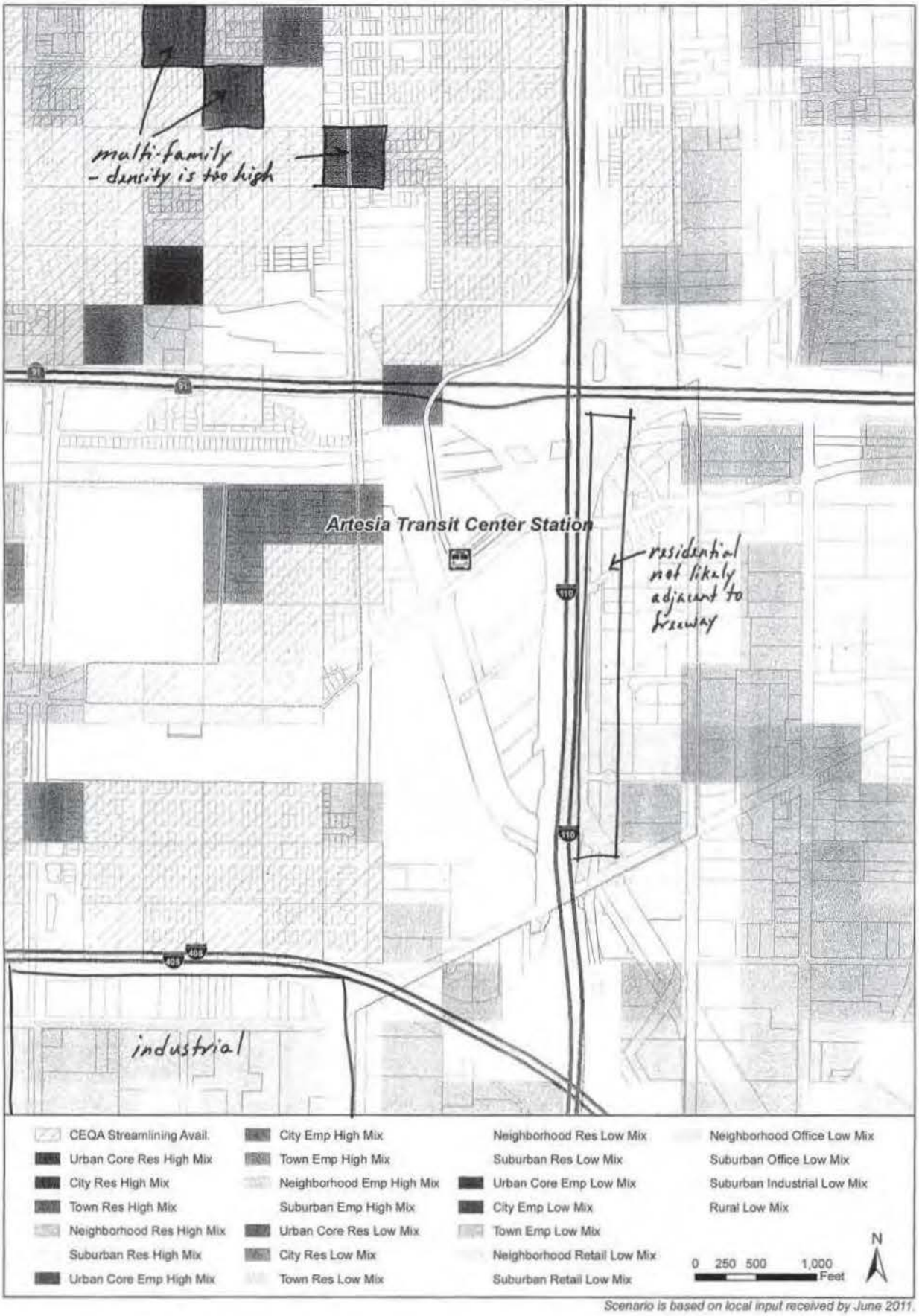
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Scenario is based on local input received by June 2011.

Grand Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



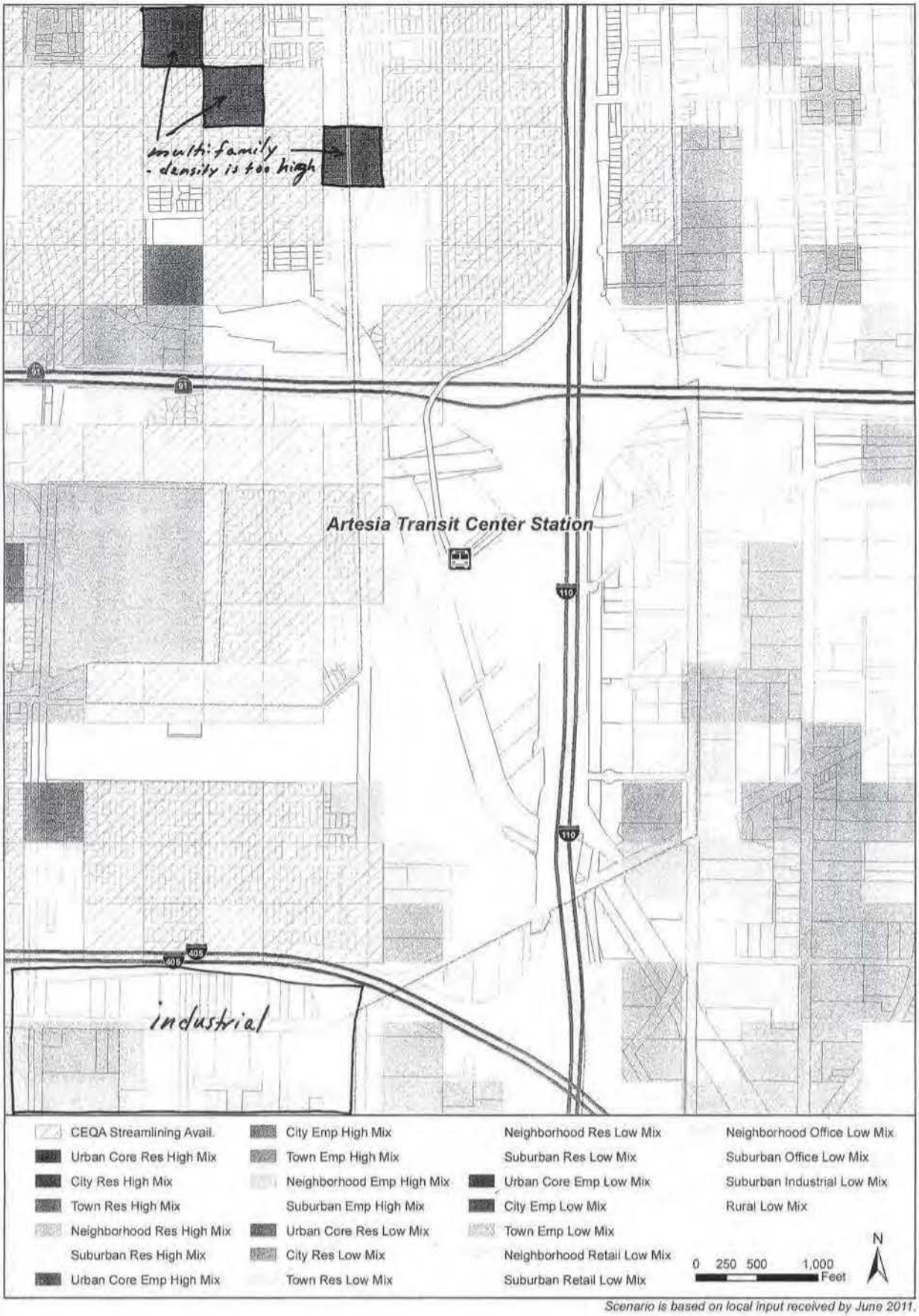
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Artesia Transit Center Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

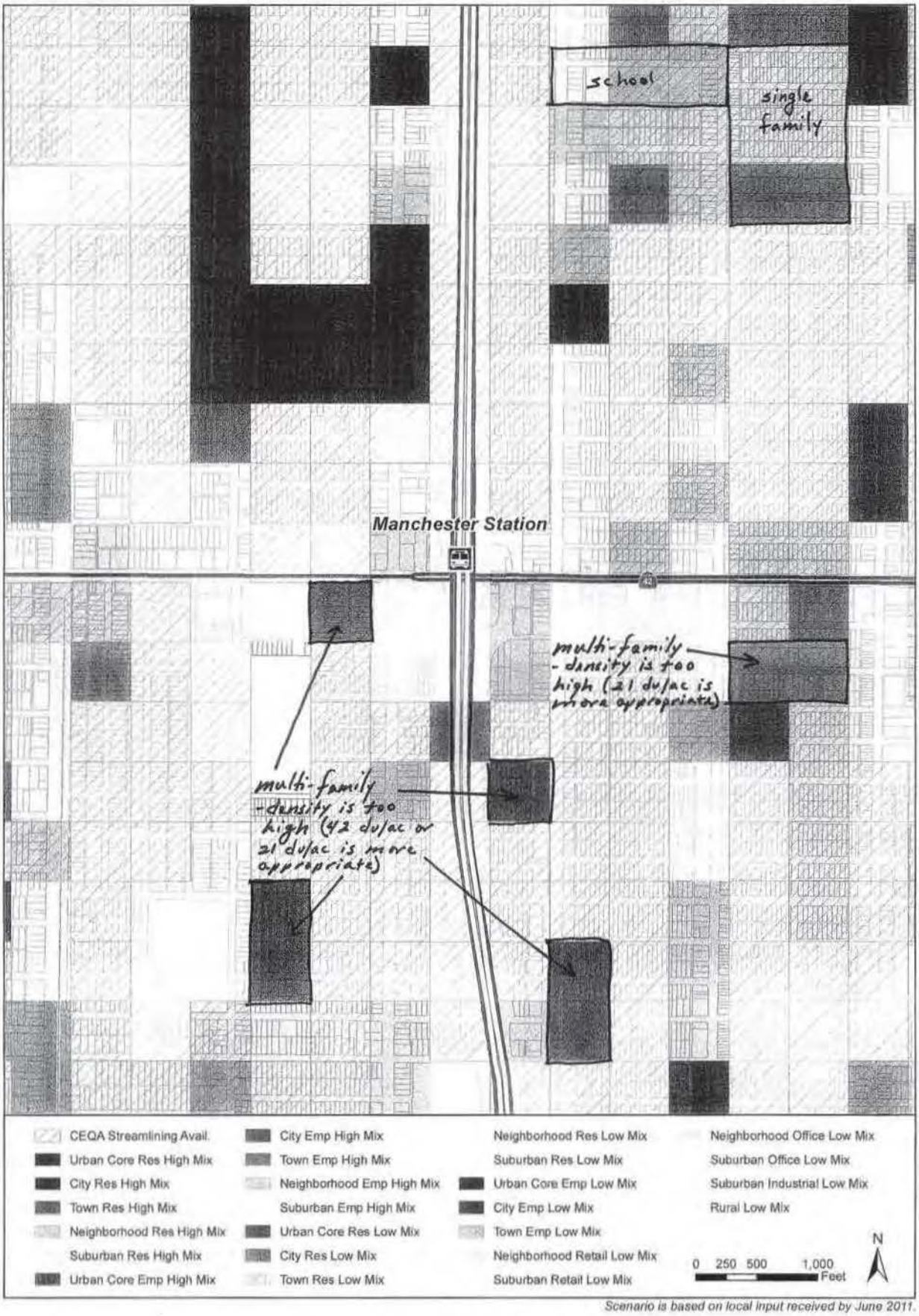


Scenario is based on local input received by June 2011.

Artesia Transit Center Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

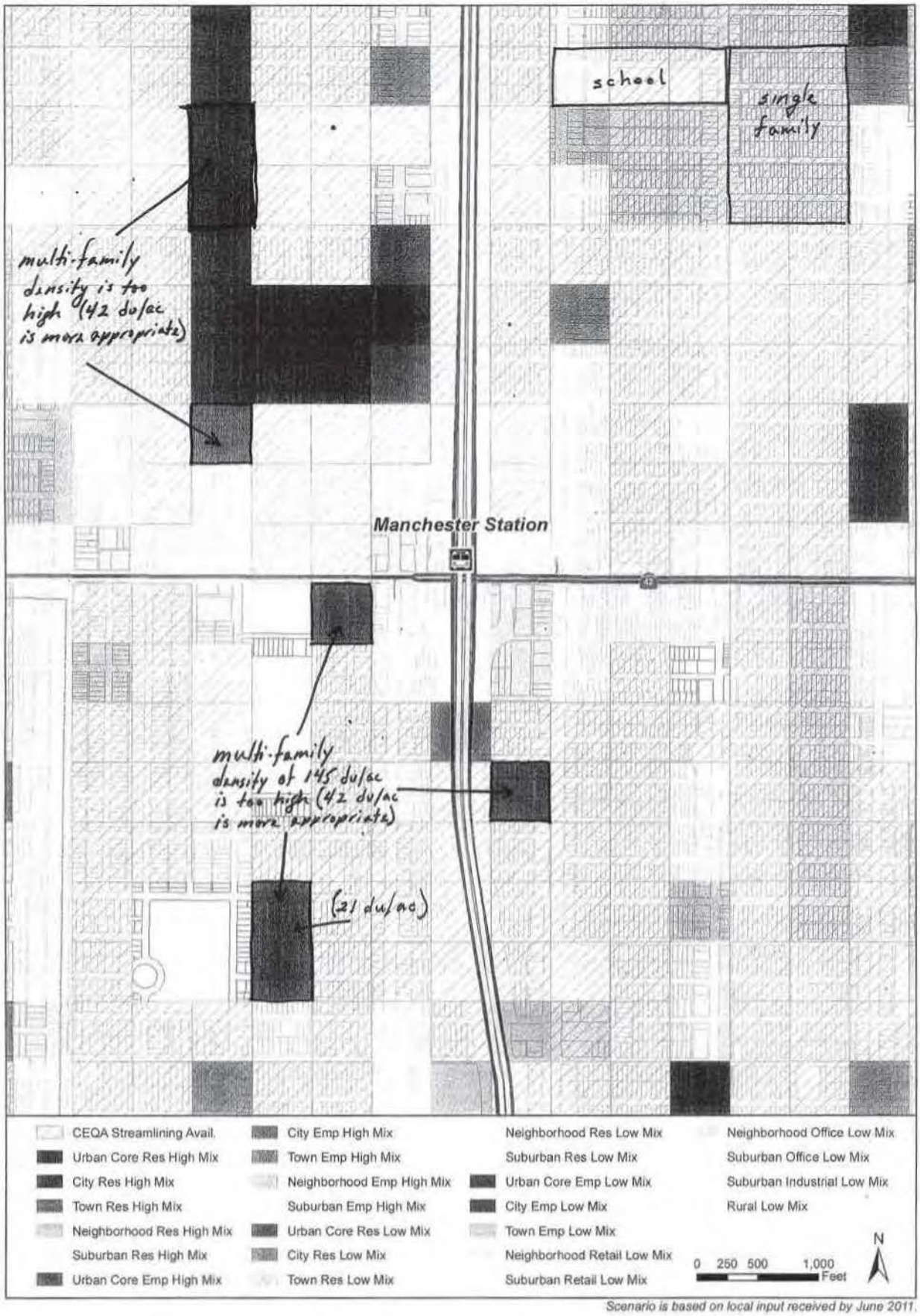


Scenario is based on local input received by June 2011.

Manchester Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

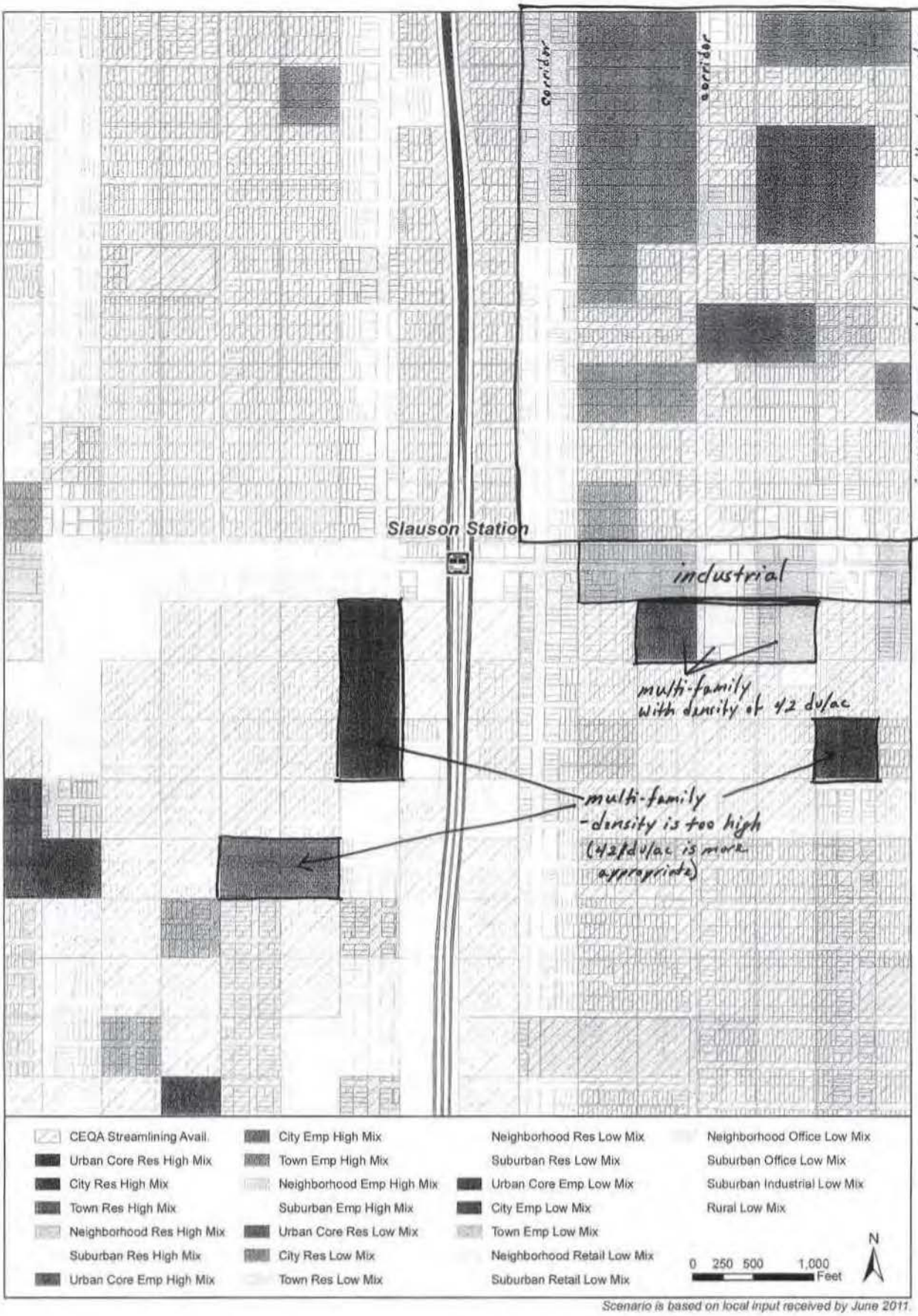


Scenario is based on local input received by June 2011.

Manchester Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

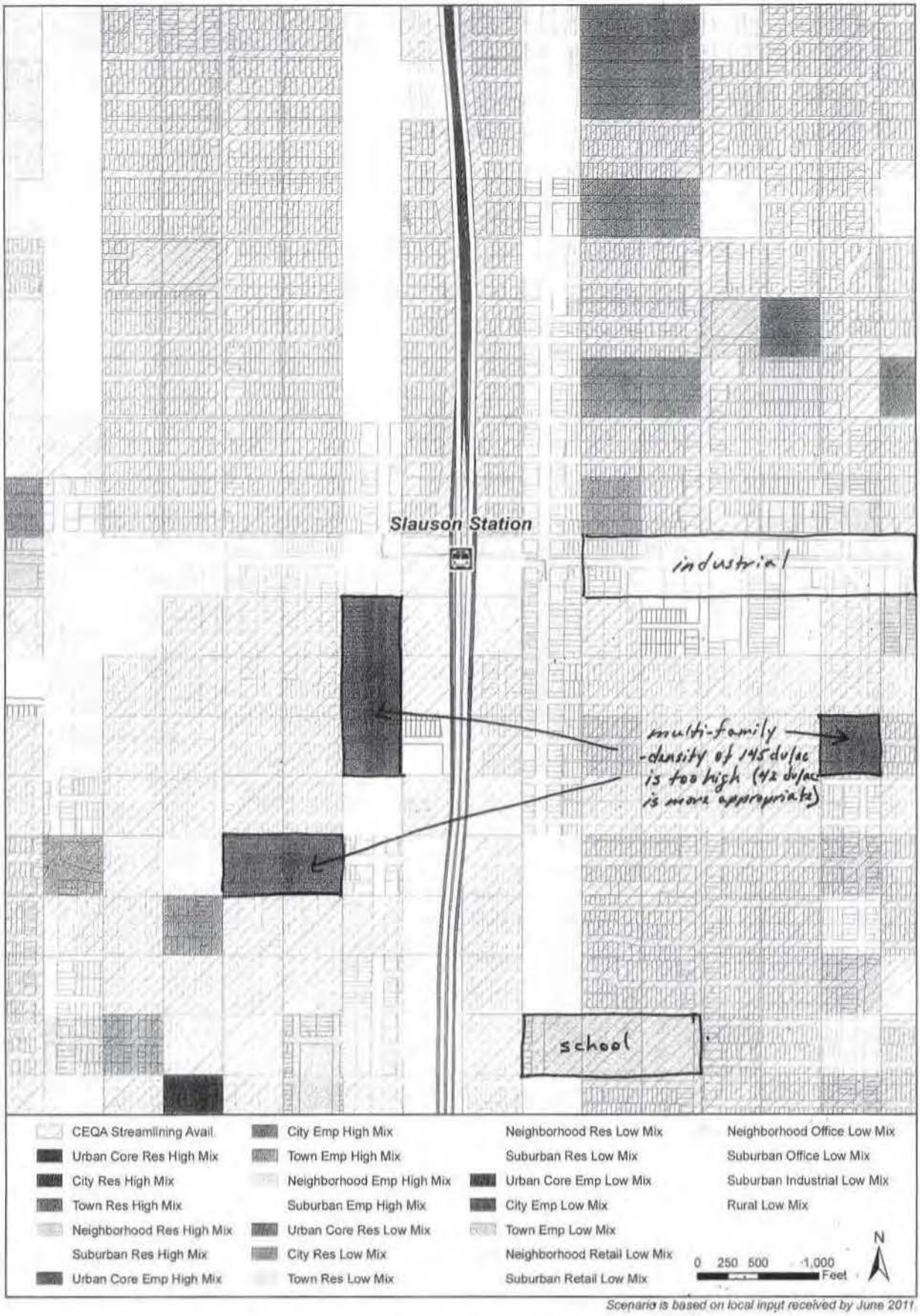


Scenario is based on local input received by June 2011

Slauson Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

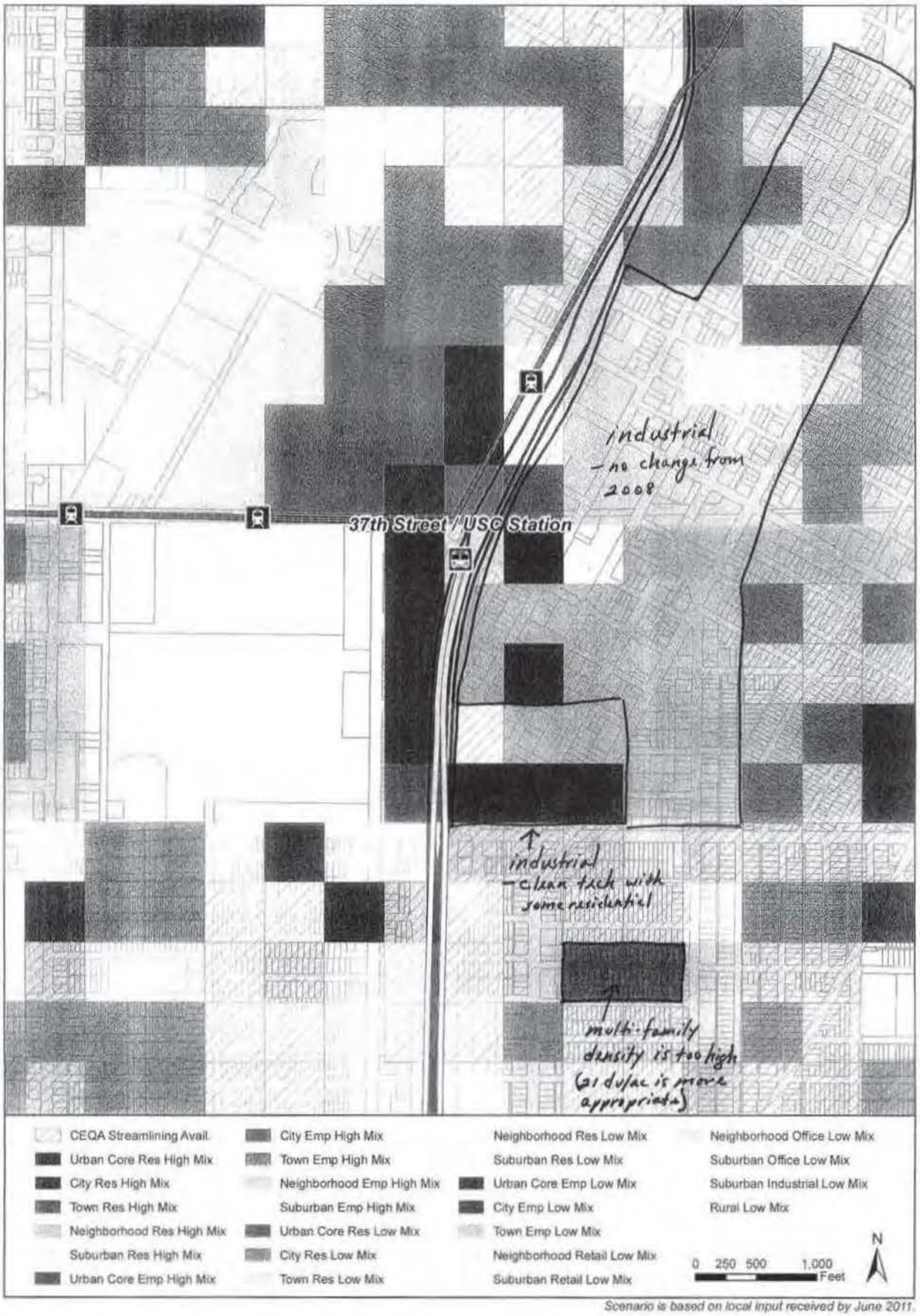


Scenario is based on local input received by June 2011

Slauson Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

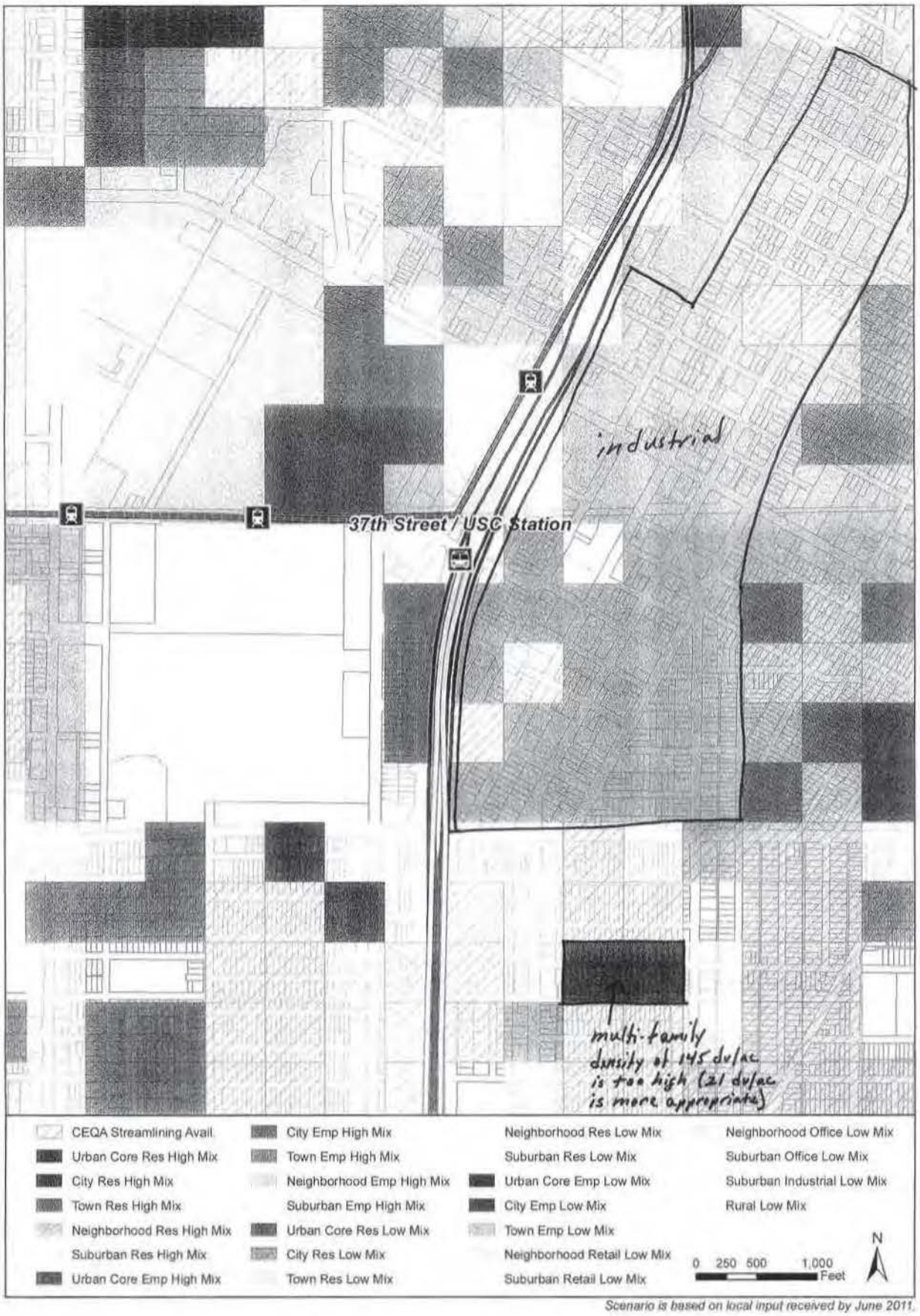


Scenario is based on local input received by June 2011.

37th Street / USC Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

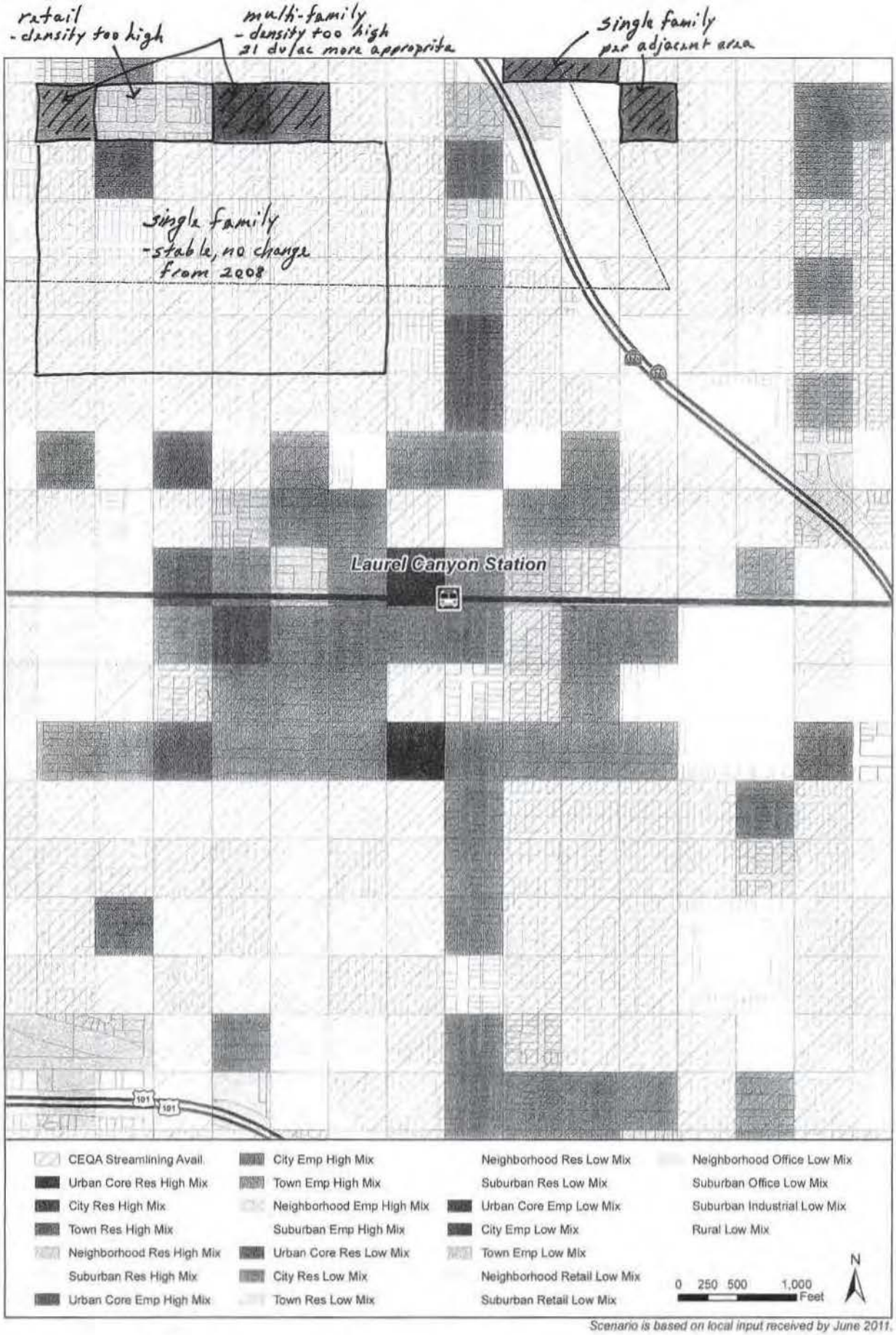


Scenario is based on local input received by June 2011.

37th Street / USC Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

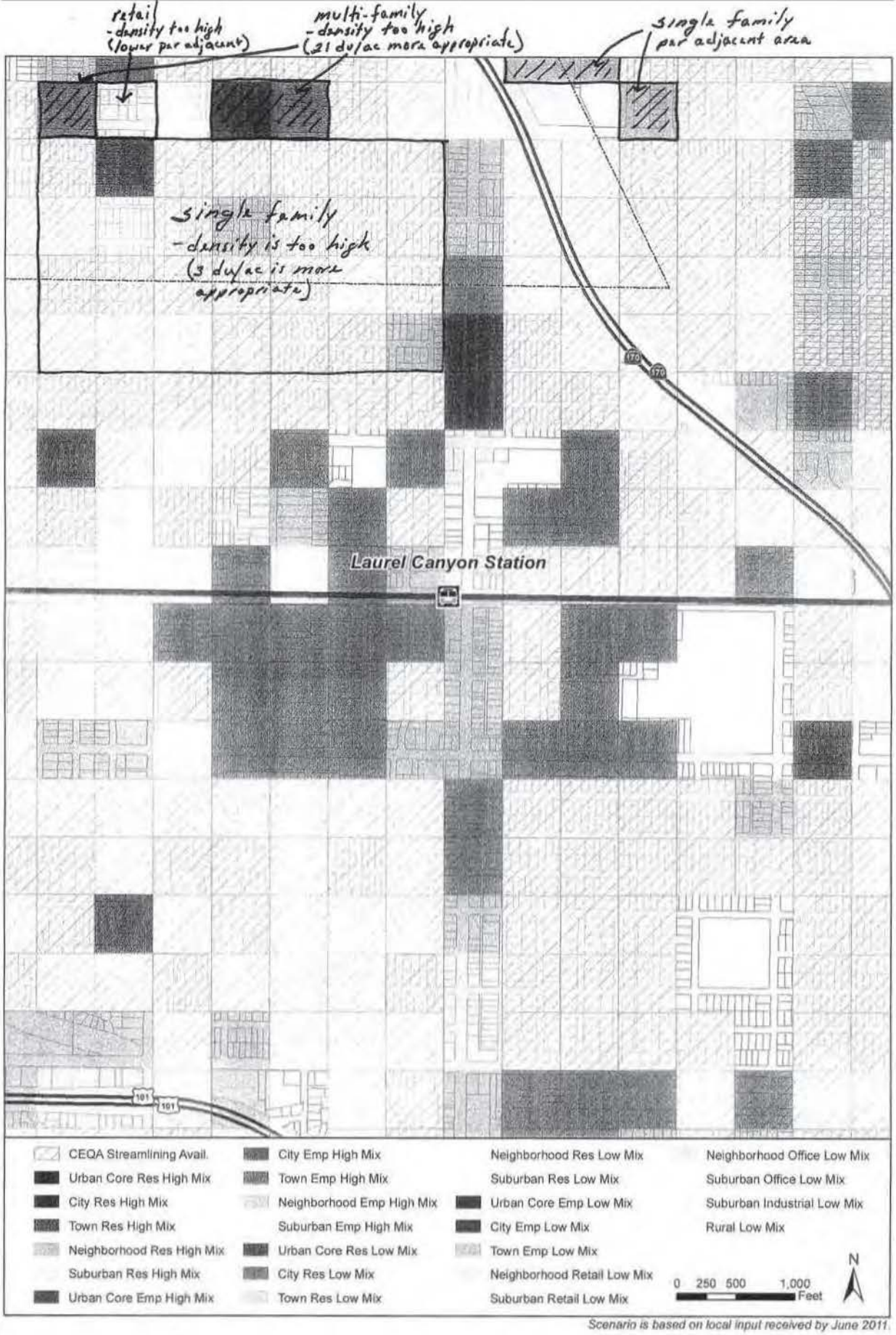


Scenario is based on local input received by June 2011.

Laurel Canyon Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

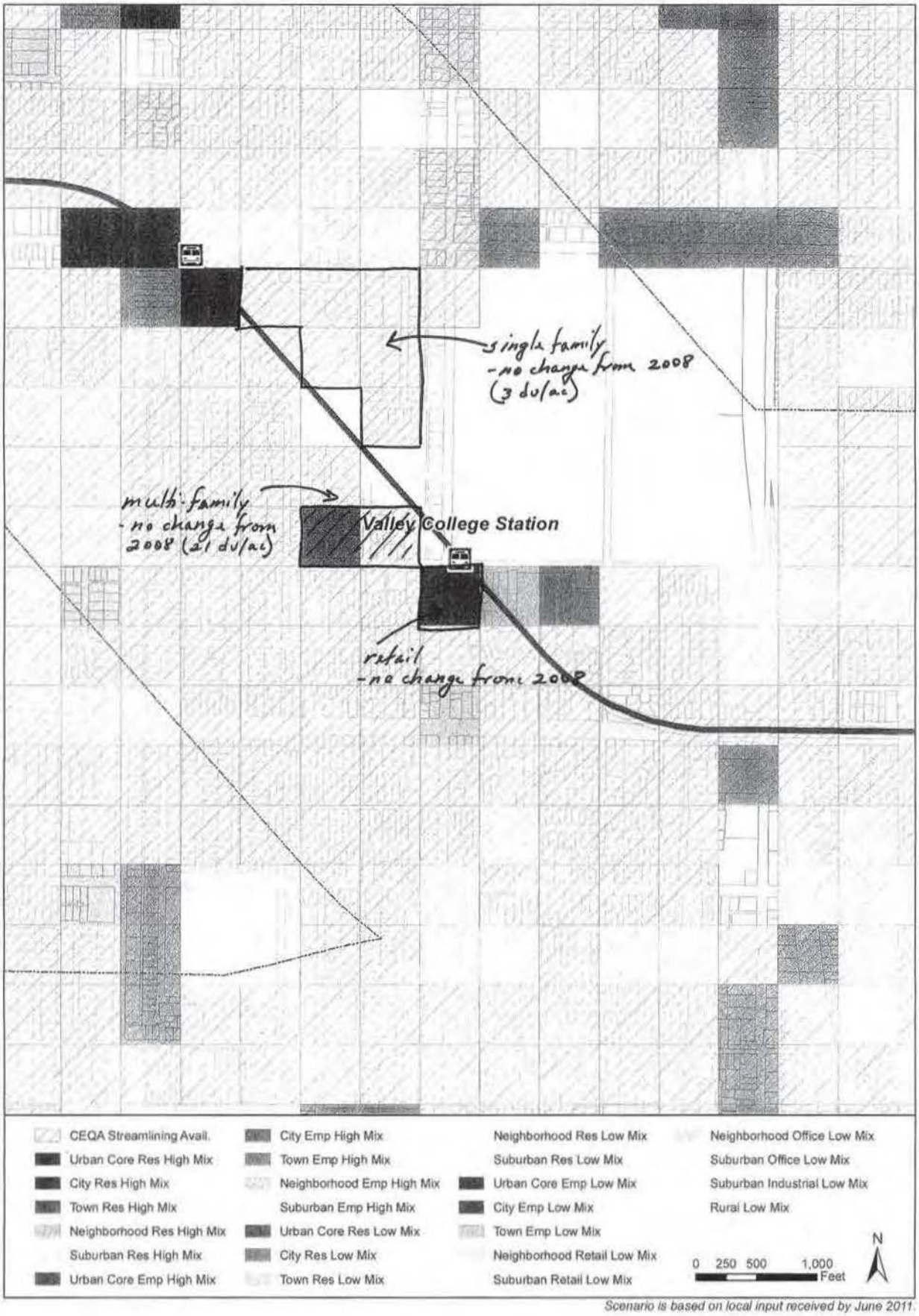


Scenario is based on local input received by June 2011.

Laurel Canyon Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

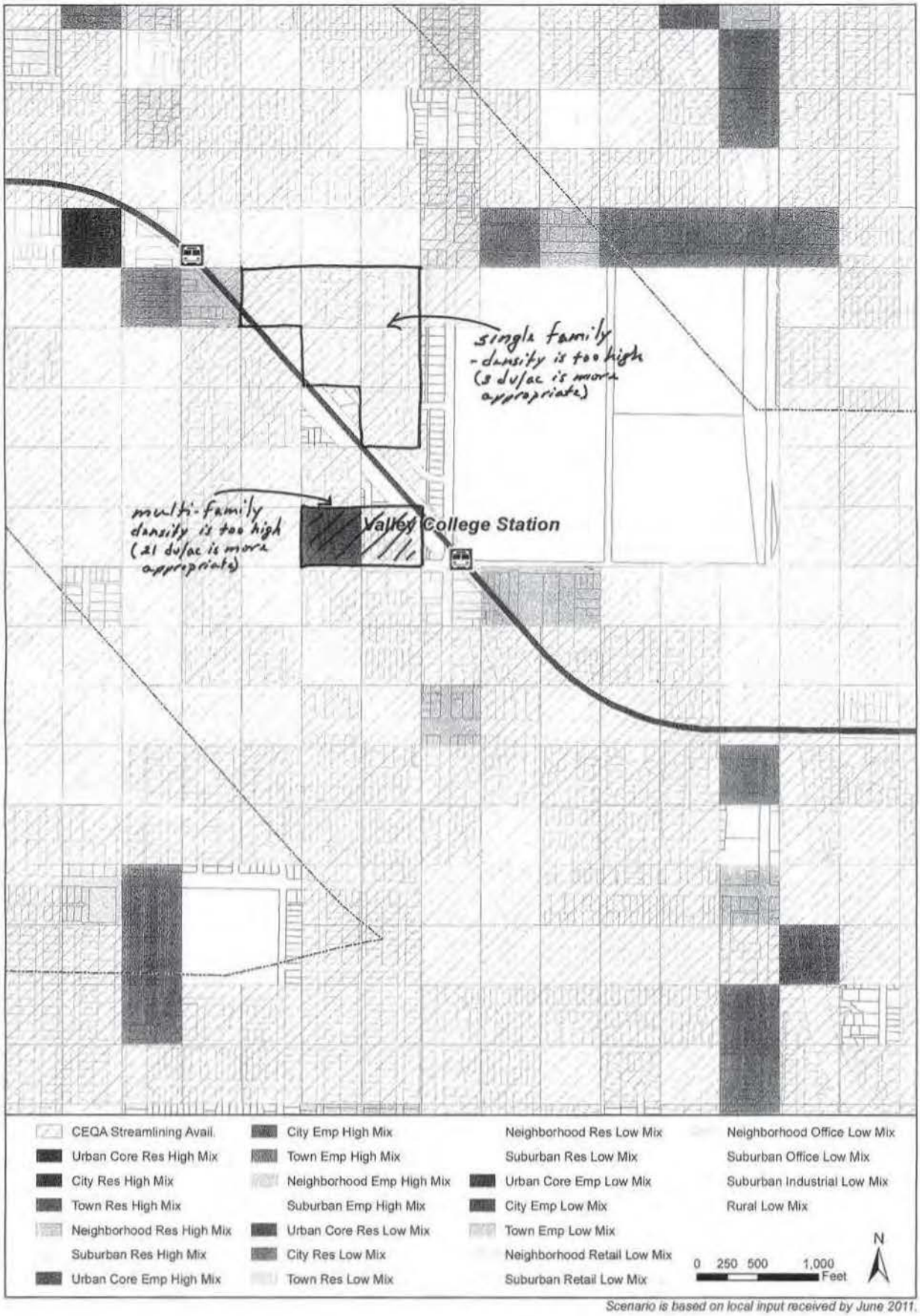


Scenario is based on local input received by June 2011.

Valley College Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

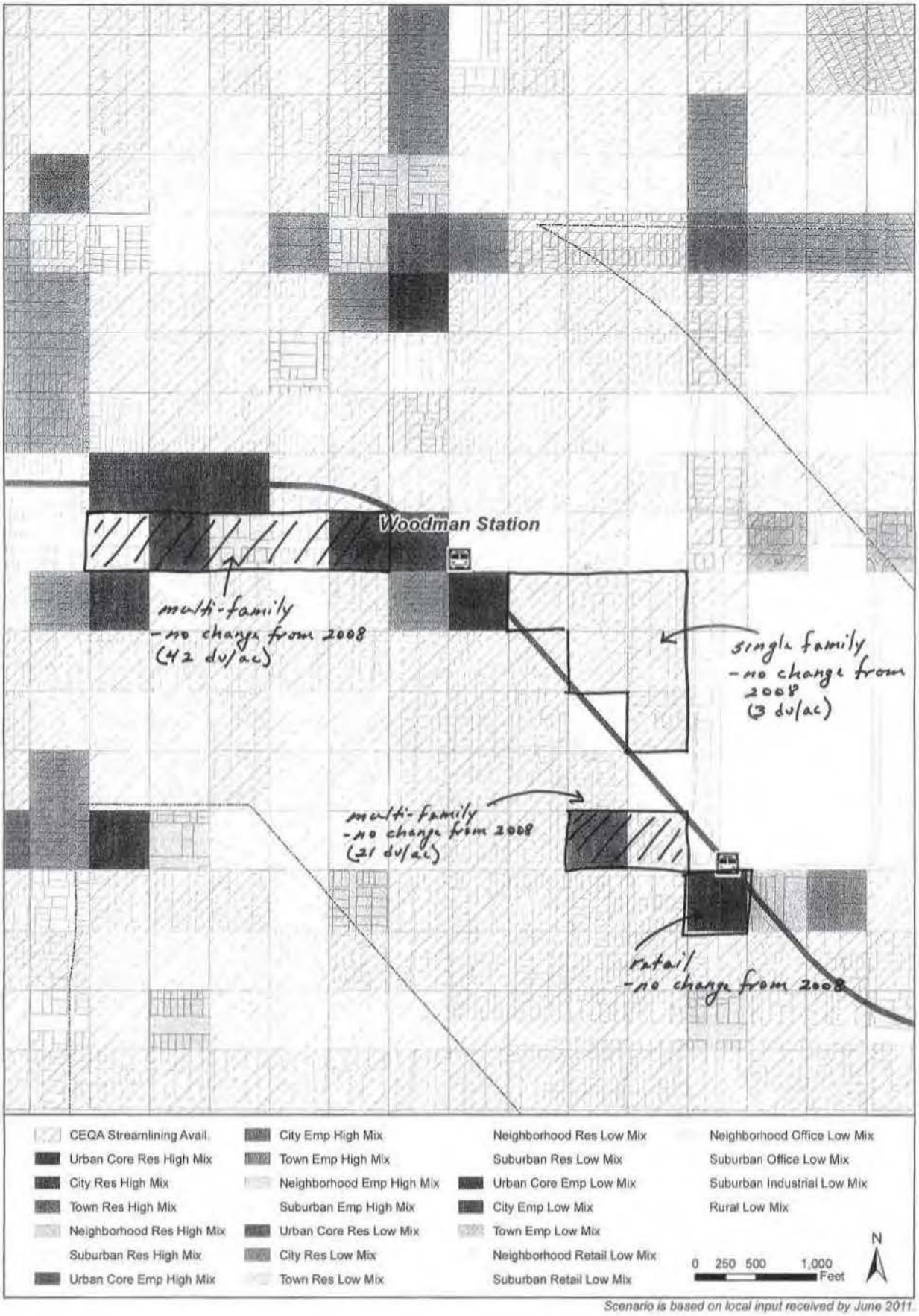


Scenario is based on local input received by June 2011.

Valley College Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

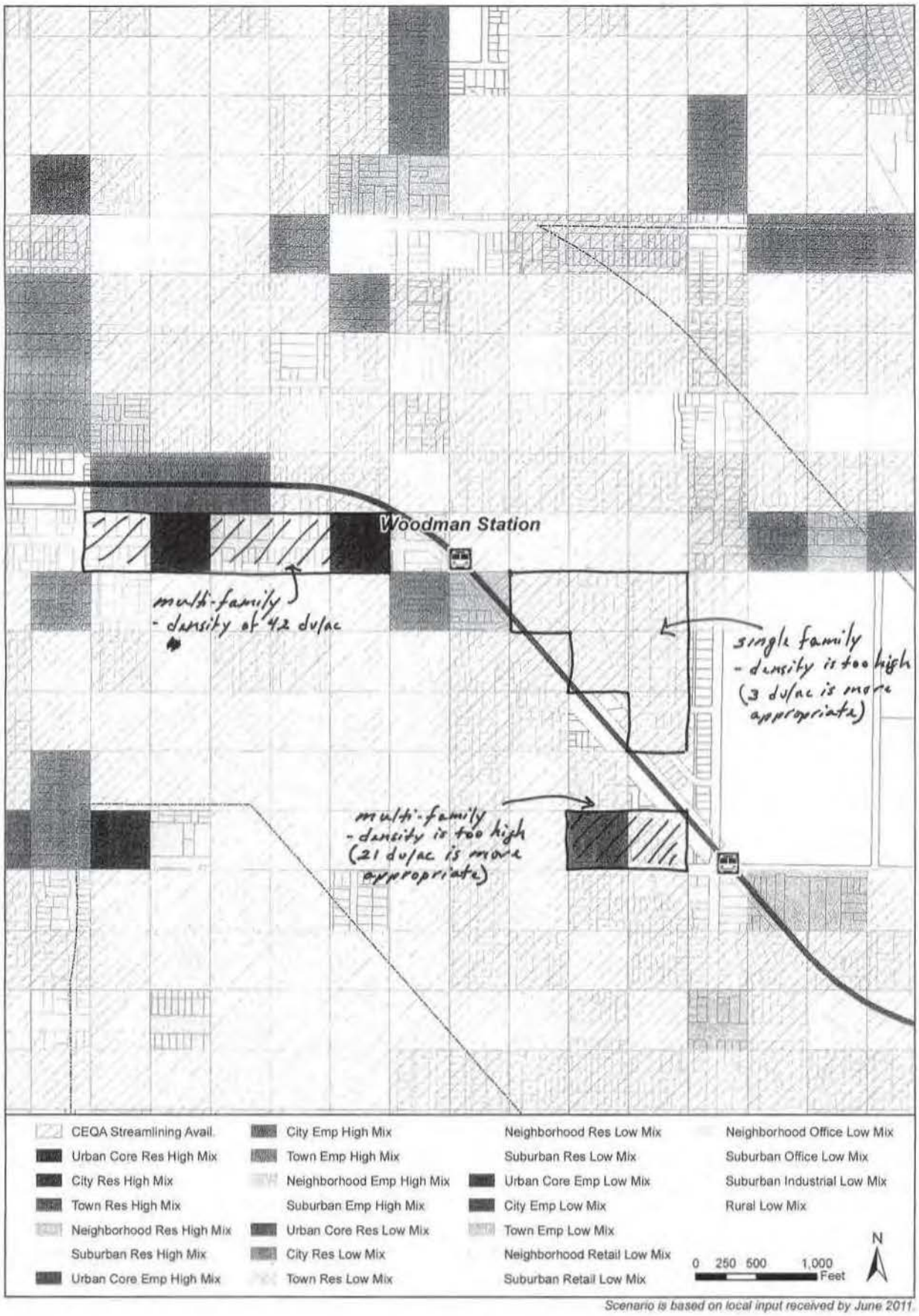


Scenario is based on local input received by June 2011.

Woodman Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

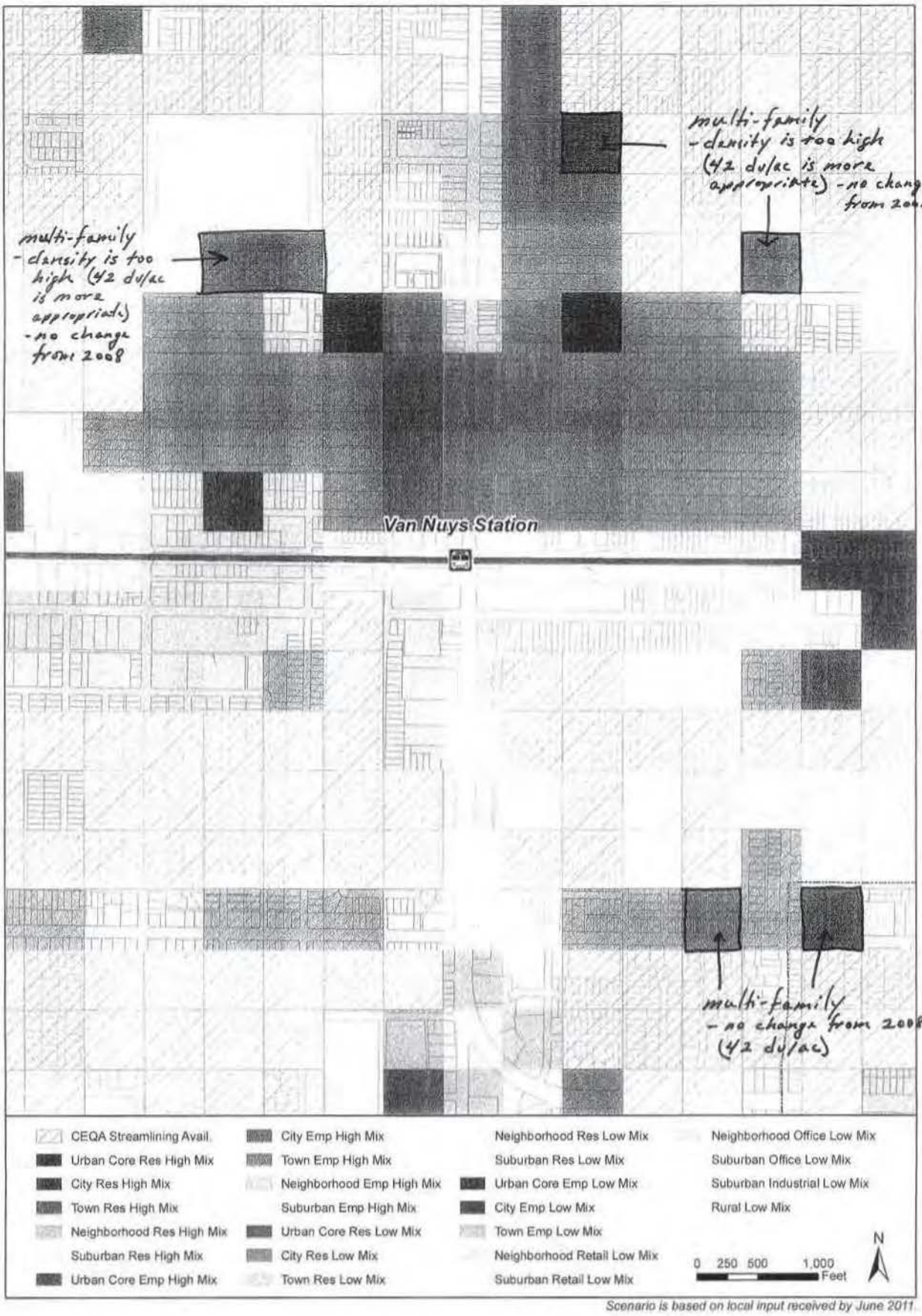


Scenario is based on local input received by June 2011

Woodman Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

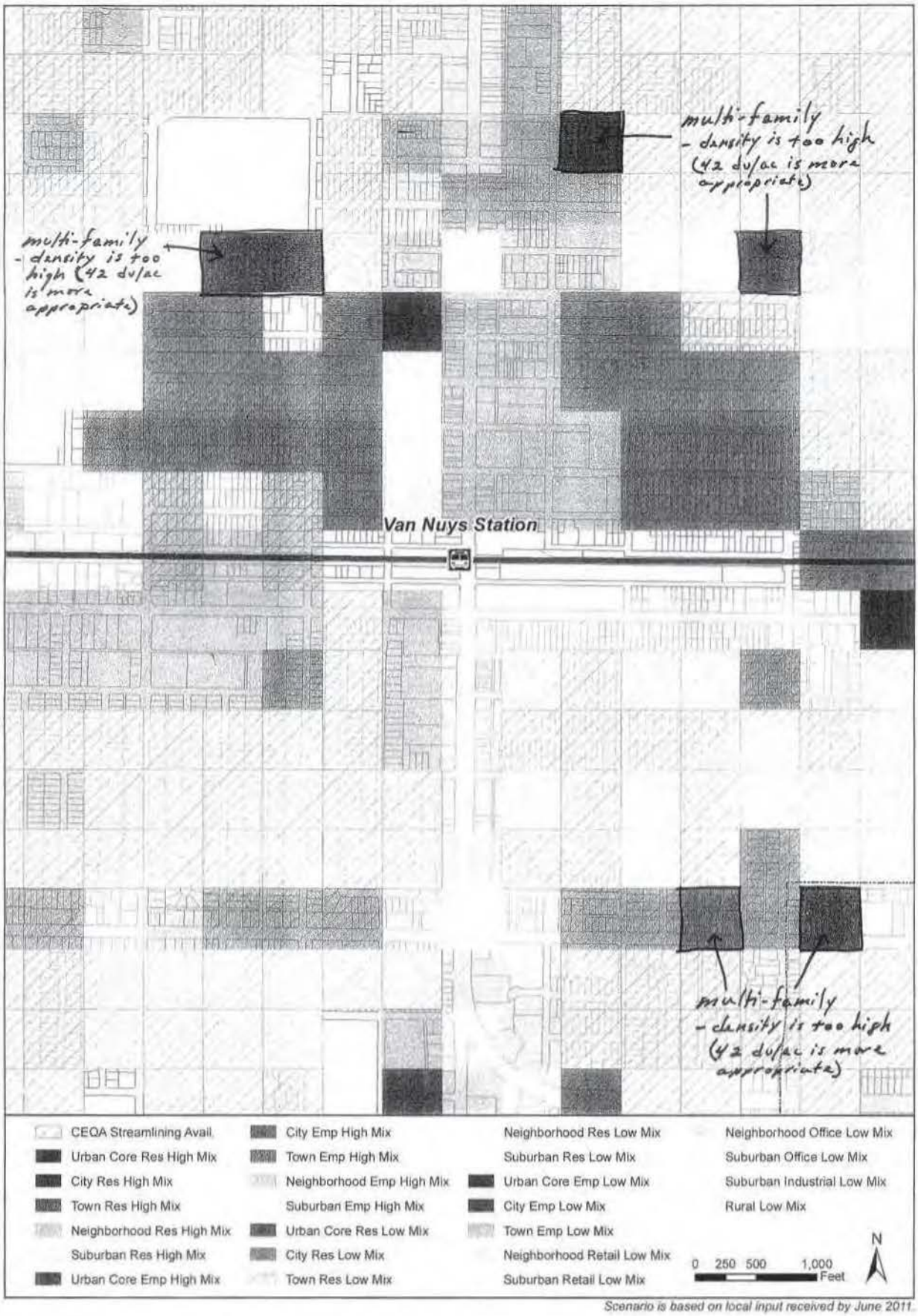


Scenario is based on local input received by June 2011

Van Nuys Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

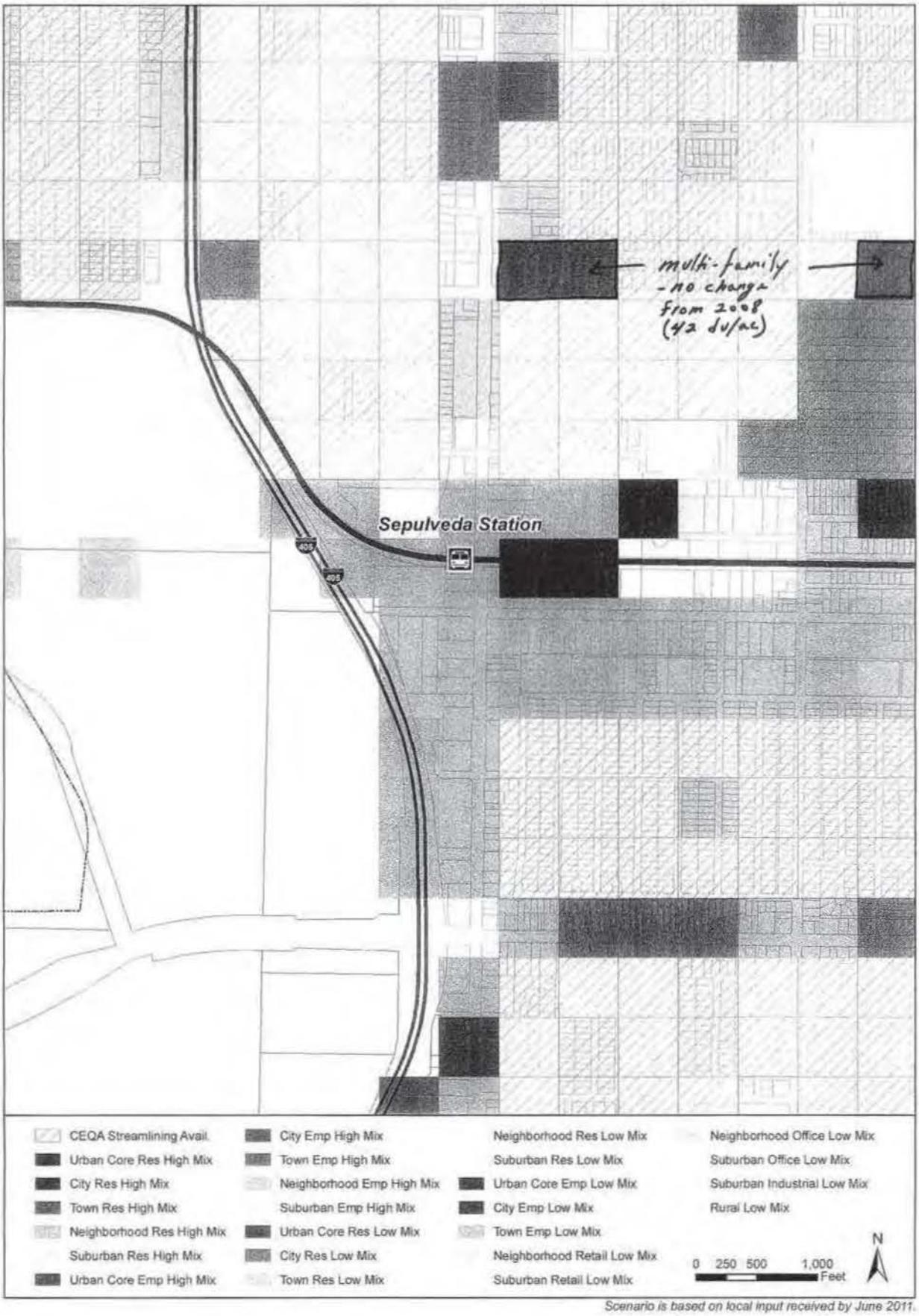


Scenario is based on local input received by June 2011.

Van Nuys Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

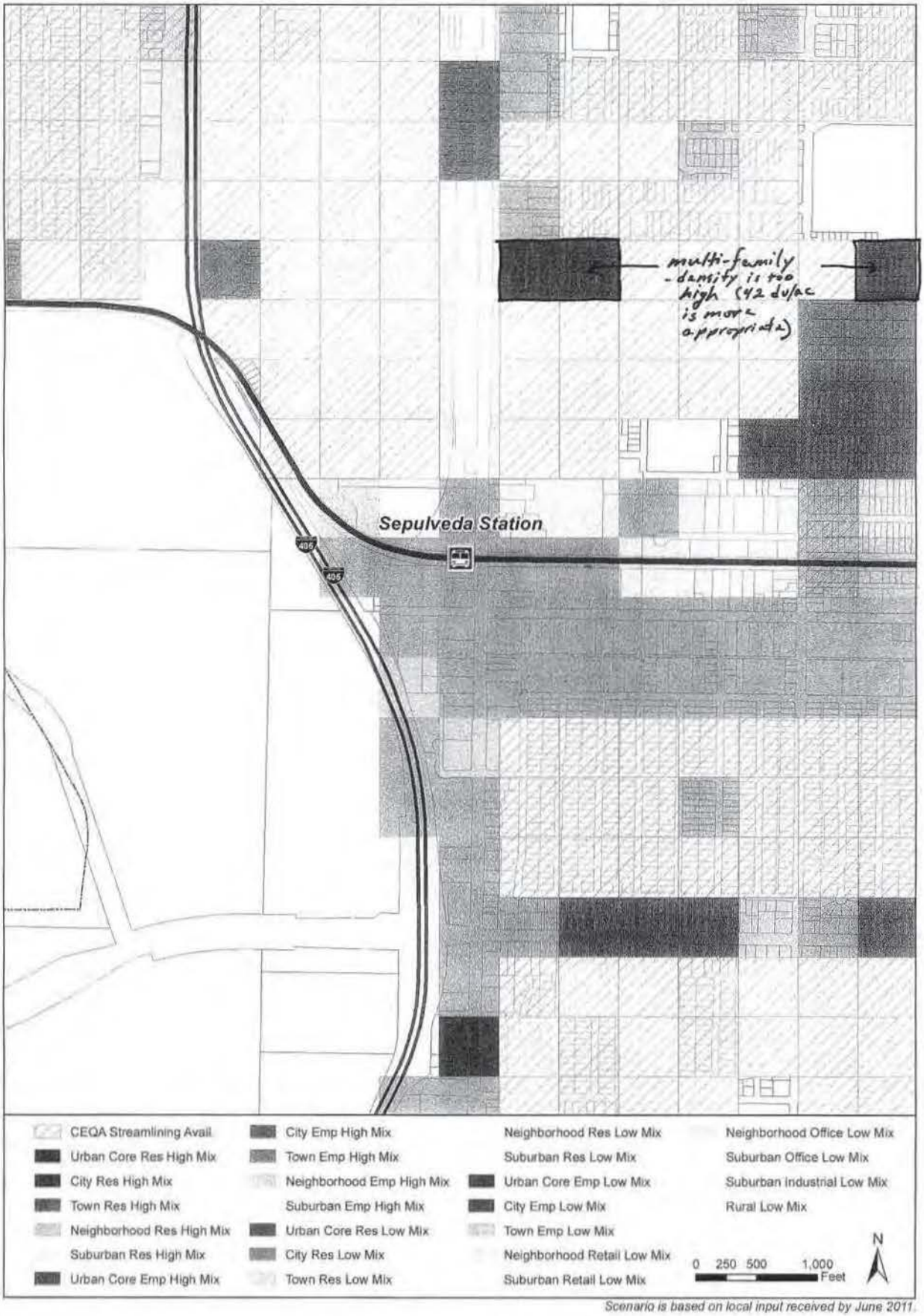


Scenario is based on local input received by June 2011.

Sepulveda Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

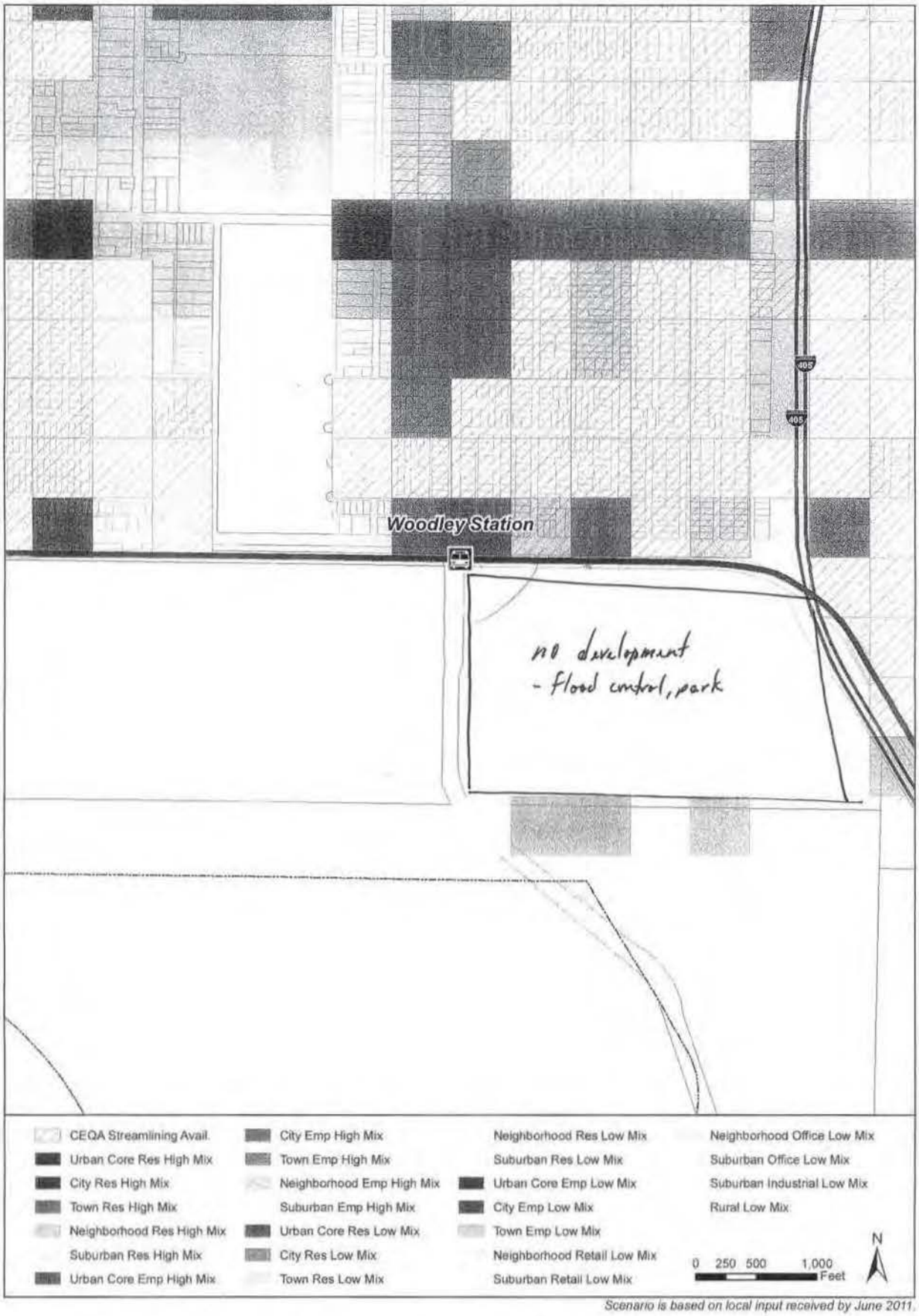


Scenario is based on local input received by June 2011.

Sepulveda Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

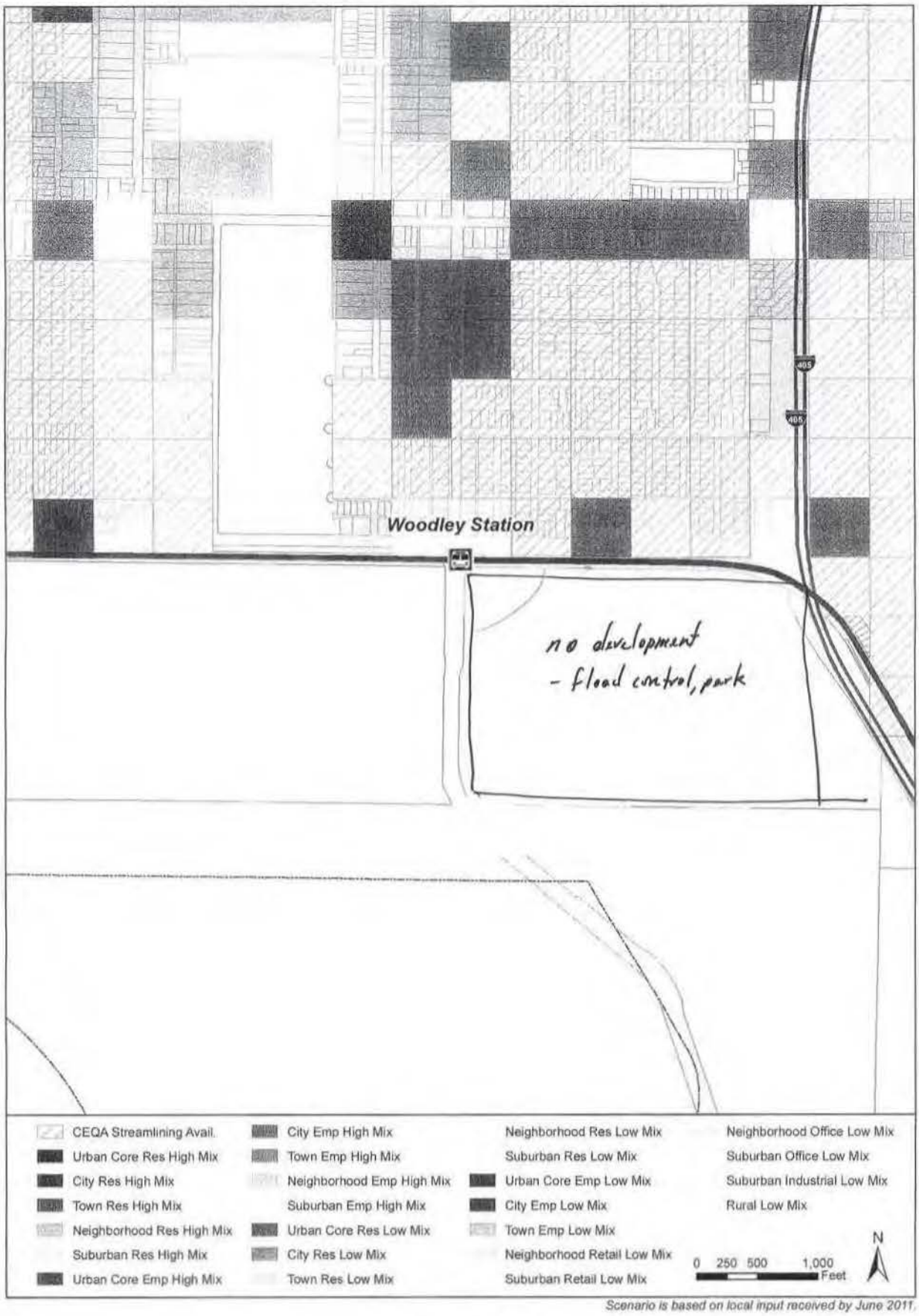


Scenario is based on local input received by June 2011.

Woodley Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

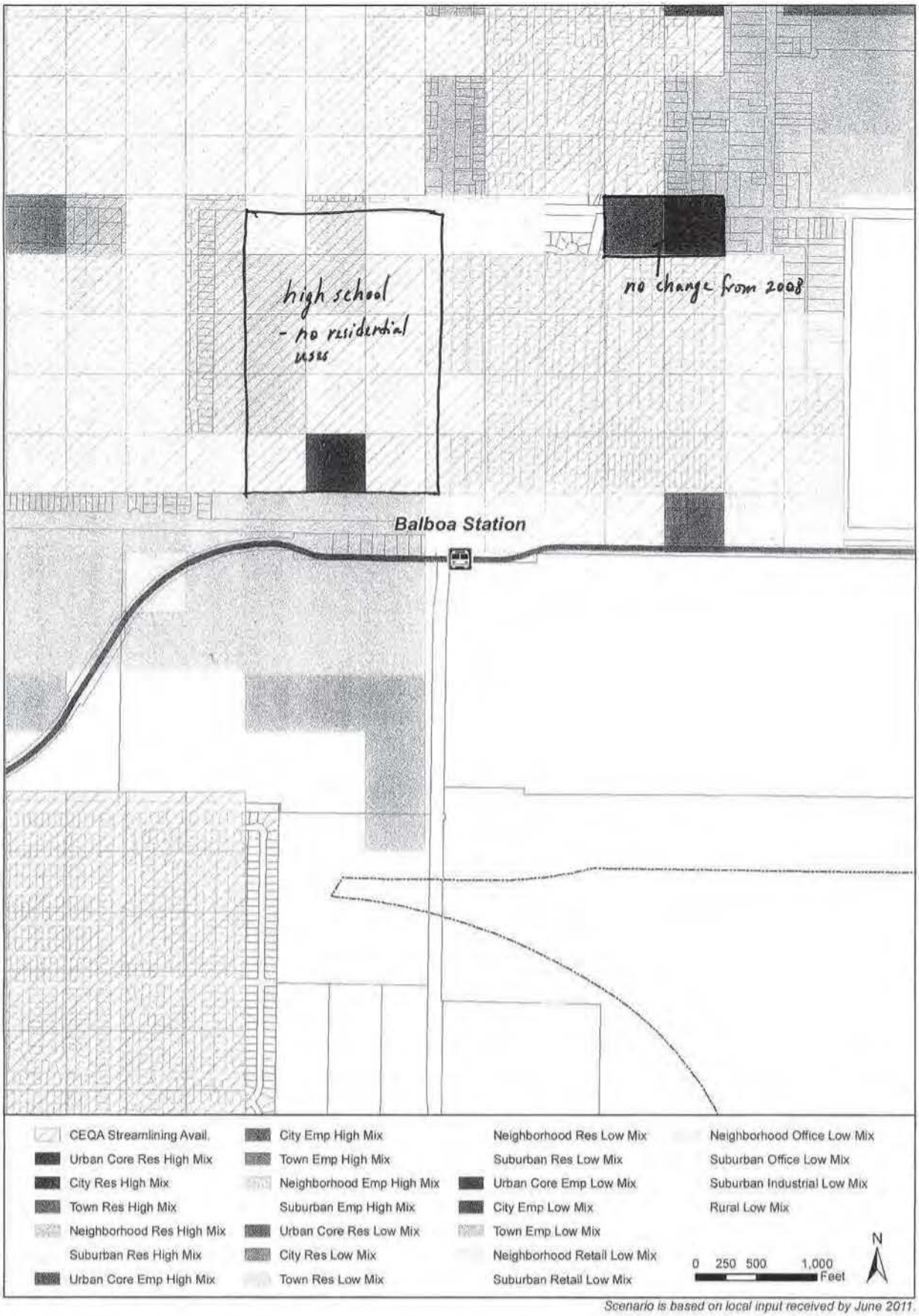


Scenario is based on local input received by June 2011.

Woodley Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

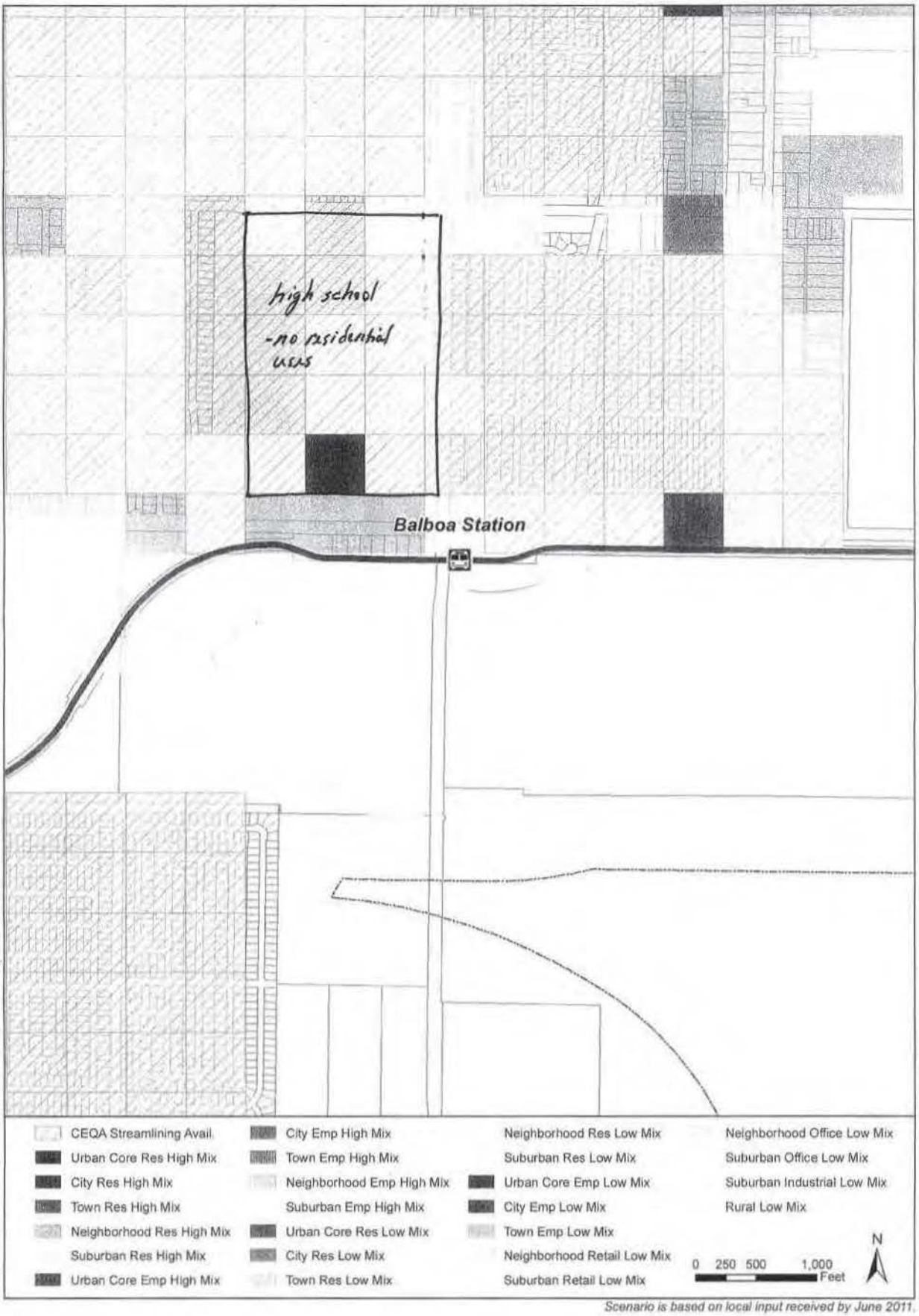


Scenario is based on local input received by June 2011.

Balboa Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

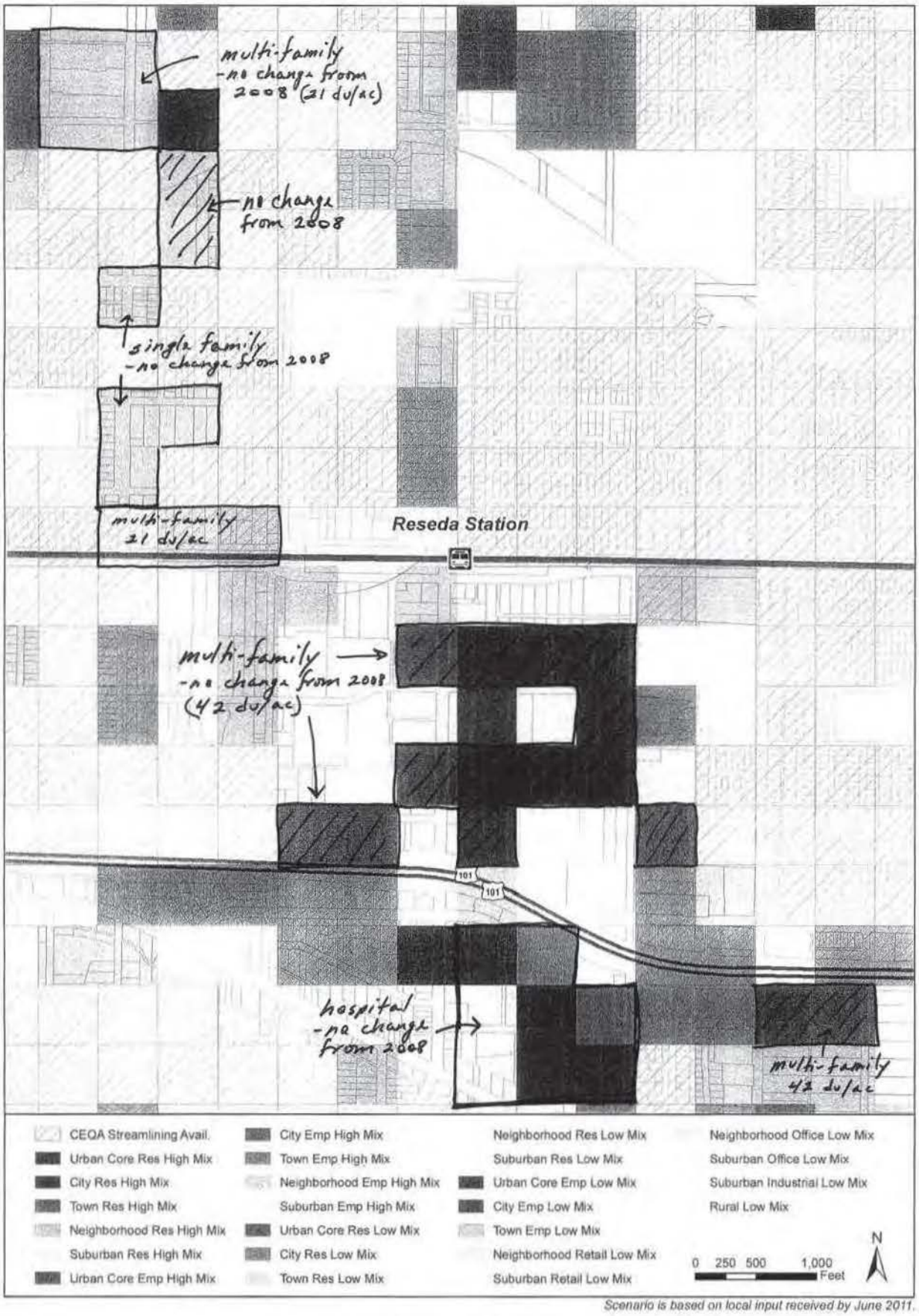


Scenario is based on local input received by June 2011.

Balboa Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

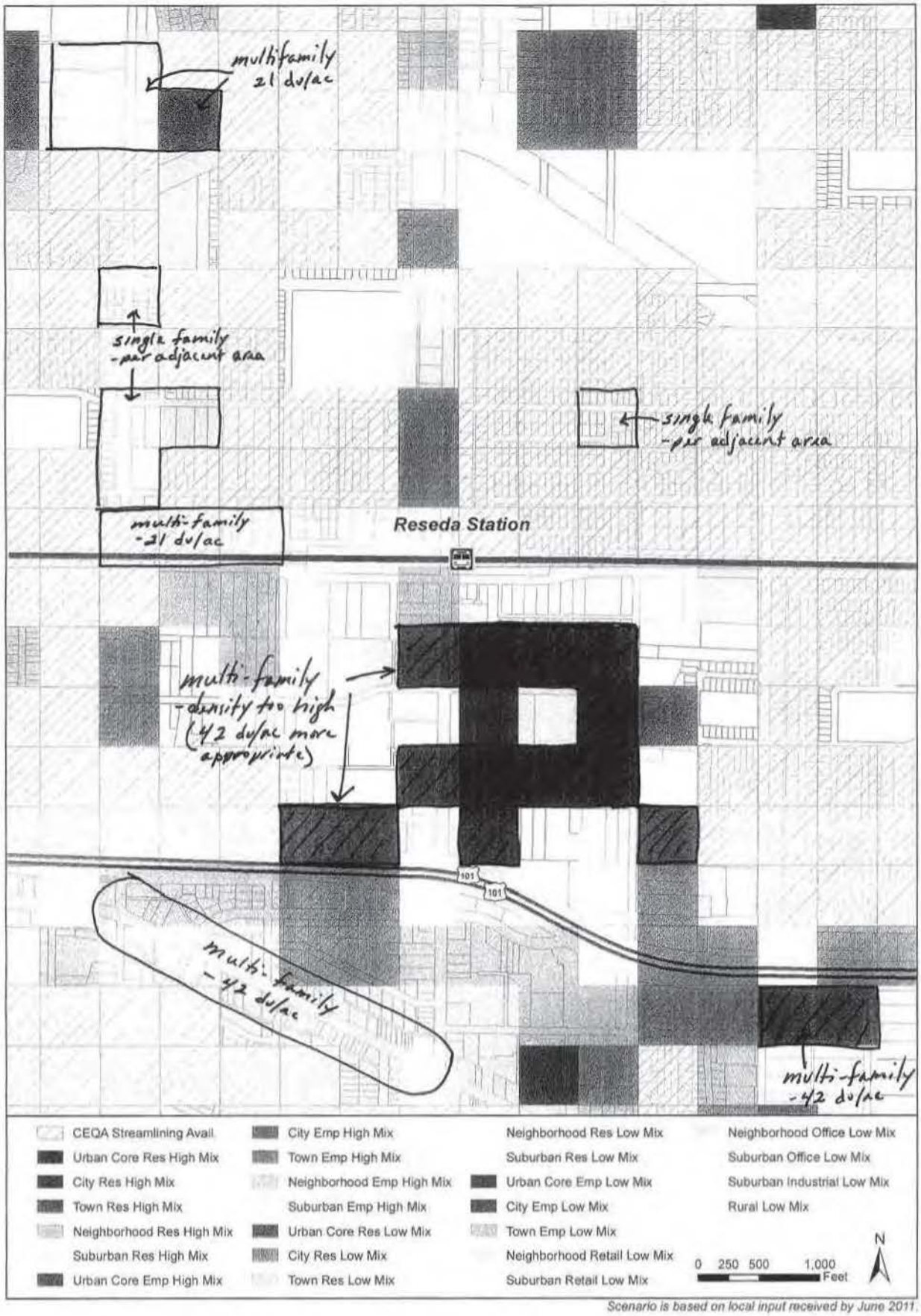


Scenario is based on local input received by June 2011.

Reseda Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

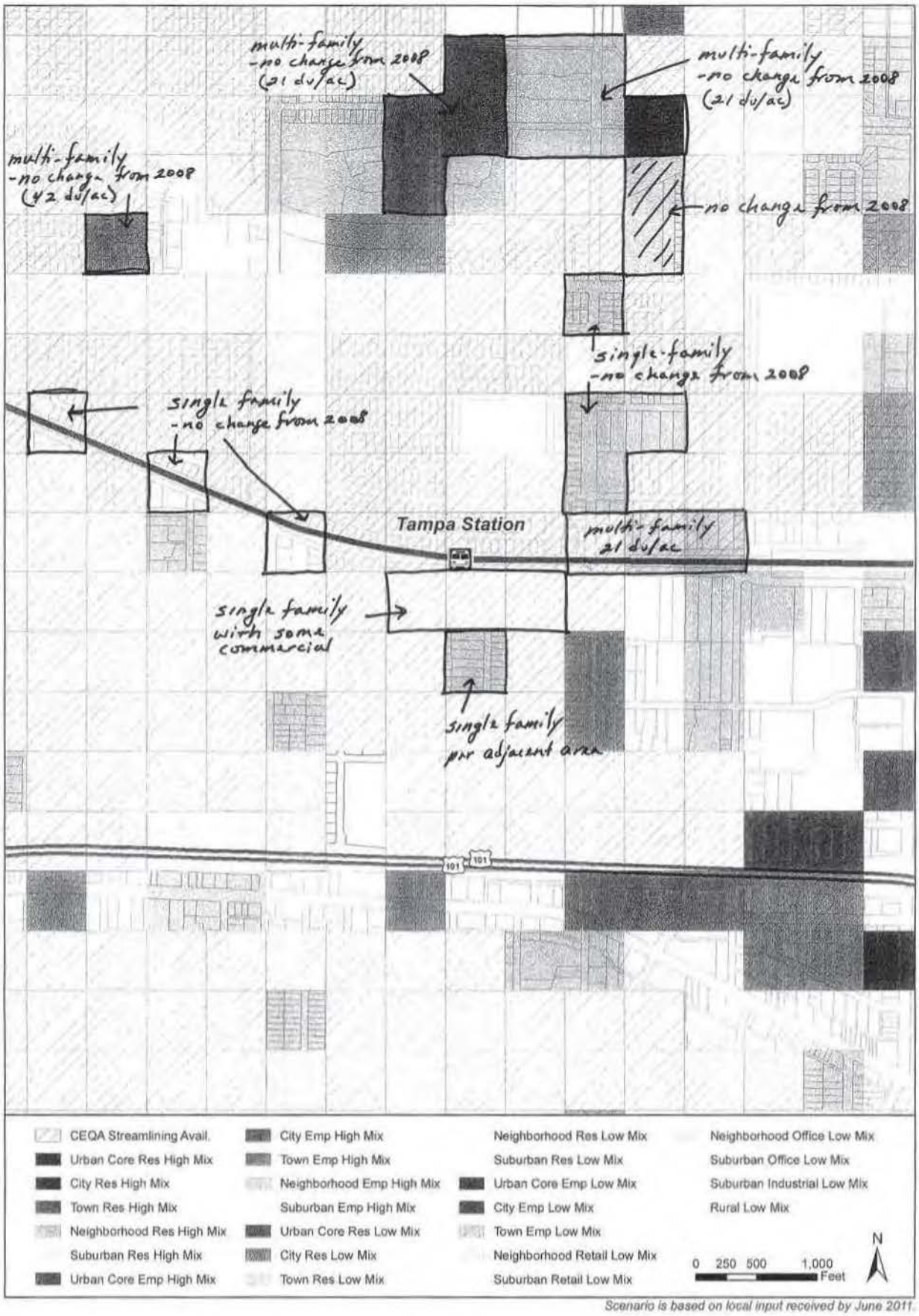


Scenario is based on local input received by June 2011.

Reseda Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

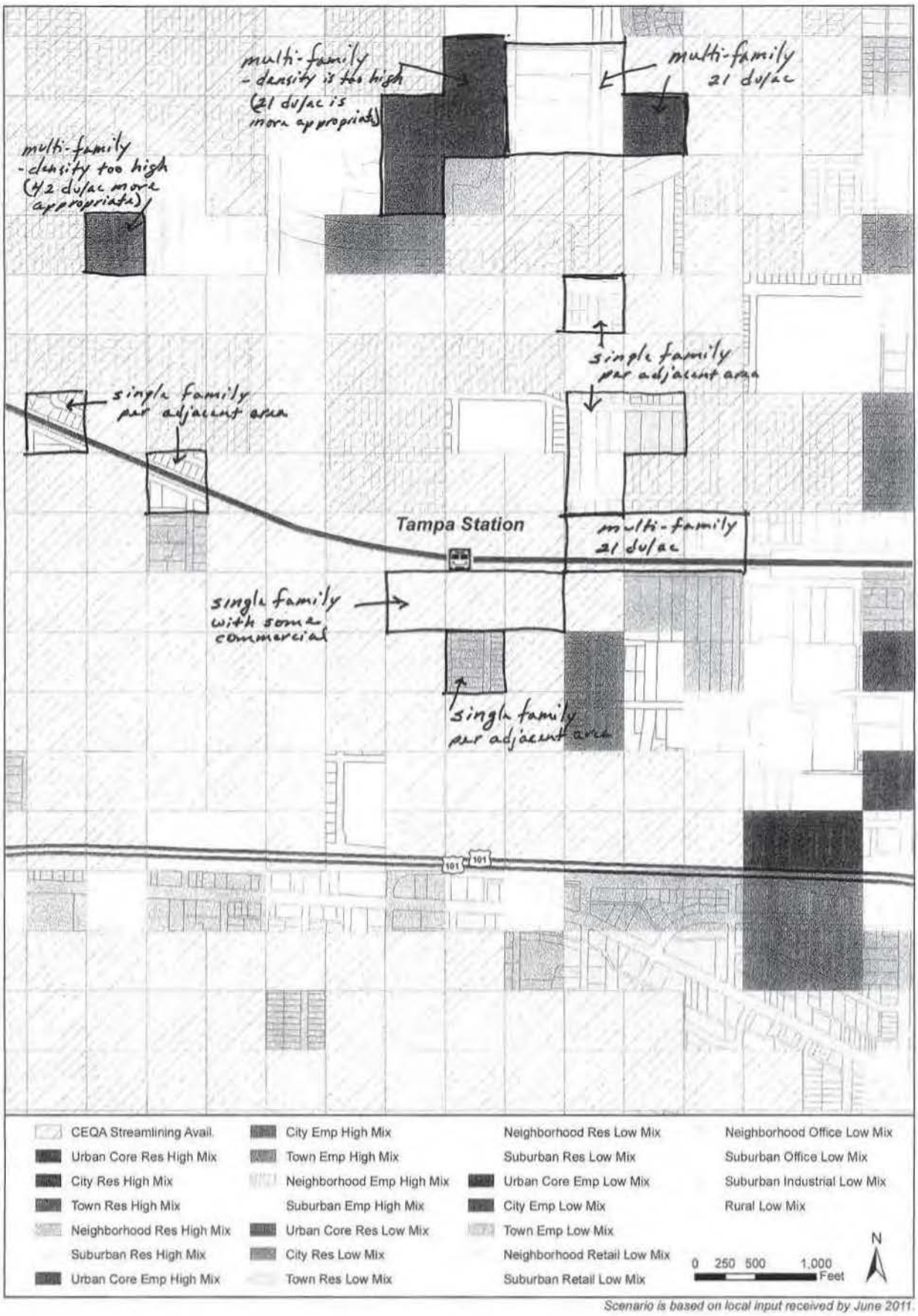


Scenario is based on local input received by June 2011.

Tampa Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

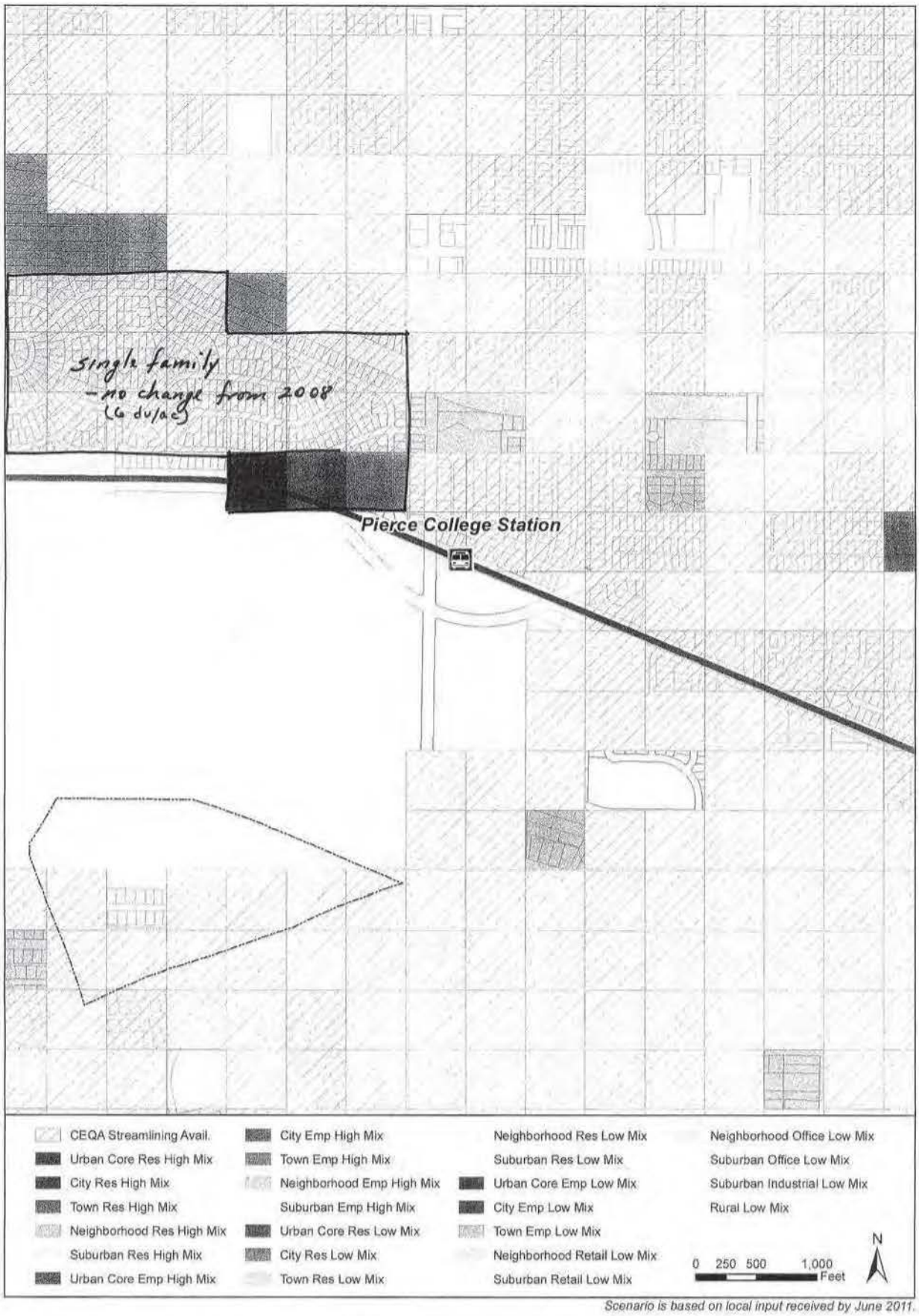


Scenario is based on local input received by June 2011.

Tampa Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

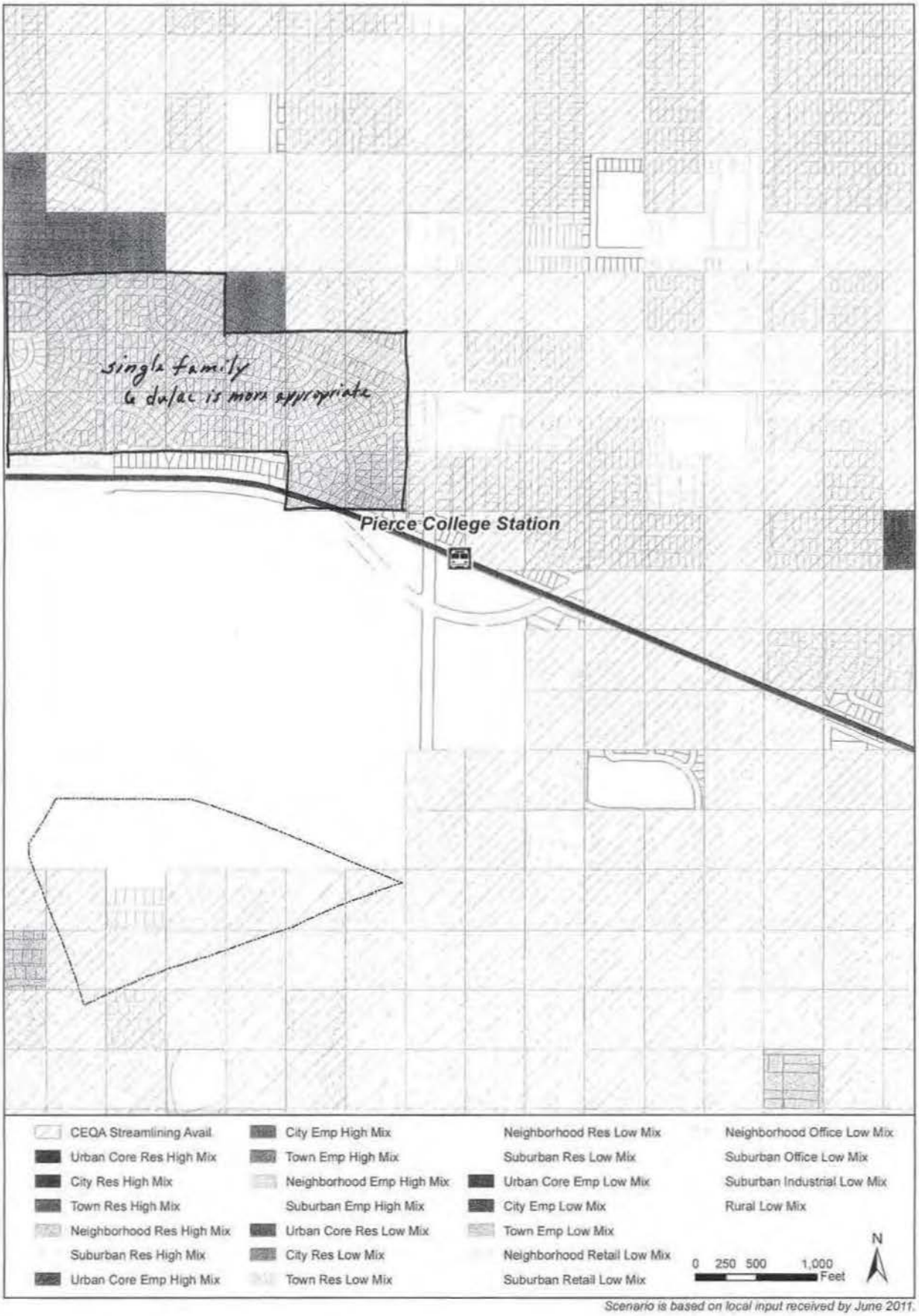


Scenario is based on local input received by June 2011.

Pierce College Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

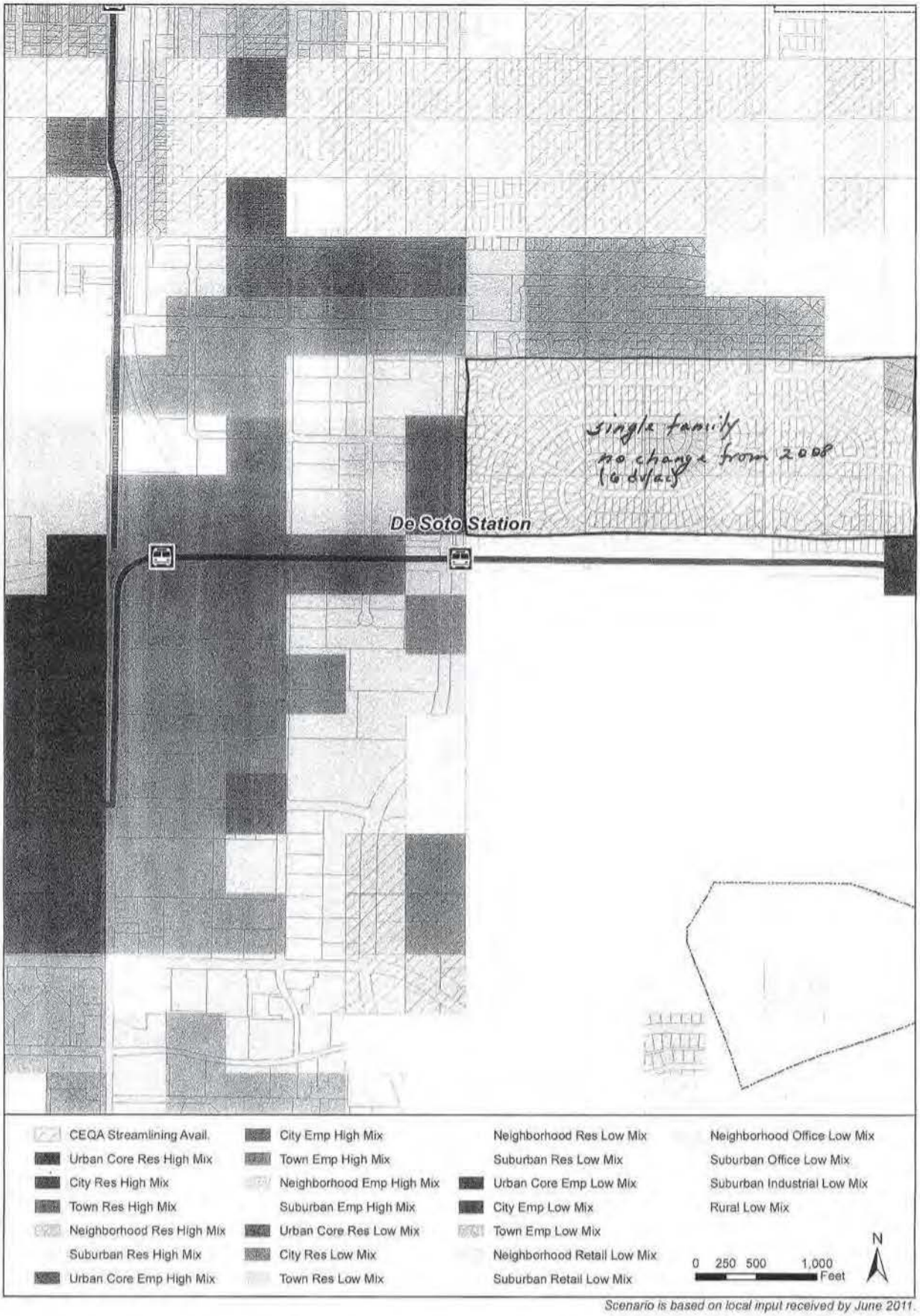


Scenario is based on local input received by June 2011.

Pierce College Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

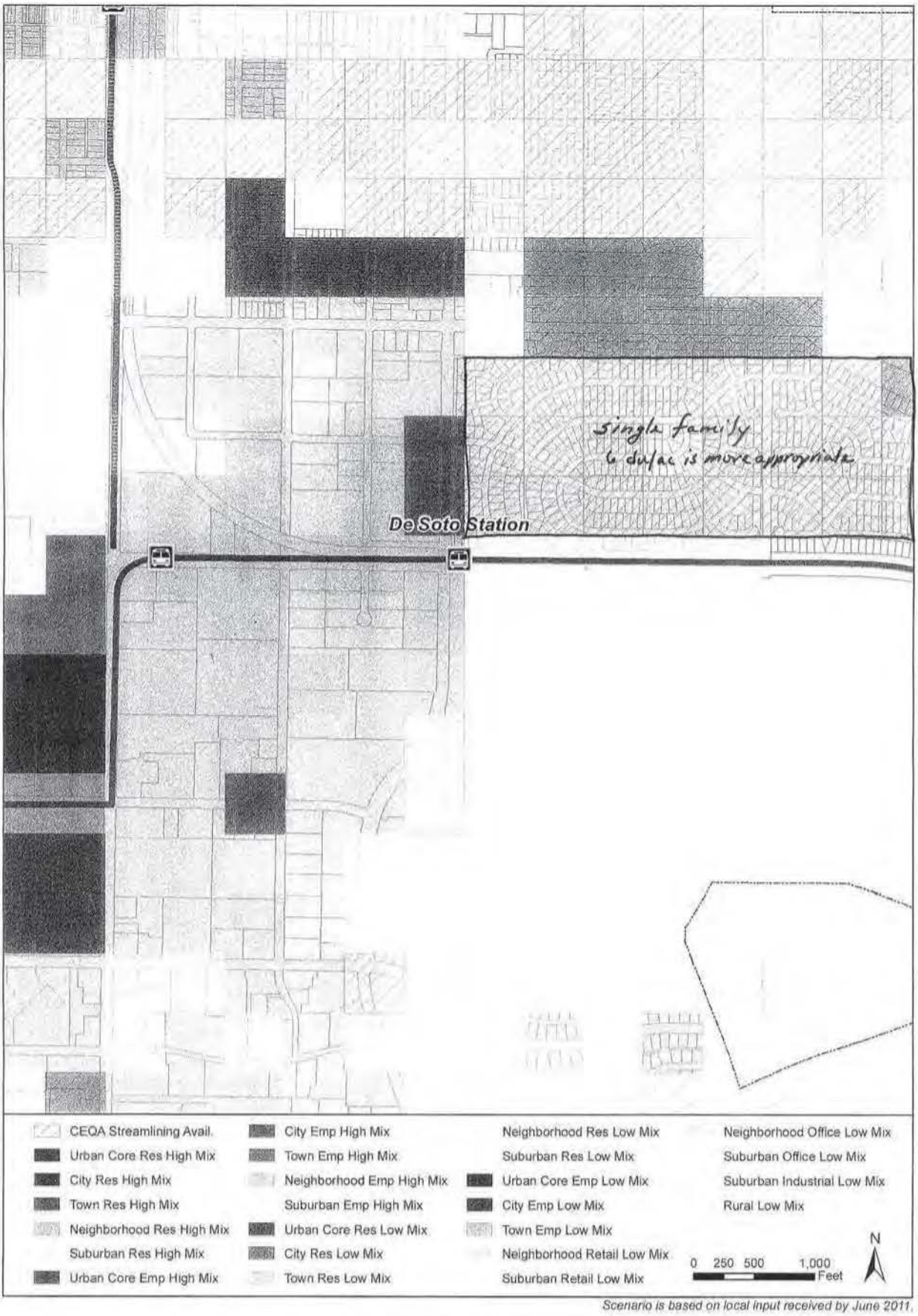


Scenario is based on local input received by June 2011.

De Soto Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

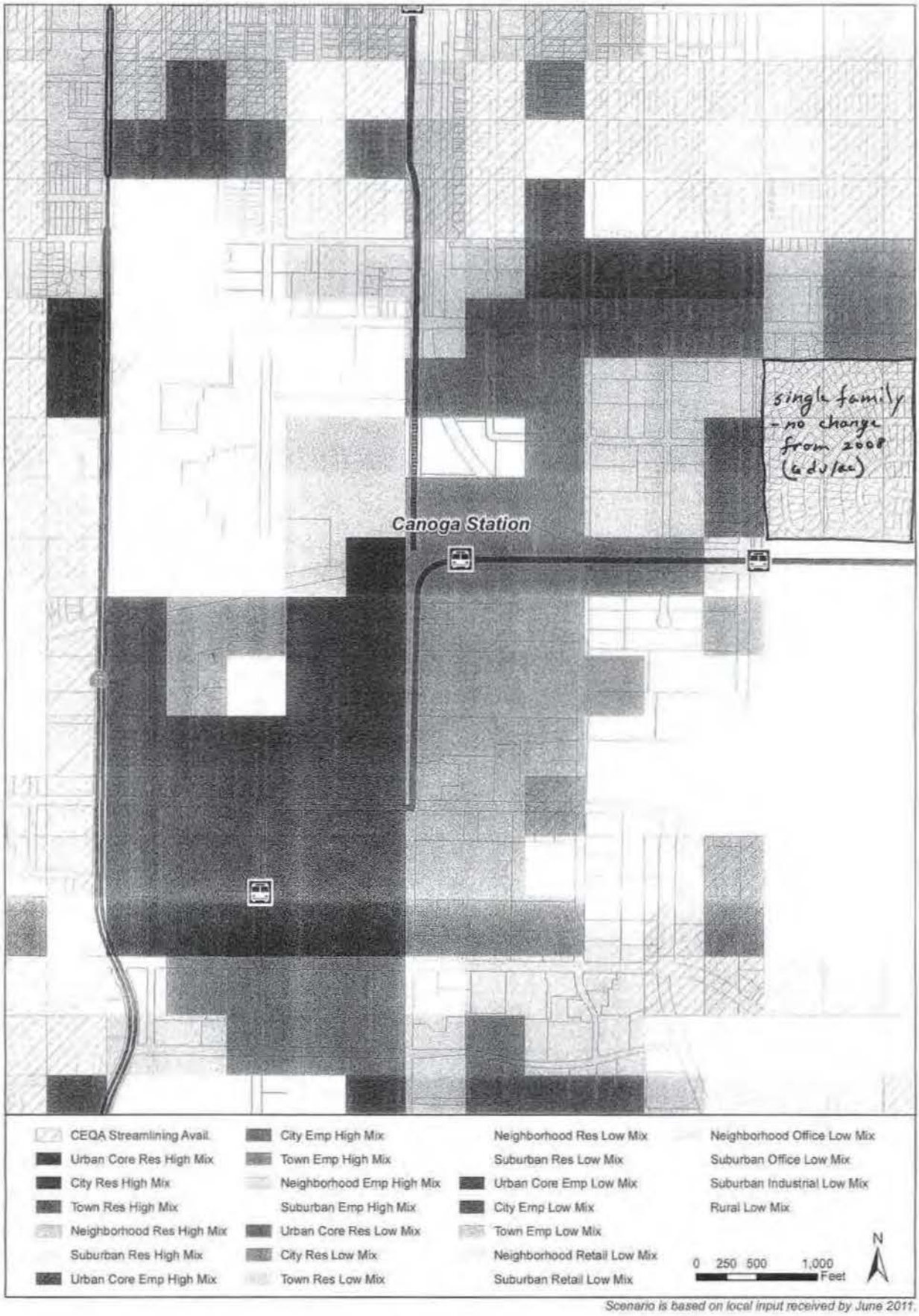


Scenario is based on local input received by June 2011.

De Soto Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



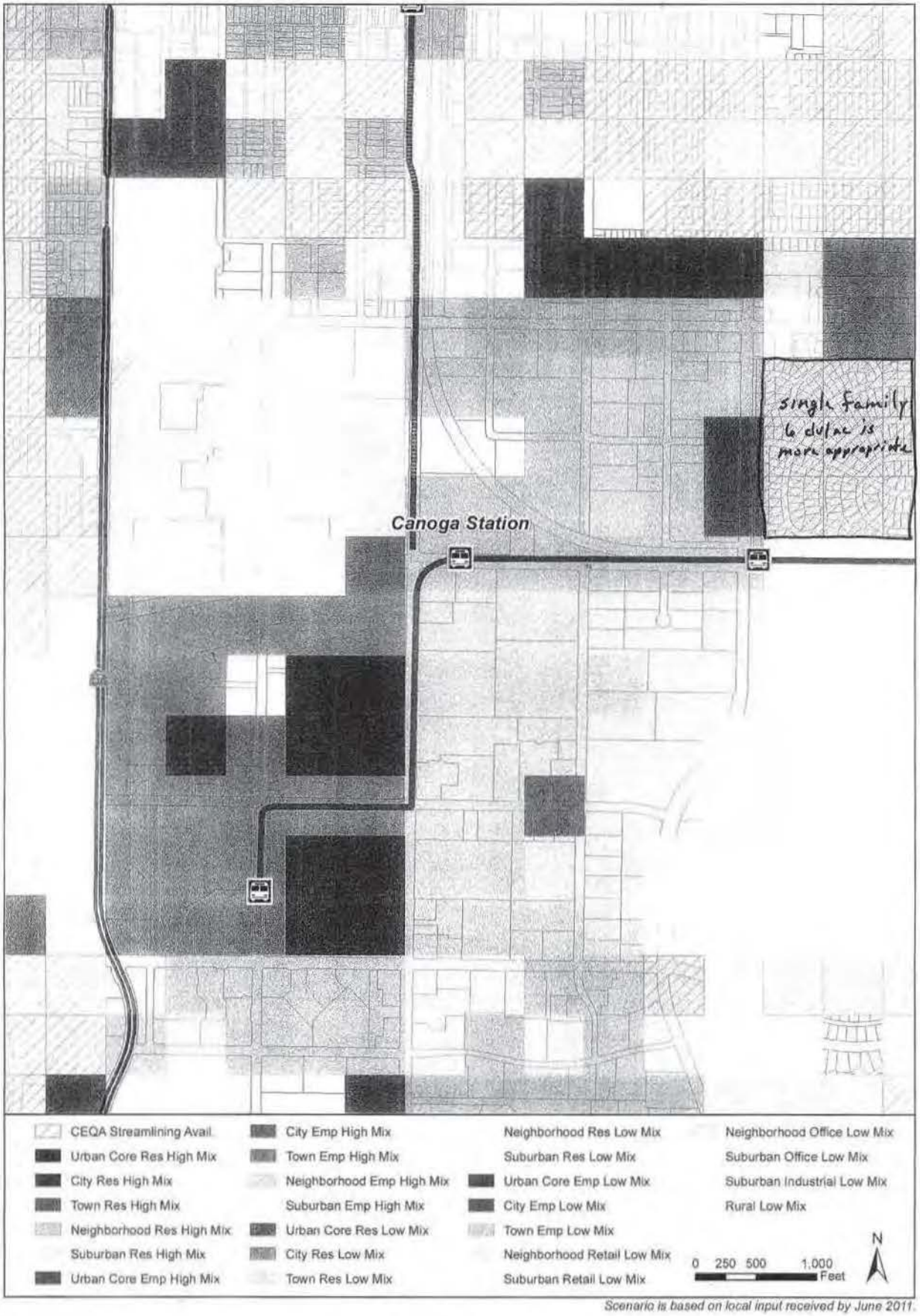
Scenario is based on local input received by June 2011.

Canoga Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



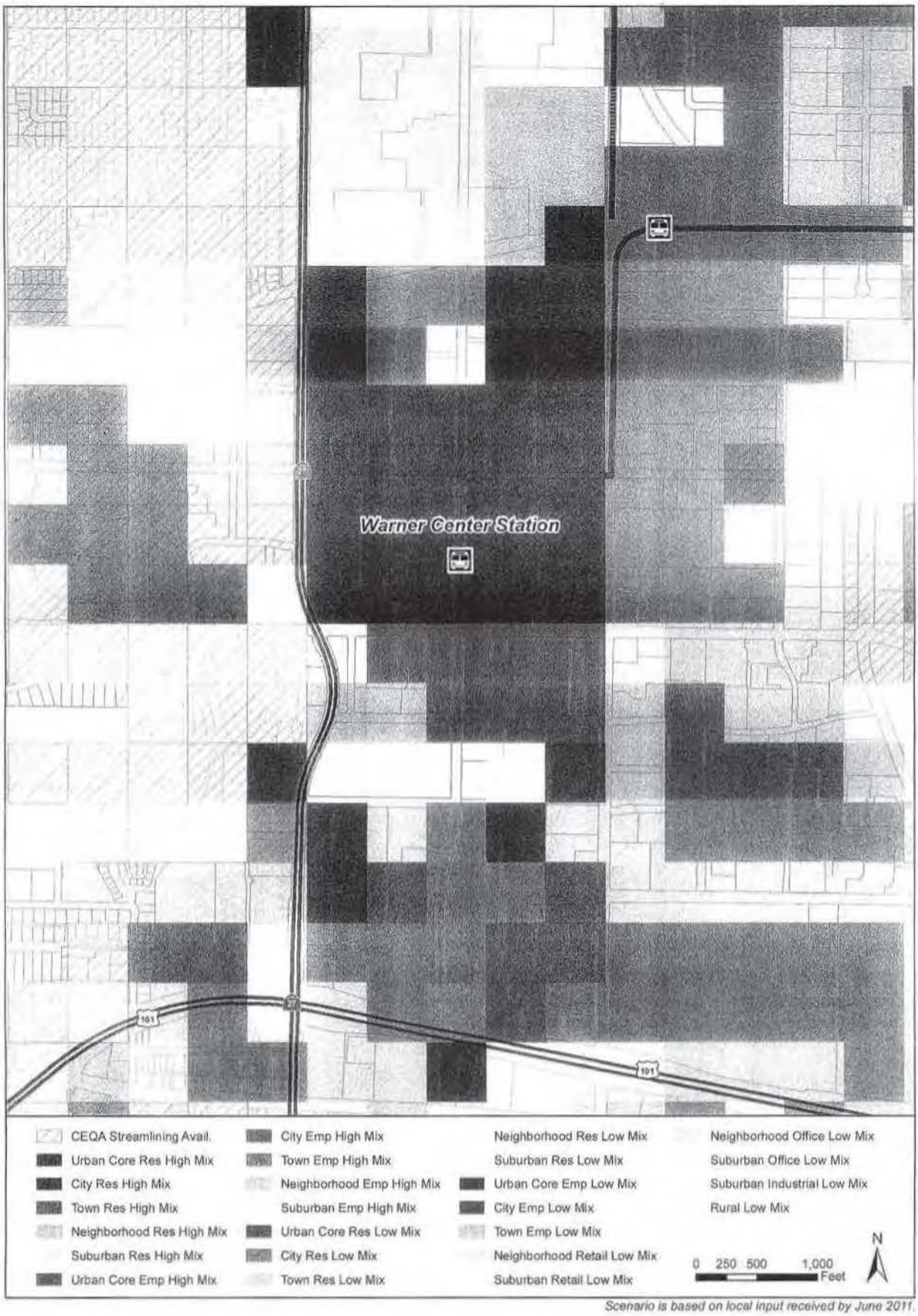
Scenario is based on local input received by June 2011.

Canoga Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

No comment



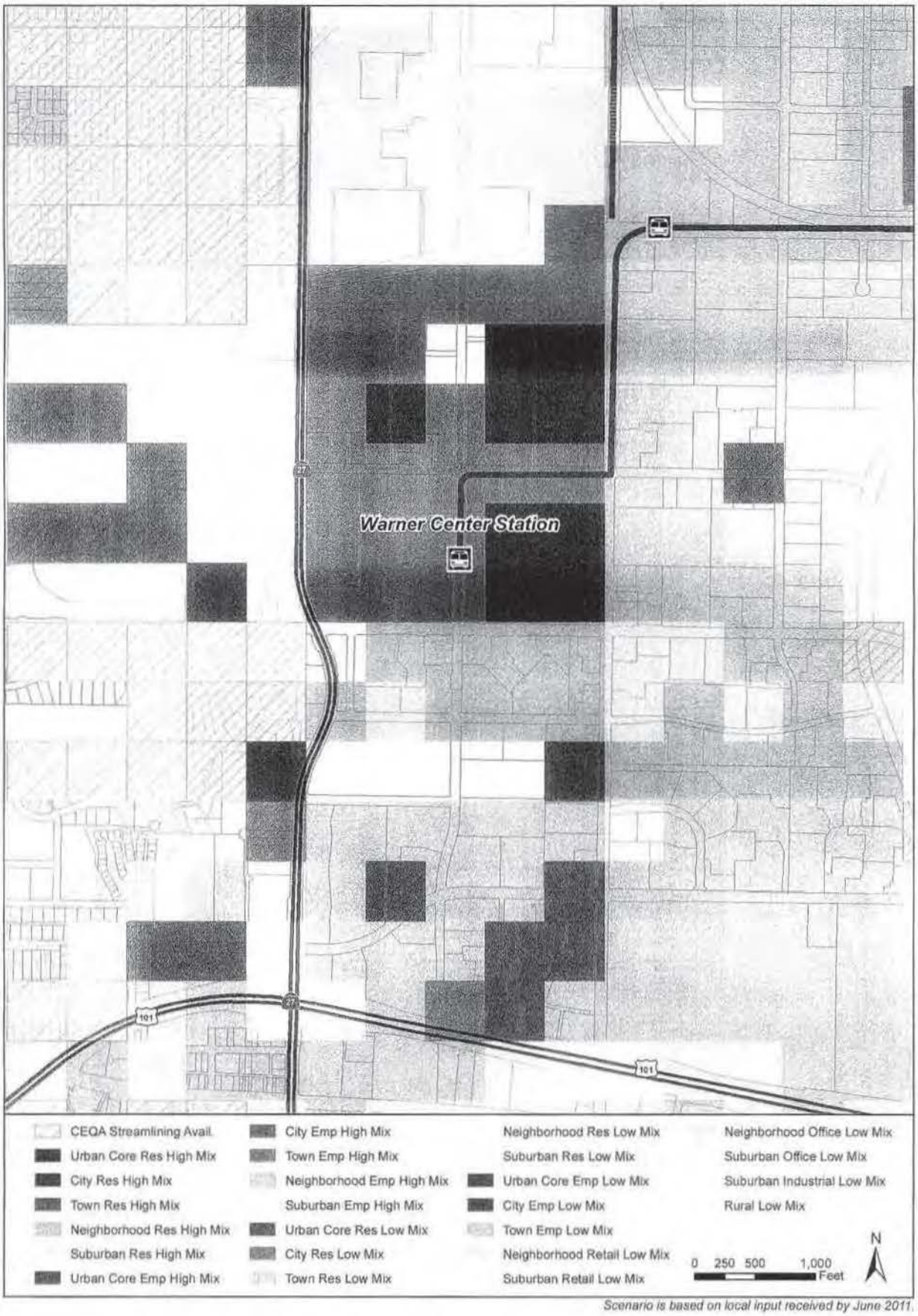
Scenario is based on local input received by June 2011.

Warner Center Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

No comment

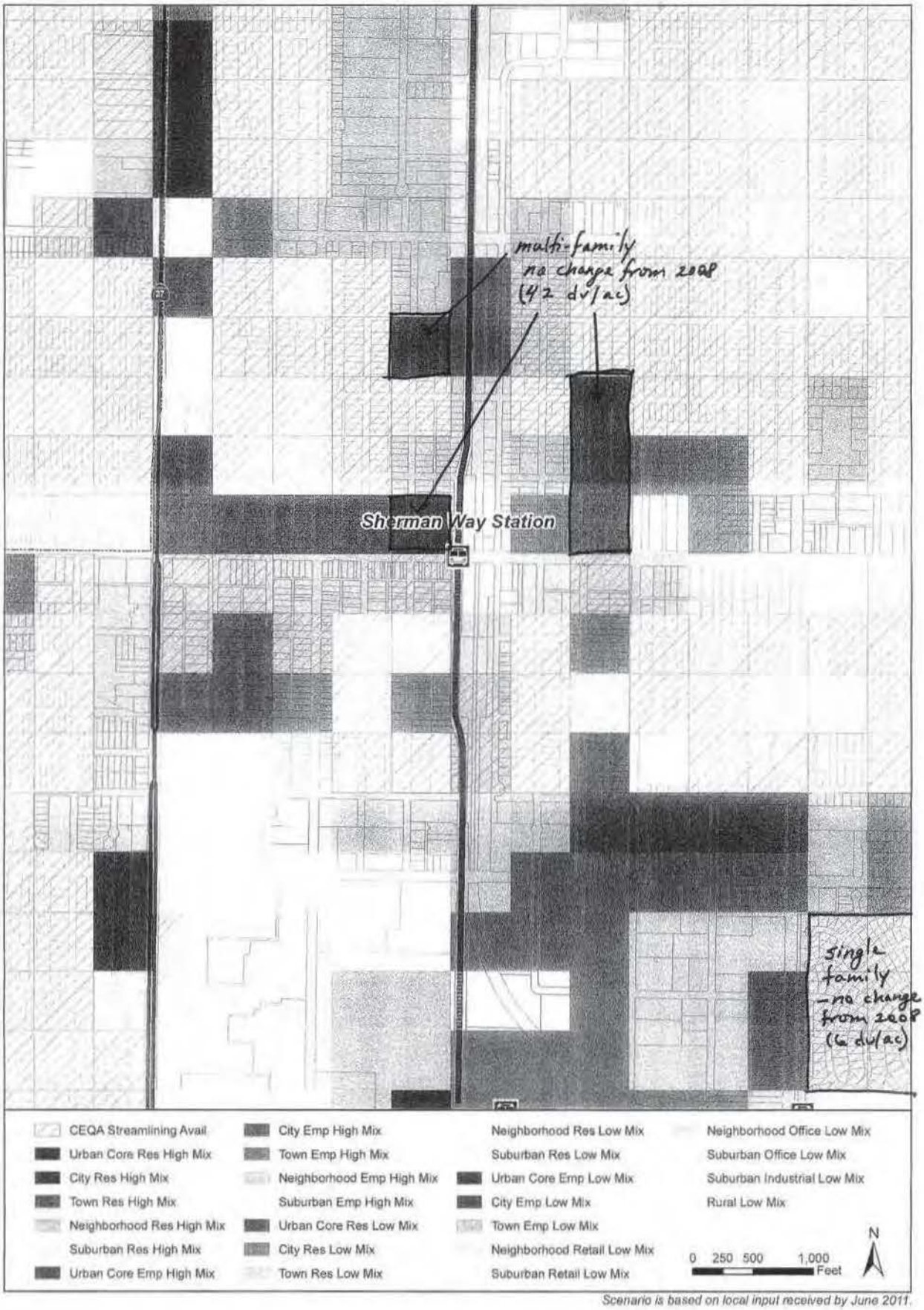


Scenario is based on local input received by June 2011.

Warner Center Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

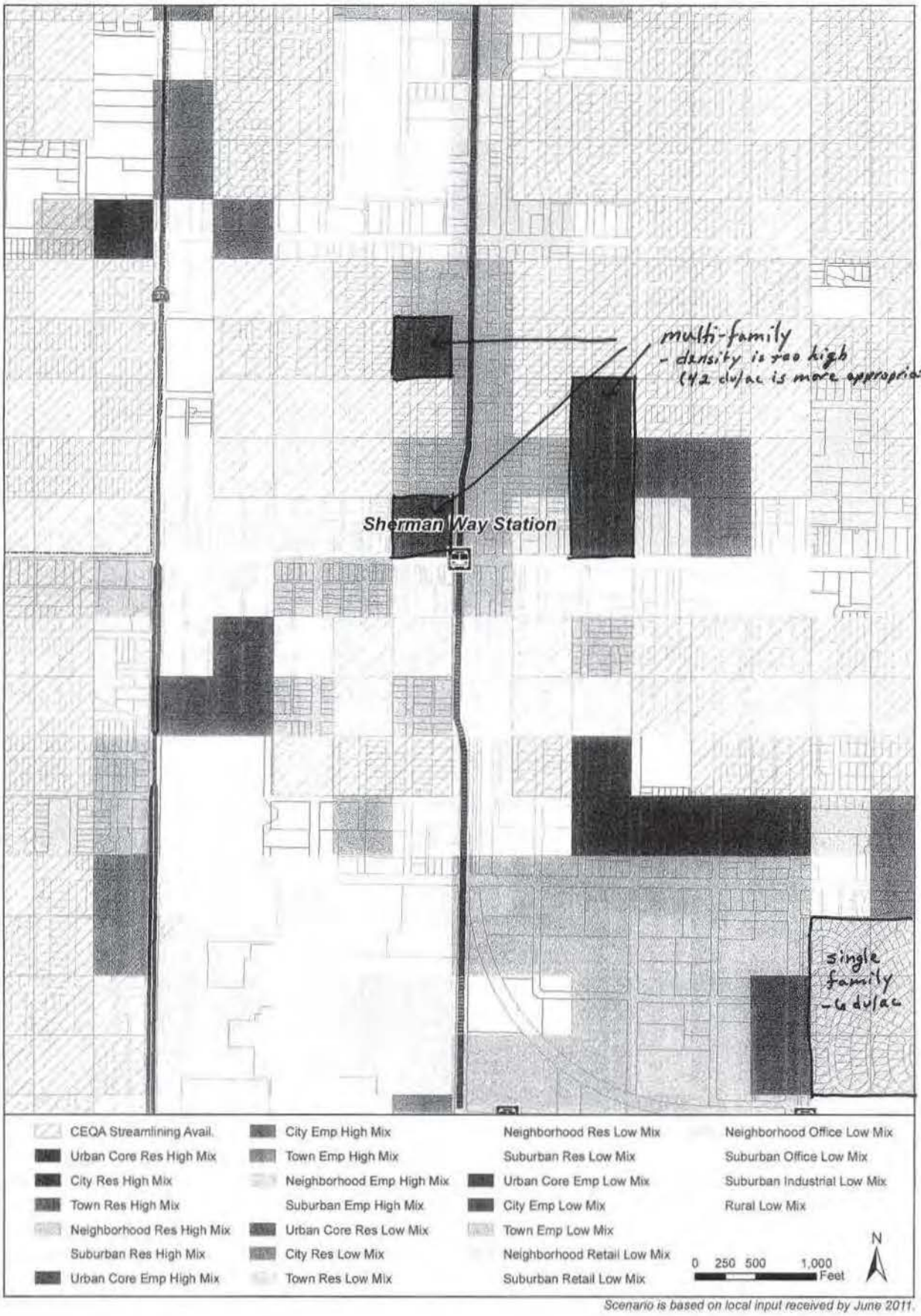


Scenario is based on local input received by June 2011.

Sherman Way Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



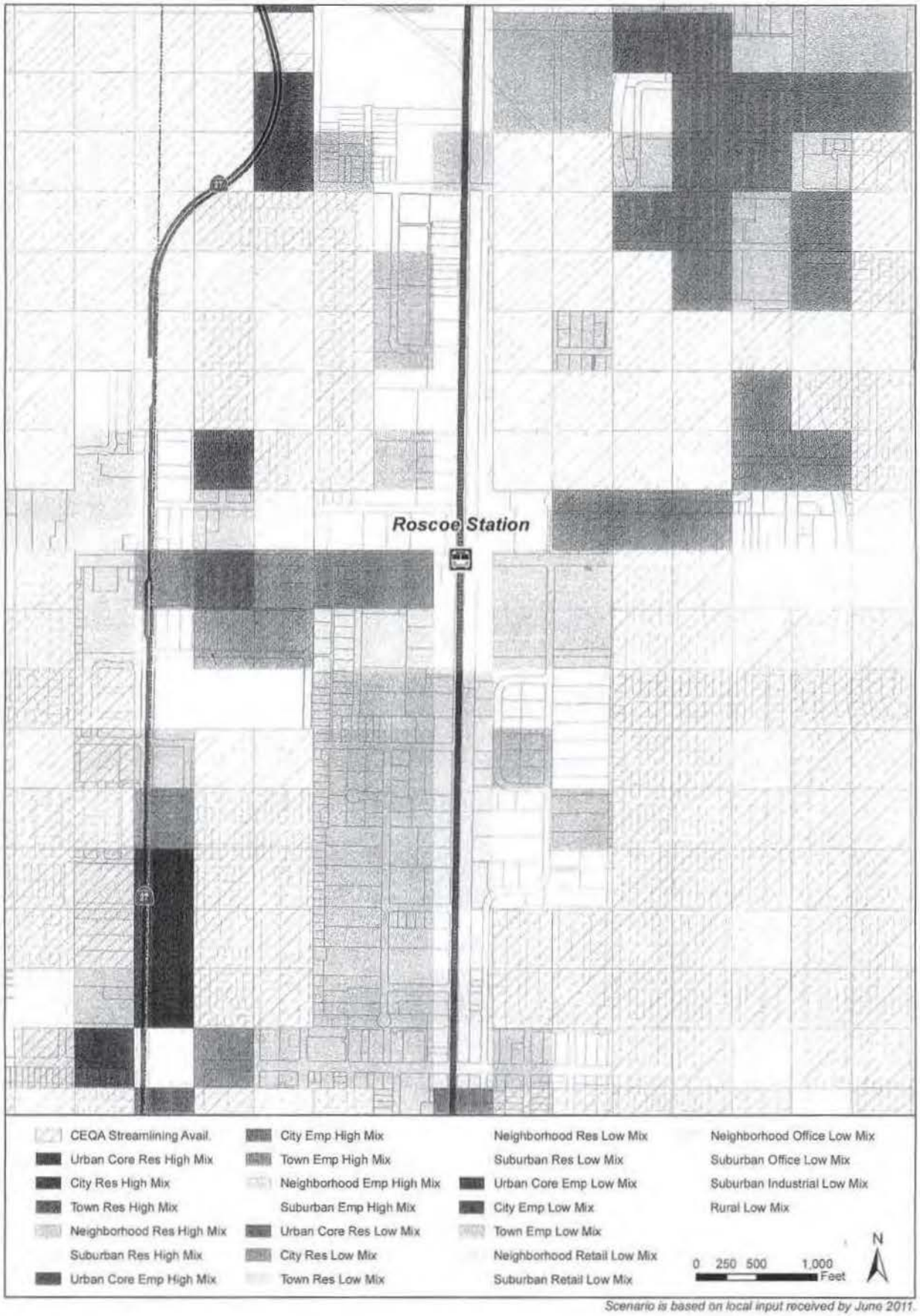
Scenario is based on local input received by June 2011.

Sherman Way Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

No comment



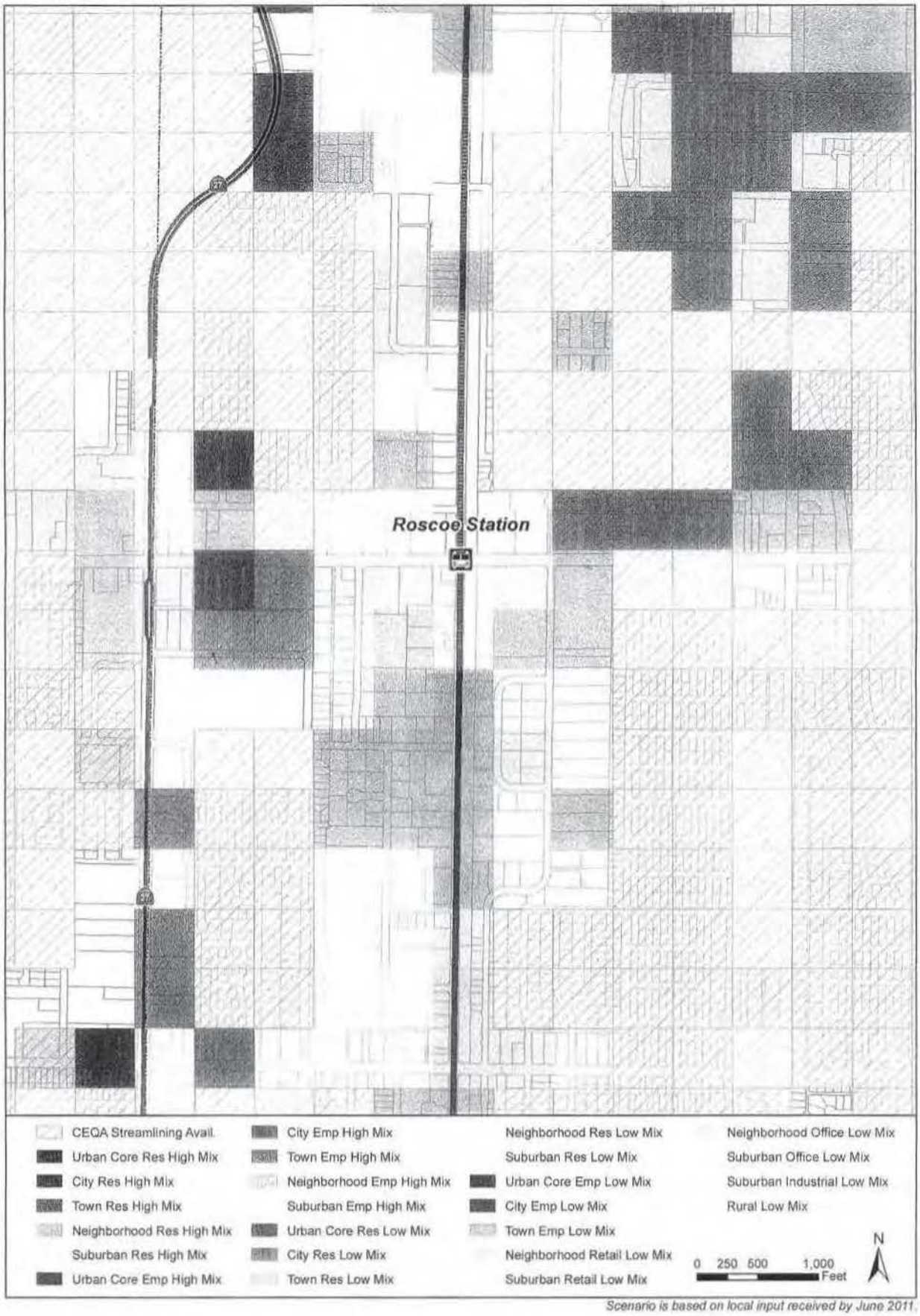
Scenario is based on local input received by June 2011.

Roscoe Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

No Comment

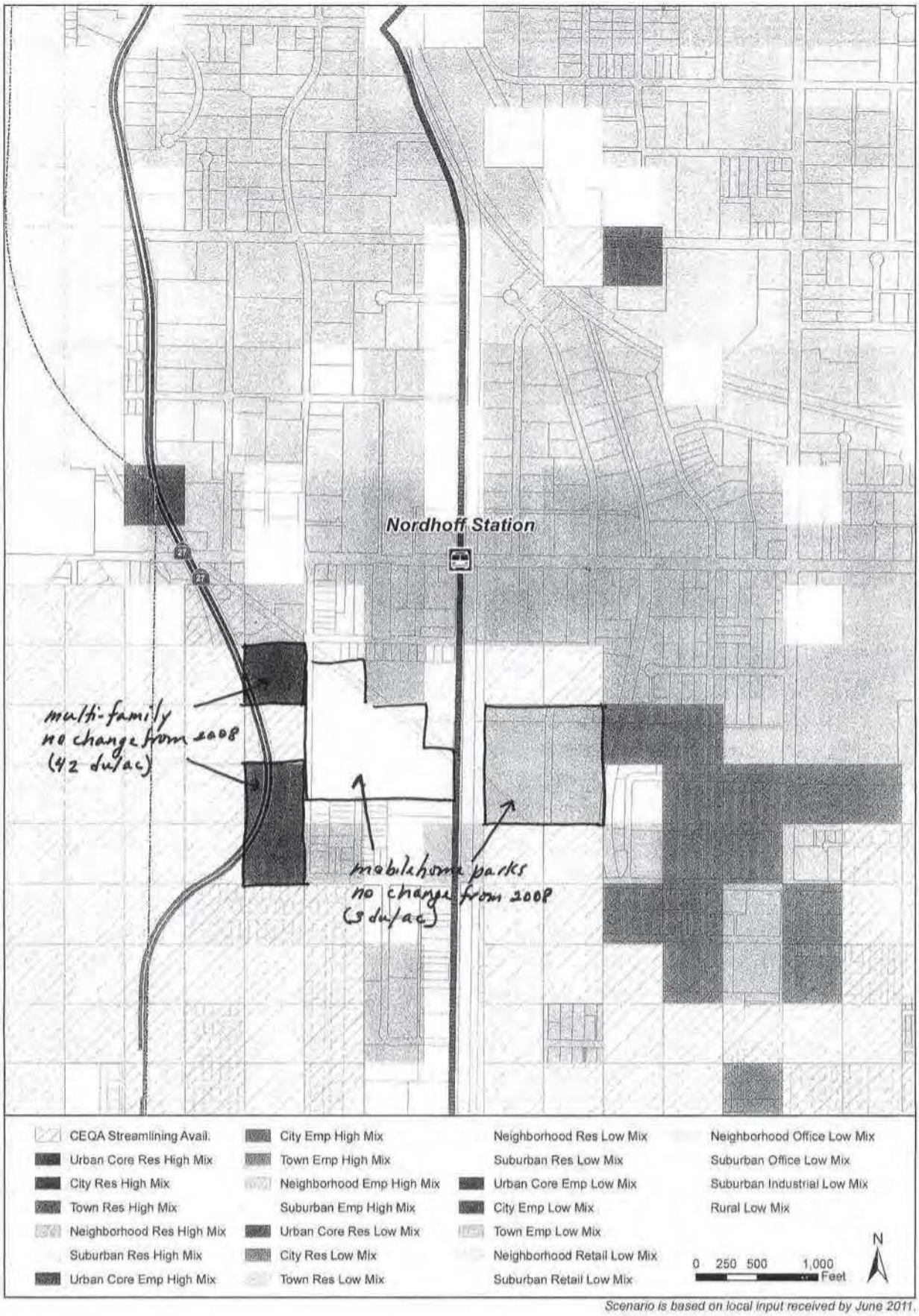


Scenario is based on local input received by June 2011.

Roscoe Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

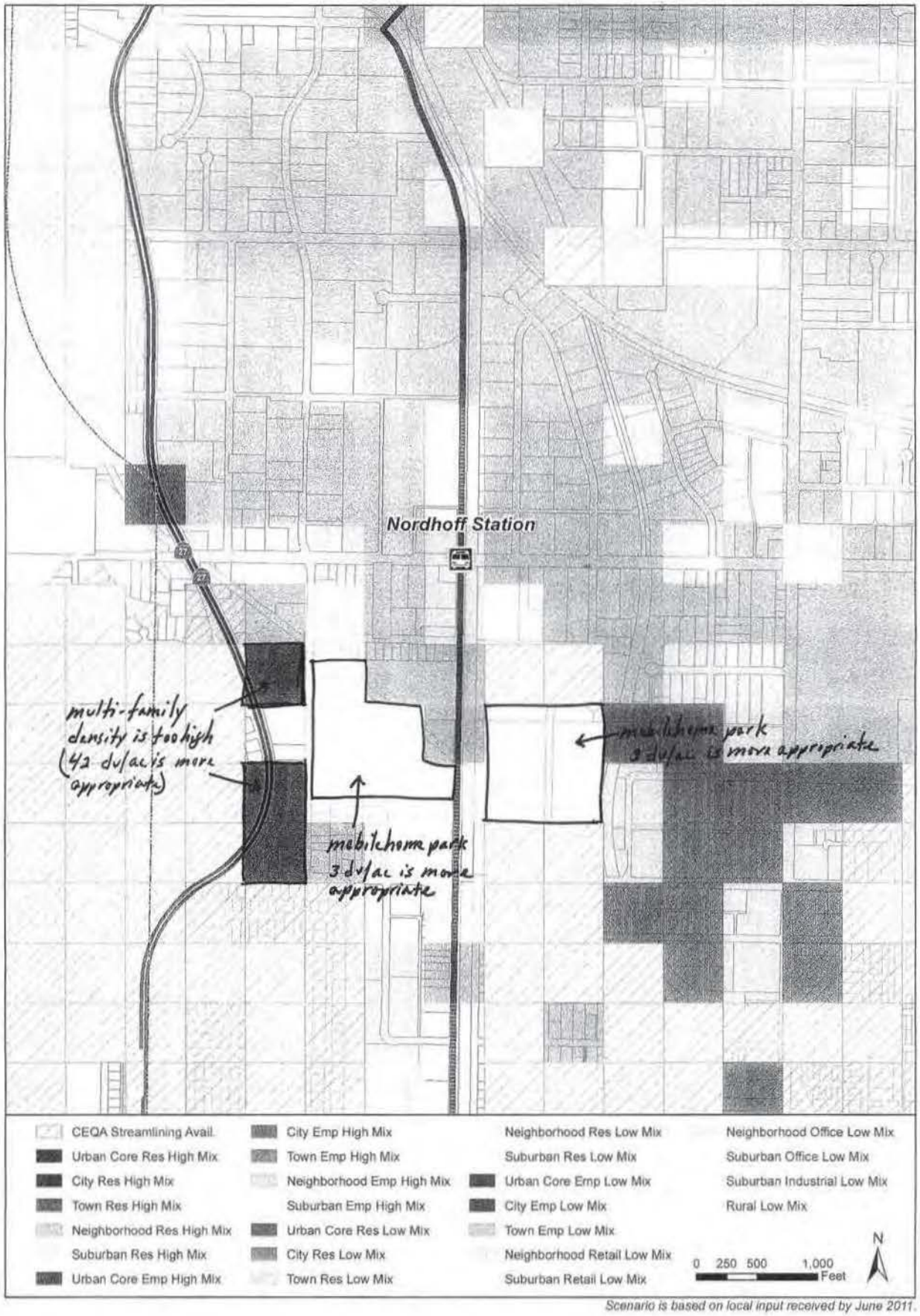


Scenario is based on local input received by June 2011.

Nordhoff Station Area, City of Los Angeles

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

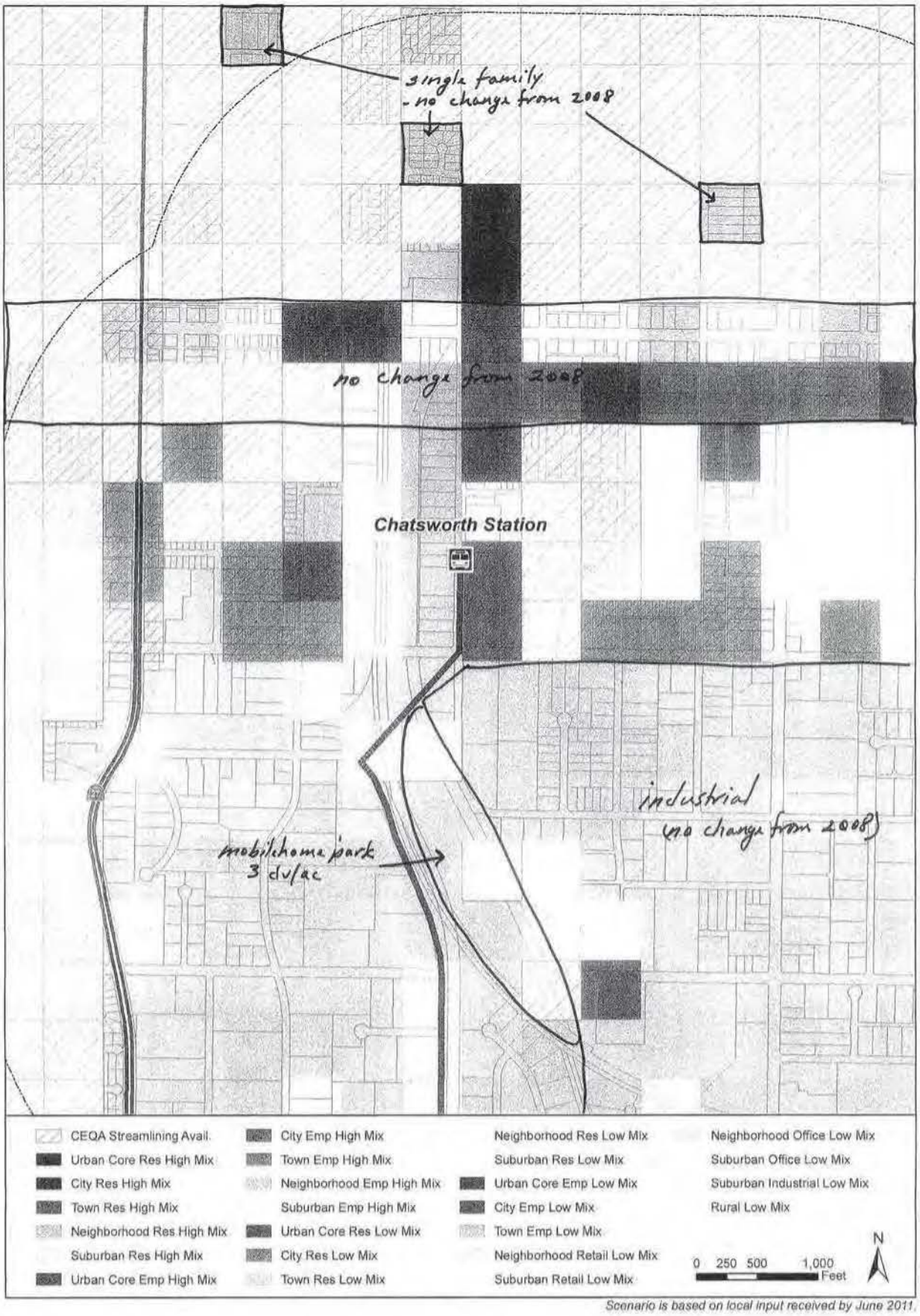


Scenario is based on local input received by June 2011.

Nordhoff Station Area, City of Los Angeles

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

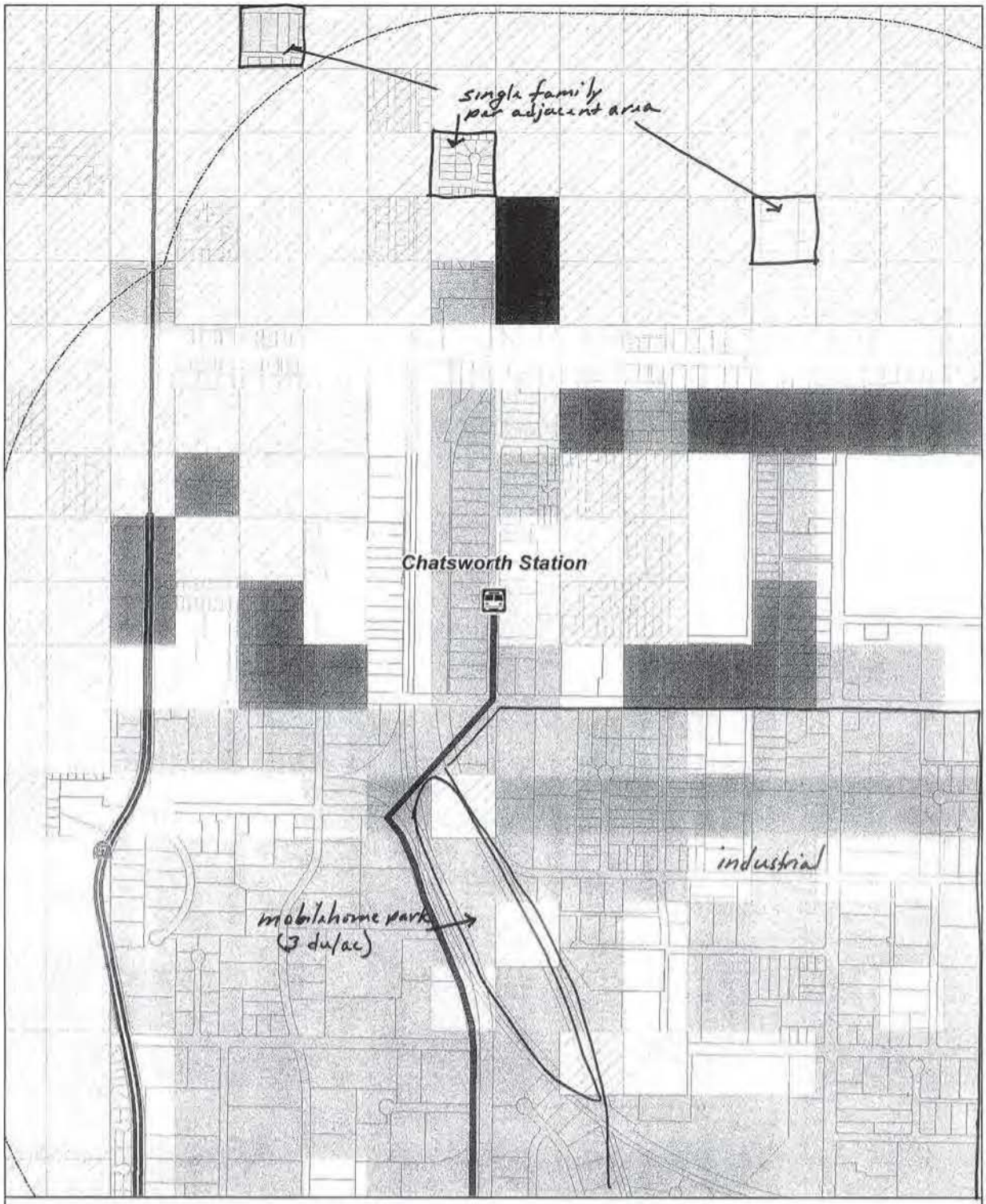


Scenario is based on local input received by June 2011.

Chatsworth Station Area, City of

2035 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS



Scenario is based on local input received by June 2011.

Chatsworth Station Area, City of

2008 Land Use Scenario at Grid Cell Level
with Transit Priority Project Areas

2012 RTP/SCS
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

CITY OF NEWPORT BEACH

COMMUNITY DEVELOPMENT DEPARTMENT

Planning Division

February 14, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Dear Mr. Ikhrata:

The following comments are offered on the draft 2012-2035 Regional Transportation Plan and Sustainable Communities Strategy (draft RTP/SCS) and the associated Appendices and draft Program Environmental Impact Report (draft PEIR).

We would like to commend SCAG and its staff who worked hard to prepare the draft RTP/SCS, the PEIR, and associated documents as this was a monumental task. We appreciate the continued cooperation of SCAG staff throughout this process and the many mentions throughout the document where the RTP/SCS expressly states that it incorporates the Orange County Sustainable Communities Strategy (OC SCS) into the RTP/SCS document.

The City of Newport Beach has reviewed the draft RTP/SCS and the draft PEIR. However, the length of the comment period was not adequate to allow for a comprehensive review and formulation of detailed comments.

We are aware of the review completed by the Orange County Council of Governments (OCCOG) and the concerns addressed in the letter from OCCOG are consistent with the City of Newport Beach's concerns.

It is requested that the adoption of the growth forecast numbers by the Regional Council and/or Joint Policy Committee be at the county level, consistent with past RTPs. Planning documents need to be flexible. As time passes, what is possible and feasible for any given project changes. These changes can be due to market conditions, new information or data, or infrastructure available that may shift when and where development is possible. Smaller geographic levels, such as at the subregional, city, census tract, TAZ, parcel, or grid cell would limit jurisdictional control over land use.

The OCCOG Board approved the update to the OCP-2010 dataset used in the OC SCS. OCP-2010 Modified was officially approved by the OCCOG Board on January 26, 2012, and is a data amendment to the OC SCS. The dataset includes the 2010 Census population and housing data, along with the 2010 EDD Benchmark data, consistent with

SCAG's updated growth forecast dataset. The dataset was provided to SCAG staff in December 2011, which should be incorporated into the 2012 RTP/SCS, PEIR, and related documents. To be consistent with the MOU on subregional delegation between OCTA, OCCOG, and SCAG, all documents, tables, maps, narratives, modeling runs, PEIR alternatives (including Alternate C/3/Envision 2), and datasets should be updated with the OCP-2010 Modified numbers.

As indicated in the PEIR on page 1-6, state law states that it is appropriate to indicate in mitigation measures that they "can and should" be implemented. Under the law, this is explained as the entity has the jurisdiction to implement the measures and, therefore, should implement it. However, due to the assertions throughout the PEIR that mitigation measures have been determined to be feasible, the term "can" could be interpreted to read that the measures are also feasible. In order to make it clear that the mitigation measures are a menu of options for which feasibility has not been established for any given project, it is requested that the "can and should" language be changed in all mitigation measures identifying entities other than SCAG to read "should consider where practical and feasible". It would be appropriate to identify on page 1-6 in the discussion of this language that for all mitigation measures it is assumed by the draft PEIR that the entities identified to implement the mitigation do have the authority to do so.

Again, we thank SCAG for all of the time and effort put into this process. If you have any questions, feel free to contact me at 949-644-3297 or bwisneski@newportbeachca.gov.

Sincerely,

Brenda Wisneski, Deputy Director
Community Development Department
City of Newport Beach

CITY OF ONTARIO

303 EAST "B" STREET, CIVIC CENTER ONTARIO CALIFORNIA 91764-4105 (909) 395-2000
FAX (909) 395-2070

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CITY CLERK

JAMES R. MILHISER
TREASURER

February 14, 2012

Mr. Hassan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

RE: Comments on 2012 RTP/SCS and PEIR

Dear Mr. Ikhrata:

Thank you for allowing the City of Ontario the opportunity to review and comment on Southern California Association of Government's (SCAG's) draft 2012 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS) and the draft Program Environmental Impact Report (PEIR). On behalf of the City of Ontario I would like to express our sincere appreciation to you and SCAG staff for their professionalism, inclusiveness, and dedication to the immense task of coordinating and creating the region's first RTP/SCS regional plan. We support approval of the RTP/SCS Plan with some level of clarification and/or changes described below.

Overall, a recurring theme of our concerns is that the documents need to make clear SCAG's philosophy and intent on maintaining local government's sole control of land use decision making, including the review and establishment of mitigation measures under CEQA. Under your leadership SCAG has forged collaborative efforts with county and local governments to discuss and plan for difficult, complex, regional issues. The success of your approach in recent years, in no small way, can be attributed to the recognition by SCAG of the land use authority of cities and counties within the region and of local home rule. We need to ensure that the RTP/SCS and PEIR reflect that basic understanding.

Specifically, our comments are:

1. We understand and have supported SCAG's efforts to incorporate city growth plans into the regional planning process. However, as in the past, we believe that the RTP/SCS growth forecasts

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should be adopted at the county level, not the city or sub-city (TAZ) level. This would allow more flexibility in dealing with inevitable changes in socio/economic trends within the region and sub-region.

2. We have questions regarding the use of TAZ level data in the CEQA Incentive program discussed on page 148. We are not convinced that the land use scenarios and development types created by SCAG for each TAZ are accurate. We also would like to clarify that the only use of TAZ level data to be used by SCAG in the future would be for the CEQA Incentive program and not for growth projections.
3. The draft PEIR is somewhat confusing and problematic. It is our understanding that the mitigation measures were supposed to be designed to be a menu of options available to lead agencies to consider when reviewing and approving local transportation and development projects, but not as mandatory or required. This is critical because specific environmental review of local projects is the appropriate and legal purview of local agencies. The Plan will be implemented over several years and circumstances involved with site specific development will inevitably change over time and must be taken into account by local agencies responsible for caring out CEQA laws. We recommend that SCAG amend language in the document to specifically and clearly state that the mitigation measures as proposed are intended to assist local agencies in their independent decision making process and are not considered mandatory. We also recommend that the Mitigation Monitoring Program be revised to reduce the burdensome nature of the reporting process.
4. In a separate letter (dated February 13, 2012 from Jerry L. Blum, Planning Director) we requested that two important projects for Ontario be included in the 2012 RTP. These projects were requested via SANBAG and SCAG's consultant previously.

We appreciate your consideration of our comments in the final RTP/SCS and PEIR and look forward to your responses. As always, we commend SCAG for its leadership in these regional activities and the transparent and collaborative manner in which you operate. We share your commitment to a stronger, more cohesive, and prosperous region as expressed in the 2012 RTP/SCS. If you have any questions regarding this matter please contact myself or Jerry L. Blum, Planning Director at 909-395-2199.

Sincerely,

Chris Hughes
City Manager

c: City of Ontario City Council
Otto Kroutil, Development Director
Jerry Blum, Planning Director
Louis Abi-Younes, City Engineer
Jacob Lieb, SCAG

PALMDALE
a place to call home

JAMES C. LEDFORD, JR.
Mayor

STEVEN D. HOFBAUER
Mayor Pro Tem

LAURA BETTENCOURT
Councilmember

MIKE DISPENZA
Councilmember

TOM LACKEY
Councilmember

38300 Sierra Highway

Palmdale, CA 93550-4798

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February 14, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

RE: Comments of the Draft 2012 RTP/SCS and Related Program EIR

Dear Mr. Ikhrata:

The City of Palmdale would like to thank the Southern California Association of Governments (SCAG) and its staff for preparation of the draft 2012 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) and related Program Environmental Impact Report (PEIR). Further, we appreciate the opportunity to review and comment on these draft documents and offer the following comments as discussed below.

1. The City worked diligently with SCAG to develop the growth projections for population, housing and employment data for the 2008 (existing), 2020, and 2035 years. These growth projections represent what we feel is a realistic growth rate projection based upon the information available to us as well as our understanding of City and Antelope Valley growth related issues. Further, these numbers also reflect our draft RHNA allocations. Therefore, it is our position that the adoption of the growth forecast numbers continue to be done at the local level and not at a larger sub-regional or county level.

2. The RTP does not mention the Palmdale Energy Action Plan (PEAP) and we feel that there should be some type of reference and/or acknowledgement of the City's efforts to address GHG reduction. This issue was mentioned at several sub-regional coordinator meetings in which SCAG indicated that they would include this in the document but did not.

Auxiliary aids provided for communication accessibility upon 72 hours' notice and request.

3. The City is concerned about the methods to be used by SCAG on implementing and monitoring proposed mitigation measures for the RTP/SCS as they apply to local agencies. The document should specify to what extent mitigation measures are to be complied with at the local level. On a project level, certain specific mitigation measures may not be applicable at all to a project or may only be applicable when the mitigation measure is achievable or reasonable. Further, it should be stipulated what the consequences are, if any, for the local governments non-compliance with the mitigation measures.

4. The RTP/SCS identifies strategies to reduce greenhouse gas emissions from cars and light duty trucks. The City has concerns related to the implementation of these proposed strategies. These strategies should not be required individually but with several discretionary options made available to the City to satisfy GHG emission reduction goals.

5. The SED disaggregation at the TIER II TAZ level does not correlate with the City's land use plan. Provide clarification on methodology used. How will our city be able to make the necessary consistency findings for projects that are eligible for CEQA streamlining benefits if the modeling results do not match our locally adopted General plan? This shall be clarified.

6. Page 156 of the Aviation and Airport Ground Access supplemental document should be updated to reflect the California High Speed Rail Authority's January 12, 2012, decision to discontinue the study of the Grapevine alignment and to continue the final study of an Antelope Valley alignment and station in the City of Palmdale.

We appreciate your review and consideration of the comments provided by the City and look forward to your responses on these items. The larger agencies and councils within the SCAG region will likely have a substantial amount of comments on the draft RTP/SCS plan and EIR. We have attempted to limit our comments to those issues having the greatest potential impact to the City of Palmdale.

Please feel free to contact me at (661) 267-5293 should you have any further questions.

Sincerely,

Richard Kite
Planning Manager

cc: Mike Behen

OFFICE OF THE MAYOR

February 14, 2012

Jacob Lieb
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017-3435

Transmitted via Email to lieb@scag.ca.gov

Re: Comments on the Draft 2012 Regional Transportation Plan

Dear Mr. Lieb:

Thank you for the opportunity for the City of Pasadena to provide comments on the Draft 2012 Regional Transportation Plan (RTP). The City of Pasadena's General Plan promotes the priority of non-auto trips and sets the tone for the Mobility Element with the Guiding Principle "Pasadena will be a city where people can circulate without cars." The Mobility Element relies upon an integrated and multi modal transportation system that provides choices for everyone living and working in the city. Implementing the projects and policies in the RTP will assist Pasadena in becoming a more livable city for the 21st Century.

I believe you are aware of the active role Pasadena has played over a long period regarding any freeway connection that traverses our community. The issue of the 710 North extension, albeit being a tunnel alternative as opposed to a surface freeway, continues to be a sensitive topic among our elected officials, neighborhood groups and city residents. We request that the RTP recognize the on-going environmental study for this facility and not presuppose the ongoing studies by defining a route for the 710 north extension project.

The City of Pasadena supports the policies included in the RTP to encourage the expansion of local transit service to serve as feeder systems to the regional transit network. However the RTP does not address the limited funding resources that local agencies have in providing these important transit services. We would like the RTP to identify additional funding resources to expand local transit services and include polices that expand the availability of funding for local transit providers.

100 North Garfield Avenue · Pasadena, CA 91109
(626) 744-4311 Fax (626) 744-3921

The City of Pasadena would like the regional transit connection between the North Hollywood Red Line/Orange Line Station and the Gold Line in Pasadena via Burbank and Glendale included in the RTP. This is an important transit project for our subregion and should be included in the RTP and should be considered for implementation using reasonably available funding sources described in the RTP Financial Plan.

Thank you for your consideration of this request.

Sincerely,

BILL BOGAARD
Mayor

cc: Michael J. Beck, City Manager, Pasadena
Frederick C. Dock, Director of Transportation, Pasadena

Ronald Bates, Ph. D.
City Manager

City of Pico Rivera
OFFICE OF THE CITY MANAGER

6615 Passons Boulevard · Pico Rivera, California 90660
(562) 801-4379
Web: www.pico-rivera.org · e-mail: rbates@pico-rivera.org

City Council
Bob J. Archuleta
Mayor
Gustavo V. Camacho
Mayor Pro Tem
David W. Armenta
Councilmember
Gregory Salcido
Councilmember
Brent A. Tercero
Councilmember

February 14, 2012

Ms. Margaret Lin
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

Email: RTP@scag.ca.gov

SUBJECT: SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS' 2012-2035 DRAFT REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY

Dear Ms. Lin:

The City of Pico Rivera appreciates the opportunity to provide comments on the 2012-2035 Draft Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Associated Draft Environmental Impact Report (PEIR). The City of Pico Rivera respectfully submits comments on the proposals for the East-West Freight Corridor Program and the California High Speed Rail Program

East-West Freight Corridor Program

The City supports the proposal for the East-West Freight Corridor Program. The City agrees the Southern California regional freeway system represents one of the highest volume goods movement corridors in the United States and is of major importance to the distribution of consumer goods. We understand major freeways such as Interstate 605 and State Route 60, are impacted by high volumes of truck traffic and truck volumes that will increase through 2035 by 260% or more. For this reason, the City supports the East-West Freight Corridor Program as the solution to address the goods movement in the region.

We recognize that the RTP/SCS identifies and recommends a corridor concept that would connect to the north end of the I-710 freight corridor, roughly parallel the Union Pacific Railroad (Los Angeles Subdivision) before finally following a route adjacent to SR-60 just east of SR-57. This grade-separated concept considers the use of the Union Pacific Railroad Corridor (UPRR Corridor), between I-710 and I-605, through the City of Pico Rivera.

The RTP/SCS further states that the potential use of two non-roadway routes provides an opportunity to move the facility away from neighborhoods and closer to the industrial activities that it would serve. This could not be further from the truth, especially when considering the existing land uses adjacent to the UPRR Corridor within the City of Pico Rivera. Approximately 80% of the existing land use along said Corridor is residential. The statement that this alignment provides an opportunity to move the facility away from neighborhoods is erroneous as it relates to the City of Pico Rivera.

The proposed dedicated truck lanes, forecasted to carry from 58,000 to 70,000 trucks per day, will result in the rerouting of truck traffic from major freeways through the City of Pico Rivera. In effect, the program would build a new freeway through Pico Rivera dedicated to truck traffic (truck dedicated freeway).

The City of Pico Rivera opposes any corridor alignment that includes the segment of the UPRR Corridor between the 710 Freeway and the 605 Freeway. This proposal splits the City in half, requires significant residential, industrial, and commercial property acquisition, and has aesthetic impacts unacceptable to the City. This proposal is unacceptable to the city and we oppose it.

The City respectfully requests that potential routes for the East-West Freight Corridor be limited to freeway routes only, and the non freeway routes not be further considered. The subject UPRR Corridor segment can be supplanted with the segment of the State Route 60, between the Interstate 710 and the Interstate 605. SCAG should effectively evaluate the connection between the two freeways to make this option feasible.

As stated in the enclosed City Council Resolution approved on October 25, 2011, the City of Pico Rivera supports the East-West Freight Corridor Program and supports alternative regional goods movement plans that equitably distribute truck traffic between the Interstate 710 and Interstate 15 through the expansions of the existing freeway system. However, for the reasons stated above, the City of Pico Rivera opposes any SCAG proposal for dedicated truck lanes along the Union Pacific Railroad Corridor, in the City of Pico Rivera.

California High Speed Rail

The RTP/SCS includes options for high speed rail. The City is concerned about the feasibility of such a project in California. We understand that discussions are ongoing among SCAG, the County Transportation Commissions, and the California High Speed Rail Authority regarding levels of available funding for rail infrastructure improvements within the SCAG region. We look forward to further details about the specific investments that will be made in Southern California's rail infrastructure under the RTP/SCS, particularly those that affect the City of Pico Rivera.

At this time, the RTP/SCS proposes three Passenger Rail strategies that will provide additional travel options for long-distance travel within the region and to neighboring regions. The City understands these improvements to be to the Los Angeles-San Diego (LOSSAN) Corridor,

improvements to the existing Metrolink system, and the implementation of Phase I of the California High-Speed Train project. The City would support such improvements only if to enhance the existing rail system through Pico Rivera, and not add supplementary rail lines within new corridors that would require significant residential/industrial/commercial property acquisition.

Goldline Eastside Transit Corridor Phase II

The RTP/SCS estimates that the Goldline Eastside Transit Corridor will be completed by 2035. However, the need for mass transit in the eastside area is greatly underestimated and should be included as a high priority project. The Goldline Eastside Transit Corridor was also included as a project in the regional SCS as it will greatly help to reduce the effects of greenhouse gases. As such, the City of Pico Rivera requests that the Goldine Eastside Transit Corridor be a high priority project both in the RTP/SCS and in the biennial 2011 Federal Transportation Improvement (FTIP) update.

Financial Plan

Table 3.3, *New Revenue Sources and Innovative Financing Strategies* of the RTP/SCS Financial Plan lists Mileage-Based User Fee as a replacement to the gasoline tax. This is a new fee that may affect lower-income residents within the Gateway Council of Governments region. Please advise how the fees would be implemented and how they may affect lower income residents.

Thank you for your attention to this matter. Should you have any questions, please contact Art Cervantes, Director of Public Works/City Engineer, at (562) 801-4225.

Respectfully,

Ronald Bates, Ph.D.
City Manager

RRB:AC:RG:lg

cc: Director of Public Works/City Engineer
Assistant City Engineer

Enclosure (Resolution No. 6646, adopted 10/25/11)

RESOLUTION NO. 6646

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PICO RIVERA, CALIFORNIA - SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS - EAST-WEST FREIGHT CORRIDOR PROGRAM

WHEREAS, the Southern California regional freeway system represents one of the highest volume goods movement corridors in the United States and is of major importance to the distribution of consumer goods and in facilitating international trade; and

WHEREAS, an important part of the movement of goods within the region is accomplished through a complex system of transportation infrastructure; and

WHEREAS, the City Council of the City of Pico Rivera is generally supportive of regional transportation alternatives as long as they do not impact or interfere with the quality of life within the City of Pico Rivera; and

WHEREAS, the Southern California Association of Governments (SCAG) prepared an analysis to evaluate East-West freight corridor alignment alternatives between the Interstate 710 and west to the Interstate 15. Alignment alternatives were evaluated based on proximity to current and future freight markets, feasibility and right-of-way constraints, and corridor operational characteristics which considers truck traffic volumes and frequency of truck-involved accidents; and

WHEREAS, SCAG is proposing certain conceptual alignments that involve installing dedicated truck lanes along the Union Pacific Railroad (UPRR) Corridor, between the Interstate 710 and the Interstate 605, on at-grade or elevated structures. Such alignments involving the UPRR Corridor severely impact the City of Pico Rivera and require significant industrial/commercial and residential property acquisition; and

WHEREAS, the proposed UPRR alignment alternatives are forecasted to carry over 57,000 trucks per day. Any alignment involving the UPRR Corridor in the City of Pico Rivera would result in the rerouting of truck traffic from major freeways thru the City of Pico Rivera thereby severely impacting the City; and

WHEREAS, there is currently insufficient engineering and environmental review of any alignment involving the UPRR corridor to warrant the inclusion in any long-term transportation planning document, including the 2012 Regional Transportation Plan (RTP).

NOW, THEREFORE, BE IT RESOLVED that the Pico Rivera City Council does hereby find and determine as follows:

Section 1. That the City of Pico Rivera supports the East-West Freight Corridor Program.

Section 2. That the City of Pico Rivera supports alternative regional goods movement plans that equitably distribute truck traffic between the Interstate 710 and Interstate 15 through the expansions of the existing freeway system.

Section 3. That the City of Pico Rivera opposes any SCAG proposal for dedicated truck lanes along the Union Pacific Railroad Corridor.

Section 4. The City Clerk shall attest and certify to the passage and adoption of this Resolution and it shall become effective immediately upon its approval, with a certified copy of this Resolution being forwarded to the Southern California Association of Governments, Los Angeles County Board of Supervisors.

APPROVED AND ADOPTED this 25 day of October, 2011.

David W. Armenta, Mayor

ATTEST:

Daryl Betancur, City Clerk

APPROVED AS TO FORM:

Arnold M. Alvarez-Glasman, City Attorney

AYES:	Camacho, Contreras Rapisarda, Salcido, Archuleta, Armenta
NOES:	None
ABSENT:	None
ABSTAIN:	None

Mayor
L. Anthony Beall

Mayor Pro Tempore
Steven Baric

Council Members
Carol Gamble
Jerry Holloway
Jesse Petrilla

City Manager
Steven E. Hayman

February 9, 2012

Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

Subject: Comments on the 2012 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) and Program Environmental Impact Report (PEIR)

Dear Mr. Ikhrata:

The City of Rancho Santa Margarita appreciates the opportunity to review and provide comments on the draft 2012 RTP/SCS and the PEIR. The City has completed its review of these documents and provides the following general comments:

- **Concern with the timeline.** We recognize the immense efforts it took to prepare these documents. They are incredibly complex documents establishing important and far-reaching policy for the region. However, because of this importance and complexity, we would like to express concern about the timing of the release of the documents and hope that preparation of future RTP/SCS documents will take into account the need to accommodate adequate review, discussion and revision time for all of the documents. The timeline of document releases, public comment period, and time allowed for the response to comments results in an inability to have credible discussion regarding possible changes because the timeline does not allow for recirculation or full discussion of requested changes. The documents were released over the holiday season and included the release of draft PEIR document on December 30, 2011. The minimum 45-day public comment period closes on February 14, 2012. Only a few weeks are provided to prepare responses to comments and amend the documents to ensure that the Regional Council may consider the certification of the PEIR and the approval of the draft RTP/SCS on April 4, 2012.

- **It is requested that the adoption of the growth forecast numbers by the Regional Council and/or Joint Policy Committee be at the county level, consistent with past RTPs.** Planning documents need to be flexible. As time passes, what is possible and feasible for any given project changes. These changes can be due to market conditions, new information or data, or infrastructure available that may shift when and where development is possible. Smaller geographic levels, such as at the subregional, city, census tract, TAZ, parcel, or grid cell would limit jurisdictional control over land use.

- **Please define what is meant by various terms in the RTP/SCS and draft PEIR.** Because mitigation measures are intended to be implementable and measurable in order to evaluate the effectiveness of the measures, it is important for the measures to clearly indicate what actions are expected to be undertaken. These include, but are not limited to:
    - Urban Growth Boundary
    - Parking Cash Out
    - References to benchmarks
    - Smart growth principles
    - SCRIP
    - Active Transportation
    - Gentrification
    - Greenfield
    - Open space

- The OCCOG Board approved the update to the OCP-2010 dataset used in the OC SCS. OCP-2010 Modified was officially approved by the OCCOG Board on January 26, 2012 and is a data amendment to the OC SCS. The dataset includes the 2010 Census population and housing data, along with the 2010 EDD Benchmark data, consistent with SCAG's updated growth forecast dataset. The dataset was provided to SCAG staff in December 2011 and this is the formal notice of the update which should be incorporated into the 2012 RTP/SCS, PEIR, and related documents. To be consistent with the MOU on subregional delegation between OCTA, OCCOG, and SCAG, all documents, tables, maps, narratives, modeling runs, PEIR

alternatives (including Alternate C/3/Envision 2), and datasets should be updated with the OCP-2010 Modified numbers.

- Finally, the City has participated in providing comments through the OCCOG Technical Advisory Committee (TAC). Rather than incorporating those comments into this comment letter verbatim, the City requests that the comments provided by the OCCOG TAC be incorporated into the City's comments by reference.

The City plans to continue its active participation in the 2012 RTP/SCS approval process through OCCOG TAC; however, the City requests that SCAG continue to provide the City with any additional information on the project as it becomes available. Should you have any questions, please call me at (949) 635-1800 x6704.

Sincerely,

Nate Farnsworth
Senior Planner, AICP

cc: Steven E. Hayman, City Manager
Kathleen Haton, Development Services Director
E. Max Maximous, City Engineer
Jacob Lieb, SCAG
Peter Herzog, OCCOG Board of Directors Chair
Dave Simpson, Executive Director for OCCOG

Community Development
Department
Planning Division

CITY OF
RIVERSIDE

February 14, 2012

Margaret Lin
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

Jacob Lieb
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

SUBJECT: NOTICE OF AVAILABILITY (NOA) OF DRAFT 2012-2035 REGIONAL TRANSPORTATION PLAN (RTP)/SUSTAINABLE COMMUNITIES STRATEGY (RTP/SCS) AND DRAFT 2011 FEDERAL TRANSPORTATION IMPROVEMENT PROGRAM AMENDMENT #11-24 (FTIP) AND DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT (PEIR) FOR THE 2012 – 2035 REGIONAL TRANSPORTATION PLAN AND SUSTAINABLE COMMUNITIES STRATEGY

Dear Ms. Lin and Mr. Lieb:

Thank you for the opportunity to comment on the two Notices of Availability (NOA) for the above noted projects. As a member organization of the Southern California Association of Governments (SCAG), the City of Riverside has been and continues to participate in the development of the RTP and SCS including reviewing and providing input on the documents and the Draft PEIR. City staff is aware of the hard work that has resulted in these two documents and commends SCAG for preparing a forward thinking plan for our region, where 1 in 17 Americans live and 40 percent of all shipping containers west of the Mississippi River enter the country through the ports of Los Angeles and Long Beach.

On February 8, 2012, SCAG staff graciously held a teleconference meeting with the Planning Directors Technical Advisory Committee of the Western Riverside Council of Governments (WRCOG). During the teleconference meeting, many of City staff's questions were answered. However, some unanswered questions remain and need to be addressed due to the importance of the RTP/SCS and the SCS's connection to Compass Blueprint funding and CEQA streamlining advantages, both stemming from SB 375 and SB 226 for cities whose general plans are consistent with the SCS.

For these reasons City staff has the following questions concerning the documents:

1. The SCS includes projected land use patterns for 2035 using High Quality Transportation Corridors. In the City of Riverside, this includes Bus Rapid Transit (BRT) and Metrolink Lines similar to the City's General Plan 2025. However, the land use patterns in the SCS were applied at the Transportation Analysis Zones (TAZ), which incorporate large areas of land that may contain drastically varying land uses or developable land. Using this map for consistency with the City's General Plan 2025 would be very problematic. For instance, maintaining land use consistency between the General Plan and the prescribed TAZ map along the Alessandro Boulevard BRT corridor would force the City to direct growth to areas such as the Sycamore Canyon Wilderness Park (a natural open space conserved by the County Multiple Species Habitat Conservation Plan) and along hillsides and arroyos, which have already been developed to their maximum density based upon their natural characteristics. The area near the La Sierra Metrolink Station is another part of the City where increasing density using the prescribed TAZ map would result in directing density into a protected area. The City's

Greenbelt, a protected agricultural area which lacks the infrastructure to support the proposed density, encompasses a large section of the City in this area and would be impacted by the proposed growth. Other specific comments related to the proposed TAZ map are as follows:

a. Generally, the SCS map is in conformance with the City's General Plan 2025 and its intent. However, using TAZ's rather than parcels and following the logistics of the City's natural characteristics causes some problems in creating General Plan consistency.

b. Page 148 of the RTP/SCS describes how consistency within a TAZ can be averaged. However, the projected growth in some of the TAZ's located within the City of Riverside is not feasible due to various constraints, including a lack of infrastructure, habitat conservation efforts, and topography. The City's General Plan accounts for these constraints and is consistent with the overall intent of the SCS, however it directs density to where it is appropriate along these same corridors. This is consistent with Smart Growth principles, which advocate for protecting sensitive open space areas and placing density in urban areas where infrastructure already exists.

c. The City aims to be consistent with the SCS but cannot achieve this at the TAZ level. Is there another option? Especially since the City's General Plan 2025 currently meets the overall intent of the SCS, but does so based upon the City's natural characteristics.

2. Socio-economic Data for Riverside County was revised by SCAG based upon the 2010 Census. These revisions were presented to the Executive Committee of WRCOG and approved in December of 2011. Will the plans and Draft PEIR be updated to reflect this new information?

3. Page 3.13-25 of the Draft PEIR, Table 3.13-6 incorrectly reflect data on the City of Riverside Wastewater Plant. This data should be updated to reflect that the City's Plant has a current flow of 34 mgd with a capacity flow of 40 mgd and will have a capacity flow of 52 mgd by 2035.

The City is deeply concerned about being able to meet consistency with the SCS in order to take advantage of Compass Blueprint Programs and CEQA streamlining provisions in the future. The current draft, unfortunately, creates conflicts with the City's existing land uses. SCAG's equal commitment to this goal for all cities would be deeply appreciated.

Should you have any questions regarding this letter, please contact Gus Gonzalez, Associate Planner, at (951) 826-5277 or by email at ggonzalez@riversideca.gov.

Sincerely,

Steve Hayes, AICP
Interim City Planner

c: Ronald Loveridge, Mayor
Riverside City Council Members
Scott Barber, City Manager
Belinda Graham, Assistant City Manager
Deanna Lorson, Assistant City Manager
Kristi Smith, Supervising Deputy City Attorney
Anthony Beaumon, Deputy City Attorney
Dan Chudy, Interim Community Development Director
Tom Boyd, Interim Public Works Director/City Engineer
Steve Libring, Traffic Engineer
Rick Bishop, Executive Director, WRCOG, 4080 Lemon Street, 3rd Floor, MS1032, Riverside, CA 92501-3679

City of San Clemente
City Manager

George Scarborough, City Manager
Phone: (949) 361-8322 Fax: (949) 361-8283
scarboroughg@san-clemente.org

February 14, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Subject: Comments on Draft 2012 SCAG RTP/SCS/PEIR

Dear Mr. Ikhrata,

Thank you for the opportunity to provide comments on the Draft 2012 Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the Draft Program Environmental Impact Report (DPEIR) for the 2012 SCAG RTP/SCS. The City of San Clemente requests a response to the following comments:

The City concurs with OCCOG and OCTA comments

The City of San Clemente concurs with the comments SCAG will receive from the Orange County Council of Governments (OCCOG) and Orange County Transportation Authority (OCTA). The City requests SCAG to respond all of their comments and to act upon any changes advocated by these agencies, of which the City is a member agency.

The General Plan and Zoning maps for the City are not accurate.

SCAG's website allows member agencies to review the maps that would be used for the Draft RTP/SCS and PEIR. We reviewed the latest map files and concluded they are not accurate. The City worked closely with SCAG staff on several occasions to ensure SCAG has accurate maps for the City of San Clemente. Please update the map files to reflect the comments we previously provided.

Growth forecast numbers should be at the county level consistent with previous RTPs.

The 2012 RTP-SCS, like other planning documents, has been written based on assumptions, market conditions, forecasts, projects lists, budgets, datasets, public opinion, and other information that can change after the 2012 RTP-SCS is adopted. Therefore, it is important for the 2012 RTP-SCS to project growth at the county level so cities and counties have the flexibility to respond to these changes when future land use decisions are made. If smaller geographic levels are used (e.g. subregions, cities, census tracts, Transportation Analysis Zones, parcels, or grid cells), it is less likely the 2012 RTP/SCS will forecast actual growth patterns. Therefore, please keep all growth forecast numbers at the county level. This has been the precedent for previous RTPs.

OCP-2010 modified numbers should be used

On January 26, 2012, the OCCOG Board of Directors approved an updated version of the OCP-2010 dataset for use in the OC SCS. The dataset includes the 2010 Census population and housing data, along with the 2010 EDD Benchmark data, consistent with SCAG's updated growth forecast dataset. The updated OCP-2010 dataset was provided to SCAG staff in December 2011. The City requests for all 2012 Draft RTP/SCS/PEIR documents, tables, maps, narratives, modeling runs, PEIR alternatives (including Alternate C/3/Envision 2), and datasets to be updated with the latest OCP-2010 numbers per the OCTA/OCCOG/SCAG Memorandum of Understanding (MOU) that established Orange County's subregional delegation.

The OC SCS should be fully integrated into the regional RTP/SCS

The RTP and appendices include numerous references to the OC SCS and SCAG's total use of the document. Yet numerous other references suggest SCAG may have modified elements of the OC SCS data. SCAG should include a statement, maps, tables, charts, and other information that is necessary to confirm all of the OC SCS land use, socioeconomic and transportation data was incorporated into the regional RTP/SCS without changes. SCAG staff told the OCCOG Board (at several meetings) the OC SCS data has not been and will not be altered. The OC SCS is to be integrated into the regional SCS without changes per the Memorandum of Understanding (MOU) between OCCOG and SCAG.

Mileage-based user fee

The draft RTP suggests $127.2 billion of the approximately $219.5 billion regional shortfall can be addressed through actions at either the state or federal level with a $0.15 gas tax increase between 2017 and 2024. After that, the draft RTP assumes the state or federal government would either replace the gas tax with an indexed mileage-based user fee of $0.05 per mile, beginning in 2025, or further increase fuel taxes to

generate revenues equivalent to the mileage-based user fee. The City of San Clemente cannot support an increase in fees, including the introduction of a mileage-based user fee, until further economic analysis is completed and presented to the City for discussion. In addition, when considering support for any kind of a new user-based fee program, an emphasis must be placed on the need for a return-to-source criteria, as well as a process for recognizing and rewarding areas which commit additional local revenues.

Draft Program Environmental Impact Report

- The Draft PEIR states that SCAG "has made a preliminary determination that the proposed mitigation measures are feasible and effective. Therefore, it is reasonable to expect that local governments will actually implement them." It is unclear how this determination was made. Was this studied? If so, please provide the analysis that was used to prove cities and counties have the ability, staffing, and financial resources to implement all of the mitigation measures.

- At the January 26, 2012 SCAG workshop, and at other meetings, SCAG explained that "**This PEIR offers a "toolbox" of mitigation measures** for future project-level environmental analyses." . . . It also includes suggested mitigation measures for local agencies to consider for implementation, if appropriate and feasible." The PEIR contains text that contradicts this. The document states local agencies *"can and should"* implement the mitigation measures SCAG proposes. The use of the words *"can and should"* implies local agencies have the feasibility and obligation to implement the mitigation measures. SB 375 is not to supersede local agencies' authority to regulate land uses. California Government Code section 65080(b)(2)(K) states ". . . Nothing in a sustainable communities strategy shall be interpreted as superseding the exercise of the land use authority of cities and counties within the region. . ." To address these inconsistencies, the "can and should" language should be changed in mitigation measures to read "~~can and~~ should consider where applicable and feasible" when local and regional agencies, other than SCAG, are identified. This will clarify SCAG's intent to make the mitigation measures a menu of options for local agencies to use when land use decisions are made on projects.

- Several of the mitigation measures that identify SCAG as the acting agency propose measures that appear to exceed the authority of SCAG.

- SCAG must be mindful and use great discretion when making commitments and/or suggesting policies and strategies that may impact and encroach upon local and county agencies' responsibilities. Any such changes should be evaluated and supported by local agencies. Commitments should not be made on behalf of local agencies without the consent of City Councils and County Supervisors.

- Several mitigation measures indicate that local jurisdictions or other entities should implement new fees or propose taxes to pay for a variety of programs or for acquisition of land for preservation. Increases to fees or taxes are issues that could require voter approval and, thus not be approved. They also represent prescriptive means to accomplish the mitigation. It is requested that such measures be reworded to indicate that a new or increased fee, new tax, or other increase is only an option as a way to implement the mitigation. Also, please clarify whether it was assumed that these additional fees were considered feasible and if the new fees that are suggested were considered in the financial plan or economic analysis of the RTP.

Indicate local jurisdictions are not required to demonstrate compliance with the PEIR.

Please amend the text on page 1-5 of the draft PEIR to indicate that local jurisdictions are not required to demonstrate compliance with the PEIR. The document currently reads: "Lead agencies shall provide SCAG with documentation of compliance with mitigation measures through SCAG's monitoring efforts, including SCAG's Intergovernmental Review (IGR) process."

The City of San Clemente appreciates SCAG's work on the RTP and PEIR. Again, thank you for the opportunity to comment on the planning documents. We look forward to the adoption of a complete and accurate 2012 RTP and PEIR in April. If you have further questions, please contact Jim Pechous at (949) 361-6195.

Sincerely,

George Scarborough
City Manager

cc: City Council
CDD (Jim Holloway, Jim Pechous, Jeff Hook, Christopher Wright)
Margaret Lin, SCAG
Dave Simpson, OCCOG
Marika Modugno, OCCOG TAC Chair

MAYOR
Miguel A. Pulido
MAYOR PRO TEM
Claudia C. Alvarez
COUNCILMEMBERS
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CLERK OF THE COUNCIL
Maria D. Huizar

February 14, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments (SCAG)
818 West Seventeenth Street, 12th Floor
Los Angeles, CA 90017-2435

RE: Comment on the Draft 2012 Regional Transportation Plan and Program Environmental Impact Report (EIR)

Dear Mr. Ikhrata:

Thank you for the opportunity to comment on the Southern California Association of Governments (SCAG) draft 2012 Regional Transportation Plan (RTP) and related Program Environmental Impact Report (EIR). We would like to also acknowledge the significant effort made by SCAG, in cooperation with the Orange County Council of Governments (OCCOG), in crafting the "first" SB 375 Sustainability Communities Strategy (SCS) for incorporation into the 2012 Regional Transportation Plan.

In review of the draft 2012 SCAG Regional Transportation Plan and Program EIR, the following are three key areas we would like bring to your attention:

1. The growth forecast numbers included the draft 2012 Regional Transportation Plan should allow for reasonable market flexibility. Thus, it is recommended that the growth projections be incorporated and adopted at a County level. Adoption of population, employment and housing growth projection at any smaller geography could introduce unnecessary and unintended challenges for cities and the development community to make reasonable adjustments to land use approvals; and potential inconsistency with the adopted Regional Transportation Plan.

2. The Orange County Projections (OCP) are developed every three to four years in cooperation with each individual jurisdictions in Orange County, to reflect the anticipated growth for our communities. We respectfully request that the Regional Transportation Plan be refined to include the latest "OCP 2010-Modified" version that incorporates the 2010 Census and more recent State employment data.

3. Several mitigation measures within the RTP Program Environmental Impact Report inappropriately uses the terms "will and shall" in describing the measures. For example, Mitigation Measure 76 (M-TR76) states, "Street standards will include provisions for bicycle parking within the public right of way." Given local policies and ordinances to support them are not in place at this time, stating "will include" in these mitigation measures in the Program EIR are not appropriate. It is suggested that this language in the measures be replaced with "can and should".

The City of Santa Ana appreciates the significant resources and collaborative effort required to develop the 2012 SCAG Regional Transportation Plan; particularly with the SB 375 requirement to incorporate a Sustainability Communities Strategy to integrate land use and transportation planning to promote sustainable communities. We appreciate the opportunity to comment on this landmark regional planning document. Should you needs any clarification regarding our comments, please feel free to contact Associate Planner Melanie McCann at 714.667.2746 mmccann@santa-ana.org.

Sincerely,

Jay M. Trevino
Executive Director
Planning and Building Agency

MGM/ GHG/2012RTP/LetterFeb14.2012

cc: Raul Godinez, PWA Executive Director
David Simpson, Orange County Council of Governments Director

City of
SANTA CLARITA

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February 10, 2012

Laurie Ender
Mayor

Frank Ferry
Mayor Pro Tem

Bob Kellar
Councilmember

Marsha McLean
Councilmember

Laurene Weste
Councilmember

Mr. Hasan Ikhrata, Executive Director
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

SUBJECT: 2012 DRAFT REGIONAL TRANSPORTATION PLAN

Dear Mr. Ikhrata:

On behalf of the Santa Clarita City Council, I am writing to request that the Orange Line Development Authority's Northern Corridor be included within Southern California Association of Governments' (SCAG) Regional Transportation Plan (RTP) Constrained Projects List.

The Orange Line Development Authority (OLDA), of which the City of Santa Clarita is a member, is committed to the development of a high speed, grade separated, environmentally friendly and energy efficient transportation system. In recent months, the OLDA Northern Corridor, from downtown Los Angeles to Santa Clarita, has been the focus of intense review and investment. These activities position OLDA's Northern Corridor to be placed within the Constrained Projects List, as opposed to the RTP's Strategic Plan.

Los Angeles County Metropolitan Transportation Authority (Metro) is currently conducting the Antelope Valley Line Infrastructure Improvement Strategic Plan. This plan anticipates the identification of specific projects, which can be undertaken in the corridor to enhance service and safety. This study will be completed in spring 2012.

The Regional Council's approval earlier this month of a Memorandum of Understanding (MOU) with the California High Speed Rail Authority and transportation commissions paves the way for placement of the statewide high speed rail project within the RTP Constrained Projects List, as the alignment for the high speed rail project falls within the OLDA Northern Corridor. Furthermore, the $1 Billion included within the Memorandum of Understanding contemplates expenditures within the OLDA Northern Corridor during the 2012 RTP horizon. It is also widely anticipated that some of the recommendations identified in the Antelope Valley Line study will also be incorporated into the project list that serves as the implementation of the MOU.

Finally, the Ground Access Study being conducted by the Burbank-Glendale-Pasadena Airport Authority and OLDA focuses on multi-modal transportation improvements that will enhance the linkage between the airport, the OLDA Northern Corridor, and communities, such as Santa Clarita, located within the corridor.

Clearly, the current study activity along the OLDA Northern Corridor, coupled with specific inclusion of the California High Speed Rail Authority's proposed project along the same corridor, demonstrates that the OLDA Northern Corridor meets the criteria for being included within the RTP Constrained Projects List. Within the foreseeable future, it is reasonable to conclude that significant investments will likely be made in the corridor, in conformance with SCAG's criteria for inclusion of projects within the Constrained Project List

On behalf of the Santa Clarita City Council, I encourage SCAG staff and the Regional Council to include the OLDA Northern Corridor within the 2012 RTP Constrained Projects List. Should you or your staff require additional information regarding this request, please contact me or the City of Santa Clarita Intergovernmental Relations Officer, Michael Murphy, at (661) 259-2489.

Sincerely

Laurie Ender

Laurie Ender
Mayor

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cc: Members of the City Council
Council Member Frank Quintero, OLDA Chairman
Mayor Mario Hernandez, SCAG District 67 Representative
Ken Pulskamp, City Manager
Robert Newman, Public Works Director
Michael Murphy, Intergovernmental Relations Officer

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February 14, 2012

Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West 7th Street, 12th Floor
Los Angeles, CA 90017

Dear Mr. Ikhrata:

Subject: Comments Regarding the 2012 Draft Regional Transportation Plan and Regional Transportation Plan Program Environmental Impact Report

Thank you for the opportunity to provide comments on the Regional Transportation Plan (RTP) and the Program Environmental Impact Report (PEIR) for the Regional Transportation Plan. The City of Santa Clarita (City) has identified questions and comments in three chapters of the RTP and on several mitigation measures included in the PEIR. For ease of reference, comments and questions appear in *italics*.

The purpose of the RTP is to provide a blueprint for future transportation projects and strategies throughout the Southern California Association of Governments (SCAG) region through 2035. Included within the RTP is a financial plan that identifies funding available to support the region's transportation investments, including transit, highways, local road improvements, systems preservation, and demand management goals. Central to the financial plan is the identification of funding resources the RTP identifies as "reasonably available" for future projects. The City has prepared the following comment regarding the financial plan included within the RTP (Chapter 3):

> *Based on its identification as a "reasonably available" funding resource, the City requests additional information on increased gas taxes or mileage-based user fees as mandatory action items. Over 50 percent of commuters that live in the City work outside of the Santa Clarita Valley. As a result, an increase in gas tax or a mileage-based user fee could result in significant financial impacts on the local labor pool (Page 95, Table 3.3).*

As required by Assembly Bill 32 and Senate Bill 375, this cycle's RTP includes a Sustainable Communities Strategy (SCS). The SCS functions as a mechanism to ensure the SCAG region can achieve mandated greenhouse gas (GHG) reductions of 8 percent per capita by 2020 and 13 percent per capita by 2035. The draft SCS included in the RTP concludes these targets can be met through a specific land use scenario, called Scenario 2. The scenario was compiled using a variety of data inputs, including a series of workshops hosted by SCAG in a number of

communities throughout the region and by working directly with staff at local jurisdictions. The SCS then models GHG based on a variety of factors. Central to Scenario 2 is a shift from larger lot residential development to smaller lot residential development, including more emphasis on multifamily housing. In addition, the scenario assumes a much higher level of infill and mixed-use development than historical development patterns. The City has prepared the following questions and comments regarding the SCS (Chapter 4) of the RTP:

For clarity, the scenarios in the RTP should be titled in a consistent manner with the alternatives included in the Sustainable Communities Strategy (SCS) background documentation. The City assumes "Scenario 2" from the RTP is the same as "Alternative B" in the SCS Background documentation.

Throughout the chapter, the RTP refers to Appendix 19. SCAG staff has indicated Appendix 19 is now referred to as the "SCS Background Documentation," however, this is not reflected in the current draft (Page 112).

Whereas, Santa Clarita agrees with the assumptions contained in land use Scenario 2 for the region, it should be noted it is unlikely a similar pattern will occur in the Santa Clarita Valley. Although the City's new General Plan, adopted in June 2011, stresses mixed-use and transit-oriented development, significant green-field development is still contemplated within the time horizon of the RTP (Page 115, Figure 4.3).

It is unclear how the two areas identified in Ventura County can be considered "urban areas" on par with those identified in Los Angeles, Orange, Riverside, and San Bernardino counties. By comparison to those areas identified in Ventura County, the State Route 14 (SR-14) corridor between the cities of Santa Clarita, Palmdale, and Lancaster services a local population of over 700,000 residents and represents a substantial proportion of the new growth in Los Angeles County (Page 125, Exhibit 4.5).

One of the three High Quality Transit Areas referenced in the exhibit is the Downtown Newhall area. This area is defined by the Downtown Newhall Specific Plan and is the primary focus of the City's former Redevelopment area. However, given the uncertainty surrounding former redevelopment areas, it is unlikely this location will be able to provide the same type of transit-oriented development and infill contemplated by the Downtown Newhall Specific Plan (Page 134, Exhibit 4.9).

The RTP includes future projects in at least two sections: the Constrained List, which is comprised of projects that have identified funding, and the Strategic Plan, which is comprised of projects requiring more study and which lack identified funding. The City has prepared the following comment regarding projects included in the Strategic Plan and not included in the Constrained List (Chapter 7):

SCAG should consider including the Orangeline High-Speed Transit Project (Union Station to Santa Clarita) in the Constrained List rather than the Strategic Plan, due to the

fact the Los Angeles County Metropolitan Transportation Authority has recently accelerated the evaluation of rail improvements along the Antelope Valley Line (Page 196, Table 7.1.).

As part of our review, the list of Constrained Projects was compared to the schedule of projects included on page nine of the "Measure R Highway Program" report released in January 2012 by the Los Angeles County Metropolitan Transportation Authority (Metro). The City has identified two discrepancies between the two documents and is seeking clarification. The discrepancies are as follows:

Metro's list of highway projects indicates completion of Interstate 5 (I-5) truck lanes (Phase 1) from SR-14 to Pico Canyon Road by 2014, while the Financially-Constrained RTP Project List indicates completion of this same project by 2016 (RTP Technical Appendices, page 154).

Metro's list of highway projects indicates completion of I-5 truck lanes and HOV lanes (Phases 2 and 3) from SR-14 to Parker Road by 2025, while the Financially-Constrained RTP Project List indicates completion of this same project by 2017 (RTP Technical Appendices, page 155).

The PEIR evaluates potential environmental impacts associated with the adoption of the RTP. The PEIR is a first tier document for later CEQA review of individual projects included in the program. Included in the PEIR is a list of over 500 mitigation measures to help reduce identified impacts.

In general, the document is unclear regarding whether mitigation measures that impact local governments are mandatory or voluntary. It is also unclear which agency will be monitoring mitigation measures that impact local governments and what the process for local governments to demonstrate compliance will be. *As a result, the City seeks clarification on whether potential lack of compliance with mitigation measures impact local government's ability to receive future transportation funding.*

The City has prepared the following questions and comments regarding mitigation measures contained in the PEIR:

Mitigation Measure GHG9 identifies the need for member cities and counties to adopt Climate Action Plans (CAP) and outlines no fewer than 14 information items that should be included in the CAPs. The City is in the process of creating its own CAP with an anticipated completion date of summer 2012 and seeks clarification on the following points:

It is unclear if and/or how the City should link its current Climate Action Plan (CAP) process with this item and if the City is able to take credit for any GHG reductions included locally within the SCS.

Mitigation Measure LU84 states that local jurisdictions should provide incentive funding and other incentives to support desired projects. The City is requesting clarification on the following point:

The City seeks clarification on the definition of "desired land uses and projects."

Mitigation Measure LU85 calls for local governments to reduce street widths to Pre-World War II dimensions.

The City feels reducing street widths to Pre-World War II widths is impractical and not financially feasible.

Mitigation Measure PS78 calls for local governments to encourage green-building practices in development projects and encourages the use of Leadership in Energy and Environmental Design (LEED) standards as models. However, with California's adoption of the CalGreen Building Code in 2010, the LEED model has become largely obsolete. The City has prepared the following comment:

The City's preference would be for SCAG to incentivize cities to adopt Tier 1 or Tier 2 guidelines included in CalGreen rather than reference a variety of independent programs.

Understanding the RTP is a regional document encompassing six counties and nearly 200 cities, it is important to note not all of the identified mitigation measures can be applied to each of the member jurisdictions equally given their wide range of socioeconomic, urban, geographic, and demographic conditions. The City has prepared the following comment regarding three mitigation measures:

The City feels the following mitigation measures are more appropriate for dense, urban centers than for suburban and rural areas of the SCAG region: TR59, TR63, and TR83:

We look forward to working with you and your staff now and in the future on this and other projects. Should you have questions, please contact me at (661) 284-1429 or at rnewman@santa-clarita.com. I am available at your convenience.

Sincerely,

Robert Newman,
Director of Public Works

RN:DP:lep
S:\CD\Dave Peterson\Green Team\375\RTP SCS Document 2012\RTP and PEIR Comments 2 14 12 REDRAFT 1.doc

cc: Jeff Hogan, Interim Planning Manager
Andrew Yi, City Traffic Engineer

CITY OF SOUTH PASADENA
OFFICE OF THE CITY COUNCIL
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February 1, 2012

Mr. Jacob Lieb
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, California 90017-3435

Re: Draft 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Program Environmental Impact Review (PEIR)

Dear Mr. Lieb:

On behalf of the City of South Pasadena, we ask you to please accept these comments on SCAG's 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and associated Transportation Conformity Report and Draft Program Environmental Impact Review (PEIR).

I. SCAG's welcome deletion of a surface SR-710 north extension should be accompanied by a land-use action to require State disposition of the hundreds of properties now surplus to the surface route.

The City expresses appreciation to the Southern California Association of Governments (SCAG) for ending the SR-710 as a surface project in its 2008 RTP and maintaining that standing in the proposed plan and draft PEIR. SCAG should now recognize the California Legislature's intervening repeal of Section 100.4 of the Streets and Highways Code, which deprived the SR-710 corridor cities of their right to disapprove of a street-closing surface freeway, and the attendant legislative findings that the surface route will likely never be built. Under these premises, the RTP's land-use actions and strategies should include a requirement—to attain SB 375 criteria by creating affordable and other housing in transit corridors—that the hundreds of State-owned properties acquired for the surface route be released to private ownership. This overlooked measure affords a rapid means of creating such housing, in a relatively high-density environment, within the Gold Line transit corridor.

II. SCAG should follow the State's designation of an unbuilt SR-710 project as an extension and not a gap closure.

In the 1974-1998 EIS/EIR documents on the surface route, the project was characterized as the extension of the 710 north of Valley Boulevard. LA METRO adopted that terminology when the project changed from surface to tunnel and was made a subject of Measure R. Both the Legislature and the Bureau of State Audits continue in 2011 to refer to the unbuilt SR-710 project as an "extension." SCAG however continues, as it did in 2008, to refer to the project as a "gap closure," presumably on the premise that part of the 710 freeway

was completed south of the I-210 interchange. The 1976 judicial order that allowed the freeway component between I-210 and Del Mar Boulevard to be opened to traffic, however, treated this constructed freeway component as part of the I-210 project, as its opening was funded by an I-210 contract, and traffic was allowed not on the (then) route 7 freeway, but instead in the "Route 7 Corridor." In the words of the court, "only the southern portion of the Long Beach Freeway has been completed and it now terminates at Valley Boulevard. . . ." North of Valley to the I-210 interchange is described as the "uncompleted northerly portion." (*City of South Pasadena v. Volpe* (C.D. Cal. 1976) 418 F.Supp. 854, 858.)

Moreover, opening of that freeway portion was conditioned on the premise that opening the freeway segment "will have no effect on the decision as to the ultimate freeway location and will not foreclose reasonable alternatives to the proposed ultimate Route 7 Freeway." (418 F.Supp. at 864.)

To label the uncompleted 710 as a route "gap closure" ignores the reality that the freeway construction north of Del Mar was never accomplished in compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), and *use* of that portion was only allowed by the court as part of the 210 interchange and not to be used to justify completing a 710 freeway. The term "gap closure," designed to create a sense of inevitability or priority for this project over competing ones, must be removed.

III. The Plan and DEIR do not meet the legal requirements of the Clean Air Act, the National Environmental Protection Act or Title 23 of U.S. Code.

SCAG is the federally designated metropolitan planning organization under U.S. Code Title 23 §134(d)(1) charged with creating the Metropolitan Transportation Plan (MTP). This plan (the RTP), and an affirmation of its conformity with the State Implementation Plan (SIP) for air quality, is required for the utilization of federal aid funding in the Los Angeles region. Regulations require that the plan be financially constrained, cover at least a 20-year horizon, and include all projects of "regional significance." The plan must be updated every 4 years and be responsibly modeled to determine that the proposed network meets air-quality conformity requirements. Based on our review, we do not believe this basic standard has been met.

Test 1: Financial Constraint[1]

Federal regulations require that the RTP be financially constrained and include specific financial strategies to ensure implementation of all phases of all projects included in the plan to achieve air-quality conformity.[1]

Projects for which the state or region cannot demonstrate adequate anticipated funding may not be included in the air-quality conformity model. To do so would result in incorrect and potentially unattainable air-quality forecasts, which could not rightfully be concluded to meet conformity requirements.

The extension of SR-710, incorrectly referenced as the "SR-710 Gap Closure" project, is included in the Draft RTP/SCS. The project is described as an 8-lane toll facility in a tunnel

[1] 23 CFR Part 450.

and reported to cost $5.64B projected for completion in 2030.[2] At present only $780M has been secured. Tolling authority has been raised as a potential revenue source. However, a robust financial strategy to fully close the $4.86B financial gap, as is required by federal standards, has yet to be produced.

The financial ability to implement the gap-closure project, as described and modeled in the Plan, is speculative at this point. Based on SCAG's own guidelines,[3] such projects are not eligible for inclusion in the constrained plan but may be maintained in a strategic plan.

The inclusion of speculative projects in the RTP does not meet the federal requirement for a fiscally constrained plan and results in the modeling of a questionable network, thus failing to meet federal or SCS requirements.

Test 2: Regional Emissions Analysis

The emissions generated by the proposed network must be demonstrated to meet the emissions budgets prescribed by the State Implementation Plan (SIP).[4] Additionally, SB 375 requires SCAG to prepare a Sustainable Communities Strategy that achieves (and maintains) greenhouse gas emission reductions of 8% per capita by 2020 and 13% per capita by 2035. A primary goal of SB 375 is to significantly reduce Vehicle Miles Traveled (VMT) as a tool for greenhouse gas emission reductions.

Questionable assumptions are made regarding the air-quality benefits and VMT reductions that may be achieved by a network, including the SR-710 highway expansion. The assumed results include congestion relief, reduced VMT, and lower greenhouse gas emissions. These assumptions are not borne out by recent research[5] and comparable peer regions. Research in California has concluded that a 10% increase in highway capacity leads to a 9% increase in VMT. [6] A recent and extensive study utilizing Federal Highway Administration (FHWA) data also concluded that new or expanded interstate facilities correlate with VMT increases nearly on a one for one percentage basis and that the increase is above and beyond VMT that shifts from alternative routes or other modes.[7] The new facility will attract additional drivers, additional trips, and convert some transit trips to drive trips, eliminating most assumed air-quality benefits.

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[2] SCAG Draft 2112-2035 Regional Transportation Plan, 163.

[3] SCAG 2012-2035 RTP/SCS Draft PEIR, 2-4.

[4] 42 USC § 7506.

[5] Relevant studies include:

- Fulton, Lewis et al. "A Statistical Analysis of Induced Travel Effects in the U.S. Mid-Atlantic Region." *Journal of Transportation Statistics*, Volume 3, No. 1, April 2000.
- Lee, Douglass B., Jr., et al. "Induced Traffic and Induced Demand." *Transportation Research Record*, 1659, 1999, 68-78.
- Johnston, Robert A. et al. "Applying an Integrated Model to the Evaluation of Travel Demand Management Policies in the Sacramento Region." Mineta Transportation Institute, San Jose State University, September 2001.
- Cervero, Robert. "Road Expansion, Urban Growth, and Induced Travel: A Path Analysis." *Journal of the American Planning Association*, Volume 69, No. 2, June 2003, 145-163.

[6] Hansen, Mark. "Do New Highways Generate Traffic?" *Access*, No. 7, Fall 1995, 16-22.

[7] Duranton, Gilles, and Turner, Matthew A. "The Fundamental Law of Road Congestion: Evidence from US Cities." *American Economic Review*, Volume 101, No. 6, October 2011, 2616–52.

A comparable case in the Metropolitan Washington Council of Governments (MWCOG) region had just such a result with the 1991 widening of I-270. This project was included in the regional network and analyzed in the regional air-quality model, which assumed the added capacity would reduce congestion, improve mobility and provide air-quality benefits. It further assumed that the majority of trips on the new facility would be diverted from the smaller streets on the network and therefore assumed no change in VMT projections and no reduction in transit mode share. Within just 8 years of project completion, however, congestion levels had returned to previous levels—in some segments 10 years earlier than the model predicted. Dramatic residential development followed the facility expansion, despite regional modeling assumptions that local land-use plans could control such growth. The corridor paralleled the heavy rail transit "red line," and despite increases in population along the transit corridor, transit ridership dropped by more than 6% during the first three years after the additional lanes opened. The added cars and early congestion meant air-quality impacts were worse than the model had predicted. In 2001, 10 years after the widening opened, for the first time ever, the regional transportation plan for the Washington Region failed to meet federal Clean Air requirements and all planning had to be put on hold.[8]

Given this research and evidence, the plan has not demonstrated that the regional emissions analysis is reasonable and based on justified and demonstrated assumptions and cannot be concluded to meet air quality conformance standards.

IV. By erroneously specifying only one SR-710 extension alternative—a straight line tunnel—the Plan and DEIR threaten program-level conformity and unlawfully prejudice future project-level environmental analyses.

The draft PEIR should assess impacts of the proposed system as a whole. Although it does not isolate the impacts of individual projects nor differentiate their unique impacts or benefits to the system as a whole, regulations require consistency between the project described and analyzed at the program level and analysis at the project level.[ii]

A project design concept and scope must not have changed significantly from that included in the metropolitan transportation plan for which the determination of conformity was made, and projects must be described in sufficient detail to determine emissions.[9]

Once included in an approved plan, the lead agencies may include, by reference, the program level PEIR purpose and need in their project-level environmental clearance documents and may further use the PEIR as the basis for their regional and cumulative impacts analysis.

NEPA and CEQA regulations prescribe a rigorous and transparent process that explores and objectively evaluates a number of project alternatives capable of meeting the project purpose and need. This process for the SR-710 extension project remains in its early stages, and an agency-preferred alternative has not yet been determined or stated, as several viable alternatives are still under consideration. The proposed Plan includes the toll-tunnel alternative

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[8] "Clean Air Issues Put Transportation Planning Process on Hold." *The Region,* National Capital Region Transportation Planning Board, Volume 41, 2002, 10-15.

[9] 42 USC §7506.

in the constrained plan while the transit and "tunnel alternative" options remain in the strategic plan.

According NEPA, "interim action prejudices the ultimate decision on the program when it tends to determine subsequent development or limit alternatives."[10]

Given the requirement for program-level conformity consistent with project-level analysis, inclusion of the SR-710 extension as portrayed as a straight-line tunnel route is not appropriate. LA METRO has yet to propose a specific tunnel alignment, or for that matter any preferred project in the corridor. Even if LA METRO does advance a tunnel, the straight-line route is likely not to emerge as the most favorable of the tunnel alternatives, and indeed, LA METRO's environmental review may end up rejecting the tunnel option entirely. A tunnel option that avoids the steep grade rising into Pasadena and that avoids the Raymond Fault could emerge as more favorable both environmentally and economically, and earn less community opposition, than the direct route. That routing should produce different traffic patterns and modeling outcomes than a project on the assumed direct route.

Therefore, SCAG's inclusion of a single alternative to the SR-710 project in its RTP and draft PEIR would prejudice the environmental review process. This circumstance additionally establishes why a specific SR-710 project cannot be included in the constrained plan at this time.

V. Even though the proposed RTP and its shift of truck traffic to the East-West Corridor vitiates the asserted need for an SR-710 tunnel, the plan and draft PEIR should emphasize elimination of non-local truck traffic in preference to a direct rail loading at the ports.

In promoting the SR-710 tunnel within the last decade, officials have emphasized the need for truck-borne freight to move out of the LA Basin, claiming that such freight haulers (as opposed to commuters or drivers of light trucks) would find the projected tolls acceptable. In light of the draft RTP's emphasis of moving heavy truck traffic originating in the San Pedro Bay ports *not* along the 710 corridor north of I-10, but instead by an East-West Corridor to the Inland Empire, the plan and draft EIR cannot consistently maintain that an SR-710 freeway extension deserves priority or even inclusion.

As beneficial as it may be, in comparison to existing conditions, to shift truck-borne freight traffic off the northern portions of I-710, the RTP and draft PEIR must consider and adopt an even more vigorous approach that is necessary to meet SB 375's mandate of greenhouse gas reduction. Specifically, the plan and PEIR must assess and include the benefits of loading containers onto rail cars directly off the ships at dockside, thereby eliminating even further the case for new highway construction to relieve truck-induced traffic congestion. As pointed out in a recent *The Economist* essay, to maintain their standing in the face of a widened and deepened Panama Canal, "California's ports must compete on speed. . . ." They cannot do so as long as the RTP and draft PEIR continue to "clog up stretches of the I-710 freeway. . . ." ("California Ports: The Fickle Asian Container." *The Economist* (Jan. 28, Feb. 3, 2012, 30.)

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[10] 40 CFR §1506.

Conclusion

The City of South Pasadena requests that the SCAG RTP and PEIR remove the SR-710 north extension. With its inclusion, the Plan has not demonstrated that it can meet two of the four required tests of conformity—sufficient financial resources for the project have not been demonstrated, and assumptions regarding regional emissions are flawed. The reported impacts of the planned network are based on suspect assumptions. Inclusion of the project at this time will bias future project-level NEPA and CEQA review if and when an SR-710 tunnel alignment becomes LA METRO's preferred alternative. Finally, while the circulating draft RTP and PEIR vitiate the need for any SR-710 extension that will produce tolls and relieve congestion, SCAG must discard its emphasis on accommodating any truck traffic from the ports and redraw its plan and assessments to anticipate the direct ship-to-rail transport that enables air-quality conformity and successful port competition.

Sincerely,

Michael A. Cacciotti
Mayor

Philip C. Putnam
Mayor Pro Tem

Robert S. Joe
Councilmember

Marina Khubesrian, M.D.
Councilmember

Richard D. Schneider, M.D.
Councilmember

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[i] 23 CFR § 450.322 (b) (11) [the Metropolitan Transportation Plan shall] "Include a financial plan that demonstrates the consistency of proposed transportation investments with already available and projected sources of revenue. The financial plan shall compare the estimated revenue from existing and proposed funding sources that can reasonably be expected to be available for transportation uses, and the estimated costs of constructing, maintaining and operating the total (existing plus planned) transportation system over the period of the plan. The estimated revenue by existing revenue source (local, State, and Federal and private) available for transportation projects shall be determined and any shortfalls identified. Proposed new revenues and/or revenue sources to cover shortfalls shall be identified, including strategies for ensuring their availability for proposed investments. Existing and proposed revenues shall cover all forecasted capital, operating, and maintenance costs. All cost and revenue projections shall be based on the data reflecting the existing situation and historical trends. *For nonattainment and maintenance areas, the financial plan shall address the specific financial strategies required to ensure the implementation of projects and programs to reach air quality compliance*." (emphasis added)

[ii] 42 USC §7506 Limitations on certain Federal assistance -- Clean Air Act Section 176(c)
Sec. 7506(c) (2) (C) a transportation project may be adopted or approved by a metropolitan planning organization… only if it meets… the following requirements--

(i) such a project comes from a conforming plan and program;
(ii) the design concept and scope of such project have not changed significantly since the conformity finding regarding the plan and program from which the project derived; and
(iii) the design concept and scope of such project at the time of the conformity determination for the program was adequate to determine emissions.



SCAG
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MAIL RECEIVED

February 14, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Associataion of Governments (SCAG)
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

RE: Draft RTP/SCS and Draft PEIR

Dear Mr. Ikhrata:

The City of Stanton appreciates the opportunity to comment on the 2012-2035 Draft Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) and the Program Environmental Impact Report (PEIR) and associated appendices. As a member city of the Orange County Council of Governments (OCCOG), the City would like to extend its support of the OCCOG response letter regarding the subject documents in its entirety. In addition, the City would like to provide the following comments regarding the RTP/SCS and PEIR:

It is requested that SCAG continue to utilize growth projection data at the County level as it has done in previous RTP processes. The growth projections for the 2012 RTP identify population, housing and employment data for the six-county SCAG region, from 2008 (existing) to 2020 and 2035. These growth projections represent the best available information from local jurisdictions, the business community and landowners. However, as time passes, what is feasible for any given project can change. The triggers for change to adopted growth projections can range from factors such as market conditions, new information or data, infrastructure availability, changes in funding availability (such as the dissolution of redevelopment agencies statewide), and changes to jurisdictional boundaries resulting from future annexations and incorporations of previously-designated unincorporated territory. SCAG should continue to adopt the growth projections for the 2012 RTP at a countywide level, consistent with past approvals of Regional Transportation Plan growth forecasts. County level geography accommodates internal adjustments to changing conditions as described above, without compromising the integrity of the overall growth projections. However, approving the growth projections at any lower level of geography, such as at the city level, would be challenged with continual revisions and shifts to the total number of housing, population and employment within a city, among cities, and between cities and counties as a result of the factors described above. Adoption of the data at a level lower than the county

would limit jurisdictional control and create inflexibility in a regional planning document. In addition, the level of geography in which the RTP/SCS growth forecast is adopted should not be determined by other processes. For example, the RHNA allocations must be consistent with the RTP/SCS; state law does not require that they be identical. The RTP/SCS can be adopted at the county level and the RHNA process may proceed independently until it is completed after the appeals, trades, and transfers are completed. The RHNA allocations that were derived from the growth forecast can still be determined to be consistent with the RTP/SCS, even if changes are made to the city totals during the appeals, trades, and transfers process.

In regards to the Projection data utilized in the RTP/SCS and the PEIR, on January 26, 2012, the update to the Orange County Projection (OCP-2010) dataset known as "OCP-2010 Modified" was officially approved by the OCCOG Board of Directors and is a data amendment to the OC SCS. The dataset includes the 2010 Census population and housing data, along with the 2010 EDD Benchmark data, consistent with SCAG's updated growth forecast dataset. The dataset was provided to SCAG staff in December 2011 and this letter also serves as the formal notice of the update that should be incorporated into the 2012 RTP/SCS, PEIR, and related documents.

As part of the SCAG SCS, it was indicated that the OC SCS was incorporated in its entirety without modification. However, there are strategies in the Orange County SCS that are not included in the regional SCS. Similarly, there are some strategies in the regional SCS that are not consistent with the strategies in the OC SCS. This creates confusion and clarification is needed. Under SB 375 and only within the SCAG region, subregional councils of government were allowed to prepare subregional SCS's that SCAG is then required to incorporate into the regional SCS. In Orange County, the Orange County Council of Governments (OCCOG) and the Orange County Transportation Authority (OCTA) developed a countywide or subregional SCS (OC SCS) that was to be incorporated in whole into the SCAG SCS. SCAG has incorporated the OC SCS in its entirety into the regional SCS as an appendix to the regional SCS, but it is unclear what the standing is of the OC SCS. The OC SCS contains a set of strategies that were agreed upon by local governments, agencies and other stakeholders within Orange County and was accepted by SCAG and should represent the SCS that is applicable to the Orange County region. Please clarify the roll of the OC SCS in the regional SCS, and when there are inconsistencies in the regional SCS and the OC SCS, whether the OC SCS would be the prevailing document for the Orange County subregion.

In the Mitigation Monitoring Program, it is stated that "Lead Agencies shall provide SCAG with documentation of compliance with mitigation measures through SCAG's monitoring efforts, including SCAG's Intergovernmental Review (IGR) process." However, it is unclear how SCAG intends to implement the Mitigation Monitoring Program with regard to the proposed mitigation measures, as may be implemented by local agencies. In addition, it is infeasible for SCAG to require local jurisdictions to report when such mitigation measures are considered for any project. Noting that the SCAG region includes 6 counties, 14 subregional entities and 191 cities, this reporting requirement would surely fall short of expectations. Given this identified infeasibility, please clarify what obligations local agencies may have regarding SCAG's mitigation monitoring efforts.

On pages 1-5 and 1-7 in the introduction of the PEIR, the language should reflect that Lead Agencies will determine the feasibility and applicability of measures and that the measures are intended to offer a menu of options available should a lead agency opt to utilize them. The PEIR makes the assertion on page 1-7 of the Project Description under the Transportation Project Mitigation and Land Use Planning and Development Project Mitigation sections that the draft PEIR has made a preliminary determination that all of the mitigation measures in it are considered feasible. SCAG has not identified any analysis that supports the feasibility of the mitigation measures that are to be undertaken by entities other than SCAG and SCAG staff has stated on numerous occasions that the mitigation measures were intended to be a menu of options for consideration by lead agencies.

As indicated in the PEIR on page 1-6, state law provides that it is appropriate to indicate in mitigation measures that they "can and should" be implemented where the authority to implement the measures rests with agencies other than SCAG. The language conveys to local agencies an affirmative obligation to address each mitigation measure, irrespective of whether such agencies deem the measures applicable to a particular project or duplicative of their own or other governmental agencies' regulatory measures. The City recognizes that SCAG's use of the words "can and should" are derived from CEQA, at Public Resources Code sections 21081 and 2155.2(b)(5)(B)(ii) and CEQA Guidelines, including section 15091(a)(2). Nevertheless, given the express limitations of SB 375 upon respective local agencies' land use authority, any language seemingly imposing affirmative obligations contrary to SB 375 is inappropriate. As such, the use of the language "can and should" for mitigation measures addressed to local agencies is inappropriate and should be modified to clearly reflect the mitigation measures as a menu or toolbox for implementation where determined feasible by the local agencies.

Several mitigation measures indicate that local jurisdictions or other entities should implement new fees or propose taxes to pay for a variety of programs or for acquisition of land for preservation. Increases to fees or taxes are issues that could require voter approval and, thus not be approved. They also represent prescriptive means to accomplish the mitigation. As such, any mitigation measure that indicates local agencies should implement new fees should be reworded to indicate the imposing of fees is only an option as a way to implement the mitigation measure.

It is noted that many of the mitigation measures are duplicative of existing regulation or processes (e.g. CEQA review requirements). Under the California Environmental Quality Act, it is intended that measures be identified that will mitigate impacts of the project. Existing regulations are already assumed to be abided by in the evaluation of the impact and the significance of the impact is after all existing regulation is applied. Therefore, mitigation measures should address those actions that need to be undertaken in addition to existing regulation in order to mitigate the impact, and the mitigation measures that simply restate existing regulation are not valid mitigation for purposes of CEQA.

In regards to overall document consistency, the alternatives in the PEIR should be consistently named. Throughout the document, the alternatives are identified with numbers (e.g. Alternative 1, 2, or 3), with letters (e.g. Alternative A, B, or C), or specific names (e.g. Envision 2).

Finally, there are several mitigation measures proposed which may not be applicable to certain projects or local agencies. As such, for project specific mitigation measures, or mitigation measures assigned to local agencies, the mitigation measures should be reworded to include the wording "if applicable."

If you have any questions regarding this matter, please feel free to contact Kelly Hart of my staff at (714) 890-4228.

Sincerely,

Omar Dadabhoy
Community Development Director

Office of the City Council

February 8, 2012

Ms. Margaret Lin
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017

SUBJECT: REVIEW DRAFT 2012 SCAG RTP/SCS AND DRAFT PEIR

Dear Ms. Lin:

Thank you for the opportunity to provide comments on the Draft 2012 Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the Draft Program Environmental Impact Report (DPEIR) for the 2012 SCAG RTP/SCS.

The City of Tustin has prepared the following comments for your consideration at this time:

- Most of the proposed mitigation measures go above and beyond the strategies of the Orange County SCS and requirements of the RTP and Senate Bill 375. For example, Mitigation Measure "Greenhouse Gas Emissions 5" states that "SCAG shall assist ARB and air districts in efforts to implement the AB 32 Scoping Plan." Implementation of the AB 32 Scoping Plan goes above and beyond the scope of SB 375 and the RTP. Therefore, this mitigation measure, and others like it that exceed the scope of the RTP and SB 375, should be removed from the PEIR.

- Proposed mitigation measures are already required by State and Federal law or are regulated by other agencies such as the South Coast Air Quality Management District, California Department of Housing and Community Development, California Department of Fish and Game, and the Regional Water Quality Control Boards should be removed from the PEIR.

- Many of the proposed mitigation measures, including "Land Use 3," "Land Use 10" and "Land Use 42" are contrary to local control. Mitigation Measure "Land Use 10" is one of the most compelling examples. It reads "Local jurisdictions can and should provide for new housing consistent with the Regional Housing Needs Assessment (RHNA) to accommodate their share of the forecasted regional growth." This mitigation measure is problematic and should be removed or revised because State Law and the RHNA do not require local jurisdictions to ensure that housing units are actually built.

- Many of the proposed mitigation measures impose taxes or fees that are financially infeasible for local agencies to implement or impose an undue burden on the building industry. For example, Mitigation Measure "Transportation, Traffic and Security 60" states the following: "Transit and Multimodal Impact Fees: Local jurisdictions can and

should assess transit and multimodal impact fees on new developments to fund public transportation infrastructure, bicycle infrastructure, pedestrian infrastructure and other multimodal accommodations." A second example is Mitigation Measure "Transportation, Traffic and Security 37" which reads "Local jurisdictions and transit agencies can and should provide public transit incentives such as free or low-cost monthly transit passes to employees, or free ride areas to residents and customers." Requiring these types of fees and incentives will increase the cost of development and negatively impact the local economy. Therefore, all such measures should be removed from the PEIR.

- The use of the words "can and should" throughout the PEIR and the Draft RTP/SCS implies that the proposed mitigation measures are feasible, and that local jurisdictions are expected to implement them. The following statement from page 1-7 of the Introduction makes this intent clear: "Local governments routinely implement the types of mitigation measures identified in this Draft PEIR during project design, CEQA review, and/or project construction. This Draft PEIR has made a preliminary determination that these mitigation measures are feasible and effective. Therefore, it is reasonable to expect that local governments will actually implement them." There is no analysis in the Draft RTP/SCS to demonstrate that every local jurisdiction within the SCAG region has the ability, staffing, and financial resources to implement all of the mitigation measures. SCAG should replace the words "can and should" with "should" in all of the mitigation measures in the PEIR and throughout the SCS Chapter of the Draft RTP/SCS. This change in wording would be consistent with SCAG staff's representation at the Orange County Council of Governments January 26, 2012, Board meeting that the mitigation measures are intended to be a "tool box" of options.

- The Draft RTP/SCS assumes that the transportation projects outlined in the document have the potential to induce growth in certain parts of the region. This concept is evidenced by Mitigation Measure "Biological Resources and Open Space 47" which reads "Project sponsors can and should ensure that transportation systems proposed in the 2012-2035 RTP/SCS avoid or mitigate significant impacts to natural lands, community open space and important farmland, including cumulative impacts and open space impacts from growth associated with transportation projects and improvements." This measure is not consistent with the OCSCS and the approved growth projections and patterns embodied within the Orange County Projections 2010 Modified. Therefore, all references to induced growth should be removed from the PEIR.

- It is stated on page 80 of the Draft RTP/SCS that "the RTP has the ability to affect the distribution of that growth." This statement appears to contradict SCAG's agreement pursuant to the Memorandum of Understanding with the Orange County Council of Governments (OCCOG) that the strategies and local land use policies of the Orange County SCS will be respected. The RTP/SCS should acknowledge that the local land use plans in Orange County will not be changed through the RPT/SCS.

- Many of the mitigation measures in the Draft PEIR are draconian and need to removed and/or revised. One prime example is Mitigation Measure "Land Use 85." It reads in part "Local jurisdictions can and should reduce heat gain from pavement and other hardscaping including: Reduce street rights-of-way and pavement widths to pre-World War II widths (typically 22 to 34 feet for local streets, and 30 to 35 feet for collector streets, curb to curb)..." Although reduced street widths may be appropriate in some

cases and have been implemented in many jurisdictions, it is inappropriate and counterproductive to require reduced street widths as a mitigation measure in the PEIR. Reduced street widths, for example, generally do not provide space for on-street parking which may result in greater, additional paved areas provided in separate parking lots.

- The Draft RTP/SCS suggests that $127.2 billion of an approximately $219.5 billion regional shortfall can be addressed through actions at either the state or federal level with a $0.15 gas tax increase between 2017 and 2024. After that, the report assumes that the state or federal government would either replace the gas tax with an indexed mileage-based user fee of $0.05 per mile, beginning in 2025, or further increase fuel taxes to generate revenues equivalent to the mileage-based user fee.

  The City of Tustin cannot support an increase in fees, including the introduction of a mileage-based user fee, until further economic analysis is completed and until and unless there can be an explanation of the return to source principles which will be used for the distribution of funds collected thereunder. In addition, when considering support for any kind of a new user-based fee program, an emphasis must be placed on a process for recognizing and rewarding areas which commit additional revenues.

- The Draft RTP/SCS proposes a number of investments that affect Orange County and go beyond the Long-Range Transportation Plan (LRTP). The City will only consider additional investments after revenues are identified to account for these commitments. The regional strategies identified by SCAG do not have clear funding mechanisms, and it must be made clear that their inclusion in the RTP/SCS does not constitute a commitment to fund and/or implement the improvements.

- The Sustainable Communities Strategy ("SCS") is recognized as a key portion of the 2012 RTP/SCS, and serves to meet responsibilities associated with SB 375. It is clear the SCS "Goals and Benefits" involve significant local jurisdiction participation and efforts. It is critical for the RTP/SCS to recognize the need to sufficiently fund local agency efforts to assure successful outcomes.

- Tables 4.3 - 4.7 of the RTP/SCS identify "Action/Strategy" efforts related to the SCS, with local jurisdictions being identified as responsible parties for many of the tasks. Without proper funding for local jurisdiction efforts we believe the effectiveness of the "Action/Strategy" measures will be compromised.

- In general, current policies and goals of the RTP/SCS identify projects and funding necessary to successfully implement elements of the RTP/SCS. There are also RTP/SCS goals which essentially require development "from the ground up" at the local level. We agree the most efficient and effective efforts toward meeting these RTP/SCS goals will begin with the local jurisdictions.

  There needs to be sufficient levels of funding (which do not appear to be addressed in the current RTP/SCS draft) to allow local jurisdictions to adequately initiate these specialized efforts. From a practical perspective, this funding would be expected to yield some of the most immediate and timely results in meeting RTP/SCS goals. They would consider measures which could include, but not be limited to:

- Programs for improved use of public transit
- Responsiveness to demographic changes
- Improved management of existing transportation infrastructure and roadways
- Employer-based Transportation Management Plans
- Trip-reduction efforts including promotion of telecommuting
- Carpool/transit parking near transportation corridors
- Better "place marking" which includes an increase of walkable environments
- Support of bicycle programs including bicycle storage and bike lanes
- Bridging gaps between mass transit options and shipping and service centers
- Programs for new construction and reconstruction of non-motorized transportation paths

- Measures to reduce vehicle miles traveled will involve local jurisdictions and employers to implement many strategies which include but are not limited to measures such as:

  - Increasing rideshare and work-at-home
  - Investing in non-motorized transportation facilities
  - Developing appropriate land use strategies
  - Encouraging universal employee transit access passes
  - Synchronizing traffic signals
  - Using LED technology for new traffic signals and street lights
  - Allocating convenient parking areas, loading areas and larger parking spaces for vans and HOV
  - Creating ride-sharing programs and provide parking near public transportation
  - Enhancing safety and cleanliness at transit stations
  - Providing shuttles to transit
  - Providing incentives, education and publicity to encourage use of transit

  It will be necessary to provide funding to local jurisdictions for implementation and/or management of these and other associated measures.

- Table 3.6 shows that the 2012 RTP/SCS anticipates relatively low levels of funding for local streets and roads, including $1.1 billion for FY2011-FY2015, $1.1 billion for FY2016-FY2020, and $1.2 billion for FY2021-2025. Funding is increased to $7.9 billion for FY2026-FY2030 and $9.6 billion for FY2031-FY2035. However, local street and road improvements offer the best opportunity for quickly improving mobility and realizing RTP/SCS goals. They also provide economic benefits which could translate into additional funding in the future. Funding for these programs should be increased and accelerated in the near future.

- One City of Tustin project which has both local and regional significance does not appear to be included in the RTP/SCS. It is therefore requested that the following project be added to the RTP/SCS:

  - Tustin Ranch Road extension from Walnut Avenue to Warner Avenue, including a new grade separation over Edinger Avenue and the OCTA/SCRRA Railway.

- In addition, the RTP/SCS should identify the regional transportation infrastructure deficiencies broken down by county for purposes of transparency.

Again, thank you for the opportunity to review and comment on the Draft 2012 Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the Draft Program Environmental Impact Report (DPEIR) for the 2012 SCAG RTP/SCS. If you have any questions regarding the City's comments, please call Elizabeth Binsack, Community Development Director at (714) 573-3031.

Sincerely,

John Nielsen
Mayor

cc: Hasan Ikhrata, SCAG
Dave Simpson, OCCOG
Tustin City Council
Jeffrey C. Parker
Doug S. Stack
Elizabeth A. Binsack
Dana Ogdon
Scott Reekstin

SR:environmental etc\SCAG 2012 RTP SCS and PEIR Letter.doc

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Todd R. Campbell, MEM, MPP
Vice President, Public Policy and Regulatory Affairs

Clean Energy

February 14, 2012

Ms. Margaret Lin
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017-3435

Re: Clean Energy's Comments on the Southern California Association of Government's 2015-2035 Draft Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

Dear Ms. Lin,

Clean Energy appreciates the opportunity to submit comments on the Southern California Association of Government's (SCAG) 2015-2035 Draft Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Clean Energy considers itself a partner of SCAG in that we are a local company that provides a near-zero emissions solution to many transportation sectors that can have a direct and significant impact on the region's air quality. Specifically, we offer clean transportation solutions through the use of natural gas and renewable natural gas (i.e., biogas) for regional fleets that include: taxis, airport shuttles, local delivery fleets, refuse trucks, transit buses, and heavy-duty trucks in the goods movement sector. As you know, many of the aforementioned fleets made a shift over to natural gas either due to rules developed by the South Coast Air Quality Management District or as part other regional efforts to reduce air pollution such as the San Leandro Port's Clean Truck Program.

Upon review of the proposed RTP/SCS, we felt compelled to comment on the document in its current form as it appears to overemphasize electric and zero emission vehicle strategies without any apparent back up documentation regarding the cost-effectiveness and feasibility of such strategies. Clean Energy strongly recommends that SCAG meet with Clean Energy to discuss our experience within the Industry and share with you how we, as a company, intend to help SCAG reach regional air quality attainment.

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ABOUT CLEAN ENERGY

Clean Energy (Nasdaq: CLNE) is a Southern California-based company and the largest provider of natural gas fuel for transportation in North America. We are also a global leader in the ever expanding natural gas vehicle market. It has operations in CNG and LNG vehicle fueling, construction and operation of CNG and LNG fueling stations, biomethane production, vehicle conversion and compressor technology.

Clean Energy fuels over 25,000 vehicles at 280 strategic locations across the United States and Canada with a broad customer base in the refuse, transit, trucking, shuttle, taxi, airport and municipal fleet markets. We are building "America's Natural Gas Highway," a network comprised initially of approximately 150 LNG truck fueling stations connecting major freight trucking corridors across the country.



We own (70%) and operate a landfill gas facility in Dallas, Texas, that produces renewable natural gas, or biomethane, for delivery in the nation's gas pipeline network, and we plan to build a second facility in Michigan. We own and operate LNG production plants in Willis, Texas and Boron, Calif. with combined capacity of 260,000 LNG gallons per day and that are designed to expand to 340,000 LNG gallons per day as demand increases. NorthStar, a wholly owned subsidiary, is the recognized leader in LNG/LCNG (liquefied to compressed natural gas) fueling system technologies and station

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construction and operations. BAF Technologies, Inc., a wholly owned subsidiary, is a leading provider of natural gas vehicle systems and conversions for taxis, vans, pick-up trucks and shuttle buses. IMW Industries, Ltd., a wholly owned subsidiary based in Canada, is a leading supplier of compressed natural gas equipment for vehicle fueling and industrial applications with more than 1,200 installations in 24 countries. For more information, visit www.cleanenergyfuels.com.

An Abundant and Economical Domestic Resource

Reliance on foreign oil exacts a high toll on the U.S. in terms of direct economic costs and indirect energy security costs. During the three-year period from 2008 through 2010, the U.S. spent nearly $700 billion on imported petroleum. More recently, the cost of imported oil has been much higher as oil prices have once again exceeded $100 per barrel. In the coming decade, the U.S. Energy Information Agency (EIA) forecasts total expenditures for petroleum imports to top $3.3 trillion dollars.[1] America's reliance on oil not only affects our trade balance but makes the U.S. vulnerable to price spikes and supply disruptions. And high oil prices results in a windfall for regimes that may not be friendly to the America

Fortunately, the U.S. has an unprecedented opportunity to displace petroleum with domestic natural gas. As President Obama recently declared, the U.S. is "the Saudi Arabia of natural gas." The EIA, the Potential Gas Committee and other expert bodies now estimate that the U.S. has up to a 100 year supply of natural gas. The Potential Gas Committee's 2011 bi-annual report indicates that the U.S. now has a total future supply of 2,170 trillion cubic feet of natural gas. This is 89 Tcf more than estimated in the 2009 report. As was the case with the 2009 report, the 2011 report includes the highest resource estimate in the Committee's history. The availability of this significant domestic resource provides an unprecedented opportunity to solve a number of pressing national objectives like transforming the transportation sector.

Increasing the use for natural gas in transportation will keep our economy growing by supporting new jobs and economic development. In 2008, U.S. production of 20 Tcf of natural gas supported nearly 3 million jobs.[2] In his State of the Union remarks before Congress, the President indicated that new development of natural gas could result in 600,000 new jobs in this decade alone. Thus, increasing demand for natural gas as a

[1] *See* EIA, *2011 Annual Energy Outlook*, Table 11 (April 2011).

[2] "The Contributions of the Natural Gas Industry to the U.S. National and State Economies," IHS Global Insight 2009, p.1.

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transportation fuel will help put more people to work and ensure that we put this natural gas to good use.

Natural gas also benefits our economy because it is a low cost energy that helps businesses grow while at the same time controlling costs. Natural gas is priced much lower than petroleum. The two fuels no longer track one another -- and haven't for many years. The current contract price for natural gas (NYMEX) is trading at less than $3.00 per million Btu, and some analysts believe it could go below $2 per MMBtu. At $3.00 per MMBtu, the price of natural gas equates to a per-barrel of oil price of only $17.40 at a time when oil is trading near $100 a barrel. The low price of natural gas translates into significant savings for fleets and consumers who use natural gas to fuel their vehicles. In most areas of the country, natural gas sells at about a $1.50 discount compared to gasoline and diesel fuel. EIA's long-term forecast projects that differential between natural gas and petroleum fuels will remain as high as $2 per energy-equivalent unit.

Environmental Benefits

The same clean burning properties that make natural gas an excellent fuel for traditional applications like electricity generation, residential heating, and industrial applications, also make it an excellent fuel for transportation. Natural gas burns cleaner than gasoline and diesel fuel and most other transportation fuels as well. Not surprisingly, the first vehicles certified to the U.S. Environmental Protection Agency's (EPA) ultra-low emission, super-ultra low-emission and Tier 2/Bin 2 standards were NGVs. The natural gas-powered Honda Civic GX has won numerous awards for its outstanding environmental performance. In 2011, the Civic GX was rated the "Greenest Car in America" by the American Council for an Energy-Efficient Economy – for an amazing eight years in a row! It also was named the 2012 car of the year by the Green Car Journal. Compared to the gasoline Civic, the natural gas-powered Civic produces 95 percent fewer emissions of volatile organic compounds and 75 percent less emissions of nitrogen oxides – pollutants that contribute to ozone formation.

The environmental benefits of NGVs are expected to continue to improve as new automotive technologies become available. EPA's website describes natural gas as an inherently cleaner transportation fuel. That means that given the same amount of emissions control and technological advancement, natural gas should always produce lower emission than comparable gasoline and diesel-fueled vehicles. As long as the internal combustion engine is with us and as long as refinements to it are made, natural gas will be the cleanest transportation fuel to use in it. A National Academy of Science

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(NAS) report[3] that analyzed vehicle technologies as of 2005 and expected by 2030, projected that, with further expected improvements in vehicle technology and fuel efficiency, natural gas powered vehicles will provide superior benefits in terms of criteria pollutant reductions compared to nearly all other types of vehicles, even electric and plug-in hybrid electric vehicles. The reason, in part, is due to the fact that the internal combustion engine will continue to get much more fuel-efficient and cleaner, and internal combustion engines can always use natural gas. Electric vehicles sometimes use electricity produced from cleaner natural gas but they will likely continue to use electricity produced from coal and increasingly natural gas, offsetting the benefits that otherwise would be provided by such vehicles. Electric vehicles also require more energy to produce them.

Natural gas vehicles will play a key role in reducing greenhouse gas emissions. Per unit of energy, natural gas contains less carbon than any other fossil fuel, and, therefore, produces lower carbon dioxide (CO2) emissions per vehicle mile traveled. While NGVs do emit methane, another principal greenhouse gas, the increase in methane emissions is more than offset by a substantial reduction in CO2 emissions compared to other fuels. The California Air Resources Board (CARB) has conducted extensive analyses on this issue, and has concluded that burning compressed natural gas produces about 22 percent less GHGs than burning diesel, and 29 percent less than burning gasoline.[4] The comparisons are based on well-to-wheels analyses, and include methane emissions. These reductions are equal to -- or better than -- some renewable liquid fuels. Most of the available studies show that given similar fuel efficiency, NGVs fueled by domestic natural gas will deliver about 20–30 percent improvement in GHG emissions. Another important benefit of NGVs is that, in addition to the tailpipe reductions, they also provide upstream emission reductions of greenhouse gases.

These are real greenhouse gas benefits and Clean Energy's California operations has allowed the company to capture more than 9 percent of the California Air Resources Board's Low Carbon Fuel Credits in the first quarter of 2011.

The Potential for Natural Gas Vehicles

The current market for NGVs here in the U.S. is relatively small. Today, NGVs (and electric vehicles) are not yet economic for most owners of light-duty vehicles. The primary reason is that these vehicles have higher initial purchase costs than

[3] National Research Council, *"Hidden Costs of Energy: Unpriced Consequences of Energy Production and Use."* Washington, DC: The National Academies Press, 2010.
[4] See California Low Carbon Fuel Standard; http://www.arb.ca.gov/fuels/lcfs/121409lcfs_lutables.pdf.



conventionally fueled vehicles, but are not driven enough miles or consume enough lower-cost fuel for the fuel cost savings that they offer to offset this higher purchase cost in a reasonable number of years. In fleet applications, however, where fuel consumption per vehicle is much greater, NGVs can be economically attractive to an increasing percentage of businesses and government agencies.

Recent events are clearly pointing to a viable domestic market for light-duty NGVs. We are particularly encouraged by the unprecedented Memorandum of Understanding (MOU) concerning NGVs that has now been signed by ten state governors. The MOU urges U.S. automakers to expand their offerings of NGVs and attempts to stimulate the market for such vehicles by signaling the intent of these states to purchase NGVs. As noted above, in just the past two years, GM and Chrysler have announced plans to produce NGVs for the U.S. market. Honda also has expanded its production capacity for the Honda NGV offering, and is now marketing the car to consumers as well as fleets. Another telling factor is the significant growth in the aftermarket offerings here in the U.S., where nearly a dozen manufacturers offer systems to retrofit light-duty vehicles to operate on natural gas. These offerings include systems for the Fusion, Focus, Impala, Malibu, Milan, Transit Connect, in addition to a variety of popular pickup truck offerings. Ford, while not offering a factory NGV, has been working closely with the aftermarket industry to ensure that aftermarket systems offered for its vehicles meet its demanding standards for quality. These activities clearly show that there is very strong interest in bringing more NGV products to the U.S. passenger car and light-duty segment.

Clean Energy believes that there could be a substantial market for NGVs in all applications, including the light-duty passenger car market. The most immediate opportunity for displacing petroleum and increasing the use of natural gas as transportation fuel lies with light-, medium- and heavy-duty fleets – especially trucks, buses and other heavier vehicles. America currently has a large selection of medium- and heavy-duty NGVs available in the U.S. and the market for natural gas trucks is beginning to ramp up. As a result, natural gas fueling infrastructure development is once again on the rise, recently exceeding 1,000 stations. More importantly, Clean Energy and other major industry partners are now laying the groundwork for a national fueling infrastructure connecting major transportation routes across the country. Furthermore, President Obama's Blueprint for Energy, announced on January 26th, now calls for development of additional natural gas corridors. In that announcement, the President also called upon the Energy Department and national laboratories to focus their energies on bringing about technological breakthroughs in the use of natural gas as a transportation fuel (transcript attached).

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These efforts will directly benefit the NGV market since increased fueling infrastructure is one of the key factors limiting the market for NGVs. The economic outlook appears to be excellent. Lower natural gas prices and lower first cost premiums (brought about by mass production, economies of scale and more competition) mean that, in the future, even passenger cars could become economic. Adopting an RTP/SCS that encourage manufacturers to produce both NGVs and EVS are critically important.

Conclusion

We strongly urge SCAG to modify its current draft RTP/SES to specifically highlight natural gas vehicles, in addition to electric and hybrid options, amongst the near zero-emission to zero emission technologies that will help the region meet its criteria air emissions goals under the federal Clean Air Act and greenhouse gas emissions goals under the state's AB 32 – The Global Warming Solutions Act of 2006. Not only does Clean Energy believe that NGVs will continue to be some of the cleanest options, particularly for medium- and heavy-duty vehicles, on the road, they will most likely will also benefit from hybridized platforms, biomethane and hydrogen-blending, and other advancements that may come to market over the next 20 years. We would like to formerly offer an invitation to senior SCAG staff to visit our offices in an effort to better understand our plans to help the region meet its clean air and greenhouse gas goals prior to the finalization of the RTP/SES. Please do not hesitate to contact us directly at (562) 546-0338.

Sincerely,

Todd R. Campbell

THE WHITE HOUSE
Office of the Press Secretary

For Immediate Release January 26, 2012

REMARKS BY THE PRESIDENT
ON AMERICAN-MADE ENERGY

UPS Las Vegas South
Las Vegas, Nevada

10:11 A.M. PST

THE PRESIDENT: Hello, Nevada! (Applause.) It is great to be back in Las Vegas. (Applause.)

AUDIENCE MEMBER: I love you!

THE PRESIDENT: I love you back. (Laughter.) Although I always say, when we stay here for the night, I've got to watch my staff to make sure that they get on the plane when we leave. (Laughter.) Sometimes they conveniently miss the flight. (Laughter.)

But everybody please have a seat, have a seat. It is great to see you. Joe, thanks for the introduction. Scott, thank you and the folks at UPS for hosting us today. I want to thank all of the elected officials and the tribal leaders who took the time to join us.

Before I get into the core of my remarks, I just want to mention something that I said to Scott and I said to Joe, and that is that UPS I think deserves just extraordinary credit for being the best in its space, one of the best businesses we have in the United States. But the reason is because it's got such outstanding workers -- (applause) -- and the relationship between its workforce and management, cooperating, constantly figuring out how to make things better is just an outstanding organization. And so you guys all need to be congratulated for everything that you do. (Applause.)

Now, I'm here to talk a little more about what I talked about at the State of the Union on Tuesday night. And what I want to focus on is how we're going to restore the basic promise of America, something that folks at UPS understand, which is, if you work hard, if you do the right thing, you should be able to do well enough to raise a family and own a home and send your kids to college and put a little away for retirement. That's the American Dream. That's what most people are looking for.

They don't expect a handout. They don't expect anything to come easy. They do expect, if they're willing to work hard, to try to get ahead. If they're doing the right thing, then they can have a sense of security and dignity, and help make sure that their family is moving forward. That's what Americans are looking for. That's what Americans deserve.

And today, three years after the worst economic storm in three generations, our economy is growing again. Our businesses have created more than 3 million jobs. (Applause.) Last year, businesses created the most jobs since 2005. American manufacturers are hiring again and creating jobs for the first time since the 1990s.

Now, we've got more work to do. But what we can't do is go back to the very same policies that got us into a mess in the first place. We can't go backwards. We have to move forward. I said on Tuesday, and I will repeat today, we will not -- we cannot -- go back to an economy weakened by outsourcing and bad debt and phony financial profits. So on Tuesday, at the State of the Union, I laid out my vision for how we move forward. I laid a blueprint for an economy that's built to last, that has a firm foundation, where we're making stuff and selling stuff and moving it around and UPS drivers are dropping things off everywhere. (Applause.)

That's the economy we want, an economy built on American manufacturing with more good jobs and more products made here in the United States of America. (Applause.) An economy built on American energy, fueled by homegrown and alternative sources that make us more secure and less dependent on foreign oil. (Applause.) An economy built on the skills of American workers, getting people the education and the training they need to prepare for the jobs of today, but also to compete for the jobs of tomorrow. (Applause.)

And most importantly, I talked about an economy that's built on a renewal of American values -- hard work, responsibility, and the same set of rules for everybody, from Wall Street to Main Street. (Applause.) That has to be our future. That's how we restore that basic American promise.

Now, part of my blueprint and what I want to focus on a little bit today is for an economy built to last with American energy. That's why we're here. For decades, Americans have been talking about how do we decrease our dependence on foreign oil. Well, my administration has actually begun to do something about it.

Over the last three years, we negotiated the toughest new efficiency standards for cars and trucks in history. We've opened millions of new acres for oil and gas exploration. Right now, American oil production is the highest that it's been in eight years. Eight years. Last year, we relied less on foreign oil than in any of last 16 years. That hasn't gotten a lot of attention, but that's important. (Applause.) We're moving in the right direction when it comes to oil and gas production.

And today, I'm announcing that my administration will soon open up around 38 million acres in the Gulf of Mexico for additional exploration and development, which could result in a lot more production of domestic energy. (Applause.)

But as I said on Tuesday, and as the folks here at UPS understand, even with all this oil production, we only have about 2 percent of the world's oil reserves. So we got to have an all-out, all-in, all-of-the-above strategy that develops every source of American energy -- a strategy that is cleaner and cheaper and full of new jobs.

Now, a great place to start is with natural gas. Some of you may not have been following this, but because of new technologies, because we can now access natural

gas that we couldn't access before in an economic way, we've got a supply of natural gas under our feet that can last America nearly a hundred years. Nearly a hundred years. Now, when I say under our feet, I don't know that there's actually gas right here. (Laughter.) I mean in all the United States.

And developing it could power our cars and our homes and our factories in a cleaner and cheaper way. The experts believe it could support more than 600,000 jobs by the end of the decade. We, it turns out, are the Saudi Arabia of natural gas. (Applause.) We've got a lot of it. We've got a lot of it.

Now, removing that natural gas obviously has to be done carefully. And I know that there are families that are worried about the impact this could have on our environment and on the health of our communities. And I share that concern. So that's why I'm requiring -- for the first time ever -- that all companies drilling for gas on public lands disclose the chemicals they use. We want to make sure that this is done properly and safely. (Applause.) America will develop this resource without putting the health and safety of our citizens at risk.

But we've got to keep at it. We've got to take advantage of this incredible natural resource. And think about what could happen if we do. Think about an America where more cars and trucks are running on domestic natural gas than on foreign oil. Think about an America where our companies are leading the world in developing natural gas technology and creating a generation of new energy jobs; where our natural gas resources are helping make our manufacturers more competitive for decades. We can do this. And by the way, natural gas burns cleaner than oil does, so it's also potentially good for our environment as we make this shift.

So last April, we issued a challenge to shipping companies like UPS. We said if you upgrade your fleets to run on less oil or no oil at all, we're going to help you succeed. We want to help you with that experiment. So we started out with five companies that accepted the challenge. And of course, UPS was one of the first. That's how they roll. (Laughter and applause.)

So less than a year later, we've got 14 companies on board, and together they represent 1 million vehicles on the road. That's a lot of trucks.

We should do more, though. And that's why we're here today. First, let's get more of these natural gas vehicles on the road. Let's get more of them on the road. (Applause.) The federal fleet of cars is leading by example. Turns out the federal government has a lot of cars. (Laughter.) We buy a lot of cars. So we've got to help not only the federal government but also local governments upgrade their fleet. If more of these brown trucks are going green, more city buses should, too. There's no reason why buses can't go in the same direction.

Second, let's offer new tax incentives to help companies buy more clean trucks like these. (Applause.)

Third, let's make sure all these new trucks that are running on natural gas have places to refuel. That's one of the biggest impediments, is the technology. We know how to

make these trucks, but if they don't have a place to pull in and fill up, they got problems.

So we're going to keep working with the private sector to develop up to five natural gas corridors along our highways. These are highways that have natural gas fueling stations between cities, just like the one that folks at UPS, South Coast Air and Clean Energy Fuels are opening today between Los Angeles and Salt Lake City. That's a great start. (Applause.) So now one of these trucks can go from Long Beach all the way to Salt Lake City. And they're going to be able to refuel along the way.

And finally, to keep America on the cutting edge of clean energy technology, I want my Energy Secretary, Steven Chu, to launch a new competition that encourages our country's brightest scientists and engineers and entrepreneurs to discover new breakthroughs for natural gas vehicles.

So we're going to keep moving on American energy. We're going to keep boosting American manufacturing. We're going to keep training our workers for these new jobs. But an economy that's built to last also means a renewal of the values that made us who we are: hard work, fair play and shared responsibility.

Right now, that means, first of all, stopping a tax hike on 160 million working Americans at the end of next month. (Applause.) People cannot afford right now losing $40 out of each paycheck. Your voices convinced Congress to extend this middle-class tax cut before. I need your help to make sure they do it again. No drama, no delay. Let's just get this done for the American people and for our economy as a whole. (Applause.)

But we've got a longer-run issue -- Scott and I were talking about this before we came out -- and that is how do we get America's fiscal house in order. And we're going to have to make some choices. The reason that we've got these debts and deficit is because we're not making hard choices. Right now, we're supposed to spend nearly $1 trillion more on what was intended to be a temporary tax cut for the wealthiest 2 percent of Americans. Supposed to be temporary. Back in 2001. (Laughter.) That's a long time ago. (Laughter.) A quarter of all millionaires pay lower tax rates than millions of middle-class households. Warren Buffett pays a lower tax rate than his secretary. I know because she was at the State of the Union. (Laughter.) She told me.

Now, that's not fair. That doesn't make sense. And the reason it's important for us to recognize that is, if we're going to reduce our deficit, then we've got to have a balanced approach that has spending cuts -- and we've already agreed to $2 trillion worth of spending cuts. We've got to get rid of programs that don't work. We've got to make government more efficient. I have asked Congress for authority to consolidate some of these agencies to make them run better. We're going to have to be much more effective when it comes to government spending. We all acknowledge that and we're making progress on that front.

But that alone doesn't do it. So if we want to actually deal with the deficit, we've got to look at the other side of the ledger. Do we want to keep these tax cuts for the wealthiest Americans? Or do we want to keep investing in everything else -- like

education, like clean energy -- (applause) -- like a strong military, like caring for our veterans who are coming home from Iraq and Afghanistan? (Applause.) We can't do both. We can't do both.

So what I've said is let's follow the Buffett Rule: If you make more than a million dollars a year, you should pay a tax rate of at least 30 percent -- (applause) -- which, by the way, is lower than you would have been paying under Ronald Reagan. Nobody is talking about anything crazy here. On the other hand, if you make less than $250,000 a year, which 98 percent of all Americans do, then your taxes shouldn't go up. (Applause.) I think that's a fair approach.

And a lot of folks have been running around saying, well, that's class warfare. Asking a billionaire to pay at least as much as his secretary in taxes, that's just common sense. (Laughter.) And I promise you, if we make this change, Warren Buffett will be doing fine. (Laughter.) I will be doing fine. Scott will be doing fine. (Applause.) We don't need more tax breaks. You're the ones who have seen your wages and your incomes stall while the cost of everything from groceries to college to health care have been going up. You're the ones who deserve a break. (Applause.)

And I want to make one last point: We do not begrudge success in America. We aspire to it. We want everybody to succeed. We want everybody to be rich. We want everybody to be working hard, making their way, creating new products, creating new services, creating jobs -- that's the American way. We don't shy away from financial success. We don't apologize for it.

But what we do say is when this nation has done so much for us, shouldn't we be thinking about the country as a whole? When Americans talk about folks like me paying their fair share of taxes, it's not because they envy the rich. Just yesterday, Bill Gates said he agrees with me that Americans who can afford it should pay their fair share. I promise you, Bill Gates does not envy the rich. (Laughter.) He doesn't envy wealthy people.

This has nothing to do with envy. It has everything to do with math. It's what I talked about earlier. We've got to make choices. Americans understand if I get a tax break I don't need and a tax break the country can't afford, then one of two things are going to happen. Either it's going to add to our deficit or somebody else is going to have to make up the difference.

A senior suddenly is going to have to start paying more for their Medicare, or a student is going to have to pay more for their student loan, or a family that's trying to get by, they're going to have to do with less. And that's not right. That's not who we are. Each of us is only here because somebody somewhere felt a responsibility to each other and to our country and helped to create all this incredible opportunity that we call the United States of America.

Now, it's our turn to be responsible. And it's our turn to leave an America that is built to last for the next generation. That's our job and we can do it. (Applause.) We can do it. We can do it. And I know we can do it, because I've seen in states like Nevada and with people like you that I meet all across this country, you understand the history of this country, generations of Americans working together, looking out for each other,

living by the idea that we rise or fall together. Those are the values we have to return to.

I mentioned praise for our military at the State of the Union and the incredible work that they do. And the reason our military is so good, the reason why they're so admired is because they -- it's not like everybody in the military agrees on everything. You got Democrats in the military. You got Republicans in the military. You've got folks who are conservative or liberal -- different races, different religions, different backgrounds -- but they figure out how to focus on the mission. They figure out how to do their job.

And that sense of common purpose is what we're going to need to build an economy that lasts. And if we work together in common purpose, we can build that economy and we can meet the challenges of our times. And we'll remind the entire world once again just why it is that the United States is the greatest country on Earth.

Thank you, everybody. God bless you and God bless the United States of America. (Applause.)

END 10:33 A.M. PST



Memorandum of Understanding

This Memorandum of Understanding (MOU) describes a coordinated effort between the undersigned States (States) to attract automobile manufacturers in the U.S. to develop a functional and affordable original equipment manufacturer (OEM) fleet natural gas vehicle (NGV) that will also meet public demand. The States recognize the benefits and unique attributes of clean burning natural gas and understand the significant opportunity compressed natural gas (CNG) presents to save State and taxpayer dollars by encouraging an energy future that utilizes domestic energy resources to fuel our nation's transportation needs. Through the joint solicitation of a Multi-State Request for Proposal (Joint-RFP) that aggregates annual State fleet vehicle procurements, the States will endeavor to provide a demand base sufficient to support the design, manufacture, and sale of functional and affordable OEM NGVs by automotive manufacturers in the United States.

In anticipation of soliciting a Joint-RFP, the States will endeavor to coordinate with local agencies, municipalities, and companies to determine the number of NGVs each State can commit to purchase and the required specifications necessary to meet fleet needs. The Joint-RFP shall require that the ultimate cost of an OEM NGV should be comparably priced to an equivalent gasoline powered model and that warranty and reliability concerns are not compromised. Simultaneously, the States understand the need for continued development and expansion of CNG fueling infrastructure and should endeavor to encourage private investment, predicated on demonstrating an anticipated increase in State NGVs, to meet growing demand.

Pursuant to the terms of the Joint-RFP, to be executed at a later date, the States intend, where practical, to transition new fleet vehicle acquisitions, in committed volumes, to a resulting OEM NGV. Such future acquisitions should, when economically feasible, rely on traditional distribution channels that incorporate local businesses in procurement processes. In continued recognition of the benefits of CNG, the States should also endeavor to pursue fleet vehicle conversions to CNG, where economically compelling, based on a life-cycle cost analysis. The States will also reach out to fellow Governors to determine broader interest and participation in the principles and process outlined in this MOU.

This MOU embodies the principle understandings of the States but shall not create any legal relationship, rights, duties, or obligations binding or enforceable at law or in equity. Notwithstanding the foregoing, each State shall in good faith endeavor to reach a mutually agreeable and economically beneficial Joint-RFP, as contemplated herein. This MOU does not create additional state power, enhance existing state power, or interfere with federal authority or law. This MOU shall continue to demonstrate the States' understanding until execution of the Joint-RFP, or until otherwise discontinued by either State.

Set forth by:

State of Oklahoma

Mary Fallin

Mary Fallin, Governor

State of Colorado

John Hickenlooper, Governor

November 9, 2011

State of Wyoming

Matthew H. Mead, Governor
November 9, 2011

State of Utah

Gary R. Herbert, Governor
November 16, 2011

State of New Mexico

Susana Martinez, Governor
December 22, 2011

State of Kentucky

Steven L. Beshear, Governor
January 27th, 2012

November 9, 2011

State of Pennsylvania

Tom Corbett, Governor
November 9, 2011

State of Maine

Paul R. LePage, Governor
December 2, 2011

State of West Virginia

Earl Ray Tomblin, Governor
January 16th, 2012

State of Texas

Rick Perry, Governor
February 6 , 2012



February 14, 2012

President Pam O'Connor
Board of Directors
Southern California Association of Governments (SCAG)
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

Re: Draft Regional Transportation Plan/Sustainable Communities Strategy 2035 (RTP/SCS)

Dear President Pam O'Connor and Honorable Members of the SCAG Regional Council:

Congratulations on the successful completion of a draft Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS). This represents the culmination of three years of hard work by your staff, committees, and Regional Council to understand and merge together the land use and transportation plans of hundreds of local governments and agencies. This is a very significant effort that can substantially improve the quality of life, public health, long-term economic competitiveness, and environmental sustainability of the region. Southern California has made some impressive strides in this direction, as reflected in these successes of the plan:

- Meets the greenhouse gas reduction targets established by the California Air Resources Board
- Reduces overall traffic congestion and allows residents to spend less time in their cars
- Triples spending on bike and pedestrian projects and increases transit investments by 13%
- Meets the projected economic market demand by planning for a diversity of housing types, including a more adequate number of small-lot single family homes and dwellings in mixed-use, walkable neighborhoods
- Addresses habitat loss via planning for more cost-effective future environmental mitigation

As organizations that work across the state, we want to recognize and thank SCAG for the enormous progress that Southern California has made in recent years. This is a large and diverse region that has long lacked a transit system with regional reach. Yet Southern California is taking actions that can be a model for regions elsewhere in the state. For example, Los Angeles County's Measure R will generate up to $40 billion, most for transit, and an effort is now underway to accelerate those 30 years of spending into the early years, when jobs are most needed. SCAG has proactively engaged many communities to create a vision for smart growth, first through the Compass Blueprint program and now with the creation of this SCS. This regional plan builds on an innovative model program from Orange County that will address potential habitat impacts in a way that improves environmental benefits while reducing costs through careful, upfront planning. The success of this plan is built upon just these instances of great local and regional leadership.

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However, amidst this plan's successes, there are important ways that this plan can make additional strides. The plan as written reveals that on the current course, there are parts of the region making significant investments in transit, bicycle, and pedestrian infrastructure and thereby receiving great benefits, while other areas are making lesser investments, particularly those in Inland Empire counties. We believe SCAG should pursue additional strategies to expand transit and active transportation opportunities that could have great economic and health benefits for the entire region. We are also concerned that several vulnerabilities in this plan may cause it to not succeed at the level it intends.

I. Create greater opportunity for all Southern Californians

As noted above, the growth and investments in this plan have many benefits for the region as a whole. However, transit and active transportation investments are uneven, and as a result, not everyone in the region will receive the same opportunities and benefits. For instance, this plan reveals that per capita, residents in Los Angeles and Orange County will cut the time they spend driving by about 20%, while residents of Imperial, San Bernardino, and Riverside will receive reductions that are half that, or less. In addition, vulnerable populations across the region will face greater risks. Before finalizing the plan, we ask that the Regional Council and staff take some simple steps to allow the region to move forward together.

Expand transit service in key areas: This plan expands a network of transit choices, giving many people easier access to multiple transportation options, and taking cars off of the roads so that those who do drive spend less time stuck in traffic. Augmenting these with some additional transit investments would provide more options in currently less-served parts of the region.

Expanding bus service levels is the least expensive transit option, and well over 80 percent of those riding transit now do so on bus. The fast-growing Inland Empire counties could particularly benefit from this strategy. The plan shows that only 10% of Riverside County will be served by high-quality bus service (buses every 15 minutes during peak periods). But since about 40% of residents will live near bus lines with a slightly lower level of service (15-30 minute headways), increasing bus travel frequencies would be a relatively low-cost way to greatly expand the number of residents within walking distance of high-quality public transportation. This would not only help those who choose to take the bus, but it will also relieve traffic for those who still need to drive.

Rural parts of the region, such as the eastern Coachella Valley and the North Shore of the Salton Sea, have particularly low access to transit choices even as housing and jobs begin to move into those rural areas. Extending existing bus service to currently unserved rural areas of the Coachella Valley, or exploring options such as local circulators to meet unmet transit needs in rural areas, would also improve access to services and decrease vehicle miles traveled for farmworkers and other rural residents. Additionally, extending planned BRT from Indio to Coachella would make it possible to address the needs of a growing population to access health care, groceries, or good jobs via public transit.

Finally, enhancing and expanding the region's MetroLink system, as well as the BRT and bus system that connect to it, can bring to the full Southern California region the world-class transportation network that it deserves. Such enhancements could create greater economic

opportunity over the long run, more well-paying jobs during the transit construction, and additional opportunities for creating mixed-income walkable neighborhoods.

Expand funding and policies for bicycles and pedestrians: This plan could also take one step further toward providing residents with safe routes for walking and biking. While the plan does triple the previous expenditures, it still devotes less than 1.5% of its funds to safe streets, despite the fact that over 20% of all travel trips in the region are on foot or by bike. According to a poll of Southern California voters by Move LA, NRDC, and the American Lung Association last year, if given the choice, voters would spend significantly more of the region's transportation dollars on bicycle and pedestrian investments.

The L.A. Department of Public Health recently reported that the funding need could be as high as $40B, yet this plan currently devotes $6B and estimates another $4B is available. This gap should be reduced by increasing regional combined bike and pedestrian funding to at least $12B, in addition to the estimated additional $4B. These funds should create "first mile / last mile" linkages near transit, address safety problems in areas of high injury and fatality rates, provide sidewalks and bike lanes in places with lower car ownership rates or where basic infrastructure is currently lacking, and help children use Safe Routes to Schools.

In addition, we ask SCAG to commit to working with its local governments and agencies to embed a "complete streets" policy in local and regional transportation project planning, to systematize the inclusion of pedestrian and bicycle safety features in road construction and maintenance projects. Doing so will make cost-effective use of these limited funds.

Finally, we ask that SCAG undertake a regional bike/ped master planning effort, similar to the assessment of unmet road maintenance costs that SCAG currently manages. Before the next RTP, SCAG should work with partner agencies and jurisdictions to identify local needs, funding strategies, and revenue sources to create a completed network of safe routes for walking and biking.

Further study and aggressively address disparate exposure to air pollution and noise: While this plan would improve air quality in the region overall, we are greatly concerned that air pollution levels would still be highest in areas close to freeways, and that levels in some places could be higher than the "business as usual" or baseline scenario. The Environmental Justice Appendix to the Plan shows that 25% - 27% of households living within 500 feet of freeways could face greater exposures to CO and PM, with high concentrations of minority and low income residents disproportionately affected. The Appendix further highlights that all environmental justice populations except the elderly currently have higher risk of cancer and respiratory disease than the region as a whole, and that the "highest areas of respiratory risk are the segments that closely follow major freeways in the most urbanize portions of the region." Non-English-speaking, foreign born populations have the highest risk. Before finalizing this plan, SCAG needs to study where and how disproportionate impacts will occur, by providing a map showing where this will be happening, and then identify a complete suite of mitigations to ensure that air pollution and noise impacts do not get worse for the most vulnerable while getting better for others. One possible tool is the list of model "Health and Equity metrics,"

including a methodology for calculating those metrics, created by Human Impact Partners in partnership with other health experts and organizations.

Monitor the plan's impacts on key indicators of health and equity, and improve tools for future planning: Addressing inequalities requires understanding them. Particular trends that this plan has a limited ability to project and mitigate – such as the risk of gentrification and displacement near transit stations, injuries / fatalities to pedestrians and cyclists, asthma incidence and exacerbations due to NOx, and the balance of wages to housing costs – should be actively monitored.

To carry this out, SCAG should monitor these issues at a regional scale and also identify particular places to monitor, including areas near transit stations – where shifting demographics suggests that gentrification may already be underway – and also a selected group of areas known to have particularly vulnerable populations.

In addition to tracking this plan's performance, SCAG should commit to developing specific tools to project future plans' impact on critical issues, such as the fit between job wages and housing costs; physical activity; the health impacts of the physical activity and air quality created by the plan; and other measures from the "Health & Equity metrics" mentioned above.

II. Ensure the Regional Transportation Plan's Strengths Become Reality

This plan has much good news for the region, and the recommendations below are designed to help the plan's strengths become reality.

Ensure revenues materialize: Significant new resources are needed for the plan to come to fruition. We ask SCAG to take a leadership role in convening other agencies and jurisdictions to generate the revenues that this plan depends on for success. In developing this plan, the region was faced with a large funding shortfall. The Regional Council made the policy decision not to cut projects but to find additional revenue sources to pay for its infrastructure plans. The current plan assumes that these needed funds will come from state and federal governments, but as history shows, this is not guaranteed. We hope the region will focus on what it can do to raise money via a combination of regional and local fees or taxes. These new revenue sources should be chosen to avoid adverse impacts to the region's lower-income populations.

As funding gaps are likely to continue over the long run, we would also recommend that the region follow the example of other regions in considering how to systematically prioritize those expenditures that most contribute to a sustainable, healthy, and equitable region. Between now and the next SCS, SCAG and its partner agencies could develop a systematic method for prioritizing projects, such as the Project Performance Assessment conducted at the Bay Area's Metropolitan Transportation Commission.

Frontload and expand funds for transit and bike / pedestrian linkages, and for road and bridge safety projects: We ask that in collaboration with its partner agencies and jurisdictions, SCAG lead an effort to accelerate the transit, bike/ped, and road maintenance projects that are essential to meeting the region's goals into earlier years when revenue is more reliable. Making transportation investments in a

timely way ensures that they have maximum impact. Yet, this plan accelerates road construction projects while delaying essential investments in road maintenance, bike and pedestrian safety, and transit to the late years of this 24-year plan.

Delaying road repairs is a bad idea, because deferred maintenance leads to increasingly costly repair needs. Also, delay endangers road and bridge users – in a region where more drivers already cross structurally-deficient bridges than anywhere else in the United States.[1] Delaying projects that can create a multimodal network with a variety of transportation options also concerns us, because future revenues in this plan are less certain. Transportation investments that not only support driving but also create convenient public transit options and safe routes for walking and biking are essential for achieving the region's traffic reduction and air quality goals.

Help local governments plan the transit neighborhoods of the future: We ask that SCAG help local governments plan the diverse transit-oriented or transit-ready neighborhoods that this plan relies upon by making a firm commitment to funds for Compass Blueprint. The draft RTP/SCS assumes that many of the region's homes and jobs will grow as real estate market trends predict they will, in walkable neighborhoods surrounding transit corridors and light rail stations. But many cities are still in the process of updating land use plans to allow that kind of development. Without those plans in place, it is much more difficult for builders to get projects approved and begin construction. With local governments' planning funds at historic lows, funds to finish this planning may not exist. That makes it essential that the region expands its Compass Blueprint incentive grant program to help local governments plan the kind of neighborhoods that this plan needs to succeed. SCAG should make a clear financial commitment that this will happen.

In doing so, SCAG should use these grants first to fund those local governments that stand ready to create healthy, walkable neighborhoods for households at a range of income levels. SCAG should update its Compass Blueprint grant criteria to ensure that neighborhoods near present or future transit stations or corridors will have safe streets for walking and biking, and a mix of housing types to allow people of a range of incomes to live and work near transit. SCAG's environmental justice appendix shows that areas near transit are already losing low-income populations. Lower-income households are more likely to utilize transit services that are available to them, so building housing affordable to those households near transit will maximize the benefit of the region's infrastructure investments. As growth patterns become more compact, SCAG should also carefully monitor and seek resources that could ameliorate and improve rural housing stock.

Address gaps in the link between growth and transportation planning: The success of all regional Sustainable Communities Strategies depends on a well-coordinated link between where growth will happen and where transportation infrastructure will be provided. In places where this link remains weak, SCAG should host conversations between local governments and transportation agencies that will better align transit planning with future growth and housing. Where growth does occur as greenfield development, SCAG should make sure that this habitat and farmland loss is adequately mitigated by ensuring regional mitigation planning includes not only critical habitat and lands within Habitat Conservation Plan / Natural Communities Conservation Plan Areas but all important undeveloped lands, through an inclusive public process. Finally, to make sure the region's analysis

[1] October 2011. Transportation for America. The Fix We're In For: The State of Our Nation's Busiest Bridges. http://t4america.org/docs/bridgereport/bridgereport-metros.pdf

rests on a solid foundation, SCAG should ensure that its High Quality Transit Area calculations accurately includes only the geography around bus stops, not the entire corridor adjacent to a highway that a bus travels along.

Thank you very much for your consideration of these comments, designed to strengthen and support the success of your work in Southern California. We want to again express our appreciation and gratitude to SCAG's Regional Council, committees, and staff. Your efforts to implement SB 375 can help reduce climate change and ensure that future generations of Californians have cleaner air and water, healthier places to live, a stronger and more resilient economy; and greater opportunity for people across the economic spectrum.

Sincerely,

Matthew Baker
Habitat Director: ECOS
The Environmental Council of Sacramento

Autumn Bernstein
Director
ClimatePlan

Jeremy Cantor
Program Manager
Prevention Institute

Pauline Chow and Rye Baerg
Southern California Regional Program Managers
Safe Routes to School National Partnership

Stuart Cohen
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Transform

Steven Frisch
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Jim Stone
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WalkSanDiego

Will Wright
Director of Government & Public Affairs
American Institute of Architects / LA Chapter

Denny Zane
Executive Director
Move LA

February 14, 2012

Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Subject: CVAG and WRCOG Comments on the Draft 2012 Regional Transportation Plan & Sustainable Communities Strategy (RTP/SCS)

Dear Mr. Ikhrata:

On behalf of the Coachella Valley Association of Governments (CVAG) and the Western Riverside Council of Governments (WRCOG), we commend SCAG for its undertaking of an update to the Regional Transportation Plan (RTP), and for preparing the region's first Sustainable Communities Strategy (SCS) pursuant to SB 375. CVAG and WRCOG are taking this opportunity to express our collective comments on the Draft 2012 RTP/SCS, and on the future use of the SCS within Riverside County.

CVAG, WRCOG and our respective member jurisdictions worked with SCAG representatives to develop growth projections for the Coachella Valley and Western Riverside County subregions, and we appreciate SCAG's acceptance of our local input on these overall growth projections. These growth forecasts for population, housing, and employment in Riverside County underwent extensive review by both Agencies' members. Both the CVAG Executive Committee and the WRCOG Executive Committee adopted subregional growth forecasts at the jurisdictional (i.e. City and County) level. The Riverside County Board of Supervisors also approved growth forecasts for Riverside County at the jurisdictional level. Neither CVAG, WRCOG, nor the Board of Supervisors have endorsed or approved subregional growth projections at the TAZ level, nor were any more ambitious TAZ level plans made generally available to and generally accepted by the local planners in Riverside County.

We acknowledge SCAG's usage of TAZ-level data for scenario modeling purposes during the development of the Draft 2012 RTP/SCS. However, we did not anticipate the TAZ data that was recently released by SCAG; nor do we agree that they depict a realistic land use pattern that can or will be achieved in Riverside County by 2035. In most cases, the 2035 TAZ maps substantially deviate from our jurisdictions' adopted General Plans, and also deviate from other land use approvals.

We are also concerned that these maps were only recently made available to us for review. Due to the schedule of the Draft RTP/SCS public comment and review period, CVAG and WRCOG were not given substantial time to analyze this information and consult with our member jurisdictions regarding the potential implications of the growth projections depicted in the 2035 TAZ maps.

Accordingly, although CVAG and WRCOG support the use of the underlying projected population, household, and employment counts for policy purposes at jurisdictional levels, we do not support the

use of the counts reflected in the recently-disclosed TAZ maps as a basis for CEQA streamlining or SCS consistency review under CEQA. Nor do we support the use of these maps for purposes of determining future infrastructure planned in Riverside County. Furthermore, we do not support the use of this information for the purpose of land use regulation or regulatory purposes of any kind. Finally, CVAG and WRCOG do not support SCAG's use of the TAZ maps and supporting data for determining future allocation of Compass Blueprint Program funds or any other funding incentives administered by SCAG or others.

We strongly urge that SCAG clarify that the use of TAZ-level data is for SCS modeling purposes only, and remove any language and policy statements from the Draft 2012 RTP/SCS that otherwise strengthen the standing of these unapproved data.

Thank you very much for your time and consideration of these issues. Please do not hesitate to contact Tom Kirk, CVAG Executive Director at (760) 346-1127 or by email at tkirk@cvag.org, or Rick Bishop, WRCOG Executive Director, at (951) 955-8303 or by email at bishop@wrcog.cog.ca.us should you have any questions on this correspondence.

We look forward to hearing from you.

Sincerely,

Tom Kirk
CVAG Executive Director

Rick Bishop
WRCOG Executive Director

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Board of Supervisors
County of Los Angeles

MICHAEL D. ANTONOVICH
SUPERVISOR

February 28, 2012

The Honorable Alan Wapner
Chairman, Regional Transportation Plan Subcommittee
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

Dear Chairman Wapner:

As a Los Angeles County Supervisor, Vice-Chair of the Los Angeles County Metropolitan Transportation Authority (MTA), and SCAG Board Director, it is my pleasure to request that this subcommittee recommend to the SCAG Regional Council the inclusion of a high speed rail study within the proposed High Desert Corridor project between Victorville and Palmdale as part of the Constrained Regional Transportation Plan.

The importance of the High Desert Corridor has been well-noted by the federal government, which designated the project as a "Corridor of National Significance" with its "E-220" designation in SAFETEA-LU. Support for this project started with the Counties of Los Angeles and San Bernardino partnering to create a Joint Powers Authority (JPA) to oversee the development of this corridor. Since this time the project has also been endorsed in the constrained portions of SCAG's Regional Transportation Plan, the Regional Transportation Improvement Plan, and the MTA Long Range Transportation Plan. The potential for this corridor to divert car and truck trips from the heavily-populated, congested and emissions-plagued Los Angeles and San Bernardino basins has gained national attention as a vital solution to the confluence of local, regional and national car and truck traffic within the region's current freeway system.

The High Desert Corridor JPA Board of Directors has always envisioned this corridor as a public-private partnership that would require multiple elements to create a multi-modal corridor that met the region's needs for car, truck and transit infrastructure improvement. Inclusion of a high-speed rail component within the right-of-way of the High Desert Corridor reflects the desire of the JPA Board of Directors to connect Palmdale and Victorville with at minimum an enhanced 110 mile-per-hour high speed Metrolink corridor, and potentially a 220 mile-per-hour high speed rail corridor compatible with both the California and DesertXpress High Speed Rail systems. Currently the JPA Board has not entered into any agreement with Metrolink, California High Speed Rail,

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Amtrak or DesertXpress to partner with the JPA in operating service on this high speed rail corridor. Rather, the JPA will remain partner-neutral until which time the Public-Private Partnership Request for Proposals process calls for a decision to be made by the High Desert Corridor JPA and its partners in MTA and SANBAG.

By combining the environmental study of this high speed rail component of the High Desert Corridor into the current environmental work for the highway portion of the project, the JPA Board strives to provide a cost-effective manner of implementing this transit aspect of the project as cost-effectively as possible while staying within SCAG's envelope of $8.2 billion in the proposed Regional Transportation Plan. By including a vital high speed rail component, the High Desert Corridor stands poised to become a model public-private partnership project which captures the multi-modal requirements of AB 32 and SB 375 while leveraging private capital and improving the national movement of truck freight as encouraged by federal transportation policy.

Thank you for your support of the inclusion of the High Desert Corridor, including the environmental study of a high speed rail component within its right-of-way, in the Constrained portion of SCAG's Regional Transportation Plan.

Sincerely,

MICHAEL D. ANTONOVICH
Supervisor

MDA:mcc

c: Members of the Regional Transportation Plan Subcommittee

COUNTY OF LOS ANGELES
Public Health

JONATHAN E. FIELDING, M.D., M.P.H.
Director and Health Officer

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February 14, 2012

Pam O'Connor, President
Regional Council
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

Dear President O'Connor:

We thank the leadership and staff of the Southern California Association of Governments and its Regional Council members for developing the agency's first-ever Sustainable Communities Strategy (SCS) and 2012 Regional Transportation Plan. This task was especially challenging given that it is the first time the region has put together an SCS.

The Department of Public Health supports many aspects of the RTP which will improve public health and air quality and lower greenhouse gas emissions by expanding public transit, promoting new development near transportation, and increasing investments for bicycle and pedestrian infrastructure.

The following recommendations are made to strengthen the RTP/SCS this year and in future years.

1. Target and increase investment for active transportation

We applaud SCAG's proposed increased investment in active transportation, from $1.8 billion in the 2008 RTP (less than .5 %) to $6 billion (1.3%) in the current draft plan. DPH strongly encourages that the final plan:

- Prioritize (i) first-mile/last-mile connections to transit stations which will help support the increased investment in the transit system; (ii) projects that close gaps in key bicycle and pedestrian corridors; and (iii) communities with high numbers of bicycle and pedestrian injuries and high rates of chronic disease.
- Front load active transportation funding so it is available to jurisdictions to build walkable and bikeable communities early on in the 25 year RTP period.
- Provide funding and technical assistance for cities to create bicycle and pedestrian plans and city-wide safe routes to school plans.
- Offer support to County Transportation Commissions (CTCs) and local jurisdictions to adopt a complete streets policy so that pedestrian and bicycle improvements can be made routinely and more economically when streets are improved or built.

In addition, the plan should include further investments in active transportation to create 1) basic bicycle and pedestrian infrastructure in key areas in every city in the SCAG region; 2) bikeable and walkable neighborhoods within ½ mile of all TODs, existing and planned; 3) complete routes to public schools throughout the region that children can walk and bike to; 4) sidewalks repair throughout the region; and 5) improved continuity in county bike networks.

This recommendation for additional investment is based on a recent DPH examination of cost data from local cities' bike and pedestrian plans and CalTrans Safe Routes to Schools grants in LA County, cost of sidewalk repairs in LA City, and costs for building pedestrian and bicycle improvements in Transit Oriented Districts. DPH used this data to estimate costs for needed bike and pedestrian improvements across the SCAG region.

Given that cities' bicycle and pedestrian master plans have a range of costs for proposed improvements, we present a range for the estimated amount of active transportation funding needed to generate these improvements across the region, from a low of $37 billion (7.1%) to a high of $60 billion (11.4%) over 25 years, adjusted for inflation. We recognize that there are many factors that must be considered in your resource allocation decisions and, therefore, do not provide these estimates as a recommendation for funding. However, given the region's long standing underinvestment in bike and pedestrian infrastructure, we feel this is an appropriate range of investment options for your consideration.

2. Build healthy neighborhoods around transit stations that protect existing low-income residents

The area around rail stations offers a unique opportunity to create safe access to transit and to address key community needs such as mixed-income housing and business/retail corridors within a walkable and bikeable community setting. However, without careful planning, the people in neighborhoods adjacent to rail stations can be displaced as real estate prices rise in response to new development, triggering corresponding increases in residential and commercial rents for low-income families and small business owners. DPH encourages that the plan:

- Prevent displacement of existing low-income residents, fund jurisdictions to create transit-oriented development (TOD) plans that include policies to preserve existing affordable housing and small business store fronts and to ensure the provision of affordable housing and small business store fronts in new developments.
- Whenever possible, locate housing, child care facilities, schools and other sensitive-use development far enough away from sources of pollution to decrease exposure that can negatively affect health.

3. Strengthen public health modeling and monitoring

We encourage SCAG to measure the public health impacts of transportation investments. For example, the RTP could be analyzed for its potential to reduce chronic diseases in the SCAG region, such as heart disease and breast cancer, based on increases in walking and biking, linked to active transportation scenarios. Specifically, DPH encourages SCAG to:

- Measure the health benefits of transportation plans by integrating health outcomes into SCAG's modeling approaches.
- Measure and report on additional public health indicators including but not limited to: bicycle and pedestrian injuries and collisions by geographic areas; percentage of households that can walk or bike within 10 minutes to reach their daily destinations, e.g. transit, schools, childcare, parks; percent of income consumed by housing and transportation costs.
- Conduct targeted analyses in neighborhoods adjacent to rail stations to determine if displacement of existing residents is occurring as development occurs.

We express our appreciation to the SCAG Regional Council and staff for your hard work to develop this RTP/SCS and to guide Southern California's land use and transportation investments wisely. We look forward to working with you to make our neighborhoods and our region healthier for existing and future residents.

Sincerely,

Paul Simon, M.D., M.P.H.
Director, Division of Chronic Disease and Injury Prevention

County of Orange
California

Thomas G. Mauk
County Executive Officer

February 10, 2012

Hasan Ikhrata, Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Re: Orange County Comments to the Draft 2012 Regional Transportation Plan/Sustainability Communities Strategy

Dear Mr. Ikhrata,

The County of Orange (County) has reviewed the 2012 Draft Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), and associated Program Environmental Impact Report (PEIR). SCAG staff should be commended for the effort put into these regionally significant documents that put forth goals, policies and strategies intended to meet the provisions of SB 375. The County appreciates the opportunity to provide comments and suggested revisions to these documents.

Upon review of these documents, the County has determined that there are a number of policies, strategies and measures within the draft RTP/SCS and PEIR that detrimentally affect the County's local land use control and future transportation funding, and that the documents are legally inadequate under CEQA, SB 375, and applicable law. The overarching issues are described below and specific technical details are provided in the attached matrices. The County requests that all of the following changes be made so that the RTP/SCS and PEIR conform to existing law and County land use policies, and that the RTP/SCS and PEIR be recirculated for public review and comment.[1]

Orange County Sustainable Communities Strategy

In 2010, the Orange County Council of Governments (OCCOG) requested delegation to develop a subregional Sustainable Communities Strategy (SCS) for Orange County. OCCOG entered into a Memorandum of Understanding (MOU) with SCAG that has allowed OCCOG to develop the Orange County Sustainable Communities Strategy (OC SCS) which will be incorporated into SCAG's 2012 RTP/SCS. The OC SCS, approved by the OCCOG Board of Directors on June 23, 2011, describes the policies and programs that Orange County local jurisdictions will

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[1] This letter is not intended as an exhaustive discussion of the PEIR's compliance with State law, particularly the California Environmental Quality Act (CEQA) and SB 375. The County further adopts and supports the comments of other local agencies, such as the Cities of Irvine and Anaheim, OCTA, and others, to the extent those comments are consistent with this letter.

implement to reduce greenhouse gas (GHG) emissions to 2005 levels by the year 2035 and reflects current land uses, existing entitlements, proposed development (e.g., general plans, zoning maps, etc.) and forecasted population, housing and employment growth in Orange County (i.e., Orange County Projections [OCP] 2010 – Modified, January 2012).

Pursuant to the MOU between SCAG and OCCOG, the OC SCS is to be fully incorporated without change. Although there are several references to the OC SCS in both the RTP/SCS and PEIR, it remains unclear whether the data contained in the OC SCS has remained unchanged in each proposed alternative. Without the underlying data for each alternative available for review, this cannot be confirmed. It is requested that language, maps, tables, and charts be added to demonstrate that the underlying land use, socioeconomic, and transportation data for Orange County (OCP 2010 – Modified) has been incorporated into the regional RTP/SCS and each of its plan alternatives without alteration as agreed to in the MOU. It is also requested that the adoption of the growth forecast numbers by SCAG's Regional Council and/or Joint Policy Committee be at the county level, consistent with past RTPs.

A review of the policies and strategies contained in the RTP/SCS has revealed the potential for inconsistency with land use policies and/or County operations in the unincorporated area. The County requests that the RTP/SCS include language that acknowledges and incorporates the fifteen "OC SCS Sustainability Strategies A through O," contained in Chapter Three, and the "Sustainability Strategies," contained in Appendix F, of the OC SCS as specifically appropriate for the Orange County Subregion.

Land Use/Local Control

Several policies in the RTP/SCS and dozens of mitigation measures in the PEIR, appear to go beyond the requirements of SB 375 and extend SCAG's purview into local land use control, which under law is exclusively vested with the local jurisdiction in most cases. The police power vests a county or a city with local land use regulation and control to protect the public health, safety and welfare of its residents.[2] This is specifically set forth in the California Constitution Article XI, Section 7, which reads that "A county or a city may make and enforce within its limits all local police, sanitary and other ordinances and regulations not in conflict with general laws." Under this power a county is entitled to tailor regulations to suit the ever changing needs and interests of its population, which will be done through local ordinances and applicable CEQA processes (which are addressed below). Certain measures set forth in the PEIR will in effect usurp this local control that is enshrined in the California Constitution and preserved in SB 375.

The PEIR also contains measures that will affect County operations which are federally or state regulated. There are at least 180 mitigation measures related to existing federal and state regulations with which local jurisdictions must comply (see attached matrix).[3]

[2] *Berman v. Parker*, (1954) 348 U.S. 26, 32-33.

[3] The attached matrix contains the collective comments of all County agencies that are impacted by the RTP/SCS and PEIR. Although some comments recommend edits to the mitigation measures, it is the overriding contention of the County that certain mitigation measures be completely removed. Those measures include, but are not limited to, mitigation measures as to what other local agencies "can and

These mitigation measures contain the phrase "local jurisdictions can and should" which both assumes the local jurisdiction has the authority to implement the measure and is required to do so. Inconsistency between proposed mitigation measures and existing mandates is of great concern to the County. For example, there are five California Regional Water Quality Control Boards (RWQCB) in the SCAG region, including two in Orange County, that have issued individual and locally-specified water quality permits. Local jurisdictions, including the County, would be unable to implement several of the mitigation measures in PEIR section "3.13 Water Resources" due to their inconsistency with the requirements of their local water quality permit. The County requests that mitigation measures related to existing federal and state mandates be removed and language added to the beginning of each PEIR section that states that local jurisdictions must comply with existing applicable laws and regulations. Should SCAG not delete the measures that restate existing federal, state, and local laws and regulations, the County recommends a statement that the proposed mitigation measures would be superseded by such.

Several mitigation measures will impose both funding priorities and financial obligations upon local jurisdictions at a time when budgets are tight and some funding sources are no longer available. Other measures will shift the financial obligation to project sponsors and residents by proposing that new taxes and fees be levied to fund programs or projects that "support a shift from private passenger vehicles to transit and other modes of transportation." New taxes will require voter approval and new fees are subject to Proposition 26. This analysis is outside the scope of SB 375 and SCAG is unable to make that determination. If a tax is defeated, the local jurisdiction cannot implement it as a mitigation measure which could only have been implemented with a new funding source. Finally, the assessment of impact fees upon new development to fund these measures will result in an increase in the cost of housing and infrastructure and create an even more difficult environment for construction to resume, particularly for affordable housing throughout the region.

CEQA Considerations

The PEIR fails to comply with the fundamental requirements of CEQA, which must be corrected by SCAG and recirculated for additional public review and comment.[4] The timeframe for review of a document as large as the PEIR is inadequate considering that the SCS is one of the first documents of its kind and may be subject to considerable comment by impacted jurisdictions, legally necessitating another round of review.

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should" do, project level mitigation measures, mitigation measures duplicating federal and state law, and those measures that are beyond SCAG's authority to analyze under SB 375.

[4] We acknowledge that some of the CEQA issues discussed herein are currently being litigated by SANDAG. The County believes that the SANDAG DEIR properly deferred many mitigation measures to local agencies and that it is reasonable and legally defensible to do so.

Project Description Is Inadequate

It is not possible from reading the Project Description section of the PEIR to determine what actions SCAG proposes to take that constitute the "project" as defined by CEQA.[5] The PEIR for the RTP/SCS is unreasonably broad, addressing both program level and project level mitigation measures, as well as subject areas beyond the scope of SB 375. This causes confusion as to what the actual "project" is under CEQA. Program level environmental documents by their nature consider initial broad policies for later projects or are designed to address a series of project approvals that will occur over time. By and large, it appears that the "project" here is something akin to adopting a range of policies to be imposed on activities of other entities that will promote compliance with SB 375 and other GHG reduction legislation. In any event, the project description is so uncertain that it cannot be determined what actions SCAG might take, and therefore, it cannot be determined what potential impacts the RTP/SCS might have on the physical environment. When future project development is unspecified and uncertain, as is noted throughout the PEIR, the project description should not supply extensive detail or ambiguity beyond that needed for evaluation and review of the environmental impact.[6]

Project Level Mitigation Measures Are Improper

The PEIR states that certain projects have not been specifically analyzed or that projects and project impacts are better addressed at the lead agency or local agency level. The PEIR also states that mitigation measures are drafted in less detail than those that would be part of a project EIR. However, the PEIR contains 550 detailed mitigation measures; nearly double that from the previously approved 2008 RTP PEIR. Of foremost concern are a broad array of proposed project level mitigation measures that SCAG asserts lead agencies "can and should" adopt. There are a number of legal and policy reasons in favor of deleting these mitigation measures from the PEIR, and instead, including them as an appendix of suggested project level considerations for a local agency in determining SCS consistency.

The use of the words "can and should" in the PEIR and SCS are being interpreted by many local agencies as mandates to be implemented at the local project approval level in order be consistent with the SCS. The PEIR is not clear about what "can and should" means. CEQA Guidelines section 15005 defines "must," "should" and "may" to indicate whether a particular subject in the CEQA Guidelines is mandatory, advisory or permissive, respectively. Section 15005(b) states that "should" identifies policy considerations under the Guidelines, legislative history of the statute and court decisions that public agencies are advised to follow in the absence of compelling, countervailing considerations. Common use of the word "can" is used to express ability or opportunity, although this term is not defined under CEQA or any case law. It is not clear what SCAG's intent is in using "can and should," and whether usage is intended to be mandatory, advisory or permissive. Based on a definitional interpretation of "can and should," the phrase appears in this context to mean that the lead agency is able to and recommended that the mitigation measures be imposed. Should this be SCAG's intent, the County notes that SCAG has no authority under any applicable law to prescribe or

[5] All references to "project" in parentheses mean SCAG's RTP/SCS program as it is a "project" defined by CEQA pursuant to Pub. Res. Code § 21065 and CEQA Guidelines § 15378.

[6] *County of Inyo v. City of Los Angeles* (1977) 71 Cal. App. 3d 185, 199; CEQA Guidelines § 15124.

enforce such mitigation measures. Furthermore, under CEQA, local agencies are not bound by the PEIR's mitigation measures as project level mitigation will be addressed by a lead agency at the time of project approval to the extent the mitigation is determined by that lead agency through the CEQA process to be feasible, effective and enforceable.

SCAG has stated at public meetings and workshops on the RTP/SCS that the mitigation measures are intended as a "toolbox" or "menu" of policy considerations from which lead agencies could choose in approving a project.[7] Even with this clarification in the PEIR, "can and should" is used inconsistently throughout the documents. On page 1-5 of the Introduction, the PEIR expressly states that mitigation measures can be implemented at the project level and that local lead agencies "shall be responsible for ensuring adherence to the mitigation measures . . ." The Introduction goes on to state that "it is reasonable to expect that other agencies will actually implement the mitigation measures assigned to them."

SCAG should not attempt to further define what "can and should" is intended to mean or even what it means in every instance, as the current meaning under CEQA and common use of the words indicate a mandate where there is not one under CEQA or SB 375. The applicable mitigation measures should be removed from the PEIR and added to an appendix to the SCS or other policy related document, making clear that they are permissive policy considerations that lead agencies could examine at the project level. The County's recommended reworking of the mitigation measures will avoid misinterpretation and be consistent with CEQA and SB 375's preservation of local control. Again, permissive or advisory policy considerations are not proper mitigation measures for an EIR where mitigation measures must be feasible, effective and enforceable. This would also remove those mitigation measures that are not specific and do not articulate the impacts that will be mitigated.[8]

SCAG states that it is required to find that other jurisdictions can and should implement mitigation measures since many changes and alterations to SCAG's "project" are within the responsibility and jurisdiction of other public agencies.[9] This argument is flawed. If SCAG is to clarify these mitigation measures are advisory or permissive policy considerations to be implemented by the local agency on a "toolbox" or "menu" basis, then the finding under section 15092(a)(2) has not been demonstrated because the measures will not in fact mitigate or avoid significant effects on the environment caused by SCAG's "project" since they are policy tools to be evaluated by local agencies. That is, SCAG should defer all mitigation measures associated with what local agencies "can and should" do to individual project level CEQA processes and only deal with program

[7] While the County generally supports SCAG's intent to clarify in the PEIR that mitigation measures associated with what a local agency "can and should" do are a "toolbox" of policy considerations to consider at the project level, we believe that under CEQA, the mitigation measures should be removed for the reasons stated herein.

[8] *Endangered Habitats League v. Orange County* (2005) 131 Cal.App.4th 777.

[9] Introduction, page I-6, citing Pub. Res. Code § 21081(a)(2) and CEQA Guidelines § 15092(a)(2) as the basis of its use of "can and should."

level issues that are within SCAG's authority. This approach is consistent with SB 375's preservation of local control.

Mitigation Measures Have Not Been Demonstrated to be Feasible, Effective & Enforceable

As discussed above, the PEIR does not analyze specific projects and specific project impacts, yet attempts to implement a variety of project specific mitigation measures. The mitigation measures primarily consist of measures that SCAG thinks should be applied to future projects to be carried out by other entities. Such mitigation measures, of course, have no bearing on whatever "project" it is that SCAG is evaluating, and cannot be evaluated either for feasibility, effectiveness or enforceability since they would apply to as yet unidentified and indescribable future projects by other entities.

An EIR must describe and demonstrate the feasibility of mitigation measures that can minimize the project's significant environmental effects.[10] The PEIR has made a preliminary determination that these mitigation measures are feasible and effective, and therefore, it is reasonable to expect that local governments will actually implement them. The County believes, however, that it has not been demonstrated that each and every project specific measure is feasible, practical and effective, or even that local agencies "can and should" approve such measures. If this was the case, then the mitigation measures would not now be characterized as a "toolbox" or "menu." And despite recognition that the PEIR cannot analyze every future project and impact, the document contains an exhaustive list of mandated or suggested, as the case may be, project level mitigation measures that local agencies "can and should" implement. CEQA, though, does not require analysis of every imaginable mitigation measure unless such measures are feasible and effective.[11] By its own admission, the PEIR has not analyzed and cannot analyze every potential project or impact for which it is attempting to mitigate. Thus, the measures are larger than the program itself and cannot therefore be characterized as feasible and effective.

The County agrees that mitigation measures must be adopted for significant impacts recommended in an EIR unless a lead agency finds that the measure is infeasible. We believe, though, that it can be demonstrated that project level measures as to what local agencies "can and should" do are infeasible as it is outside SCAG's authority to mandate since most SCS determinations will actually be made at the project level. Mitigation measures that are adopted must be enforceable through conditions of approval, contracts or other means that are legally binding.[12] A lead agency is not required to adopt a mitigation measure when it has no ability to enforce the measure.[13] SB 375 is clear that a metropolitan planning organization (MPO) does not have authority to require compliance

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[10] CEQA Guidelines §§ 15121(a), 15126.4(a).

[11] *Gilroy Citizens for Responsible Planning v. City of Gilroy* (2006) 140 CA4th 911, 935; *San Franciscans for Reasonable Growth v. City & County of San Francisco* (1989) 209 CA3d 1502, 1519.

[12] Pub. Res. Code § 21081.6(b); CEQA Guidelines § 15126.4(a)(2).

[13] *Tracy First v. City of Tracy* (2008) 177 CA4th 912.

with the SCS, and the legislation suggests that MPOs may have some ability to make determinations as to SCS consistency for purposes of prioritizing state transportation funding allocations. The County recognizes that CEQA allows program level mitigation measures to be incorporated into a policy or plan,[14] but it is beyond SCAG's authority, as it has done here, to approve project level mitigation measures that can only be considered by a lead agency at the project level as such measures are not enforceable by SCAG pursuant to SB 375.

All proposed mitigation measures are subject to the same standard of feasibility under CEQA whether the measure is proposed to be carried out by SCAG or another local agency. The standard does not change for measures outside of SCAG's control. Thus, SCAG's preliminary determination of feasibility as to those mitigation measures that another local agency "can and should" could raise the feasibility thresholds for future lead agencies that actually make those determinations.

Significant Impacts to the Environment Are Speculative

Since it cannot be determined from the Project Description exactly what the "project" is, it cannot be discerned what impacts the "project" might have, and therefore, it is impossible to determine whether project level mitigation measures will avoid or otherwise reduce the impacts of the RTP/SCS. Certainly, SCAG relies on the data submitted by all local agencies in its region, and it must take the data at face value and rely upon it as accurate. The PEIR, though, correctly notes that it cannot specifically identify all future projects and it cannot specifically analyze those projects that will later be approved by other lead agencies. Future development in many respects is unspecified and uncertain, and the PEIR is not required to include speculation about future environmental consequences of such development and how it should be mitigated.[15] "No purpose can be served by requiring an EIR to engage in sheer speculation as to future environmental consequences."[16] Project level mitigation measures as to what a local agency "can and should" do are inadequate as sheer speculation because there is no evidence that they will avoid or reduce the impacts of SCAG's program and do not relate to known, identifiable projects.

[14] CEQA Guidelines § 15126.4(a)(2).

[15] *Laurel Heights Improvement Assoc. v. Regents of the Univ. of Calif.* (1988) 47 Cal.3d 376, 395.

[16] *Christward Ministry v. Superior Court* (1986) 184 Cal. App. 3d 180, 193.

Mitigation Measures That Are Already Required by Law
Another reason to exclude project level mitigation measures is that many of them are already required by law. Although environmental documents often cite existing laws as mitigation measures for significant environmental impacts, this is often done at the project level where specific laws and regulations can be analyzed to determine whether the regulation or practice will actually mitigate the impact. SCAG's region lies across six large counties that have varying land use circumstances. For instance, the SCAG region encompasses five regional water boards with differing NPDES permit requirements, such as low impact development requirements that are implemented differently depending on geotechnical issues. The PEIR mitigation measures should not overly generalize or speculate as to which laws and regulations should be followed, which can only be determined by the actual regulating body on a specific basis.

SB 375 Considerations
The County is deeply concerned with the broadness of the PEIR and RTP/SCS. At a presentation held at the CEHD meeting on January 8, 2009, SCAG then interpreted SB 375 to only include VMT associated with vehicles and light trucks, and went on record that green buildings, energy efficiency, municipal operations, waste management, water and technology programs and measures were not within the purview of the SCS. The draft RTP/SCS and PEIR, however address all of these subject areas. We believe that SCAG's original 2009 interpretation is the legally correct one under SB 375 and that SCAG should amend the document to delete all references and measures to items outside of SB 375 that do not directly relate to VMT from vehicles and light trucks. The RTP/SCS and PEIR should not be used as an umbrella document for all things SCAG considers sustainable.

The legislative text of SB 375 states that state transportation funding will be prioritized and allocated to those local agencies that are consistent with an approved SCS. The actual SB 375 statutes do not specifically state how this will be done and what exact funding will be subject to SCS prioritization. There has been no follow-up legislation or other policy of which the County is aware that clarifies this issue. Due to this, SB 375 enforcement is unclear.

We believe that SCAG should clarify and elaborate on its understanding of this issue. Much more information is needed as to the process, if any, that SCAG will employ to make SCS consistency findings. Will SCAG make SCS consistency findings for individual programs and projects? Will a subregional delegate who has prepared its own SCS, like OCCOG has with the OC SCS, have the authority to make such findings? Will the local programs and projects within Orange County boundaries also be subject to consistency findings by SCAG under its approved SCS? What types of local programs and projects will be subject to a SCS consistency review? These questions and many other must be answered prior to effective implementation of the policies set forth in SB 375.

The PEIR states in one sentence that "Lead agencies shall provide SCAG with documentation of compliance with mitigation measures through SCAG's monitoring

efforts, including SCAG's Intergovernmental Review (IGR) process."[17] However, SCAG's approved 2008 PEIR devotes several pages to what a RTP consistency process entails. SCAG also devotes a portion of its website to an overview of the IGR process, but this does not appear to incorporate SCS issues and has not been recently updated. The County encourages SCAG to revise the SCS/PEIR to specifically define such a process in enough detail and with sufficient public comment to ensure that any such oversight is consistent with SB 375 and is not arbitrary or capricious under State law. On this issue, the County recommends that there be consideration for a consistency process by the subregional delegate who has prepared its own SCS, like OCCOG.

In short, many of the mitigation measures appear to go beyond SB 375's focus on transportation and housing, and could potentially be outside the scope of SCAG's authority. Again, the SCS and its mitigation measures should not be a "kitchen sink" approach to sustainability, but should endeavor to examine actual programmatic ways to reduce GHG within SCAG's control. The County is very concerned with mitigation measures that state local agencies "can and should" pass new taxes and fees. Such measures are beyond the scope of SCAG's authority to examine under SB 375 and are infeasible mitigation measures under CEQA.

The County respectfully requests that Southern California Association of Governments review and incorporate our comments/responses into the final 2012 RTP/SCS and PEIR. Further, as a member of the OCCOG, the County actively participated in the development of and supports the comments submitted by the OCCOG Executive Director. If you have any questions regarding this matter please call Rick LeFeuvre at (714) 955-0124.

Sincerely,

Thomas G. Mauk

Thomas G. Mauk
County Executive Officer

Attachment

cc: Orange County Board of Supervisors
Alisa Drakodaidis, Deputy CEO, OC Infrastructure
Jess A. Carbajal, Director, OC Public Works
Rick LeFeuvre, Director, OC Public Works/Planning

[17] Introduction, page I-5.

County of Orange
Review of Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Program Environmental Impact Report (PEIR)

AREA OF CONCERN: AIRPORT OPERATIONS	
Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy	
Chapter 2 – Transportation Investments Page 60-62	Information is presented on airport ground access and airport financial and marketing strategies. These strategies identify potential sources of funding such as: a) charging fees for private vehicles picking up and dropping off passengers at congested airports; b) a regional funding mechanism using revenues generated at congested airports to support facilities and development at alternate airports (requiring new legislation); and c) funding a region-wide marketing effort through sources such as airport parking and rental car transactions. Including these specific strategies in the RTP document may raise expectations that these strategies are supported by airports in the region. However, due to the competitive nature of most airports, it may be difficult to achieve such support. It may also be challenging to garner airline and FAA support. It is suggested that the airport strategies text be revised to recognize that any incentives or funding mechanisms that are proposed, and which affect other airports in the region, should be developed through regional consensus. Although many of the SCS "Airport Policies and Action Steps" suggest such an approach, this should be stated in the strategies text as well, and it should be clear that while these strategies may be explored, they may or may not be pursued. Additionally, SCAG should invite the FAA and airline representatives to be part of any discussions which address the concept of using revenues from one airport to benefit another.
Chapter 2 – Transportation Investments Page 61	A revision to the *Airport Ground Access Strategy* section (end of the first paragraph) is suggested as follows: "Potential sources of funding could include charging fees for private vehicles picking up and dropping off passengers at the congested airports. This ~~would not adversely impact existing airport revenues and would~~ could have a number of advantages….." This revision is proposed because, with respect to the third bullet, a case could be made that although there are advantages to passengers using public transportation, it is possible that parking revenues would be adversely impacted.
Chapter 2 – Transportation Investments Page 61	The *Airport Financial Strategy* section should be revised to avoid making inferences that an issue "should not be controversial," especially related to a strategy that identifies a requirement for legislative changes allowing funds from one airport to be used at another airport(s) not operated by the same entity. It should also be clarified that such legislative changes would be needed at both the state and federal levels.
Chapter 2 – Transportation Investments	The *Airport Marketing Strategy* section suggests that SCAG work with regional stakeholders to develop region-wide marketing efforts to promote alternatives to the use of congested airports. A variety of funding sources is suggested; however, airport parking and rental car transactions are specifically mentioned. These funding sources may or may not be supported by airports in the SCAG region and should be thoroughly

Page 62	discussed and, as stated in the document, a consensus of the region's airports should be developed before proceeding with such a strategy.
Chapter 2 – Transportation Investments Page 62	The *Airport Policies and Actions Steps* identify certain actions that are recommended by SCAG. The sub-section, *Airspace Planning and New Technologies*, identifies policies related to modifications to the regional airspace system, and airspace capacity and constraints. It is suggested that the wording, "in coordination with the FAA," be added to each of the bullet points in this section.

AREA OF CONCERN: PUBLIC HEALTH	
Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy	
Chapter 1 – Vision Page 15, Table 1.3	Note, via additional check, connection between "Safety and Health" and "Encourage land use and growth patterns that facilitate transit and non-motorized transportation."
Chapter 2 – Transportation Investments Page 53	The collection of additional data on active transportation, including greater specificity in destinations, geographic detail, and types of active transportation, is important in ensuring data driven transportation systems.
Chapter 2 – Transportation Investments Page 53	The proposed expansion of bikeways represents an exciting opportunity to facilitate active transportation, improve air quality, and reduce chronic disease risk. The connectivity of such an expanded bikeway network with transit systems, centers of employment, and residential areas, particularly those most likely to use and benefit from such assets, is also an important part of such a plan.
Chapter 2 – Transportation Investments Page 53	The improvement of sidewalk infrastructure proposed in the RTP/SCS is likely to facilitate walking as sidewalk quality can be a key factor affecting walkability.
Chapter 2 – Transportation Investments Page 54	Safe Routes to School: Besides their benefits in reducing congestion related to the drop-off and pick-up of students, Safe Routes to School initiatives can facilitate important daily incidental walking and biking, which can substantially increase the chances of children meeting daily physical activity recommendations. Though the draft RTP/SCS recognizes the importance of Safe Routes to School, it could better detail how Safe Routes to School programs, assets, and principles will be integrated into the plan.
Chapter 2 – Transportation Investments	SCAG's encouragement of Complete Streets is important to the local implementation of Complete Streets policies consistent with AB1358. Augmented and explicit support in the RTP/SCS for physical and engineering changes that facilitate safe multi-modal, multi-user roadway utilization may be beneficial. Consider increasing regional coordination in Complete Street policy implementation to facilitate continuity across

Page 54	local jurisdictions.
Chapter 4 – Sustainable Communities Strategy Page 150, Table 4.3	We would be excited to participate in the Action/Strategy, "Collaborate with the region's public health professionals to enhance how SCAG addresses public health issues in its regional planning, programming, and project development activities." The inclusion of "Local Jurisdictions" in the "Responsible Parties" field would further bolster local collaborations, including those with Public Health Departments.
Chapter 4 – Sustainable Communities Strategy Page 150, Table 4.3	The Action/Strategy "Consider developing healthy community or active design guidelines that promote physical activity and improved health" has considerable promise. The inclusion of "State" in "Responsible Parties" would bolster coordination, collaboration, and support in generating guidelines.
Chapter 4 – Sustainable Communities Strategy Page 150, Table 4.3	In reference to "Engage in a strategic planning process to determine the critical components and implementation steps for identifying and addressing open space resources," please consider including increasing / preserving park space, specifically in park-poor communities.
Chapter 4 – Sustainable Communities Strategy Page 150, Table 4.4	Perhaps the Action/Strategies "Encourage the implementation of a Complete Streets policy" and "Emphasize active transportation projects as part of complying with the Complete Streets Act (AB 1358)" could be tied together somehow given they will likely be implemented in concert.
Chapter 4 – Sustainable Communities Strategy Page 150, Table 4.4	The Action/Strategy "Develop infrastructure plans and educational programs to promote active transportation options" may benefit from engaging local public health departments, walking/biking coalitions, and/or Safe Routes to School initiatives, who may already have components of such educational programs in place.
Chapter 4 – Sustainable Communities Strategy Page 150, Table 4.4	We also had some additional suggested language. The additions are underlined: 1. Perform and support studies with the goal of identifying innovative transportation strategies that enhance mobility and air quality, and determine practical steps to pursue such strategies. <u>Engage local communities in planning and prioritization efforts.</u> 2. Continue to work with neighboring Metropolitan Planning Organizations to provide alternative modes for interregional travel, including Amtrak and other passenger

	rail services, and an enhanced bikeway network, such as on river trails. 3. Prioritize transportation investments to support compact infill development that includes a mix of land uses and housing options, including park space, where appropriate, to maximize the benefits for existing communities, especially vulnerable populations, and to minimize any negative impacts.
Chapter 4 – Sustainable Communities Strategy Page 152, Table 4.5	We also had some additional suggested language. The additions are underlined: Support work-based programs that encourage emission reduction strategies and incentivize active transportation commuting or ride-share modes.
Chapter 5 – Measuring Up Page 162, Table 5.1	Augment Safety and Health indicators within RTP performance measures. Consider measures of obesity, non-motorized commuting, walking and biking behavior, asthma hospitalization rates, etc.

AREA OF CONCERN: LAND USE POLICIES

Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy

Chapter 4 – Sustainable Communities Strategy Page 110	The goals and benefits of the SCS listed here go above and beyond the requirements of SB 375. The provisions of SB 375 require the development of a SCS that focuses on a reduction of vehicle miles traveled by cars and light trucks, and greenhouse gas emissions. A presentation made by SCAG in January 2009 indicated that "SB 375 is not about: green buildings, energy efficiency, municipal operations, waste management, water, technology." However, all of these items have been incorporated into the RTP/SCS and PEIR.
Chapter 4 – Sustainable Communities Strategy Page 119	SCAG indicates that the policies of its Compass Blueprint program will be used to determine consistency of private development and public infrastructure projects with the SCS. A statement should be added that will clarify whether or not a project that is determined to be inconsistent with the policies of the SCS (i.e, Compass Blueprint) will be deemed ineligible for transportation funding.
Chapter 4 – Sustainable Communities Strategy Page 148	Throughout the document the RTP is described as having "growth inducing impacts." In past iterations of the RTP, its purpose was to mitigate the impacts of growth. If transportation projects identified in the RTP are seen as inducing growth, then the lead agency may be required to mitigate the impacts of perceived subsequent related growth.
RTP/SCS and PEIR	There are several terms contained throughout the RTP/SCS and PEIR that need to be clearly defined including the following: • Urban Growth Boundary • Parking Cash Out

	• References to benchmarks • SCRIP • Gentrification • Open space • Smart growth principles • Active Transportation • Greenfield
RTP/SCS and PEIR	The alternatives discussed in the RTP/SCS, PEIR and SCS Background Document have been inconsistently named. The alternatives are labeled either: 1, 2 and 3, or A, B and C. The appropriate name should be determined for each and these documents revised to ensure consistency.
Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy Program Environmental Impact Report	
Introduction Page 1-5	The statement "Lead agencies shall provide SCAG with documentation of compliance with mitigation measures through SCAG's monitoring efforts, including SCAG's Intergovernmental Review (IGR) process," gives the impression that these mitigation measures are mandatory and not merely a list of "menu options." This statement should be revised to reflect that these measures are advisory only.
Project Description Page 1-5, 1-7	The strategies listed in the Project Description section are not consistent with the strategies listed in Chapter 4 of the RTP/SCS. Specifically, the bulleted list on the page is stated to represent the land use strategies of the plan, however, the strategies listed are not specifically identified in the regional SCS. Including different language in the PEIR implies additional policy.
Executive Summary Pages ES-4 through ES-87	The PEIR indicates that the proposed mitigation measures have been determined to be feasible and local jurisdictions "can and should" implement them. However, SCAG staff has indicated that these measures are only advisory. Therefore, this language should be revised to reflect that it will be left to each local jurisdiction to determine the feasibility and applicability of each measure to future projects.
Executive Summary Pages ES-4 through ES-87	The PEIR contains mitigation measures that appear to expand SCAG's overall purview. Several also appear to extend into the purview of local jurisdictions. If so, this may lead to loss of local control over land use policies and/or operations.
Executive Summary Pages ES-4 through ES-87	The PEIR contains several mitigation measures that propose new funding sources including new fees, fines, taxes, incentives, etc., that would impose a financial burden on local jurisdictions and which could result in an increase in the cost of new housing and other development. New taxes or fees could be subject to the voter approval requirements of Proposition 218 as well as Proposition 26, and SCAG has no ability to determine the feasibility of this measure.
Executive Summary Pages ES-4 through ES-87	The PEIR contains 190 mitigation measures that provide very specific requirements in areas that are already regulated by local, state or federal agencies. To avoid the potential for conflicting requirements, the PEIR should only require compliance with existing regulations. Please see the attached matrix that identifies these specific mitigation measures.

Executive Summary Pages ES-4 through ES-87	The PEIR contains over 50 mitigation measures that either reflect SCAG policies or propose new policies intended to be adopted by local jurisdictions or other entities. It is inappropriate to use mitigation measures to adopt policy. Please see the attached matrix that identifies these specific mitigation measures.
Executive Summary Pages ES-4 through ES-87	In several mitigation measures references are made to existing guidance documents. Guidance documents are there as information sources for consideration and do not represent regulation or establish standards that are required to be achieved. For example, MM-AQ19 inappropriately indicates that project sponsors should comply with the CARB Air Quality and Land Use Handbook (June 2005) which is only a guidance document.

AREA OF CONCERN: STORMWATER RUNOFF

Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy

Chapter 4 – Sustainable Communities Strategy Page 82-83	The RTP/SCS describes the following measures contained in the "water resources mitigation program:" 1. "Utilizing advanced water capture and filtration techniques, showing a preference for naturalized systems and designs to control stormwater at the source;" 2. "Avoiding any new construction of impervious surfaces in non-urbanized areas, such as wetlands, habitat areas, parks and near river systems;" 3. "Avoiding any new construction that provides access to flood-prone areas, such as alluvial fans and slide zones;" and 4. "Expansion of (natural flood control systems, such as wetlands and riparian buffers) in areas where they do not currently exist". It is unclear how such measures would be implemented if they are included in this document. If they are to be viewed by local jurisdictions as either goals or suggested policies, they could be implemented on that basis to the extent they were deemed feasible in any given case. On the other hand, if listing such measures indicates they are deemed reasonable and feasible to be applied by municipalities in all new road projects, that is quite another matter and not supportable. For example, while it may be desirable to utilize advanced water capture and filtration techniques, there is little documented experience with engineered on-site capture and filtration to support a preference for "naturalized systems and designs" in every case. Similarly, the strongly worded measures against new construction in wetlands, habitat areas, parks, near river systems, and flood-prone areas may be desirable, but should not constitute an outright prohibition, with hundreds of vacant, older but long-established legal building sites situated in such settings. The word "any" should be removed from the mitigation measures to address these concerns. Finally, the suggested expansion of natural flood control systems, such as wetlands

	and riparian buffers, in areas where they do not currently exist is supportable, as long as it does not in any way mandate removal of existing engineered channel stretches as "mitigation" for road-building. In many cases, the only reason a new road can be built at all is that engineered channels have reduced flood hazards to that area.
Chapter 4 – Sustainable Communities Strategy Page 110	One of the "Benefits to Public Health and the Environment" regards municipal water and sewer systems. The statement "...concrete stormwater channels harm water quality and sprawl eats into open space" is misleading, and is subject to Regional Water Quality Control Board regulations that vary by region. The following alternative language is suggested: Public health and environmental protection have long been linked to the way our region is planned and the way public services are delivered. Municipal water and sewer systems, for example, ensure clean water. At the same time, ~~concrete stormwater runoff channels harm water quality~~ as areas become more urbanized and the percentage of impervious surface is increased, the hydrologic regime is dramatically altered. Drainage conveyances that once were natural and riparian are required to be engineered as hardened flood control channels to provide adequate protection of private property and public infrastructure from the increased frequency, duration, peak flow, and overall volume of stormwater runoff. With this armoring of once natural channels, water quality benefits from biofiltration are lost along with opportunities for infiltration and evapotranspiration, which can lead to hydromodifcation downstream in sections which are not yet engineered and hardened. Many strategies contained in the RTP/SCS will provide widespread benefits within the region for both public health and environmental protection.
Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy Program Environmental Impact Report	
Chapter 3.13 – Water Resources Pages 3.13-34 through 3.13-46	The PEIR includes 68 mitigation measures in the Water Resources section regarding water quality. At least 35 of these are related to stormwater runoff best management practices (BMPs) that are currently regulated through Municipal National Pollutant Discharge Elimination System (NPDES) Stormwater Permits issued by Regional Water Quality Control Boards. In the SCAG region there are five water quality control boards each with its own Municipal NPDES Stormwater Permit. The regulations and requirements contained in these permits vary from each other. By listing specific measures in the PEIR that are not included in a project's applicable Municipal NPDES Stormwater Permit, the PEIR creates conflicting compliance requirements. To eliminate potential conflict with existing regulations, the mitigation measures regarding specific BMPs should be removed and replaced with a single requirement that each project must comply with its applicable Municipal NPDES Stormwater Permit.
Chapter 3.13 – Water Resources Pages 3.13-34 through 3.13-46	There are no specified limits to how small a project has to be to require mitigation. Measures MM-W9, MM-W24, MM-W32 and MM-W61 all suggest local jurisdictions regulate and limit the installation of new impervious patios, paved courtyards, pools, spas, open stairways, and walkways in private back yards, minimizing these as "non-roof impervious surfaces around the building," or require "mitigation" such as restoring or expanding nearby wetlands or riparian buffer areas, upgrading nearby stormwater drainage facilities, or paying a "mitigation" fee for their related "impacts." However, no court has held that wetlands and riparian buffers are "utilities" for which such fees could

	be imposed without voter approval. MM-W11 further provides that "any areas disturbed along the riparian corridor should be replanted with mature native riparian vegetation." This measure lacks specificity as to the boundaries or width of a riparian corridor. In many cases, areas in Southern California along riparian corridors are infested with invasive periwinkle, and Department of Fish and Game biologists would prefer bare ground after removal so that natural recruitment from the remaining specimens of native groundcover may occur. It is in fact impossible to replace a "mature" native groundcover in a riparian area without further disturbing stream banks. It is also unreasonable to require the replacement of a tree that has been approved for removal by the California Department of Fish and Game.
	MM-W12 provides that roadway construction projects comply with the CalTrans stormwater discharge permit. MM-W20 suggests local road projects both comply with the CalTrans permit and incorporate median strips. Orange County's Municipal NPDES Stormwater Permits, as issued, contain entirely different and conflicting requirements for road projects. Specifically, the County is required to follow the EPA Greenstreets Handbook for road improvement projects. The EPA Greenstreets Handbook does not identify median strips as an option.
	MM-W13 provides that NPDES compliance requires a "Construction-Permit-Phase Stormwater Supplemental Form." MM-W13 further directs "non-landscape based stormwater treatment measures" be compared in each individual case to landscape-based treatment measures. Orange County's Municipal NPDES Stormwater Permit requirements for construction, new development and significant redevelopment, as issued, contain entirely different and conflicting requirements. The County's program utilizes customized forms, procedures, and means of assessment. MM-W17 suggests structural stormwater runoff treatment should be pursued where such treatment facilities will be operated by a municipality. Orange County's Municipal NPDES Stormwater Permit program focuses on the private sector operating all site specific treatment control facilities, unless they are regional in nature. MM-W30 requires filter fabrics over storm drain inlets for all site dewatering. If the approved volume of dewatering is large, it may not be possible to maintain a filter fabric over the inlet at all times. Reference to regional water board-approved general dewatering permits would represent superior language. MM-W48 requires the implementation of water conservation through many measures that are regulated under the Green Building Code.
	The following measures fail to make the critical distinction between regulating runoff from development sites and limiting changes to those sites. MM-W22 also speaks to hydrologic changes "induced" by flood plain encroachment. In fact, flood plain developments are engineered to survive storms of a given size, with protection that properly directs storm flows. There is no mechanism to assume standard flood engineering fails to prevent in-stream hydrologic changes, and then ask for more such engineering.

	MM-W29 requires that stormwater runoff never be increased to adjoining properties or a nearby creek. Engineered runoff flowing in a controlled manner to an adjoining property is almost always allowed, when the owner of that property gives consent. MM-W58 indicates that the purpose of low impact development is to maintain the existing hydrology of the site. LID, as currently practiced, replicates the pre-development runoff from a site by on-site retention, but does not mimic pre-development hydrology within a site.
	MM-W30 requires "replanting of the (graded) area with native vegetation as soon as possible." Replanting would occur with the approved plant palette, likely with drought-tolerant materials, but not necessarily native vegetation. MM-W48 establishes a minimum irrigation system distribution uniformity of 75%, which would basically prohibit the use of lower cost sprayheads, which rarely attain a "DU" greater than 50%. MM-W51 and MM-W55 provide that homeowners upgrading existing homes would be required to install automatic sprinkler systems and soil moisture controllers. MM-W66 appears to require existing homeowners seeking permits to improve their homes to cover over any area of exposed ground on their properties with mulch, or install edible materials for "local" consumption. All of these measures may go beyond the State Model Landscape Ordinance, absent a definition of significant redevelopment and, in the case of MM-W66, by covering all bare ground, actually prevent natural recruitment from specimens of native groundcover.
	MM-W65 appears to require local jurisdictions to "install forests." This requirement is extreme and unattainable, particularly in arid climates where forests never naturally existed.
AREA OF CONCERN: ROAD TRANSPORTATION Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy Highways and Arterials Supplemental Report	
Programmed Commitments Page 2, Table 1	With respect to Orange County, Sample Major Highway Projects listed in Table 1 for in the FTIP identify improvements to I-5 (HOV Lanes from South of Avenida Pico to South of Avenida Vista, completion year 2020) and I-405 (Mixed Flow Lanes from SR-73 to I-605, completion year 2018). It is presumed that Caltrans is lead on these projects and there is no local match/investment requirement.
Programmed Commitments Page 3, Table 2	In Table 2, additional county commitments are identified. Therein, there is reference to: 1. HOV Lanes - Reconfiguring the Avenida Pico Interchange at the I-5 in San Clemente – completion year 2014. 2. Toll Lanes - Constructing HOV/HOT connectors for SR-91/SR241 – completion year 2018. 3. Mixed Flow Lanes – Reconfiguring the interchanges at Avery Parkway and La Paz

	in Mission Viejo – completion year 2020. There is also mention of improving the interchange at SR-91/SR-55 and Lakeview Avenue in Anaheim – completion year 2023. It is presumed that Caltrans is lead on these projects and there is no local match/investment requirement. (These projects are not listed in OC Public Works/7-year Transportation Capital Improvement Program, BOS Approved on 6-28-2011.)

Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy
Project List Supplemental Report

Page 2, Federal Transportation Improvement Program (FTIP) Project List (Table)	1. FTIP ORA120357 - Orange County, Traffic signal Synchronization for Bus Rapid Transit Corridors, Route 0 • Is funding tied to OC Public Works/Road's Antonio Parkway Corridor Traffic Signal Synchronization programmed for FY 2012-13? Coordination between OCTA and OC Public Works/Road is recommended. 2. FTIP ORA120326 Route 5 and FTIP ORA000152, FTIP 120506 and ORA120507 on Route 74 • Comment/Question: Is funding tied to OC Public Works/Road's La Pata Avenue (Engineering) and La Pata Avenue NEPA (permitting) projects programmed for FY 2011-12, Pata Avenue Land Acquisition programmed for FY 2012-13 and La Pata Avenue (construction) programmed for FY 2013-14? 3. FTIP 2A0804 and ORA082401 Route 0, Cow Camp Road from FTC to Ortega • Is funding tied to OC Public Works/Road's Cow Camp Road Segment 1 (Engineering) programmed for FY 2011-12, Cow Camp Road – Segment 1 (Construction) and Cow Camp Road Segment II (Engineering) programmed for FY 2012-13, and Cow Camp Road – Segment II (Construction) programmed for FY 2013-14 4. FTIP ORA82406 Antonio Parkway Build Out between Ladera Planned Communities to Ortega Highway • Not shown listed in OC Public Works/7-year Transportation Capital Improvement Program, BOS Approved on 6-28-2011. 5. FTIP ORA120505 Alton Parkway Improvements - Irvine Blvd to Commercentre Drive • Not shown listed in OC Public Works/7-year Transportation Capital Improvement Program, BOS Approved on 6-28-2011. • Coordination with County required – Adjacent to James A Musick Branch Jail 6. FTIP ORA120523 on Route 0, Placentia – Richfied Ave. – Atwood Channel Bridge Widening • Coordination with OCFCD required. 7. FTIP ORA020826 on Route 0, Tustin Ave/rose Drive Grade Separation • Coordination with County and OCFCD required. 8. FTIP ORA100603 on Route 0, Santa Ana River Trail • Coordination with OCFCD required. 9. Financially-Constrained RTP Projects, 210 10. RTP ORA120357 Orange County Traffic signal Synchronization for Bus Rapid Transit Corridors – see FTIP Projects above 11. RTP ORA120326 Route 5 – see FTIP Projects above 12. RTP ORA120523 Richfield Avenue – see FTIP Projects above, completion FY 2012 13. RTP 2A0705 Signal Synchronization Program – see FTIP ORA120357 above,

	completion FY 2035 14. RTP 2L220 Non-motorized, completion FY 2035 • No projects are identified in OC Public Works/Road 7 year CIP. 15. RTP 2A0804 Cow Camp Road, completion FY 2018 – see FTIP Projects listed above Laguna Canyon Road Projects identified in OC Public Works 7 year CIP for FY 2011-12 (SR-73 to I-405 and SR-73 to El Toro Road) were not identified in the report nor was that for the El Toro Road widening from Glen Ranch Road to Live Oak Canyon currently programmed for FY 2014-15.

Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy

Program Environmental Impact Report

Chapter 3.12 – Transportation, Traffic, and Security Pages 3.12-30 through 3.12-43	Several of the mitigation measures include actions on the part of SCAG that appear to be outside of their purview or may result in the loss of local control: MM-TR4 – Emergency repairs are under the purview of local jurisdictions. May be outside of SCAG's purview. MM-TR5 – Is SCAG making a commitment to provide this technology to local jurisdictions? MM-TR6 – Is SCAG to become another reviewing entity with approval authority of grant funds such as Caltrans and OCTA? MM-TR7 – May be outside of SCAG's purview to plan for and respond to terrorist incidents and natural or human-caused disasters. MM-TR8 – May be outside of SCAG's purview to plan for and respond to terrorist incidents and natural or human-caused disasters. MM-TR9 – Purview of Federal and State authorities. MM-TR10 – Purview of Federal and State authorities. May be viewed as another layer of bureaucracy. MM-TR13 – May be outside of SCAG's purview to plan for regional emergencies. MM-TR17 – Implementing programs to reduce employee trips should be left to the local jurisdictions. MM-TR18 – Providing incentives for employee ride-sharing programs is problematic given the current economy and budget realities. MM-TR19 – Providing incentives for car sharing programs is problematic given the current economy and budget realities. MM-TR20 – Providing incentives for employee vanpool programs is problematic given the current economy and budget realities. MM-TR21 – Regional transportation plans tie inter-modal systems together. SCAG should support revisions to Master Plans of Arterial Highways for local jurisdictions. MM-TR28 – Measures relating to Transportation Demand Management plans are already carried out by local entities.

MM-TR29 – Measures relating to traffic management strategies are already carried out by local entities.

MM-TR33 – Traffic control plans required for encroachment permits are under the purview of local jurisdictions.

MM-TR34 – What will be the consequence of a local jurisdiction not meeting and identified transportation-related benchmark?

MM-TR35 – What will be the consequence of a local jurisdiction not establishing a parking policy that discourages private vehicle use? How would this be evaluated?

MM-TR55 – Under the purview of regional transportation agencies to conduct public outreach regarding transportation issues.

MM-TR60 – Impact fees on new development will increase the cost of housing.

MM-TR62 – Under the purview of regional transportation agencies to monitor congestion.

MM-TR66 – What will be the consequence of a local jurisdiction not limiting delivery hours for local business? May cause local businesses to relocate elsewhere.

MM-TR76 – Modifying development standards to accommodate bicycle use to this extent will increase costs to the local jurisdiction and increase costs of development.

MM-TR77 – Modifying development standards to accommodate bicycle use to this extent will increase costs to the local jurisdiction and increase costs of development.

MM-TR78 – Local jurisdictions may not have the funding to provide these types of multi-use trails.

MM-TR79 – May be outside of purview of local jurisdiction to provide bicycle safety training.

MM-TR80 – Impact fees on new development to fund bicycle facilities will increase the cost of housing.

MM-TR83 – What will be the consequence of a local jurisdiction not establishing a parking policy that discourages private vehicle use? How would this be evaluated?

MM-TR88 – Local jurisdictions may not have the resources to establish incentives to encourage the use of electric vehicles or to build outdoor wired facilities for these vehicles.

MM-TR92 – Local jurisdictions may not have the resources to purchase expensive electric or hybrid vehicles at the time replacements are needed.

MM-TR95 – Local jurisdictions may not have the resources to provide "bicycle stations" which may not be used by many residents.

MM-TR96 – What will be the consequence of a local jurisdiction not establishing a parking policy that discourages private vehicle use? How would this be evaluated?

MM-TR97 – Local jurisdictions cannot be held responsible for the air travel completed by employees of businesses in their jurisdictions.

AREA OF CONCERN: WASTE AND RECYCLING

Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy

Program Environmental Impact Report	
The decomposition of municipal solid waste produces landfill gas that can be converted into electricity due its high heating value. Capturing landfill gas reduces emissions into the atmosphere. In addition, generating electricity from landfill gas provides an indirect benefit by avoiding the need to use non–renewable resources such as coal, oil, or natural gas to produce the same amount of energy. The practice of electrical generation from biomass sources has been recognized by the State as a form of renewable energy, similar to solar, wind, and hydro-electric projects. With the passage of SBX1 2 in 2011, investor and publicly owned utility companies will be required to meet a renewable portfolio standard of 33% by 2020. As of 2010, most utility companies were well below 20%. The utilization of landfill gas to energy producing projects will play a prominent role for utility companies to achieve the State mandated renewable portfolio standard. In Orange County alone, the County's three active landfills generate 12 megawatts-hours of electricity, enough to power 9,000 homes. In addition, there are plans to increase that energy output to 64 megawatts-hours within the next few years.	
Page 3.11-22	California Integrated Waste Management Act, in 2011 the California Legislature passed and the Governor signed into law AB 341 which established a statewide policy goal of diverting 75% of all waste generated in the State by 2020. AB 341 builds upon AB 939 and establishes a nexus between recycling and AB 32, the Global Warming Solutions Act by reducing five million metric tons of CO2 equivalent by diverting approximately two million tons of solid waste per year. This will be achieved by requiring cities and counties to work with the business community and multi-family dwelling units to implement commercial recycling programs thereby avoiding the extraction of raw materials, preprocessing and manufacturing of virgin materials. In effect, this ensures that only residual waste that has no economic value will be landfilled. The policy implication of AB 341 is the development of new recycling programs and infrastructure while preserving the capacity of the landfills throughout the State.
Page 3.11-22	The agency name for the California Integrated Waste Management Board has changed to the California Department of Resources Recycling and Recovery (CalRecycle).
Page 3.11-24	Under the subsection "Orange County", CalRecycle approved Orange County's 5-year update of the Orange County CIWMP in January 2011. It should also be noted that there is now an operational materials recovery facility in south Orange County. The facility is located at the County's Prima Deshecha Landfill and is operated by CR&R Disposal. This facility accepts construction and demolition waste materials and has a mandatory diversion rate of 80 percent. It should also be noted that both the Frank R. Bowerman Landfill and the Olinda Alpha Landfill, which are both owned and operated by the County, have already received all necessary permits and entitlements for their expansions. As such, the closure date for the Olinda Alpha Landfill is in December 2021 and the closure date for the Frank R. Bowerman Landfill is in December 2053. It should also be noted that Orange County has sufficient solid waste disposal capacity throughout the RTP/planning period (2012-2035).
Page 3.11-25	Solid Waste Disposal and Transfer Facilities, it should be noted that Orange County can only accept imported solid waste materials from outside of Orange County under the specified terms and conditions of Orange County's bankruptcy recovery. Under the terms and conditions of the bankruptcy recovery, importation of solid waste materials will end in June 2016.

Page 3.11-26	Table 3.11-8: Permitted Active Solid Waste Landfills in the SCAG Region: the following information regarding the Orange County landfill system should be changed to the following: Frank R. Bowerman Landfill, closure date of December 31, 2053, maximum permitted daily tonnage of 11,500 tons per day, total landfill airspace capacity of 266,000,000 cubic yards as of June 30, 2011, remaining landfill airspace capacity of 198,000,000 cubic yards as of June 30, 2011; Olinda Alpha Landfill, total landfill airspace capacity of 148,800,000 cubic yards, remaining landfill airspace capacity of 47,700,000 cubic yards; Prima Deshecha Landfill, total landfill airspace capacity of 172,000,000 cubic yards, remaining landfill airspace capacity of 133,000,000 cubic yards.
Page 3.11-27	Waste Diversion and Recycling: This section appears outdated with the last diversion rate reported in 2002. It is therefore suggested that this section be updated with 2010 information which is available at CalRecycle's website at http://www.calrecycle.ca.gov/LGCentral/GoalMeasure/DisposalRate/MostRecent/default.htm. In 2010, California's statewide diversion rate was approximately 65% based on the per resident disposal rate.
Page 3.11-28	Impacts: The waste generation and disposal projections for the 2010-2035 timeframe within the SCAG region should be re-evaluated. According to CalRecycle, the amount of waste disposed in landfills for each resident on average was 4.5 pounds of waste per day. Given that the resident "equivalent diversion rate" in 2010 was about 65%, each resident threw away or generated 12.85 pounds per day of waste per day. This equates to Californians generating approximately 85 to 90 million tons of waste and disposing of approximately 30 million of waste in landfills. SCAG's RTP report appears to confuse the terms generation and disposal for purposes of estimating diversion rates and future waste projections. Similarly, the 2035 waste projection of 105.7 million pounds of waste per day within SCAG's region appears to be inflated. This value appears to have been calculated based on adding the 2010 residential and employee disposal rates. Adding these values together double counts the quantity of waste buried since each indicator represents the same waste stream. The residential and employee disposal rate established by CalRecycle was simply to normalize the data based on total statewide generation and disposal. Therefore, these parameters were meant to present different ways of looking at the same data but were not meant to be additive. The amount of waste generated and disposed in 2035 should be based on either parameter but not both.
Page 3.11-30	Mitigation Measure MM-PS37: OC Waste & Recycling does not support this SCAG mitigation measure which discourages the siting of new solid waste landfills. While no new public or private solid waste landfills in Orange County are planned at this time, the siting of public or private solid waste landfills within the SCAG planning area, in the long-term, would provide a beneficial increase in solid waste landfill capacity for those jurisdictions that have limited or no solid waste landfill capacity.
Page 3.11-30	Mitigation Measure MM-PS38: OC Waste & Recycling does not support this SCAG mitigation measure which discourages the exportation of locally generated waste outside of the SCAG region during the construction and implementation of projects. In the long-term, waste-by-rail landfills located outside of the SCAG region may be viable

	long-term options for jurisdictions that have limited or no solid waste landfill capacity.
Page 3.11-30	OC Waste & Recycling strongly disagrees with the portion of this mitigation measure that states: "Disposal within the county where the waste originates can and should be encouraged as much as possible." As stated above, Orange County currently receives imported solid waste materials from private solid waste hauling companies as part of Orange County's bankruptcy recovery. Importation of solid wastes into Orange County will continue until June 2016. OC Waste & Recycling therefore recommends that SCAG revise this mitigation measure.

Mitigation Measures Duplicative of Existing Laws and Regulations

Air Quality/ AQMD	California Department of Fish and Game (CDFG)	Federal and State Law	Federal law	Resource Agencies
MM-AQ1	MM-BIO/OS1	MM-HM3	MM-LU14	MM-TR33
MM-AQ2	MM-BIO/OS3	MM-HM4	MM-LU30	MM-BIO/OS29
MM-AQ3	MM-BIO/OS4	MM-HM5		MM-BIO/OS30
MM-AQ4	MM-BIO/OS8	MM-HM6		MM-BIO/OS31
MM-AQ5	MM-BIO/OS10	MM-HM7	**NPDES**	MM-BIO/OS32
MM-AQ6	MM-BIO/OS11	MM-LU28	MM-AQ16	MM-BIO/OS33
MM-AQ7	MM-BIO/OS17	MM-NO18	MM-BIO/OS19	MM-BIO/OS34
MM-AQ8	MM-BIO/OS18	MM-PS13	MM-GEO5	MM-BIO/OS35
MM-AQ9	MM-BIO/OS21	MM-W36	MM-W1	MM-BIO/OS50
MM-AQ10	MM-BIO/OS22	MM-W37	MM-W13	MM-BIO/OS51
MM-AQ11	MM-BIO/OS23	MM-W38	MM-W58	
MM-AQ12	MM-BIO/OS24			
MM-AQ13	MM-BIO/OS25		**Flood control**	
MM-AQ14	MM-BIO/OS26		MM-HM8	
MM-AQ17	MM-BIO/OS27			
MM-AQ18	MM-BIO/OS28		**Local Agencies**	
	MM-BIO/OS14		MM-AV11	
	MM-BIO/OS7			

State Law				
MM-AV3	MM-HM10	MM-PS4	MM-PS107	MM-W25
MM-AV6	MM-HM11	MM-PS8	MM-PS113	MM-W26

MM-AV12	MM-HM12	MM-PS10	MM-PS119	MM-W27
MM-BIO/OS20	MM-HM13	MM-PS12	MM-PS122	MM-W28
MM-CUL1	MM-HM14	MM-PS14	MM-TR29	MM-W29
MM-CUL2	MM-HM15	MM-PS16	MM-TR49	MM-W30
MM-CUL3	MM-HM16	MM-PS35	MM-TR55	MM-W31
MM-CUL4	MM-LU10	MM-PS36	MM-TR75	MM-W32
MM-CUL5	MM-LU11	MM-PS37	MM-TR89	MM-W39
MM-CUL6	MM-LU17	MM-PS42	MM-W6	MM-W43
MM-CUL7	MM-LU19	MM-PS43	MM-W8	MM-W46
MM-CUL8	MM-LU20	MM-PS48	MM-W9	MM-W47
MM-CUL9	MM-LU38	MM-PS55	MM-W10	MM-W48
MM-CUL10	MM-LU43	MM-PS56	MM-W11	MM-W49
MM-CUL11	MM-LU44	MM-PS57	MM-W12	MM-W50
MM-CUL12	MM-LU48	MM-PS59	MM-W15	MM-W51
MM-CUL13	MM-LU58	MM-PS61	MM-W16	MM-W52
MM-CUL15	MM-NO1	MM-PS67	MM-W17	MM-W54
MM-CUL16	MM-NO4	MM-PS69	MM-W18	MM-W55
MM-GEO1	MM-NO8	MM-PS71	MM-W19	MM-W56
MM-GEO2	MM-NO9	MM-PS73	MM-W20	MM-W61
MM-GEO3	MM-POP2	MM-PS77	MM-W21	MM-W62
MM-GEO4	MM-POP4	MM-PS89	MM-W22	MM-W64
MM-GEO6	MM-PS1	MM-PS92	MM-W23	MM-W66
MM-HM9	MM-PS2	MM-PS97	MM-W24	MM-W68

Mitigation Measures Containing Policies

MM BIO/OS 44	MM LU 56	MM PS 25
MM BIO/OS 45	MM LU 57	MM PS 37
MM BIO/OS 46	MM LU 60	MM PS 39
MM BIO/OS 48	MM LU 61	MM PS 41
MM GHG 3	MM LU 64	MM PS 67
MM GHG 8	MM LU 65	MM PS 68
MM GHG 11	MM LU 69	MM PS 71
MM LU 9	MM LU 71	MM PS 95
MM LU 21	MM LU 74	MM PS 121
MM LU 22	MM LU 75	MM TR 17
MM LU 24	MM LU 77	MM TR 23
MM LU 26	MM LU 80	MM TR 28
MM LU 32	MM LU 81	MM TR 83
MM LU 34	MM LU 82	MM TR 85
MM LU 41	MM LU 83	MM W 34
MM LU 42	MM NO 12	MM W 59
MM LU 47	MM NO 16	MM W 60
MM LU 48	MM POP 1	MM W 65
MM LU 51	MM PS 3	
MM LU 53	MM PS 14	

February 14, 2012

Ryan Kuo
Transportation Planner
Southern California Association of Governments
818 West 7th Street
12th Floor
Los Angeles, CA 90017

RE: Comments to 2012 Regional Transportation Plan (RTP) Draft

Dear Ryan:

DesertXpress Enterprises, LLC appreciates the opportunity to provide comments to the 2012 RTP. Enclosed is a comment matrix indicating the volume, page number and suggested revision. Should you have any questions regarding the DesertXpress project or the comments provided, please feel free to contact me at (702) 739-2020.

Best Regards.



Andrew Mack
Chief Operating Officer
DesertXpress Enterprises, LLC

Encl. As stated

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS ("SCAG")
2012 REGIONAL TRANSPORTATION PLAN - DRAFT
COMMENTS SUBMITTED BY DESERTXPRESS ENTERPRISES, LLC
FEBRUARY 14, 2012

DOCUMENT	PAGE #	SECTION	PROPOSED REVISION
Chapter 1: Vision	21	Passenger and High Speed Rail	Request adding a discussion of DesertXpress. Although included in the Strategic Plan, as a federally licensed and approved interstate passenger railroad, DesertXpress will help to achieve the vision for high speed passenger rail in Southern California.
Chapter 2: Transportation investments	44	Strategically Expanding Our System	Suggest adding language describing that by diverting automobiles, high speed rail increases the goods movement capacity of the freeway system.
Chapter 2: Transportation investments	50	Passenger and High Speed Rail	Request adding that a connection to the DesertXpress system between Victorville and Palmdale would effectively expand passenger rail service providing interstate high speed rail connectivity.
Chapter 2: Transportation investments	52	Rail Policies	Suggest adding language to explain that DesertXpress is committed to building an interoperable system and welcomes the support of SCAG in working with us to ensure that interoperability between systems is achieved. The MOU between SCAG, LAMETRO, CAHSRA, SANBAG, SANDAG etc. should be referenced.
Chapter 4: Sustainable Communities Strategy	106	Table 4.4: Transportation Network Actions and Strategies	Suggest including language in table to encourage connectivity with DesertXpress.
Chapter 7: Strategic Plan	201	Long-Term Emission Reduction...	Suggest adding electrified passenger rail in addition to freight rail as a strategy for emission reduction.

DOCUMENT	PAGE #	SECTION	PROPOSED REVISION
Chapter 7: Strategic Plan	204	Ultimate Vision for a High-Speed Rail System	Suggest adding more detail regarding DesertXpress. DesertXpress is a Federally approved and licensed high speed passenger railroad that connects Las Vegas with Southern California. With its Southern California station initially in Victorville, an extension of DesertXpress to Palmdale, 50 miles West, would provide for a cross platform connection to the Metrolink commuter rail system with station stops throughout Southern California. Fully interoperable high speed service would be achieved over the California high speed rail project or upgraded Metrolink system. Environmental work has already begun to analyze and clear the rail connection between Victorville and Palmdale as part of the High Desert Corridor project. The High Desert Corridor Joint Powers Authority (comprising San Bernardino County, Los Angeles County, City of Adelanto, City of Hesperia, City of Palmdale, and City of Victorville) passed resolutions of support for DesertXpress in May 2010 and June 2011. The DesertXpress project specific EIS is complete with the following Federal actions: July 8, 2011: Federal Railroad Administration Record of Decision (ROD) October 26, 2011: Surface Transportation Board issued Certificate of Public Convenience and Necessity. October 31, 2011: Bureau of Land Management ROD November 18, 2011: Federal Highway Administration ROD On December 7, 2011, DesertXpress executed a lease agreement with BLM for the alignment and facilities located on federal land. Application for a federal loan under the Railroad Rehabilitation and Improvement Financing program currently under review by US Department of Transportation.
Supplemental Report: Aviation and Airport Ground Access	112	2.3.2 Role of California High-Speed Rail System in Regional Airport Ground Access	Suggest adding discussion of potential for DesertXpress connection at the Palmdale Airport.

DOCUMENT	PAGE #	SECTION	PROPOSED REVISION
Supplemental Report: Passenger Rail	8	Table 2: High Speed Rail Matrix	Suggest revising as follows: PROJECT: DesertXpress PROJECT DESCRIPTION: Las Vegas to Victorville with no intermediate stops generally along I-15 corridor. Phase 2 would connect Victorville with Palmdale. Top speed of 150 MPH using Tier III compliant electric multiple unit trains. PROJECT READINESS: Project specific EIS is complete and federal interstate operating license has been issued. July 8, 2011: Federal Railroad Administration Record of Decision (ROD). October 26, 2011: Surface Transportation Board issued Certificate of Public Convenience and Necessity authorizing DesertXpress as an interstate railroad. October 31, 2011: Bureau of Land Management ROD. November 18, 2011: California and Nevada Federal Highway Administration RODs. December 7, 2011, DesertXpress executed a lease agreement with BLM for the alignment and facilities located on federal land. PROJECT CONSENSUS: High - as evidenced by the completed NEPA process, agreements in place with the State of California, Certificate of Public Convenience and Necessity from the Surface Transportation Board, support from Victorville, San Bernardino County, Los Angeles County, City of Adelanto, City of Hesperia, City of Palmdale, the Las Vegas Convention and Visitors Authority, and Clark County, NV. REGIONAL CONNECTIVITY: Good - initially with proximity to Amtrak station in Victorville. Connection to Palmdale would provide for a connection to Metrolink and ultimately to California High Speed Rail. RIDERSHIP POTENTIAL: Sufficient to cover all operating and capital costs. COST: $6.5 billion. FUNDING: Federal loan and private debt/equity. BUSINESS PLAN: Ridership and revenue report completed for loan application but not yet available. COMMUTER RAIL POTENTIAL: Extension to Palmdale would serve commuter market well. STAFF RECOMMENDATION: Include in Strategic Plan.

DOCUMENT	PAGE #	SECTION	PROPOSED REVISION
Supplemental Report: Passenger Rail	18	the Strategic Plan: Our Ultimate Vision for High Speed Rail	Suggest adding DesertXpress and connection to California High Speed Rail and upgraded Metrolink service as a key component of the Ultimate Vision for High Speed Rail.
Supplemental Report: Passenger Rail	19	Strategic Plan Projects	DesertXpress is a Federally approved and licensed high speed passenger railroad that connects Las Vegas with Southern California. Travelling between Las Vegas, NV and Victorville, CA at a top speed of 150 MPH, DesertXpress will use next generation steel wheel on steel rail fully electric high speed trains. There are no intermediate stops. The DesertXpress project specific EIS is complete: • July 8, 2011: Federal Railroad Administration Record of Decision (ROD) • October 26, 2011: Surface Transportation Board issued Certificate of Public Convenience and Necessity. • October 31, 2011: Bureau of Land Management ROD • November 18, 2011: Federal Highway Administration ROD • On December 7, 2011, DesertXpress executed a lease agreement with BLM for the alignment and facilities located on federal land. With its Southern California station initially in Victorville, an extension of DesertXpress to Palmdale, 50 miles West would provide for a cross platform connection to the Metrolink commuter rail system with station stops throughout Southern California. Fully interoperable high speed service would be achieved over the California high speed rail project or upgraded Metrolink system. Environmental work has already begun to analyze and clear the rail connection between Victorville and Palmdale as part of the High Desert Corridor project. The High Desert Corridor Joint Powers Authority (comprising San Bernardino County, Los Angeles County, City of Adelanto, City of Hesperia, City of Palmdale, and City of Victorville) passed resolutions of support for DesertXpress in May 2010 and June 2011. Application for a federal loan under the Railroad Rehabilitation and Improvement Financing program currently under review by US Department of Transportation.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105
February 14, 2012

Margaret Lin and Jacob Lieb
Southern California Association of Governments
818 West 7th Street, 12th Floor
Los Angeles, California 90017

Subject: EPA Comments on the 2012-2035 Draft Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the Draft Program Environmental Impact Report

Dear Ms. Lin:

The U.S. Environmental Protection Agency (EPA) appreciates the opportunity to provide feedback on the Draft 2012 Southern California Association of Governments (SCAG) 2012-2035 Draft Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the Draft Program Environmental Impact Report (PEIR) for the 2012-2035 RTP/SCS. EPA is committed to the goal of incorporating environmental and community considerations early in the transportation planning process. This early coordination results in greater opportunities to avoid sensitive resources and receptors and minimize impacts associated with future transportation projects.

Section 6001 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) directs metropolitan planning organizations to consult with resource agencies while developing long-range transportation plans. It also states that long range transportation plans must include "a discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan." EPA provides the following comments in support of compliance with these requirements.

Comments on the Draft RTP/ SCS

Environmental Justice and Children's Health

The Draft RTP provides a summary of public involvement efforts and a thorough Environmental Justice Analysis including recommendations from the public outreach meetings. The Environmental Justice Analysis finds many potential disparate impacts on minority, low-income, and other sensitive communities. These impacts are a result of gentrification, air quality impacts, and noise. The Draft RTP provides evidence that environmental justice communities in the SCAG Region are already heavily burdened as a result of exposure to air pollution from transportation related activities. The communities will continue to be impacted with the many projects planned in the SCAG Region. Therefore, all impacts, even seemingly small ones, are important to consider and mitigate in order to offset the project-related impacts to the local communities. EPA is encouraged to see that, new to the 2012 RTP, the

Environmental Justice Analysis considers cancer and respiratory risks and air quality impacts along freeways and highly traveled corridors.

Children as Sensitive Age Group

The Environmental Justice Analysis includes one age variable: population 65 years old and older. Children are another sensitive age group that should be included in the Environmental Justice analysis. Environmental contaminants may harm children more than adults. Minority and low-income children may be exposed to more pollution and therefore, may face higher health risks from exposures. An important indicator in screening for potential environmental justice concerns is the percent of the population under five years old.[1,2] There is a growing body of evidence that environmental justice communities are disproportionately exposed and more vulnerable to pollution impacts than other communities.[3] As discussed in *EPA's Framework for Cumulative Risk,*[4] disadvantaged, underserved, and overburdened communities are likely to come to the table with pre-existing deficits of both a physical and social nature that make the effects of environmental pollution more, and in some cases, unacceptably, burdensome. Thus, certain subpopulations may be more likely to be adversely affected by a given stressor than is the general population.

- EPA recommends that the Environmental Justice Analysis in the Final RTP, and included health analyses, include percent of the population under five years old as a variable to elucidate how young children in environmental justice communities will be impacted by the proposed transportation plan.

Environmental Justice Mitgation Toolbox

The Draft RTP provides an Environmental Justice Mitigation Toolbox with recommended mitigations for noise impacts, air quality, rail related impacts, and road pricing mechanisms. The mitigations are recommendations and are not required through the Draft RTP. The Draft RTP uses the language that the project sponsors should "to the extent feasible and practicable" apply these mitigations to the project. The recommended mitigations are critical to protecting the health of the environmental justice communities in the SCAG region. EPA recognizes the importance of these mitigations and recommends that the project sponsors not only apply these mitigations but also seek out further recommendations from the affected community. The current mitigation toolbox provides a list of broad mitigations that are specific to project construction and implementation.

- Community identified mitigations could include more holistic approaches to protecting health including:
    - Fund proactive measures to improve air quality in neighboring homes, schools, and other sensitive receptors;

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[1] National Environmental Justice Advisory Committee. 2010. *Nationally Consistent Environmental Justice Screening Approaches.* Available at: http://www.epa.gov/compliance/ej/resources/publications/nejac/ej-screening-approaches-rpt-2010.pdf.

[2] The Environmental Justice Strategic Enforcement Assessment Tool (EJSEAT) is a tool for the EPA Office of Enforcement and Compliance Assurance to consistently identify areas with potentially disproportionately high and adverse environmental and public health burdens. More information is available at: http://www.epa.gov/compliance/ej/resources/policy/ej-seat.html.

[3] Symposium on the Science of Disproportionate Environmental Health Impacts, March 17 - 19, 2010, see the fourteen scientific reviews commissioned by EPA and published in the American Journal of Public Health at:http://www.epa.gov/compliance/ej/multimedialalbums/epa/disproportionate-impacts-symposium.html.

[4] Available at: http://cfpub.epa.ov/nceaJraf/recordisplav.cfm?deid=54944.

- Provide public education programs about environmental health impacts to better enable residents to make informed decisions about their health and community; and
- Engage in proactive measures to train and hire local residents for construction or operation of the project to improve their economic status and access to health care.

- EPA also recommends that the list of available air quality tools in the Environmental Justice Toolbox - Air Quality Impacts be revised to include near-term advanced technology deployment measures, such as:
  - zero emissions heavy-duty trucks (2013+);
  - Tier 4 marine engine repowers and replacements (2014+); and
  - Tier 4 and zero emissions railyard equipment (2015+).
  - See http://www.dieselnet.com/standards/us/marine.php and http://www.dieselnet.com/standards/us/loco.php .

Future Project-level Environmental Justice Analyses
Additionally, the Environmental Justice Appendix provides detail on how the Environmental Justice Analysis was performed, with the analysis conducted with input from the community.

- EPA recommends that the Final RTP acknowledge that project sponsors should provide a similar level of analysis to identify the Environmental Justice impacts of each project. With consistency in analysis and meaningful involvement from the affected community, mitigation measures can be identified to best address the project's impacts.

Sustainable Communities Strategy and Regional Zero Emissions Freight System
The Draft RTP recognizes that that SCAG region has substantial mobility and air quality challenges, with the most congested roadways in the nation and the worst air quality in the nation. The Draft RTP also identifies its region as the largest international trade gateway in the U.S., supported by marine ports, air cargo facilities, railroads, regional highways and state routes. SCAG has a great opportunity to face these challenges with planning efforts that are underway to establish a regional zero emission freight system and the RTP's inclusion of a Sustainable Community Strategy (SCS), intended to reduce greenhouse gas (GHG) emissions from automobiles and light trucks through integrated transportation, land use, housing and environmental planning.

- EPA encourages SCAG to use the current needs for efficient and cleaner freight movement as a catalyst for initiating the most advanced technological solutions to freight movement, including zero emissions technologies, in this transportation planning effort.

Part of SCAG's Regional Zero Emissions Freight System includes a system of truck-only lanes extending from the San Pedro Bay Ports to downtown Los Angeles along the I-710, connecting to an east-west segment, and finally reaching the I-15 in San Bernardino County. Truck-only lanes add capacity in congested corridors, improve truck operations and safety by separating trucks and autos, and would provide a platform for the introduction and adoption of zero-emission technologies. The 2012 RTP identifies an East-West Freight Corridor concept (Exhibit 2.9 Potential East-West Freight Corridor shows lanes along the I-710, SR 60, and I-15 to just north of I-10), carrying between 58,000 and 70,000 trucks per day, with trucks removed from adjacent general purpose lanes and local arterial roads.

SCAG's SCS focuses the majority of new housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development. EPA is pleased to see that the RTP provides a greater investment in transit projects and an allocation of over $6 billion for active transportation projects, a 200-percent increase from the 2008 RTP. EPA supports the investment of a greater share of transportation resources to promoting public transit and other alternative modes instead of facilitating single-occupant vehicle use. Efforts to expand transit service, increase rideshare, and integrate bicycle and transit nodes offer the opportunity to support the region's goal of reducing growth in vehicle miles traveled (VMT) and in turn, improve air quality. The emphasis on planning for additional housing and jobs near transit will also assist in decreasing VMT and related pollutant emissions.

While intended to relieve congestion, freeway capacity expansion projects such as truck-only lanes and HOV/Toll Lanes, may have initially beneficial congestion relief that erodes over time, potentially resulting in increased VMT and auto emissions.

- Since the RTP includes several projects that expand freeway capacity, EPA recommends that the Final RTP include a discussion of induced travel to ensure that these projects do not counter the very VMT and emission benefits expected from SCAG's SCS and Regional Zero Emissions Freight System.

Technologies for Transportation Investments

This section of the plan cites several compelling strategies, which presumably will result in significant emissions reduction. However, the Draft RTP does not clearly outline what the requisite technologies are in relation to emissions standards for the relevant source categories.

- EPA recommends including clearer descriptions of the technologies listed in the Transportation Investments section of the RTP.

Definition of "clean truck"

EPA suggests defining the term "clean truck" in relation to current vehicle emissions standards. This term is listed in the Vision and Transportation Investments sections of the RTP, as well as in the Goods Movement supplemental report. One option for defining this technology would be to compare its emissions to the EPA 2010 heavy-duty truck standard.

Measuring Environmental Results of the RTP

The Draft RTP has identified criteria pollutant and greenhouse gas emissions as its sole performance measure and indicator for environmental quality. Given that the region has experienced significant losses to species and habitat from development encroachment and transportation construction, EPA encourages SCAG to consider sensitive habitat as a performance standard and indicator for environmental quality when updating the RTP.

- EPA recommends SCAG consider demonstrating the RTP's effectiveness at protecting species, wildlife or wetland habitat, and/or open space. If additional performance standards are not possible during the 2012 RTP update given the already extensive efforts to develop the identified performance outcomes and measures, the Final RTP should describe if there are appropriate

performance standard surrogates, such as land consumption under Location Efficiency, to measure the RTP's success in protecting sensitive habitat.

RTP Environmental Mitigation Program

SAFETEA-LU Section 6001 requires long range transportation plans to include a discussion of potential environmental mitigation activities and potential areas to carry out these activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan. The Draft RTP acknowledges that the PEIR includes three categories of mitigation measures (regional, local, and project-specific, as described on p.76); however the Draft RTP identifies a separate, broad strategy to link transportation planning to the environment, such as planning transportation routes to avoid and minimize a number of biological impacts and regional mitigation strategies such as mitigation banking, improving/ retaining habitat linkages, preserving wildlife corridors and wildlife crossings to minimize the impact of transportation projects on wildlife species and habitat fragmentation. The Draft RTP notes that maps of protected and unprotected areas, representing SCAG's open space infrastructure (from SCAG's 2008 Regional Comprehensive Plan), will be updated as a function of post-RTP planning efforts, that areas that are "unprotected" could be possible locations for mitigation, and that SCAG will continue to work with its regional partners to help facilitate conservation.

- While EPA is supportive of many of the broad mitigation strategies identified, EPA recommends that the environmental mitigation discussion in the Final RTP incorporate specific information from the Regional Comprehensive Plan that will inform regional avoidance and minimization strategies when planning regional transportation networks and possible locations for mitigation.

- The Final RTP should also provide additional information on post-RTP comprehensive and conservation planning efforts and describe how anticipated outcomes and products will be incorporated into long-term planning for transportation infrastructure.

Comments on the Draft PEIR for the RTP/SCS

Health Risk Assessment

EPA appreciates that SCAG's 2012-2035 Draft RTP PEIR includes a health risk assessment. During a February 9, 2012 call between SCAG and EPA staff, SCAG indicated that health risk will not be used to measure the RTP's performance.

- EPA recommends that the Final PEIR clarify how the HRA informed both decision-making among Plan alternatives and mitigation for impacts to sensitive populations.

- EPA also encourages SCAG to consider non-cancer risk, such as respiratory risk, in the PEIR HRA, in light of the fact that the RTP environmental justice analysis addressed both cancer and respiratory risks. The HRA could estimate non-cancer risk, or at a minimum, include a discussion on the relative contribution of these different effects, especially to sensitive receptors.

EPA acknowledges that SCAG selected eight segments of freeway corridors to generally represent major transportation corridors in each SCAG county (with two selected in L.A. and San Bernardino) and roadways with the highest total traffic and highest heavy-duty diesel truck traffic in the planning

area. Further, the modeling focused on freeway segments (versus the entire length of each freeway corridor) that exhibited highest daily total traffic volume to assess "probable worst case" risks. However, the HRA does not describe how its limited scope relates to the broader suite of proposed transportation projects in the SCAG region.

- EPA recommends that the HRA identify: 1) what percentage of RTP projects is represented by the selected segments used in the HRA analysis when compared to the total projects included in the RTP, 2) their relative locations to the broader scope of projects, and 3) relative timeframes for construction and implementation. We recommend clarifying if these represent a group of projects with the most impacts, estimating the percentage of the impact, and extrapolating how the examples could potentially inform risk for the broader scope of the RTP.

- EPA recommends that the RTP provide a brief summary of all the alternatives, the additional sources of emission considered in each of them, and the mitigation proposed in each of them. Explain how the examples of the eight operating freeways fit in with the alternatives in terms of source contribution.

- The RTP should identify how these "Highest Volume" Segments (page 4) integrate with the alternatives. EPA recommends providing a summary comparison by volume for the corresponding projects in the RTP, the eight selected operating freeways, and the "Highest Volume" segments in the eight selected freeways. Include a percentage contribution at each level to provide the background perspective of this limited analysis, and to allow an evaluation of the scope of all the projects in the RTP.

- EPA recommends that the data in Tables 5 and 5 (Pages 8 and 9) represent the "Highest Volume" emission for the corresponding segments in Table 4. If the results in Table 5 are for the same freeway fraction as shown in Table 4, they need to be clearly identified. Discuss whether these results are being used for the rest of the freeways as a conservative scenario estimate, then provide the entire length of all the corresponding freeways included in the projects in RTP, the estimated VMT/day for them, and the corresponding emission as shown in Table 5. Also provide similar information for each alternative. This will give a clear picture of the scope of the additional emission sources generated by these projects.

- SCAG should consider regularly revisiting project status of modeled projects for a selected time period (such as, every four years when RTP is updated, or two years when FTIP is updated). For example, at each new RTP update, provide a "reality check" against the previous 4 years of actual construction data impact, and update future RTP projections accordingly. This will also allow inclusion of any new projects.

- The impact of example projects in the HRA should be extrapolated to the entire RTP scope, so that a more systematic and comprehensive health impact can be evaluated at each RTP update for the whole region to allow appropriate consideration for cumulative impacts to sensitive receptors. These projects should be included in all future MATES analyses, which can provide the previously mentioned "reality check". Each RTP update can then revisit all the previous assumptions using the most recent MATES analysis, and provide the best estimates for the remaining projects.

Risk Emissions
It is not clear how Table 6 (page 10) relates to Tables 4 and 5 and the assumptions (Table 9) are not clearly described to support the results. Further, it is not clear how Table 14 (page 17) relates to Tables 9 and 11.

- EPA recommends providing a summary of the emissions for all the alternatives, which can be more useful than presenting the number of vehicles. This will provide the basis to move into the next Risk calculation.

- EPA recommends providing a summary of the assumptions used in each alternative for the estimation of the cancer risk.

- EPA recommends that even in a limited scope, SCAG should identify any potential cumulative impact of two or more projects that might intersect, and identify areas of dense population that might be subjected to this cumulative impact, as well as the impact on any potential sensitive population.

Mitigation Measures

Section 3.2 Air Quality Mitgation Measures

- *Mitigation Measure MM-AQ19 – Protecting Sensitive Receptors from Air Quality Impacts*
  EPA recommends the implementation of MM-AQ19 in plan-related projects. Given the current air quality conditions in the Southern California region, project sponsors should be strongly encouraged to reduce the air quality risk to sensitive receptors by implementing the strategies listed in this mitigation measure.

- *Mitigation Measure MM-AQ11*
  EPA suggests that this mitigation measure be revised to include the following:
  Project sponsors can and should ensure that all construction equipment meets or exceeds equivalent emissions performance to that of EPA Tier 3 standards for non-road engines. From January 1, 2015 onward, project sponsors should ensure that all construction equipment meets or exceeds equivalent emissions performance to that of EPA Tier 4 standards for non-road engines. See http://www.dieselnet.com/standards/us/nonroad.php.

- *Mitigation Measure MM-AQ15 - Also reflected in Mitigation Measures MM-TR49 and MM-TR89 (Section 3.12 Transportation, Traffic, & Security)*
  U.S. EPA suggests that this mitigation measure be revised to read as follows:
  Local jurisdictions can and should set and enforce limits on idling time for commercial vehicles, including delivery and construction vehicles, which prohibit vehicle and engine idling in excess of five minutes. See http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm.

Section 3.6 Greenhouse Gas Emissions Mitigation Measures

- *Mitigation Measures MM-GHG7 and MM-GHG8*
  EPA strongly supports the implementation of these mitigation measures as the related technologies will play a constructive role in reducing greenhouse gas and criteria pollutant emissions throughout the Southern California region.

- *Mitigation Measure MM-GHG10*
  EPA recommends that provision "b)" of this mitigation measure be revised to read as follows: "Solicit preference construction bids that use BACT, particularly those seeking to deploy zero emissions technologies".

Section 3.12 Transportation, Traffic & Security Mitigation Measures

- *Consumer Education – Mitigation Measures MM-TR44, MM-TR45, MM-TR46, and MM-TR87*
  U.S. EPA strongly supports the implementation of these measures by local jurisdictions as the related activities will play a constructive role in encouraging consumers to adopt transportation techniques, alternatives, and technologies that will significantly reduce criteria and GHG emissions in the Southern California region.

- *Advanced Vehicle & Fuel Technology Deployment – Mitigation Measures MM-TR47, MM-TR50, MM-TR51, MM-TR86, MM-TR88, and MM-TR92*
  U.S. EPA strongly supports the implementation of these measures by local jurisdictions as they will support the commercialization of advanced transportation technologies that will significantly reduce criteria and GHG emissions in the Southern California region.

EPA values the opportunity to be involved in the regional transportation planning process. We hope that this involvement will lead to more efficient project planning and improved environmental and public health outcomes. When the Final RTP/SCS and PEIR are available, please send a copy of each to the address above. If you have any questions about our comments, feel free to contact me at dunning.connell@epa.gov or by phone at 415-947-4161.

Sincerely,



Connell Dunning, Transportation Team Supervisor
Environmental Review Office
Communities and Ecosystems Division

Four Corners Coalition
LOS ANGELES, ORANGE, RIVERSIDE, AND SAN BERNARDINO COUNTIES

RE: SCAG's draft Regional Transportation Plan 2012-2035

February 14, 2012

Dear Ms. Lin,

The Four Corners Coalition has a 20 year history of supporting regional solutions to the transportation challenges that occur in the heart of Southern California. The jurisdictional coordination where four of your six counties come together can be a challenge. We are very pleased with the cooperation that has occurred in the region over the past several years and the continuing efforts that are represented in the Regional Transportation Plan (RTP). For example: the Universal Transit Fare Cards (Smart Cards)are the exact type of regional alignment that is necessary for increasing the overall effectiveness of our transportation system.

- We would suggest that the various TSM strategies capture the essence of this by adding such phrases as:
    - **Multi jurisdictional** traffic signal synchronization, and
    - **Region wide** advanced traveler information,
    - **Multi agency** improved data collection,

We also support the principles outlined by the Global land use and Economics committee of SCAG:

- Provides Positive Economic Impacts – Pro Economic Growth and Job Creation
- Provides Local Control:
    - Any new transportation revenues or fees collected must be under the control of the local transportation agency/authority
    - Cities, counties and local transportation agencies must maintain appropriate control and flexibility in managing decisions and resources related to land use and transportation
- Is CEQA Compliant and Defensible – The RTP/SCS is built to withstand a CEQA Challenge
- Is Balanced – The plan's call for New Revenue is balanced with Performance Measures, Reforms and Guarantees that assure the RTP is Effective, Efficient and Responsible

- Align the plan investments and policies with improving regional economic development and competitiveness. Avoid costly projects like a light rail desert connect that helps move money out of the southern California region to Nevada and does not address the immediate needs of the region's existing transportation needs.
- Maximize the productivity of our transportation system. Look at peak time pricing and transportation demand management (TDM) cost recovery approach.

- Encourage land use and growth patterns that facilitate transit and non motorized transportation. Efficient use of transit and transient oriented development will help balance the jobs/housing disparity among communities in the Four Corners Region.

We continue to support the improvements to those freeways that carry significant intra-county traffic flow:

- SR 71
- SR 57 up to and including the SR 60 / SR 57 intersection
- SR-91
- I-15
- I-10

- SR-71-Addition of one HOV lane in each direction from I-10 to SR-60
- SR-91-Addition of one HOV lane in each direction from Adams to SR-60/21
- I-10-Addition of one HOV lane in each direction from Haven to Ford
- Addition of HOT lanes on I-10
- SR-91-Convertion of HOV lanes to tolled express lanes and addition of direct connector
- SR-91-Addition of one eastbound mixed-flow lane from SR-91/55 connector to SR-241 and one westbound mixed-flow lane from SR-241 to Imperial Highway
- SR-91-Addition of one mixed-flow lane in each direction at various locations from SR-241 to Pierce Street
- I-15 Construction of New Schleisman Rd IC and ramps with a NB/SB Auxiliary lane between Schleisman Rd IC and Limonite Rd IC.
- SR-71- Pine Avenue connector from the SR-71 off-ramp to Pine/Schleisman Road for convertibility to the I-15, through Chino and Eastvale

If you have any questions regarding the comments, please feel free to contact me at any time.

Sincerely,



Gwenn Norton-Perry
Chairperson
Four Corners Coalition

SAVE Coyote Hills!
Friends of Coyote Hills P.O. Box 5267, Fullerton, CA 92838 www.coyotehills.org

Feb. 10, 2012

Margaret Lin
Southern California Association of Governments (SCAG)
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017
RTP@scag.ca.gov
Via email

Re: Comments on the Draft 2012 RTP/SCS and Draft PEIR

Dear Ms. Lin:

Thank you for the opportunity to comment on the Southern California Association of Governments (SCAG) 2012 Regional Transportation Plan (RTP) and Sustainable Community Strategy (SCS). Friends of Coyote Hills is based in Fullerton, and our mission is to permanently protect all 510 acres of West Coyote Hills, one of the last remaining natural open spaces in north Orange County, from development through acquisition, to ensure a lasting public park for recreation and enjoyment. Our organization includes support from 20,000 residents in Orange and Los Angeles Counties. We are writing to provide comments on the Draft 2012 RTP/SCS and the Draft Program Environmental Impact Report (PEIR).

We are so pleased to see an advanced mitigation component in the Draft 2012 RTP/SCS. This is a remarkable first step to creating a program that thoughtfully mitigates impacts to our natural environment from transportation projects. As you know, Orange County and San Diego have similar programs that have met great success. By incorporating this strategy into your policy document, the many benefits of this large-scale conservation approach will be realized. Thank you for your leadership.

Under the Endangered Species Act, the United States Fish and Wildlife Service have defined critical habitat as areas that support endangered or threatened species that are essential to the species' conservation. The description in the Conservation Planning Policy section (page 76 of the Draft 2012 RTP/SCS) states "large-scale acquisition and management of *critical habitat* to mitigate impacts related to future transportation projects" [emphasis added]. We believe there are other habitat areas in the SCAG region worth considering for acquisition and management and therefore SCAG should not limit the mitigation opportunities to only critical habitat. We suggest expanding the language to incorporate all "important habitat lands."

Because this program is directly tied to the implementation of transportation projects there is a clear connection to the County Transportation Commissions (CTCs). We do however, respectfully request that conservation-focused organizations and conservation focused state agencies, conservancies, and joint power authorities be included in the discussions regarding setting priority conservation areas. For example, Friends of Coyote Hills has specific knowledge about lands and linkages in and near West Coyote Hills. We offer our expertise to you during this process. In addition, we also believe targeted outreach efforts in each of the SCAG counties would create an open and transparent process for setting priorities. This recommendation also applies to the limited scope of "agencies" in the Resource Areas and Farmlands section (page 128 of the Draft 2012 RTP/SCS).

Locations for Mitigation (pg. 78 of the Draft 2012 RTP/SCS)
On page 78 of the Draft 2012 RTP/SCS , the document mentions the 2008 Regional Comprehensive Plan that inventoried protected and unprotected areas in relationship to wildlife linkages, linkage designation areas, park and recreation areas. We were pleased that SCAG completed this Plan showing what areas are protected and critical to maintaining functioning habitat reserves. We agree that the planning efforts SCAG undertakes in the future should

involve updating the maps, but recommend expanding the language in this section to include all forms of protected lands. By limiting the acquisition and management opportunities of conservation lands to just Natural Communities Conservation Plan (NCCP) or Habitat Conservation Plan (HCP) areas, decisions about priority conservation areas will be misinformed. In fact, it no longer demonstrates a comprehensive plan because of the limited scope (of pre-established mitigation sites, which are likely unrelated to transportation projects). Protected areas (e.g., National Forests, State Parks, Regional Parks, etc.) not in an NCCP/HCP are excluded from the big picture, yet they have extensive benefits to the entire open space system and often times link important habitat areas throughout the region. Consequently, we recommend having this updated map and mitigation site locations expanded to include more than just NCCP/HCP areas and instead include all levels of protected lands (federal, state, regional, and local).

We hope you utilize the experience and expertise of already-established programs in both Orange and San Diego Counties. The language, as it exists now ("achieved through already-established programs") implies no other transportation agency in the region can adopt or implement an advanced mitigation program. We recommend rephrasing this sentence to be more clear about the eligibility of transportation agencies and utilizing the experience existing regional programs.

On page 79 of the Draft 2012 RTP/SCS we were encouraged to see SCAG recognize the benefits of reducing transportation impacts to sensitive lands and encouraging smart land use decisions. We believe landscape level advanced mitigation will become a statewide planning policy. Planning future transportation projects with a comprehensive mitigation program ensures our open space infrastructure can continue to function and maintain viable habitats, linkages, and species populations in perpetuity. Unfortunately, we noticed the lack of inclusion of wildlife linkages in this section. Orange County's transportation measure language included wildlife linkages and we recommend SCAG include linkages as well.

Renewed Measure M in Orange County incorporated language that demonstrates a net environmental benefit in conjunction with a net benefit in the delivery of transportation improvement projects. Some of the environmental benefits include: landscape level acquisition, restoration, and management. Some of the transportation benefits include: streamlined permitting, involvement of the resource and permitting agencies, and reduced project delays. We believe there is an opportunity to incorporate similar "net environmental benefit/net benefit of transportation projects" language in the Draft 2012 RTP/SCS. To that end, we recommend the language from the Orange County Transportation Authority's Ordinance #3 Section 2, Item A.5.iii (page B-5) as a starting place.

We appreciate SCAG's effort to create a strategic planning process that would document important conservation lands in the region. We believe there is an important opportunity with this concept to also create a Southern California Greenprint. By completing a Greenprint a comprehensive view of our open space land attributes would be documented. Such attributes include: recreation priorities, agricultural lands, scenic values, historic preservation, and more. A Greenprint would give a more complete picture of both opportunities and challenges, while at the same time respecting property rights.

Thank you for reviewing our comments and we look forward to working with SCAG on the implementation of this policy. Should you need to contact me, I can be reached at 714-870-9777.

In addition, we request to be included on any notifications (electronic or otherwise) about this policy's creation and implementation, please send information to sgregg411@roadrunner.com

Sincerely,
Friends of Coyote Hills
Shirley Gregg, Secretary

FHBP Board of Directors
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Manny Kiesser, Vice President
Vikki Swanson, Treasurer
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Supporting Organizations
Amigos de Bolsa Chica
Audubon, Sea & Sage Chapter
Bolsa Chica Conservancy
Caspers Wilderness Park Volunteers
Earth Resource Foundation
Equestrian Coalition of O.C.
Environmental Nature Center
Great Park Environmental Coalition
Huntington Beach Wetlands Conservancy & Wildlife Care Center
Laguna Canyon Conservancy
Laguna Canyon Foundation
Laguna Greenbelt, Inc.
Newport Bay Conservancy
Sierra Club, Orange County
Surfrider Foundation, Newport Beach Chapter
Stop Polluting Our Newport
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February 7, 2012

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Re: Comments on the Draft 2012 RTP/SCS and Draft PEIR

Dear Ms. Lin:

Thank you for the opportunity to comment on the Southern California Association of Governments (SCAG) 2012 Regional Transportation Plan (RTP) and Sustainable Community Strategy (SCS). Friends of Harbors, Beaches, and Parks (FHBP) is based in Newport Beach and we work to protect the natural lands, waterways, and beaches of Orange County. Our organization includes support from more than 80 conservation and community groups in the regional and thousands of Orange County residents.

FHBP would like to applaud SCAG's efforts to include a regional advanced mitigation component in the RTP/SCS. This letter serves to offer suggestions mainly to strengthen this component, which closely links with the sustainability principle listed in the document's vision statement. We do, however, offer a few other suggestions as it relates to other projects we are interested in.

Active Transportation (p. 21 of the Draft 2012 RTP/SCS)
In 2011, FHBP completed a study documenting the Walk Score for the city hall of each Orange County city as well as the city-wide average. Walk Score measures how easy it is to live a car-lite lifestyle—not how pretty the area is for walking. According to its website, WalkScore.com uses Google maps to compute the distance between residential addresses and nearby destinations. The algorithm looks at 13 categories and awards points for each between ¼ to 1 mile. Amenities within ¼ mile receive maximum points, while no points are awarded for amenities further than one mile. The categories include, grocery store, coffee shop, movie theatre, park, bookstore, drug store, clothing and music store, restaurant, bar, school, library, fitness, and hardware store.[1] See attachment #1 for the results of this Walk Score study.

> **Recommendation #1**
> We recommend utilizing this tool as a measurement of how and where walkable, bikable communities may be most relevant. This information may serve SCAG well in determining or prioritizing funding for more active transportation opportunities. Of course, we understand that many factors are at play including site development, existing stable neighborhoods, transit areas and more, but including as a metric how communities are doing already is helpful information to have in the overall analysis.

Regional HOT Lane Network (p. 58 of the Draft 2012 RTP/SCS)
We disagree that the Toll Road Agencies proposed extension of the 241 South be included in the Regional HOT Lane Network. The RTP includes the proposed 16-mile Foothill-South Toll Road extension, which would run through the heart of San Onofre State Beach Park, a beloved and popular recreation spot in south Orange County that serves more than 2.4 million visitors each year. Both the California Coastal Commission and the U.S. Department of Commerce have rejected the Foothill-South project on the basis of its devastating projected impacts on coastal resources.

> **Recommendation #2**
> The continued inclusion of this unbuildable project as a baseline roadway changes the transportation modeling for southern Orange County transportation projects. The Foothill-South should be eliminated from the baseline scenario and removed from the RTP, especially since it is in the unconstrained plan of the Orange County Transportation Authority's Long Range Transportation Plan.

Conservation Planning Policy (p. 76 of the Draft 2012 RTP/SCS)
While we wholeheartedly support the concept of the conservation planning policy, which helps demonstrate progress and safety in SAFETEA-LU requirements, however we do not agree large-scale

[1] Walk Score. Retrieved 2 Feb 2012 from the WalkScore website: http://www.walkscore.com.

acquisition and management of *critical habitat* be the only type of mitigation opportunity utilized. We note however, this may simply be a word choice issue. According to the U.S. Fish and Wildlife Service: "when a species is proposed for listing as endangered or threatened under the Endangered Species Act (Act), we must consider whether there are areas of habitat we believe are essential to the species' conservation. Those areas may be proposed for designation as "critical habitat."[2] Essentially, we firmly believe there are other important natural lands deserving of conservation/preservation, but do not or may not contain a "critical habitat" designation (as defined by the Service).

Recommendation #3
With this in mind, we suggest changing the reference from critical habitat to important natural lands. This comment also applies to the Resource Area and Farmland section (pg. 128 of the Draft 2012 RTP/SCS).

Engage in a Strategic Planning Process
We would also like to offer that it may be an important first step to create a regional Greenprint in addition to a map of regional priority conservation areas. According to Oregon State University: "A Greenprint is a non-regulatory vision to help communities make informed decisions about land conservation, scenic values, and recreation priorities. Components include:

- A comprehensive overview of important natural resources, wildlife habitat, historic sites, scenic values, and potential/existing trail connections in the region
- Maps that highlight the ecological and recreation priorities of the region, while respecting property rights and creating awareness around public access
- An inclusive vision to foster discussion of the diverse conservation and recreation needs of the region."[3]

Recommendation #4
We request a region-wide Greenprint be conducted to document the natural, recreational, agricultural, and other resources in the SCAG jurisdiction as part of the conservation policy planning.

Identify Map Priority Conservation Areas and Engage Various Partners
While we understand the RTP is directly related to County Transportation Commissions (CTCs) we would respectfully request that conservation organizations and other related agencies, conservancies, and joint power authorities, like the Santa Monica Mountains Conservancy, Mountains Recreation and Conservation Authority, and the Wildlife Corridor Conservation Authority, be included in determining priority conservation areas and plan development. CTCs, with all due respect, do not tend to focus on conservation of natural lands.

As the Orange County Transportation Authority will confirm, it relied upon many sources for establishing its priority conservation areas under the Environmental Mitigation Program of Renewed Measure M. To that end, FHBP would like to offer its assistance with Orange County's potential conservation lands as we've created a county-wide map, the Green Vision Map, that documents important conservation lands and existing privately or publicly protected lands. In addition, we believe there are similar conservation non-profit organizations and entities throughout the SCAG region that could provide useful, beneficial, and relevant information about their on-the-ground priorities.

Recommendation #5
We recommend that SCAG incorporate public workshops and outreach to effectively gather information from conservation organizations and other related agencies on conservation priorities. This recommendation also applies to the limited scope of "agencies" in the Resource Areas and Farmlands section (pg. 128 of the Draft 2012 RTP/SCS).

Locations for Mitigation (pg. 78 of the Draft 2012 RTP/SCS)
We are pleased that SCAG has already inventoried the locations of the protected and unprotected areas in relationship to wildlife linkages, linkage designation areas, park, and recreation areas. We agree the maps should be updated as a function of the post-RTP planning efforts but qualify this statement with the caveat that not all of the protected, or undeveloped unprotected lands, in Southern California are within a Natural Communities Conservation Plan (NCCP) or Habitat Conservation Plan (HCP) area.

[2] United States Fish and Wildlife Service (USFWS). "Critical Habitat: What Is It?" Retrieved 1 Feb 2012 from the USFWS website: http://www.fs.fed.us/r9/wildlife/tes/docs/esa_references/critical_habitat.pdf.
[3] Oregon State University Libraries. "What is a Greenprint?" Retreived 1 Feb 2012 from the Deschutes Basin Explorer Natural Resources Digital Library website: http://oregonexplorer.info/deschutes/Greenprint/WhatisaGreenprint.

Recommendation #6
We recommend not only updating the maps to include more recent acquisitions in the NCCP/HCP areas, but also recommend including preserved lands not in the NCCP/HCP areas. For example, most of Chino Hills State Park is not included in an NCCP/HCP but this park offers more than 14,100 acres of natural lands to the inventory. To exclude non-NCCP/HCP lands would misinform decisions about conservation priorities and exclude an entire network of preserved lands outside of, but often times critical to the functioning of, our entire open space system.

In addition, the Orange County Transportation Authority has created a county-wide NCCP/HCP for its Environmental Mitigation Program. This new NCCP/HCP is above and beyond the existing NCCP/HCP areas (Central/Coastal and Southern). By limiting the view of where mitigation can occur (to only existing NCCP/HCP areas), SCAG is considerably reducing its potential mitigation sites especially in light of the broad and expansive nature of the RTP. Freeways crisscross the entire SCAG region and have impacts that cannot or may not be able to be mitigated in an existing NCCP/HCP, nor may SCAG or CTCs be able to add themselves as a partner this late in the NCCP/HCP process.

Recommendation #7
Instead of dictating the conservation mechanism or program to be used by the individual CTCs, we recommend allowing the implementing CTC determine the best conservation mechanism for its region with appropriate public input and guidance from the resource and permitting agencies.

We agree SCAG does not have the authority to purchase or manage these conservation lands, but disagree that the conservation areas will be "achieved through already-established programs." This statement limits the opportunities for conservation to just Orange County as it is the only transportation agency in the SCAG region to have an advanced mitigation component. Should you mean you will use already-established programs to build upon SCAG's efforts, we agree with this approach, but it is not clearly stated and should be revised.

Recommendation #8
We recommend augmenting the statement to include not only already-established programs, but also programs that may be developed in the future or created within existing transportation measures (where appropriate). Additionally, it may be a good exercise to understand what modifying existing transportation measures to incorporate a regional advanced mitigation program would entail.

Types of Mitigation Activities (pg. 79 of the Draft 2012 RTP/SCS)
By reducing transportation impacts to sensitive lands and encouraging smart land use decisions SCAG is moving in a direction that we believe will become the norm and an adopted policy at the statewide level–planning our transportation projects with a comprehensive mitigation program that ensures our open space infrastructure can continue to function and maintain viable habitats, linkages, and species populations in perpetuity.

Recommendation #9
We did notice the lack of mention of wildlife linkages in this section and based on our experiences in Orange County recommend their inclusion. Wildlife linkages are also an important conservation component to ensure the health of our open space areas.

We are pleased to say that the Renewed Measure M Ordinance defines Programmatic Mitigation as "permanent protection of areas of high ecological value, and associated restoration, management and monitoring, to comprehensively compensate for numerous, smaller impacts associated with individual transportation projects. Continued function of existing mitigation features, such as wildlife passages is not included."[4] In other words, if freeway projects impact existing wildlife corridors, funding to ensure its continued function may not come from the programmatic mitigation component. In addition, the program will establish an "accounting process for mitigation obligations and credits that will document *net environmental benefit* from regional, programmatic mitigation in exchange for *net benefit in the delivery of transportation improvements* through streamlined and timely approvals and permitting" [emphasis added].[5]

[4] Orange County Local Transportation Authority. "Ordinance No. 3." 24 July 2006. Section I, Item P, page B-2.
[5] Orange County Local Transportation Authority. "Ordinance No. 3." 24 July 2006. Section II Item A.5.iii, page B-5.

Recommendation #10
We do, therefore, recommend that maintaining existing and future wildlife corridors or linkages be included as a type of mitigation activity and that the advanced mitigation program incorporates language to ensure a *net* environmental benefit as there will be a *net* benefit in completing the transportation projects.

Recommendation #11
While we recognize there are many options to how the mitigation program gets developed, we do recommend that the summary language acknowledges that the list of types of measures is not exhaustive.

Farmland and Agricultural Resources
We urge you to consider adding farmland and other agricultural resources to the conservation policy. In comparing acreages of farmland in the SCAG region, there was a loss of nearly 64,000 farmland acres because of its conversion to urban uses between 2002 and 2008. There was also a 47,000 acre decline in prime statewide important and unique farmlands (as designated by the Farmland Mapping and Monitoring Program classification system).[6] Urban uses generally equate to additional greenhouse gas emissions due to auto-centric developments and therefore go against the mandate of SB 375.

We believe existing agricultural lands play into the larger network of open spaces. Farmlands, like natural lands, create opportunities for natural recharge of the groundwater, reduce the effects of urban heat islands, and provide refuge and foraging areas for wildlife. Of course, agricultural lands also provide food production (worth $4.6 billion per year in the SCAG region) and jobs (67,000 with an annual payroll of $800 million), while producing many times less greenhouse gases than the urban development that has been supplanting them.

General Mapping
It unfortunately seemed to be a trend that the maps in the RTP/SCS were illegible in both printed and digital form. It would be helpful to revise the maps contained within the documents so that the public can accurately read and understand what the maps are trying to show. We were particularly interested in the following maps but our comments are limited due to readability (pixelation) issues: the projected population growth (Exhibit 4.1), housing growth (Exhibit 4.2), employment growth (Exhibit 4.3), natural resource areas (Exhibit 4.6), open space (Exhibit 4.7), and farmland maps (Exhibit 4.8).

Forecasted Growth
We applaud your goal of the RTP/SCS to focus on (among other goals): A land use growth pattern that accommodates the region's future employment and housing needs, and protected sensitive habitat and natural resource areas. We agree land use, transportation AND habitat protection can all be achieved through innovative, smart and new programs like the proposed advanced mitigation policy.

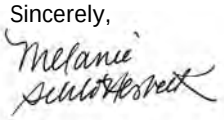
We also appreciate that the land consumption of the greenfield areas consumes 408 square miles less than the baseline. And yes, we agree it is more expensive to develop in greenfield areas because of the lack of infrastructure and services. We are pleased to see SCAG promoting infill projects and protecting our remaining greenfields through compact development and improved land use planning. We believe these concepts are all moving in the right direction toward achieving our mutual goals and the goals outlined in the RTP/SCS for mobility, economy, and sustainability.

Rapid Fire Model
Rapid Fire Model Regional Scenarios Summary which outlines the results of the impacts of varying land use patterns, transportation investments, and policy directions on greenhouse gas emissions, air pollution, water and energy use, land consumption, and infrastructure cost is an excellent method to evaluate how decisions will impact the region. We are pleased to see SCAG utilizing this tool.

[6] U.S. Census of Agriculture; Cal Farmland Mapping & Monitoring Program.

Thank you for the opportunity to provide feedback on the Draft 2012 RTP/SCS and the PEIR. We look forward to working with you in the future on the SCS and the conservation policy.

Sincerely,



Melanie Schlotterbeck
Green Vision Outreach Coordinator
Friends of Harbors, Beaches and Parks
714-779-7561

cc: Jacob Lieb, SCAG

Orange County Walk Scores





Walkable Neighborhoods

Imagine living in a community that's design and layout allowed you to get to the bank, the grocer, and the post office without your car. Imagine not only asking your realtor about the number of bedrooms and baths, but also what the Walk Score is for the property.

"Walkable neighborhoods offer surprising benefits to the environment, our health, our finances, and our communities," according to Walk Score, a consortium of planners and environmental experts whose mission is to promote more walkable neighborhoods. It further explains that towns that have walkable neighborhoods experience reduced pollution, increased public health, higher property values, and more community involvement.

Walkable Neighborhood Features

- They have a "center," be it a main street or public space
- There are enough people to allow businesses to thrive and transit to operate frequently
- Mixed income and mixed uses are near businesses
- People have nearby places to recreate in
- Buildings are close to the street and parking is in the rear
- Residents can walk to work and school
- Streets accommodate bicyclists, walkers, and transit

ORANGE COUNTY'S TOP 3 MOST WALKABLE CITIES

1. Costa Mesa (76)
2. Stanton (74)
3. Cypress (70)

Orange County Walk Scores

For our purposes Friends of Harbors, Beaches, and Parks looked at the Walk Score for the city hall for each Orange County city because it is often in the "downtown." And then we looked at the average that was calculated by the Walk Score website. Interestingly, these numbers may be very different numbers. For each city's Walk Score (both city hall and the city's average) see the reverse side of this flyer.

Measuring Walk Scores

Walk Score measures how easy it is to live a car-lite lifestyle—not how pretty the area is for walking. "Walk Score uses Google maps to compute the distance between residential addresses and nearby destinations." The algorithm looks at 13 categories and awards points for each between ¼ to 1 mile. Amenities within ¼ mile receive maximum points, while no points are awarded for amenities further than one mile. The categories include, grocery store, coffee shop, movie theatre, park, bookstore, drug store, clothing and music store, restaurant, bar, school, library, fitness, and hardware store.

For a detailed description of the algorithm, please see the Walk Score Methodology white paper found at: *http://www.walkscore.com/professional/methodology.php.*

Friends of Harbors, Beaches, and Parks works to protect the natural lands, waterways, and beaches of Orange County.

www.FHBP.org





Dayle McIntosh Center

City Hall and City Average Walk Scores

City	Walk Score of City Hall	Average Walk Score for the City
Aliso Viejo	85	52
Anaheim	94	63
Brea	82	63
Buena Park	63	68
Costa Mesa	71	76
Cypress	63	70
Dana Point	51	61
Fountain Valley	72	65
Fullerton	86	69
Garden Grove	71	69
Huntington Beach	72	67
Irvine	72	60
La Habra	82	68
La Palma	72	67
Laguna Beach	98	53
Laguna Hills	80	59
Laguna Niguel	72	53
Laguna Woods	55	52
Lake Forest	35	53
Los Alamitos	68	49
Mission Viejo	75	53
Newport Beach	100	63
Orange	92	63
Placentia	51	60
Rancho Santa Margarita	91	46
San Clemente	78	55
San Juan Capistrano	74	47
Santa Ana	82	65
Seal Beach	95	52
Stanton	71	74
Tustin	88	64
Villa Park	65	49
Westminster	78	66
Yorba Linda	83	46

Note: These Walk Scores were calculated via the www.WalkScore.com website tool.

Plan

Artesia
Avalon
Bell
Bellflower
Bell Gardens
Cerritos
Commerce
Compton
Cudahy
Downey
Hawaiian Gardens
Huntington Park
La Habra Heights
La Mirada
Lakewood
Long Beach
Lynwood
Maywood
Montebello
Norwalk
Paramount
Pico Rivera
Santa Fe Springs
Signal Hill
South Gate
Vernon
Whittier
County of Los Angeles
Port of Long Beach

GATEWAY CITIES
COUNCIL OF GOVERNMENTS

February 9, 2012

Mr. Hasan Ikhrata, Executive Director
Southern California Association of Governments
818 West 7th Street, 12th Floor
Los Angeles, CA 90017-3435

Dear Mr. Ikhrata:

Gateway Cities Comment to SCAG on Draft 2012 RTP/SCS

Thank you very much for the opportunity to review and comment on the Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and associated draft Program Environmental Impact Report (PEIR). It is clear that a great deal of hard work and successful stakeholder involvement have gone into creating these very impressive documents. SCAG has done an extraordinary job of meeting multiple planning requirements and has produced an innovative and visionary plan.

The Gateway Cities respectfully submits the following comments and questions for your consideration and response:

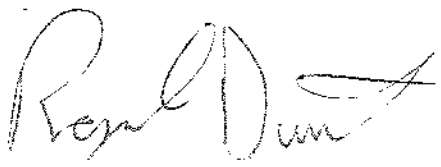
- Growth Forecast
  - We understand that SCAG staff is recommending that the growth forecast be adopted at the city level rather than at the county level, which has been the practice in the past. We request that SCAG continue the past practice of adopting the growth forecast at the county level to allow for much-needed flexibility as local jurisdictions implement their general plans.
- Financial Plan
  - The draft Financial Plan includes over $110 billion to come from new mileage-based user fees that would be implemented to replace and augment gasoline taxes. This is the largest single element of the overall new revenue sources anticipated for the RTP. We would like additional information on how these fees might affect lower-income residents of the SCAG region, particularly since many such residents are concentrated within the Gateway Cities.

  - The Financial Plan envisions a future split among local, state, and federal funding sources that is quite different from the current split, in which over 70% of all transportation funding is of local origin. In the future, the Plan shows 22% from federal and 25% from state, leaving only 53% from local sources. Can SCAG present a chart or plan showing how and when this transition would occur between 2012 and 2035?
  - Table 3.4.1 presents Core and Reasonably Available local sources of revenue and includes development mitigation fees for Orange and Riverside Counties. Does the revenue estimate include any assumption of funds from the potential adoption of a development fee in Los Angeles County?
- Major Highway Projects
  - Exhibit 2.1 and Exhibit 4.12 show major highway projects under the Regional Transportation Plan. Some major Gateway Cities projects – notably those along I-5 between I-605 and the County line – are not indicated on these exhibits. We understand that this is because the exhibits show only Plan projects and do not show projects in the current Federal Transportation Improvement Program (FTIP). We suggest that the exhibits be amended to include FTIP projects over a certain cost threshold so as to show a more complete picture of regional highway infrastructure investments.
- High-Speed Rail
  - We understand that discussions are ongoing among SCAG, the County Transportation Commissions, and the California High Speed Rail Authority regarding levels of available funding for rail infrastructure improvements within the SCAG region. We look forward to further details about the specific investments that will be made in Southern California's rail infrastructure under the 2012 RTP, particularly those that affect the Gateway Cities.
- Express/HOT Lane Network
  - Table 2.6 lists several potential routes for Express/HOT Lane development. Two of these run through the Gateway Cities: I-405 from I-5 to the LA/OC County line; and SR-91 from I-110 to SR-55. What is the anticipated timeframe or years of construction and completion for these projects? Will mixed-flow lanes be added or removed in order to provide the HOT lanes?
- Goods Movement
  - Exhibit 2.8 displays "rising truck volumes in the SCAG region." However, the assumptions underlying the data in this exhibit are not clear, and should be explained in the text. For example, how do these figures relate to the cargo forecast being projected by the San Pedro Bay Ports or the figures assumed in the I-710 Corridor and 91/605/405 Corridor processes? Are the figures in the exhibit based on SCAG's revised truck model? Also, would different truck volumes be found under different RTP alternatives?

  - To avoid local impacts to member cities, the Gateway Cities respectfully request that the potential routes for the East-West Freight Corridor be limited to freeway routes only, and that non-freeway routes not be further considered.
  - The tables relating to the proposed East-West Freight Corridor present a confusing picture of the plan for implementing reduced-emissions vehicles on the corridor. Table 2.8, Benefits of an East-West Corridor Strategy, mentions "50% clean truck utilization" under Environment, but also lists "Zero-emissions technology" under Community. Table 2.11, Environmental Benefits, shows an "East-West Freight Corridor with 100% Zero-Emission Vehicles." It would be helpful to clarify the timeline on which SCAG anticipates low- or zero-emission trucks would be phased in specifically on the East-West Freight Corridor. This implementation timeline should be the same on the East-West Corridor as on the I-710 Corridor through the Gateway Cities, and both should employ 100% zero-emission vehicles.
- Sustainable Communities Strategy
  - Page 79 of the SCS Background Documentation report states that "Subregional SCSs submitted by the Gateway Cities Council of Governments (GCCOG) and the Orange County Council of Governments (OCCOG) will be respected and integrated into the alternatives (with possible revisions for Alternative C only)." Since the PEIR alternatives are designated by number (1, 2, 3) rather than by letter (A, B, C), please clarify whether this statement refers to Alternative 3, called the "Envision 2 Alternative" in the PEIR. Also, we would appreciate having specific information on where, if anywhere, revisions may have been made to the Gateway Cities' jurisdictional input as reflected in our subregional SCS.

We thank you again for the opportunity to review and comment on these draft documents. We also remain especially grateful to the SCAG staff for all the support they provided to the Gateway Cities as we developed our subregional SCS.

Sincerely,



Raymond Dunton, President, Board of Directors
Gateway Cities Council of Governments and
Council Member, City of Bellflower

February 14, 2012

Honorable Pam O'Connor, President
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

RE: Global Land Use and Economic (GLUE) Council Comments to the Southern California Association of Governments (SCAG) Regional Council on the Draft 2012 Regional Transportation Plan & Sustainable Communities Strategy (RTP/SCS) and the Program Environmental Impact Report (PEIR).

Dear President O'Connor:

In April of 2009, the Global Land Use and Economic Council was formed to advise SCAG staff on the economic implications of SCAG's planning activities and to better engage key public and private stakeholders.

At its formation, the focus of the GLUE Council was centered on the implementation of SB 375 and how Southern California could reduce greenhouse gas (GhG) emissions and establish economic co-benefits through better planning for land use, transportation and housing throughout Southern California.

Nearly three years later, the GLUE Council's contributions have grown beyond SB 375 and the partnership has yielded some great success:

- In December 2009, partnering with the Southern California Leadership Council (SCLC) and SCAG, we successfully brought together key business leaders and public officials to voice Southern California's need for flexibility in SB 375 implementation.
- In September 2010, GLUE Council helped articulate to the California Air Resources Board the importance of linking GhG reduction targets for SB 375 to state commitments that will be critical to ensuring goals are met.
- In December 2010, the Southern California Road to Economic Recovery was a great success and the first public step in the development of Southern California's first Economic Growth Strategy.
- In May 2011, the Southern California Economic Recovery and Job Creation Strategy was unveiled and subsequently adopted with great support from GLUE Council.

As Southern California's top four industries are transportation dependent -- trade, technology, tourism and entertainment-- GLUE Council recognizes that investing in the region's transportation system is critical to its economic prosperity.

Over the last several months, GLUE Council has been actively engaged in the 2012-2035 RTP/SCS and applauds the tremendous effort SCAG has put into the process behind this Draft 2012 RTP/SCS & PEIR.

For almost three years, and including hundreds of meetings with its local government constituents and private sector stakeholders, SCAG has honored an inclusive approach to the development of this RTP/SCS.

GLUE Council Thoughts and Recommendations:
As a body representative of Southern California's broader business community, the GLUE Council recognizes the crucial roles that transportation and infrastructure play in maintaining this region's economy and quality of life. That is why throughout the RTP/SCS process the GLUE Council has focused on the plan's ability to deliver economic recovery, jobs recovery, and CEQA streamlining to the region.

The following key policies and principles are recommended by the GLUE Council for evaluating the plan as they represent the qualities of a good and sound RTP/SCS:

1. **Provides Positive Economic Impacts**
    - A plan that is pro economic growth and pro job creation – The RTP/SCS must undergo a true economic cost/benefit analysis so that economic impacts are understood and known by SCAG Regional Council members (and stakeholders) before making a final decision on the RTP/SCS.

2. **Provides Local Control**
    - Any new transportation revenues or fees collected must be under the control of the local transportation agency/authority in order to assure local accountability.
    - Cities, counties and local transportation agencies must maintain appropriate control and flexibility in managing decisions and resources related to land use and transportation.

3. **Assures Revenue Sources are Fair, Understandable and Good for the Economy**
    - Transportation revenue concepts within the RTP/SCS must undergo cost/benefit and other appropriate analysis to assure that they are good for a recovering economy and future growth. They must also be fair and understandable, meaning that an appropriate nexus exists between who/what is being taxed and what is being paid for to assure that new revenues are drawn fairly and proportionally from those who benefit from the related transportation infrastructure or improvement.

4. **Is Balanced and Accountable**
    - Revenues should be balanced with performance measures, reforms and guarantees that assure the RTP is effective, efficient and responsible to the citizens and taxpayers of Southern California.

5. **Is CEQA Compliant and Defensible**
    - The RTP/SCS is processed correctly from an environmental impact perspective, complies with appropriate legal requirements, and is able to withstand litigation challenges.
    - Provides for CEQA streamlining and protects against CEQA abuse

Economic Analysis – Throughout the RTP/SCS process, the GLUE Council has asked for and encouraged SCAG to focus on the plan's benefits and impacts on the regional economy and job creation. The GLUE Council has argued that, done right, the RTP/SCS can be a major catalyst for the region's economic and jobs recovery. Likewise, if not done right, the RTP/SCS could delay recovery or possibly even worsen the region's struggling economy. With this in mind, early on the GLUE Council called for a complete economic analysis of the RTP/SCS, inclusive of a true cost benefit analysis.

GLUE Council appreciates SCAG's dedicating resources to fully articulate the net economic benefits of the 2012-2035 RTP/SCS and supports the findings:

- Every $1 spent on infrastructure investments yields a return of $2.90
- The projected cost per day/per capita is less than $2.00
- The projected benefit per day/per capita exceeds $5.00
- The plan generates an average of 166,000 jobs per year from construction and maintenance expenditures
- Improved transportation benefits in commuting, accessibility and congestion relief yields 354,000 annual jobs

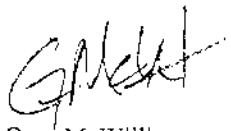
GLUE Council has reviewed the work of SCAG's economic team and their analysis of the RTP/SCS and finds that it does show the plan to be one that "provides positive economic impacts", which is one of GLUE Council's key qualities of a good plan.

Phase II of the Economic Recovery Strategy – As part of the adoption of the RTP/SCS, the GLUE Council recommends that the SCAG also adopt Phase II of the Economic Recovery Strategy. The adoption could happen simultaneously with the adoption of the RTP/SCS or at the adoption of the RTP/SCS, SCAG could commit to a subsequent adoption of the Phase II Strategy (within six months).

The Phase II Economic Strategy would be a way for SCAG to take business community concerns with the RTP and turn them into a positive partnership. Working together, SCAG, GLUE and other stakeholders could develop the Phase II Strategy as a way to focus SCAG and local government on critically necessary regulatory reforms and strategies for new out of the box financing, especially in light of the dissolution of redevelopment agencies. The Phase II Strategy would also give SCAG and GLUE a vehicle for establishing a true Regional Economic Plan to go along with SCAG's other regional plans such as the RTP, the SCS and RHNA.

Upon adoption of the RTP/SCS and the Phase II Economic Recovery Strategy, GLUE Council looks forward to partnering with SCAG on actions to encourage increased business investment in Southern California, in order to retain the current business base, to identify opportunities for expediting project delivery, to reduce costs and to realize accelerated plan benefits.

Respectfully,



Greg McWilliams
Chair, GLUE Council

STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

February 14, 2012

Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

Dear Mr. Ikhrata,

The Governor's Office of Planning and Research (OPR) appreciates this opportunity to provide input on the Southern California Association of Governments (SCAG) 2035 Draft Regional Transportation Plan (RTP). This letter highlights aspects of SCAG's RTP that we think could inform other Metropolitan Planning Organizations' (MPOs') RTPs, and includes some suggestions for possible improvement. Additionally, we enclose comments shared with us by the California Department of Public Health.

Our comments highlight a number of achievements of the plan, and point to some opportunities for further improvement. The plan is grounded in empirical data, using performance measures to guide investment. These metrics are based on transparent modeling, and are broad enough to capture a number of factors important to decision-making. We also point to some opportunities to calculate other important metrics that could be added to even better inform decision-making. The plan also proposes a VMT fee for revenue generation; we suggest that in future analysis SCAG broaden discussion of its benefits and impacts. By showing a path of regional growth in a smaller urban footprint, it makes possible substantial habitat preservation and emissions reduction. We commend SCAG for the extensive technical analysis, policy development, and public outreach process which informed this document, achieving a 16 percent reduction of greenhouse gas emission (GHG) reductions by 2035, among the largest of any MPO's over that timeframe. The RTP estimates a reduction in congestion and an increase in active mode share as well. We look forward to working with SCAG as it proceeds with implementation of this plan.

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(916) 322-2318 FAX (916) 324-9936 www.opr.ca.gov

Performance Based Planning

We are encouraged by SCAG's efforts to develop a plan based on quantitative measures of projected outcomes, or "performance metrics". In this RTP, SCAG provides data and discussion that covers a broad range of stakeholder interests, enabling broadly informed decision-making. We encourage SCAG to continue to develop its capacity to employ sophisticated scenario modeling, and to use that information to enable even better-informed decision-making.

Models used in regional transportation planning are increasingly important in informing transportation and land use decisions. These decisions direct billions of dollars in infrastructure investments and influence regional and local growth patterns. Transparency of models is therefore a prerequisite to transparency in the planning process and decision-making. The 2010 California Regional Transportation Plan Guidelines require MPOs to "disseminate the methodology, results, and key assumptions of whichever models it uses in a way that would be useable and understandable to the public."

We encourage MPOs to display as much information as possible, including model inputs, to help members of both the lay and technical public understand and compare model assumptions and results. Similarly, the model code itself should also be made available to members of the technical public for analysis. Consistent with the Regional Transportation Plan Guidelines, SCAG has appropriately made its modeling work available for public review. We appreciate SCAG's efforts in providing this information.

Applying Performance Metrics to Inform Policy

SCAG's RTP also relies on and discusses useful metrics, and provides clear descriptions of their meaning. One example of a clearly portrayed and useful metric in the SCAG RTP is "reliability." Figure 5.8 and Table 5.2 (p. 172) along with the accompanying narrative convey clearly the concept of reliability and its importance to an efficient transportation system. To explain reliability, the table relates variability in travel time to the time one must leave for a trip in order to have confidence in reaching a destination on time. This demonstrates the time lost by users of an unreliable facility.

Another useful metric in SCAG's RTP is "lost productivity" which measures the reduction in throughput resulting from congested roadways (Figure 5.5, p. 170). Use of this metric allows consideration of the potential benefits to the transportation system of transportation demand management measures. This presents an opportunity to discuss the potential effect of a VMT fee on the transportation system.

We suggest that SCAG provide additional context when using some metrics. For example, death rate listed per VMT (p. 19, fig 1.2) captures factors such as roadway design, but masks the safety benefits of reducing VMT. Similarly, metrics of delay (pp. 164-165) do not distinguish between long and short trips. Such metrics can penalize a short commute in traffic as compared to a long commute on the open highway.

Congestion metrics therefore do not capture the benefits to the transportation system of land use planning strategies that shorten trip lengths. While we believe the RTP would benefit from inclusion of trip length in the metrics used to describe the functioning the transportation network, we note that the RTP captures these by using separate land use metrics.

The RTP also uses safety and health metrics, such as collision rates by severity and by mode and tons of air pollutants emitted. The document provides important information by monetizing potential health benefits of air quality improvement (p. 30). We encourage SCAG to include another key metric, health benefits resulting from active transportation, such as walking and bicycling, in the evaluation. Please see the section "Quantify the Benefits of Active Transportation" below for further discussion.

SCAG's RTP appropriately describes several key co-benefits in the RTP (pp. 175-176). Further, the RTP also quantifies and monetizes those benefits so that they can be considered in cost benefit analyses. We encourage SCAG to clarify how those co-benefits are factored into the decision-making process, and also to expand the scope of co-benefit analyses in its future planning processes.

A Vehicle Miles Traveled Fee: a Funding Source with Potential Additional Benefits

The SCAG region has been a pioneer in the use of roadway tolling in California. Studies suggest that roadway tolling can provide a combination of revenue enhancement, system performance enhancement, human health benefit and environmental benefit. We appreciate SCAG's efforts in modeling and evaluating a VMT Fee as part of the RTP-SCS analysis.

As described in the RTP-SCS (p. 170), overloading a roadway substantially reduces vehicle flow. This in turn reduces the capacity of the roadway at exactly the time that capacity is most needed. One short-run solution is to build additional capacity, but building capacity is costly and the congestion relief is usually temporary. SCAG's consideration of effects of a well-administered VMT fee, including reducing congestion, and possible co-benefits to human health and the environment (e.g. reducing GHG emissions, improving air quality, and reducing collisions), is beneficial for decision-makers and the public. We appreciate SCAG's work in this area.

Quantify the Benefits of Active Transportation

In a letter commenting on RTP-SCS development, the California Department of Public Health points out that "...the potential for reducing chronic disease and greenhouse gases appears to be large on an absolute scale, and far larger than co-benefits from fine particulate matter reductions, which are a traditional focus of health effects" (letter enclosed).

We note that the RTP highlights the link between active transportation and human health (p.30). We recommend that future planning efforts quantify health benefits of

active transportation, so those benefits can be more specifically factored into the transportation planning process. We note that the RTP includes discussions delineating active mode share and accident/fatality rate for cyclists and pedestrians, and elsewhere in the document the expenditure share on active transportation. We recommend that these factors be considered together with active mode health benefits for a comprehensive analysis of this component of transportation plan.

System Preservation

In an era of dwindling transportation budgets, some agencies are deferring roadway maintenance. But doing so leads to more serious wear and damage, and the repairs that are needed as a result are much more expensive than proactive maintenance would have been. For long-run fiscal health, it makes sense to fund full upkeep of existing roadway and highway infrastructure before building more capacity. In this light, we appreciate SCAG's commitment of $217 Billion (nearly half of total expenditures) to system preservation, maintenance, and operation.

Protecting the Natural Environment

The RTP discusses the direct impact of roadway construction and operation on sensitive species via road wildlife strikes (p. 78). We note that the development that will be served by these roads could have a much greater geographic footprint than the roads themselves. As a result, the RTP should consider the potential the indirect impact roadway construction can have on land development, and in turn the impact of development on habitat. We encourage SCAG's continued engagement and facilitation in implementation of regional conservation plans.

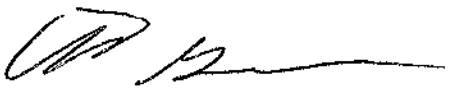
On page 174, the RTP presents the following definition of sustainability: "A transportation system is sustainable if it maintains its overall performance over time with the same costs for its users." The RTP should use a broader definition of sustainability that encompasses the environmental, social and economic metrics used elsewhere in the plan.

Implementation Monitoring Tracks Results of the Planning Process

The RTP anticipates substantial achievement that will be measured by a number of metrics. In order to determine whether these anticipated achievements occur, we suggest SCAG employ an implementation-monitoring program. Such a program would assess the extent to which local jurisdictions within SCAG approve development in accordance with the plan. It would test the assumptions used in the planning process, allowing for corrections to the plan so that it can continue to track a course towards stated targets. Also, it would check the assumptions made in the planning process, allowing calibration with empirical results.

OPR again commends SCAG for developing a high quality RTP-SCS. We hope that our comments are helpful. We appreciate the opportunity to submit these comments, and to offer our assistance in RTP-SCS development and implementation. If you have any questions, please do not hesitate to contact me at 916-324-9236 or chris.ganson@opr.ca.gov.

Sincerely,



Chris Ganson
Senior Planner

For: Ken Alex
Director

cc:
Heather Fargo, SGC
Linda Rudolf, CDPH
Doug Ito, CARB
Terry Roberts, CARB
Garth Hopkins, Caltrans

Attached: Comments by the California Department of Public Health on the Sustainable Community Strategies (SCS) Process and Plan Content

State of California—Health and Human Services Agency
California Department of Public Health

RON CHAPMAN, MD, MPH
Director & State Health Officer

EDMUND G. BROWN JR.
Governor

January 19, 2012

Christopher P. Ganson, Senior Planner
Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814

Dear Mr. Ganson,

We welcome the opportunity to comment on the Sustainable Community Strategies (SCS) that have recently been presented in draft or final formats by the large Metropolitan Planning Organizations. Although the California Department of Public Health does not have a regulatory role in the SB375 process, there are a number of compelling public health interests in the SCSs because of the documented health impacts of housing and transportation in combination with economic development, education, and their interactions to create healthy community environments. As the convener of the Strategic Growth Council's Health in All Policies Task Force, CDPH is working with other State agencies to optimize opportunities to improve public health and sustainability. CDPH staff has also played an educational and technical advisory role in some MPOs' discussions of performance targets and methodologies to assess project performance. CDPH also routinely interacts with local public health departments around the state, many of whom have become involved in regional SCS planning.

Our general and specific comments are detailed in the attached pages. We do note, however, that there are several health issues that fall outside of the current framework of SCSs but are concerns CDPH believes needs more attention. Although greenhouse gas reduction is a goal of the SCSs, climate change will increase risks from higher temperatures on the backdrop of an increasingly urbanized California. We feel there is a critical need to integrate urban heat island (UHI) mitigation strategies into regional and local plans that will implement transit oriented development (TOD) and in-fill development so that UHI risks are reduced as new development takes place. Access to health-promoting features of the built environment, including food systems, parks, and green space also should be integrated into planning.

Please do not hesitate to contact me if you have any questions or comments.

Sincerely,

Linda Rudolph, M.D., M.P.H
Deputy Director, Center for Chronic Disease Prevention and Health Promotion

Center for Chronic Disease Prevention and Health Promotion, 1616 Capitol Avenue, Suite 74.420, Sacramento, CA 95814
(916) 445-0661 FAX: (916) 445-0688
Internet Address: www.cdph.ca.gov

Comments by the California Department of Public Health on the Sustainable Community Strategies (SCS) Process and Plan Content

General Comments

Health is a critical component of sustainable communities. The California Department of Public Health encourages regional planning organizations to embrace the concepts outlined in the Healthy Community framework developed by the Strategic Growth Council's Health in All Policies Task Force.[1,p21] Many strategies that increase community sustainability can also support improved health outcomes. For example, policies that support active transportation help Californians incorporate more health-promoting physical activity into their lives, while also advancing goals to achieve greenhouse gas emission reductions. Infill development can help to reduce urban sprawl, reduce greenhouse gas emissions, and support location-efficient housing that promotes active transportation and allows workers to reap both economic and health benefits. Good health is critical for economic sustainability, increasing workforce participation and productivity, and slowing the ongoing rise in medical care expenditures, which diverts resources from other State priorities such as education or investments in green energy.

CDPH staff has reviewed the drafts and final versions of SCSs updates to the Regional Transportation Plans of the 4 large MPOs and the following comments represent a high level synthesis. First, we must laud the MPOs for the diligent work that has gone into these documents, and each represents an improvement from the original RTPs. We note an increasing number of performance measures that go beyond the traditional health focus on traffic injuries and air pollution. We refer to physical activity from active modes of travel, including bicycling, walking, and public transit that includes active transport from and to transit destinations. Noise and other physical hazards are also getting more attention as health performance measures. We also note that discussions of equity increasingly recognize that health inequities are caused and exacerbated by built environment factors and the uneven distribution of community resources. We are supportive of these developments which will deepen the appreciation of how public health is embodied in the many actions outside the field of health or health care.

Specific Recommendations

We have several recommendations that are based on existing trends in the SCSs and recent scientific developments in the transportation and public health fields.

1. Activity time in active transport (walking, bicycling, etc.) is indispensable as a health-related transportation performance measure (e.g., mean daily minutes per person of walking and bicycling). Health co-benefits of active transport in one of the large MPOs (Metropolitan Transportation Commission, MTC) has recently been quantified[2] and the potential for reducing chronic disease and greenhouse gases appears to be large on an absolute scale and far larger than co-benefits from fine particulate matter reductions, which are a traditional focus of health effects. These findings are consistent with emerging evidence from studies of other regions of the United States, London, Barcelona, and the Netherlands.[3-7] Attempts to monetize health co-benefits from active transport suggest savings of billions of dollars in health care costs and the value of statistical lives saved.[5]

2. MPOs should consider new tools that have recently become available to quantify the health co-benefits of active transport in SCS scenarios and projects. This fills a gap in project performance assessment at most MPOs. One such tool co-developed by the CDPH, MTC, the Bay Area Air Quality Management District and other researchers is called the Integrated Transport and Health Impacts Model (ITHIM), which was used to quantify the health co-benefits of active transport and low carbon driving in the San Francisco Bay Area. This tool could function as a post processor to travel demand models that generate miles traveled and activity times by mode. Modelers at several large MPOs are already exploring how it can be used to complement their methods for project performance assessment.

3. As tools such as ITHIM become available to MPOs, health co-benefits can be used as a criterion for a unique project category that *a priori* could get a high priority score in the project assessment methodologies used by MPOs.

4. Likewise, using these tools, health co-benefits can be used as a criterion to screen projects for cost-benefit and other in-depth analysis. In some MPOs current practice is to screen projects based on cost, so that only high cost projects get quantitative assessment. This would allow projects with large health co-benefits to also get additional scrutiny in cost-benefit analyses.

5. Equity/inequity in RTPS is currently framed using title VI of the Civil Rights Act, concepts of "no disparate impacts" and "increase access (to affordable housing/transit) to poor people", participation of communities of concern, environmental justice. In the development of SCSs some MPOs have been exposed to a health-based approach which explicitly calls for ways to narrow existing differences in health status and of determinants of health. The Sustainable Transportation Council (LEED-like approach to rating transportation systems) is considering a goal area in its transportation rating system that explicitly considers reducing health disparities.[8] This is a promising approach that deserves more attention.

6. Local health departments are highly interested and would benefit from mechanisms that enhance their participation in SCS development and follow-up. We noted with interest that SANDAG has a standing Public Health Advisory Committee in which the San Diego County Health Department is a partner, and our staff was able to attend one of their meetings. National organizations like the Transportation Research Board have recently created standing health subcommittees with an expanded focus. It is worth exploring ways local health departments and others interested in public health and equity can stay engaged on an on-going basis.

   This is particularly germane to a multidisciplinary approach to address the multiple health issues and the complexity of health impacts. In this setting expertise could be leveraged to explore the potential consequences of different scenarios and SCSs in the context of health risks and benefits, addressing air quality, physical activity, access to health promoting resources (e.g., transportation, food, employment, education), noise, injuries, social networks, etc. for the regional population and vulnerable subgroups.

References

1. Health in All Policies Task Force. *Report to the Strategic Growth Council.* Sacramento, CA: Strategic Growth Council; 2010 (http://sgc.ca.gov/hiap/docs/publications/HiAP_Task_Force_Report.pdf).

2. Maizlish NA, Woodcock JD, Co S, Ostro B, Fairley D, Fanai A. *Health Co-Benefits and Transportation-Related Reductions in Greenhouse Gas Emissions in the Bay Area - Technical Report.* Sacramento, CA: California Department of Public Health; Available at: http://www.cdph.ca.gov/programs/CCDPHP/Documents/ITHIM_Technical_Report11-21-11.pdf. Accessed November 21, 2011.

3. de Hartog JJ, Boogaard H, Nijland H, Hoek G. Do the health benefits of cycling outweigh the risks? *Environ Health Persp.* 2010;118:1109–1116.

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7. Woodcock J, Edwards P, Tonne C, Armstrong BG, Ashiru O, Banister D, et al. Public health benefits of strategies to reduce greenhouse-gas emissions: urban land transport. *Lancet.* 2009;374:1930-1943.

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FROM: David J. Alba
Project Designer GRID/ECSTC Systems
Davidalba1@gmail.com
February 13, 2012

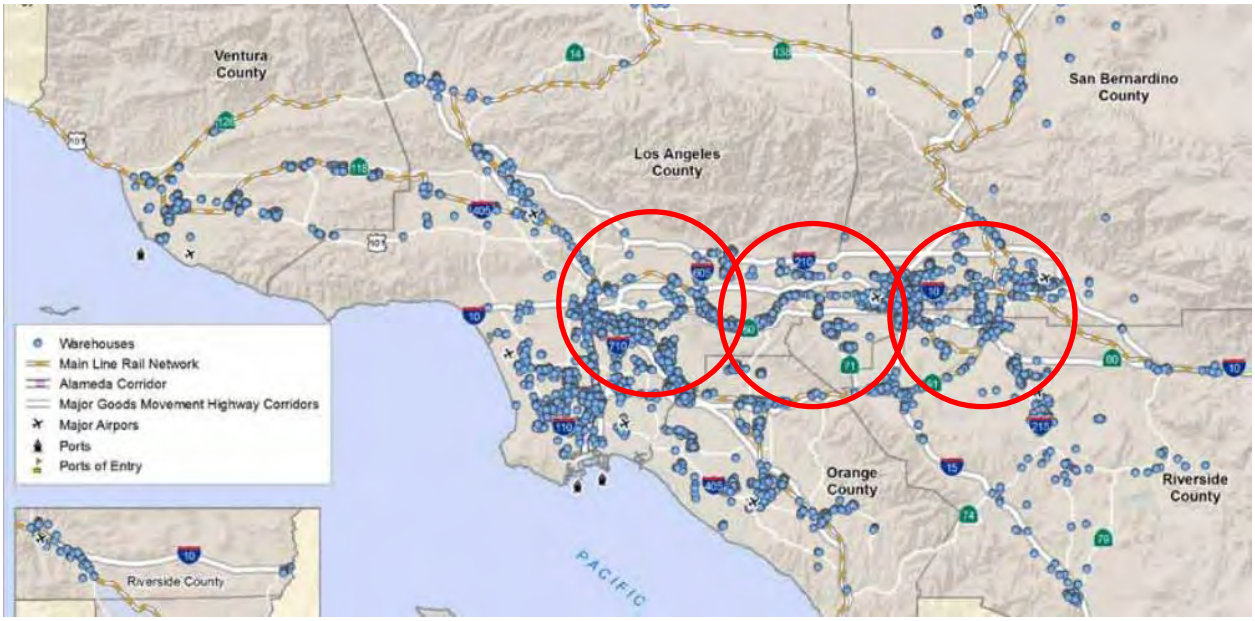
TO: Margaret Lin
Southern California Association of Governments (SCAG)
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

RE: Official Public Comments made to the 2012-2035 RTP addressing; concerns involving conventional freeway/intermodal/port expansion projects related to goods movement emanating from the San Pedro Bay Ports Complexes.

Greetings,
I am a native Southern Californian and have had a professional background in commercial logistics for over 20 years, 7 of which involved the tri-modal (vessel, container yard, and on-dock) operations involving container terminals.

In the span of my experience and research seeking solutions to great challenges involving goods movement, the first and most profound discovery emerging obvious and opportune is that over decades of industrial growth, container logistics is no longer "port centric".

Rather today, goods movement has shifted to become "region centric". That is to say logistics activity at consolidated warehousing, use of freeway networks and surface freight rail has exploded to support the volumes (in millions of containers each year) emanating from the Ports of Los Angeles and Long Beach. The region now bears the brunt of goods movement and with this brunt comes negative environmental impacts.



This image on the previous page was taken from page 3 (exhibit 1) from the SCAG Goods Movement Supplemental Report illustrating warehousing locations (in blue dots). We have added the 15 mile radius red rings to illustrate where the vast majority of local truck deliveries emanate from the ports. Ideally, if containers could be delivered in a new method of freight transmission to the center of these areas of delivery density, the freeway trucking component could be completely eliminated decongesting freeway traffic measured in the millions of truck trips and in the hundreds of millions in truck vehicle miles travelled (VMT). The idea of a 100% freight dedicated right of way connecting the ports to the Inland regions is the core motivation of the proposed GRID Freight Pipeline system and transportation network.

Among the 2012-2035 Regional Transportation Plan's (RTP), by far, the most ambitious proposed projects specific to goods transportation is the proposed elevated or double decked, East West Freight Corridor. This project calls for a freeway network dedicated to truck drayage from the 710fwy connecting to the IH-15 ultimately linking to areas in the Inland Empire where a high density of container deliveries to consolidated freight service (CFS) warehousing and intermodal yards.

This image on the previous page justifies the central argument for the critical need for a freight dedicated corridor crossing the region through the areas where the highest frequency of port truck deliveries are occurring by the thousands every day here and now. Therefore, this public comment is to agree and concur with SCAG's determination that an east west freight corridor is critical to reduce traffic congestion on surface freeways where our commuter cars use our freeway network.

However, the proposed conventional project solution, connecting forty miles, estimated to cost $15B, is to build an entirely new freeway network for the purpose of decongesting another parallel freeway network. To some elected officials this project proposal leaves causes for concern. In fact, this proposed mega-project has already received pushback from elected officials whose cities run through these proposed new freeway routes.

To begin, fifteen billion dollars to fund this single project in an RTP involving literally thousands of projects represents 10% of the $155B dollars SCAG proposes to raise revenues in the form of a future gas tax increases at $0.30 per gallon or impose a vehicle miles travelled (VMT) tax. These gas tax increases will fill the current gap of budgeting within the RTP's total $450B plan. The certainty that passage of a national gas tax or VMT is imminent as a solution is considered by some to be somewhat optimistic. The following link referencing these specific issues is an article from the San Gabriel Valley Tribune. LINK: http://www.sgvtribune.com/news/ci_19327611

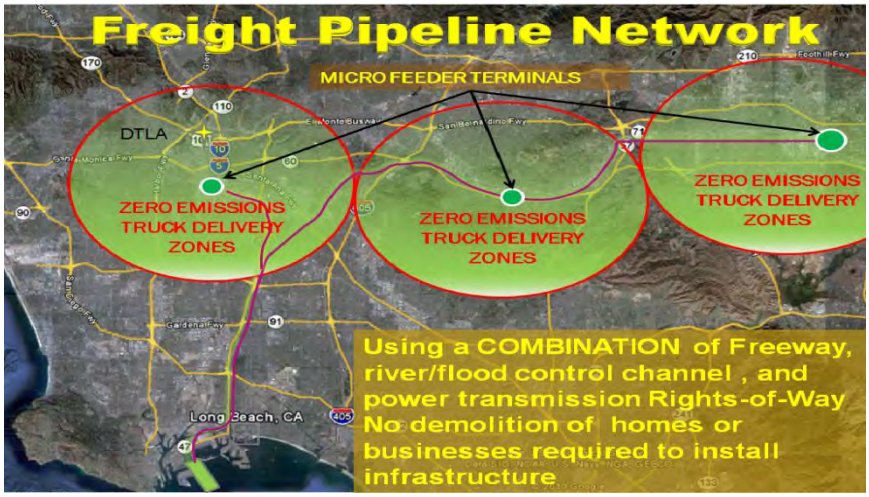
Another significant issue that rapidly growing concern and in some cases firm opposition from elected and city staff officials of cities, especially those positioned within or nearing the route to the proposed surface solution that describes the proposed design of the E/W Freight Corridor. The following link describes the aligning opposition beginning with

the cities of Diamond Bar, Walnut, West Covina, Chino Hills, Montebello, South El Monte, and Pico Rivera. Article from the Whittier Daily News.
LINK: http://www.whittierdailynews.com/news/ci_19261687

The central motivation of this public comment is to reach out to SCAG strongly urging staff to take bold forward thinking steps, shifting its regional plan with focus to gravitate towards environmentally superior alternatives that actually have superior efficiency and platforms using 21st Century thinking to solutions specific to streamlining, even potentially undergrounding the transmission of millions of containers from the 5th largest container trade gateway on planet earth significantly decongesting freeway networks on our urban surfaces where human multi-modal transportation is given precious space.

The GRID Project is now participating in its 3rd public comments on proposed major transportation infrastructure where one project replaces not one, rather multiple projects. Among the most appealing facets of GRID is that the project pays for itself (economically sustainable). The first three projects GRID has addressed in comment are;

1. Public Comment on the Port of Long Beach Pier S DEIR/DEIS where the SuperDock makes this billion dollar project obsolete
2. The BNSF Southern California International Gateway (SCIG) Project DEIR/DEIS making this controversial development having significant community and environmental justice group and NRDC opposition (saving railroad companies $500M) with a superior operating facility called GRID SuperDock).
3. The SCAG 2012-2035 RTP where GRID proposes a "Freight Pipeline" connecting the ports to inland areas where containers would emerge from this network of freight tunnels emerging at the center of where the highest concentration of containers are delivered.



Referencing the earlier SCAG image on page 1, the pipeline follows a route were freight warehouse volume density is most concentrated. To date, the GRID Project has been presented to SCAG senior staff. Also GRID proposers were recently invited to present at

the Arroyo-Verdugo SCAG Subregion meeting where the central agenda involved issues pertaining to the 2012-2035 RTP.

We submit for SCAG and committee members consideration a conclusion from a recent CARB/CEPA sponsored study entitled; *"Development of a California Geospatial Intermodal Freight Transport Model with Cargo Flow Analysis"* Contract no: 07-314 (PDF available on CARB website). The Conclusion of the report states the following;

"The Case Study provides two primary insights. First, the Case Study quantifies port-related intermodal goods movement through the state of California and beyond. Second, the idealized use of least-CO_2 routing constraints illustrates how emissions savings can be achieved through modal shifts. ***In terms of savings in emissions, it is estimated that a total of ~60% reduction in CO_2 emissions is achievable by a modal switch from road to rail****. Both of these insights have relevance for consideration of system-wide improvements that may achieve energy savings, CO_2 reductions, and associated benefits for air quality".*

We urge committee members to please consider ensuring that SCAG staff will agree to draft language within the E/W Freight Corridor section in the 2012-2035 Regional Transportation Plan clearly communicate that the East/West Freight Corridor description within the RTP;

> **1) <u>Consist of *other* design alternatives</u>** beyond those of only truck with road and freeway expanding solutions.
> **2)** Include rail guideway systems infrastructure to carry freight from the same point to point destinations that define the East/West Freight Corridor even in the form of superior environmental alternative.
> **3)** Include rail guideway systems having an underground component consisting of tunneling and/or "freight pipeline" networks included in the RTP language.
> **4)** Include design alternatives that appear to have superior environmental alternatives to consider as required by CEQA and NEPA legislation as expressed under section 101 of the National Environmental Policy Act.

In this most perfect storm of economic, environmental, and political drive to create new jobs and industries, SCAG can create a Goods Movement RTP squarely focused on sustainable alternatives both green and economic. We hope that leaders in the region will join other leaders in further investigating the GRID project and grow inspired to its purpose in redefining transportation, smart urban use and economic benefits to the region.

Always Looking Forward,
Dave Alba
Project Designer GRID/ECSTC Systems
Davidalba1@gmail.com TEL: 626.513.3650

Richard I. Mueller
President

Ameron International Corporation
Water Transmission Group
10681 Foothill Blvd., Suite 450
Rancho Cucamonga, CA 91730
Telephone: 909/944-4100. Ext. 192
Fax: 909/980-7865
Email: Richard.Mueller@nov.com

February 5, 2012

Mr. David Alba
GRID Logistics, Inc.

Via email: davidalba1@gmail.com

Subject: Constructability of Proposed GRID "SuperDock" and Freight Pipeline

Dear Mr. Alba:

I have been involved in the design, manufacture, installation, operation and maintenance of pipelines made of steel, concrete, and fiberglass, and of diameters from 10" to 252" in diameter. I have been involved in the development of pipelines systems for transfer of solid freight for more than two decades. I was also involved in the design and installation of rail siding and rail loading systems for rail delivery of the wind towers which Ameron International Corporation fabricates at our plant in Fontana, California.

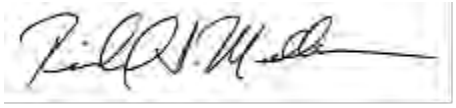
I have discussed the GRID proposal with many of my engineer colleagues, both regarding basic constructability and particularly in regard to maintaining system reliability while crossing southern California's seismic faults even in the event of substantial differential ground movement. Based upon my background and evaluation, and that of the pipe and rail experts with whom I have discussed the GRID project, it is our determination that the GRID freight pipeline is buildable using current technologies.

Ameron International Corporation is now a wholly owned subsidiary of National Oilwell Varco, (NOV). NOV also owns AmClyde, a designer and manufacturer of the most demanding crane systems, including those used for stevedoring. AmClyde engineers have reviewed the proposed design concept for the GRID "SuperDock" and agree it can be designed and built to function as intended for the GRID system.

These engineers and I look forward to building this project for the benefit of southern California and for the reduction of transportation costs for and environmental impact from all freight moved through the ports at San Pedro Bay.

Sincerely,

Ameron International Corporation
Water Transmission Group



Richard I. Mueller, P.E.
President

SCAG RTP PUBLIC COMMENT DISTRIBUTION | 2012

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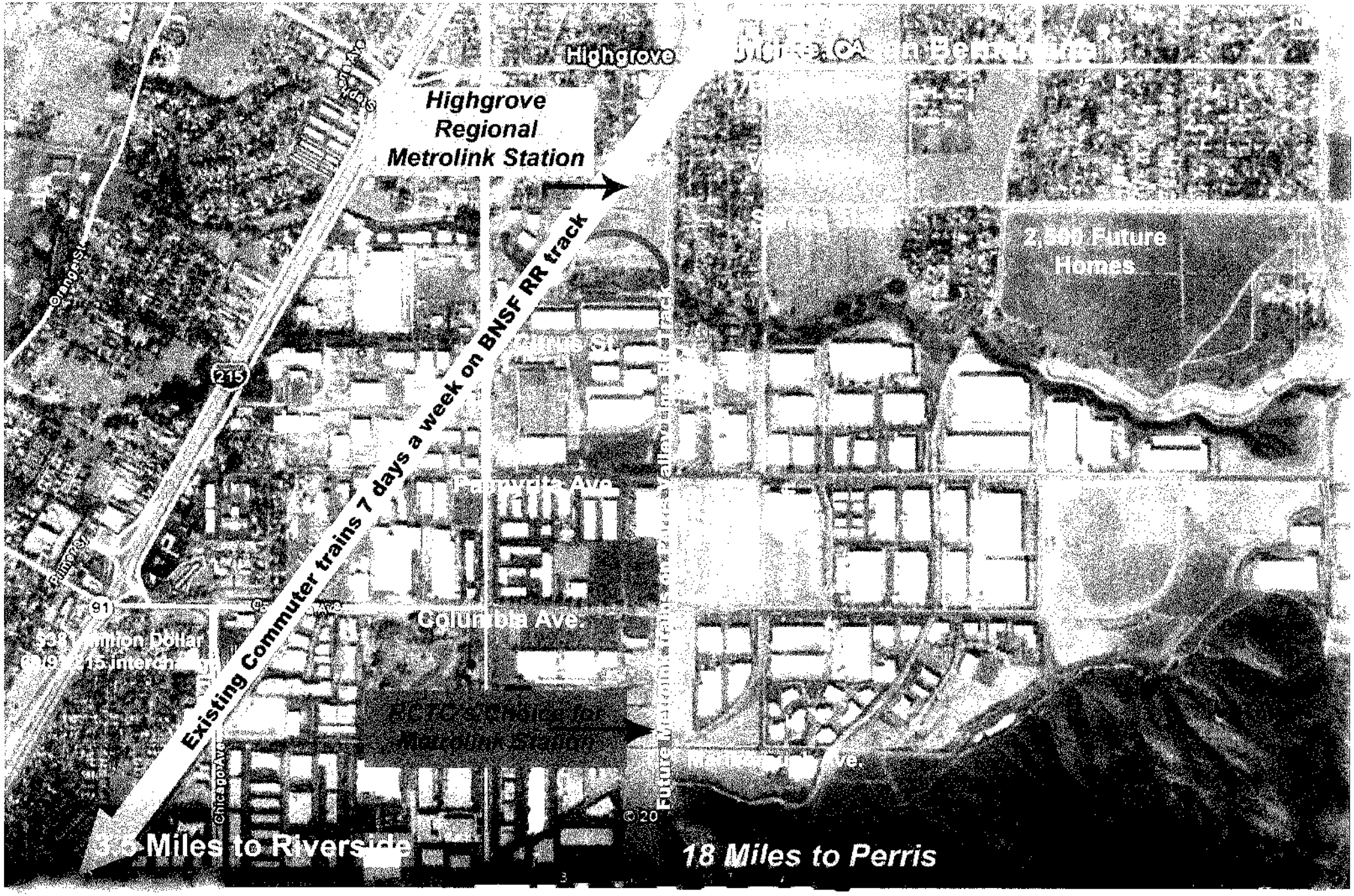
William Burke

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www.highgrovehappenings.net



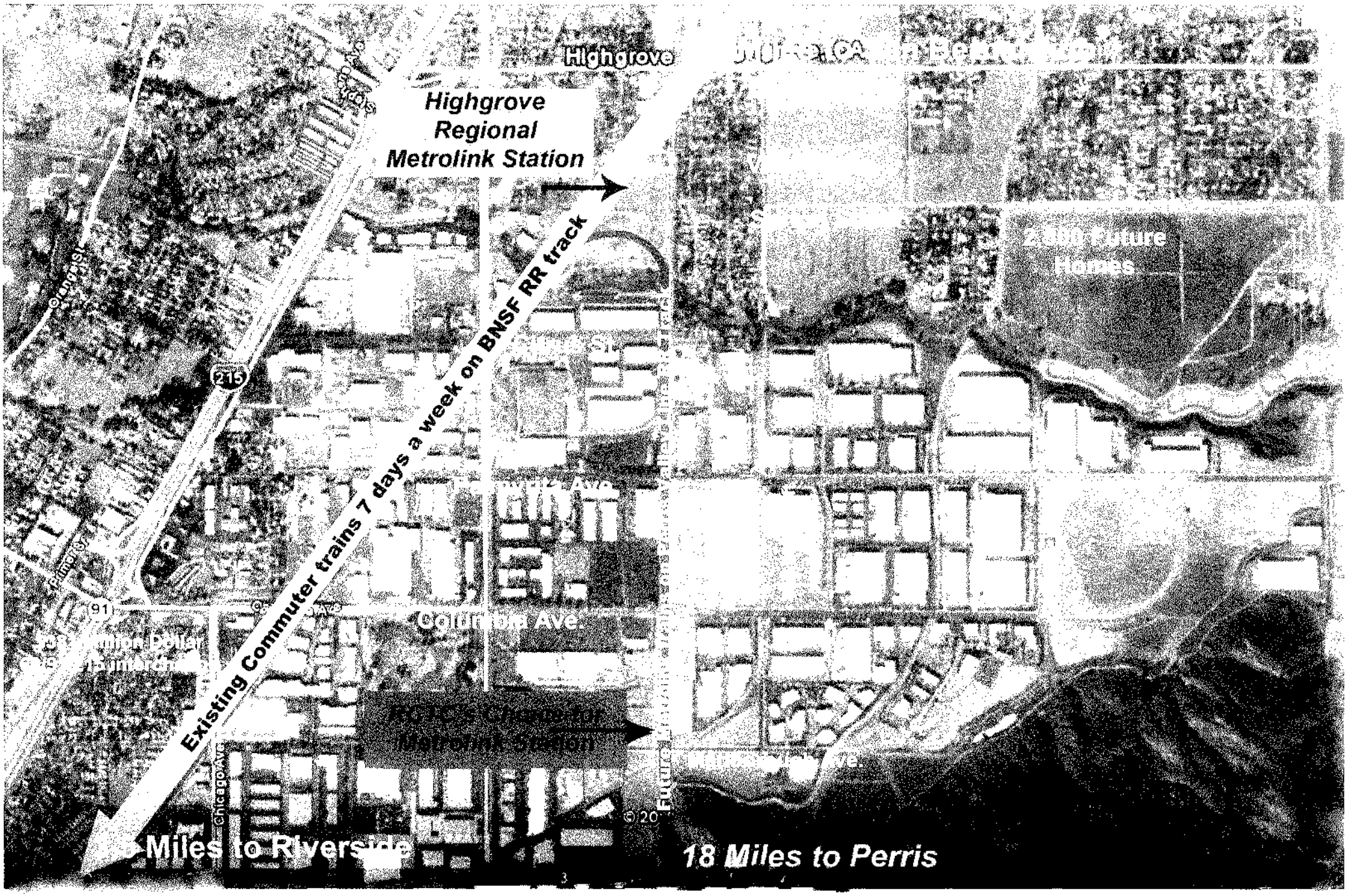
R.A. "Barney" Barnett e-mail: highgrovenews@roadrunner.com

HIGHGROVE REGIONAL METROLINK STATION

Index of information given to SCAG for **Regional Transportation Plan** Jan. 18, 2012

1. Colored map of proposed Highgrove Metrolink Station location
2. Description of map and supporting information
3. Enlarged view of proposed parking lot showing 725 spaces
4. 5 pages of comments over the last 8 years
5. Letter from Supervisor Ashley 10-14-2009
6. Letter from Transit Coalition 9-19-2009
7. Resolution from City of Grand Terrace12-13-2001
8. Petition from Project Area Committee 1-08-2002
9. Resolution from City of Loma Linda 1-24-2002
10. Letter from Assemblyman Bill Emmerson 8-14-2006
11. Letter from Supervisor Bob Buster 7-17-2006
12. Comments from Buster, Ashley and Haley 10-11-2006
13. Letter from Eric Haley about Hi-Rail tour 11-28-2006
14. Agenda from La Quinta Workshop 9-15-2006
15. Article from San Bernardino Sun 1-1-2007
16. Letter from Riverside Land Conservancy 10-18-2005
17. Letter from Melanie Zimmermann 10-09-2006
18. Letter from Wendy Eads 3-15-2006
19. Letter from University Neighborhood Association 10-21-2005
20. Letter from Byron Matteson 6-23-2006
21. Letter from Tony Petta 6-23-2006
22. Letter from Maryetta Ferre' 3-15-2007
23. Letter from Hugh Grant 6-21-2006
24. Letter from Asst. City Mgr.of Grand Terrace 5-15-2003
25. Letter from Franklin Carpenter Jr. 5-28-2001
26. Letter from JoAnn Johnson 11-04-2006
27. Letter from Bixby Land Co.12-12-2005
28. Letters from Carol Williams and Clifford Berger 3-30 & 3-31-2007
29. Letter from Dom Betro 3-21-2006

www.highgrovehappenings.net



R.A. "Barney" Barnett e-mail: highgrovenews@roadrunner.com

Highgrove Metrolink comments over the last eight years!

Please look at the dates of the following statements:

Excerpts prepared Jan. 14, 2010 (Not in sequence)

Ann Mayer, current Executive Director RCTC: (Press Enterprise, Feb. 15, 2009)
"*We have to put stops where they will serve the most people*".

Marion Ashley, Riverside County Supervisor: (Letter, Oct. 14, 2009)
"Over the course of more than a decade, the Riverside County Transportation Commission has considered and repeatedly rejected the request of Highgrove residents for Metrolink service."

Bob Buster, Riverside County Supervisor: (Statement Oct. 11, 2006)
"Highgrove is at the fulcrum, the pivot point of transportation between the 2 counties. You can not ignore the geographic reality that both the freeway and major rail lines and there is available land that will soon be snapped up for other uses. This is a key sight for the future of the Inland Empire"

Bob Buster, Riverside County Supervisor: (Letter July 17, 2006)
"Highgrove is the right place for a regional, intermodal station, at the junction of the main lines and the 215 freeway. Highgrove still has ample land and the community and Grand Terrace want the station".

Mary Crayton, RCTC Commissioner from Canyon Lake: (RCTC meeting Feb. 11, 2009)
Stated that she "*was not satisfied why Highgrove has not been considered and that they never went to Highgrove to look at the property".* She stated: *"they should consider the property in Highgrove".*

Roger Berg, RCTC Commissioner from Beaumont: (RCTC meeting Feb. 11, 2009)
"The Highgrove station may have some merit, more parking is needed and gridlock will only get worse".

James Potts, RCTC Commissioner from San Jacinto: (RCTC meeting Feb. 11, 2009)
"It is the right project for the right time and it would open up other areas where seniors could go instead of just driving locally".

Robin Low, RCTC Commissioner from Hemet: (RCTC meeting Feb. 11, 2009)
"Recognized the amount of work that has been done on this project and said they need to revisit this idea".

Jeff Stone, Riverside County Supervisor: (RCTC meeting Feb. 11, 2009)
Was sympathetic to the concerns of those living near the track and said that the I-215 is reaching capacity and that people need to get out of their cars, onto the tracks and to their destinations.

Bill Emmerson. California State Assembly- Dist. 63: (Letter Aug. 14, 2006)
"I am very supportive of bringing a Metrolink Station to Highgrove because I agree that it is an appropriate location to help solve traffic congestion for this fast growing area".

Mark Hanson, UCR Professor (emeritus): (Letter Feb. 22, 2009)
"For us the "no brainer" aspect of the sitting decision comes down to which station could provide the greatest service to commuters of the region when the Metrolink trains come on line. That has to be Highgrove where one station could serve in three directions: San Bernardino, Riverside and the PVL".

University Neighborhood Association: (Letter Oct. 21, 2005)
"Our meeting was standing room only and by a unanimous show of hands, we voted to support a train stop in Highgrove".

(Four years later)

University Neighborhood Association: (Letter Nov. 17, 2009)
"Our community continues to support this concept because that location seems to offer greater overall flexibility. In addition to servicing Metrolink traffic from the PVL, the Highgrove station establishes services to existing Riverside and San Bernardino traffic, and opens opportunities to increase the number of potential riders through the expanded capacity and the flexibility to serve them".

Riverside Land Conservancy: (Letter Oct. 18, 2005)
"At this time we see no objection to development of this parcel for such a Metrolink Station, but want you to be aware early on, that the development and any crossing of the Springbrook Arroyo should provide reasonable protection for the natural habitat and an undercrossing for the Regional Trail as well as habitat usage".

City of Loma Linda: (Letter Jan. 24, 2002)
"This is to advise that the City Council at the regular meeting of Jan 22, unanimously supported your efforts and the Riverside County Service Area 126 Advisory Board's recommendation to the Riverside County Transportation Commission to site a Metrolink station stop in Highgrove".

San Bernardino Sun Newspaper: (Article Dec. 31, 2006)
"San Bernardino County Supervisor Dennis Hasnsberger believes there is enough demand for a Metrolink station in the Highgrove area. "It's a very worthwhile objective", Hansberger said. "Unfortunately, the people in Riverside County who have jurisdiction have not shown a lot of interest. But we are willing to try to get that discussion going".

City of Grand Terrace Resolution: (Passed unanimously Dec. 13, 2001)
"NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Grand Terrace, does hereby recommend that the Riverside County Transportation Commission grant a Metrolink Station stop at Highgrove when planning for future track upgrading for Metrolink service on the San Jacinto Industrial Spur".

(Eight years later)

City of Grand Terrace: (Letter Dec. 29. 2009)
"The City of Grand Terrace continues to believe that a Metrolink stop in Highgrove would benefit the city and its residents".

Tony Petta, First Mayor of Grand Terrace 1978: (Letter June 23, 2006)
"I encourage you and your staff to seriously consider building a Metrolink Station in Highgrove".

Tony Petta, Retired Grand Terrace Mayor: (Public comments Dec. 11, 2009)
"It's absolutely favorable to our community"

Hugh J. Grant: Former Chairman San Bernardino L. A. F. C. O., Former S. A. N. B. A. G. and Omnitrans Boards: (Letter June 21, 2006)
"I have become aware of the important need to situate a Metrolink stop in our neighboring community of Highgrove, in Riverside County. Due to the fact that the nearest stops at this time are in San Bernardino and Riverside, servicing the transportation needs for the large population in between, with valid predictions of sizable increases in the near future, seem to me to be self-evident".

Southern California Association of Governments (S. C. A. G.): (Aug. 30, 2007)
"In the latest State of the Region Report, Southern California received an "F" for transportation mobility. The region has been the most congested in the country for the past two decades".

JoAnn Johnson Manager Grand Terrace Senior Center: (Letter Feb. 23, 2009)
"I strongly support a Metrolink Station in Highgrove and I know that many others in Grand Terrace do also".

William A. Shopoff, The Shopoff Group: (letter Feb. 23, 2009)
"Since Highgrove is a natural railroad junction point where two railroad lines meet between Riverside and San Bernardino, a commuter train stop in Highgrove would benefit the entire region. This location is only ½ mile east of the congested I-215 Freeway that has exits at Center Street. It is also only about one mile northeast of the new $381 million dollar 60/91/215 interchange that was just completed, and about 3 miles south of the I-215/I-10 interchange. Both major interchanges are between Riverside and San Bernardino and the Highgrove location is also between Riverside and San Bernardino".

Anthony Mize, Builder: (Letter Feb. 24, 2009)
"It is our opinion that the junction point of the Metrolink train traffic between the City of Riverside and the City of San Bernardino and the Perris Valley Line is a very logical location for a new station. In this day of "NIMBY" on just about everything, it would seem to us that if a community wants to work together to revitalize itself by embracing something like this then RCTC should give it careful, thoughtful consideration".

Kirk Wallace, Builder: (Letter Oct. 21, 2009)
"We feel this station would be very beneficial to the community not only because of the established residents but with the future development that will impact the area of Highgrove".

Bobbie Kay Forbes, Terra Loma Real Estate: (Letter Feb. 25, 2009)
"As a local Realtor I believe the area would benefit having a Metrolink Station in Highgrove. There are many people in our community that use the Metrolink a few times a week to get to LA for work. When I am showing property to people from out of the area they will ask about the location of Metrolink stations. And as more people in the area are financially stressed by the economy and the price of commuting they will be more encouraged to use Metrolink if it is closer to home".

Byron Matteson 14 year Mayor of Grand Terrace: (Letter June 23, 2006)
"I think the commuter trains will gain even more popularity in the near future as our area continues to experience rapid growth and our freeway systems become more and more congested. Proper planning is essential in being able to handle these future transportation needs and I hope the new Highgrove Station will be approved soon, to help alleviate some of these ongoing traffic problems".

Highgrove CSA 126 Resolution: (Nov. 27, 2001)
"Highgrove community adopted a 15 point resolution outlining the benefits of a Metrolink station stop in Highgrove".

Highgrove Project Area Committee: (Petition Jan. 8, 2002)
"The Project Area Committee (P. A. C.), for the redevelopment of the Highgrove area, hereby submits this recommendation that a Metrolink Station stop be implemented at Highgrove when the tracks are upgraded for commuter service on the San Jacinto branch".

Robert and Nancy Rice, Retired Highgrove residents: (Letter Feb. 20, 2009)
"We are in our Seventies, and don't like to drive very far. With a station near home, we could go, go, go, and not have to worry about traffic".

George Saunders, commuter from Grand Terrace to Orange County for 7 years: (Letter Feb. 20, 2009.
"With the ever expanding usage of the train it has become increasingly difficult to get to, and to find parking at Downtown Riverside station. An additional stop on the route between Riverside and San Bernardino would be helpful".

William H. Addington, Civil Engineer since 1975-Retired: (Public comments Dec. 11, 2009)
"It is really important to Grand Terrace, Loma Linda and Highgrove to have a station. The opportunity is there now and if passed by, it won't be available. The site is well located and the problems could be mitigated with good engineering. This is the time to act!"

We also have additional letters of support from:

Terry and Lori Carlstrom, G. T.	2-23-2009
James Lasby, Highland	2-20-2009
Ron and Cynthia Cruz, Highgrove	2-26-2009
Melanie Zimmermann, Highgrove	2-23-2009
Barbara McCoy, Highgrove	2-23-1009
Ardie Barnett, Highgrove	2-26-2009
Ron and Geri Barnett, G. T.	

The above information does not include residents who have signed the circulated petition for a Highgrove station nor does it include names of those who signed the on-line petition on the web site: www.highgrovehappenings.net

Our requests consist of 3 items:

1. Build a Metrolink station stop next to the BNSF main line at Highgrove.

2. Build the Highgrove station first.

3. Name the station "Highgrove".

County of Riverside

SUPERVISOR MARION ASHLEY
FIFTH DISTRICT

October 14, 2009

The Honorable Bob Magee,
Chairman Riverside County Transportation Commission
4080 Lemon St., 3rd Floor
Riverside, CA 92520

Dear Chairman Magee:

I am enclosing recent correspondence which I have received from a number of residents in the Highgrove community regarding RCTC's future Metrolink plans.

Over the course of more than a decade, the Riverside County Transportation Commission has considered and repeatedly rejected the request of Highgrove residents for Metrolink service... Most recently, the Commission spent considerable amounts of time and money to identify potential hurdles to constructing a station in the area.

My goal is to ensure that the residents of Highgrove's receive a fair hearing and careful consideration of their desire for infrastructure investment in their community and the provision of public transit service.

I am requesting that the Perris Valley Line Ad Hoc Committee schedule a meeting within the next few months to review the history of the Commission's actions regarding Highgrove from the day it was first mentioned. During the past few years we have seen new members join RCTC and some of the decisions predate my tenure as a County Supervisor.

As we embark on the investment of the Perris Valley Line, I want to ensure that we are making prudent investments with Measure A and federal dollars. While I believe that the Commission has made wise decisions up to this point, we need to continue to challenge ourselves to accomplish more and improve.

With that thinking in mind, I hope that we can revisit Highgrove's issues once again. If we can't provide a station and direct rail service to the community, I want our Commissioners to clearly understand the reasons which will only make our project better. On the other hand, if there is way to provide additional transit (either bus or rail) service to Highgrove, this could be an important opportunity to consider it.

Most importantly, I want to come away from this effort with a cooperative relationship with the Highgrove community. I would hope that Mr. Barnett could attend the ad hoc meeting with a few of his neighbors so they can interact with our committee members and staff, express their interests and concerns, and then accurately report on the matter with the rest of the community.

Thank you for your consideration of this request.

Very truly yours,

Marion Ashley
Riverside County Supervisor, 5th District

Cc: Bob Buster, Vice-Chari, Riverside County Transportation Commission:
Barney Barnett, Chairman, Highgrove Community Council

R. A. Barnett, Chairman
Highgrove Area Redevelopment
474 Prospect Avenue
Highgrove, CA 92507

Re: Metrolink Station in Highgrove

Dear Mr. Barnett:

Thank you for the opportunity to review your proposed Metrolink station stop in Highgrove. The Transit Coalition (TTC) is an organization that works to improve public transportation and mobility in conjunction with land use planning in Southern California.

We have noted that it is within the coalition's interest and mission that a station stop be placed in the Highgrove area given the local support.

We have posted a conceptual rendering of the Highgrove Metrolink station with a link to your video presentation to the Riverside County Transportation Commission on our "A Better Inland Empire" Project Web Site:

http://www.thetransitcoalition.us/a_better_inland_empire/images/pdf/PVL-Rail-highgrove.pdf
http://www.thetransitcoalition.us/a_better_inland_empire/proj_coachellatrainssta.html

As an organization that works to improve public transportation and mobility in conjunction with land use planning, we appreciate your advocacy for better public transportation in Highgrove and thank you for your support. Please feel free to use our maps as part of your work. Please keep us updated of the status of your campaign.

Sincerely,

Nicholas Ventrone,
Community Engagement Director
The Transit Coalition
www.transitcoalition.org

RESOLUTION NO. 2001- 28

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF GRAND TERRACE, CALIFORNIA, RECOMMENDING THAT THE RIVERSIDE COUNTY TRANSPORTATION COMMISSION GRANT A METROLINK STATION STOP AT HIGHGROVE

WHEREAS, Highgrove needs a Metrolink Station Stop; and

WHEREAS, Highgrove is already a railroad junction point connected to the BNSF Main line; and

WHEREAS, a railroad signal bridge is already functional to allow trains to enter or depart from the San Jacinto Industrial Spur onto the BNSF railroad that already has Metrolink service; and

WHEREAS, the track and right of way are already owned by the Riverside County Transportation Commission between San Jacinto and Highgrove; and

WHEREAS, the distance of the- existing track between Marlborough Ave. and Highgrove is only one and one half miles of straight track; and

WHEREAS, track upgrading would be more, economical to go from Marlborough Ave. to Highgrove rather than from Marlborough onto the SP/UP Railroad and then to Riverside and

WHEREAS, the Riverside County Transportation Commission would have to purchase the SP/UP track instead of using track they already own; and

WHEREAS, the SP/UP track is also in need of upgrading and has many more curves than going straight to Highgrove; and

WHEREAS, Metrolink trains coming into Highgrove could proceed eastward to San Bernardino without going into Riverside and

WHEREAS, the San Bernardino Metrolink Station currently has commuter service into the greater Los Angeles area; and

WHEREAS, westward trains could also proceed from Highgrove into Riverside and points beyond; and

WHEREAS, the San Bernardino and Riverside Metrolink parking lots are near capacity and

WHEREAS, Highgrove is approximately half way between San Bernardino and Riverside; and

WHEREAS, vacant land adjacent to the track is already owned by the Riverside County Transportation Commission and could be used for parking at Highgrove; and

WHEREAS, a Metrolink stop in Highgrove would also be the closest access for commuters from Grand Terrace, Loma Linda and the 1520 new homes to be constructed in Pigeon pass plus other proposed residential development;

NOW. THEREFORE, BE IT RESOLVED that the City Council of the City of Grand Terrace, does hereby recommend that the Riverside County Transportation Commission grant a Metrolink Station stop at Highgrove when planning for future track upgrading for Metrolink service on the San Jacinto Industrial Spur.

PASSED. APPROVED AND ADOPTED this 13th day of December, 2001.

Mayor of the City of Grand Terrace

ATTEST:

City Clerk of the City of Grand Terrace

I BRENDA STANFILL, City Clerk of the City of Grand Terrace, do hereby certify that Resolution No. 2001-28 was introduced and adopted at a regular meeting of the City Council of the City of Grand Terrace held on the 13th day of December, 2001, by the following vote:

AYES: Councilmember's, Hilkey, Larkin and Ferre: Mayor Pro Tem Garcia and Mayer Buchanan

NOES: None

ABSENT: None

ABSTAIN: None

Brenda Stanfill, City Clerk

Approved as to form:

City Attorney

PETITION

- The Project Area Committee (P.A.C.) for the redevelopment of the Highgrove area, hereby submits this recommendation that a Metrolink station stop be implemented at Highgrove when the tracks are upgraded for commuter service on the San Jacinto branch.
- The PAC believes the Metrolink stop in Highgrove is necessary to ensure adequate transportation to accommodate future growth within our redevelopment boundaries that presently is turning our former citrus groves into residential and industrial properties.

R.A. Barnett
R.A. Barnett

Adam Ornelas
Adam Ornelas

Melanie Zimmermann
Melanie Zimmermann

B. Etchison
Beatrice Etchison

Jim Danielson
Jim Danielson

Rosemary Wehunt
Rosemary Wehunt

Denis Kidd
Denis Kidd

JAN. 8, 2002

City Of Loma Linda

25541 Barton Road, Loma Linda, California 92354-3160 • (909) 799-2800 • FAX (909) 799-2890
Sister City — Manipal, Karnataka, India

January 24, 2002

R. A. Barnett, Chairman
Highgrove Area Redevelopment
474 Prospect Avenue
Highgrove, CA 92507

Dear Mr. Barnett:

Subject: MetroLink Station Stop In Highgrove

This is to advise that the City Council, at the regular meeting of January 22, unanimously supported your efforts and the Riverside County Service Area 126 Advisory Board's recommendation to the Riverside County Transportation Commission to site a Metrolink station stop in Highgrove.

Councilman Christman serves as president of the SANBAG Board and noted that Board's interest in a station stop in Highgrove.

Please keep us apprised of the status of the project.

Sincerely,

Pamela Byrnes-O'Camb

Pamela Byrnes-O'Camb
City Clerk

Recycled paper

STATE CAPITOL
P.O. BOX 942849
SACRAMENTO, CA 94249-0063
(916) 319-2063
FAX (916) 319-2163

DISTRICT OFFICE
1008 E. FOOTHILL BLVD., SUITE 325
RANCHO CUCAMONGA, CA 91730
(909) 466-9096
FAX (909) 466-9892

Assembly
California Legislature

BILL EMMERSON
ASSEMBLYMEMBER, SIXTY-THIRD DISTRICT

STANDING COMMITTEES
LOCAL GOVERNMENT, VICE CHAIR
APPROPRIATIONS
WATER, PARKS AND WILDLIFE

August 14, 2006

R.A. "Barney" Barnett
474 Prospect Ave.
Highgrove, CA 92507

Dear Mr. Barnett:

I want to thank you for providing me with information on the Highgrove Metrolink Station. I am very supportive of bringing a Metrolink Station to Highgrove because I agree that it is an appropriate location to help solve traffic congestion for this fast growing area.

I appreciate all of your efforts in this matter. Please contact me at my District or Capitol office to advise me on how I may assist you to ensure that this Metrolink Station is built.

Sincerely,

BILL EMMERSON
Assemblyman, 63rd District

BE/tt

Ardie Barnett

From: Buster, Bob [BBUSTER@rcbos.org]
Sent: Monday, July 17, 2006 3:13 PM
To: Robert Phillips
Subject: RE: METROLINK

Mr. Phillips:

The second part of my proposal, which I will spell out in another op-ed soon, is to provide Perris-Riverside commuter service for the next five to ten years by Bus Rapid Transit or BRT. These are the high-tech, high-speed, attractive coaches that are jammed with commuters now on Wilshire and Ventura boulevards in L.A. and San Fernando Valley. Separate lanes next to the median on the 215 Freeway here are already planned to be constructed, which BRT can use. BRT is completely flexible as to routes and schedules and operates at less than half the cost of Metrolink trains. BRT improvements on a Perris Line cost only $10 million. BRT obviously has minimal noise or safety problems for existing communities. If BRT takes University Ave. or Martin Luther King off the freeway to go to the Downtown Metrolink Station, it will serve UCR much better.

Train service on the Perris Line should not be started until grade separations are in place in the highest priority Riverside and all grade crossing in the University and Hunter Park areas. Indeed, this line should be completely rethought as a San Bernardino-Riverside-Perris (with side service to Hemet-San Jacinto)-Temecula mass transit corridor. BRT can serve it best first. Train service would commence only when, hopefully, two-way ridership justifies it and grade separations and other noise reduction and safety improvements are in place. Rather than luring future residents to live in the mid-county and attempt 100 minute to 130 minute commutes each way to Orange County and L.A., we should be reinforcing our own inland area transportation to provide closer local trips to work.

That would also cancel any need for stations in the already cramped University and Hunter Park areas, where impacts on existing neighborhoods will be severe. Highgrove is the right place for a regional, intermodal station, at the junction of the main rail lines and 215 Freeway. Highgrove still has ample land and the community and Grand Terrace want the station.

I've been meeting with every City of Riverside Councilmember, the Chambers of Commerce, UC Riverside reps. from the Chancellor's Office, and our State Assemblymen and Senators about my proposal. I've still got a few left to talk to, but, so far, everyone is very favorable. Getting Mayor Loveridge and Supervisors Tavaglione and Ashley "on board" is important. I think it's possible to build enough support to turn Mr. Haley around and then go and lobby our Congressional reps. (Calvert mainly) to make some sense of how ample federal transportation dollars are spent here.

Your writing the Mayor, both Supervisors, and Cong. Calvert to tell them what you told me will help a great deal.

Bob Buster, Supv., 1st District

Supervisor Bob Buster's comments 10-11-2006

"A defacto decision has been made here apparently that has not been discussed by the commission and we are the policy body".

"Highgrove is at the fulcrum, the pivot point of transportation between the 2 counties. You can not ignore the geographic reality that both the freeway and major rail lines and there is available land that will soon be snapped up for other uses".

"This is a key sight for the future of the Inland Empire"

Supervisor Marion Ashley's comments 10-11-2006

"Logically there should be a Metrolink stop in the Highgrove area for a lot of reasons but it is not just that simple. That doesn't mean that the residents can't continue to pursue this until we come up with some solution that will please as many people as possible but we need the cooperation of San Bernardino County in order to do this.
Direct staff to arrange a tour of the Perris Valley Line and look at the Highgrove sight"

Eric Haley's comments 10-11-2006

"Recognize that it (a Highgrove station) would trigger an $85 million dollar obligation to build the Colton crossing".

"There are complicated legal issues, complicated timing issues very complicated cost negotiations that have never been seriously addressed by our San Bernardino neighbors"

THIS MESSAGE IS BEING SENT ON BEHALF OF ERIC HALEY.
A hard copy of this letter will be included with your agenda packet.

Dear Commissioners:

During our September retreat in La Quinta, staff was directed to set up a tour of the proposed Perris Valley Line project. The tour would give Commissioners an opportunity to see the proposed line on a first-hand basis and to also visit the locations of proposed stations.

The best way to travel the rail line is through a Hy-Rail vehicle, which is an SUV that is equipped with steel wheels that allows it to travel on the actual rail line. By traveling in this type of vehicle, you will be able to travel the line much like a Metrolink car would.

Hy-Rail vehicles are owned by the railroads and Metrolink and obtain access to one takes time to reserve. After a few weeks of working with the railroad, staff has been able to secure the availability of two Hy-Rail vehicles for Tuesday, November 28. The tour will begin with breakfast and a brief presentation at RCTC's offices at 8:15 a.m. We will then drive to the Highgrove area for the Hy-Rail part of the tour.

Space is limited so please call Jennifer Harmon to reserve a place on the tour as quickly as possible. We are also aware that this last week of November is an especially busy one with Committee meetings scheduled for the 27th and our special workshop on the 30th. For that reason, we will also schedule another Hy-Rail tour in the future, but thought it would be important to offer this one as soon as the vehicles were made available
Thank you for your interest in the Perris Valley Line project. Please contact me if you have any questions regarding the tour.

Sincerely,
Eric Haley Executive Director

RIVERSIDE COUNTY TRANSPORTATION COMMISSION

www.rctc.org

WORKSHOP AGENDA*

**Actions may be taken on any item listed on the agenda*

9:00 a.m.
Friday, September 15, 2006

MEETING ROOM
Embassy Suites Hotel La Quinta
50-777 Santa Rosa Plaza, La Quinta

In compliance with the Americans with Disabilities Act and Government Code Section 54954.2, if you need special assistance to participate in a Commission meeting, please contact the Clerk of the Board at (951) 787-7141. Notification of at least 48 hours prior to meeting time will assist staff in assuring that reasonable arrangements can be made to provide accessibility at the meeting.

9:00 – 9:15 a.m. **WELCOME AND WORKSHOP OVERVIEW**
Marion Ashley, Chair
Eric Haley, Executive Director

9:15 – 9:45 a.m. **BOTTOM LINE REPORT ON GOODS MOVEMENT**
Stephanie Wiggins, Regional Programs Director

This item is for the Commission to:

1) Receive and file the presentation of the RCTC Goods Movement Bottom Line Report;
2) Approve the Southern California National Gateway Memorandum of Understanding (MOU) No. 07-67-041-00; and
3) Authorize the Chair, pursuant to legal counsel review, to execute the MOU on behalf of the Commission.

9:45 – 10:30 a.m. **GRADE CROSSING FUNDING STRATEGY**
Stephanie Wiggins, Regional Programs Director

10:30 – 10:45 a.m. **BREAK**

10:45 – 11:15 a.m. **PERRIS VALLEY LINE PROJECT UPDATE**
Stephanie Wiggins, Regional Programs Director
John Standiford, Public Affairs Director

Sun, The (San Bernardino, CA)

December 31, 2006
Section: News

Wanted: New **Metrolink station**

Stephen Wall, Staff Writer

R.A. "Barney" Barnett thinks he has a solution to clear up some of the traffic mess on local freeways. The 68-year-old is leading an effort to build a **Metrolink station** just south of Grand Terrace.

Barnett is pushing transportation officials in San Bernardino and Riverside counties to make the project a priority.

The biggest obstacle, he says, is finding someone to buy about 35 acres of vacant land to build the **station**.

More than 2,000 homes are slated to be built starting next spring in Highgrove, an unincorporated Riverside County area bordering Grand Terrace that Barnett has called home since 1947.

"All this development is going to bring a lot of traffic to Highgrove," said Barnett, who publishes the Highgrove Happenings monthly newspaper with his wife, Ardie. "If we don't do something, the whole area is going to be jammed."

But Riverside County transportation authorities question if there would be enough riders to warrant a **station**.

"We're doing a thorough analysis to determine if it's feasible," said John Standiford, spokesman for the Riverside County Transportation Commission. "If only a few people are going to ride it, it's not worth the investment."

The commission on Jan. 10 is scheduled to hear a report on the feasibility of a **station**.

In addition, San Bernardino Associated Governments' Commuter Rail Committee is expected to discuss the project on Jan. 18.

Barnett said there are now 48 **Metrolink** trains a week that pass through Highgrove between Riverside and San Bernardino on the Inland Empire-Orange County line.

The proposed stop is seven miles from the **Metrolink station** in San Bernardino and 3.5 miles from the Riverside **station**, he said.

Standiford said he doesn't know if the land proposed by Barnett is for sale. The pie-shaped parcel, which is owned by a land trust, is bordered on two sides by different sets of railroad tracks.

Barnett said the site is large enough for shops and restaurants to serve rail commuters getting on and off trains. Bus riders would have close access to the **station** from a route that goes through Highgrove between Riverside and Loma Linda, he said.

Barnett has received support from elected officials in Grand Terrace and Loma Linda. Both cities have passed resolutions in favor of the **station**.

"If it does anything to alleviate traffic on the freeways, I think that's a good thing," said Grand Terrace Mayor Maryetta Ferre.

San Bernardino County Supervisor Dennis Hansberger believes there is enough demand for a **Metrolink station** in the Highgrove area.

"It's a very worthwhile objective," Hansberger said. "Unfortunately, the people in Riverside County who have jurisdiction have not shown a lot of interest. But we're willing to try to get that discussion going."

Riverside Land Conservancy

SERVING SOUTHERN CALIFORNIA

October 18, 2005

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The Riverside Land Conservancy is dedicated to the preservation of open space by seeking to identify, protect, and manage habitats of rare and endangered species, natural lands, and other sensitive sites throughout the Inland Southern California region.

Riverside Land Conservancy
4075 Mission Inn Ave
Riverside, CA 92501
(951) 788-0670
Fax (951) 788-0679
rlc@rlc-regional.net
www.riverside-landconservancy.org

Non-Profit Organization
Section 501 (c) (3)

Eric Haley, General Manager
Riverside County Transportation Commission
P.O. Box 12008
Riverside, CA 92502

Dear Mr. Haley,

The Riverside Land Conservancy (RLC) is aware that there is interest and discussions on potential development of a Highgrove/Metrolink station on a 35 acre triangular parcel of open land just north of Citrus Street, within the Riverside City limits, adjacent to the community of Highgrove. This parcel is bisected by the Springbrook Wash Arroyo; any development for this purpose would almost certainly require crossings of the arroyo with a rail spur, pedestrian crossing from a parking area, and/or new street access.

We are writing to make you aware of extensive planning and coordination efforts the RLC has been doing with the City of Riverside, Riverside County, the Department of Fish and Game, and others in preserving the Springbrook Arroyo for long term Open Space Habitat and Regional Trail uses.

At this time, we see no objection to development of this parcel for such a Metrolink Station, but want you to be aware early on, that the development and any crossings of the Springbrook Arroyo should provide reasonable protection of the natural habitat and an under-crossing for the Regional Trail as well as for habitat usage.

Thank you for your consideration.

Sincerely,

Robert A. Nelson
Springbrook Wash Trail
Subcommittee Chairman

Jane Block, President
Riverside Land Conservancy

cc: Ken Gutierrez, City of Riverside Planning Director

November 9, 2006

Highgrove Metro Link Station

Riverside County Transportation Commission
4080 Lemon St.
Riverside, CA 92502
Attn: Chairman Marion Ashley

San Bernardino Associated
Governments 1170W 3rd St.
San Bernardino, CA
Attn: Chairman Dennis Hansburger

Dear Gentlemen:

I WOULD LIKE TO HAVE REPRESENTATION

·I attended my first Riverside County Transportation Commission meeting on November 9, 2006 and I was so impressed will how really large the board was. It shows how large of a ~county Riverside is. And how many people live here, with just one person to represent all the cities they really have a big reasonability.

As I was waiting for my time to address the Riverside County Transportation Commission on the subject of supporting a Metro Link Station in Highgrove I was able to observe them in action. Very interesting, but I have some concerns that "with some of the commissioners, they were not listening to our voice. My biggest concern was with Mr. Eric Hayley. I have never met this man or even heard him speak but he made me think, why is he .so against this? Is he mad at someone, or something? It seemed like he wants to shut this idea down with out even trying to view the possibilities.

I know I sound like a broken record, but this Metro Link Station is just too big of a good idea just to toss out. We all know its going to cost a lot of money and why worry about who owns the land at this point. It really need5 to be looked into 5etiously and with out bias.. Riverside and San Bernardino are growing too much to fa5t and jU5t putting this on the back burner and let this pass by will not help the public transportation issues.

The out come of this issue was that the Riverside County Transportation Commission will meet with the San Bernardino Associated Governments. To represent the people from Riverside County on this matter is to be Eric Hayley, after hearing him speak, seeing his actions I'm afraid that he is not informed enough to present this issue unbiased and will not speak seriously about it.

So I am asking that you please invite Mr. Barney Barnett of Highgrove, to speak about the Highgrove Metro Link Station to the San Bernardino Associated Government when they meet with the Riverside County Transportation Commission and to all future meeting. By doing this Mr. Barney Barnett can answer questions and keep other supportive groups informed.

Sincerely,

Melanie R. Zimmermann

cc: RCTC Executive Director', Eric Haley
SANBAG Executive Director, Tony Grasso
SANBAG Grand Terrace Representative, Bea Cortes
SANBAG Lorna Linda Representative, Robert Christman
SANBAG Colton 'Representative, Deirdre Bennett

MRS .MEIANIE
ZIMMERMANN 411
MICHIGAN AVE.
HIGHGROVE. CA 507

University
Neighborhood
Association

Wendy Eads, Co-Chair
P.O. Box 55543
Riverside, Ca. 92517

March 15th, 2006

Memo To: Riverside County Transportation Commission, Riverside County Supervisors, Riverside City Council, City Manager and Planning Director, all other interested parties

From: Wendy Eads, UNA Co-Chair Wendy Eads

Re: Location of proposed new Metro Link Station in Ward One of Riverside, for Perris Valley Line Project

This is to again inform you that the membership of the University Neighborhood Association, acting upon the greatly researched recommendation of it's standing advisory committee on trains, has by an overwhelming majority vote decided to officially oppose the placement of either of the two proposed new Metro Link stations in our residential University Heights/University Hills neighborhood, at either proposed location, on the corner of Spruce Street and Watkins Drive , or on Watkins Drive at Valentia Hill. In addition, we wish to inform you that we instead support placing the location of a new Metro Link Station in Highgrove (if one should be ever be built anywhere nearby our neighborhood), to serve UCR, and the surrounding area comprising both wards one and two, and the city's sphere of influence in nearby locations. Barney Barnett has identified a prime site on a roughly 35 acre parcel that is already appropriately zoned, and is developable land without the multitude of insurmountable obstacles that exist in our neighborhood. UCR can run it's Highlander Hauler the roughly two miles to and from the site daily, as it currently does to the downtown Metro Link station, and "claim" the station as its own. Call it the UCR-North Riverside Station. Barney Barnett, a member of UNA train Committee, has been appointed our official representative on this issue of potential new station location, as he is an expert on it, and has full awareness and understanding of our overwhelming concerns and opposition to placement of a station anywhere in our neighborhd. He is our spokesman to all offical parties on the subject of the proposed new Metro Link Station location in Highgrove, which we support. Please give his plan and his suggestions your full attention and all due consideration. This letter does not in any way imply any support by our membership of the Metro Link Perris Valley Line Extension Project.

Barney Has already spoken to most of you, but you may reach him by phone at (951) 683-4494, by FAX at (951) 683-7258, and by email at highgrovenews@adelphia.net

UNA
University Neighborhood Association

October 21, 2005

John Standiford.
Riverside County Transportation Commission
4060 Lemon St. 3rd Floor Riverside CA 92502-2208

RE: Perris Valley Line

Dear Mr. Standiford:

I am writing to update you on the results of a discussion about Metrolink at our October 13th meeting. As you know, there is a great deal of interest about the locations of the Metrolink train stops planned for our area.

While there is great community support for high quality public mass transit, there is also a growing resistance to having a stop at UCR on Watkins Dr.

We believe a better location for a second stop would be in Highgrove where there is more room for parking and would provide a significantly smaller impact to existing residential areas.

Our meeting was standing room only and by a unanimous show of hands, we voted to support a train stop in Highgrove. We remain committed to the Perris Valley Line setting the standard for a workable transportation solution and to enhancing our community's assets. I offer this feedback for your consideration.

Sincerely,



Gurumantra Khalsa
Co Chair UNA

4108 Watkins Dr. Riverside, CA 92507-4701 951-784-7500

June 23, 2006
Supervisor Marion Ashley
Chairman
Riverside County Transportation Commission
4080 Lemon St.
Riverside, Ca. 92502

Dear Supervisor Ashley,

Renewed interest in a Highgrove Metrolink station has again come to our attention here in Grand Terrace. It has been several years since our Grand Terrace City Council first endorsed the location in Highgrove for a station stop and the new week-end trains are a very welcome addition.

A Metrolink stop in Highgrove would prevent us from having to drive to San Bernardino or Riverside to board the commuter trains and the idea of being able to ride to San Bernardino for additional destinations between San Bernardino and Los Angeles or to Riverside, Orange County, or the beach, from nearby Highgrove, is a benefit that will be appreciated by many of the residents of our city. It would also help alleviate some of the anticipated traffic problems through Grand Terrace associated with the new homes to be built in the Spring Mountain Ranch Project.

I have been very active in the City of Grand Terrace and first served as Mayor Pro-Tem in 1980 and 1981. In 1982 I was elected Mayor of Grand Terrace and served consecutive terms as Mayor for the next 14 years until 1996.

I think the commuter trains will gain even more popularity in the near future as our area continues to experience rapid growth and our freeway systems become more and more congested. Proper planning is essential in being able to handle these future transportation needs and I hope the new Highgrove Station will be approved soon, to help alleviate some of these ongoing traffic problems.

Sincerely yours,

Byron Matteson
12175 Michigan Ave.
Grand Terrace, Ca.
92313
(909) 783 1353

June 23, 2006
Mr. Eric Haley
RCTC
4080 Lemon St.
Riverside, Ca.
92502

Ref: Highgrove Metrolink Station

Dear Mr. Haley,

As the first Mayor in the City of Grand Terrace back in 1978 I have seen a lot of changes and I have watched our city grow and continue to be a desirable residential community.
With all of the growth that has happened since then, we too are feeling the impact of more vehicle traffic on our busy streets.

The idea of having Metrolink service nearby will be a great asset to the residents of Grand Terrace. There is an ideal location nearby in Highgrove that would accommodate riders from Grand Terrace, the current Highgrove residents, and the future ones coming in the new housing developments.

We were also happy to hear that there will be additional week end trains added next month but commuter trains that pass by this location each day without stopping is not in the best interest of the residents of the entire area who want this service.

I encourage you and your staff to seriously consider building a Metrolink Station in Highgrove.

Thank you very much,

Tony Petta

Tony Petta
11875 Eton
Grand Terrace, Ca.
92313
(909) 783 0658

GRAND TERRACE
CALIFORNIA

22795 Barton Road
Grand Terrace
California
92313-5295

Civic Center
(909)824-6621
Fax (909) 783-7629
Fax (909) 783-2600

Maryetta Ferré
Mayor

Lee Ann Garcia
Mayor Pro Tempore

Council Members
Bea Cortes
Jim T. Miller
Dan Buchanan

Thomas J. Schwab
City Manager

March 15, 2007

Tony Grasso, Executive Director
SANBAG
472 N. Arrowhead
San Bernardino, CA 92401

Dear Mr. Grasso:

Re: SCAG's request to study the proposed Metrolink Station in Highgrove before SANBAG makes their decision.

Dear Mr. Grasso:

Grand Terrace is very interested in the proposed Highgrove Metrolink Station. It is my understanding that SCAG has requested SANBAG to wait on making a decision regarding the Highgrove Metrolink Station until they have had time to do a regional study on the issue. It would be our hope that SANBAG would grant SCAG's request.

Thank you for your consideration.

Sincerely,

Maryetta Ferre

Maryetta Ferre
Mayor, Grand Terrace

xc: Barney Barnett

June 21, 2006

Eric Haley
Executive Director
Riverside County Transportation Commission
4080 Lemon Street
Riverside, CA 92502-2208

Dear Eric:

You may or may not remember me from the distant past, so I will re-introduce myself. I am Hugh J. Grant, a resident of Grand Terrace, California. I served on the City Council of our Community, beginning as a Charter member, for fourteen years, from 1978 to 1992, with four years tucked in there as Mayor, from 1980 to 1984. I finally decided to retire from the Council at the completion of my final term, due to the location of my new employment position. I represented Grand Terrace on the SanBag and Omnitrans Boards for many years, as well as San Bernardino County LAFCO as the Chairman.

I have become aware of the important need to situate a Metrolink stop in our neighboring community of Highgrove, in Riverside County. Due to the fact that the nearest stops at this time are in San Bernardino and Riverside, servicing the transportation needs for the large population in between, with valid predictions of sizable increases in the near future, seem to me to be self-evident.

I therefore respectfully request that you and the Riverside County Transportation Commission seriously consider a viable solution to the transportation needs of the people of Highgrove, Grand Terrace, Loma Linda, and the surrounding areas, a Metrolink Station stop in Highgrove, California.

Sincerely,

Hugh J. Grant

22560 Eton Drive
Grand Terrace, CA 92313-5133
909 783-1067
hughjgrant@sbcglobal.net

Cc: R.A. "Barney" Barnett

From: Steve Berry <SBERRY@cityofgrandterrace.org>
To: <swiggins@rctc.org>
Cc: <ardiebarne@aol.com>
Sent: Thursday, May 15, 2003 1:25 PM
Attach: Steve Berry.vcf
Subject: San Jacinto Branchline Corridor Study

Thank you for providing the information concerning the proposed alternatives for the San Jacinto Branchline.

The City of Grand Terrace would like to see a Metrolink station built closer to Highgrove that will service our 12,500 residents, Loma Linda's 40,000 residents and the expected new growth in Highgrove.

Although we are in a different county---it is important that we take a 360 degree look when it comes to transportation issues.

Steve Berry
Assistant City Manager
City of Grand Terrace
909-430-2226
909-783-7629 FAX

Mr. R.A. "Barney" Arnett
474 Prospect Ave.
Highgrove, CA 92507

May 28, 2001

Dear Mr. Arnett,

We spoke by phone a few weeks ago, and you suggested that I write a letter to you regarding my thoughts on the proposed Metrolink Park and Ride stop in Highgrove which I was delighted to read about in your column in the Highgrove Happenings Newsletter for May.

I work in North Hollywood. My commute is as follows: I drive from my home in Grand Terrace to the Metrolink Station in Riverside (sometimes to San Bernardino). I ride to Los Angeles and then transfer to the Metro Red Line to the North Hollywood terminus where I then transfer to a bus to complete my journey. The time spent commuting is usually 2 - 2.5 hours.

A Metrolink Station in Highgrove would certainly ease my commute. I have a few suggestions regarding it:

1. It should be a courtesy service extension of the Riverside and San Bernardino lines. That is, much like the "feeder" service to Glendale and Burbank from Los Angeles, it should not be a separate fee from the ticket / pass purchased to ride those lines.

2. Metrolink should consider working with the San Bernardino and Riverside County Transportation Authorities to market the addition as new service between the two cities. As such, I would suggest adding a station stop in the Colton shopping area too.

3. Service needs to be as frequent as possible; not just tied to the Inland Empire - Orange County Line Schedule. A train that can shuttle in - between would be ideal, perhaps running once an hour..

Done properly, this would not only be great for those of us living in the Highgrove area, but for others who live and work in the greater Riverside - San Bernardino "central" corridor.

Thank You,

Franklin Carpenter Jr.
22725 Raven Way
Grand Terrace, CA
(818) 509 - 5423 Days
(909) 873 - 1916 Eves

12723 Mt. Vernon Ave.
Grand Terrace, CA 92313-6109
909-783-0244
November 4, 2006

Riverside County Transportation Dept.
4080 Lemon Street
Riverside, CA 925??

Dear Sirs:

It is my understanding that the issue of a Metro Link Station in Highgrove is on the Agenda for the Board of Supervisors meeting on November 8th at 10 o'clock. I am not able to attend that meeting, but I do want to go on record as supporting this issue.

I am with the Senior Center in Grand Terrace. Speaking for myself and for some others, I want you to know how much a Metro Link Station in Highgrove or Grand Terrace would help greatly. For seniors who are not comfortable driving out of town as well as for commuters, I personally think a Station in our area would be a definite plus.

Please consider very carefully.

Most Sincerely,

JoAnn Johnson

Chas McDaniel
I actually did very much want the station.
Copies sent in support

BIXBY LAND COMPANY

December 12, 2005

Mr. Barney Barnett
Publisher, Highgrove Happenings
474 Propect Avenue
Highgrove, CA 92507

Re: Highgrove Area Transportation Plan Proposal

Dear Barney,

This letter is in support of your efforts to assist in the creation of a Metrolink station to serve the Highgrove area. A Metrolink station would benefit our property by providing a nearby alternative to automotive transportation and may ease traffic on the 215 freeway.

Bixby Land Company would also be supportive of the East-West road connecting Spring Street to the proposed Metrolink station location you pictured in the December 2005 issue of *Highgrove Happenings*. This route could also ease traffic along Center Street.

From our discussions, we agreed that if a North-South road were determined to be necessary and feasible to connect the Hunter Park tech area through to Highgrove, that we would not object to an alignment along the California Street right-of-way, currently a dirt road. However we would not support an alignment through the middle of the 65 acres of land we are in the process of developing.

Thank you for your efforts to improve the Highgrove area. It takes involved citizens to ensure the best results are achieved for all the owners and residents of Highgrove.

Sincerely,

Mark L. Bixby

C: Terry Dickens

P.O. Box 2488
Long Beach, CA 90801-2488

4525 Atherton Street
Long Beach, CA 90815-3700

(562) 494-8250
(562) 494-8275 FAX

www.bixbyland.com

From: Carol Williams [carolinekisch@hotmail.com]
Sent: Friday, March 30, 2007 6:14 PM
To: highgrovenews@adelphia.net

To Sanbag, c/o Barney Barnett

I would like to write in support of two new metro stations being placed in Highgrove as opposed to any metro station being placed on Watkins Drive in Riverside.

The site in Highgrove has plenty of room for parking, etc. and future expansion. The proposed site on Watkins Drive does not have enough room to house a station, not to mention, room for expansion. In addition, Watkins Drive now turns into a virtual parking lot during morning and evening rush hours as commuters use it as a short cut from the 60 freeway to the 215/91 freeways in the morning and vice versa in the evening.

Even to discuss the addition of metro traffic (which would certainly peak at the same rush hours) to an already over-congested residential street indicates that decisions are being made without regard to the real world conditions and consequences.

Sincerely,
Carol Williams Kisch

From: CLIFFORD BERGER [nebr32@sbcglobal.net]
Sent: Saturday, March 31, 2007 9:22 AM
To: highgrovenews@adelphia.net
Subject: Metro link station in Highgrove

SANBAG
c/o Barney Barnett

To Whom It May Concern:

I am in favor of the Metro Station being located in Highgrove where there is adequaate space for the station and parking and any expansion at a later date. Metro stations on Watkins Drive in Riverside would be located near two elementary and one middle school, and several child care facilities. These trains would add particulates to the air and this would be harmful to the children and to senior citizens living in the area. If a transit village is constructed in this area, homes would be taken for the space required to build such a facility.

Sincerely,

Clifford and Margaret Berger

Riverside City Council Member March 21, 2006

Dear Dom Betro,

Please set aside the 35 acres shown on the accompanying map for a future Metrolink Station and Transportation Center. This location is in the Hunter Business Park area between the BNSF railroad main line that runs between Riverside and San Bernardino, and the Perris Valley Line that runs between Highgrove and San Jacinto.
This important location is ideal because the west side of the property is bordered by railroad tracks that currently have 8 commuter trains that go past this location without stopping because there is no station, and the east side of the property that is bordered by railroad tracks already owned by the Riverside County Transportation Commission for the Perris Valley Line.
If the City of Riverside is planning for the year 2025, it is important to realize now that this city owned property should be reserved for future transportation uses instead of allowing more large buildings to be built. A Metrolink station, park and ride and bus service and a new road is needed to accommodate the future growth of the area where grading is currently underway for 2,100 new homes. In addition, other developers are planning new construction of businesses and homes where citrus groves used to flourish.
There are resolutions of support from Highgrove, Grand Terrace and Loma Linda for a Metrolink station in Highgrove. Also, the members of the University Neighborhood Association in Canyon Crest agree that they do not want a station stop at UCR or Spruce and Watkins in their community but prefer a station in Highgrove.
The boundaries of the Hunter Park location mentioned above are: Villa St. on the north, Citrus St. on the south, the Perris Valley Line Railroad on the east and the BNSF Railroad on the west.
Please include this area as a Metrolink Station and Transportation Center in the 2025 General Plan.

Thank you,

R. A. Barnett

R. A. "Barney" Barnett
474 Prospect Ave.
Highgrove, Ca.
92507
(951) 683 4994
(951) 683 7258 Fax
highgrovenews@adelphia.net

Additional Support for Highgrove Metrolink Station

Prepared Feb. 10, 2012

Here are some additional requests for a Highgrove Metrolink Station to add to the: **"8 years of Comments"** and **"Supporting Docs"** that are displayed on the website: www.highgrovehappenings.net

Received via e-mail:

Name	Date
Dan Lindholm	1-11-12
Bobbie Benson	1-12-12
Bill Holland	1-12-12
Betty Crossno	1-13-12
Kevin and Karen Collier	1-13-12
Tammy Matteson	1-13-12
Greg April	1-14-12
Lloyd Spiker	1-14-12
Marilyn Denney	1-17-12
Kelly Keough	1-18-12
Jim McKee	1-18-12
Terry Reagan	1-21-12
Riverside Press: letter to editor	1-23-12
Letter of support from City of Loma Linda	**1-26-12**
Dale Crossno	1-28-12
Virginia Washburn	2-2-12
Dave Mathers	2-2-12
Marie Thomas	2-2-12
Patricia Kinion	2-2-12
Ken and Karen Hughes	2-2-12
JoAnn Johnson	2-3-12
Steve Dawson	2-3-12
Gary Laesser	2-7-12

The City of Loma Linda has supported the Highgrove Metrolink Station for 10 years. Their first letter of support was dated Jan. 24, 2002.

It is unfortunate that the Highgrove location continues to be downplayed for such a long period of time. For over 10 years, surrounding cities, civic organizations and local residents have requested a Metrolink station at Highgrove. But city resolutions, letters, and the public comments made at the RCTC meetings continue to be ignored.

RCTC now owns the property at Highgrove and according to Ann Mayer, Executive Director of the Riverside County Transportation Commission, RCTC bought the 17.22 acres of vacant land to enable the Perris Valley Line railroad track to connect to the BNSF main line track.

The excess land that RCTC does not need would be an ideal location for the SCAG **Regional Transportation Plan** for commuters between San Bernardino County and Riverside County.

On Jan.18, 2012 I spoke at the SCAG **Regional Transportation Plan** meeting in San Bernardino under public comments and submitted written documentation that contained 29 items that included a colored map, city resolutions and letters of support from elected officials and local residents. Some of these items date back to 2001. This information was given to Justine Block who is SCAG's Deputy Legal Council in Los Angeles.

Copies of the above e-mail have been sent to SCAG, prior to the Feb. 14, 2012 deadline for public input for their Regional Transportation Plan. The above list is also being sent to RCTC and SANBAG representatives.

Please look at the new map and the related information on: www.highgrovehappenings.net that shows the Highgrove Metrolink Station north of the proposed curved track. RCTC's property at Highgrove should be use for the SCAG Regional Transportation Plan due to the ideal location, existing commuter trains, and growth potential due to hundreds of acres of nearby lots ready for homes. This location is way too important to continue to be ignored!

R. A. Barnett

R. A. "Barney" Barnett
Chmn.: Highgrove Municipal Advisory Council
Editor: Highgrove Happenings Newspaper
474 Prospect Ave.
Highgrove, Ca.
92507
(951) 683 4994
highgrovenews@roadrunner.com

City Of Loma Linda

25541 Barton Road, Loma Linda, California 92354-3160 • (909) 799-2800 • FAX (909) 799-2890

Sister City — Manipal, Karnataka, India

January 24, 2002

R. A. Barnett, Chairman
Highgrove Area Redevelopment
474 Prospect Avenue
Highgrove, CA 92507

Dear Mr. Barnett:

Subject: Metrolink Station Stop In Highgrove

This is to advise that the City Council, at the regular meeting of January 22, unanimously supported your efforts and the Riverside County Service Area 126 Advisory Board's recommendation to the Riverside County Transportation Commission to site a Metrolink station stop in Highgrove.

Councilman Christman serves as president of the SANBAG Board and noted that Board's interest in a station stop in Highgrove.

Please keep us apprised of the status of the project.

Sincerely,

Pamela Byrnes-O'Camb
City Clerk

Recycled paper

City of Loma Linda

25541 Barton Road, Loma Linda, California 92354-3160 • (909) 799-2800 • FAX (909) 799-2890

Sister Cities: Manipal, Karnataka, India – Libertador San Martin, Argentina • www.lomalinda-ca.gov

January 26, 2012

R. A. Barnett, Chairman
Municipal Advisory Council
474 Prospect Avenue
Highgrove, CA 92507

Subject: Metrolink Station Stop In Highgrove

Dear Mr. Barnett:

Thank you for providing the City Council with an update on not only the Spring Mountain Ranch Housing Project, but also the potential for a Metrolink station stop in Highgrove.

The Loma Linda City Council reaffirms its previous support of your efforts and the Municipal Advisory Council's recommendation to the Riverside County Transportation Commission to site a Metrolink station stop in Highgrove.

Please keep us apprised of the status of the project.

Sincerely,

R L Rigsby

Rhodes Rigsby, Mayor

Recycled Paper

Ardie/Barney Barnett

From: RooferDan@aol.com
Sent: Wednesday, January 11, 2012 10:46 PM
To: highgrovenews@roadrunner.com
Subject: We want a Highgrove Metrolink station

Ardie/Barney Barnett

From: TrnBrat1@aol.com
Sent: Thursday, January 12, 2012 6:21 PM
To: highgrovenews@roadrunner.com
Subject: RR Stop

With the traffic jams all over the freeways it would be a perfect place to get off and park and get on the train and leave the driving to the hoghead. Also you'll be more rested at the other end since your not a jumble of nerves from the drive. Also coming from Palm Springs or San Diego area it would be a break to just take a train the rest of the way and know your not going to be stuck in traffic for several hrs. Bobbie Benson

Ardie/Barney Barnett

From: Bill Holland [billybyu@gmail.com]
Sent: Thursday, January 12, 2012 9:51 AM
To: Ardie/Barney Barnett
Subject: Fwd: Metrolink station

Begin forwarded message:

> **From:** Bill Holland <billybyu@gmail.com>
> **Date:** January 12, 2012 9:47:49 AM PST
> **To:** "Amatya@scag.ca.gov" <Amatya@scag.ca.gov>
> **Subject: Metrolink station**
>
> We need a Metrolink station here in Highgrove....More and more people .... New schools & churches...Highgrove is growing, Freeways are congested.....
> Thankyou for your attention to this matter....

Ardie/Barney Barnett

From: Betty Crossno [boop01@pacbell.net]
Sent: Friday, January 13, 2012 11:14 AM
To: Amatya@scag.ca.gov
Cc: Barney Barnett
Subject: METROLINK STATION IN HYGROVE

WE NEED A METROLINK SAION IN HYGROVE. MOST CONVIENT AS I LIVE IN GRAND TERACE AMD IS BEST FOR MY NEEDS AS I HAVE TO DEPEND ON PUBLIC TRANSPORAION.

Ardie/Barney Barnett

From: Kevin and Karen [colliernitro@gmail.com]
Sent: Friday, January 13, 2012 8:21 AM
To: Amatya@scag.ca.gov
Cc: Ardie/Barney Barnett
Subject: Highgrove Metrolink Station

WE WANT A HIGHGROVE METROLINK STATION!

As guardians of taxpayer transportation funds, SCAG must consider the BEST POSSIBLE usage of those funds for the community they serve. As clearly explained numerous times by Mr. Barnett and other members of this and the surrounding communities, a Metrolink Station in Highgrove, where there is ALREADY existing railroad tracks, existing Metrolink trains, existing acreage suitable for construction of the station and parking accommodations, and hundreds of up and coming home sites (Spring Mountain Ranch), it is imperative that the members of this agency decide WISELY to construct the METROLINK STATION IN HIGHGROVE.
Thank you,
Karen and Kevin Collier
235 Goldfinch Lane
Highgrove, Ca. 92507

Ardie/Barney Barnett

From: WONDERFULTAMMY@aol.com
Sent: Friday, January 13, 2012 9:04 AM
To: Amatya@scag.ca.gov
Cc: highgrovenews@roadrunner.com
Subject: "We want a Highgrove Metrolink station"

Highgrove is a perfect location because it already has the existing railroad tracks, existing Metrolink trains 7 days a week, plenty of room for parking, and hundreds of acres of former orange groves have been converted into pads for future homes.

Tammy Matteson

951-203-7467

Ardie/Barney Barnett

From: Greg Apprill [highgrovepony@yahoo.com]
Sent: Saturday, January 14, 2012 9:34 PM
To: lieb@scag.ca.gov; amatya@scag.ca.gov
Cc: highgrovenews@roadrunner.com; highgrovepony@yahoo.com
Subject: Highgrove, CA - "We want a Metrolink station"

1/13/2012

Mr. Jacob Lieb
SCAG
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017-3435

Dear Mr. Lieb,

"WE WANT A METROLINK STATION" in Highgrove, CA.

Our community would support and embrace a station. This is the type of economic development and land usage we are looking for.

Thank you,
Greg Apprill
President
Highgrove Pony Baseball League
909-322-7280 cell
highgrovepony@yahoo.com
highgroveponyleague.com

From: Lloyd Spiker [mailto:lloyd.spiker@gmail.com]
Sent: Friday, January 13, 2012 2:25 AM
To: Amatya@scag.ca.gov
Cc: highgrovenews@roadrunner.com
Subject: Highgrove Metrolink Station

We want a Highgrove Metrolink station. As a senior citizen, I feel this would be a vital asset to our community and help boost the economy of Riverside.

thanks
Lloyd Spiker
Highgrove

Ardie/Barney Barnett

From: MARILYN MARILYN [marilyndenney@sbcglobal.net]
Sent: Tuesday, January 17, 2012 3:45 PM
To: amatya@scag.ca.gov
Cc: highgrovenews@roadrunner.com
Subject: METROLINK STATION WANTED IN HIGHGROVE!

PLEASE! See to it that a Metrolink station is provided in HighGrove, CA

Thank you,!

Marilyn Denney
Resident of Grand Terrace, CA

Ardie/Barney Barnett

From: kelly keough [g.t.c.2004@sbcglobal.net]
Sent: Wednesday, January 18, 2012 11:08 AM
To: amatya@scag.ca.gov
Cc: highgrovenews@roadrunner.com
Subject: Metrolink Station

Just a note to let you know that I am in support of a Highgrove Station
Thanks
Dr. Kelly P. Keough

Ardie/Barney Barnett

From: Jim McKee [jmnatural@netzero.net]
Sent: Wednesday, January 18, 2012 6:51 AM
To: amatya@scag.ca.gov; Barney Barnett
Subject: metro-link station in highgrove, ca.

we want our Federal and State tax money to benefit residents in both counties by building a Metrolink Station in Highgrove

Ardie/Barney Barnett

From: Terry Reagan [realtor.reagan@gmail.com]
Sent: Saturday, January 21, 2012 6:22 PM
To: amatya@scag.ca.gov
Cc: highgrovenews@roadrunner.com
Subject: IE Metrolink Station

To All Concerned:

We support having the proposed Metrolink Station built in Highgrove. It just makes sense!

Margaret and Terry Reagan
Local Residents

Ardie/Barney Barnett

From: Dale Crossno [dcrossno@pacbell.net]
Sent: Saturday, January 28, 2012 3:01 PM
To: Amatya@scag.ca.gov
Subject: Highgrove Metrolink station

To the responsible board or person,

I have followed the many discussions in regards to the Metrolink rail from Riverside to Perris. There is no way I can understand any reason to not have a station in Highgrove. I have seen many resolutions from varies cities and requests from residents asking for this station. If I understand all of this correctly this station will be very convenient for many residents in both Riverside and San Beranardino counties who can use the Metrolink service form the Highgrove station but would essentially have very little use of this service from the Hunter Park proposal. I believe us tax payers funding this project deserve the route that will serve the most people. Thank you for any consideration for us tax payers in your decision regarding this project.

Dale Crossno
22668 Arliss Dr.
Grand Terrace,Ca. 92313
909 825 6963

Ardie/Barney Barnett

From: Virginia Washburn [washburn_virginia@yahoo.com]
Sent: Thursday, February 02, 2012 8:42 AM
To: highgrovenews@roadrunner.com
Subject: WE SUPPORT METRO LINK STATION AT HIGHGROVE,CA

WE SUPPORT METROLINK STATION AT HIGHGROVE, CALIFORNIA Thank you

Ardie/Barney Barnett

From: Marie Thomas [mgdmarie11@yahoo.com]
Sent: Thursday, February 02, 2012 10:37 AM
To: amatya@scag.ca.gov
Cc: highgrovenews@roadrunner.com
Subject: Metrolink Station

We support a Metrolink Station at Highgrove!

We respectfully request a true consideration of this proposal.

Thank You,

David Mathers
Marie Thomas

Ardie/Barney Barnett

From: Patricia Kinion [patkin32000@yahoo.com]
Sent: Thursday, February 02, 2012 9:08 AM
To: highgrovenews@roadrunner.com
Subject: metrolink at Highgrove

We support a metrolilnk station at Highgrove.

Ardie/Barney Barnett

From: Ken Hughes [kenhughes997@yahoo.com]
Sent: Thursday, February 02, 2012 12:35 AM
To: amatya@scag.ca.gov
Cc: Ardie & Barnie Barnett
Subject: Metrolink Station

"We support a Metrolink Station at Highgrove"
Ken & Karen Hughes, 232 Cliffhill Place,
Riverside, Ca., 92501

Ardie/Barney Barnett

From: JoAnn Johnson [kg6nsdjoann@yahoo.com]
Sent: Friday, February 03, 2012 12:41 PM
To: amatya@scag.ca.gov
Cc: Highgrove Happenings
Subject: Metrolink and Highgrove

I have long been an advocate for a Metro Link Station at Highgrove.
I believe it would be a distinct advantage to a large area, including Grand Terrace.
Please consider seriously.
JoAnn Johnson
Grand Terrace

Ardie/Barney Barnett

From: Stephen Dawson [stdawson@charter.net]
Sent: Friday, February 03, 2012 2:17 PM
To: amatya@scag.ca.gov
Cc: highgrovenews@roadrunner.com
Subject: Metrolink Highgrove

It is imperative that Highgrove have a Metrolink station easily accessible to the citizens of Highgrove. The proposed Marlborough station does not service the Highgrove area and is very difficult for the Highgrove residents to access. Please assist the residents of Highgrove to achieve the long sought Metrolink station in Highgrove.
Thank you for assistance.
Stephen T. Dawson
5020 Sepulveda Avenue
San Bernardino, CA 92404

Ardie/Barney Barnett

From: Gary Laesser [garylaesser@att.net]
Sent: Tuesday, February 07, 2012 11:11 AM
To: amatya@scag.ca.gov
Cc: highgrovenews@roadrunner.com
Subject: Metro Link Station

Gentlemen,

this email is concerning a Metro Link Station in Highgrove, CA. It would be nice to have this station

because it would cut traveling for the citizen of Grand Terrace and other local communities to easer San Bernardino or Riverside.

The train is already going thru there, why can't it stop.

Thank you for your consideration in this matter.

Gary & Bunga Laesser=

est in knowing how the state's prisons operate, without any official filtering of information. Inmate interviews provide crucial insights into the workings of the criminal justice system. Such scrutiny is essential to providing public accountability for the corrections system and the officials in charge of it.

And taxpayers have a legitimate need to keep close watch on the state's prisons. The Legislature's long history of negligence and irresponsibility let prison ills fester, with dismal public consequences.

Corrections costs accelerated over the past 15 years, adding to state budget woes. California will spend about $9 billion on corrections this fiscal year — more than the state general fund will contribute to the University of California

should avoid glamorizing criminals. That argument was always flimsy, mindlessly equating news reports with public relations.

The media restrictions are more likely an effort to control negative publicity. Corrections officials instituted the regulations in 1996, after reports of excessive violence and abuses at Pelican Bay State Prison. The reporting grew out of a 1995 federal court ruling that ordered sweeping reforms at the maximum security facility.

Prison policy should have a higher goal than avoiding unflattering news reports. Blocking media coverage deprives the public of a clear understanding of prison issues — which is the worst possible approach for a system in crisis. Public safety should not mean protecting the public from an honest picture of the corrections system.

JOIN THE DISCUSSION

We encourage readers to address public issues in letters of up to 200 words and op-eds of up to 600 words. We favor submissions offered exclusively to The Press-Enterprise. We require the writer's full name, street address and telephone number for verification.

We do not publish any individual's work more than once every 30 days. We do not publish poetry, withhold names on submissions or print letters cribbed from other sources.

All letters are subject to editing and may be republished in any format.

For more detailed guidelines on submitting letters, visit PE.com.

MAIL: Opinion, Box 792, Riverside 92502
FAX: 951-368-9023
E-MAIL: letters@PE.com (no attachments)

Votes add up to 'same old'

Dennis Mackey rightly condemns the California Legislature's outrageous salaries, perks and per diems, and its cuts in aid to the old, disabled and poor ("Vote all of them out," Your Views, Jan. 13).

It's easy to see that this state's lawmakers are incompetent. In the past few years, I've read countless letters and editorials calling for their removal by the voters.

But people complain about government, then vote in the same politicians and complain some more. Are the lawmakers the only ones who are incompetent?

PAUL HEARD
Moreno Valley

Direct democracy works

In his letter, Keith Richards writes, "Our elected officials don't represent us" ("Make voting mandatory," Your Views, Jan. 15).

In fact, they go to the highest bidder. The framers of the Constitution could not foresee the appearance of huge transnational corporations that are concerned only with profit and do not care about the countries in which they conduct business. What was supposed to be a democratic republic has devolved into a commercial republic. Corporate money buys elections and politicians.

We need to continue the direct democratic procedures that came into being in the last century: initiative, referendum and recall. This could be done through the Internet, backed up by a paper vote. Then you'll see a 90 percent turnout.

ART KOERTZ
Riverside

Left steers us onto rocks

Kudos to Fred Zerkle for his new word ("Behold an 'ineptocracy,'" Your Views, Jan. 12), which perfectly describes the far-left secular movement that has infected our country.

The Obama administration is the standard bearer for this movement, which shows nothing but disdain for achievement, success, personal accountability, family values and national security.

The wealthy left, including President Barack Obama, George Soros, the Hollywood elite and many others, are destroying the system that allowed them to garner such wealth.

It doesn't figure. One would think these people would be big supporters of capitalism, free enterprise and democracy. Instead, they are doing their best to turn this once-great nation into a cesspool of entitlements, government control, high taxes and redistribution of wealth.

How much of their wealth are they willing to redistribute?

CHUCK R. BOLTON
San Jacinto

OK Highgrove rail station

Hasan Ikhrata, executive director of the Southern California Association of Governments, describes SCAG's 2012-2035 plan for infrastructure investments in transportation that will cost $500 billion over the next 23 years ("Transportation upgrades can fuel growth engine," Perspective, Jan. 8).

But I'm reminded of the request by Grand Terrace more than 10 years ago for a Metrolink station in Highgrove that would benefit Grand Terrace, Highgrove and surrounding communities on both sides of the Riverside/San Bernardino county line.

Ikhrata writes that investing in transportation infrastructure is one of the fuels needed to rebuild our economy. Very little investment is needed for the Highgrove location because commuter trains have been operating past this location for 10 years. If movement of people is part of SCAG's plan as mentioned, what happened to the Metrolink station in Highgrove?

We have a ready customer base for the Highgrove station.

PHIL TURNER
Grand Terrace

GOP'S CLASS-WARFARE RHETORIC GIVES OBAMA A LUCKY LIFT

Riverside Press 1-23-12

Points made at SCAG public hearing in San Bernardino on Jan. 18, 2012 by R. A. "Barney" Barnett:

1. **Location efficiency:** The Highgrove Metrolink Station will be an ideal and efficient location for SCAG's Regional Transportation Plan for commuters between Riverside and San Bernardino counties and beyond.
2. **Land use:** The vacant 17.22 acre property at Highgrove is already owned by the Riverside County Transportation Commission.
3. **New Station Location:** The request for a station platform has been moved north of the proposed curved track that will connect the Perris Valley Line to the BNSF main line. This location is still on the same property owned by RCTC and will not interfere with their plan to run future trains between Riverside and Perris.
4. **Vacant 1,555 acres:** Highgrove has 1,555 acres of vacant buildable land for future homes and businesses including the Spring Mountain Ranch project.
5. **$250 Million:** One mile east of the Highgrove Metrolink station location is the Spring Mountain Ranch housing project where $250 Million dollars have already been spent on infrastructure for 2,500 new homes.
6. **Existing residents:** Even before any new homes are built in the Spring Mountain Ranch area there are already 30,777 residents within a 2 mile radius of the Highgrove location that could have been using the existing Metrolink trains. (Riverside EDA figures)
7. **Existing trains:** On July 15, 2006 Metrolink trains through Highgrove went from 5 days a week to 7 days a week. Each year 3,224 commuter trains pass through Highgrove without stopping. All that is needed is to have parking on RCTC's property next to these existing trains and a station platform to buy tickets. The construction of the Colton Flyover will allow even more future commuter trains through Highgrove but RCTC has no plan to stop any of the existing or future trains at Highgrove!
8. **Location:** The Highgrove location is ½ mile from the Center St. exit of the I-215 freeway and ¼ mile south of the Riverside/San Bernardino county line.
9. **Website:** Please look at our website: highgrovehappenings.net
   There is a map and 10 years of written support for a Metrolink Station at Highgrove but this location has been opposed by RCTC for 10 years.

R. A. "Barney" Barnett
[redacted]
Highgrove, Ca.
[redacted]
(951) 683 4994
highgrovenews@roadrunner.com

HILLS FOR EVERYONE

Southern California comes together at the Puente - Chino Hills

Los Angeles County
Orange County
Riverside County
San Bernardino County

February 10, 2012

Margaret Lin
Southern California Association of Governments (SCAG)
818 W. Seventh Street 12th floor
Los Angeles, CA 90017
RTP@scag.ca.gov

Re: Comments on the Draft RTP/SCS and Draft PEIR

Dear Ms. Lin,

Thank you for the opportunity to comment on the Draft Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the Draft Program Environmental Impact Report (PEIR). Hills For Everyone (HFE) is a 34 year old non-profit organization that established Chino Hills State Park and is still working to conserve the remaining natural lands in the Puente-Chino Hills Wildlife Corridor at the juncture of Los Angeles, Orange, San Bernardino and Riverside Counties. We have extensive experience in land use, land preservation, fire history and wildlife corridors and therefore offer our comments to strengthen the RTP/SCS and Draft PEIR.

Adaptation (pg. 31 of the Draft 2012 RTP/SCS)
HFE agrees Southern California will be faced with extremes in precipitation and temperature, increased storm frequency, and intensity and sea-level rise. However, we feel it is critical to include the impact of fire, especially as more people and roads come to the region. Much of California is facing significant and extended fire seasons, which have tremendous impacts on both the natural environment and the developments nearby. In essence, we have planned our entire infrastructure system (e.g., flood plains, water networks, transportation methods) on the climate being a certain way and now that climate baseline is changing.

Since 1986 the number of major forest fires in California has quadrupled due to more days with summer-like and generally hotter temperatures.[1] This increase in fires has numerous implications, including but not limited to: increased firefighting costs, increased danger to residents near the wildland urban interface, and a transition of habitat types to more flammable vegetation due to increased fire frequency.[2]

[1] California Energy Commission. "Public Interest Energy Research Climate Change Program." Retrieved 2 Feb 2012 from the California Energy Commission website: http://www.energy.ca.gov/2009publications/CEC-500-2009-092/CEC-500-2009-092.PDF
[2] Department of Justice. "Global Warming Impacts in California." Retrieved 2 Feb 2012 from the California Attorney General's website: http://www.ag.ca.gov/globalwarming/impact.php

Recommendation #1
We recommend that as a part of the SCS in the Adaptation section of the document, SCAG provide examples of how it and local jurisdictions plan to adapt to these new risks, especially in regard to wildland fires, through better land use choices. For example as it relates to fires, fire officials, planners, developers, transportation agencies, and others must shift the focus from primarily a reactionary fire plan (i.e., fighting fires when they occur) to a preventative fire plan (e.g., creating buffers between communities and natural lands). What other steps will SCAG be taking to adapt to climate change and to ensure public health, economic livelihoods, the financial sector, the insurance industry, individual comfort, natural lands and recreation areas will be protected?

Safety and Security First (pg. 37 of the Draft 2012 RTP/SCS)
We applaud your efforts to ensure Southern California's residents are both safe and secure on the region's transportation system. We were also pleased to see one of your two main goals for safety and security is to "prevent, protect, respond to, and recover from major human-caused or natural events in order to minimize the threat and impact to lives, property, the transportation network and the regional economy" (p. 37). HFE has just completed a near 100 year analysis of fires in the four-county area surrounding Chino Hills State Park. See Attachment 1, which documents the fire frequency of the Chino Hills. What we've found is that proximity of roads to natural lands directly increases the likelihood for fires to ignite and burn both habitat and homes.

For example, as it relates to the 91 Freeway at the juncture of Riverside and Orange Counties, we have provided to you an analysis of the fire perimeters and points of origin for fires that burned in and near Chino Hills State Park. Along this freeway alone, there are 48 separate fires that ignited/burned. From 1914 – 1963 (49 years), 1963 being when the freeway opened, we have records of six fires. Since 1963 – 2012 (49 years), after the freeway opened, there were nearly seven times as many fires recorded (41). The average fire size for recorded fires was 6,263 acres. It is clear to us that the safety and security of residents along this one transportation corridor are being significantly impacted because of 91 Freeway, not to mention disruption of mobility due to road closures because of fires and evacuations.

Recommendation #2
With additional roadway and other projects planned in and around the Puente-Chino Hills Wildlife Corridor on the 57, 91 and 71 Freeways, we ask that SCAG analyze potential fire prevention measures along freeways that bisect natural lands. For example, one fire prevention measure would be the creation of hardscape along the roadway edges so that dry brush cannot ignite when transportation-related fires begin. Reducing the fire frequency and duration not only protects habitat, but also allows continued and uninterrupted operation of the major transportation corridors and, importantly, protects life and property of local residents.

Biological Resources and Open Space (pg. 79 of the Draft 2012 RTP/SCS)
We reiterate the importance of acknowledging the impact of wildland fire with a transportation-generated point of origin on our natural lands. Though wildlife fatalities, habitat fragmentation, and other habitat impacts are important—if the habitat can no longer regenerate in its natural and native state due to excessive fire frequency the long term preservation of the land has been lost.

Recommendation #3
As previously mentioned, we recommend incorporating fire prevention strategies along natural areas bisected by major transportation corridors. For example, the 91, 57, 71 Freeways all

bisect natural lands and not only inhibit natural migration and movement of large animal species, they become areas prone to fire ignition and therefore habitat destruction.

Growth in the SCAG Region (2035) (Exhibits 4.1, 4.2 and 4.3)
We appreciate that SCAG has included a projected population, employment, and housing growth maps as exhibits, but are dismayed that the maps are illegible. In order to appropriately comment on this map it must be readable.

From what we can decipher, the area of the Puente-Chino Hills Wildlife Corridor, known as the Missing Middle, is shown as adding 2000 – 3500 people per square mile. This area is designated as a Significant Ecological Area (SEA) in the Los Angeles County General Plan, thereby acknowledging its significant natural resource values. The owner, Aera Energy, has attempted to achieve entitlements on this property twice without success because of the SEA designation.

Ironically, this particular development proposal's population, employment, and housing growth areas contradict the goals of SB 375 and its requirement for reduced vehicle miles traveled (VMT) since the location of the development is no where near transit; does not include a major employment center but instead focuses on large single family residential units; encourages dependency on the automobile and will, when combined, increase VMTs, not reduce them.

In addition, related to Exhibit 4.2, there are no employment centers approved or proposed on the Aera Energy property in Los Angeles County. As noted in your Integrated Growth Forecast (p. 111) the "RTP/SCS depends heavily on accurate and credible forecast for future growth in population, housing and employment." It is therefore misleading to show growth when residential units are the only documented development feature. And likewise it is inaccurate to show such a large population growth in an area protected under the County's own SEA program.

Advanced Mitigation Policy
While we understand the RTP is directly related to County Transportation Commissions (CTCs) we would respectfully request that conservation organizations, like HFE, and other related agencies, conservancies, and joint power authority's (e.g., the Santa Monica Mountains Conservancy, Mountains Recreation and Conservation Authority, and the Wildlife Corridor Conservation Authority) be included in determining priority conservation areas and plan development. CTCs, with all due respect, do not tend to focus on nor do they specialize in conservation of natural lands.

As the Orange County Transportation Authority will confirm, it relied upon many sources for establishing its priority conservation areas under the Environmental Mitigation Program of Renewed Measure M. To that end, HFE would like to offer its assistance with potential conservation areas in the four-county region. In addition, we believe there are similar conservation non-profit organizations and entities throughout the SCAG region that could provide useful, beneficial, and relevant information about their on-the-ground priorities.

Recommendation #5
We recommend that SCAG incorporate public workshops and outreach to effectively gather information from conservation organizations and other related agencies on conservation priorities. This recommendation also applies to the limited scope of "agencies" in the Resource Areas and Farmlands section (pg. 128 of the Draft 2012 RTP/SCS).

Additionally, we also believe there are conservation opportunities above and beyond the Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP) areas to acquire, protect, and preserve land in perpetuity.

Recommendation #6
We recommend that SCAG expand the possible mitigation sites to include any undeveloped natural lands in its inventory as this would be a more inclusive list than just focusing on NCCP/HCP lands, which by their very nature are limited to particular areas of each county (where established) and related to specific residential developments, not transportation projects (the Orange County Transportation Authority's NCCP/HCP is the exception).

Mitigation Measures: Biological and Open Space (Section 3.3 of the PEIR)
In addition, we have comments that we hope strengthen the mitigation measures proposed in the draft PEIR.

First, as it relates to MM-BIO/OS2 (replanting disturbed areas with native vegetation), we agree avoidance should be the first approach and use of native high quality vegetation should be installed. However, in working with the Orange County Transportation Authority, we believe there is an opportunity to ensure a better functioning ecosystem pre- and post-construction activity. Specifically, the Measure M2 Ordinance states its program will establish an "accounting process for mitigation obligations and credits that will document *net environmental benefit* from regional, programmatic mitigation in exchange for *net benefit in the delivery of transportation improvements* through streamlined and timely approvals and permitting" [emphasis added].[3] With SCAG's potential adoption and promising opportunity for early implementation of the advanced mitigation program, inclusion of net environmental benefit language would improve program and the delivery of freeway projects at a minimum in terms of construction, timing, and budget.

Recommendation #7
Therefore, we recommend ensuring that, after the impacts and restoration, the affected natural habitat realizes a *net* environmental benefit.

Second, as it relates to MM-BIO/OS36 (assessment of habitat linkages) we agree habitat linkages should be preserved and improved, but also believe utilizing existing data when evaluating habitat linkages will aid in the evaluation process. It is critical that the integrity and functionality of the wildlife corridor(s) be preserved *before* construction begins and if alternative linkages are needed those be established and studied prior to construction commencement.

Recommendation #8
Therefore, we recommend utilizing existing data and research conducted by agencies (e.g., US Geological Survey, California Department of Parks and Recreation) and qualified biologists on assessment of habitat linkages and their function and/or risk of habitat fragmentation, encroachment, and urban edge effects. In addition, during construction the wildlife corridor should maintain its functionality and again, if the linkage is compromised the mitigation measures for alternative linkages should come *before* the construction activities begin.

Third, MM-BIO/OS38 (analysis of wildlife corridors, impacts avoided or minimized) provides a good place to start in analyzing wildlife movement corridors, but can be expanded to include

[3] Orange County Local Transportation Authority. "Ordinance No. 3." 24 July 2006. Section II Item A.5.iii, page B-5.

determining locations where wildlife are crossing roadways that do not yet have established culverts, undercrossings, etc.

Recommendation #6
We recommend using roadkill data and surveys to determine where additional linkages and/or culverts/undercrossings are needed, but not yet installed. This pre-construction, pre-design activity can yield important information during the project planning phase so that connectivity can be improved during project implementation.

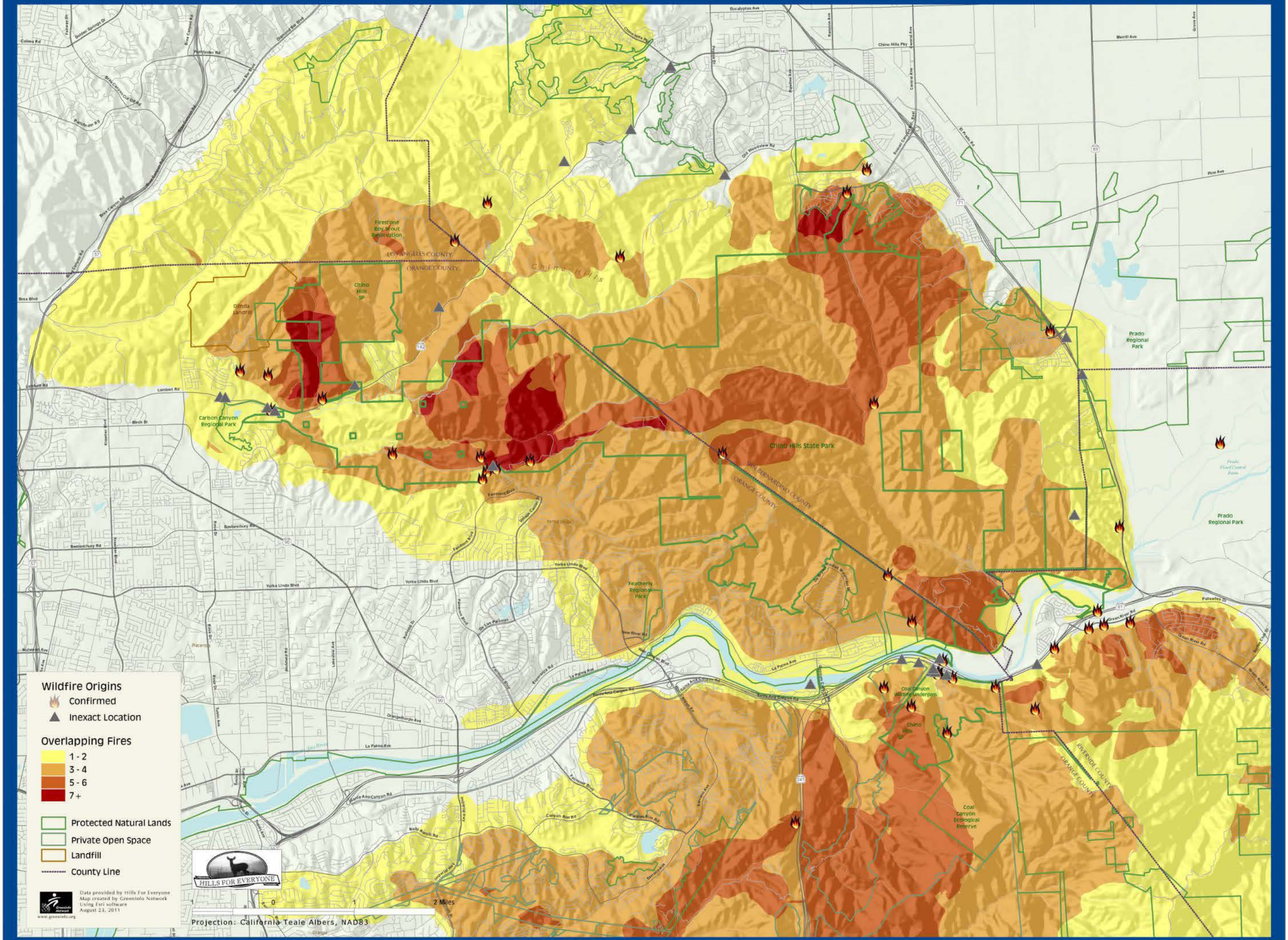
Thank you for the opportunity to provide feedback on the Draft 2012 RTP/SCS and the PEIR. We look forward to working with you in the future on the SCS and the conservation policy.
Regards,

Claire Schlotterbeck

Claire Schlotterbeck
Executive Director

Attachment

Wildfire Origins and Overlapping Fires near Chino Hills State Park



Hills For Everyone Fire Research Project
Fire Statistics for the 91 Freeway (Perimeters)

Fire Location
Of the 37 separate fire perimeters that burned along the 91 freeway

- 13 fire burned along the freeway
- 18 fires within a ¼ mile of the freeway
- 6 fires within a ½ mile of the freeway

Fires before/after Freeway Opened (1963)

- 6 fires burned before the freeway opened (48 years of fire data, 1914-1963)
- 29 fires burned after the freeway opened (48 years of fire data, 1963-2011)

Adjacency to Chino Hills State Park
Of the 37 separate fires perimeters that burned along the 91 freeway

- 16 burned in Chino Hills State Park
- 2 burned adjacent to Chino Hills State Park (shared a border)
- 19 burned outside Chino Hills State Park (close enough to cause concern)

Fire Size
Of the 37 separate fire perimeters that burned along the 91 freeway

- Largest Fire – 41,285.2 acres (Green River Fire – November 1948)
- Smallest Fire – 0.1 acres (Coal Canyon – July 2003)
- Average Fire Size – 6,263 acres

Fire Date
Of the 37 separate fire perimeters that burned along the 91 freeway, July was the predominant month when fires burned.

MONTH	No Data	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
# of Fires			2	1	1		1	8	4	2	4	4	

Weather Conditions
Known weather conditions for all the fires (since 1979)

WEATHER CONDITIONS	Temperature (Daytime Highest)	Temperature (Daytime Lowest	Temperature (Daytime Average)	Wind Gusts (Highest)	Wind Gusts (Average)	Most Common Wind Direction
Stats	102°F	70°F	86°F	29 MPH	20 MPH	SW

Corresponding Data
Of the 37 separate fires that burned along the 91 freeway

- 22 had no known point of origin
- 15 had a point of origin

Hills For Everyone Fire Research Project
Fire Statistics for the 91 Freeway (Points of Origin)

Fire Location
Of the 18 separate fire points of origin that ignited along the 91 freeway

- 3 fire ignited at the Coal Canyon exit
- 15 fires ignited along the 91 freeway

Fires ignited before/after Freeway Opened (1963)

- 0 fires ignited before the freeway opened (48 years of fire data, 1914-1963)
- 18 fires ignited burned after the freeway opened(48 years of fire data, 1963-2011)

Fire ignition causes
Of the 18 separate fires points of origin that burned along the 91 freeway

- 0 were natural
- 18 were human-caused

CAUSE	Unknown	Vehicle Fire/Crash	Arson	Downed Powerlines	Caltrans Machinery	Incendiary Device	Prescribed Burn Reignited
# of Fires	8	4	2	1	1	1	1

Corresponding Data
Of the 18 separate fires that burned along the 91 freeway

- 11 have no matching fire perimeter
- 7 have a matching fire perimeter

Hills For Everyone Fire Research Project
Fire Statistics for the 91 Freeway (Points of Origin and Perimeters)

Number of Fires
There was recorded data for 37 perimeters and 18 points of origin. In some cases the data set was complete and included both a perimeter and a point of origin. In other cases, we had only one or the other (a perimeter and no point of origin, or a point of origin with no perimeter). To provide an accurate count of actual fires we only included a single record of any given fire. Therefore there are 48 separate fires that ignited/burned along the 91 freeway.

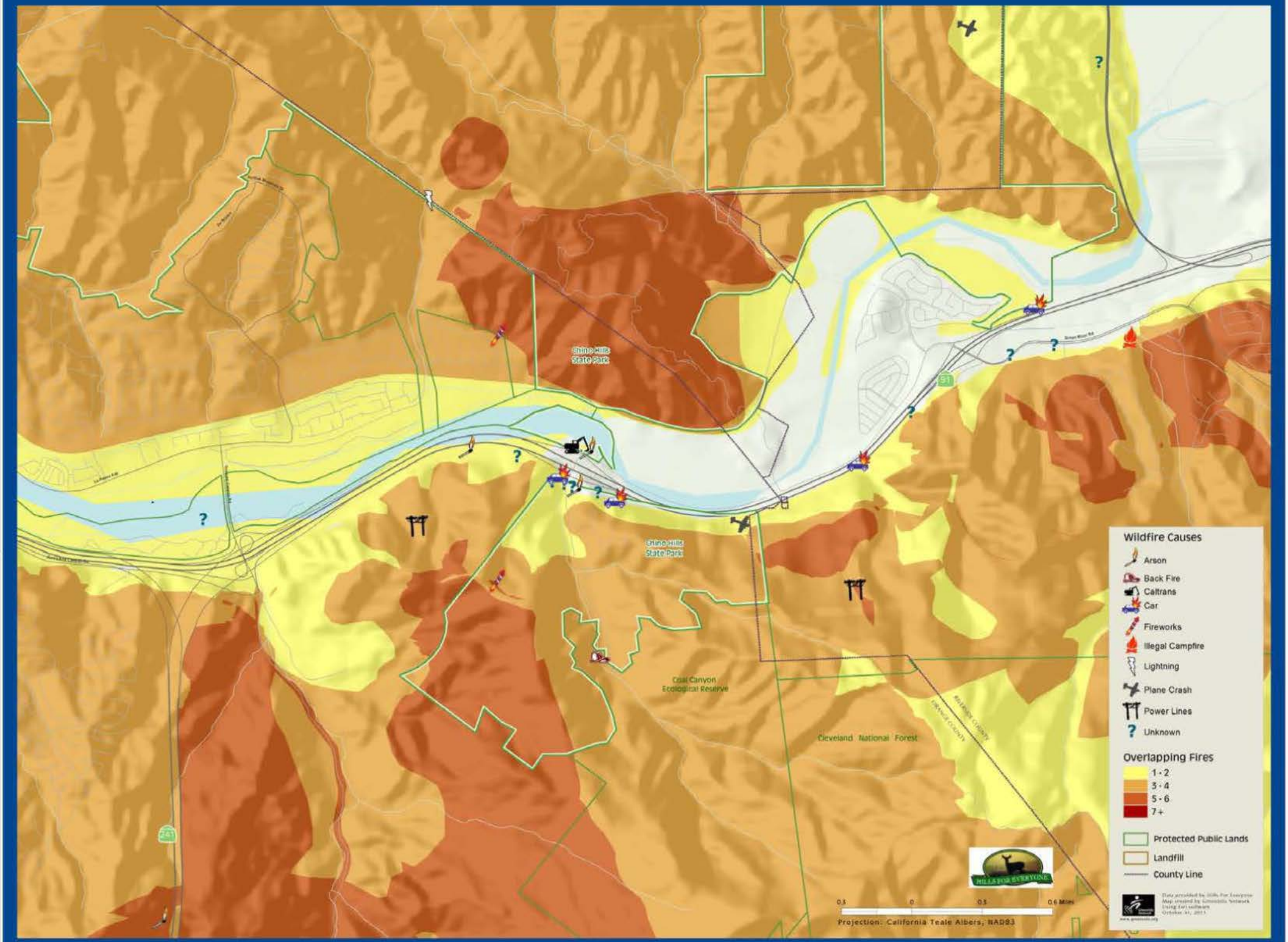
Fires ignited before/after Freeway Opened (1963)
Of the 48 separate fire perimeters and/or points of origin

- 1 unknown date
- 6 fires ignited or burned before the freeway opened (48 years of fire data, 1914-1963)
- 41 fires ignited or burned after the freeway opened (48 years of fire data, 1963-2011)

Fire Date
Of the 48 separate fire perimeters and points of origin that burned along the 91 freeway, July was the predominant month when fires were ignited or burned.

MONTH	No Data	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
# of Fires	10		2	2	2	5	1	11	4	2	5	4	

91 Freeway - Wildfire Causes and Perimeters (1914 - 2011)



Tuesday, Feb. 14, 2012

Hasan Ikhrata, Executive Director
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

Dear Hasan:

On behalf of the American Lung Association in California and Human Impact Partners, we would like thank you and your staff for your leadership to improve the health and equity benefits of the Sustainable Community Strategy/Regional Transportation Plan. We appreciate the hard work and broad community and stakeholder outreach that you and your staff have undertaken and congratulate you on developing a plan that meets the 2020 and exceeds the 2050 greenhouse gas reduction targets as well as reduces air pollution and vehicles miles traveled.

A broad-based coalition of health, transportation, academic, environmental, environmental justice and housing advocates participated in the development of recommendations for health and equity performance measures that should be incorporated in the development of RTP/SCS plans. While we are pleased that SCAG has incorporated some of those metrics, there are many others that we continue to urge you to include in future SCS/RTPs.

To aid SCAG in measuring and monitoring these health and equity targets and determinants, we have attached the original Health and Equity Metrics for Sustainable Communities Strategies and a commentary table specifically addressing the performance measures that SCAG has included in the 2012 RTP/SCS.

We look forward to working with you to support a truly health protective, equitable and sustainable plan for Southern California, and urge you to consider these additional measures to best achieve this goal.

Signed,

Bonnie Holmes Gen
Executive Director for Air Quality and Public Health
American Lung Association in California

Kim Gilhuly
Project Director
Human Impact Partners

Health and Equity commentary on SCAG 2012 RTP/SCS performance measures and Environmental Justice performance measures

A broad-based coalition of health, transportation, academic, environmental, environmental justice and housing advocates spearheaded by Human Impact Partners participated in the development of recommendations for health and equity metrics that should be incorporated in the development of RTP/SCS plans. The chart below provides a commentary of how SCAG's performance measures compare to the Health and Equity Metrics:

SCAG RTP/SCS 2012 Performance Measure	Health and Equity commentary
Asthma incidence and exacerbation	We were glad to see this included but believe the data point could be strengthened by using NOx as an exposure measurement to better tie this outcome to vehicle emissions and monitor over time. SCAG is currently measuring exposure to NOx and has an accepted methodology to enable this analysis and quantification.
Analysis of percent of environmental justice households living within 500 feet from high-volume roadways.	We request analysis of the percent of environmental justice households and potential health outcomes within 1,000 feet to better reflect research demonstrating health impacts within that area, particularly in environmental justice communities. Protocols for addressing impacts are also needed. We also would request a measure of how many households are below market rate (BMR) vs. market rate (MR), as with the analysis in the EJ appendix.
Premature deaths due to PM 2.5	Thank you for including this performance measure.
SCAG 2012 RTP/SCS Environmental Justice Performance Measure	Health and Equity commentary
Jobs-housing imbalance	SCAG was responsive to stakeholders in measuring a jobs-housing imbalance, but the measurement could be improved by using methodology that UC-Davis and the Sacramento Council of Governments has developed. Theirs is a relatively simple methodology to do a jobs-housing fit by creating a 4-to-5-mile buffer zone around major job centers, and comparing wages provided by those jobs to cost of housing within the buffer zone to see if there is a good fit. UC-Davis is developing this tool to be able to project the jobs-housing fit into the future, which would enable SCAG to show how the Plan will impact this performance measure.
Gentrification & displacement	We applaud this measure and request ongoing monitoring and development of mitigation measures. SCAG's analysis indicates that with ongoing concentration of new housing in High Quality Transit Areas (HQTA), gentrification and displacement will happen. While this can be discerned from the analysis of what has happened with the indicators historically, they do not project change with these indicators. It would strengthen this EJ analysis to see how many market-rate vs. below-market rate units are planned for each TAZ, and the EJ Toolbox could be strengthened by suggesting displacement

	mitigation measures.
Access to employment and services (45-minute auto access)	Kudos for measuring this, but we would like to see measurements for walking and biking access and recommend using a 30-minute walking or biking travel time. An alternative method would be to map ½ mile access to employment and services for walking and cycling. The cut-off choice of 45- minute auto access time does not show, from a health lens, how people could be more likely to use active transport methods to access jobs and services.
Access to parks	Similar comments to access to employment and services, above. It is not clear for either measure what "average" access is.
RTP project investment share	This analysis does not detail what kinds of investments are targeted for each quintile, i.e., will there be more rail investment in higher or lower income quintiles, for example. This analysis was a step in the right direction but more detail would help determine if the type of investment is targeted for the mode usage of each income level and/or ability/disability.
Air pollution and noise exposure	The analysis showed clearly that risks are higher for EJ populations, and that more current and future housing near freeways and busy roadways is targeted for lower-income residents and minorities. We were pleased to see that a mitigation measure in SCAG's toolbox is to do a corridor-level analysis for proposed projects in areas where roadway air quality impacts are concentrated among EJ communities. We request more indicators that measure actual health outcomes. Respiratory risk was not well-defined. Also, mapping in smaller geographies would be useful as the maps were unable to show much at the regional level. With regard to noise, we see that highway noise reductions will not benefit EJ communities as much as non-EJ communities. We appreciate the noise mitigations suggested in the Toolbox.
Share of household and employment growth in High Quality Transit Areas (HQTA)	Would like to see household growth, job growth, and population growth. Would also like to see how many large (3-4 bdr) units, how much senior housing, and below market rate (BMR) units projected for HQTA.

SCAG stated that the following recommended metrics would be targeted for a future RTP/SCS if data became available. We would encourage SCAG to continue researching ways to measure and report out these indicators earlier than in the next RTP/SCS.

SCAG 2012 RTP/SCS Performance Measure	Health and Equity commentary
Percent of households with walk access to neighborhood services	SCAG states further research is needed. SANDAG has pioneered mapping strategies for this, and SCAG has laid the groundwork for this analysis in the Environmental Justice appendix.
Percent of existing and new BMR rental housing units in TOD areas	SCAG states further research needed, yet has measured a similar indicator above as "Share of growth in High Quality Transit Areas".
Percent of jobs within 15	SCAG states that this is pending available data, but it is unclear why

minute walk of transit	this is not included since they are measuring growth of jobs and households in high quality transit areas. Also we are interested in proportion of jobs and households within ¼ mile of *local public transit* (bus and rail) and within ½ mile of *regional public transit*.
Percent of population within ½ mile of high frequency transit stop	SCAG states that this is pending available data, but we note that SCAG has assigned this task to their GIS team, which is a great sign. It is unclear what data is needed beyond what SCAG has access to since they have measured the share of household and employment growth in high quality transit areas.
Percent of residents within ½ mile walk to parks and open space (pending available data) (new research measure)	SCAG states this is pending available data but did perform a distance to parks analysis in the EJ appendix, so it appears this data is available.
Percent of households living with >65 decibels of noise	SCAG states that further research is needed, but this data is collected for the EJ appendix and appears to be available.

We encourage SCAG to incorporate these additional performance measures, which were not included.

SCAG 2012 RTP/SCS Performance Measure	Health and Equity commentary
Daily amount (in minutes) of work and non-work trip related physical activity	Methodology exists to predict this as the MTC has done.
Chronic disease resulting from changes in physical activity due to transportation project expenditures	Methodology exists to predict this via the California Department of Public Health.
SCAG 2012 RTP/SCS Environmental Justice Performance Measure	**Health and Equity commentary**
Injuries and fatalities from motor vehicle collisions, including from trucks, for pedestrians, bicyclists, as well as motor vehicle operators	While this is measured for performance measures, there is no EJ analysis.
Premature mortality from PM2.5 emissions from mobile sources, for EJ communities	SCAG looks at air quality and some EJ respiratory health issues, but the health effects of changes in air quality due to transportation expenditures would be clearer if premature mortality were measured and reported specifically in environmental justice communities. SCAG measures particulate matter, and so could do the calculation to attribute premature mortality to mobile sources of PM2.5.
Physical activity gained from active transport for EJ communities.	SCAG considers accessibility to parks, employment and services, which all tie into why someone would walk/bike/take public transit to get to these services. We request that the health benefits from transportation decisions be made explicit by measuring them.

SB375 Health & Equity Metrics

SB375: Sustainable Communities Strategies for Regional Transportation Planning

With the goal of reducing greenhouse gas emissions, SB375 requires that California's Metropolitan Planning Organizations (MPOs) prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP). The SCS process is an opportunity to improve the health of all communities in the state, truly ensuring our sustainability.

Performance Metrics and Planning

MPOs use a variety of performance measures to assess different scenarios for land use and transportation changes. As we have seen in the past, if those metrics don't include health and equity measures, it is unlikely that the final selected plan will lead to healthy and equitable outcomes. For example, if MPOs use the indicator "Automobile Level of Service (LOS) on Roadways," their decisions will focus on making driving easier, which might not be the best for health given the many ways driving can harm health. If instead they use "Premature Death due to Traffic-Related Pollution," then their plans are more likely to decrease traffic-related pollution by promoting alternate forms of transportation. Our goal is to provide MPOs a set of metrics that will promote health and equity as well as sustainability.

SB375 & Health

As California continues to grow over the coming years, we will need to accommodate **millions of new households** and **jobs**.

Currently, the **cars and trucks** we drive account for almost **40% of our greenhouse gas emissions**. How will **further growth** impact our **climate**?

Transportation and land use decisions impact our health by changing air quality, noise levels, physical activity rates, pedestrian and bicycle injury rates, and access to the goods and services we need to live healthy lives.

Children born today are expected to have a shorter life span than their parents due to obesity and respiratory illnesses. How will **further growth** impact our **health**?

Developing the Health and Equity Performance Metrics

To develop a list of health and equity metrics, Human Impact Partners, an Oakland-based non-profit that strives to transform the policies and places people need to live healthy lives, received funding from the Resources Legacy Fund and worked in collaboration with:

- American Lung Association in California
- Bay Area Regional Health Inequities Initiative
- Climate Plan
- Fehr & Peers
- Healthy Places Coalition
- Move LA
- Nelson & Nygaard
- PolicyLink
- Public Health Institute
- Prevention Institute
- Public Advocates
- Public Health Departments in Shasta, Marin, San Mateo, & Los Angeles
- Public Health Law & Policy
- Public Law Center
- Public Policy Institute of California
- Raimi & Associates
- Reconnecting America
- Safe Routes to Schools
- TransForm

Starting with metrics proposed by many organizations and agencies, we developed a final list of 13 metrics. For each proposed metric, we also provide a review of its links to health and a description of how it can be measured.

HUMAN IMPACT PARTNERS

The Health and Equity Metrics

SAFETY

1. Map annual number of pedestrian and bicycle collisions (and severity of injury/fatality): per capita, per geographic area, by daytime population.
2. Total number of vehicle, bike and pedestrian collisions per capita, broken down by injury type: fatalities and injuries.

ACCESS TO GOODS, JOBS & SERVICES

3. Proportion of households that can walk or bike (10 minutes) to meet at least 50% of their daily needs. Public daily needs defined as: schools, parks, healthcare institutions and transit. Private daily needs defined as: restaurants, grocery stores, food markets and childcare.
4. Proportion of households and proportion of jobs within 1/4 mile of local public transit (including both bus and rail) or 1/2 mile of a regional public transit, that has less than 15 minute frequencies.
5. Proportion of daily trips less than 3 miles and less than 1 mile by mode (walking/biking/transit (bus and rail)/driving).

GENERAL TRANSPORTATION

6. Daily amount (in minutes) of work-trip and non-work trip related physical activity.
7. Work and non-work trip mode share (including biking, walking, transit (bus and train), carpooling and SOV)- Both at peak times and all day.

FUTURE GROWTH

8. a) Share of housing growth in transit priority areas, targeting measures of how many large (3-4) bedroom units, senior housing, low-income units will be built;
   b) Proportion of projected population growth located in transit priority areas;
   c) Proportion of projected jobs in transit priority transit areas.

ECONOMIC

9. a) Percent of household income consumed by housing and transportation combined;
   b) Percent of income going towards housing costs;
   c) Percent of income going towards transportation costs.

ENVIRONMENTAL POLLUTION

10. For all daily trips, per capita miles traveled by mode (walking, biking, transit, vehicle).

11. Working with a local public health department, university or air quality management district: Estimate pre-mature mortality attributed to traffic related ambient PM 2.5, and estimate asthma incidence and asthma exacerbations attributed to traffic related NO2.

12. Proposed housing near busy roadways will require:
    a) Assessment by local air district or public health department of the need for environmental/health impact analysis when housing is proposed near (within 1,000 feet) busy roadways (over 100,000 Average Annual Daily Traffic (AADT) or other significant pollution sources (e.g., rail yards, port terminals, refineries, power plants, etc); and
    b) Best practice mitigation requirements by local governments when the above assessment determines that environmental quality is below standard for such proposed housing, and if such housing is determined to be safe by local air districts and public health departments with identified mitigation.

For MPO representing highly urban regions, we suggest an alternate metric due to the ongoing concern about the lack of developable land, the need for housing, and equity concerns about placing low-income residents near polluting emissions of cars and trucks.

Alternate Metric 12: Working with a local public health department, university and/or air quality management district:

a) Estimate the number of sensitive sites (homes, schools daycares, parks, etc.) within 1,000 feet of freeways and other major pollution sources, based on standards such as Bay Area Air Quality Management District's.
b) Estimate proportion of affordable housing units vs. market rate units within above identified areas.

EQUITY

13. Measure and stratify all indicators by race/ethnicity; income; geography (neighborhood, Census block or tract level, or Community of Concern); age; disability.

Ways You Can Advocate for Health and Equity

Through letters to and meetings with MPO staff and Board, through testimony at public meetings, and in letters to local press, **you can advocate that health and equity be considered** when your MPO is:

- ✓ Developing performance metrics to assess proposed growth scenarios.
- ✓ Proposing scenarios about future transportation and land use.
- ✓ Conducting its Environmental Impact Review (EIR), which technically requires an analysis of health impacts, but often doesn't. You can do this when the agency announces that it is starting the EIR at the Notice of Preparation stage, when it is Scoping the EIR, and/or as comments on the Draft EIR.

Contact: Kim Gilhuly **Email:** kim@humanimpact.org **Phone:** (510) 452-9442 ext. 104 **Website:** www.humanimpact.org

150 SOUTH NINTH STREET
EL CENTRO, CA 92243-2850

TELEPHONE: (760) 482-4606
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AIR POLLUTION CONTROL DISTRICT

February 14, 2012

Margaret Lin
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

RE: Comments on Draft 2012-2035 Regional Transportation Plan – Sustainable Communities Strategy & the Draft Program Environmental Impact Report

Dear Mrs. Lin:

The Imperial County Air Pollution Control District (Air District) has finalized the review of the Draft 2012-2035 Regional Transportation Plan (RTP) – Sustainable Communities Strategy and its Draft Program Environmental Impact Report (Draft PEIR) and is here by providing its comments.

RTP

Section: Executive Summary

- The list of transportation investment projects found in page 5 and 6, calls for many beneficial projects within the SCAG region which would ultimately reduce VMT, traffic congestion and vehicle emissions. On top of the priority list and one of the most expensive projects is the passenger high speed rail system which is schedule to provide services to most of the SCAG region with the exception of Imperial County. As indicated in Table 1.7 found on page 28 of the RTP, the Imperial County is currently classified non-attainment for 2008 8-hour Ozone standard, as well as non-attainment for the PM10 and PM2.5 standards which is why it is very important and crucial that projects such as the high speed rail system are built and tied into the Imperial County to alleviate the same issues other SCAG regions are having and expect to have in future years. As it stands, the Air District will not benefit from the emission reductions a high speed rail system can provide. For this reason, the Air District would like to request a cost-feasibility analysis and/or a detailed explanation which demonstrates why tying a high speeds rail system to the Imperial County is not beneficial.

- The current financial plan found on page 7 calls for an estimated $110.3 billion revenue source from a proposed mileage-based user fee beginning in 2025. If this revenue source is ultimately approved and implemented, Imperial County residents will be at an

enormous disadvantage and end up paying more into this funding source due to the county's geographical location and lack of transportation resources available in the area (currently high-speed rail not proposed). Even though the Imperial County's population has continued to grow at a fast rate during the last couple of years (page 17), it still continues to heavily rely on goods and services that are mainly provided in metropolitan areas such as San Diego, Riverside and L.A. Counties. As mentioned in the first comment, the Air District is in desperate need of transportation improvements that will not only allow easier, faster and safer services to other SCAG regions but that it will also reduce air emissions in the Imperial County region.

Section: 02 – Transportation Investments

- The Air Quality section on page 79 provides several measures that are necessary to address air emissions necessary to achieve RTP goals. One of the measures is to have "ARB measures that set new on-road and off-road engine standards and accelerate turnover of higher emitting engines from the in-use fleet" among others. It is important for SCAG to continue working with the California Air Resources Board (CARB) and to discuss these types of measures in a consistent basis to ensure new engine standards and the turnover of higher emitting engines will be feasible for both the private and public sector in the upcoming years. In 2008, CARB adopted the Truck and Bus regulation which requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Heavier trucks must be retrofitted with PM filters beginning January 1, 2012, and older trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent. Ultimately, the Air District would like to know if the emission reductions found on Table 3.2: Criteria Pollutant Emission By County – Existing Conditions (2012) VS Plan (2035) have been approved by CARB and will be included in their emissions inventory.

DPEIR

- On Page 3.2-12, it is stated that the entire portion of the Imperial County is maintenance for 8 hour ozone. This statement is incorrect, the Imperial County is in attainment of the 1997 8-hour ozone standard however it is in non-attainment of the 2008 8-hour ozone standard.

As stated on the DEIR, it is important to note that future projects within the Imperial County geographical area will be required to comply with local rules and regulations to minimize construction and operational emissions. The Imperial County *CEQA Air Quality Handbook* provides guidelines which assist in identifying when an air quality analysis is necessary, the type of analysis that should be performed, the level of significance of the impacts predicted by the analysis, and the mitigation measures needed to eliminate or reduce the overall air quality impacts. The CEQA Handbook also provides emission thresholds for both project construction and operations which assist in determining whether the project may have a significant air quality impact.

In conclusion, the Air District looks forward to working with SCAG and other regions to ensure the current and proposed transportation plans four our region not only improves mobility, the economy and provides sustainability but that it also commits to reducing emissions from transportation sources as well as construction sources ultimately improving air quality in the entire region.

Respectfully

Brad Poiriez
Imperial County, APCO

CC: Mark Baza, Executive Director, ICTC
APCD Board of Directors

KOHL RANCH COMPANY, LLC
KOHL RANCH II, LLC
11990 San Vicente Boulevard, Suite 200
Los Angeles, California 90049

February 14, 2012

Margaret Lin
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

Re: Comments on Draft 2012-2035 Draft RTP/SCS

Dear Ms. Lin:

Thank you for the opportunity to comment on SCAG's Draft 2012-2035 Regional Transportation Plan and Sustainable Communities Strategy ("Draft RTP/SCS" or "SCS"). We understand that this is an enormous undertaking and appreciate SCAG's efforts in this process. We look forward to playing a constructive role in the further development of the SCS.

As explained below, we are concerned that the draft RTP/SCS as proposed would result in an inappropriate use of the regional growth forecast planning effort to encroach on local land use authority and jurisdiction. We therefore request that SCAG (1) extend the comment period and make transportation analysis zone (TAZ) data available for public review and comment; (2) correct the TAZ data and maps to accurately reflect current local planning decisions including entitled projects; and (3) revise the SCS so that consistency determinations are made not at the small-scale scale level of a TAZ, but at the jurisdictional level to allow reasonable flexibility and appropriate land use decision making authority at the local level.

1. The SCS does not appear to account for projects already in process

Kohl Ranch owns over 2,200 acres of land in Southern California. However, we are concerned that the SCS process has not fully accounted for projects that are already in process. Regent has several projects in the area that are fully entitled and approved for build-out, as well as proposed projects with pending applications that represent a substantial investment of resources to design, plan and communicate with the community and responsible agencies. While the SCS itself states that it was created with input from local jurisdictions (see, for example, Draft RTP/SCS p. 111), we are concerned that the growth projections contained in the SCS and Land Use Pattern Maps do not in fact reflect the land use decisions that have been made by local jurisdictions. More specifically, while the Draft RTP/SCS indicates that it has shifted projected densities from less developed areas to the urbanized core, nowhere does the SCS clearly state that those shifts in density take into account development projects that are either already approved or that are reasonably foreseeable projects which local jurisdictions have already spent considerable resources processing.

2. Underlying TAZ data must be released to allow meaningful public comment

Moreover, the SCS's treatment of approved projects is impossible to determine from the information that SCAG has made available to the public. The 2035 Land Use Pattern Maps, which are intended to depict projected density and land use, are at such a large scale, with such slight color gradations, that they cannot be interpreted in any meaningful way. The SCS itself does not seem to contemplate that these maps will be important to future transportation and land use decisions. Instead, the SCS focuses on the projected density contained in the data that underlies the maps -- data that SCAG has not released to the public. The SCS states that the land use projections contained in the SCS are based on the distribution of growth forecast data to transportation analysis zones. (RTP/SCS, p. 122.) According to the SCS, the TAZ data contains forecasted housing, population, and employment data, which the SCS used to create "Community Types" and more refined "Development Types" that contain average use designations, densities, and building intensities. The SCS states that a Development Type, including an average residential density, has been assigned to each TAZ for purposes of creating the SCS. (Draft RTP/SCS, p. 123.) However, it cannot be determined whether this assignment was made in a manner that takes existing conditions (including approved and reasonably foreseeable projects) as a baseline for these projections, nor can it be determined how the forecasting was done or how it was distributed across the TAZ.

Despite the critical role of the TAZ data in developing the SCS, we are not aware that SCAG has made this data available for public review and comment in any meaningful way. We were able to obtain partial data, showing housing densities only, from other agencies involved in the SCS process. These data do not contain employment or population forecasts, and do not contain any Community Type or Development Type designations which, according to the SCS, have been assigned to each TAZ. It is not possible for the public to provide meaningful comment on the SCS without access to the underlying data on which density and land use projections are based. In the absence of the underlying data and modeling supporting the proposed plan, we are substantially impaired in our ability to provide meaningful public comment on the technical and legal adequacy of the plan. In particular, we cannot assess whether the underlying data adequately reflects all developments as approved. Under the federal (5 U.S.C. § 500 *et. seq.*) and California Administrative Procedures Acts (Gov. Code §§11340 *et seq.*, including § 11346.2(b)(6)), the opportunity for public comment must include disclosure of the data and technical studies in time to provide meaningful public comment. *See, e.g. Solite Corp. v. EPA*, 952 F.2d 473, 484 (D.C.Cir.1991) (per curiam).

While we are not confident that the data is either accurate or complete, we have reviewed what data we were able to obtain. Based on our review we conclude that the forecasted housing densities do need to be corrected, as the numbers clearly do not reflect either existing entitlements or pending, reasonably foreseeable projects.

3. Implications of consistency with underlying TAZ data

The importance of the TAZ data is not limited to understanding how the SCS was created. In addition to being the basis for creation of the SCS land use projections, according to the SCS, the TAZ data is to be relied on in future determinations as to whether a project is consistent with the SCS. The SCS states:

"SCAG suggests that utilizing community types at the TAZ level of geography (which an average size of 160 square acres) offers local jurisdictions adequate information and flexibility to make appropriate consistency findings for projects to be eligible to receive CEQA streamlining benefits." (Draft RTP/SCS p. 122.)

"One way of determining consistency [with the SCS] is if a proposed residential/mixed use or TPP [Transit Priority Project] conforms with the Development Type designated for a TAZ." (Draft RTP/SCS, page 148.)

Despite these explicit statements that the existing TAZ data will be critically important to future decisions affecting projects, SCAG has not provided the public the opportunity to review and comment on the TAZ data in any meaningful way.

Significantly, a project's consistency with the SCS -- which is to be determined at the TAZ level according to the SCS -- affects not only the availability of CEQA streamlining incentives, but can have adverse consequences for the availability of federal funds for transit improvements that would serve the project. Transit improvement projects relying on federal funding must be consistent with an approved RTP, and with the adoption of SB 375, that includes consistency with the Sustainable Communities Strategy portion of the RTP as well. (40 CFR 93.102; 42 U.S.C. 7506.) Thus, if the Draft RTP/SCS has shifted density away from approved or pending projects, those projects stand to lose critical transit improvements. The loss of transit improvements could impair project feasibility, or create new unmitigated impacts if traffic mitigations become unfunded, which could result in an unlawful taking of private vested property rights for those projects that have already been approved by local jurisdictions. In many cases, approved projects also involve executed development agreements, which means that violation of contractual rights could also result, causing difficult situations for developers and local jurisdictions.

We are concerned that a project's inconsistency with the growth projections contained in the SCS may have broader implications as well. Local jurisdictions will be under considerable pressure to conform their general plans to the density, intensity, and land uses contained in the SCS, or risk losing transportation funding throughout their jurisdictions. While all the implications of a project's inconsistency with the SCS have yet to be determined, we are concerned that by shifting density away from locally approved and pending projects, the SCS is creating land use policy in violation of SB 375's mandate that the SCS must not supersede the land use authority of cities and counties. (Gov't Code 65080(b)(2)(J).)

4. RTP/SCS consistency should be determined at the jurisdictional level.

The TAZ maps are a modeling tool for engaging in a regional planning and evaluation process. The feasibility of achieving the precise results in any particular TAZ area has not been evaluated or confirmed by any city council or board of supervisors, and as explained above it appears that the TAZ data and maps for 2035 do deviate from general plans and vested entitlements that have been approved by these elected officials. While we understand elected bodies or senior administrative staffs of local jurisdictions may have approved local input for the overall population and household numbers within their respective jurisdictions, we believe they have not approved the TAZ data or maps. Accordingly, requiring consistency determinations

concerning use designations, density, and building intensity at the small scale of each TAZ would be inappropriate and overly-prescriptive.

Again, SB 375 specifically precludes SCAG from interfering with local land use decisions.[1] SB 375 requires that an SCS "identify the *general* location of uses, residential densities, and building intensities *within the region*...." Calif. Government Code § 65080(b)(2)(B)(i) (emphasis added). Thus there is no legislative mandate that SCAG identify the location of land uses, densities and building intensities within the region more precisely down to a TAZ level. Instead, SCAG should appropriately identify these characteristics at a level consistent with the need for reasonable flexibility and local control. At the lowest, the level of comparison should be at a jurisdictional level – particularly given that there are nearly 200 jurisdictions within the SCAG region. Accordingly, we urge SCAG to identify such characteristics at no finer a scale than at the lesser of (i) the jurisdiction, and (ii) the sub-region (i.e., where unincorporated county land is divided into sub-regions).

Despite SB 375's mandate that the SCS not regulate land use, the draft RTP/SCS "shifts" households "from the periphery into the urbanized core" stating that much of this shift "will occur naturally in the marketplace," and that this "shift" was done "per consultation with the local jurisdictions." (Draft RTP/SCS p. 128.) However, this shift does not "occur naturally," nor through a "consultation" process between agency staff that excludes the public. Instead, such a shift can only occur, if at all, as part of a separate and lengthy discretionary development application process involving requests to local land use jurisdictions to amend their general plans, specific plans, areas plans, and zoning. In short, there is no "shift" to high-density housing in some local jurisdictions, and away from housing density already approved by other jurisdictions, unless and until the local land use jurisdictions adopt the requested discretionary approvals.

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[1] SB 375 provides in pertinent part:

- "Neither a sustainable communities strategy nor an alternative planning strategy regulates the use of land . . . "
- "Nothing in this section shall be interpreted as superseding the exercise of the land use authorities of cities and counties within the region."
- "Nothing in this section shall be interpreted to authorize the abrogation of any vested right whether created by statute or by common law."
- "Nothing in this section shall require a city's or county's land use policies and regulations, including its general plan, to be consistent with the regional transportation plan . . . ." (Gov't Code section 65080(b)(2)(J)

4. Conclusion

The draft RTP/SCS represents a substantial and important regional planning effort. We believe the current draft needs to be corrected to reflect current local land use planning decisions, and to ensure that the regional growth projection process is not implemented in a manner that infringes on either vested property rights or the land use authority of local jurisdictions. We appreciate SCAG's consideration of the comments provided in this letter and look forward to your responses. If you should have any questions, please do not hesitate to contact me.

Sincerely,

KOHL RANCH COMPANY, LLC,
a California limited liability company

By: KF Master Investments, LP,
a California limited partnership
Its: Member

By: KFO Capital Management, LLC,
a California limited liability company
Its: General Partner

By: Stephanie S Cohen
Stephanie S. Cohen
Its: Secretary

KOHL RANCH II, LLC,
A California limited liability company

By: KF Master Investments, LP,
a California limited partnership
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By: KFO Capital Management, LLC,
a California limited liability company
Its: General Partner

By: Stephanie S Cohen
Stephanie S. Cohen
Its: Secretary

cc: Supervisor Jeff Stone, Riverside County Supervisor District 3

RTP Document Text

p.31/41 Environmental Justice Appendix
p.42/52 The full list of RTP projects is provided in the Project List technical appendix.
p.58/68 Aviation technical appendix
p.70/80 Goods Movement Technical Appendix
p.127/137 Subregional Framework and Guidelines (see Appendix 20
p.140/150 Appendix: Transportation Conformity.
p.153/163 Additional information regarding air quality and energy is included in Chapter 1 and Appendix: The Role of Vehicle Technology in Meeting Long-Term Air Quality and Energy Challenges.
p.153/163 (See Appendix: The Role of Vehicle Technology in Meeting Long-Term Air Quality and Energy Challenges, for more information)
p.154/164 Reference: 2012 RTP/SCS Chapter 4: Sustainable Communities Strategy, p. 117; 2012 RTP/SCS Appendix: SCS Background Documentation; 2012 RTP/SCS Appendix: Growth Forecast
p.156/166 2012 RTP/SCS Appendix: Transportation Conformity Analysis; 2012 RTP/SCS Appendix: Performance Measures
p.157/167 2012 RTP/SCS Appendix: Growth Forecast
p.167/177 Additional speed maps are provided in the Highways and Arterials technical appendix.
p.176/186 Appendix 19
p.192/202 (see Transportation Conformity appendix for details).

2012-2035 Draft RTP/SCS Downloads

- Draft 2012-2035 RTP/SCS (Complete Report)
- Executive Summary
- Chapter 1: Vision
- Chapter 2: Transportation Investments
- Chapter 3: Financial Plan
- Chapter 4: Sustainable Communities Strategy
- Chapter 5: Measuring Up
- Chapter 6: Public Participation
- Chapter 7: Strategic Plan

Supplemental Reports

- Active Transportation
- Aviation and Airport Ground Access
- Congestion Management
- Economic and Job Creation Analysis of 2012 RTP/SCS
- Environmental Justice
- Goods Movement
- Growth Forecast
- Highways and Arterials
- Intelligent Transportation Systems
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February 14, 2012

President Pam O'Connor and Members
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

Dear President O'Connor and Regional Council Members:

We thank the Southern California Association of Governments (SCAG) and its staff for the hard work on the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Latino Health Access is particularly pleased to see that important health and equity indicators were included in the strategy positively impacting the health of our community.

The high levels of air pollution and health problems experienced in the Southern California region require strong action to transform transportation and land use planning. The Los Angeles region continues to be rated as the most polluted area for ozone in the country by the American Lung Association and the public health toll remains high.

We trust and rely on the research by the American Lung Association in California. The agency quantified the respiratory health benefits of smart growth strategies in the Southern California region. Their analysis showed that the ***six-county Southern California region could avoid over $16 billion in cumulative health and societal costs*** through smart growth strategies that reduce the growth in the region's vehicle trips by 20 percent by 2035. While large, these benefits may represent a small fraction of the greater benefits that accrue with more physically active transportation options, as envisioned and quantified by the California Department of Public Health's I-THIM modeling project. Understanding the potential benefits of given planning scenarios will help to identify plans that provide the greatest reductions in harmful emissions and chronic illnesses.

As an agency we see firsthand the effects that obesity and diabetes has on the lives on our clients and recognized the need for greater focus on a shift to active transportation modes like walking, cycling and transit that reduce pollution emissions and gets people out of their cars and into a more physically active lifestyle.

We join the American Lung Association in offering the following comments and recommendations to ensure that the Sustainable Communities Strategy and future

transportation investments place sufficient emphasis on promoting active transportation modes and transit oriented development, measuring and improving health progress, and ensuring that health and equity are imbedded in the decision making process for this plan and future planning efforts.

Key Health Recommendations for SCAG SCS

- **Increase active transportation investments to more than $12 billion a year**. While we appreciate the increase in active transportation funding included in the draft SCS, we believe more funding is needed. A recent study by the Los Angeles County of Public Health estimated that up to $40 billion could be needed to build out all of the current bicycle and pedestrian projects in Los Angeles County alone. SCAG, in coordination with health departments and organizations, should conduct a Comprehensive Needs Assessment for the Southern California region to determine the infrastructure needs to develop a network of bicycle and pedestrian pathways and transit connections. Analysis is also needed of how SCAG's bicycle and pedestrian per capita investment compares with other regions.
- **Improve Assessment of health benefits through new modeling approaches**. Utilize the new California Department of Public Health I-THIM screening tool to analyze the potential chronic disease reductions that can be achieved in the SCAG region based on increased transportation-related physical activity such as walking and biking. This model was used in the San Francisco Bay Area region to determine reductions in heart and respiratory disease, breast cancer and other health effects linked to active transportation scenarios. We urge SCAG to incorporate this tool in regional planning and decision making for transportation investments.
- **Include the attached list of 13 health and equity metrics in the SCS and monitor over time, including expanded public health targets.** In addition to monitoring premature mortality, SCAG should also assess reductions in asthma incidence and exacerbations due to traffic related pollution (NOX) and other targets through collaboration with local health departments, the South Coast Air Quality Management District, academic researchers and community based organizations. Improvements to the targets should be monitored and reported to the public every two years. *Additional comments on the targets already included by SCAG in the SCS will be sent in a separate comment letter.*
- **Focus investments on completing transit systems** and building out transit infrastructure, rather than highway expansion, including the following:
    - Doubling Metrolink ridership by 2020 and double it again by 2035
    - Expanding Bus Rapid Transit and regional bus service
    - Enhancing TOD planning and 1st-mile-last-mile investments near Metrolink stations
    - Doubling the bicycle network to 24,000 miles and improving pedestrian environment
- **Front load active transportation funding.** SCAG should commit to a higher amount of transportation funding for bike and pedestrian infrastructure, especially in the early years of the 25-year RTP process. SCAG should work with local transportation agencies

to prioritize bicycle and pedestrian projects and ensure the majority of funds are spent prior to 2020.

- **Increase investments in zero emission freight transportation** in order to reduce diesel emissions and exposures in communities near freight corridors and rail yards. Ensure that funding mechanisms are in place to expedite the implementation of the zero and near-zero emission freight and truck strategies and infrastructure. Prioritize spending on projects that deliver maximum health benefits for residents of the region, especially those living along the freight corridor.
- **Evaluate the number and type of new developments** that could be located in close proximity to freeways and high traffic roadways in the SCAG region under the new RTP. Work with air district, health departments and universities to develop and implement best practice policies for developments located near heavy traffic areas to reduce exposures to air pollution.

As health and medical organizations and professionals, we recognize that strong government policies to control harmful emissions and that dramatically increase options for active transportation are critical to improving public health and quality of life in Southern California. We stand ready to assist you in implementing a truly health protective, equitable and sustainable plan for Orange County and all of Southern California.

Signed,

Dolores Gonzalez-Hayes

Dolores Gonzalez-Hayes
Director of Policy
Latino Health Access

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February 8, 2012

Hasan Ikhrata
Southern California Association of Governments (SCAG)
818 West 7th St, 12th Floor
Los Angeles, CA 90017

RE: Draft Regional Transportation Plan comment letter

Dear Mr Ikhrata:

Thank you for the opportunity to comment on the 2012 Draft Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). We have specific concerns regarding statements and recommendations made in the document regarding how transportation improvements can increase economic competitiveness in the SCAG region.

LAANE is an advocacy organization dedicated to building a new economy for all. Combining dynamic research, innovative public policy and the organizing of broad alliances, LAANE promotes a new economic approach based on good jobs, thriving communities and a healthy environment.

We strongly believe that infrastructure investment is crucial to our region's economic recovery and to increase mobility options for workers. However, at the same time families should earn middle-class wages, with health and pension benefits, as it also essential to stimulating our economy. Solid infrastructure investment and good jobs go hand-in-hand in being able to maximize public investment.

We find it very troubling that an agency, such as SCAG, would recommend or suggest that lowering workers' wages would make the region more economically competitive, as stated in the Economic and Job Creation Analysis Appendix. Public investment that is tied to increasing worker standards; workforce training programs and targeting communities disproportionately affected by poverty and unemployment will make us more economically competitive. SCAG should look towards models already existing, for example in Los Angeles County, to guarantee efficiency in infrastructure projects and put people back to work.

Draft Analysis Comments

1. On page 8, the draft Economic and Job Creation analysis states:

"The RTP can boost employment in two ways---providing jobs for persons in highway and rail construction, operation, and maintenance, and boosting the economic competitiveness of the SCAG region by making it a more attractive place to do business."

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SCAG could take this recommendation one step forward by identifying strategies which ensure the creation of good-middle class job creation and project delivery. One such tool are Project Labor Agreements (PLAs), in which public agencies can use to attract a highly-skilled workforce to complete construction projects on-time and on-budget. PLAs, used in both the public and private sector, are pre-bid, collective-bargaining agreements between a developer (or agency) and the construction trade unions to set out wages, standards and benefits for workers on a construction project. In exchange, both parties agree to refrain from strikes or lock-outs. Because they are traditionally used on large-scale, multi-year projects, they provide excellent opportunities to develop jobs programs for communities.

LAANE has pushed for a more comprehensive approach by advocating for Construction Careers Policies, which combine a PLA and a targeted hire program, which requires contractors to set aside a percentage of construction jobs to individuals who live in communities most affected by high unemployment and poverty, and with barriers to employment.

PLA are an increasingly popular project delivery tool in the SCAG region. Construction Careers policies have been approved at the following agencies:

- City of Los Angeles Community Redevelopment Agency (CRA-LA)
- City of Los Angeles Department of Public Works
- Port of Los Angeles

Recently, Construction Careers Policies have been applied to transportation-related construction projects. In March 2011, the Exposition Line Construction Authority passed such a policy for Phase II of the light rail project. In January 2012, the Los Angeles County Metropolitan Transportation Authority (Metro) Board of Directors unanimously approved an agency-wide policy that includes a PLA and targeted hire program for projects greater than $2.5 million, which includes many projects funded by Measure R. Metro is the first transit agency in the country to approve such a policy. This approach can serve as a valuable tool for transit agencies throughout the SCAG region that are dealing with the twin problems of congestion and unemployment. In February 2011, the Federal Transit Administration (FTA) approved the use of targeted hire on projects receiving federal dollars. The FTA approval sets a national precedent for targeting disadvantaged workers on transit projects.

2. "How Transportation Improves Economic Competitiveness" Section (P. 8)

This section of the draft analysis "outlines five paths through which transportation improvements can increase regional economic competitiveness." We find it troubling that SCAG suggests that, under number 3, "Reduced Congestion Reduces Employees' Asking (or Reservation) Wage." It states, "Metropolitan areas, all else equal, lure more migrants into the region due the amenity value of lower traffic congestion. This increases the supply of available labor, *driving wages down.*"

These statements suggest that congestion reduction alone would encourage people to move into the SCAG region, as opposed to other more essential factors such as major industries that are rooted in the local economy---goods movement, tourism,

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construction, entertainment, etc. We should be looking to strengthen industries that are vital to our economy, not creating low-road career options for residents.

It is also highly problematic to have as a policy objective to *lower wages* when the SCAG region has high levels of poverty, unemployment, sluggish growth, and high levels of income inequality. SCAG has provided an analysis that essentially implies that lowering wages are a benefit to the region, and that the agency can help achieve that through the 2012 RTP congestion reduction interventions, projects and policies.

For example, the SCAG Region:[1]

- Ranked last in average wage per job at about $44,379 among the nine largest metropolitan areas
- Has the highest poverty rate among the nine largest metropolitan regions in the nation
- In 2006, had the highest housing cost burden among the nine largest metropolitan regions in the nation, with 53 percent of owner households paying 30 percent or more of their incomes on housing

The seven counties that are part of the SCAG region are grappling with significant challenges that have been further exacerbated by the recession. When workers spend less on transportation costs, a benefit of reduced congestion, they are able to spend their earnings in other ways, stimulating the regional economy. Given that housing prices in the SCAG region, especially in Los Angeles County, are very high, congestion reduction alone will not address affordability and supply, and how current income earnings play a role in where workers choose to live.

We suggest the following recommendations be considered in revising the RTP:

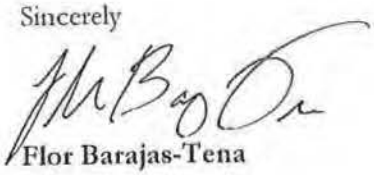
- Delete language in the 2012 RTP/SCS or appendices that suggest that lower wage rates in the SCAG region are a benefit of the congestion reduction strategies included in the plan;
- Include tools, such as project labor agreements with targeted hire, that allow government agencies to ensure that investment in transportation infrastructure also creates middle-class careers, especially in construction;
- Include an analysis on what the economic benefits of congestion reduction in improving the quality of life of workers in the SCAG region, which includes how the diversion of earnings from transportation costs to other vital services and industries can help stimulate our economy.

We hope that the agency takes these recommendations seriously and develops a blueprint for the region that improves the quality of life of working families through effective infrastructure investment and the creation of good middle-class career opportunities. If you have any questions or would like to discuss please feel free to call us at 213-977-9400.

[1] Southern California Association of Governments (SCAG). State of the Region 2007. http://scag.ca.gov/publications/pdf/2007/SOTR07/SOTR07_FullReport_lores.pdf

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Sincerely



Flor Barajas-Tena

Deputy Director

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November 3, 2011

Attn: Honorable Pam O'Connor, President of SCAG and Regional Council members
Southern California Association of Governments (SCAG)
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

RE: Active Transportation in SCAG's 2012 Regional Transportation Plan (RTP)

Dear Honorable O'Connor, Regional Council members and Policy Committee members:

On behalf of the Southern California Safe Routes to School Network and the Los Angeles County Bicycle Coalition and the many other organizations and individuals who have signed this letter, we would like to thank SCAG staff, Regional Council and Policy Committee members for all their hard work to date, we recognize the multitude of efforts that go into developing a long range plan of this magnitude.

As SCAG prepares to release the draft 2012 RTP in December 2011, which is a 25 year plan allocating $450 Billion in transportation funds throughout six counties in Southern California, and the region's first Sustainable Communities Strategy (SCS) as outlined under SB 375, we would like to share our rationale, observations and comments to the SCAG Board and policy committees on how the draft plan can better address public health and active transportation.

It is critical that the 2012 RTP set tangible and measurable goals to improve the safety of all community members, especially our most vulnerable road users, those walking and bicycling. We are concerned that the SCAG staff report to the Regional Council and Policy Committees, dated October 20th, failed to provide measurable goals in regards to Safety and Active Transportation. We encourage SCAG to be specific as to how the 2012 RTP/SCS will improve the safety of people walking and bicycling and how SCAG and the six County Transportation Commissions (SCAG Region CTC's: Imperial County Transportation Commission , Los Angeles Metro, Orange County Transportation Authority, Ventura County Transportation Commission, Riverside County Transportation Commission, San Bernardino County Association of Governments) can work to address and achieve policies listed such as: "making transit more bike friendly" and how to "encourage implementation of a Completes Streets policy across the region," (as stated on page 11 of 10/20 staff report).

Creating a more multi-modal transportation network in the SCAG region requires the RTP to be specific about how investments in active transportation will be funded, planned, prioritized, measured and developed in collaboration with partners and interested stakeholders. With those key principles in mind, we respectfully submit the following recommendations for your consideration:

1. Fund: Increase Funding Levels for Bicycle and Pedestrian Infrastructure: Currently close to 21 percent of all trips in the SCAG Region are done via walking and bicycling (2009 National Household Travel Survey) and 25 percent of all SCAG roadway injuries and fatalities are pedestrian and bicyclists (2008 SWITRS). The Region's last RTP, adopted in 2008,

allocated only 0.46 percent of its total funding for these modes. We respectfully request that the 2012 RTP includes strategies to significantly increase the proportion of funds allocated to active transportation so that over time, such funding reflects the proportion of trips made by walking and biking. We recommend the following:

- Preliminary estimates show a funding need in the range of $22B to $36B throughout the life of the 2012 RTP to fund the build-out of high priority pedestrian and bicycle investments as identified by local jurisdictions. Given the mode split, safety and collision trends, public health concerns and many other co-benefits we recommend that 5-8 percent of the 2012 RTP fund active transportation projects. (For a $450B plan, 5 percent equals $22B and 8 percent equals $36B.)
- All future SCAG Regional Transportation funding strategies (i.e. congestion pricing, cordon pricing, VMT fees) should allocate 10 percent of all revenue towards walking and biking improvements and investments to help meet the unmet funding gap for active transportation.
- Recommend the formation of a Active Transportation Funding Committee to assist in next six months while the RTP continues its development and scheduled adoption in May 2012. We recognize going from 0.46% to 5%-8% is a significant jump in investments, however we maintain that there is a tremendous unfunded need to make our streets safer and usable for all users. Many from around the region would be interested in assisting with identifying strategies for the unmet active transportation funding needs, as we would be happy to play a leadership role in this Committee.

2. Plan and Economics: Integrate Bicycle and Pedestrian Improvements into all Transportation System Preservation Projects: Road maintenance and the first and last mile connections to transit are crucial for creating a connected and sustainable transportation system. System preservation is inherently important to people walking, biking, and connecting to transit; there needs to be enhancements for complete streets - ensuring that when maintenance opportunities arise or are scheduled, that the region is leveraging its limited resources to enhance our multi-modal transportation network. Currently the potential benefits to of the Transportation System Preservation category fail to address how these investments will improve the safety and access of people walking and biking - it only outlines benefits to drivers. Therefore we recommend:

- Embed a Complete Streets Policy within the Transportation System Preservation category that requires any investments into system preservation on surface streets include improvements for pedestrians and bicyclists, and those accessing transit.
    - Funding for Transportation System Preservation of highways needs to include bicycle and pedestrian safety improvements at on/off ramps to ensure greater safety of people using those modes on surface streets that connect with ramps and help knit communities, that have been adversely impacted by freeway on and off ramps, back together.
- Adopt a Complete Streets checklist that requires County Transportation Commissions to demonstrate how each project is addressing all modes. This checklist should be included in the 2012 RTP to be implemented in 2014. This will assist in prioritizing projects that are critical in achieving regional goals.

3. Plan: Do Bicycle and Pedestrian Planning: Improving the walking and biking environments in our region cannot be done without adequate planning at the local level. Unfortunately, many SCAG cities do not have bicycle or pedestrian master plans; in Los

Angeles County, for example, only approximately 11 of 88 cities have bicycle master plans and four cities have pedestrian plans. Additionally, current station area plans fail to take into account the first and last mile of transit trips, which are usually done on foot or by bicycle. This lack of planning is a significant impediment to improving infrastructure for people who rely on bicycling and walking to connect to transit, work, school, and their daily needs. As such we recommend:

- Expand the Compass Blueprint program to support SCAG cities in the development of bicycle, pedestrian, Safe Routes to Schools, Safe Routes to Transit, and ADA Transition plans.
    - It is estimated that it would require approximately $200,000 per city to develop these plans (95 cities at $200,000). Identify and secure funding sources in order to set aside at least $19M in the 2012 RTP to support these planning efforts.
    - Establish a goal of 50 percent of SCAG cities having completed at least one plan by 2016 in order to prepare for the 2016 RTP.

4. Prioritize: Safety and Equity: Bicyclists and pedestrians account for 25% of all roadway fatalities and injuries in the SCAG Region (2008 SWITRS), yet these modes are currently receiving less than 0.46% of all available funding (2008 SCAG RTP). Studies also show that a disproportionate amount of those injuries and fatalities occur in low-income communities (Traffic Injury Prevention 09/11). It is critical that we are doing all we can to ensure safety for all community members, regardless of where they live or how they travel. Earlier this month, the Los Angeles Times wrote a compelling article on 3 young girls walking to school who were severely injured when a car struck them, it is imperative that our transportation plans are doing all they can to make sure these tragedies, and the high number in which they occur in the SCAG region, end. For these reasons, we recommend that the RTP take the following steps to increase safety and equity:

- Analyze bicycle and pedestrian collision data to understand where high rates of collisions in the six-county region are happening and if collision rates are increasing or decreasing each year. SCAG staff should present a yearly report to the SCAG Board to help inform the public and Board on the state of walking and bicycling safety, and Safe Routes to School programs in the region. Many of the counties (San Bernardino, Riverside, Los Angeles) in the SCAG region are working to support local efforts and investments - these projects are increasing safety and improving the mode split, and addressing community concerns.
    - The RTP should set a goal of working towards zero deaths and should prioritize improving the safety of all transportation modes.
    - Utilize Transportation Injury Mapping System (TIMS) in the 2012 RTP. TIMS is a suite of Web-based tools created by researchers at the UC Berkeley Safe Transportation Research and Education Center (SafeTREC). The system is free and open to the public. Users can select collisions based on numerous criteria, as well as map each collision. The two most comprehensive TIMS tools are based on the California Statewide Integrated Traffic Records System (SWITRS) database of serious and fatal collisions. Currently, TIMS has SWITRS data from 2000-2008. Newer data will be added as it becomes available.
- Allocate greater resources to cities with little or no bicycle/pedestrian infrastructure and/or plans, high rates of collisions (using TIMS data), and significant populations of low-income residents. Identify these communities in the 2012 RTP in order to allocate resources for technical assistance and prioritize planning and infrastructure resources.
- Expand the “Toolbox Tuesdays” program to include bicycle safety design, pedestrian safety design, ADA design, and training on how to use the TIMS program for staff from

the 190 SCAG cities, to expand understanding of where collisions are happening, how to improve the safety for people walking and bicycling, and enhance local jurisdiction HSIP, SRTS, and other grant opportunity applications.

5. Measure: Conduct Pedestrian & Bicycle Usage Counts: We must increase documentation of bicycle and pedestrian usage and demand by regularly assessing numbers of people walking and biking. Without such figures, it is difficult to forecast usage or measure the positive benefits of investments in these modes.

- Create and fund a regional bicycle and pedestrian count program at SCAG establishing yearly usage counts at key locations in cities throughout the SCAG region. Use the data collected to establish trends, set goals, evaluate fund requests for facility improvements, prioritize improvements, and show the impacts of recent improvements. Set aside funds in SCAG's 2012/2013 OWP to create and maintain this program in future years. (*See link:* Nashville Metropolitan Planning Organization's program, Technical Memorandum on Regional Pedestrian and Bicycle Count Procedures)
- The RTP should set a target for increasing the amount of all trips made by bicycle and the amount of walking to transit trips (measuring the 1st/last mile).

6. Collaborate: Review Local Input, Provide Opportunities for Stakeholders to Engage and Incorporate Feedback: There are growing voices all over the six county SCAG region in support of safe walkable and bikeable neighborhoods for users of all ages and abilities. Safe Routes to School programs and investments is an example of a broad-spectrum program that while focusing on improvements to ensure the safety of our youth, ultimately benefits the whole neighborhood. Many of these individuals, community members, professionals - and more, have concerns about the fundamental change needed in our region. SCAG conducted valuable and well run workshops this summer, and we commend those efforts, however we are concerned there has not been a report compiled and presented on the feedback received in those workshops. We understand SCAG staff is working on this. We urge these finding to be shared in a timely manner with the Board, so that they may understand their constituents. We ask that the staff to report on what was heard and how these comments are addressed in the draft 2012 RTP.

- We recognize there is a significant increased level of investments and policies outlined in this document, this is built on the demand, interest and support for active transportation happening all over the SCAG region. With increased opportunities for stakeholders to weigh in on the Region's Transportation plan, we believe this will strengthen the RTP and its ability to be successfully implemented over the coming years.

We recognize SCAG is not the implementer for transportation improvement projects, but SCAG does have the ability to do better planning, monitoring, collaboration, and evaluating to provide support and insight to counties, cities and communities on how to address our transportation opportunities and challenges and move towards safer and more usable streets for the region - regardless of choice of travel mode - all the while maximizing our limited resources in which to do so.

Thank you for considering our comments and concerns.

Sincerely,

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Rachel Morris
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Tracy McMillan, Ph.D., MPH
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Chair, Downey Chamber of Commerce Green Committee, and Chair, City of Downey Green Task Force

Individuals:
Nathalie Winiarski, City of Los Angeles
Rye Baerg, City of Arcadia
Arye Gross, City of Glendale
Colin Bogart, City of Los Angeles
Ryan Lehman, City of Los Angeles - Living Streets

February 14, 2012

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Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

RE: Comments on the Drafts of the 2012 Regional Transportation Plan & Sustainable Communities Strategy (RTP/SCS) and the Program Environmental Impact Report (PEIR)

Dear Mr. Ikhrata:

For the past three years, business and industry representatives from throughout Southern California have participated in the Southern California Association of Government's extensive process used to develop the region's Draft 2012 Regional Transportation Plan (RTP), which includes an inaugural Sustainable Communities Strategy (SCS). Our interest in this process has been particularly keen given both the significant economic challenges currently facing our region's economy and the fact that the inaugural SCS could – if not considered from many viewpoints – have unforeseen negative consequences.

In light of our ongoing participation and understanding, we appreciate the tremendous effort that SCAG's staff and leaders have put into the process that led to the Draft 2012 RTP/SCS & PEIR. The development of this RTP/SCS followed an inclusive approach with SCAG holding hundreds of meetings with SCAG's public and private stakeholders. We also appreciate the extensive economic analysis that SCAG has performed on the Draft RTP/SCS in order to provide all stakeholders and SCAG's Regional Councilmembers with an understanding of the financial impacts of the plan.

As representatives of Southern California's broader business community, we recognize the crucial roles that transportation and infrastructure have in maintaining our region's economy and quality of life. Accordingly, through this letter, we join together to provide SCAG with general comments regarding remaining significant concerns about the contents of both (i) the Draft 2012 RTP/SCS, and (ii) the Draft Program Environmental Impact Report (PEIR).

From the beginning, representatives of businesses and industries have agreed upon the qualities of a good RTP/SCS. Those qualities can be summarized as follows. The RTP/SCS should:

- Foster economic growth and job creation in a balanced and accountable manner and in recognition of foreseeable regional population growth;
- Utilize all revenue sources very efficiently, and utilize new revenue sources only if they are economically sound and equitable;
- Honor the prerogatives that local governments – as the level of government with the greatest understanding of and sensitivity to community interests and context – should continue to enjoy concerning land use and community development;
- Comply with the California Environmental Quality Act (CEQA) and federal environmental laws and regulations (e.g., federal Clean Air Act conformity); and
- Allow for expeditious review and approval of projects that are consistent with a sound and reasonably accommodating RTP/SCS.

Despite our overall appreciation for the work put in by SCAG's staff, there are important aspects of the Draft 2012 RTP/SCS and Draft PEIR which, we believe, require much more consideration and correction or clarification before SCAG approves the 2012 RTP/SCS and the Final PEIR. Corrections – or at least substantial clarifications – are needed in order to bring the Final 2012 RTP/SCS and PEIR back into line with the principles set forth above.

Stated here in the most general terms, SCAG's staff and ultimately its Regional Council should address the following concerns and correct the final 2012 RTP/SCS and the accompanying PEIR.

1) The Draft PEIR is unduly prescriptive and imposes mitigation requirements that are not suitable for mandatory consideration at the individual project level. Simply put, many of the prescribed mitigation measures address matters at too small a scale for a regional transportation and land use strategy. The Draft PEIR lists more than 500 discrete mitigation measures that cover a broad range of topics; and it asserts that SCAG has preliminarily found that all such mitigation measures are feasible and "can and should" apply to all future projects in the region. Many of these mitigation measures were drawn from "model policies" that were drafted in 2009 and were intended for consideration only at a jurisdictional planning level – not an individual project level. Many of the mitigation measures listed are not reasonably considerable – let alone feasible – generally at a project level throughout Southern California.

2) Many of the mitigation measures set forth in the Draft PEIR have no relationship to the RTP/SCS or its impacts. For example, the Draft PEIR invokes mitigation measures ranging from low-flow toilets to green roofs. Such mitigation measures have nothing to do with the regional dispersion of future development and redevelopment or its indirect effects on emissions from vehicular use (which is the proper focus of the RTP/SCS).

3) The Draft PEIR attempts to etch in stone the project-level consideration and potential incorporation of mitigation measures that conflict with, or inevitably will conflict with, highly-evolved and dynamic subject-matter regulations. For example, the Draft PEIR would prescribe mitigation requirements concerning matters ranging from storm water management to energy efficiency standards to fire protection to landscaping to water supply analyses – all matters that are highly regulated and subject to dynamic standards that either are now or are bound to be at odds with the PEIR.

In light of the above-stated problems with the Draft PEIR, we believe that it needs to be substantially rewritten to clarify what we understand was intended by SCAG's staff and leaders – that the PEIR should not subtract from or interfere with local governments' reasonable prerogatives under CEQA. As the Draft PEIR now stands, the environmental analysis and suggested mitigation requirements would likely lead to more CEQA litigation rather than to CEQA streamlining as California Senate Bill 375 (2008) promised.

Turning to the substance of the RTP/SCS as a policy matter, we have the following additional general comments:

4) The RTP/SCS is undergirded by analysis which shows the dispersion of populations and employment shown and categorized at the level of sub-jurisdictional "transportation analysis zones" (TAZs). The TAZ level of detail is, we believe, too small and precise a level at which to prescribe the spatial dispersion of development and redevelopment, particularly in light of the regional nature of the RTP/SCS. Page 148 of the SCS should therefore be clarified to indicate that questions of consistency with the RTP/SCS should be substantively measured and determined at a jurisdictional or sub-regional level, not at a TAZ level.

5) The RTP/SCS should aim to reflect and accommodate both the short-term future of the SCAG region and its long-term future. For example, the RTP should better anticipate the need for and reasonable likelihood of a gradual transition in the region's overall vehicle fleet (e.g., gradually towards alternative fuels) and the ongoing need for enhancements to vehicular mobility even as more mass transit comes to fruition.

6) More detail, clarity and explanation are needed concerning the new revenue sources that are outlined within the plan document. New revenues account for $219.5 billion out of the total $524.7 billion needed for the transportation plan, yet there is very little detail explaining these significant new fees and impositions (see page 95 & 96 of the Draft RTP/SCS).
To fully and fairly evaluate these proposals, the business community and all stakeholders need the benefit of additional detail and explanation. In particular, we need clarity and assurance regarding the following:

   a. The new revenue concepts assumed within the RTP/SCS must be fair, equitable and economically sound, meaning that an appropriate nexus exists to assure that new revenues are drawn fairly and proportionally from those who benefit from the related transportation infrastructure or improvement.

   b. The new revenue sources within the RTP must be effectively allocated, meaning the plan should clearly articulate how resources will be efficiently and responsibly allocated so that there is the best possible return on investment for the expenditure of these new transportation funds. SCAG needs to show that it will be a responsible, accountable and innovative steward of the new revenues that it is proposing.

7) New revenues from fees on businesses operating in the SCAG region – and particularly the "Freight Fee/National Freight Program" listed on page 96 of the Draft RTP – need to be developed and implemented at the federal level, not the local and regional level. Unless such fees are imposed on a national scale, the region's competiveness will be compromised.

8) In the RTP, SCAG should identify and highlight the significant economic contributions of the goods movement sector to the regional and state economy. Specifically, the RTP should acknowledge that, as business stakeholders work with regulatory agencies to further reduce emissions in the SCAG region, any technology introduced must not compromise the safety, velocity, cargo throughput, economic competitiveness, or reliability of the goods movement system. It would be helpful for SCAG to state clearly in the RTP that, to date, stakeholders have not reached consensus on technologies, timing, funding, or emissions impacts of the various options that SCAG examined in the RTP. For example, SCAG discusses long-term steps towards a "Zero Emissions Container Movement System" (ZECMS). If SCAG chooses to pursue such a fundamental shift in new technology, it would need to work with all goods movement stakeholders to clearly establish whether and, if so, when and where within the transportation infrastructure a ZECMS option could be demonstrated and evaluated without negatively effecting the velocity and throughput of the system.

9) With the recent elimination of redevelopment agencies, the ability of local jurisdictions to meet the densification of urban centers in the near term is challenged, given the costs related to aging or inadequate infrastructure capacity and high development costs for higher density projects. The elimination of redevelopment agencies also threatens the availability of sufficient housing options necessary to meet the needs of a dynamic workforce. In fact, since the passage of SB 375, the State of California has stripped local governments of funds that were previously available for

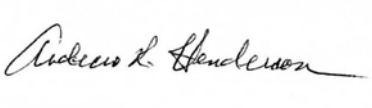
transit, transportation and redevelopment. This follows many years in which the state diverted revenues from gasoline, sales, income and other taxes needed for local government programs. Local governments cannot help to fulfill the 2012 RTP/SCS without increased, not decreased, state support. SCAG should emphasize the need for the state to restore support for planning, transit, transportation and redevelopment or other necessary funding to pre-SB 375 levels in order to speed the attainment of mandated goals.

While we find many very positive aspects in the plan, especially related to principles and direction, these significant issues need to be addressed. The short list of general concerns set forth above is not meant to be exhaustive. Many of the organizations that subscribe to the above-stated comments will be commenting more robustly in separate writings. We join here, however, to express our unity in finding the Draft 2012 RTP/SCS and PEIR to be in need of significant clarification and correction. We are also jointly committed to completing this process and, over the remaining weeks, working closely with SCAG to develop and adopt a smart, flexible, accountable, and economically sound RTP/SCS.

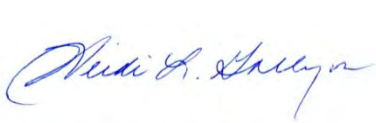
Respectfully,



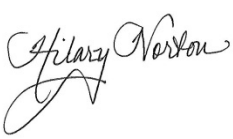
Jim Clarke
Executive Director
Apartment Association of Greater Los Angeles (AAGLA)



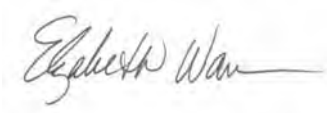
Andrew R. Henderson
Vice President and General Counsel
Building Industry Association of Southern California, Inc.



Heidi L. Gallegos
Executive Director
Eastvale Chamber of Commerce



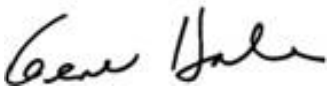
Hilary Norton
Executive Director
FAST – Fixing Angelenos Stuck in Traffic



Elizabeth Warren
Executive Director
FuturePorts



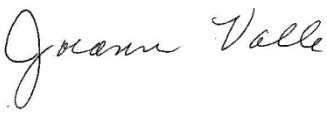
John Kelsall
President & CEO
Greater Lakewood Chamber of Commerce



Gene Hale
Chairman
Greater Los Angeles African American Chamber



Paul C. Granillo
President & CEO
Inland Empire Economic Partnership



Joeann Valle
Executive Director
Harbor City/Harbor Gateway Chamber of Commerce



Gary Toebben
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Los Angeles Area Chamber of Commerce



David Fleming
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Los Angeles County Business Federation



Hugo W. Merida
Chairman of the Board
Los Angeles Metropolitan Hispanic Chamber of Commerce



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Vice President
Pacific Merchant Shipping Association



Sandy Cajas
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Rich Lambros
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Ron L. Wood
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Stuart Waldman
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Patty Senecal
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Western States Petroleum Association



Michael W. Lewis
Senior Vice-President
Construction Industry Air Quality Coalition (CIAQC)



Michael W. Lewis
Senior Vice-President
Construction Industry Coalition on Water Quality (CICWQ)

Alexander Pugh
Senior Project Manager - Policy & Project Management
Southern California Edison



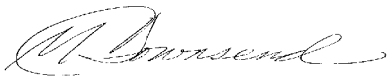
Bill Allen
President & CEO
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John Guerra
Director, Regional Public Affairs
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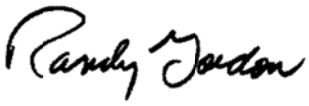
Michael Carroll
Regulatory Flexibility Group



Madame M C Townsend
President & CEO
Regional Black Chamber of
Commerce – San Fernando Valley



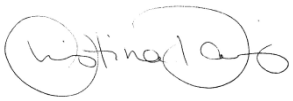
Bob Amano
Executive Director
Hotel Association of Los Angeles



Randy Gordon
President/CEO
Long Beach Area Chamber of
Commerce



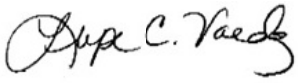
Jay McKeeman
Vice President, Government
Relations & Communications
California Independent Oil
Marketers Association (CIOMA)



Christina Davis
President & CEO
LAX Coastal Chamber



LaDonna DiCamillo
Senior Manager Government Affairs
BNSF Railway



Lupe Valdez,
Director of Public Affairs
Union Pacific Railroad

Fred Johring

Fred Johring
President
Harbor Trucking Association



Eric Sauer
Vice President Policy and Regulatory
Affairs
California Trucking Association

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

Richard J. Bruckner
Director

February 14, 2012

Hasan Ikhrata
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

Dear Mr. Ikhrata:

We want to commend you and your staff for the years of hard work in preparing the Draft 2012 RTP/SCS for the region. As we are undergoing a General Plan Update for the unincorporated areas of Los Angeles County, it is an exciting time to be coordinating our local land use planning efforts with SCAG's regional efforts to meet our State climate change goals.

The Department of Regional Planning has worked with your staff to provide the County's local input for the growth forecast for the unincorporated areas of Los Angeles County. The County's recommendations have been largely been based on policies from the existing General Plan, knowledge of the unincorporated areas, alternative projections prepared by the County's Urban Research section, and proposed policies in the General Plan Update.

We are concerned that the Draft RTP/SCS states that the growth forecast is based on local input. The Overall Land Use Pattern Maps for Los Angeles County (Part A of the SCS Background Documentation appendix of the Sustainable Communities Strategy Chapter) reflect land use patterns that are not part of the County's local input. In particular, the land use pattern for the northwest corner of the unincorporated Antelope Valley reflects significant growth by 2020. A review of the TAZ-level socioeconomic data for that area shows projections of over 10,000 new households by 2020, and over 22,000 new households by 2035. The area is a greenfield designated Non-Urban by the Antelope Valley Area Plan. The area also consists of environmental and hazard constraints. Another concern is the land use pattern in unincorporated Rowland Heights and unincorporated South Diamond Bar along SR-57, particularly the designation of this area as a High Quality Transportation Area by 2035. This area is vacant, designated Open Space or low density, and also consists of hazard and environmental constraints.

It is our understanding that SCAG assumed growth within these areas based on knowledge of pending large-scale projects through the CEQA Intergovernmental Review (IGR) process. The assumption of growth based on pending individual projects is not explicitly described in the Draft RTP/SCS as part of SCAG's growth forecast

methodology. In addition, assuming growth based on individual and pending projects is of concern given the uncertainty of projects that have not been considered by a decision-making body and the public, and the significant time and complex issues entailed in processing large-scale projects. The projects mentioned above will require legislative acts by the Los Angeles County Board of Supervisors and this action should not be assumed. In addition, assuming a pending project in the growth forecast puts local governments in a difficult position and causes confusion when the project is actually considered for public hearing. Furthermore, as large-scale projects are often built in phases, assuming full build-out for an individual project within the horizon of the RTP may not always be appropriate—in particular, assuming over 10,000 new households by 2020 and over 22,000 new households by 2035 in one particular TAZ. These projections are not consistent with historical data. The Antelope Valley absorbs less than 200 new units per year. Even if 100% of the growth were in this one area, these projections would far exceed historic patterns.

Given the outlined concerns, we recommend the following amendments to the Draft 2012 RTP/SCS:

- Amend the Overall Land Use Pattern maps and adjust the associated TAZ-level socioeconomic data to redistribute the growth assumed to occur due to pending large-scale IGR projects to areas where the County encourages growth in the General Plan Update, such as Transit Oriented Districts; and
- As an alternative to using pending large-scale IGR projects to inform growth distributions in the Draft RTP/SCS, add a separate section to the Draft RTP/SCS that acknowledges pending large-scale IGR projects throughout the SCAG region and their potential to impact future growth forecasts upon approval and adoption by the local jurisdiction.

Consistency between the General Plan Update and Draft RTP/SCS is an important part of advancing the goals of the RTP/SCS at the local level. We acknowledge that several large projects are in the entitlement process, and at the time projects are approved it would be appropriate to amend the RTP/SCS. We look forward to continuing to work with you to realize our shared vision to create a socially, economically, and environmentally sustainable region.

Sincerely,

Richard J. Bruckner
Director

RJB:cc

C: Board of Supervisors Planning Deputies

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

Arthur T. Leahy
Chief Executive Officer
213.922.6888 Tel
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Metro

February 14, 2012

Hasan Ikhrata, Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Dear Mr. Ikhrata:

Thank you for the opportunity to comment on the Southern California Association of Governments' (SCAG) Draft 2012 Regional Transportation Plan (RTP/SCS).

We would also like to compliment SCAG on the immense stakeholder outreach process that was undertaken to develop the RTP/SCS in conjunction with the Sustainable Communities Strategy (SCS), in order to develop this draft RTP/SCS. We find the document to be well-written in identifying many of the key challenges our region faces.

Attached for your consideration are our comments on the Draft 2012 RTP/SCS.

Again, SCAG has made an exceptional document from a challenging set of requirements, and we commend you.

Sincerely,

for Arthur T. Leahy
Chief Executive Officer

Attachments

Comments on Draft 2012 Regional Transportation Plan

- We commend SCAG for the significant and unprecedented outreach to MTA, sub-regional agencies, and the public in the development of the Draft 2012 RTP/SCS. We also acknowledge the extensive and dedicated effort on the part of SCAG to craft a Southern California approach to the new SCS requirements of SB 375. We are pleased that the Draft 2012 RTP/SCS has been able to meet both the air quality conformity requirements of the federal Clean Air Act, and green house gas emission (GHGe) reduction requirements necessary to comply with SB 375.

- We appreciate the working relationship between SCAG and MTA staff necessary to integrate our 2009 Long Range Transportation Plan (LRTP) projects, programs, and financial assumptions into the Draft 2012 RTP. It appears that the Draft 2012 RTP includes all projects and programs funded by MTA in the 2009 LRTP. We note that SCAG has identified a number of projects and programs that are beyond funding levels of the LRTP. We assume that these projects and programs will be funded through new or innovative funding programs that SCAG has identified in the Draft 2012 RTP as "reasonably available" funding sources over the life of the RTP. Examples of projects beyond the funded LRTP include:

    - East-West Freight Corridor between the I-710 and the I-15.

    - Phase I of the California High Speed Rail Authority (CHSRA), pending an agreement between CHSRA, Metrolink and LOSSAN to identify funds to bring local systems up to high speed (110+ MPH) where possible.

    - A regional Express/HOT Lane Network that expands our Fast Lanes pilot project to include the I-405 and SR-91.

    - Various modal programs, including bus and rail expansion, TDM, TSM, bicycle, pedestrian, and operations and maintenance.

- MTA has proposed and is advocating a program known as America Fast Forward (formerly known as the 30/10 Initiative) to look at federal loan and bonding mechanisms which could accelerate the completion of 12 transit projects in 10 years instead of 30 years. We believe that such a program is beneficial to Southern California counties that have a tradition of self-help local sales tax mechanisms, and that those self-help traditions should be rewarded through new federal bonding or loan assistance programs. Clearly this program would assist the region in the earlier attainment of federal and state air quality conformity and GHGe reduction requirements. We would recommend that a section be included in the Draft 2012 RTP regarding America Fast Forward, and that this section include SCAG policies and actions to partner with MTA and other county transportation commissions to support and advocate for federal enactment of this program.

Additional Technical Comments on SCAG Draft 2012 RTP/SCS

- We note that page 50, paragraph 3 states that "our region has virtually no bus lanes, especially compared to other major metropolitan areas." We would suggest that this reference be revised to acknowledge that MTA has opened the highly successful Orange Line busway, has federal approval of a Very Small Start Grant to implement bus lanes on Wilshire Boulevard, and that the MTA Board has recently directed staff to conduct a countywide transit study to identify a minimum of five additional bus lane candidate projects. Additionally, we have been operating dedicated bus services for some time on the El Monte Busway and on the Harbor Transitway.

- The Transit Policies on page 50 and the SCS chapter make reference to High Quality Transit Opportunity Areas (HQTAs). We would encourage SCAG to identify in the Draft 2012 RTP the specific areas that will be designated as HQTAs and the benefit of this designation.

- On page 66, in the paragraph on "Logistics activities – including warehouse and distribution facilities", we would suggest adding that warehouses and distribution centers also perform value-added services to prepare goods for retail sale, such as packaging and adding of accessories. These services also create jobs for the SCAG region.

- On page 67, in the section "Components of the Regional Goods Movement System", we would encourage SCAG to add rail intermodal facilities (ICTF, Hobart, etc.) as a separate bullet point for two reasons. First, they play a significant role in the goods movement system, while also generating traffic and environmental impacts. Second, they are mentioned as a component of the rail improvement strategy (ICTF and SCIG are specifically mentioned).

- On page 71, it should clarify in the text that even though the specific alignment has yet to be determined, the east-west freight corridor would generally parallel the UP Los Angeles subdivision/SR-60 between the I-710 and I-605, San Jose Creek/SR-60 between the I-605 and SR-57, and the SR-60 east of the SR-57.

- On page 71, the text states the benefits of an east-west corridor, but SCAG may also want to state why this corridor was selected over the 210, 91, and 10 using information contained in the Comprehensive Goods Movement Study.

- On page 71, SCAG may want to highlight that the east-west freight corridor is envisioned to be a clean freight corridor similar to that which would be built on the I-710.

- On page 72, we suggest that the bottleneck relief strategy report should be included in the technical appendix and footnoted in the "Bottleneck Relief Strategy" section.

- On page 72, SCAG may want to add another paragraph on smaller-scale, near-term goods movement improvements, such as truck climbing lanes on the I-5 and arterial improvements throughout the region.

- On page 74, under Key Rail Projects in the Draft 2012 RTP, we encourage SCAG to highlight the ACE San Gabriel Trench, as it is the largest and most significant ACE grade separation project ($498 million).

- We concur that the Orangeline High-Speed Transit corridor improvement from Union Station to Palmdale is in the Strategic (unfunded) portion of the Draft 2012 RTP/SCS.

- On page 207 of the main RTP/SCS document, in the last paragraph, that refers to America Fast Forward, please add "and 14 highway projects" in the third sentence after the phrase "to build 12 key mass transit projects".

Passenger and High Speed Rail Comments Starting on Page 51

- We suggest that SCAG add a definition of the acronym "LOSSAN".

- To clarify which draft CA HSR Business Plan is being referred to, SCAG may want to add the 2012 date.

- SCAG may want to indicate that the CA HSR is estimated to reach our region with the Initial Operating Segment (IOS) in 2021, and the Bay to Basin phase in 2026. Furthermore, it should be clarified in other locations in the document, that the IOS will connect to southern California's network in 2021.

- Since the actual speeds for the system will vary by location, SCAG may want to remove the reference to the definition of 110 MPH for the CA HSR system.

- On page 51, subsection "Implementation of Phase 1 of the California High-Speed Train (HST) Project", SCAG may want to define which "Authority" is being discussed.

- We request that SCAG clarify that Prop. 1A will allocate $9.95 billion in funding for the project (the current Draft reads almost $1 billion less: "$9 billion").

- We suggest that SCAG state that the $950 million in funding needs to be allocated by the State. Furthermore, a Memorandum of Understanding is anticipated between the CAHSRA and southern California agencies to identify funds for the region for advance investment in high speed rail corridors and connections.

- On page 52, we suggest that SCAG provide a definition or description of "grade closures".

- We suggest a source of where the LOSSAN strategies are from, to provide clarity.

- Starting at the bottom of page 52, in the section "Improvements to the Existing Metrolink System", we note that positive train control is not a "strategy", it is mandated by Federal law. SCAG may want to add that Metrolink will incorporate this developing technology two to three years ahead of the rest of the nation's passenger railroads.

- The term "speed capacity improvements" needs to be clarified: either it is a "speed improvement" or a "capacity improvement".

- The second paragraph on page 53 suggests that Metrolink will be connected in 2035 when the HST reaches the Central Valley. We suggest rewording the paragraph to be in accordance with Metrolink's operational area and the California High Speed Rail Authority's Business Plan.

- Furthermore, the final sentence in this paragraph implies that it is known what would be needed for travel times of one hour. This is under study regarding the feasibility for Metrolink operations. We ask that SCAG state that there may be significant costs and impacts of such an option.

Addendum to Comments on the Draft 2012 RTP/SCS
Comments on the Technical Appendices

- It appears that all strategic projects from the Supplement #1 Strategic Plan to the 2009 LRTP were added, but the original strategic projects from the 2009 LRTP were not added. Please add the 2009 Strategic Projects on pages 31 and 37.

- In the Transportation Safety Appendix, we suggest using the term "people [or persons] with disabilities" for describing members of the public for whom the Americans with Disabilities Act applies.

- The Sustainable Communities Strategies (SCS) Background Technical Appendix should include the methodology for calculating GHG emission reductions associated with the RTP/SCS alternatives, including assumptions and discussion of off-modeling analysis.

- The SCS Background Technical Appendix should provide some discussion of the relative benefit of various transportation and land-use strategies toward reducing regional greenhouse gas emissions. For example, how much of the reduction is attributable to the VMT fee, TDM measures, TSM measures, etc. Moving forward, this information would be useful for cities and other agencies seeking to reduce GHGs in local Climate Action Plans and transportation planning efforts.

- In the Aviation and Ground Access Technical Appendix: on page 126, on Table 4-8, under the Exposition Light Rail Phase II, the description currently reads that it will "connect" to the Exposition Light Rail Phase I, and it should be corrected to say that it will "extend the Exposition Light Rail Phase I"; and, the same Table 4-8 should include the Slauson Light Rail: Crenshaw Corridor to Metro Blue Line Slauson Station (RTP # 1120003) because it provides additional access to LAX.

- On page 7 of the Executive Summary, and on pages 95 and 100 of the Draft 2012 RTP/SCS, we request that SCAG replace the word "tunnel" and replace it with "transportation improvement options".

- In the Project List Appendix please make the following changes:

    - On page 27, delete the description for the 13th entry and replace it with, "Route 710: Study to evaluate transportation improvement options and prepare alternatives analyses, engineering and environmental studies" (EA #187901 and PPNO# 2215).

- On page 162, delete the description for the fifth entry and replace it with, "Route 710: Study to evaluate transportation improvement options and prepare alternatives analyses, engineering and environmental studies" (EA #187901 and PPNO# 2215).

- On page 163, in the first entry, delete the description and replace it with, "Develop transportation improvement options".

- On page 430, the fifth entry, delete the alternatives to the SR-710 tunnel option and replace it with, "SR-710 transportation improvement options".

- On page 432, the sixth entry, delete the description and replace it with, "SR-710 transportation improvement options".

- In the Highways and Arterial Appendix, on page 3, the first entry under Toll Lanes heading, delete the description and replace it with "Develop transportation improvement options".

- Regarding the Passenger Rail Appendix:

  - On Page 1, reference is made to Amtrak service. It should be stated that all Amtrak service other than the Pacific Surfliner are intercity and long distance routes that connect Los Angeles County and adjoining counties with destinations throughout California and the United States. Also, the Antelope Valley Line is part of the LOSSAN Corridor between Burbank Junction and Los Angeles Union Station.

  - The Passenger Rail document should eliminate reference to Maglev and the SCAG HSRT as this creates confusion and appears to indicate that the technology and the proposed corridor are still under consideration. As written, it appears as if the Maglev technology and the California High Speed Rail program are in competition with each other. It is unclear why this is heavily covered in this document when the conclusion is that the project is no longer planned.

  - The vision for rail service in the Southern California region should provide a stronger emphasis on intermodal linkages at the three regional airports that will be physically or temporally linked to the California High Speed Rail. These airports include Palmdale, Bob Hope and Ontario. Each of these airports already has passenger rail accessibility, but this will be strengthened as a result of current planning and system development efforts.

  - The document should amplify on the role of regional rail integration and service/operating improvements in meeting regional greenhouse gas reduction and vehicle miles traveled/vehicle trip reduction goals. Further, the document should identify the passenger rail station areas

as candidate locations for land use intensification that address the regional jobs/housing imbalances.

- The discussion of the statewide HST system and what it means for southern California is fragmented. There should be a clearer definition of the technology, routes, and what it means for regional connectivity.

- The document should make clearer the desired effect of the Early Infrastructure Investment initiative both to develop the way for High Speed Rail and to incrementally upgrade existing infrastructure to support higher speed, more efficient and safer passenger rail service linking the region to the High Speed Rail system. This could include reference to the use of shared corridors and shared corridor/shared track scenarios that will help improve existing passenger service and enhance service integration across the region.

- The discussion of the Pacific Surfliner should refer to the recent efforts to develop the business plan for the corridor and the addressing of short term improvements. Also, the discussion should include the efforts to create synergy in the corridor and the efforts to move towards local governance. The discussion should include the advantages of this.

- The discussion of Metrolink should include capital studies in Los Angeles County that are underway. Specifically it should include:

    - Antelope Valley Line Study - this is a comprehensive study of the Antelope Valley Line (AVL) for capital improvements and enhancements to the overall safety. The study will address capacity and travel time issues as well as grade crossing upgrades and grade separations. The proposed improvements will be modeled and from that a prioritization and funding strategy will be developed for implementation of the improvements.

    - CP Raymer to CP Bernson Double Track - this is Preliminary Engineering and Environmental work (PE/NEPA) to double track this segment of the Ventura Line. This project will complete the double tracking of the LOSSAN Corridor from Chatsworth to Orange County. Metro received an ARRA grant for this work and is partnering with Metrolink to complete it. Metro is pursuing funding for construction.

    - Van Nuys Station - The Van Nuys station on the LOSSAN Corridor is used by Amtrak and Metrolink. This is a single platform station that is an operational bottleneck in the system.

Metro received an ARRA grant to perform PE/NEPA work for a second platform at this station.

- Strategic Studies - Metro is moving forward with strategic studies of the other Metrolink lines in Los Angeles County. Metro will be working with the other member agencies on shared lines to develop overall strategic priorities.

- On Page 15, regarding the discussion of decision points after construction of the Initial Construction Segment (ICS); there will not be a decision to continue the project. That will be an ongoing discussion prior to that. Prior to the completion of that segment there will be discussion regarding proceeding north or south. The document should not discuss decision points for the system. This will be an ongoing process for the CHSRA and will be based on business models and funding opportunities. Also, on this page the various stages should use the term "extend" rather than "build".

- Note that the CHSRA has decided to move forward with a Palmdale station and not move forward with the I-5/Grapevine alternative. This should be mentioned and the discussion should include what this means for the Palmdale area.

- Page 17 refers to the "Authority's draft 2011 Business Plan". This may be the California High Speed Rail Authority but it is noted within the Metrolink discussion and can confuse the reader. We suggest stating the specific Authority involved.

Los Angeles
World Airports

January 20, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

LAX

LA/Ontario

Van Nuys

City of Los Angeles

Antonio R. Villaraigosa
Mayor

Board of Airport Commissioners

Michael A. Lawson
President

Valeria C. Velasco
Vice President

Joseph A. Aredas
Robert D. Beyer
Boyd Hight
Ann M. Hollister
Fernando M. Torres-Gil

Gina Marie Lindsey
Executive Director

Re: Comments on the Draft 2012 Regional Transportation Plan

Dear Mr. Ikhrata:

Los Angeles World Airports (LAWA) appreciates the opportunity to comment on the Draft 2012 Regional Transportation Plan (RTP), and is committed to working with all levels of government to address the future transportation needs of Southern California. As the operator of two of the region's commercial airports, Los Angeles International (LAX) and Ontario International (ONT), and operator of Van Nuys General Aviation Airport (VNY), LAWA plays an important role in meeting the region's demands for air travel and goods movement.

LAWA, as a proprietary department of the City of Los Angeles, is responsible for operating its airports in a safe, efficient, and fiscally responsible manner on behalf of our passengers and the citizens of each market service area. Furthermore, we must operate within the constraints placed upon our resources by federal law and regulation, along with our contractual obligations to our tenants and partner agencies. It is in this context that LAWA provides the following comments to the Aviation and Airport Ground Access portion of the RTP:

1. Use of Airport Funds

LAWA's first priority is to maintain safe and efficient airports. Our revenues and expenditures are used to support that effort and fulfill our commitment to supporting the national airspace system. All airports have a tremendous demand for capital improvements.

As such, most airports depend on financial support from the FAA via grant funds for eligible construction and noise mitigation projects. In return for federal grant monies, the FAA includes grant assurances that limit use of airport revenue solely for aviation-related uses on airport property. Using airport funds for non-airport functions violates federal law and jeopardizes the airport's ability to receive federal grants.

1 World Way Los Angeles California 90045-5803 Mail P.O. Box 92216 Los Angeles California 90009-2216 Telephone 310 646 5252 Internet www.lawa.com

Nevertheless, LAWA seeks to partner with SCAG to find solutions to support ground access improvements to airports, other primary transportation facilities, and "secondary" airports in the region.

2. Use of Airport Express Buses

The RTP includes an "Action Step" which would plan and promote a regional system of airport express buses, modeled in part on the FlyAway® service currently operating at LAX. LAWA agrees that express buses are a promising solution to certain ground access problems. However, it has been LAWA's experience that express buses are most effective at airports with high passenger demand and in cities with concentrated populations of passengers and employees. Even then, high fares or significant subsidies have been required to maintain an effective level of service.

LAWA has spent a great deal of resources carefully studying the feasibility of establishing new FlyAway® routes to serve LAX. However, even for LAX, with its extensive market area and passenger base, it has been a challenge to find station locations that are both viable and successful. LAWA invites SCAG to continue examining ways to bring similar projects to other airports, but cautions that these services, by themselves, may not be effective in increasing passenger demand at "secondary" airports.

3. Aviation Activity Constraints

LAWA agrees that the aviation activity constraints in the region, and potential dispersion of that activity at other airports, should be re-examined in subsequent regional plans.

4. Additional Technical Clarifications

LAWA also wants to offer the following technical clarifications and comments to the RTP:

- SCAG has reported a number of vehicle trips to LAX under existing conditions as well as under a future forecast for 2035, citing the LAX Master Plan EIR/EIS as a justification for those trip numbers. However, the numbers reported do not correspond to data that LAWA has previously reported or used in any environmental analysis. LAWA requests clarification of those data points.

- LAWA recommends the following changes to Tables 4-6 and 4-7 in the Aviation and Airport Ground Access sections of the RTP:

    - In Table 4-6, the following projects should be included in the list of projects completed since the project notice of preparation in 2008 (footnote 1): Douglas St., La Cienega Blvd., Lincoln Blvd. (all), Nash St.,

Sepulveda Blvd. (both), the I-105 westbound off-ramp at Sepulveda Blvd., and the I-405 at SR-90.

- Two other projects on Table 4-6, Arbor Vitae St., and the I-405 from I-10 to SR-101, are under construction as of January 2012.

- In Table 4-7, Project LAX-19, which includes Lincoln Blvd. improvements, has already been completed.

- LAWA recommends that SCAG include in the RTP a portion of the project referred to as LAX-10, widening Aviation Blvd. from Century Blvd. to Manhattan Beach Blvd. to 3 lanes in each direction.

5. 2011 Air Passenger Survey

Lastly, the 2006 LAX Air Passenger Survey was used to create several data points within this section of the RTP. LAWA is hoping to unveil the results of its 2011 Air Passenger Survey in February of this year. SCAG should consider updating its Appendix with this new data as it finalizes the RTP. LAWA will post the results of this survey on our website (http://www.lawa.org) once the report is completed.

Thank you for the opportunity to review the 2012 Draft RTP. We hope that these comments will be helpful in developing a successful plan for the region. If you have any questions regarding these comments, please contact Diego Alvarez, Regional Transportation Coordinator, at 424-646-5179 or dalvarez@lawa.org.

Sincerely,

Michael D. Feldman
Deputy Executive Director

MDF:DA:yl

MARCH JOINT POWERS AUTHORITY

February 14, 2012

Margaret Lin
SCAG
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

SUBJECT: COMMENTS ON THE DRAFT RTP/SCS

Dear Ms. Lin:

The March Joint Powers Authority (JPA) is pleased to submit comments on the 2012-2035 Draft RTP/SCS. We recognize that SCAG has put a significant amount of time and energy into the creation of this document. March JPA has the following comments after reviewing the Draft document:

1) Chapter 4 – Sustainable Communities Strategy: Exhibit 4.18, Land Use Pattern Riverside County (2035) identifies a "High Quality Transit Opportunity Area" located along Alessandro Boulevard in proximity to Interstate 215, within the City of Riverside, City of Moreno Valley, unincorporated Riverside County and March Joint Powers Authority. The concentration of high density residential and/or high intensity commercial uses along portions of the Alessandro corridor would conflict with the airport Accident Potential Zones as defined in the 2005 March Air Reserve Base Air Installation Compatibility Use Zone (AICUZ) study, and further conflict with the recommended airport compatibility provisions identified in the draft Joint Land Use Study currently undergoing environmental review by the Riverside County Airport Land Use Commission. While transit is encouraged by these plans, the proposed increase in densities/intensities in this area of high noise and airport safety concerns necessitates detailed analysis, best performed by the Riverside County Airport Land Use Commission and March Air Reserve Base.

Again, we thank you for the opportunity to provide comments. Should you have any questions please contact me at (951) 656-7000.

Sincerely,

Dan Fairbanks, AICP
Planning Director

23555 MEYER DR. ★ RIVERSIDE, CALIFORNIA 92518 ★ (951)656-7000 ★ FAX(951)653-5558
E-MAIL: invest@marchjpa.com ★ WEBSITE: www.marchjpa.com

cc: Ed Cooper, Executive Director, Riverside County Airport Land Use Commission
Pamela Hann, March Air Reserve Base Civil Engineer
Steve Hayes, Interim Planning Director, City of Riverside
John Terrell, Planning Official, City of Moreno Valley

attach: 2005 March Air Reserve Base Air Installation Compatibility Use Zone Study
2010 draft March Air Reserve Base/Inland Port Joint Land Use Study

Mobility 21
THE SOUTHERN CALIFORNIA TRANSPORTATION COALITION
One Region. One Voice. One Future.

February 13, 2012

The Honorable Pam O'Connor
President
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

Subject: SCAG 2012 Regional Transportation Plan

Dear President O'Connor:

Mobility 21, Southern California's transportation advocacy coalition, respectfully submits these comments as part of the ongoing efforts of Southern California Association of Governments (SCAG) to produce a comprehensive 2012 Regional Transportation Plan (RTP). Mobility 21, being comprised of both business and government entities is uniquely positioned to provide insight into the RTP process. We recognize SCAG staff's diligence in crafting an RTP that will meet the requirements of the federal process and of the newly-required SB375 legislation. Mobility 21 also appreciates the open process and intensive outreach SCAG has undertaken during the development of the 2012 RTP. Nevertheless, we share these ideas regarding the RTP as currently laid out and thoughts on reforming the RTP process for future success.

First and foremost, our goal is to assist SCAG with ensuring the final adopted RTP is both comprehensive and defensible, provides flexibility to the county transportation agencies responsible for delivering projects under the program, and supports a strong private sector economic engine. We have five recommendations to provide to SCAG at this time:

Protect Locally-Approved Sales Tax Measures
The program of projects submitted to SCAG by the county transportation commissions consist in part of projects promised to voters as part of locally-approved sales tax measures. Mobility 21 reminds SCAG that these projects individually and together constitute a contract with the taxpayers that must be respected and implemented as voters approved. Local taxpayers have prioritized the distribution of funds in their respective sales tax measures to a complete, multi-modal program of projects to meet local needs. Changes cannot and should not be made without taxpayer approval. The RTP should strengthen and enhance the ability of the counties to deliver these projects, while at the same time supporting their efforts to deliver non-sales tax projects that will provide greater mobility, congestion relief, and air quality benefits. The RTP needs to bolster the efforts of local transportation agencies, and the business community that supports them, to protect this essential covenant with voters and taxpayers. Failure to do so will make approval of future funding measures nearly impossible.

COALITION PARTNERS

Automobile Club of Southern California

Chambers of Commerce Alliance of Ventura & Santa Barbara Counties

Greater Riverside Chambers of Commerce

Inland Empire Economic Partnership

Los Angeles Area Chamber of Commerce

Los Angeles County Metropolitan Transportation Authority

Orange County Business Council

Orange County Transportation Authority

Riverside County Transportation Commission

San Bernardino Associated Governments

Southern California Association of Governments

Ventura County Transportation Commission

Thorough Economic Analysis
As yet, the impact of the elimination of redevelopment agencies is unknown in terms of the delivery of transportation projects. Some business groups have also expressed concern over the feasibility of several of the proposed financial options and mitigations included in the RTP. Mobility 21 strongly urges SCAG to incorporate a thorough economic analysis into the development and approval of the RTP so that all elements of the final approved plan support the economic growth of this region.

Locally Sensitive Context
This RTP is the first of its kind. SCAG has done a yeoman's job of working to produce Sustainable Community Strategies, housing analysis and transportation projections in the RTP. However, Mobility 21 remains concerned that intensifying development in the urban core may impact future housing availability, choices and affordability. Recommendations regarding land-use should take into account the region's disparate communities, geographies, market forces, and take a flexible approach to protect the diversity of the region.

Protect Region's Economic Competitiveness
A large share of our regional economy is dependent upon the flow of goods from our ports, through the counties and to the rest of our nation. Infrastructure improvements related to goods movement are vital for Southern California to remain economically competitive. As other options become available both nationally and globally for cargo movement, Mobility 21 is concerned that components of the RTP could put the region at a disadvantage, such as implementing new technologies before they are feasible or imposing fees on businesses operating in the SCAG region. New revenue sources should be developed and implemented at the federal level, not the local and regional level.

Reform the Process
Mobility 21 recognizes that federal and state transportation planning processes are imperfect and that SCAG must work within the proscriptive requirements of existing laws and regulations. We therefore propose to identify systemic weaknesses in the process and work to reform the flaws in the RTP process that consume substantial resources, but add little or no value. Our intent is to help reduce the time and cost expended on the process and to remove regulatory hurdles that inhibit the development and delivery of effective, efficient, and timely transportation projects and services. Specifically, Mobility 21 encourages changes in state legislation that would enable MPO's to use low and no-cost alternatives to reach out to the public in lieu of resource-heavy public meetings. Additionally, since 83% of the funding for projects in the RTP comes from non-federal sources, Mobility 21 believes that empowering the federal government to veto a locally-approved financially constrained RTP unnecessarily jeopardizes federal funding needed to complete projects. Mobility 21 therefore will seek modifications to federal legislation that would enable MPO's with over 75% local funding to self-certify that an RTP is financially constrained.

Again, Mobility 21 applauds SCAG for the open and transparent process used to develop the 2012 RTP. We look forward to working with SCAG staff in the final stages of RTP implementation to ensure the strongest possible document is delivered to the Regional Council in April. If you have any questions or would like to follow up on any of our comments, please contact me at mprimmer@mobility 21.com or 949-288-6884.

Sincerely,



Marnie O'Brien Primmer
Mobility 21 Executive Director

CC: SCAG Regional Council
Mobility 21 Board of Directors

Bonnie Holmes-Gen
American Lung Association of California

Neil Richman
BREATHE California of Los Angeles County

James Provenzano
Clean Air Now

Jonathan Parfrey
Climate Resolve

Luis Cabrales
Coalition for Clean Air

Lars Clutterham
downeygreen

Jocelyn Vivar Ramirez
East Yard Communities for Environmental Justice

Jane Block
Endangered Habitats League

Cesar Covarrubias
Kennedy Commission

Victor Griego
Latino Business Association Member

Alexis Lantz
Los Angeles County Bicycle Coalition

Denny Zane
Move LA

Patty Ochoa
Physicians for Social Responsibility

Jessica Meaney
Safe Routes to School National Partnership

Darrell Clarke
Sierra Club

Paul Zimmerman
Southern California Assn. of Non-Profit Housing

Rev. Earl W. Koteen
Unitarian Universalist Legislative Ministry California

John Longville
Former Mayor of Rialto & former SCAG President

February 14, 2012

Pam O'Connor, President
Regional Council
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

Dear President O'Connor,

We congratulate the leadership and staff of the Southern California Association of Governments and its Regional Council members on the agency's first-ever Sustainable Communities Strategy and Regional Transportation Plan that meets the 2020 and exceeds the 2035 greenhouse gas reduction targets, achieves Clean Air Act conformity, and reduces vehicle miles traveled and traffic congestion—despite projected population growth of about four million residents by 2035.

We applaud SCAG staff for their leadership and for their collaboration with local governments, county transportation commissions and a wide range of non-governmental organizations. This effort was particularly challenging given it is the first time anyone in the region has put together an SCS. In the spirit of creating a stronger RTP/SCS this year and in future years we offer these recommendations.

Key changes to strengthen the RTP/SCS

Although the draft RTP/SCS meets the SB375 targets, changes in four key areas would make the plan even stronger in terms of moving the region closer to sustainability.

1. Ensure adequate, achievable funding to carry out the RTP/SCS
2. Expand funding for transit, Metrolink, bus rapid transit, bicycling, pedestrian travel.
3. Make a tighter link between transit and land use throughout the region.
4. Take greater measures to reduce GHG and other emissions from freight.
5. Improve public health monitoring and benefits, especially in environmental justice communities.

1. Ensure adequate funding to carry out the RTP/SCS.

We applaud SCAG's goal of bringing all roads to a "state of good repair," and understand the policy decision to look for new revenue sources rather than to eliminate transportation projects in order to address the RTP's projected $200 billion shortfall. We understand that it may be more politically palatable for the Regional Council at this time to project reliance upon expanded federal sources, such as indexed gas tax or a transition to an equivalent VMT fee, but that does not make it more achievable.

a. Emphasis should be on more achievable revenue sources such as local voter approved fees or taxes rather than more speculative federal sources

The recent history of voter response to county-based transportation funding measures in the SCAG region suggests a more promising local direction. The experience with Measure R in LA County and the recent extension of sales tax measures in other SCAG counties demonstrates to us that regional voters are not as tax-averse as some believe, especially when voting on measures to fund well defined local transportation investment, if they have confidence in the agencies and are clear about investment priorities. Voters in Los Angeles County approved sales tax measures by 54% in 1980, 50.4% in 1990, and 67.8% in 2008. This suggests an increased willingness, not reluctance, to support transportation investments by LA County voters. In San Bernardino, Riverside and Orange sales tax extensions were easily approved: Riverside voters approved Measure A in 2002 with 69% of the vote; San Bernardino County approved Measure I in 2004 with 80% of the vote; and Orange County approved a sales tax extension in 2006 with almost 70% of the vote. In each case the original sales taxes had been originally approved with narrow majorities.

The point is that, with the exception of Ventura County, voters throughout the SCAG region have consistently voted to approve new or extended sales tax measures for transportation improvements by substantial and increasing majorities in excess of 2/3. If a county or the region needs more funds for transportation investments, local voters seem a more promising opportunity of first resort than a contentious State Legislature or the Congress.

We urge SCAG to work to challenge its member transportation commissions to go to voters in the near future for local and regional funding solutions instead of "punting" this problem of a regional funding shortfall to the federal government. In other words, let's make the funding of regional planning more achievable, and thus more real.

b. Recommendation: Develop regional revenue sources to fund regional projects.

There are a number of transportation systems that are vital to the welfare of the Southern California region as a whole, rather than specific counties. This includes the 450-plus-mile regional commuter rail system operated by Metrolink and the regional goods movement system. Region-wide investments in each of these systems could yield enormous economic, environmental, and equity benefits. We urge SCAG and its Regional Council to consider taking a truly regional approach to an investment strategy for each of these regional systems by including in the RTP projected additional revenue from a region wide revenue source.

We recommend a broad-based uniform regional tax or fee increase, such as a 1/8 – 1/4 cent increase in sales tax or equivalent parcel tax, that can raise between $15- $30 billion over the 25 year life of the plan to invest specifically in regional transportation needs such as meeting the needs of our goods movement infrastructure, modernizing and electrifying the regional commuter rail system, providing expanded BRT and bus service as well as first-mile-last-mile bike-pedestrian infrastructure that would connect to that regional commuter system.

We would pledge to work with you to build support for such a funding measure.

c. Recommendation: Develop strategies to provide adequate funding to modernize freight transportation projects.

The goods movement industry is a vital component to the Southern California economy but is also a major reason for our poor air quality and various health impacts affecting the region. Developing and investing in both the zero and near-zero emission goods movement technology and the operational efficacy of the goods movement infrastructure would significantly benefit the region and the many communities of concern that are directly affected by emissions and congestion from transportation and rail activity. Estimates of the regional investment needed could be up to $25 billion over the life of the plan.

Ensuring that funding mechanisms are in place to expedite the implementation of the zero and near-zero emission freight and truck strategies as well as the infrastructure needed for operational efficacy should be a central component of the regional strategy.

For these reasons, we recommend that SCAG include the following strategies:

- Develop a clear assessment of funding options available, including various models of public-private partnerships that could make zero-emission and near-zero emission freight technology options possible and ensure an efficient goods movement system in the region.
- Recommend pursuing legislation seeking a $30 per twenty-foot container fee for moving either into or out of the ports. This strategy could generate as much as $441 million in revenue from loaded containers in its first full year of implementation, when applied equally to imports and exports and more in subsequent years as cargo activity grows at our ports. Such a program could generate over $10 billion over the life of the plan.[1] Previous legislative efforts have created a broad coalition to support this measure. Such legislation has been approved twice by both houses of the state legislature only to be vetoed by the previous governor.
- As previously stated, we recommend a broad-based uniform regional tax or fee increase, such as a 1/8 – 1/4 cent increase in sales tax or equivalent parcel tax that could raise between $15-$30 billion over the 25 year life of the plan to invest specifically in regional transportation needs such as goods movement infrastructure needs, as well as modernizing and electrifying the regional commuter rail system and related infrastructure.
- Prioritize spending on projects that deliver maximum health benefits for residents of the region.
- Include public health as an overarching priority and goal in the $2.1 billion annual freight program included in the Environment and Public Works Committee.

d. Support national efforts to create a strategic plan for the freight system.

- Encourage SCAG to include language that clarifies the current federal funding restraints and alter the RTP to reflect that these revenues are assumed but not assured and are contingent upon passage of the MAP-21 program on page 95 and 100. As a revenue source the inclusion of this funding is still in doubt as the current iteration of the House American Energy and Infrastructure Jobs Act does not include a national freight program or any dedicated freight funding. The establishment of this program is contingent upon a freight program making its way into the final federal transportation reauthorization and that legislation passing through both Chambers.

[1] Haveman, Jon, and Thornber, Christopher, Container Fees and Commercial Benefits of Improved Waterborne Goods Movement Infrastructure in California. Beacon Economics, August 2007.
http://www.coalitionforcleanair.org/images/stories/Haveman_Report_Final_Aug2007.pdf

- Actively support the passage of a federal freight program that would deliver these revenues and clearly establish improving public health on the freight network and adjacent communities as an overarching priority and goal of the federal freight program.
- Support the inclusion of Senator Lautenberg's Freight Act of 2011 in the final federal transportation reauthorization with the competitive grant program and the goals and objectives as written.

e. Champion increased Compass Blueprint funding to help local governments update their general plans to implement the SCS.

While the RTP/SCS shows a significant shift in household growth toward HQTAs, this will in most cases require changes in General Plans and community plans — and ensuring that this will happen is likely to require incentives and other resources. SCAG's Compass Blueprint program was successful in helping many communities move in the direction of smart growth and urban infill years before SB 375. With additional funding, the Compass Blueprint Demonstration Project Program could fund the SCS implementation and ensure that growth happens in an equitable way with minimal displacement, in addition to updating plans. SCAG should also work with the other MPOs to advocate for a statewide "infill first" package of incentives to promote development near transit. SCAG should also consider working with the CTCs to find sources of funding for land use planning in HQTAs.

2. Expand proposed funding for transit, Metrolink, bus rapid transit, bicycling, and pedestrian travel into the RTP constrained plan.

We need increased investment for bus and rail transit, bicycle and pedestrian systems. This is especially true in the Inland Empire where over-dependence on a spreading highway infrastructure and dispersed land use pattern has made residents in these counties very vulnerable to just the kind of economic calamity witnessed in the 2008 – 2012 Great Recession.

In addition, residents of agricultural areas, especially in the eastern Coachella Valley, the North Shore of the Salton Sea and similar communities, remain disproportionately underserved by transit, which makes it very difficult for residents without a car to access health care, groceries, or good jobs. Improvements to bus headways, especially in these areas, could create new HQTAs.

Building transit infrastructure is one of the best ways to create good, "green" jobs that enhance the health and wealth of the region and its residents. Construction work can provide a career path to middle-income jobs through apprenticeship programs that provide young workers with formal training. Agencies that adopt project labor agreements and requirements ensuring that jobs will go to local workers — and/or those who live in areas with high unemployment — help make the local economy more robust because workers' earnings will be spent at local businesses, creating additional jobs and local tax revenues.

a. Move enhanced Metrolink investments into the Constrained Plan.

The Metrolink commuter rail system is a regional gem that could become a major source of VMT reduction, congestion relief and economic development. It links many communities in every county in the region.

We recommend moving into the Final Plan (the Constrained Plan) the upgrading of the Metrolink commuter rail system region-wide to make a planned transition to an all-electric system capable of providing zero-emission high-speed service (up to 110 mph) and enabling expanded express service in select corridors with double tracking, grade separations and other modifications needed. Such an upgrade may cost the region as much as $8 to $10 billion, but would be well worth the investment in terms of congestion relief, emission reductions and economic opportunity created. This RTP Constrained Plan enhancement could be funded by new resources, such as the regional sales tax proposed above.

Specifically, we want to highlight opportunities for enhanced investments on several key lines that we believe will create exceptional regional connectivity.

- **The Antelope Valley Line**, which is the focus of current planning efforts to dramatically reduce the time it takes to travel over 76 miles from Lancaster to Union Station by more than fifty percent - from nearly two-hours to about one-hour.
- **The San Bernardino Line**'s success with limited express service from downtown San Bernardino to Union Station indicate express service on a regular basis is possible, especially if a direct link into Ontario Airport is created.
- **The Ventura County Line** and **the Orange County Line** present the possibility of a continuous, high speed, electric express system from Ventura to Union Station to Orange County to San Diego.
- **LA Union Station Run-Through Tracks** project would significantly enhance regional trip potential of all Metrolink corridors serving Union Station by improving efficiency and throughput capacity.
- We recommend additional corridor infrastructure enhancements and improvements in Appendix A.

Each of these Metrolink corridors and projects, if funded and enhanced, will create opportunities for new BRT and enhanced bus service, as well as smart growth infill with first-mile-last-mile bicycle and pedestrian infrastructure in multiple communities and will create enhanced access to the jobs corridors throughout the region.

b. Expand Bus Rapid Transit and provide more frequent bus service on high-performing routes linked to Metrolink to give more people alternatives to driving alone.

Well over 80 percent of transit ridership in the region now uses bus service. While our rail transit system is expanding dramatically, we should expect that heavy reliance on bus service is likely to continue as far out as 2035.

However, while there is a lot of growth projected for the Inland Empire, much of it will not be near existing or planned bus or rail service. For example, in Riverside County, about 40% of residents live near bus lines with some service (15-30 minute headways) but presently only 10 percent of the population is served by high-quality transit (with 15-minute headways). By expanding the Bus Rapid Transit (BRT) system in the Inland Empire, especially where proposed lines would connect with the potentially enhanced Metrolink lines and by bringing up service on select higher

performing lines to 15- minute headways we could increase high-quality transit at a much lower cost.

Our recommendations in Appendix A are limited to improvements to investment in Bus Rapid Transit infrastructure (BRT) and enhanced bus service with connections to the Metrolink Regional Rail network or regional airports. Each of these Metrolink corridors and projects, if enhanced, will create opportunities for new smart growth infill and TOD investment in multiple communities. These corridors could be served as well as by first-mile-last-mile bicycle and pedestrian infrastructure opportunities, and will help create enhanced access to jobs throughout the region.

See Appendix A below.

c. Increase funding for active transportation to at least $12 billion for bicycling and pedestrian improvements.

SCAG has received an outpouring of support for increased investment in bicycle and pedestrian infrastructure and projects at workshops and hearings across the region, as well from members of SCAG's Regional Council. As was often repeated at the hearings, according to the 2009 National Household Travel Survey of California, 14 percent of all trips in the region are pedestrian while 6 percent are on bikes, and 25 percent of all roadway injuries and fatalities affect pedestrians and bicyclists, yet only 1 percent of the regional investment is identified as going to non-motorized modes. A poll of Southern California voters sponsored by Move LA, NRDC and the American Lung Association late last year found that voters would make bicycle and pedestrian investments a much higher priority.

While we applaud the SCAG staff for recommending that funding for active transportation be increased from $1.8 billion to $6 billion, we believe funding should be at least $12 billion. We believe investments should prioritize first-mile/last-mile connections to transit stations, which will help support the increased investment in the transit system. Investments should also be prioritized for areas of disproportionate high injury and fatality rates and in areas with lower car ownership rates.

Safe Routes to School strategies and investments to improve the safety of students as they walk and bike to school should also be promoted because statewide cuts in school transportation budgets make getting to and from school more difficult for K-12 kids — especially in rural areas where there are no sidewalks or safe bike routes.

We recommend SCAG work with the CTCs to identify funding sources that are flexible and that could be used to prioritize accelerated transit, bike, pedestrian and other traffic-reducing projects. It is our judgment that one appropriate source of funding for this program could be the regional sales (or parcel) tax we have suggested earlier.

d. Encourage CTCs and local jurisdictions to adopt "complete streets" policies.

We believe that SCAG should encourage CTCs and local jurisdictions each to adopt a complete streets policy so that bike and pedestrian improvements can be made routinely and more economically when streets are improved or built. For example, counties in the SCAG region, especially outside of LA County, often include funding for arterial capacity enhancements for streets which largely run between and through community centers. These stretches of boulevards

seem very good opportunities for implementation of "Complete Streets" programs. We recommend that SCAG identify such opportunities and call them out for special programming efforts.

e. Work with CTCs to develop a methodology for quantifying the unmet need for bicycle and pedestrian investments to improve safety and increase active transportation.

SCAG should work with the CTCs to develop a methodology for quantifying the unmet needs, particularly safety needs, for cyclists and walkers. Because concerns about safety may discourage people from walking and biking entirely, surveys may be required, especially in rural areas, to accurately assess the needs of residents. We recommend that SCAG work with the CTCs to develop active transportation budgets and to identify existing and potential local and regional funding sources. One idea, for example, would be to create guidance that would be used to allocate funding in each CTC's Call for Projects.

f. Work with CTCs to ensure full participation of all counties in the funding and implementation of regionally significant transit and goods movements systems that achieve regional objectives like cleaner air, reduced greenhouse gases, expanded access to high quality transit, and mode shift away from driving alone.

SCAG should encourage county transportation commissions to place a higher priority on investment in transit services and active transportation projects and seek to ensure a fair share investment in these projects among counties either by identifying new revenues locally, shifting funds out of other programmed projects, or participating in the creation of regional revenue sources, and encouraging infill development strategies that keep our momentum toward a higher regional sustainability strong.

3. Create a tighter link between transit and land use throughout the region.

The draft SCS takes into account changes underway in the regional real estate market including the shift in new housing development away from the construction of single family homes on large lots and toward the development of multifamily housing -- apartments, townhomes and condominiums -- in more urban environments with easier access to jobs, service and transit systems. The fact that half of all new homes and new jobs will be located near transit under the plan will be a boon to the region's efficiency, economy and sustainability.

The demographic and real estate trends, more transit opportunities and healthier, active lifestyles, portend a new, and better, version of the American Dream in Southern California. By focusing development in transit areas and downtowns, the draft SCS plan would consume 408 square miles less "greenfield" land than in the 2035 Baseline, which assumes current land use trends.

a. SCAG should identify to local jurisdictions adjustments in land use policy that would ensure each county is contributing its fair share to meeting regional goals of cleaner air, reduced greenhouse gas emissions, expanded access to high quality transit, and mode shift away from driving alone.

Although the region as a whole will achieve reductions in vehicle miles traveled sufficient to meet the targets for reducing greenhouse gas emissions, the reductions are not evenly distributed across the region. These outcomes are the result of both past decisions and future actions

reflected in this draft SCS and RTP. The maps in the RTP/SCS suggest that in some areas, especially Riverside County, significant growth is projected in areas with little or no transit investment.

b. Limit High Quality Transit Areas, especially along freeways in low-density areas, to within a 1/2 mile of the stop with frequent services, as opposed to including the entire corridor.

It is unclear how SCAG defines high-quality transit areas. Under SB 375, a HQTA is a place that has bus service with headways of 15 minutes or less during commute hours. Several freeway corridors are designated as HQTAs presumably because they have express bus service. But, there is not currently frequent bus service along the I-10 east of I-215, I-15 north of I-10, I-15 south of the 61, and the 33 (Ventura County) which are all designated as HQTAs. Only the area within ½ mile of the stop should be regarded as an HQTA.

c. Include a snapshot of the current jobs-housing fit and develop a methodology for projecting the jobs-housing fit as a result of transportation investments and land use changes for the 2016 RTP/SCS.

The current mismatch between the location of jobs and housing is at the root of our transportation problems. SCAG should set a baseline for a jobs-housing fit by taking a "snap shot" of 4-to-5-mile buffer zones around major job centers, and then comparing the wages provided by those jobs to cost of housing within the buffer zone to see if there is a good fit. UC-Davis and the Sacramento Council of Governments have developed a relatively simple methodology to do a jobs-housing fit, and are now developing a tool to project the jobs-housing fit into the future. Continuing to monitor the jobs/housing fit over successive RTP/SCSs will be an important tool for transportation planning in rural, urban and suburban areas.

d. Strengthen Conservation Planning Policy

We commend SCAG for including an advanced mitigation strategy for land conservation. This strategy is an important step forward. We recommend the following changes to strengthen the Conservation Planning Policy section:

- change "critical habitat" to important natural lands because of its limitation to the federal designation and its relationship to endangered and threatened species;
- create an inclusive process for agencies, conservancies, and non-profits to help map and prioritize priority conservation lands;
- include all unprotected undeveloped lands in the inventory of potential mitigation location sites instead of limiting opportunities to just Natural Communities Conservation Plan and Habitat Conservation Plan areas;
- expand the conservation activities to include existing and/or future programs instead of simply already-established programs; and
- Advocate for the advanced mitigation policy to result in the environment ending up better than it started as opposed to no gain (a net environmental benefit) from the standpoint of natural resource lands after construction activities.

4. Take greater measures to reduce greenhouse gases and other emissions from freight.
We are deeply concerned that the projected increase in freight volumes and traffic will undermine the gains of the RTP in other areas. In particular, CO2 emissions from trucks would increase at least 30% by 2023 and at least 60% by 2035. Even more dramatically, CO2 emissions from rail would increase at least 50% by 2023 and at least 123% by 2035. To mitigate goods movement related emissions, we recommend that SCAG take the necessary steps to:

a. Ensure the ports augment the Clean Air Action Plan by creating GHG reduction plans.

b. *Devise a set of strategies that account for the differences among local freight service and that of port origin/destination.* Similarly, the sector of medium duty trucks may be targeted for technology improvements, given that it is the sector's 2nd largest emitter of NOx.

c. *SCAG should identify and promote a sequence of projects* that maximizes on-dock rail and that reduces constraints on the expansion of on-dock capacity in advance of projects that expand off-dock capacity. Without appropriate sequencing, efficiencies could be lost.

d. *Clean up existing freight corridors, not just the proposed new projects*.
While we welcome zero emission technology by the year 2035, more short term gains should be implemented. SCAG should further analyze what can be done until a majority of truck traffic is zero or near zero emissions and consider using currently available technology while working to demonstrate future technology applications (such as maglev technology).

5. Improve public health monitoring and benefits, especially in environmental justice communities.
We applaud SCAG for adopting a number of performance "outcomes" — in particular, those measuring public health and affordability — that will be monitored during RTP/SCS plan implementation. We believe that these additional performance metrics should be reported to the Regional Council as a way to help encourage implementation of the RTP/SCS. While we understand that SCAG has no authority over local land use or county transportation planning and funding, we do believe that it's critical that SCAG find ways to incentivize RTP/SCS implementation.

a. Evaluate the impact by geography of RTP/SCS investments on environmental justice communities by increasing monitoring over successive RTP/SCSs.

The disparate impacts of transportation investments and land use planning — especially noise and pollution — on lower-income communities is lost in the county-wide or region-wide averaging that SCAG uses. It would also be informative if SCAG monitored a number of geographic areas where environmental justice populations are overrepresented. The Metropolitan Transportation Commission in the Bay Area, for example, does "snapshot" analyses of 44 geographic communities to focus on key transportation-related indicators such as transit service frequency, walkability, access to essential destinations by a 30-minute transit trip, housing and transportation affordability, bike and pedestrian collisions, diesel PM2.5 emissions, etc. For example, the EJ appendix reports that air quality will be worse for 23-29% of the population with no indication of where they live, making it difficult to design and evaluate the effectiveness of mitigation measures.

SCAG is planning to track characteristics in 125 transit stations. We recommend instead that SCAG analyze 125 places where environmental justice populations are overrepresented. The analysis could be used to monitor progress over successive RTP/SCSs, and goals could be set and strategies identified to reduce disparate impacts. Where there are disparities, SCAG should propose mitigations and work with the CTCs to improve conditions.

Because the EJ analysis also suggests that low-income people are being displaced from station areas, we also recommend that rail and possibly BRT stations be monitored for the impacts of gentrification — by checking income levels, housing costs, transit usage and car ownership, etc. SCAG could also develop a toolbox of policies, implementation measures and funding sources that could be used to help low-income people continue to live near stations.

b. Improve the discussion around performance outcomes and alternatives analyses.

One of the best ways that SCAG can do this is to help make the outcomes of land use planning and transportation investment choices clearer to Regional Council members and the general public — through reporting on performance outcomes. While the Alternatives 1, 2, 3 & 4 presented at the summer workshops illustrated the impacts of particular policy choices, the Alternatives A, B, C & D were different in ways that were hard to understand. We recommend that in the next RTP/SCS, SCAG should give stakeholders more time and more information to evaluate the different scenarios. We also recommend that SCAG set targets for performance measures and outcomes, and to evaluate the scenarios against these targets early and continuously in the planning process.

c. Develop new tools for measuring health & equity impacts in future RTP/SCSs.

We also believe that SCAG should develop new tools for measuring health and equity impacts in future RTP/SCSs. In particular:

- SCAG should enhance efforts to measure the daily amounts of walking and biking related to work and non-work trips.
- SCAG should also measure chronic disease rate changes based on transportation decisions and resulting physical activity (based on the work of Neil Maizlish of the California Department of Public Health's work with the MTC in the Bay Area and ongoing work with MPOs across the state).
- SCAG will monitor premature mortality due to PM2.5, which is important since the region contributes 53 percent of premature deaths in the state of California due to PM2.5. We recommend SCAG report improvements every two years, and develop a more precise goal in collaboration with the LA County Department of Public Health and the American Lung Association in California.
- SCAG should monitor asthma incidence and exacerbations due to NOx (an emission that is being measured) in collaboration with the California Department of Public Health, the South Coast Air Quality Management District, academic institutions, and others who are focusing on communities most impacted by air pollution, as well as communities located near high volume roadways.

We want to express our appreciation to the SCAG Regional Council and staff for all your efforts in putting together this ambitious plan to make Southern California a better place to live for present and future generations.

Sincerely,

Bonnie Holmes-Gen
American Lung Association of California

Neil Richman
BREATHE California of Los Angeles County

James Provenzano
Clean Air Now
Jonathan Parfrey
Climate Resolve

Luis Cabrales
Coalition for Clean Air

Lars Clutterham
downeygreen

Jocelyn Vivar Ramirez
East Yard Communities for Environmental Justice

Jane Block
Endangered Habitats League

Cesar Covarrubias
Kennedy Commission

Victor Griego
Latino Business Association Member

Alexis Lantz
Los Angeles County Bicycle Coalition

Denny Zane
Move LA

Patty Ochoa
Physicians for Social Responsibility

Jessica Meaney
Safe Routes to School National Partnership

Darrell Clarke
Sierra Club

Paul Zimmerman
Southern California Association of Non-Profit Housing

Rev. Earl W. Koteen
Unitarian Universalist Legislative Ministry California

John Longville
Former Mayor of Rialto & former SCAG President

APPENDIX A

Metrolink, bus rapid transit and bus corridors proposed to be enhanced and considered for inclusion in the RTP Constrained Plan.

1. METROLINK

Specifically, we want to highlight opportunities for enhanced investments on several existing lines that will create exceptional regional connectivity:

- **The Antelope Valley Line**, which is the focus of current planning efforts to dramatically reduce the time it takes to travel over 76 miles from Lancaster to Union Station by more than fifty percent - from nearly two-hours to about one-hour. Projects to improve its speed and efficiency and avoid unnecessary delays in service, including eliminating unnecessary curves, providing grade separations and double tracking where needed, will make this goal possible.
- **The San Bernardino Line** has already shown great success with limited express service from downtown San Bernardino to Union Station in Los Angeles. Investments to provide double-tracking for some segments of the line, grade separations could enable this line to provide express service on a much more regular basis. A direct link into Ontario Airport would create an exceptional economic development opportunity. Imagine the enhanced investment interest there would be for any community east of LA if it had high-speed express access to Ontario Airport and to Downtown LA via Union Station.
- **The Ventura County Line** also offers the opportunity for high speed express access from Ventura through the North San Fernando Valley with links to the Orange Line at Chatsworth, Northridge and Van Nuys, potentially connecting directly to Burbank Airport, Glendale, on to Union Station.
- **Orange County Line** continues from Union Station to Norwalk, Fullerton, Anaheim, Irvine and beyond to San Diego County. Together with the Ventura County Line it presents the possibility of a continuous, high speed, electric express system serving 25 stations from Ventura to Union Station to Orange County to San Diego, connecting to 4 other Metrolink lines and the entirety of the LA Metro Rail system at Union Station.
- **LA Union Station Run-Through Tracks** project that would significantly enhance regional trip potential of all Metrolink corridors serving Union Station by improving efficiency and throughput capacity, enabling more frequent regional service within LA County.

In addition to the existing corridor infrastructure enhancements and improvements we recommend:

- **Extension of 91 Line** from Riverside to Palm Springs/Coachella Valley, connecting the resort communities in Palm Desert to LA and Inland Empire.
- **Extension of San Bernardino Line** to Redlands and San Bernardino Airport.
- **Harbor Subdivision Service** from Union Station to South Bay Region via LAX, utilizing existing Railroad Right-of-ways to provide Commuter Rail service to an underserved transit region.
- **Additional infill stations** along Metrolink Corridors to support activity centers such as Universities and Major Employment Centers such as Perris Valley Line - UC Riverside Station; San Bernardino Line – Ontario Airport Station branch; San Bernardino Line – LAC/USC Medical Center; Riverside Line - Cal Poly Pomona Station.

2. ORANGE COUNTY

Proposed BRT Enhancements in Orange County

Proposed BRT	Link to Metrolink, Activity Center or Airport	Peak Headway	Off-Peak Headway
Westminster Avenue -17th Street (Long Beach – Santa Ana)	Metrolink / CSULB/VA	10	15
Harbor Boulevard (Fullerton – Newport Beach)	Metrolink /Disneyland	8	15
Bristol Street/State College Boulevard (Brea – Irvine)	Metrolink / John Wayne Airport	8	15

Source: Orange County Transit Authority

Proposed Bus Enhancements/BRT Conversions beyond current funding in Orange County

Lines	Project Type	Communities/Corridors	Link to Metrolink	Peak Headway	Off-Peak Headway
29	Convert to BRT	Beach Boulevard (Huntington Beach – La Habra)	X	10	15
38	Convert to BRT	La Palma Avenue (Buena Park - Anaheim)	X	10	15
50	Convert to BRT	Katella Avenue (Long Beach – Orange)	X	10	15
53	Convert to BRT	Main Street (Orange – Irvine)	X	8	12
54	Convert to BRT	Chapman Avenue (Los Alamitos – Orange)	X	10	15
70	Convert to BRT	Edinger Avenue (Huntington Beach – Tustin)	X	10	15
	Local Bus	GoLocal Bus Shuttles beyond current funding projections	X	15	30
	Local Bus	Station Link to Metrolink Stations beyond funding projections	X	15	30

Source: Orange County Transit Authority - LRTP

3. SAN BERNARDINO COUNTY

Proposed BRT Enhancements in San Bernardino County

Proposed BRT	Link to Metrolink or Airport	Peak Headway	Off-Peak Headway
E Street sbX Redlands Extension	Metrolink	5	10
Foothill East sbX	Metrolink /San Bdo Int AP	5	10
Foothill West sbX - Foothill	Metrolink	10	15
Euclid sbX	Metrolink	10	15
San Bernardino Avenue sbX		10	10
Holt/Fourth sbX	Metrolink / Ontario AP	10	15
Grand/Edison sbX		10	20
Sierra sbX	Metrolink	10	20
Riverside sbX	Metrolink	10	10
Haven sbX	Metrolink / Ontario AP	10	15

Source: San Bernardino County LRTP

Proposed Bus System Enhancements
Best Bets in San Bernardino County

Lines	Type	Communities	Peak Headway	Off-Peak Headway
1	Local Bus	Colton-Del Rosa	10	15
4	Local Bus	Baseline-Highland-San Bernardino	20	20
8	Local Bus	San Bernardino-Mentone-Yucaipa	15	30
10	Local Bus	Fontana-Baseline-San Bernardino	15	30
15	Local Bus	Fontana-Rialto-SB-Highlands-Redlands	10	15
19	Local Bus	Redlands-Colton-Fontana	20	20
65	Local Bus	Montclair-Chino Hills	15	30
80	Local Bus	Montclair-Ontario-Chaffey	15	30

Source: San Bernardino County LRTP

4. RIVERSIDE COUNTY

Proposed BRT/Bus System Enhancements in Riverside County

Lines	Project Type	Communities/Corridor	Link to Metrolink	Current Headway	Enhanced Headway
19	Local Bus, Convert to BRT	Perris Boulevard Corridor	X	60	20
20	Local Bus Convert to BRT	Allessandro Corridor	X	60	15
24	Local Bus	Temecula – Pechanga Corridor		70	20
206	Commuter Express Bus (Convert to BRT)	Corona-Temecula I-15 Corridor	X	4 trips each direction (RH Only)	20
208	Commuter Express Bus (Convert to BRT)	Riverside-Perris-Temecula via SR-60/I-215 Corridor	X	4 trips each direction (RH Only)	30
210	Commuter Express Bus	Riverside-Banning via SR-60 Corridor	X	4 trips each direction (RH Only)	30
212	Commuter Express Bus	Riverside-Perris-Hemet via SR-60 Corridor	X	4 trips each direction (RH Only)	30

Source: Riverside Transit Agency

NAIOP
COMMERCIAL REAL ESTATE DEVELOPMENT ASSOCIATION
SoCAL CHAPTER

February 14, 2012

Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street 12th Floor
Los Angeles, CA 90017

Re: Comments on the Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy, and Program Environmental Impact Report

Dear Mr. Ikhrata:

NAIOP, the Commercial Real Estate Development Association, is the leading organization of developers, owners, and related professionals in office, industrial and mixed use real estate. The over 900 members of the NAIOP SoCal Chapter serve Los Angeles and Orange Counties, and is the premier commercial real estate organization in Southern California. We have been actively involved in the development of the 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), along with the review of the just released Program Environmental Impact Report (PEIR).

NAIOP SoCal fully understands the enormity of the undertaking to create the RTP, particularly with the newly required SCS being added to the effort. We commend SCAG for its efforts to make the RTP/SCS as much of a bottoms-up process as possible. We particularly thank SCAG for incorporating the Orange County LRTP and SCS developed by the Orange County Transportation Authority (OCTA) and the Orange County Council of Governments (OCCOG) respectively. NAIOP believes that is a model for all SCAG subregions to embrace in any future RTP/SCS. We fully support what OCTA and the OCCOG have submitted, and also incorporate by reference as though fully set forth herein their comments on the RTP/SCS and PEIR. That same broad participatory process and effort should also have been made in the drafting of the PEIR, but was not. Hopefully that can be changed in the future so as to avoid many of the issues that have arisen.

Our major concerns surround the PEIR. The 642 page complex document with approximately 550 supposed mitigation measures was released the afternoon of Friday December 30, 2011, right before the New Year's holiday weekend. Thus, no one really could look at it until January 3, 2012, losing 3 days of the brief 45-day review period. A tremendous effort, and cost, has been undertaken to try to meet the February14 end of comment period. It is very obvious the comment period for the PEIR is not sufficient to allow for a thorough, thoughtful analysis of the very belatedly released PEIR. Unfortunately, SCAG has repeatedly

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Stan Wendzel, BioRealty, Inc.
Gregory J. West, Johnson Capital

NAIOP SoCAL EXECUTIVE STAFF
Cynthia G. Fusco, Executive Director
Vickie Talley, Director of Legislative Affairs

indicated they would not extend the comment period. NAIOP does request that the comment period be extended.

To compound the problem, the PEIR is going to be rushed to approval. NAIOP has worked closely with many organizations throughout Southern California, and it is very apparent SCAG will be receiving numerous comments. Yet, the schedule is to hold a joint Policy Committee hearing on March 21 to gain their recommendation that the RTP/SCS and PEIR be approved, which is 5 days before the response to comments will be released on March 26. Then, the Regional Council is supposed to approve all the documents on April 4. SCAG has, again unfortunately, ruled out any delay in this schedule as well as specifically saying they will not make any changes to the PEIR that would require a recirculation. This incredibly rushed schedule with predetermined lines in the sand as to the length of the comment period and timing of the actual approval does not provide the time for the appropriate review of these complex documents, any real analysis of the comments that will be supplied, and specifically eliminates any valid modification to the RTP/SCS or PEIR. It leads one to question whether there has been a legally questionable predetermined outcome.

Turning to the substance of the documents. There is a blanket statement that all the mitigation measures are feasible and effective. Yet, there is no discussion or analysis to support such a statement. Furthermore, SCAG goes on to claim that local jurisdictions and project sponsors "can and should" perform the mitigation measures. While SCAG has claimed the mitigation measures are supposed to be a "tool-box" to choose from, the actual verbiage of the documents does not so indicate. The statement of the feasibility, efficiency, and "can and should" language should be deleted. Furthermore, SCAG should at a minimum clearly state that the PEIR sets forth a menu of options for the local jurisdictions and project sponsors to choose from, and that it is up to the local jurisdictions and project sponsors to determine what is feasible and efficient. This could effectively be done by separating all the mitigation measures that are applicable to SCAG, and put all the "tool-box" suggestions into a separate document indicating the above so SCAG's stated intention is clear to all.

Next, there are nearly 200 "mitigation measures" that are incomplete references to Federal, State, and Local law, and various regulatory measures. These are matters that project sponsors are already legally required to perform. Once all of the legal requirements are performed, then the CEQA process analyzes if there are any environmental impacts that need to be mitigated. Thus, the legal requirements are actually in the baseline, and are not used as mitigation measures. By trying to reword the legal requirements and call them mitigation measures can cause great confusion and legal concerns. Since the legal requirements are already in the project, do these so-called "mitigation measures" in the PEIR refer to something different, something new, something additional? All references to legal and regulatory requirements should be deleted. If SCAG feels there is some need to remind local jurisdictions and project sponsors to comply with the law, this can easily be done with one statement in the RTP, not the PEIR, indicating they should comply with all applicable laws and regulations.

NAIOP appreciates SCAG's interest in being a forum for discussion of issues that may be impacting the Southern California area. Forum discussions can lead to ideas that can be fully analyzed by the appropriate agencies. But, SCAG does not need to try to be the one to implement or oversee such ideas. There are many governmental agencies and regulatory bodies that already have the authority to cover a variety of issues, and SCAG should not intervene in matters already under the purview of other governmental agencies. SCAG, as all MPOs, is a federally created organization whose focus is on transportation efforts. Congress wanted MPOs to ensure that federal transportation funds were utilized through a cooperative and comprehensive planning process. The core function of MPOs is to evaluate the transportation issues in a region, and develop realistic options. Involving the public, MPOs are to

develop long range transportation plans and transportation improvement programs that promote a multi-modal transportation system. The RTP should solely be focused on that objective, and the SCS is only to fit the requirements of SB 375. Yet, the documents go in to things such as paleontology, wastewater, utilities, and many other areas that are beyond SCAG's scope. There are numerous areas in the PEIR where SCAG claims it will "ensure" certain outcomes. This is not SCAG's role, and the entire issue of not intervening in other agencies domains is needs to be addressed in any final RTP/SCS and PEIR.

The funding for the RTP is also of great concern. Federal law does require that the plans be fiscally constrained such that any funding is available or reasonably expected to become available. Yet, the draft RTP claims to be an approximate $524 billion program, but has a shortfall of $219 billion in revenues; nearly half. There is a reference to about $127 billion of the shortfall being reliant on major State and/or Federal actions, which seem awfully speculative. NAIOP has a major concern over the numerous references in the documents to pushing local jurisdictions to adopt new fees or taxes. The commercial/industrial development industry is already heavily burdened with fees from many, many regulatory agencies and jurisdictions. We often hear that some new fee is not that big, or is for a great cause. Yet, the net effect is a mountain of "little fees". Sort of a death by a thousand fees. To make up billions and billions of revenue shortfall would necessitate extensive new fees and taxes. This would clearly be a huge hinderance, if not paralyze, any type of economic recovery in the regions. NAIOP did not see any type of analysis in the documents that would lead one to believe such fee and tax increases are reasonably possible, especially in light of Proposition 22, nor an analysis of the economic impacts. Such analyses are needed before any of the documents are finalized.

The RTP/SCS and PEIR are incredibly complex documents that are very important and far-reaching. NAIOP SoCal has made on effort to evaluate the very voluminous materials. Yet, in the compressed timeline, it has been impossible to touch on every area of concern. The above highlights some of the major issues. We will continue to evaluate the material and follow the efforts to revise the RTP/SCS and PEIR so that the final product is credible and truly benefits all of Southern California. NAIOP SoCal looks forward to SCAG's responses to the above comments and the request to extend the comment period. We request to be included in any conversations regarding the necessary revisions to the RTP/SCS and PEIR.

Sincerely,



James V. Camp
Director
Chair, Legislative Affairs Committee

February 14, 2012

Pam O'Connor, President
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

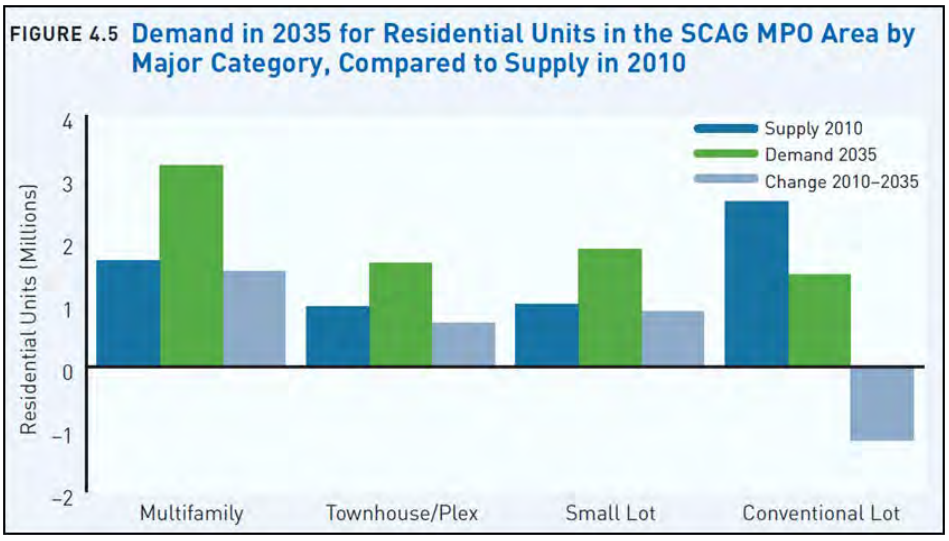
RE: Comments on the 2035 RTP/SCS and Project Environmental Impact Report

Dear President O'Connor:

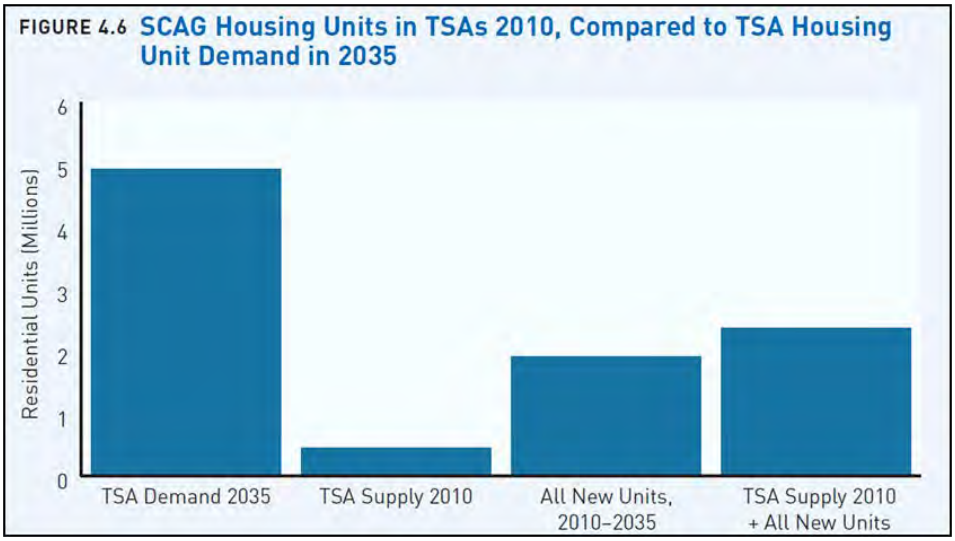
On behalf of Endangered Habitats League ("EHL") and the Natural Resources Defense Council ("NRDC") we thank you for the opportunity to comment on the Southern California Association of Governments' ("SCAG") regional transportation plan and its attendant environmental impact report.

Your staff has worked tirelessly to engage 197separate local jurisdictions in the creation of the first ever Sustainable Communities Strategy in the SCAG region under SB 375, and should be commended for their hard work. The plan achieves some important early accomplishments, including:

- Responding to the growing market demand for walkable communities, the plan will house 68% of new development in multi-family housing, as opposed to 39% in the last 25 years.[i] The chart below from the Urban Land Institute's recently published report *The New California Dream* confirms the strong demand for multi-family and small lot single family housing, as well as a projected surplus of large-lot single family homes;



- By planning for new homes near transit, and bringing new transit to existing communities, the plan achieves the equivalent of locating 94% of all new development near transit. This is also sound planning, as the ULI study referenced above also finds that even if all new development now to 2035 was built near transit, the region will still fall short of its 2035 demand for this type of housing;



- Through an emphasis on walkable communities, the plan reduces open space consumption by 400 square miles, and;
- The plan achieves its 2020 and 2035 state assigned SB 375 GHG reduction targets.

In the spirit of collaboration, we offer the following comments with the aim of improving the plan:

I. Commit to the Creation of a Sustainable Transportation Network

While SCAG has received much praise for the land use assumptions in its Sustainable Communities Strategy, it is unclear whether the transportation system has been adjusted to support this land use pattern. While we recognize that SCAG must use input from its six County Transportation Commissions (CTCs) as the starting point for SB 375 scenario planning, we had hoped that the evaluation process would not end there. The problem, in our view, with the limited approach SCAG has adopted is the inconsistency between the varied land use projected across several scenarios and a transportation system that has been kept relatively constant. Such an approach ignores the evidence that land use patterns and transportation systems are frequently mutually reinforcing. The walkable compact development patterns SCAG calls for are less likely to materialize without adjustments to its transportation network, particularly in the Inland Empire. Similarly, compact land use patterns need to be serviced with real transportation choices if they are to be viable. We seek a commitment from SCAG, through its next SCS process in

four years, to evaluate scenarios which consider what environmental achievements may be possible with a transportation system that is more varied across those scenarios.

In particular, we find the emphasis on arterial widenings to be of concern. SCAG's EIR claims that it will spend $22 billion on "local arterial improvements". A review of the SCAG project list indicates that by improve, the clear intent is to widen, or as some engineers describe it, to "rationalize" the system. Throughout the RTP project list, the verb widen is one of the most commonly found. And yet, the empirical literature on induced demand and induced growth makes clear that widening roads does not solve traffic congestion, and, as a recent poll demonstrates, the voters agree[ii].[iii] The futility of attempting to remedy congestion through arterial widening alone is perhaps best elucidated in Riverside County, where, despite an investment of more than six billion in arterial improvements, the County's residents can expect no marked improvement in hours of delay. Instead, the County projects an increase in hours of delay. While some of these arterial widenings may be represented in sales tax measures, County Transportation Commissions have significant latitude with respect to the phasing and prioritization of investments in their regions.

Before continuing to our specific recommendations, we would like to note the absence of certain data which would have been valuable in further scenario analysis. The transit and active transport appendices of the plan contain a wealth of data, categorized by county, concerning the current availability of transit and active transportation elements. What is lacking, however, are projections of how the current plan improves (or does not, as the case may be) access to transit and active transportation facilities for the residents of the various SCAG counties by 2035. We have submitted a request for the data to SCAG staff. We note that SCAG staff has been both helpful and responsive, but, as we were informed by staff, the data could not be made available in time for analysis in this comment letter.

Our recommendations for improving the transportation network are as follows:

1. Accelerate funding for Metrolink to provide badly needed regional commuting options

   The Metrolink commuter rail system, which links numerous communities in all SCAG area counties, is already a critical component of SCAG's transportation system, and, with improvements, could become a major source of VMT reduction, congestion relief and economic development. The Draft Plan includes a Strategic Plan section with projects deemed important by the region, but for which funding does not currently exist. We strongly recommend moving the upgrading of the Metrolink commuter rail system into the Constrained Plan. The upgrade project would provide double tracking, grade separations and other modifications where needed to enable expanded express service, while making a planned transition to an all-electric system capable of providing zero-

emission high-speed service (up to 110 mph) in select corridors. Such an upgrade could provide significant returns in the form of congestion relief, emission reductions, and economic opportunity created, as well as create enhanced opportunities for transit-oriented development.

2. Explore bus and bus rapid transit expansions to provide high quality, cost-effective transit to a majority of residents

Eighty percent of transit ridership in the region takes the form of bus travel. Considering the long lead times involved with capital expansion projects, expanded bus service may present the most immediate and cost-effective strategy to provide alternatives to driving for millions of SCAG residents. And yet in Riverside County, projected to house another 1.1 million residents over the life of the RTP (second only to Los Angeles County in growth projections), only 10% of the population is currently served by high quality bus service (less than 15 minute headways). Currently 40% of residents have access to 15-30 minute headway service. SCAG should identify potential service frequency upgrades which could provide a significantly higher proportion of the population access to high quality transit service.

SCAG should identify strategic investments to increase ridership in light of the new revenues which may be available through the AB 32 cap and trade revenue. In fact, we would like to urge SCAG's Regional Council to adopt a policy commitment that any new revenues received through the cap and trade program be prioritized for efficient transit operations. The public transportation literature indicates that for every 1 percent increase in transit service frequency, ridership increases up to 0.5 percent and a similar increase in vehicle miles or vehicle hours of service can increase ridership up to a range of 0.6 to 1% (Evans, 2004)[iv]. The highest-performing lines could be candidates for upgrade to Bus Rapid Transit, which could, in turn, serve to anchor development along now low-density transportation corridors. SCAG and its CTCs should examine the highest-performing lines, and potentially recommend them for upgrade to fixed guideway systems in this RTP.

3. Commit funds for bicycling and walking commensurate to the share of trips these modes accommodate

SCAG has increased bicycle and pedestrian funding from $1.8 billion to $6 billion in this plan. While this is more than a 200% increase, for which staff should be commended, it still accounts for just over 1% of the plan's total funds. This is hardly commensurate with the 20% of total trips taken on foot or by bike. The recent poll of SCAG region voters conducted by NRDC, Move LA and ALAC found that, by strong

contrast, voters believe 14% of RTP funds should go to making walking and biking safer. SCAG should continue to examine the balance of funds which constitute the $524 billion regional transportation plan, and investigate whether there are ways to free up additional funding for these most sustainable forms of transportation.

For example, SCAG proposes to spend $22 billion widening arterials in the six county region. If some of these funds were instead directed to ensuring that these roads are "complete streets" – safe for walking and bicycling, the region would be taking real steps towards encouraging sustainable transportation. SCAG should encourage CTCs and local jurisdictions to adopt complete streets policies so that bicycle and pedestrian improvements can be made routinely and more economically when streets are improved or built. Widening arterials will neither encourage other modes nor solve traffic congestion. We believe committing $6 billion to bicycle infrastructure and $6 billion to pedestrian safety improvements is actually a very reasonable request, and would still represent just 2.3% of total plan revenues for these modes.

4. Commit to collaborating with County Transportation Commissions to Prioritize Projects which help to reduce VMT and GHG Emissions

While SCAG does not make final decisions about transportation projects – its CTCs do—SCAG does play an important role analyzing the social and environmental impacts of alternative investment decisions. In its upcoming TIP process, as well as the next SCS/RTP, we recommend that SCAG adopt a process similar to the Bay Area Metropolitan Transportation Commission's to evaluate whether individual projects help to achieve regional goals[v]. In partnership with its County Transportation Commissions, SCAG should engage in a project performance analysis to determine whether its proposed investments help the region achieve its intended outcomes of improved air quality and health, location efficiency, improved mobility for its residents and reduced household transportation costs. Such an analysis assists decision makers in determining which projects are consistent with SCS goals.

The recently conducted poll of Southern California voters found that voters think building new roads and widening existing roads are by far the *least* effective strategies to reduce congestion and improve air quality. Instead, voters would rather see the region focus on smarter land use and prioritize investments in transit, bicycle, and pedestrian infrastructure. It is well known that SCAG is facing a significant funding shortfall for this RTP and makes some fairly ambitious assumptions about the availability of new

revenues. Perhaps a project performance assessment process could help to encourage SCAG's CTCs to adjust project priorities to contribute to overall SCS goals[1].

II. The RTP Must Include More Detail on Making Clean Freight Movement a Reality in the SCAG Region

As the RTP highlights, the movement of freight creates significant economic productivity in the SCAG region, but these financial benefits come at immense costs to the health and welfare of residents throughout the region, including the primarily low income communities of color nearest our freight hubs. Accordingly, any work to expand the freight movement system must concurrently push the cleanest technologies. In addition, resources must be allocated to cleaning up the already unacceptable high levels of pollution from the existing infrastructure. There is consensus amongst all regulatory air quality agencies that in order for the SCAG region to meet federal and state clean air standards on time, it must shift the freight movement system from a diesel-dominated industry to a near zero or zero emissions systems. To turn the rhetoric of moving to a cleaner freight system into a reality the RTP must be modified to include more detail.

In order to achieve the long-term, speculative projects of electric freight corridors on the I-710 and I-60, we need short-term projects. The notion was eloquently put in the 2006 Clean Air Action Plan ("CAAP"), adopted unanimously by both Boards of Harbor Commissioners for the Ports of Los Angeles and Long Beach, in which the commitment was made to the develop and implement a zero emissions container movement system. In pertinent part it reads:

> This component of the program is focused on finding the next generation of transport solutions for goods movement. The ultimate goal is a 21st century electric powered system that will move cargo from our docks to the destinations within 200 miles that today are moved by truck. It may (sic) take 20 years to complete such a system, but it will always be 20 years away unless in the next five years we build and test a demonstration prototype and perfect a detailed plan for widespread construction.[vi]

This prototype project will serve as the path towards actual achievement of the projects along the I-710 and I-60.

Other forward looking projects should also be included in the RTP. A catenary system along the Terminal Island Freeway serving to connect the Port of Long Beach to the Union Pacific Intermodal Container Transfer Facility ("ICTF") merits inclusion. In the same vein, the RTP should also include a catenary system along Alameda Street. These projects must be

[1] Given the recent *Association of Irritated Residents vs. Environmental Protection Agency* case, the region needs to adopt enforceable Transportation Control Measures (TCMs). The measures identified in this section and others are prime candidates for inclusion in a list of TCMs.

pushed forward in the near-term (e.g. next two years). Finally, the catenary system should be incorporated as an enforceable measure in the State Implementation Plan. This type of strategy provides an ideal Transportation Control Measure. *See* 42 U.S.C. § 7408(f)(v), (vi); *see also* 42 U.S.C. § 7511A(e)(4). We would be delighted to collaborate with staff in determining how these projects should be included in both the constrained plan and the State Implementation Plan as enforceable measures to push progress towards a true zero emissions system.

III. Ensure Projects Meet a Robust Definition of SCS Consistency in order to Qualify for SB 375 California Environmental Quality Act Streamlining

SCAG's EIR sets too low a bar for compliance with the SCS in order to achieve SB375's contemplated CEQA. Specifically, the EIR states that:

> "In other words, the SCS was not developed with the intent that each project to be located within any given TAZ must exactly equal the density and relative use designations that are indicated by the SCS Development Type in order for the project to be found consistent with the SCS's use designation, density, building intensity and applicable policies. Instead, any given project, having satisfied all of the statutory requirements of either a residential/mixed-use project or TPP as described above, may be deemed by the lead agency to be consistent with the SCS **so long as the project does not prevent achieving the estimated average use designations, densities and building intensities indicated by the Development Type within the TAZ, assuming that the TAZ will be built-out under reasonable local planning and zoning assumptions**."

We are particularly concerned that the standard established by this EIR--specifically the meager requirement that a project merely not prevent the achievement of a designated density for a certain development type--leaves it open to easy manipulation. It would seem to be quite easy for an individual project, of substantially lower density than that which is envisioned in the SCS, to justify its consistency with the SCS simply on the grounds that higher density projects are imagined in the future.

We strongly recommend that SCAG adopt a more stringent standard for consistency with the SCS in order to achieve the SB 375 CEQA benefits. At a minimum, we suggest the following language as an alternate standard:

> so long as the project ***promotes*** achieving the estimated average use designations, densities and building intensities indicated by the Development Type within the TAZ, assuming that the TAZ will be built-out under reasonable local planning and zoning assumptions.

IV. Commit to increased Compass Blueprint funding to ensure Local Governments have adequate resources to implement the Sustainable Communities Strategy

Working in close partnership with its local jurisdictions, SCAG has identified a future growth pattern which manages to save 400 square miles of open space from development. This is a highly impressive accomplishment, and it will take the sustained partnership of SCAG's local governments to follow through on the promise of this plan. To recognize their critical role as essential partners in implementation, SCAG should commit—in this plan—to an increased funding level for the Compass Blueprint program. SCAG may want to consider future revenues from the AB 32 cap and trade program as a potential funding source for this investment. Funds should be prioritized to local governments who plan and zone for growth consistent with the SCS.

V. Conformity

We have reviewed SCAG's conformity demonstration for the 2012 RTP, and have identified the conformity finding for PM 2.5 in the 2014 milestone year as potentially problematic. According to the report, the PM 2.5 budget for that year is 35 tons, while estimated emissions are calculated at 34.5 tons a difference of just one half ton. (Transportation Conformity Report at p. 20.) This means that the integrity of the conformity finding will be fatally compromised by even small errors in future estimates of emissions.

There is an even chance that this half-ton difference is illusory. According to ARB's June 20, 2011 revisions to the PM 2.5 transportation conformity budget, included with this letter, the 35 ton 2014 PM 2.5 budget is rounded *up* to the nearest ton.[vii] (See Table C-3 at p. C-10.) Because estimated emissions for that year are 34.5 tons*, there is a 50% chance that the rounding error exceeds the difference between the 2014 budget and estimated emissions.* Use of a "rounding up to the nearest ton" method of establishing the emissions budgets, when the difference between emissions and the budget is half a ton, means that the conformity finding is random; there is a 50% chance that emissions *exceed* the budget. This is logically indefensible and manifestly arbitrary and capricious.

We believe that the aforementioned improvements to the regional transportation system work toward amelioration of this problem. We also urge staff to commit to modeling alternative transit scenarios in the next SCS/RTP process in order to fully ascertain the potential environmental benefits.

VI. Conclusion

SCAG staff has taken significant strides with this SCS to set the region on a more direct path to sustainability. In particular, the land use pattern shows a substantial deviation from years

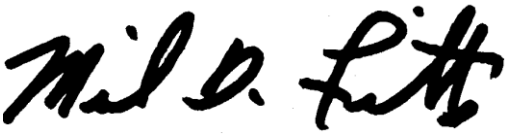
past in its attempt to provide opportunities for Southern California residents to live in walkable communities with affordable, convenient transportation options. We feel more work is necessary to adjust the priorities in the transportation system to ensure it is worthy of the ambitious changes to the land use pattern SCAG envisions. We have been honored to work so closely with your excellent staff through the process of creating this plan, and we look forward to the critical implementation phase in the years to come.





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Citations

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[vii] Proposed 8-Hour Ozone State Implementation Plan Revisions and Technical Revisions to the PM2.5 State Implementation Plan Transportation Conformity Budgets for the South Coast and San Joaquin Valley Air Basins http://www.arb.ca.gov/planning/sip/2007sip/2011_ozone_sip_staff_report_with_appendices.pdf

NRDC
THE EARTH'S BEST DEFENSE
NATURAL RESOURCES DEFENSE COUNCIL

COALITION FOR CLEAN AIR

February 14, 2012

Pam O'Connor, President
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

RE: Comments on the 2012-2035 RTP/SCS—Need for Amendments to Freight Element

Dear President O'Connor:

On behalf of the Natural Resources Defense Council and the Coalition for Clean Air, we write regarding the need for a near-term clean freight project in the Regional Transportation Plan ("RTP"). Specifically, we are concerned that there is not an emphasis in the RTP on near term projects that will help the region achieve its technology goals of creating a zero or near zero emission freight movement system. Accordingly, we respectfully ask that the RTP be amended to include short term projects in the constrained plan that will help advance cleaner technologies in the short-term.

In the 2006 Clean Air Action Plan ("CAAP"), adopted unanimously by both Boards of Harbor Commissioners for the Ports of Los Angeles and Long Beach, the ports committed to develop and implement a zero emissions container movement system. In pertinent part, the Port boards declared that —

> This component of the program is focused on finding the next generation of transport solutions for goods movement. The ultimate goal is a 21st century electric powered system that will move cargo from our docks to the destinations within 200 miles that today are moved by truck. It may take 20 years to complete such a system but it will always be 20 years away unless in the next five years we build and test a demonstration prototype and perfect a detailed plan for widespread construction.[1]

Here we are six years later, and we are no closer to actual implementation of a zero emissions system. While there are a lot of discussions about these technologies, there is an imperative need for SCAG to be leaders on this issue. In that vein, SCAG needs to provide more support for this concept in the near-term.

[1] San Pedro Bay Ports, 2006 Clean Air Action Plan, 141 (November 2006) *available at* *http://www.polb.com/civica/filebank/blobdload.asp?BlobID=3451*.

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The RTP should be amended to include a project or projects that will help spur technology. A catenary system along the Terminal Island Freeway serving to connect the Port of Long Beach to the Union Pacific Intermodal Container Transfer Facility ("ICTF") merits inclusion in the constrained portions in the plan. In the same vein, the RTP could also include other similar projects, including a catenary system along Alameda Street in the harbor area. At least one of these projects must be pushed forward in the near-term (e.g. next two years). The cost of such a system is estimated to be between 5 and 6 million dollars per mile on the high end. Furthermore, dollars should be allocated to procure trucks that can use this system. Accordingly, we recommend an initial allocation of 35 million for the entire project with the creation of a plan to increase the percentage of trucks that use this facility. Funding for this project could come from some combination of the ports, agencies responsible for clean air locally and statewide, and private industry. The key is to develop and implement the catenary system in the short term to help progress in actually achieving zero emissions goals. Finally, the catenary system should be incorporated as an enforceable measure in the State Implementation Plan. This type of strategy provides an ideal Transportation Control Measure. *See* 42 U.S.C. § 7408(f)(v), (vi); *see also* 42 U.S.C. § 7511A(e)(4). We would be delighted to collaborate with staff in determining how these projects should be included in both the constrained plan and the State Implementation Plan as an enforceable measure to push progress towards a true zero emissions system.

Please do not hesitate to contact us if you have questions about this recommendation.

Sincerely,

Adriano L. Martinez

Adriano L. Martinez
Staff Attorney
Natural Resources Defense Council

Luis Cabrales
Deputy Director of Campaigns
Coalition for Clean Air



No 710 ACTION COMMITTEE

LOS ANGELES NEIGHBORHOOD COUNCILS
Arroyo Seco
Cypress Park
Eagle Rock
El Sereno
Glassell Park
Highland Park
Lincoln Heights
Sunland-Tujunga

CITIES
City of Glendale
City of Los Angeles
City of La Cañada Flintridge
City of South Pasadena

OPPOSITION GROUPS (PARTIAL LIST)
Caltrans Tenants of the 710 Corridor
Natural Resources Defense Council
East Yard Communities for Environmental Justice
Glassell Park Improvement Association, Land Use Committee
Far North Glendale Homeowners Association
Crescenta Valley Town Council
La Cañada Flintridge Unified School District
LA RED, El Sereno

Green Scissors 2011 Report Groups
Friends of the Earth
Taxpayers for Common Sense
Heartland Institute
Public Citizen

INJUNCTION PLAINTIFFS
City of South Pasadena
Sierra Club
National Trust for Historic Preservation
California Preservation Foundation
Los Angeles Conservancy
Pasadena Heritage
South Pasadena Preservation Foundation
South Pasadena Unified School District

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January 30, 2012

Southern California Association of Governments
Attention: Margaret Lin
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Sent via email to: lin@scag.ca.gov

Subject: Comments on SCAG DRAFT 2012 RTP

Who We Are
The No 710 Action Committee is a grassroots organization with members from the northeast area of Los Angeles and surrounding communities, including Alhambra, Eagle Rock, El Sereno, Highland Park, Glassell Park, Glendale, La Crescenta, La Canada, Los Angeles, Pasadena, and South Pasadena. Our group is comprised of residents as well as business and health professionals from diverse backgrounds and communities who are committed to improving transportation modes across and within the County. Our members include community organizers and activists, engineers, elected officials, scientists, economists, physicians and other health care professionals. Cities, neighborhood councils and groups that have taken official positions against the SR-710 extension represent over 500,000 people.

Through decades of involvement in 710-related issues, we have exhaustively researched multiple aspects of our region's transportation issues including pollution and health concerns, contemporary advances in freight movement, mass transit, traffic calming strategies and more. We support projects that are environmentally responsible and financially prudent, projects that will have benefit for the entire region. Since the proposed SR-710 Extension Toll Tunnels would not improve our regional mobility and air quality, but would actually worsen them, we recommend alternative solutions.

Objections to the RTP
We urge SCAG policymakers to **remove from the RTP all line items associated with expanding and extending the 710 freeway**, and remove from the RTP all items associated with expanding and increasing *existing* infrastructure and technology for goods movement in the region.

In addition, the No 710 Action Committee notes that SCAG must move the proposed SR-710 Extension Toll Tunnels from the Constrained Plan to the Strategic Unfunded Plan in the 2012 RTP because there are no committed, available, or reasonably available funds as required by federal law to include them in the Constrained Plan.

We oppose SCAG RTP items associated with proposed SR-710 Toll Tunnels because **they will increase pollution, truck traffic, congestion, accidents, health impacts and environmental risks in our communities and throughout the region.** We oppose related plan items which have the goals of increasing conventional roadway and rail yard capacity for the same reasons. The Programmatic Draft Environmental Report for the Plan is inadequate, as is stated in an addendum to this letter. These approaches are outdated, inefficient, and harmful to the region. **Better, zero-emission proposals for goods movement are available now – we should not wait another 20 years.**

Air Quality and Congestion
Goods movement proposals in the Draft Plan are inconsistent with regional, state, and federal air quality and congestion targets stated in the plan. The plan states that to attain federal ozone standards, the region will need broad deployment of zero and near-zero emission transportation technologies in the 2023 to 2035 timeframe (p.74). It also acknowledges that conventional goods movement practices contribute to excess ozone and poor air quality (p. 68), yet allocates billions of dollars to expanding existing systems, with no requirement that new technology be implemented.

The plan says that “truck-only freight corridors are effective as they add capacity in congested corridors, improve truck operations and safety..and provide a platform for the introduction and adoption of zero-emission technologies.” However, the plan does not require zero-emission technology (which truck operators will be reluctant to invest in because of the added expense), assumes and accommodates more trucks on the road en route to proposed freight corridors, and allocates billions to construction of these corridors instead of electrified rail freight movement projects which would eliminate many trucks from inner-city traffic altogether.

Health Impacts and Environmental Justice
The plan acknowledges environmental justice legislation at the federal and state level in detail and pledges SCAG’s compliance with the spirit of these laws. It proposes to address freight movement and rail emissions-related impacts, but it avoids mention of significant and sustained community opposition to the BNSF SCIG, which is on the Project List. The No 710 Action Committee opposes the SCIG in solidarity with the Coalition for a Safe Environment and other community groups that have repeatedly presented their comments and concerns related to environmental justice. These communities experience far higher than average freight truck traffic and host undesirable intermodal freight facilities. The resulting higher than average health, quality of life, life expectancy and safety problems are well documented. However, the existence of their concerns and specific objections to the SCIG are completely ignored and not mentioned in this Draft Plan or its appendix on Environmental Justice. The No 710 Action Committee repeats that SCIG and related Draft Plan components are part of an overall framework which favors conventional goods movement activities that cause significant pollution and negative impacts in neighboring communities and throughout the region.

Jobs
Job creation and retention goals in this Draft Plan represent "mission creep" and tilt towards requiring more trucks, more freeways, more traditional rail infrastructure, and more conventional port transfer and loading. We oppose this direction because it is part of a conceptual framework that includes the proposed SR-710 Toll Tunnels and the associated negative impacts mentioned above: pollution, truck traffic, congestion, accidents, health and environmental risks. The Port Working Group, a community coalition, has noted that the SCIG plan claims to add 400 permanent jobs, but existing businesses at the proposed site provide more than 1,200 permanent jobs, resulting in an overall reduction. Further, many of the construction jobs are not permanent, and not guaranteed to be awarded locally.

The No 710 Action Committee urges regional mobilization focusing on multi-modal transit and goods movement projects using electrified rail and zero emission technology. These will also create jobs, but the approach is forward-looking in terms of job and skills training and future infrastructure needs. In addition, more efficient, lower-cost goods movement technology will allow the Southern California region to attract jobs and new investment, competing effectively with other international and eastern seaboard ports' expansion and modernization.

Zero Emission Technology
The plan refers to zero emission electrified rail technology as a long-term goal in sections of the report covering goods movement, congestion, air quality, transportation investments, and truck transport. It proposes a long-term, bureaucratic study. It does not acknowledge that specific patents, plans and technologies are currently being proposed and discussed by several parties. The Draft Plan indirectly and incorrectly implies that such technology cannot be implemented on an accelerated timetable. This is a matter of political will and private investment, not feasibility. The No 710 Action Committee objects to the Plan's time-delay in funding and implementing zero emission strategies, because the near-term alternatives proposed in the Draft Plan include extension and expansion of freeways (such as the 710) and traditional rail yards and goods movement infrastructure which will result in added pollution, truck traffic, congestion, accidents, health and environmental risks in the region.

Funding
We question the revenue projections in the Draft RTP. The profitability of regional toll ways hasn't been demonstrated, and the exact uses of the proposed SR-710 Toll Tunnels haven't been determined (car only, truck only, both?) yet the SCAG RTP assumes a combined $22.3 billion in revenues for the tunnels and other toll ways.

On the expense side, funding should be reallocated. The billions of dollars for freeway expansion, near-term dedicated truck lanes, the East-West Corridor, and conventional rail yard / truck loading should be spent on accelerated implementation of zero emission electrified rail freight movement and other multi-modal and active transportation projects.

The plan gives lip service to a modernized, zero emission freight movement system from ports to electrified rail, but allocates no funding for this important step that will dramatically reduce truck traffic and congestion, improve air quality and health/environmental impacts, and position this region as an efficient, low-cost, high-tech goods movement magnet.

The plan also admits that increased population, and a growing aging population, will need alternative forms of transportation as roads become more crowded in the region. More funding should be directed proportionally to active transportation: walking, biking, transit, and multi-modal planning. The No 710 Action Committee proposes that the SCAG RTP allocate a share of funding proportional to the anticipated users of and established needs for active transportation to foster

livable, sustainable neighborhoods throughout the region and meet AB32 and SB375 greenhouse gas emission goals.

Vision
Mobility, economy, and sustainability can all be advanced with the priorities and funding we propose. We urge SCAG to remove the SR-710 Tunnel from its Draft Plan, reject goods movement proposals that extend the last century's polluting and inefficient practices, and invest instead in forward-looking plans that will enhance the region's quality of life and economic prospects.

Claire Bogaard, Pasadena

Susan Bolan, La Crescenta

Sam Burgess, Pasadena

Janet Ervin, Alhambra

Trisha Gossett, Highland Park

Bill Graham, Burbank

Don Jones, Eagle Rock

Elise Kalfayan, Glendale

Clarice Knapp, South Pasadena

Harry Knapp, South Pasadena

Joanne Nuckols, South Pasadena

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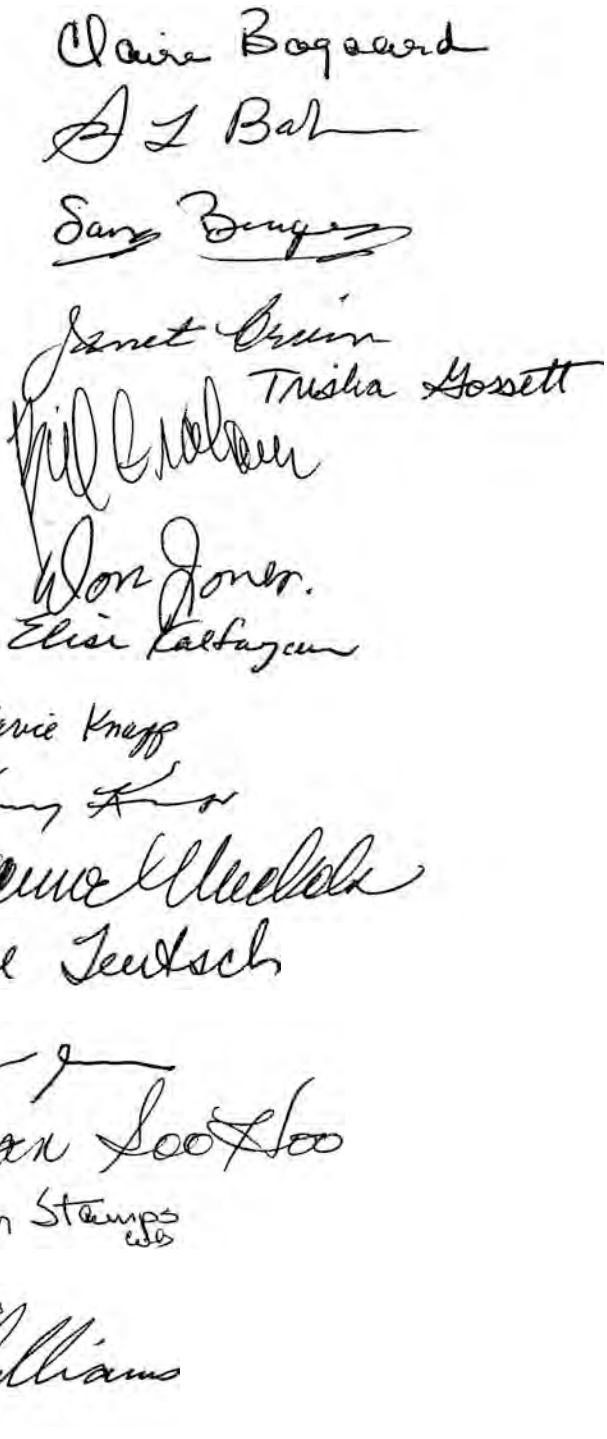
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Tom Williams, El Sereno



Postscript and Addendum:

PEIR
Additional comments regarding the Draft Programmatic Environmental Impact Report (D-PEIR) shall be submitted separately and provide more detailed citations and comments which will demonstrate that the RTP as Project Description, Alternatives, and Mitigation sections of the PEIR, and the PEIR itself, are grossly inadequate and incomplete with regard to issues summarized below:

Summary Issues for 2035 RTP and RTP-Draft PEIR

1. Inadequate/Incomplete Project Description/Assessment for a Transportation Plan

Both the RTP and the PEIR are incomplete and totally inadequate as only selective forecasted 2035 traffic flows are provided in the main chapters and appendices which do not allow the public to fully review and evaluate the assessment of impacts. This is especially important for the evaluation of Freight Movements within corridors between the San Pedro Ports and the High Desert Corridor and Colton/Inland Empire Logistics Areas. Specifically more than 15 values for 2035 freight flows are missing from the I-710, I-5, and I-210 segments in Figure 2.7 and Goods Movements Appendix. Similarly no freight movement values are provide for connectors to the High Desert Corridor via I-15, SR-14, SR-138, and I-15.

Without these values the Projects listed for 2035 (e.g., SR-710 North Extension, East-West Freight Way (SR-60), SR-14, SR-138, etc.) cannot be properly confirmed, impacts assessed, and tolls-revenue generation evaluated.

Truck traffic is a major congestion factor on all RTP freeways in central LA County and must be modeled and results provided for independent assessment.

The High Desert Corridor truck destination/origins are not provided as little or no employment or housing or other land use parameters are not provided for such a large project.

2. SR-710 North Extension Project

The SCAG 2035 RTP assumes a route of the SR-710 along the old surface freeway route from the I-10 to the I-210, although Caltrans and MTA and the Technical Advisory Committee for the Project have already delineated a 150 sq mi study area which could easily change the entire basis for traffic modeling of freight movements through the central Los Angeles County road system. Such changes would have significant effect on modeled freight traffic levels.

Similarly the SR-710 TAC are conducting traffic modeling which specifically is different from results show in the RTP and have commented that the SCAG-RTP Traffic Model does not appropriately model the SR-710 conditions for 2035 and before.

3. Inadequate and Incomplete Port and Rail Facilities Descriptions and Alternatives

The 2035 RTP remains totally focused on road truck movement of freight between the San Pedro Ports and the High Desert Corridor and Inland Empire Logistics Areas. Alternatives are being submitted to both Ports of Long Beach and Los Angeles for a major increase of direct Ship<>Rail – on-dock/in-port transfer facilities with rapid turnarounds of ships and unit trains between the Ports and Logistics Areas which will promote a rapid increase in the Alameda Corridor, Alameda Corridor East, and the new Alameda Corridor North to the High Desert Corridor Logistics Area. Estimated 10+ unit trains/hr (3 lines x 24 x 10 = 720 unit trains/day) would travel from Ports to the two Logistics Areas.

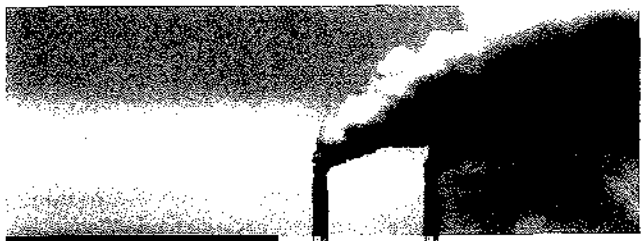
The RTP and PEIR have an unstated assumption that transfer facilities near the Ports are required to transfer freight from sea containers or 40 ft to US rail/truck containers of 53 ft. However, ships are already being refitted for the longer US containers for both West Coast Ports and for Panama shipping. Such project changes would largely eliminate any transfers in the Port region or the Logistics Areas.

Other issues will address in comments directly for the PEIR. As they stand now, both the 2035 RTP and PEIR are inadequate, incomplete, in error, and unsupported by information accessible to the Public and perhaps between Caltrans/MTA and SCAG regarding the SR-710 and its role in the RTP from Los Angeles County.

4. PEIR Jobs/Employment
Time and Totals
High Desert Corridor and Logistics Employees

5. Social Economics – Tolls/ETC. Revenue Generation and Costs
Constrained v. No Funding

CC:
California Transportation Commission members
Glendale Mayor and City Council members
Glendale Transportation and Parking Commissioners
La Canada Flintridge Mayor and City Council members
Los Angeles Mayor and City Council members
Pasadena Mayor and City Council members
South Pasadena Mayor and City Council members
South Pasadena Transportation Manager
MTA Board members
State Assembly Representatives - northeast LA, Glendale, Pasadena, and La Canada Flintridge
State Senators – northeast LA, Glendale, Pasadena, and La Canada Flintridge
Members of Congress – 29th, 31st – 39th, 46th Districts
Crescenta Valley Weekly
Glendale News-Press
La Canada Valley Sun
LA Streetsblog
LA Weekly
Long Beach Press-Telegram
Los Angeles Times
Pasadena Sun
Pasadena Star-News
Pasadena Weekly
South Pasadena Review



No 710 ACTION COMMITTEE

OPPOSITION GROUPS *(PARTIAL LIST)*
Caltrans Tenants of the 710 Corridor
Natural Resources Defense Council
East Yard Communities for Environmental Justice
Glassell Park Improvement Association
Far North Glendale Homeowners Association
Crescenta Valley Town Council
La Canada Unified School District
LA RED, El Sereno

GREEN SCISSORS 2011 REPORT GROUPS
Friends of the Earth
Taxpayers for Common Sense
The Heartland Institute
Public Citizen

LOS ANGELES NEIGHBORHOOD COUNCILS
Arroyo Seco
Eagle Rock
El Sereno
Glassell Park
Highland Park
Sunland - Tujunga

CITIES
City of Glendale
City of Los Angeles
City of La Canada Flintridge
City of South Pasadena

INJUNCTION PLAINTIFFS
City of South Pasadena
Sierra Club
National Trust for Historic Preservation
California Preservation Foundation
Los Angeles Conservancy
Pasadena Heritage
South Pasadena Preservation Foundation
South Pasadena Unified School District
City of South Pasadena

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no710extension@aol.com

February 13, 2012

Mr. Jacob Lieb
Ms. Margaret Lin
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, California 90017-3435

RE: Draft 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Program Environmental Impact Report (PEIR)

Dear Mr. Lieb and Ms. Lin:

The No 710 Action Committee welcomes the opportunity to provide information that we believe is missing from the Draft PEIR and to identify in some cases where the information can be found.

Air Quality and Health Consequences

SCAG RTP modeling is seriously out of date. Most of the SCAG region is classified as a non-attainment area for some criteria pollutants and an extreme non-attainment area for Ozone. SCAQMD, as the regional air regulator, has 36 air quality sensors across Southern California (Map 3.2-1) but they don't monitor pollution next to busy freeways. While the sensors may give a big picture view in accordance with federal law, "without the (freeway) monitors, there's a "glaring hole" in air pollution planning that ignores the health of more than a million people who live within 1000 feet of freeways in the AQMD's region, according to Adrian Martinez, an attorney for the Natural Resources Defense Council."1 Baseline data compiled from freeway monitors would allow us to stop the current modeling impulse to "average" pollution throughout the region, to look at health risks more accurately in nearby populations, and not claim unfounded benefits from basically shifting the pollution elsewhere without eliminating it. Current traffic

modeling appears to be out of date and inadequate, as witnessed by the delay of release of the preliminary DEIR on the lower I-710 due to inaccurate truck numbers. Without considering induced demand, the true costs of building, and maintenance and operations of highways the model doesn't build adequate and accurate evidence for decision making. It leaves open to unsupported speculation that more freeways or tunnels will lessen congestion and improve air quality. There is no uncongested freeway in LA and car and truck volumes are projected to increase as the inborn population increases. The volume of traffic and their attendant pollutants will inevitable increase and move us towards a progressively unhealthy place to live.

On the **Executive Summary- page 3** the statement is made that "based on the analysis contained in this Draft PEIR, the following were found to result in a **less-than-significant impact or no impact**: Air Quality (Change in Risk Levels Adjacent to the Freeway and Increased Population)." The RTP conclusion is invalidated by the statement on page **ES-2** regarding **Significant and Unavoidable Impacts**: Air Quality (Criteria Pollutants Emissions and Construction Emissions) and more specifically throughout the 3.2 Air Quality Section that cites many studies and their results:

> **pg. 3.2-23** A review of air pollution studies by the California Air Resources Board (CARB) indicates that residing close to freeways or busy roadways may result in adverse health effects beyond those typically found in urban areas. Several studies found an association between adverse non-cancer health effects (e.g., asthma) and living or attending school near heavily traveled urban roadways; however, these studies also found that the roadway and truck traffic densities were key factors affecting the strength of association with adverse health impacts. For urban roadways, the association of traffic-related emissions with adverse health impacts was generally strongest between 300 and 1,000 **feet.** (Dr. Rob McConnell and colleagues at USC published data showing concerning health effects at 500 to 1500 **METERS** from a freeway).
>
> CARB reports that Diesel Particulate Matter (DPM) represents about 70 percent of the potential cancer risk from vehicle travel on a typical urban freeway. As shown in **Table 3.2-4,** exhaust from heavy-duty trucks is **anticipated to decrease** in all areas of the region as compared to today; thus DPM associated with freeways will also decrease as compared to today.

Since the ARB identified diesel emissions as toxic air contaminants that are carcinogenic (TACs) in August, 1998 and 14 years (3 RTPs) have passed, it would seem unlikely that the above conjecture will come true any time soon, especially with America's oil dependency.

- *Mobile Sources Contribute to Serious Health Impacts.*
  Mobile sources such as trucks, locomotives and automobiles create the vast majority of air pollution in the South Coast Air Basin. One type of pollutant, fine particulates, is estimated to cause **6,200 premature deaths** in the Basin *every year*. The **average reduction in life span** for such persons is estimated by the

California Air Resources Board and the U.S. Environmental Protection Agency to be **14 years.** (California Air Resources Board, 2008 (mean estimate) 2

- *Health Risks Near Transportation Facilities.*
  The AQMD *Multiple Air Toxics Exposure Study* (MATES III) shows that diesel particulate matter is the overwhelming contributor to regional cancer risks from air pollution which average 1,200 in a million. This is hundreds of times higher than risk levels allowed for stationary sources under AQMD rules (between 1 and 25 in a million). The highest risks from air pollution are found near highways and other transportation facilities such as the I-710, because of heavy reliance on diesel-powered mobile sources. Persons in highly polluted portions of the basin, and persons near transportation facilities anywhere, also suffer greater risks of reduced lung function and many other serious health effects. (SCAG Mates III analysis, 2008) 3

The above is of particular concern to the No 710 Action Committee because of the overwhelming emphasis on goods movement and single occupancy vehicles in the RTP. The lower I-710 is listed on the projects list and proposes 4 truck lanes from the Ports of LA-Long Beach to the rail yards and 10 general lanes from the Ports to SR-60. While the upper I-710 is listed as a study (EIR/EIS) at a cost of $87,454 million, (2-27) the projects do not stand alone without consideration of the impact of the other, basically a conduit for port truck traffic into residential areas.

The I-710 North project is also described as an 8 lane toll facility in a tunnel (2-13). While new schools cannot be built within 500 feet of a major highway or freeway, the reverse is not regulated. A freeway or tunnel can be built within that distance, which would result in at least 37 schools that are within 1000 feet of the extension and the 210 from South Pasadena and Pasadena to Sylmar being subjected to toxins from an additional 30,000 vehicles and 2,500 more trucks daily. 4

Tunnels concentrate pollution up to 1000 times. An Australian school district will not allow their school busses to traverse a 2 mile tunnel that is considerably shorter than that planned for the I-710 extension. 5

Health Risk Assessments (HRA) and Health Impact Assessments (HIA)

The RTP must consider formal Health Risk Assessment and Health Impact Assessments for all of the I-710 corridor communities and Hot Spot analysis for sensitive receptor community sites such as schools, daycare centers, hospitals, convalescent centers, senior centers, parks and recreation centers, athletic fields and residential areas. Health professionals must be included in the analyses.

No 710 Action Committee is **attaching** for your reference:

- Scoping comments,
- 13 page Bibliography of Health/Pollution Impacts links,

- Chart of Selected Health and Economic Impacts of Freight in Global Trade Impacts: Addressing the Health, Social and Environmental Consequences…
- National Transportation Objectives and Targets
- Coalition for Clean Air - Top 10 facts Californians should know about air pollution and health
- Coalition for Clean Air - Pollutants and Health Effects
- Coalition for Clean Air - Transportation Facts

Port of Los Angeles, Port of Long Beach

The Ports of Long Beach and Los Angeles are the single largest source of air pollution in the South Coast Air Basin.
The AQMD stated in its February 17, 2009 letter regarding I-710 Project Alternatives that "In sum, **this region needs every possible emission reduction from goods movement and other mobile sources.** This must include zero-emission technologies wherever possible." The agency continued by mentioning electrified rail, maglev, the Alameda Corridor Electrification, electric trucks, fixed-guideway systems, and zero emission technologies that have been available for decades with photos of electrified freight transport systems in England, France, Russia, Italy, etc. In concluding, the agency stated "**we wish to caution against any unnecessary "phasing" of the evaluation of zero-emission alternatives which could result in other portions of the I-710 project (i.e. lane expansion)** proceeding to project level analysis, possible approval and construction, prior to full evaluation and potential decision regarding the zero-emission alternative." 6

The 12/6/2010 "Development of a California Geospatial Intermodal Freight Transport Model with Cargo Flow Analysis" commissioned by CARB and CEPA states in its conclusion section "First, the Case Study quantifies port-related intermodal goods movement through the state of California and beyond. Second, the idealized use of least-CO2 routing constraints illustrates how emissions savings can be achieved through modal shifts. **In terms of savings in emissions, it is estimated that a total of 60% reduction in CO2 emissions is achievable by a modal switch from road to rail."** 7

We need no more long-term goals or bureaucratic studies as stated in the plan.
The technology is available now, the studies have been done, commercial projects and lower polluting alternatives have been suggested in the I-710 DEIR, the benefits are region wide.

Goods movement versus people movement, by way of forms of mass transit.

For Los Angeles to become truly a world-class city more mass transit by way of light rail, busses, subways or streetcar connections must be planned and implemented. Los Angeles has been the laboratory for Detroit for the last 100 years and has only been catching up with other major U.S. cities for the last 20 years.

The Move L.A. " survey completed by Fairbank, Maslin, Maullin, Metz and Associates, shows that voters in the six county region served by the Southern California Association of Governments (SCAG) overwhelmingly support expanding and investing in transit over investing in highways. Even when voters backed highway spending, there was more support for a "Fix It First" approach than funneling more money into mammoth road expansion projects. Voters prioritized expanding public transportation as the most effective means of reducing traffic congestion and air pollution, said Denny Zane, executive director of Move L.A."8

The I-710 North EIR Scoping letters ran overwhelmingly against expansion of the freeway/tunnel. Preferences are for mass transit projects that would relieve congestion, clear the air, make commutes more agreeable and efficient and put more people into one vehicle rather than single occupancy vehicles.

The RTP is "front loaded" with highway projects and "back loaded" with transit. To meet our State mandates, it would make sense to move the transit projects up in the timeline and build them sooner than later.

Health in all public policies

Health and health equity issues do not appear prominently enough in your overall planning. Please reference www.sgc.ca.gov/workgroups/hiap.html. Community engagement is not demanding you build more and they are the ultimate stakeholders and the ones who bear the costs and health burdens.

Funding an Undefined Project

We are distressed to see the enormous dollars that might go to a new infrastructure project such as the I-710 north tunnels (11.8 billion, 2007 SCAG figure). **No project** is actually defined yet. The EIR/EIS process is just underway and is considering multiple routes, not just one. In fact, the Technical Advisory Committee has only had 2 meetings and is dealing first with a purpose and need evaluation. Our scarce transportation dollars could be much better used in transit projects to make a healthier and sustainable region. This should not be in the **constrained** list of projects but rather removed to the **strategic** list. The cost estimates are way below the building costs and there are many specialized issues in concentrating pollution in tunnels. The toll revenues may not come to pass, as many municipalities have found. It is not revenue you can reliably build into the current plan. Due to no foreseeable funding in sight to complete an undefined project, **the RTP must reflect reality and move the potential project from the constrained to the strategic unfunded list.**

We need to move to congestion pricing, reduced parking availability, higher parking costs and other incentive taxes to move us away from choosing individual mobility options.

Thank you for your attention to our issues. The public is very interested in transportation as it affects our daily lives. We look forward to seeing the revised plan.

Sincerely,

Clarice Knapp CLARICE KNAPP, SOUTH PASADENA

Carol B Teutsch CAROL B. TEUTSCH, LOS ANGELES

SUSAN BOLAN LA CRESCENTA

Harry A. Knapp HARRY A. KNAPP, SOUTH PASADENA

W.D. Sherman, MD WILLIAM D. SHERMAN MD, S. PASADENA

SHERRILL STUBBS LA CRESCENTA

Waynna Kato WAYNNA KATO, SOUTH PASADENA

-1. "Dirty freeway air puts Southern California health at risk, say activists" Melissa Pamer, LA Dailynews.com, 1/16/12

2. SCAQMD letter dated February 17, 2009 to the I-710 Technical Advisory Committee re: I-710 Project EIR Alternatives

3. SCAQMD letter dated February 17, 2009

4. I-710 Missing Link Truck Study, Traffic Analysis for the Arroyo Verdugo Subregion With and Without the I-710 Gap Closure, Preliminary Draft Final Report, submitted to SCAG

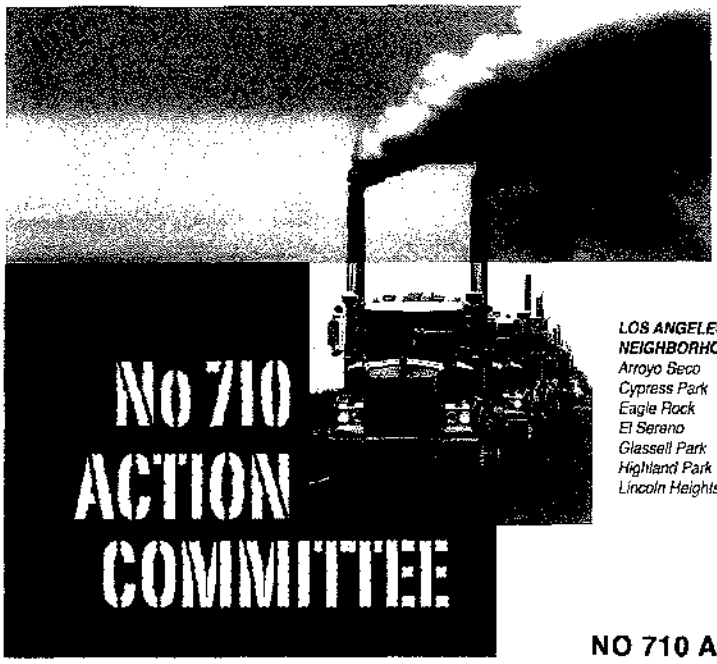
5. Tunnels Concentrate Air Pollution By Up to 1,000 times, *ScienceDaily,* materials provided by Queensland University of Technology, (Aug. 30, 2009) http://x-journals.com/2009/tunnels-concentrate-air-pollution-by-up-to-1000-times/

6. SCAQMD letter dated February 17, 2009

7. Development of a California Geospatial Intermodal Freight Transport Model with Cargo Flow Analysis, Prepared for the California Air Resources Board and the California Environmental Protection Agency, 12/6/2010

8. "Survey: Southern California Voters Want More Transit, Balk at More Highways" 02 Nov 2011,la.streetsblog.org/2011 switchboard.nrdc.org/blogs../survey_shows_socal_voters_want.html

Attachment: No 710 Action Committee scoping comments, et.al.



OPPOSITION GROUPS *(PARTIAL LIST)*
Natural Resources Defense Council
Glassell Park Improvement Association, Land Use Committee
Far North Glendale Homeowners Association
Town Council of Crescenta Valley
Glendale Homeowners Coordinating Council
LA RED, El Sereno
Green Scissors 2010 Report Groups
Friends of the Earth
Taxpayers for Common Sense
Environment America
Public Citizen

INJUNCTION PLAINTIFFS
City of South Pasadena
Sierra Club
National Trust for Historic Preservation
California Preservation Foundation
Los Angeles Conservancy
Pasadena Heritage
South Pasadena Preservation Foundation
South Pasadena Unified School District

LOS ANGELES NEIGHBORHOOD COUNCILS
Arroyo Seco
Cypress Park
Eagle Rock
El Sereno
Glassell Park
Highland Park
Lincoln Heights

CITIES
City of Glendale
City of Los Angeles
City of La Canada Flintridge
City of South Pasadena

Post Office Box 51124,
Pasadena,
California 91115
626 799.0044

NO 710 ACTION COMMITTEE:

SCOPING COMMENTS ON HEALTH AND AIR POLLUTION 710 TUNNELS PROJECT

Ron Kosinski
Deputy Director
Division of Environmental Planning
Caltrans District 7
100 S. Main street, MS 16A
Los Angeles, CA 90012

Dear Mr. Kosinski,

RE: SR-710 Environmental Impact Report/ Scoping Request.

We are requesting a "hot spot analysis" for the following types of locations related to all the corridors under consideration for the proposed 710 tunnels project:

- Schools
- Daycare center
- Hospitals
- Convalescent centers
- Senior centers
- Parks and recreation centers and athletic fields
- Residential areas

These listed locations should be designated as "sensitive receptor community sites."

The Hot Spot analysis and modeling analysis should include harmful products e.g.,:

Particulate matter PM to include all sized particles including ultrafine particles (<100nm) and nano particles (<50 nm), carbon black (organic carbon and elemental carbon), and degradation of road products and tires and brake linings and diesel catalyst decay products (including but not limited to metal particulate emissions, strontium, and a variety of organic compounds)

- Nitrogen oxides (NOx) and nitrogen dioxide (NO_2)
- Ozone
- Carbon monoxide (CO)

We are also requesting "Health Impact Assessments and Health Risk Assessments" at the above named sites.

In addition to the specified sensitive receptor community sites, the hot spot analysis should also include analyses of the **tunnels themselves** with investigation of concentrations of all the above pollutants at peak traffic hours with congestion modeling, within the tunnels, at the portals and at ventilation shafts. Information about the ventilation shaft air cleaning should be provided consistent with the highest level of available technology and its cost. The modeling should include port truck traffic and be based on the current percentage of fossil fuel dependent vehicles. Time in tunnel at congestion speeds should be modeled for individuals who use the tunnel for regular commuting. Models should be created to look at what might happen at community sites if the traffic chooses to use the surface streets instead of the toll tunnel, which has been seen at various sites around the world.

The hot spot analysis should seek **peak** values for all measurements so as not to underestimate the effect on human health. The impact of various temperatures and day and night changes and local wind patterns should be included in model analyses.

Discussion:

Air pollution in our region is significantly influenced by fossil fuel emissions from transportation. Human health is significantly impacted by the air pollutants produced by fossil fuel combustion regionally and locally. Key pollutants that are recognized as having adverse health effects include particulate matter (PM) of various sizes with increasing concerns about ultrafine particles and carbon black, ozone (O_3), Nitrous Oxide (NO_X), and Nitrogen Dioxide (NO_2) as well as acid and organic vapors.

Health studies of air traffic pollution have shown an association with increased cancer risk, increased cardiovascular events and death, and lung inflammation with worsening of asthma and lung function.

Children are particularly sensitive to regional and local air pollution, leading to permanently decreased lung function and increased incidence of or worsening of asthma.

> Children in more polluted communities are almost 5 times as likely to have clinically abnormally lung function compared to those in less polluted communities. As alarming as this is, the greatest effect of pollution-related deficits may occur later in life, since reduced lung function is a strong risk factor for complications and death during adulthood.(NEJM Sept 9, 2004 vol 351: 1057-67 Gauderman)

Inability to get enough exercise because of poor air quality and asthma attacks can impair quality of life, and increase the risk of obesity and associated health problems. Later, societal health care costs could be significantly adversely impacted.

Proximity to a freeway or busy roadway increases many health risks. Wind can be a factor how far the pollution is distributed, up to 1.5 miles in some scientific literature.

Diesel emissions, predominantly from trucks, are major contributors to air pollution. Proximity to truck diesel traffic increases health risks. Diesel particulate emissions are labeled as cancer causing toxic air contaminants. The particles may penetrate deeply into lung and vascular tissues and stay there for a long time. Diesel particulate is responsible for 70% of total cancer risk from all toxic air pollution according to AQMD. Diesel gaseous compounds are also hazardous.

We are very concerned about the project proposal and the health impacts of increased truck and other highway traffic in our neighborhoods. We want livable, healthy neighborhoods, not more freeways.

No 710 ACTION COMMITTEE MEMBERS SUPPORTING THIS REQUEST:

NAME	ADDRESS	DATE	EMAIL
Carol Teutsch	[redacted] LA, CA [redacted]		[redacted]
CLARICE KWAAP	[redacted] SO. PASADENA [redacted]		
Waynna Kato	[redacted] S. Pas [redacted]		
William D. Sherman MD	[redacted] S.P, CA	4/2/11	
Richard D. Schneider	[redacted] SP [redacted]	4/4/11	
SAM BURGESS	[redacted] SOUTH PASADENA [redacted]	4/2/11	
Hazel A. Knapp	[redacted] S. Pas [redacted]	4/2/11	
JANICE Scotto	[redacted] LA CANADA CA	4/2/11	
SUSAN BOLAN	[redacted] LA CRESCENTA CA [redacted]	4/2/11	
SHERRILL STUBBS	[redacted] LA CRESCENTA	4/2/11	
TRISHA GOSSETT	[redacted] HIGHLAND PARK [redacted]		
Elise Kalfayan	[redacted] Glendale CA [redacted]	4/2/11	
MARY ANN PASADA	[redacted] SOUTH PASADENA, CA [redacted]	4/2/11	

No 710 ACTION COMMITTEE MEMBERS SUPPORTING THIS REQUEST:

NAME	ADDRESS	DATE	EMAIL
Don Ford	[redacted]		
Odom Stamps	[redacted]	4/1/11	
[redacted]	[redacted] S. Oak Pas [redacted]	4/2/11	
JANET ERVIN	[redacted] S. Pas	4/2/11	
Jim Miller	[redacted], So. PASADENA	4/2/1	
Claire Bogaard	[redacted], Pasadena	4/2/1	
TRISHA GOSSETT	[redacted]	4/2	
Aaron Kelly	[redacted]	4/11/11	

Attachments:

Appendix A: Bibliography of Health/Pollution Impacts links

Appendix B: Outline of Health Concerns for 710 Tunnels Scoping

Appendix C:
http://departments.oxy.edu/uepi/Global%20Trade%20Executive%20Summary.pdf
Page 4, Chart on Selected Health and Economic Impacts of Freight in
Global Trade Impacts: Addressing the Health, Social and Environmental Consequences.....

http://t4america.org/docs/blueprint_summary.pdf
Page 7, National Transportation Objectives and Targets

http://coalitionforcleanair.org/air-pollution-pollutant.html
http://coalitionforcleanair.org/air-pollution-10facts.html
http://coalitionforcleanair.org/our-programs-transportation-facts.html

APPENDIX A

Attached please find an extensive bibliography of health effects from traffic pollution that the community has collected. We have sorted them into a number of different categories for ease of use with their active links. The EIR should actively study All these health concerns and weigh them against the various transportation benefits. The externalities of health impacts of certain projects may significantly diminish any transportation benefits, making certain alternatives unacceptable. Community health and cohesiveness is of critical importance to those in the path of the proposed tunnel. We are demanding a balanced look at the issues, that will stand up to scientific scrutiny and evolVing health and transportation policies. Mitigation of health effects can be difficult, prohibitively expensive, or inadequate so we want honest and full disclosure. We are asking for SMART GROWTH and MOBILITY MANAGEMENT. We know the old solutions are not safe and sustainable.

Health and Pollution Impact

Official statements from various organizations

http://acta.org/projects/tech studies/Health_Risk_Assessment.pdf
HRA prepared for the Heim Br./SR-47 project

http://www.aqmd.gov/ceqa/igr/2009/February/feb09.html
February 2009 Comment Letters Draft Environmental Impact Reports
The following letters were written (date sent in parentheses) by the AQMD commenting on the air quality analysis. PDF files require the use of a reader.

http://www.aqmd.gov/ceqa/igr/2009/February/EISEIRI-710.pdf
"Protocol for the Air Quality and Health Risk Assessments (AQ/HRA) for the I-710 Corridor Environmental Impact Report"
Environmental Impact Statement (EIR/EIS) South Coast Air Quality Management District FEBRUARY 22. 2009

http://www.greenenvironmentnews.com/feed_images/2b08292e-7379-4373-9ba8-0f2324b4f956.pdf
Hearing on "Air Pollution Challenges for California's Inland Empire" United States Senate Committee on Environment and Public Works
Senator Barbara Boxer, Chairman Wednesday, October 10, 2007: San Bernardino CA
"Air Pollution and Health" - testimony by: W. James Gauderman, Ph.D. Keck School of Medicine

http://www.ictf-jpa.org/publiccomment/Letters/NaturalResourcesDefenseCouncil-022609.pdf
Re: Notice of Preparation / Initial Study - ICTF Project
Natural Resources Defense Council American Lung Association In California Coalition For A Safe Environment Coalition For Clean Air Communities For Clean Ports East Yard Communities For Environmental Justice Harbor Watts Edc Long Beach Alliance For Children With Asthma San Pedro And Peninsula Homeowner's Coalition February 25, 2009
Re: 1-710 Project EIR Alternatives
Barry R. Wallerstein D.Env. South Coast, Air Quality Management District, February 17,2009, Pgs 9-14

http://hydra.usc.edu/scehsc/web/Resources/Reports%20and%20Publications/THE%20Impact%20Project%20Report%20-%20June%202009%20FINAL.pdf
THE Impact Project Trade, Health, Environment Making the Case for Change
THE Impact Project June 2009

Air Pollutants from traffic

http://www.arb.ca.gov/research/health/healthup/march07.pdf
Health Effects Associated With Traffic-Related Air Pollution
Air Resources Board California Environmental Protection Agency, March 22, 2007

http://eprints.qut.edu.au/27536/
On-road ultrafine particle concentration in the M5 East road tunnel, Sydney, Australia
Knibbs, Luke D., deDear, Richard, Mengersen, Kerrie, & Morawska, Lidia (2009) On-road ultrafine particle concentration in the M5 East road tunnel, Sydney, Australia. *Atmospheric Environment*, *43*(22-23), pp. 3510-3519.

http://pubs.acs.org/doi/abs/10.1021/es062590s?prevSearch=freeway%2Bpollution&searchHistoryKey=
Particle Concentration and Characteristics near a Major Freeway with Heavy-Duty Diesel Traffic
Leonidas Ntziachristos, Zhi Ning, Michael D. Geller, and Constantinos Sioutas*
Department of Civil and Environmental Engineering, University of Southern California, Los Angeles, California 90089
Environ. Sci. Technol., 2007, *41* (7), pp 2223-2230 DOI: 10.1021/es062590s Publication Date (Web): February 23, 2007
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We Gotta Clean Up: Freight Transportation's Hidden Cost to Health and the Planet
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State of California California Environmental Protection Agency Air Resources Board arb Emission Reduction Plan for Ports and Goods Movement in California http://www.arb.ca.gov/planning/gmerp/plan/final_plan.pdf
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http://www.medscape.com/viewarticle/473165
Emerging Infectious Diseases
Coccidioidomycosis Among Workers at an Archeological Site, Northeastern Utah
Lyle R. Petersen; Stacie L. Marshall; Christine Barton-Dickson; Rana A. Hajjeh; Mark D. Lindsley; David W. Warnock; Anil A. Panackal; Joseph B. Shaffer; Maryam B. Haddad; Frederick S. Fisher; David T. Dennis; Juliette Morgan Posted: 04/22/2004; Emerging Infectious Diseases. 2004;10(4) © 2004 Centers for Disease Control and Prevention (CDC)

http://arizonapublicrecordsearch.org/353/valley-fever-2/
Valley Fever
There is no doubt that construction companies contribute significantly to Valley Fever. According to the MayoClinic
By ADMIN, Arizona Public Record Search, on December 27, 2010

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Project Stirs Fears Of Valley Fever; Residents Say Construction May Spread Harmful Spores
Byline: Gloria Gonzales Daily News Staff Writer Copyright 1998 Daily News

APPENDIX B

OUTLINE of health concerns for 710 Tunnels Scoping

Tunnel Safety

Traffic accidents--specific dangers of a tunnel accident with fires

Major hazards: earthquakes, floods, terrorist attacks

What will be the typical time in tunnel with current congestion patterns?

Rescue and safety capability within the tunnel; escape routes; handicap escapes

Tunnel and Health

Monitor pollutants - tunnels concentrate pollutants:

Specify PM including ultrafine, carbon black, ozone, Nitrogen dioxide, NO_2, CO_2

Brake and tire lining emissions; tire rubber, fine organic aerosols

Temperature and seasonal impacts/day and night impacts/ wind impacts on pollutants

What are the health effects in a tunnel with stopped traffic? Noise, pollution, psychological

HIA, HRA should cover the following tests and analyses:

Concentrations in proximity to portals and ventilation shafts

Concentrations at sensitive sites including schools, hospitals, residences

Effect on asthma

Effect on lung disease

Possible effect on diabetes, breast cancer

Neurotoxin effect on brain cancers and cognitive dysfunction

Cardiovascular -mortality, cardiovascular events, vascular inflammation, stroke, BP

Miscellaneous: appendicitis, pneumonia

Children:

lung development, asthma, autism, fetal brain development

Women:

Differential effect on women: lungs, premature births, fetal brain development, increased abortion rates

Continuum of effect-no threshold (important for mitigation)

Diesel specific health data

Duration of exposure with regular commuters

Comparison with smoking risk

Distance from freeway/tunnel/ventilation shafts modeling 500 feet up to 1.5 miles

Other health externalities: missed school, missed work, increased health expenses, increased stress/worry

Tunnel Construction

Workers safety

Dust displacement into air; coccidioidomycosis

Disruption of underground water supplies

Tunnel finances

Cost estimates don't take into consideration **health externalities**

PPP responsibility to health and communities

Ultimately liability for health impact

Tunnel Impact on Quality of Life

Alignment with transportation needs and goals to make livable, equitable communities

Alignment with regional climate and air quality goals/guidelines/standards

Alignment with complete roads concepts

Impact on regional air quality

APPENDIX C

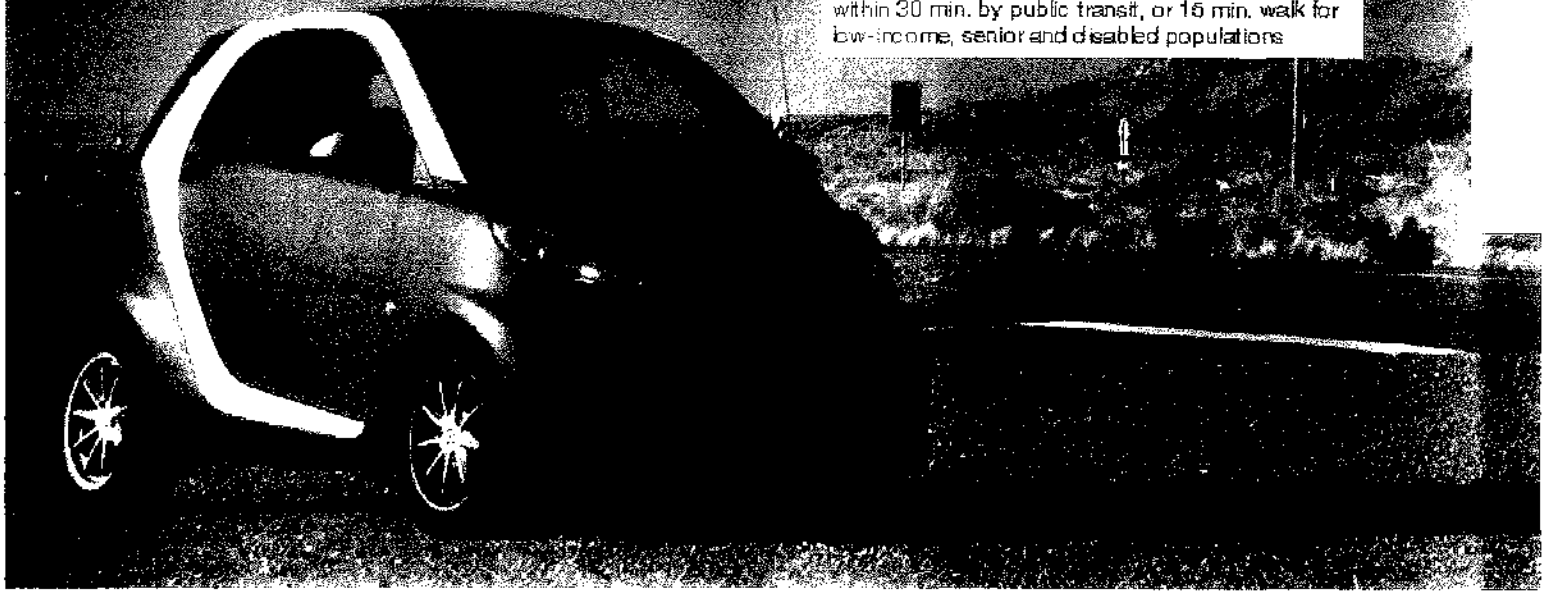
Selected Health, Economic & Community Impacts - Freight Transportation

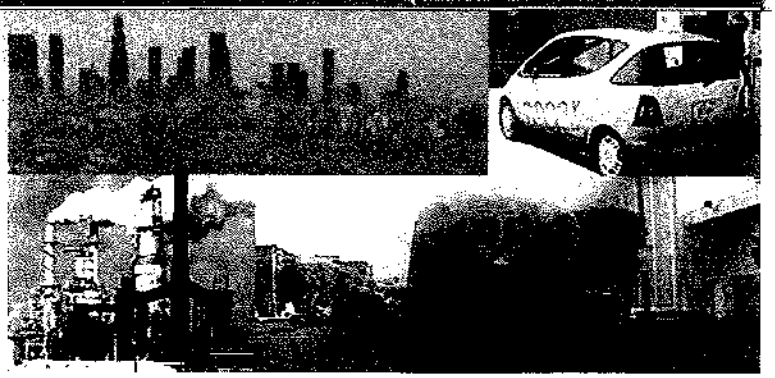
REGIONAL AIR POLLUTION	Particulate matter	Elevated levels of PM2.5 in the air	Cardiovascular disease, COPD (e.g., emphysema)
	PM and elemental carbon (EC)	In vehicle exhaust; EC is a marker for diesel	Chronic exposure leads to reduction lung function in children
	Ultrafine particles (UFPs)	In vehicle exhaust; considered very toxic	When lab animals breathe UFPs, some end up in the brain; UFPs can cause artery hardening in lab animals
	Nitrogen dioxide -- precursor to ozone	Diesel emissions contains high levels of NO_2	Increase in school absences is linked to increases in ozone levels
LIVING NEAR TRAFFIC-RELATED AIR POLLUTION	Living close to highways	Children	Increased asthma; exacerbation of asthma (e.g., wheezing) and use of more asthma medication
	Living or going to school near a busy road	Children	More likely to develop new cases of asthma
	Living near busy roads	Pregnant women	More likely to have premature or low birth weight babies or miscarriages, or develop preeclampsia
	Living near a freeway	Adults	Thickening of the artery walls that can lead to heart disease and stroke
	Living within 50 meters of a busy road with more than 15,000 vehicles/day	Women	More likely to develop mild cognitive decline as they age
	Living near busy roadways	Women	More likely to develop new cases of diabetes
	Living near busy roads	Men and women	More likely to develop stroke and new cases of heart disease
HIGH NOISE LEVELS	Community noise pollution	At risk: those living near busy highways, marine terminals, airports, rail yards, and train tracks, and/or construction of the above	Residents near airports and highways show (for adults) an increase in cardiovascular disease and stroke, sleep difficulties and anxiety; and (for children) problems with school behavior and anxiety
	Elevated levels of noise in workplaces	At risk: dock workers, railroad workers and truck drivers	Long term exposure can cause hearing loss, stress and high blood pressure
LABOR ISSUES: WORKER HEALTH AND SAFETY	Contingent employment - e.g., warehouse workers	Workers often hired by agencies as temporary workers with low-pay and no benefits	Stressful, insecure jobs without benefits
	Misclassification as independent contractors rather than employees	Port truck drivers	Lack of basic worker protections, such as hourly wage, overtime, health insurance, unemployment benefits, right to organize - and OSHA protections
	Diesel exhaust	Dock workers, railroad workers, truck drivers and workers at trucking operations	Increase in lung cancer in all three occupations; increase in COPD (e.g., emphysema) among railroad workers
	Heat	Lack of air conditioning in cabs of trucks and locomotives and inside huge distribution centers	If outdoor temperatures are extremely high and there is no relief or mitigation, workers can suffer from heat stress illnesses
	Injuries/fatalities	Some parts of the freight transportation industry are considered "high hazard"	E.g. The 2009-2010 California OSHA highest hazard industry list included warehousing and truck transportation
COMMUNITY IMPACTS	Industrial blight	Empty containers in lots near homes; views of industrial cranes	Decreases home values and quality of life
	Traffic Congestion	Cars must travel with big-rig trucks; expanding number of heavy duty trucks hauling containers; truck driving schools operating in neighborhoods	Stress from congestion; increased commuting time means longer times on the road breathing air pollution in exhaust from cars and trucks
	Cars traveling in same lanes and on same highways	Expanding number of heavy duty trucks hauling	Injuries and fatalities in car-truck accidents.
	24-hour lighting	Lights shine in windows	Difficulty sleeping at night
	Road repairs	Highways, truck routes, residential streets near rail yards, ports and warehouses	High cost to local and state taxpayers to repair the roads and highways from big-rig truck damage
	Eminent domain	Exerts the right of railroads or governments to appropriate private property (e.g., to build a highway)	Community residents can lose their homes

National Transportation Objectives & Targets

2010-2030

Objectives	Performance Targets
Improve Economic Competitiveness, Transportation System Efficiency and Workforce Development Opportunities	Reduce per capita vehicle miles traveled by 16%
Improve Transportation System Conditions and Connectivity	Triple walking, biking and public transportation usage
Promote Energy Efficiency and Achieve Energy Security	Reduce transportation-generated carbon dioxide levels by 40%
Ensure Environmental Protection, Restore Climate Stability and Resolve Persistent Environmental Justice Issues	Reduce delay per capita by 10%
Ensure Safety for All Transportation Users and Improve Public Health Outcomes	Increase proportion of freight transportation provided by railroad and intermodal services by 20%
Provide Equal and Equitable Access to Transportation Options in Urban, Suburban and Rural Communities	Achieve zero percent population exposure to at-risk levels of air pollution
	Improve public safety and lower congestion costs by reducing traffic crashes by 50%
	Increase share of major highways, regional transit fleets and facilities, and bicycling/pedestrian infrastructure in good state of condition by 20%
	Reduce average household combined housing + transportation costs 25% (use 2000 as base year)
	Increase by 50% essential destinations accessible within 30 min. by public transit, or 15 min. walk for low-income, senior and disabled populations





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The Coalition for Clean Air is dedicated to restoring clean, healthful air to California by advocating responsible public policy, providing technical and educational expertise, and promoting broad-based community involvement

Top 10 facts Californians should know about air pollution and health

1. Breathing air in polluted metropolitan areas such as Los Angeles or Riverside can reduce your life expectancy by 2 to 3 years.

2. Motor vehicles and other air pollution sources that move, such as ships, trucks, trains, buses and even lawnmowers, account for about 90% of the cancer risk in the greater-Los Angeles region – with stationary sources such as power plants and factories accounting for only about 10%.

3. Diesel exhaust from trucks, ships, trains and buses has been declared to contain over 40 substances listed as hazardous air pollutants by the U.S. EPA.

4. When you drive in bumper-to-bumper traffic, pollutants outside can seep into your car, making the air you breathe inside your car up to 10 times more polluted than typical city air.

5. Every day that a ship sits at dock unloading its cargo, it releases an entire ton of smog-forming and toxic pollutants.

6. If you live, work or go to school near freeways, high-traffic roads, seaports, and rail yards, you are generally at greater risk for cancer and decreased lung function, studies show, because these places contain more concentrated levels of air pollution.

7. For your child, toxic air pollution is an even bigger problem, in part because children breathe much more quickly than adults.

8. Asthma is a leading cause of school absenteeism, according to the California Department of Education.

9. Even if you don't smoke cigarettes at all, your lungs or heart may be similarly damaged simply from exposure to ozone and particulate matter. The American Heart Association recently declared, "[Air pollution's] impact on cardiovascular disease ... represents a serious public health problem."

10. Health impacts from diesel pollution exposure, such as premature death, heart disease, asthma and bronchitis, cost some $22 billion statewide in 2004, not including impacts such as lost work and school days.



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Pollutants & Health Effects

-- Select Topic or Scroll Down --

Particulate Matter (PM)

Particulate matter or PM consists of soot and dust particles that are smaller than the diameter of a human hair. There are two classifications for particulate matter, PM10 and PM2.5. All particles smaller than 10 microns in diameter are classified as PM10, or coarse size particles. Fine size particles, or PM2.5, are those particles less than or equal to 2.5 microns in diameter. Particles that are smaller 2.5 microns are smaller than 1/8th the diameter of a human hair. Sources of PM include diesel exhaust, soil dust, tire wear, and soot. These particles penetrate deeply into the lungs and are captured by lung tissue. A major contributor to the PM pollution problem is exhaust from diesel vehicles, which produce 79% of the particulate emissions from mobile sources. The most dangerous aspect of PM pollution from diesel vehicles is the hundreds of different chemicals that are adsorbed to the particle. Exposure to PM pollution has been associated with respiratory and cardiac problems, infections, asthma attacks, lung cancer and decreased life expectancy. The World Health Organization has estimated that 500,000 premature deaths each year may be associated with PM pollution. Fine particulate air pollution (<2.5 microns) is thought to be more dangerous because of its ability to penetrate deeper into lung tissue. A recent study found that even a small increase in PM2.5 can result in a significant increase in mortality. In fact, The American Lung Association believes that PM2.5 represents the most serious threat to our health. Segments of the population that are more susceptible to PM pollution include children, athletes, senior citizens, and people with pre-existing respiratory problems.

Ozone

Ozone forms when hydrocarbons combine with nitrogen oxides and chemically react in sunlight. Hydrocarbons and nitrogen oxides are primarily produced by motor vehicles and various industrial practices. Ozone is a highly reactive oxidizing agent that breaks-down organic materials. Ozone is the primary component of smog, which has plagued Los Angeles for many years. A natural phenomenon called an "inversion layer" traps these gases and prevents them from dissipating into the atmosphere. The result is a serious smog problem in the valleys and basins of Southern California. Smog and the related high ozone levels are not just a California problem; Texas City, Texas recorded the highest one-day ozone level in the country for 1999. As populations grow, ozone and smog are becoming problems for large

cities throughout the country. Symptoms of ozone exposure are coughing, shortness of breath, wheezing, fatigue, throat dryness, chest pain, headache and nausea. Ozone has been shown to cause inflammation of lung tissue and reduced lung capacity. Development of asthma, increased lung cancer mortality rates, and accelerated lung aging have all been linked to ozone exposure. Lung damage from long-term exposure to ozone can be permanent, while short-term exposure appears to be reversible. Ozone reduces the respiratory system's ability to fight infection and remove foreign particles such as particulate matter. Segments of the population that are more susceptible to ozone pollution include children, athletes, senior citizens, and people with pre-existing respiratory problems.

Hydrocarbons

Hydrocarbons are a class of reactive organic gases or ROG, which are formed solely of hydrogen and carbon. Hydrocarbons contribute to the formation of ozone and the resulting smog problem. Carcinogenic forms of hydrocarbons are considered hazardous air pollutants, or air toxics. The incomplete burning of any organic matter such as oil, wood, or rubber produces hydrocarbons. Combustion engine exhaust, oil refineries, and oil-fueled power plants are the primary sources of hydrocarbons. Another source of hydrocarbons is evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint. The primary health effect of hydrocarbons results from the formation of ozone and its related health effects. High levels of hydrocarbons in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement.

Nitrogen Oxides (NOx)

Nitrogen monoxide (NO) and nitrogen dioxide (NO2) are the two forms of nitrogen oxide found in the atmosphere. Nitrogen oxides contribute to the formation of ozone, production of particulate matter pollution, and acid deposition. The presence of nitrogen oxides gives smog its brown appearance. Factories, motor vehicles and power plants that burn fossil fuels produce nitrogen oxides. Diesel engines produce a disproportionately large amount of NOx when compared to gasoline engines because of their high temperature combustion process. Nitrogen dioxide has been shown to irritate lung tissue, cause bronchitis and pneumonia, and reduce resistance to respiratory infections. The presence of NO2 in the atmosphere can have synergistic effects with other forms of air pollution. The health effects of ozone are magnified in the presence of nitrogen dioxide. Frequent or long-term exposure to high levels of nitrogen oxides can increase the incidence of acute respiratory illness in children.

Carbon Monoxide (CO)

Carbon monoxide is a colorless, odorless gas that is produced by burning organic matter such as oil, natural gas, fuel, wood, and charcoal. Motor vehicles produce 67% of the man-made CO that is released into the atmosphere. Carbon monoxide displaces oxygen in red blood cells, which reduces the amount of oxygen that human cells need for respiration. Exposure to CO can result in fatigue, angina, reduced visual perception, reduced dexterity, and death. The elderly, young children, and people with pre-existing respiratory conditions are particularly sensitive to carbon monoxide pollution. Carbon monoxide is extremely deadly in an enclosed space, such as a garage or bedroom.

Sulfur Dioxide (SO2)

Sulfur dioxide is a colorless gas produced by motor vehicles, refineries, and power plants that burn fossil fuels. Fossil fuels like coal and oil vary in sulfur concentrations and as a result the amount of sulfur dioxide they produce when burned. A high level of sulfur dioxide in exhaust gas can interfere with emission control mechanisms for other pollutants. Sulfur dioxide reduces respiratory volume, and increases breathing resistance in those exposed, especially asthmatics. Studies have also shown that sulfur dioxide increases nasal airway resistance. Other research has shown that daily mortality rates are consistently associated with sulfur dioxide and ozone levels.

Air Toxics

Air toxics, which are also known as hazardous air pollutants, are 188 toxic and potentially toxic compounds listed by the Federal Clean Air Act. Air toxics are generally organic chemicals, including some hydrocarbons that are highly evaporative in nature. Sources for air toxics are motor vehicles, chemical plants, paint, and any other operation that uses organic compounds. Benzene, formaldehyde, acetaldehyde, 1,3-butadiene, and acrolein are typical examples of air toxics. Air toxics are pollutants that cause or are suspected of causing cancer in those exposed to them. Cancer is the primary health effect studied due to the low exposure concentrations of these air toxics such as benzene, and formaldehyde. Benzene has been shown to cause aplastic anemia and acute myelogenous leukemia in occupational studies of workers exposed to it. Known health concerns related to aldehydes include cancer, asthma, and respiratory tract irritation. It is also believed that these air toxics have impacts on the reproductive system by causing chromosomal aberrations or mutations. The nature of air toxics still poses many uncertainties about their true health effects. These chemical compounds have many different forms and metabolites as they are broken down, and little is known about how they interact with the body. The health effects of particulate matter from diesel exhaust are thought to be attributable to the many air toxics that are adsorbed to the particles. These small particles penetrate deeply into the lungs, and are the perfect vehicle for delivering air toxics into the body.

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Transportation Facts

-- Select Topic or Scroll Down --

General

- California population (2003): 36,363,502
- Registered cars and trucks in California: 24 million
- Miles driven every day in California: 825 million
- Miles driven daily by the average driver: 36
- Gallons of fuel burned every day in California: 47 million
- Pounds of pollutants created daily: 5.4 million

Diesel

- Diesel exhaust is known to cause cancer, asthma, and other respiratory diseases.
- The health risk from diesel exposure is greatest for children and the elderly. The proximity of a child's residence and school to major roads is linked to asthma occurrence.
- Asthma limits children's ability to participate in sports, and is the most common cause of children's absence from school due to hospitalization.
- The State of California decided that there is enough evidence to list the particulate matter in diesel exhaust as a toxic air contaminant.
- Exhaust from heavy-duty diesel engines contains between 100-200 times more small particles than gasoline engine exhaust.
- California's Scientific Review Panel estimates that 16,000 Californians will develop lung cancer over a lifetime of diesel exhaust exposure.
- Only 2 percent of the vehicles on California's roads run on diesel. Yet they account for 31 percent of smog-forming nitrogen oxides, and for 79 percent of particular matter emissions from on-road vehicles.
- Cleaner alternatives to diesel are available, such as liquefied natural gas, compressed natural gas, or propane. Electric or fuel-cell engines are being enhanced to provide future alternatives.

Special Groups

- Children breathe at a rate twice that of adults, and are thus more susceptible to the

toxicity of airborne diesel particles, vapors and gases.
- Some diesel exhaust causes pollutes the inside of buses when entering the cabin.
- There is a continuing need to replace older, dirtier buses with cleaner, newer buses to reduce children's exposure to vehicle related pollutants.
- The average diesel school bus is 223.5 times more toxic than a new compressed natural gas (CNG) school bus.
- Although a clean school bus powered with compressed natural gas costs about $30,000 more than a diesel bus, it is cheaper in maintenance.

Alternative Fuel Vehicles

- Electric vehicles (EV's) are the only true zero-emissions vehicles on the road.
- The only emissions from electric vehicles are from upstream power plants providing electricity.
- Upstream emissions for gasoline vehicles are more than 14 times higher than fo electric vehicles.
- Electric vehicles run on electricity provided by on-board batteries, and can be recharged at any of the many recharging stations around the state.
- As of March 2002, there were more than 4,000 electric vehicles on the road in the U.S., most of them in California.
- Hybrid vehicles offer 2-3 times the energy efficiency of a comparable gasoline-only car, and have ranges of about 600 miles on a tank of gas.
- The most widely available hybrid vehicles are the Honda Insight and the Toyota Prius, which have retail prices of about $20,000. The Ford Escape Hybrid will be launched late summer 2004, at a retail price of around $27,000.
- Comprehensive data of vehicles' fuel economy and emissions is provided by the Environmental Protection Agency's "Green Vehicle Guide": http://www.epa.gov/greenvehicles.

Light Trucks and SUV's

- By federal law, light trucks and SUV's do NOT have to meet the strict emission standards placed on passenger cars.
- Light trucks and SUV's now account to almost half of all auto sales in the United States.
- Many Light Trucks and SUV's run on diesel, which severely increases the danger of lung diseases.
- In average, light trucks and SUV's of the 2004 model year achieve only about 70 percent of the fuel economy of average cars.
- With advanced technology, such as gasoline-electric hybrid motors, auto manufacturers could ensure that SUV's and light trucks meet the same emission standards as cars.

Ports

- The Ports of Los Angeles and Long Beach are the largest fixed source of air pollution in the South Coast Air Basin. Communities neighboring these ports suffer from some of the highest cancer risk due to air pollution in our region.
- The number of cargo containers entering these ports is expected to as much as quadruple in the next 20 years.
- A container ship that idles at dock emits about as much diesel pollution as a diesel truck traveling 70,000 miles – the approximate distance of three trips around our earth. These ships can produce more than 1 ton of smog-forming compounds during a 24 hour period at the dock.
- Shoreside power allows ships to turnoff their dirty auxiliary engines – virtually eliminating pollution at the dock.
- This technology has been used by the Navy for decades. The technology has also been proven successful for cruise ships and other harbor craft.
- The first container terminal with dockside power capability opened in 2004 as a result of a settlement between the Port of Los Angeles, NRDC, the Coalition for Clean Air and local community groups. A container ship with dockside power capability has already docked twice and ran on electric power.

Airports

- Los Angeles International Airport is the second largest industrial smog source in the Los Angeles Area.
- Air pollution from airports is exempt from many rules that other industrial polluters must follow.
- Air travel is expected to double within the next two decades. It is the fastest growing mode of travel in the United States.
- One 747 arriving and departing from JFK airport in New York City produces as much smog as a car driven over 5,600 miles, and as much polluting nitrogen oxides as a car driven nearly 26,500 miles.
- Airplanes can save a lot of fuel if they have the ability to move on ground with just one engine running.
- The United States is one of only 3 countries opposing a worldwide standard that would reduce the impact of aircraft emissions in the atmosphere.

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Sacramento office: 1107 9th St., Suite 630, Sacramento, CA 95814 Tel: 916.498.1560 Fax: 916.498.1547 nk@coalitionforclean.org
Fresno office: 1540 N. Van Ness Ave., Suite 104, Fresno, CA 93728 Tel: 559.482.3270 Fax: 559.488.3889

February 14, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Re: Draft 2012 Regional Transportation Plan and Program Environmental Impact Report

Dear Mr. Ikhrata:

The Orange County Transportation Authority, Transportation Corridor Agencies, Orange County Council of Governments, Association of California Cities - Orange County, County of Orange, Orange County Business Council, and undersigned organizations representing local agencies thank you for the opportunity to comment on the Southern California Association of Governments' (SCAG's) Draft 2012 Regional Transportation Plan (RTP) and associated Program Environmental Impact Report (PEIR). We acknowledge SCAG's effort to deliver the draft documents, and your commitments to incorporate the Orange County Sustainable Communities Strategy (OC SCS) and Long-Range Transportation Plan (LRTP) as presented to you.

Each of our agencies has prepared individual comment letters; however, this letter emphasizes some issues of common concern raised through our collaborative review.

- Induced growth discussions incorrectly imply a lack of coordination between land-use and transportation planning agencies and are contrary to the balanced plans provided through the LRTP and OC SCS collaboration process. Please state that land-use plans and transportation projects identified in the OC SCS and LRTP are balanced and, if necessary, clarify under what circumstances "induced growth" may occur.

- The preliminary determination that all of the mitigation measures are feasible is not supported within the draft documents. Moreover, the "can and should" language incorrectly implies that mitigation measures are feasible for the identified agencies. SCAG should provide a clear statement that all mitigation measure recommendations are advisory and replace the "can and should" phrase with "may" when referencing mitigation measures.

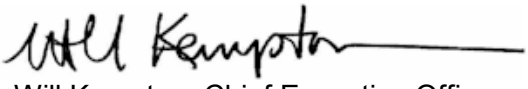
- Multiple mitigation measures appear to exceed SCAG's authority and responsibilities for implementation. These mitigation measures should be restated or removed as appropriate.

- New revenue sources and innovative financing strategies used to demonstrate financial constraint can have significant impacts on businesses and the economy that must be clearly understood before advancing. In fact, the RTP

vision statement recognizes the linkages between economy and the regional transportation system. Specifically, details on how any new user fees would be further defined, evaluated, and advanced must be evaluated through a full economic analysis prior to final adoption of the RTP. In addition, this analysis should demonstrate, by county, the need for new revenues, how the new revenues are proposed to be invested, and how a county-level return to source mechanism can be ensured.

We encourage SCAG to pay particular attention to these issues and the specific comments submitted by the respective agencies and ensure that they are appropriately addressed in the RTP and PEIR revisions.

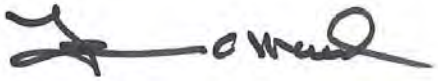
Regards,



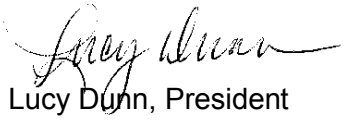
Will Kempton, Chief Executive Officer
Orange County Transportation Authority



Tom Margro, Chief Executive Officer
Transportation Corridor Agencies



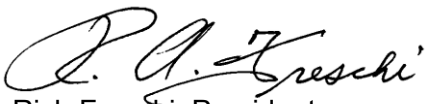
Tom Mauk, Chief Executive Officer
County of Orange



Lucy Dunn, President
Orange County Business Council



Lisa Bartlett, President
League of California Cities,
Orange County



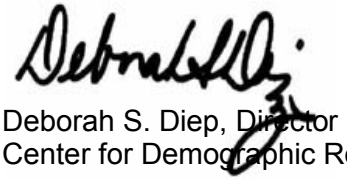
Rich Freschi, President
Independent Special Districts of
Orange County



Peter Herzog, Chairman
Orange County Council of Governments



Lacy Kelly, Chief Executive Officer
Association of California Cities -
Orange County



Deborah S. Diep, Director
Center for Demographic Research

c: OCTA Board of Directors
OCCOG Board of Directors
Orange County City Managers Association

ORANGE COUNTY BUSINESS COUNCIL

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February 13, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

RE: Draft 2012 Regional Transportation Plan & Sustainable Communities Strategy (RTP/SCS) and the Program Environmental Impact Report (PEIR) - COMMENT

Dear Mr. Ikhrata:

Based in America's sixth largest county, Orange County Business Council represents the largest and most innovative employers who comprise the economic engine of Southern California. We advance Orange County's economic prosperity while protecting a high quality of life.

We appreciate the monumental task of compiling the RTP/SCS and the PEIR and commend SCAG on its concerted effort to engage with the community and local jurisdictions in development of these mandated documents. In particular, SCAG has worked closely with Orange County to ensure that our own SCS met requirements while also addressing the needs of the community. We recognize the difficult position SCAG is in to do the same on a regional basis – meeting federal and state laws while also addressing the needs of very disparate communities in a geographically and socio-economically large and diverse region. However, in the effort to be all things to all groups, both documents suffer.

From the business community's perspective, the documents inadequately address the role of goods movement as part of the comprehensive transportation plan for a healthy and thriving region, as well as constrain opportunities to provide adequate housing options. In addition, the recognition of existing regulatory authority or local control is muted through the seemingly misplaced authority delivered in the mitigation measures. The following highlights some of these areas of concern.

RTP/SCS

- There are repeated references throughout the RTP/SCS that transportation projects "induce growth" which incorrectly implies a lack of coordination between land-use and transportation planning agencies and that there was insufficient effort in the planning process to accommodate for anticipated, organic, population growth. The RTP/SCS and the PEIR should differentiate between balanced, planned growth identified by local jurisdictions, and growth that is inconsistent with what is already being planned for at the local level.

- SCAG should identify in the plan the economic contribution of the goods movement sector to the regional and state economy and elevate the importance of the east-west corridor as critical to the future of California's position in the global economy.

- The RTP should explicitly state how any new user fees would be further defined, evaluated (both for economic and feasibility impacts), and advanced. In particular, the analysis should demonstrate the need for new revenues and how the new revenues are proposed to be invested, while also protecting existing transportation plans as identified by local transportation entities. <u>Voter-approved projects funded by local sales tax measures must be protected.</u>

- With the elimination of redevelopment agencies, the ability of local jurisdictions to meet the densification of urban centers in the near term is highly problematic and ignores issues related to aging or inadequate infrastructure capacity and high development costs for higher density projects. It also threatens the availability of sufficient housing options necessary to meet the needs of a dynamic workforce. Recommendations regarding land-use should take into account the region's unique communities, market forces, and take a flexible not proscriptive approach to protect regional diversity.

- Finally, since passage of SB 375, the State of California has de-funded transit, transportation and redevelopment support for local government. This continues years of state diversion of revenues from gasoline, sales, income and other taxes needed for local government programs. Local government cannot achieve these mandated changes without increased, not decreased, state support. SCAG should explicitly state the imperative for state support for planning, transit, transportation and redevelopment or other necessary funding to pre-SB 375 levels in order to achieve mandated goals.

PEIR

- With over 500 mitigation measures, half of them being proposed for the first time in a SCAG RTP, the PEIR raises significant concerns for the regulated community. Although SCAG has expressed in community meetings that the PEIR mitigation measures merely offer a "toolbox of possible solutions", history shows that there are no such things as good intentions when it comes to the tortured CEQA process. The PEIR needs a clear explanation that lead agencies should select those measures that apply to a specific project. The final PEIR should not block the intent of SB 375 to provide CEQA streamlining for certain types of advantageous projects.

- The wording of the mitigation measures utilizing "can and should" incorrectly implies that mitigation measures are feasible for the identified agencies. SCAG should provide a clear statement that all mitigation measure recommendations are advisory and replace the "can and should" phrase with "may" when referencing mitigation measures.

- Multiple mitigation measures appear to exceed SCAG's authority and responsibilities for implementation and have nothing to do with the RTP/SCS or its impacts. Further, many of these mitigations could create conflict with existing regulations. For example, the requirement for local jurisdictions to implement individual "climate action plans" is contradictory to the regional planning undertaken in the SCS. These mitigation measures that have nothing to do with the regional planning for future development or emissions from vehicular use should be restated or removed as appropriate.

- Perhaps to further clarify the intent, all mitigation measures not directly controlled by SCAG should be moved out of the PEIR document and into an appendix, which can be referenced as the "tool box" resource for consideration by other entities (a local jurisdiction, project sponsor, or other). However, this appendix would need to specifically state that no determination of feasibility on the measures has been made and that they are not intended to supersede any existing law or regulation.

We look forward to our continue partnership with SCAG and other business, housing and transportation entities as we all work to enhance the economic prosperity of the region and ensure a high quality of life. We respectfully ask SCAG to consider and address our comments in the RTP and PEIR revisions.

Sincerely,



Kate Klimow
Vice President, Government Affairs

OCCOG

Orange County Council of Governments
Member Agencies

Aliso Viejo
Anaheim
Brea
Buena Park
Costa Mesa
Cypress
Dana Point
Fountain Valley
Fullerton
Garden Grove
Huntington Beach
Irvine
La Habra
La Palma
Laguna Beach
Laguna Hills
Laguna Niguel
Laguna Woods
Lake Forest
Los Alamitos
Mission Viejo
Newport Beach
Orange
Placentia
Rancho Santa Margarita
San Clemente
San Juan Capistrano
Santa Ana
Seal Beach
Stanton
Tustin
Villa Park
Westminster
Yorba Linda
County of Orange
OCTA
TCA
OC Sanitation District
ISDOC
South Coast AQMD

February 14, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Dear Hasan,

On behalf of the Orange County Council of Governments (OCCOG), I would like to commend the Southern California Association of Governments (SCAG) and its staff who worked hard to prepare the draft Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS), the Program Environmental Impact Report (PEIR), and associated documents. This effort was monumental and unprecedented in our history and throughout the process collaboration between SCAG and Orange County stakeholders has been exceptional.

The 34 Orange County local jurisdictions and six special districts that comprise OCCOG thank you for the opportunity to comment on the Draft 2012 RTP and associated PEIR.

As you know, Orange County took upon itself the task of developing a subregional SCS. The continued cooperation of SCAG staff and the numerous references throughout the document where the RTP/SCS expressly states that it incorporates the Orange County Sustainable Communities Strategy (OC SCS) into the RTP/SCS document is greatly appreciated.

The OCCOG Technical Advisory Committee (OCCOG TAC), made up of member agency planning staff, created an ad hoc committee dedicated to the review of the Draft RTP/SCS and PEIR. This committee met four times since January 3, 2012, and has collectively spent hundreds of hours since reviewing the draft plan and documents. The OCCOG TAC review and analysis was considered in late January by the OCCOG Board and serves as the basis for OCCOG's comments.

The following general comments and recommendations are offered by OCCOG on the draft 2012-2035 RTP and SCS (draft RTP/SCS) and associated Appendices and draft PEIR (draft PEIR). OCCOG requests that this letter and its attachments be included in the public record as our collective comments on the draft RTP/SCS, PEIR and associated documents.

1. GROWTH FORECASTS

Issue: Growth Projections: The 2012 growth projections identify population, housing and employment data for the six-county SCAG region, from 2008 (existing) to 2020 and 2035. These growth projections represent the best available information from local jurisdictions, the business community, and landowners. However, as time passes, what is feasible for any given project can change. The triggers for change to adopted growth projections can range from factors such as market conditions, new information or data, infrastructure availability, changes in funding availability (such as the dissolution of redevelopment agencies statewide), and changes to jurisdictional boundaries resulting from future annexations and incorporations of previously designated unincorporated territory. SCAG should continue to adopt the 2012 growth projections at a countywide level, consistent with past approvals of the RTP growth forecasts.

A county level of geography accommodates internal adjustments to changing conditions as described above, without compromising the integrity of the overall growth projections. However, approving the growth projections at any lower level of geography, such as at the city level, would be challenged with continual revisions and shifts to the total number of housing, population and employment within a city, among cities, and between cities and counties as a result of the factors described above. Adoption of the data at a level lower than the county would limit jurisdictional control and create inflexibility in a regional planning document. In addition, the level of geography in which RTP/SCS growth forecast is adopted should not be determined by other processes. For example, the Regional Housing Needs Allocation (RHNA) allocations must be consistent with the RTP/SCS; state law does not require that they be identical. The RTP/SCS can be adopted at the county level and the RHNA process may proceed independently until it is completed after the appeals, trades, and transfers are completed. The RHNA allocations that were derived from the growth forecast can still be determined to be consistent with the RTP/SCS, even if changes are made to the city totals during the appeals, trades, and transfers process.

Growth Projections Recommendation: SCAG's adoption of the growth forecast numbers should be at the county level, consistent with past RTPs, and not at a smaller level of geography such as city, census tract, or traffic analysis level.

Issue: Orange County Projections (OCP)-2010 Modified: On January 26, 2012, the update to the OCP-2010 dataset known as “OCP-2010 Modified” was officially approved by the OCCOG Board of Directors and is a data amendment to the OC SCS. The dataset includes the 2010 Census population and housing data, along with the 2010 Employment Development Department Benchmark data, consistent with SCAG’s updated growth forecast dataset. The dataset was provided to SCAG staff in December 2011 and this letter also serves as the formal notice of the update that should be incorporated into the 2012 RTP/SCS, PEIR, and related documents.

OCP-2010 Modified Recommendation: All documents, tables, maps, narrative, modeling runs, PEIR Alternatives (including Alternate C/3/Envision 2) referencing

the Orange County growth forecasts should be updated with the Orange County Projections-2010 Modified Growth Projections, as adopted by the OCCOG Board of Directors and consistent with the subregional delegation Memorandum of Understanding (MOU) between OCCOG, OCTA and SCAG.

2. DRAFT RTP/SCS

Issue: 2012 Draft RTP/SCS: The RTP/SCS identifies strategies to reduce greenhouse gas (GHG) emissions from cars and light duty trucks. Because counties, jurisdictions and agencies have different needs and feasibility of implementation, we believe these strategies should be clearly identified as a menu of options that can be used to achieve the goal of reduced GHG emissions. However, the document can be construed to suggest that each of the strategies listed in the table on pages 150-153 are necessary to successfully implement the SCS, many of which are beyond SCAG's purview or control. It is requested that the language be clear that it is permissive.

2012 Draft RTP/SCS Requests:

1. **Revise language on page 149: "The following tables list specific implementation strategies that local governments, SCAG, and other stakeholders may use or consider while preparing specific projects which that help ~~can and should undertake in order~~ to successfully implement the SCS."**

2. **Please provide SCAG analysis supporting the strategies in the Draft RTP/SCS Chapter 4.**

3. **Please describe what municipal obligations are anticipated as a result of adopting these strategies as a list to be accomplished rather than a menu of options.**

Issue: OC SCS Strategies: There are strategies in the OC SCS that are not included in the regional SCS. Similarly, there are some strategies in the regional SCS that are not consistent with the strategies in the OC SCS. This creates confusion and clarification is needed.

Under SB 375 and only within the SCAG region, subregional councils of government were allowed to prepare subregional plans that SCAG is then required to incorporate into the regional SCS. In Orange County, the OCCOG and the Orange County Transportation Authority (OCTA) developed a countywide or subregional OC SCS that was to be incorporated in whole into the SCAG SCS. Local agencies in Orange County developed the OC SCS and approved it in June 2011. SCAG has incorporated the OC SCS in its entirety into the regional SCS as an appendix to the regional SCS, but it is unclear what the standing is of the OC SCS. The OC SCS contains a set of strategies that were agreed upon by local governments, agencies and other stakeholders within

Orange County and was accepted by SCAG and should represent the SCS that is applicable to the Orange County region.

OC SCS Strategies Recommendation: Please revise the text in the last paragraph on page 106 to state: "These subregional SCS documents are incorporated into the regional SCS and represent the SCS for each of these subregions."

3. DRAFT PEIR

Issue: Mitigation Monitoring Program Intent: It is unclear how SCAG intends to implement the Mitigation Monitoring Program with regard to the proposed mitigation measures, as may be implemented by local agencies. Section 1-5 of the PEIR specifically provides that "Lead agencies shall provide SCAG with documentation of compliance with mitigation measures through SCAG's monitoring efforts, including SCAG's Intergovernmental Review (IGR) process." It is infeasible for SCAG to require local jurisdictions to report when such mitigation measures are considered for any project. Noting that the SCAG region includes 6 counties, 14 subregional entities and 191 cities, this reporting requirement would surely fall short of expectations. Given this identified infeasibility, please clarify what obligations local agencies may have regarding SCAG's mitigation monitoring efforts.

Mitigation Monitoring Program Intent Requests/Recommendations:

1. **Does SCAG intend to require all jurisdictions that avail themselves of the mitigation measures to report to SCAG when such measures are considered for any project?**

2. **SCAG's approval of the PEIR needs to clearly state the intent and applicability of the mitigation measures and the PEIR reflective of our comments below and that mitigation measures do not supersede regulations under the jurisdiction of other regulatory agencies.**

3. **Add language to Executive Summary and Introduction: "Mitigation measures do not supersede regulations under the jurisdiction of other regulatory agencies."**

4. Feasibility and Applicability

On pages 1-5 and 1-7, the language should reflect that Lead agencies will determine the feasibility and applicability of measures and that the measures are intended to offer a menu of options available should a lead agency opt to utilize them. The PEIR makes the assertion on page 1-7 of the Project Description under Transportation Project Mitigation and Land Use Planning and Development Project Mitigation sections that the draft PEIR has made a preliminary determination that all of the mitigation measures in it are considered feasible. SCAG has not identified any analysis that supports the feasibility of the mitigation measures that are to be undertaken by entities other than

SCAG and SCAG staff has stated on numerous occasions that the mitigation measures were intended to be a menu of options for consideration by lead agencies.

Issue: Mitigation Measures Impose Obligations Beyond Scope of SB 375. Given the combination of the RTP and the SCS processes, as mandated by SB 375, we recognize that SCAG must undertake the difficult task of balancing the goal of having a coordinated regional transportation system with land use strategies that encourage a more compact use of land. However, a key principle of SB 375 is that it is not intended to supersede local agencies' authority to regulate land uses. Specifically, Government Code section 65080(b)(2)(K) provides, in relevant part that ". . . .Nothing in a sustainable communities strategy shall be interpreted as superseding the exercise of the land use authority of cities and counties within the region. . ."

In light of the limitation expressed at Government Code Section 65080(b)(2)(K), we find language in the PEIR, and specifically the mitigation measures therein, imposing affirmative obligations on local agencies within the SCAG region to be inappropriate and contrary to law. The proposed language as recommended below would remedy the legal conflict with Section 65080(b)(2)(K), yet achieve SCAG's recognition that project-specific environmental review is the appropriate level of review for projects that have their own unique, site-specific circumstances.

The revisions are further consistent with OCCOG's understanding that SCAG intended to provide the mitigation measures as a "toolbox" to local agencies for use within their discretion if and when appropriate for projects within their respective jurisdictions. Indeed, from materials presented by SCAG, including the January 26, 2012 workshop held at the City of Anaheim Council Chambers, SCAG explained that "**This PEIR offers a "toolbox" of mitigation measures** for future project-level environmental analyses. . . It also includes suggested mitigation measures for local agencies to consider for implementation, if appropriate and feasible (phrased as "can and should"). This language is permissive and not mandatory upon local agencies."

Mitigation Measures Impose Obligations Beyond Scope of SB 375 Recommendations:

1. **Please provide SCAG analysis supporting the feasibility of mitigation measures in the PEIR.**

2. **Change language on page 1-7 found in 2 places under MITIGATION MEASURES, subheadings Transportation Project Mitigation and Land Use Planning and Development Project Mitigation: "This Draft PEIR has made a preliminary determination that the proposed mitigation measures are feasible and effective. Therefore, it is reasonable to expect that these agencies will actually implement them where, in the agencies' independent discretion, the measures are deemed applicable in light specific circumstances at the project level."**

3. **Change language on page 1-5, first paragraph: "Mitigation Measures proposed in this PEIR <u>are available as tools for implementing agencies and local lead agencies to use as they deem applicable</u>. The implementing agencies and local lead agencies <u>are</u> responsible for ensuring adherence to the mitigation measures as 2012-2035 RTP/SCS projects are considered for approval over time."**

4. **Please make similar text amendments to other sections, including the Executive Summary, of the PEIR that reference how the mitigation measures are to be used by lead agencies.**

5. <u>"Can and Should"</u>

As indicated in the PEIR on page 1-6, state law provides that it is appropriate to indicate in mitigation measures that they "can and should" be implemented where the authority to implement the measures rests with agencies other than SCAG. The language conveys to local agencies an affirmative obligation to address each mitigation measure, irrespective of whether such agencies deem the measures applicable to a particular project or duplicative of their own or other governmental agencies' regulatory measures (as discussed in Section 14). OCCOG recognizes that SCAG's use of the words "can and should" are derived from California Environmental Quality Act (CEQA), at Public Resources Code sections 21081 and 2155.2(b)(5)(B)(ii) and CEQA Guidelines, including section 15091(a)(2). Nevertheless, given the express limitation of SB 375 upon respective local agencies' land use authority, OCCOG deems any language seemingly imposing affirmative obligations contrary to SB 375 inappropriate. As such, the use of the language "can and should" for mitigation measures addressed to local agencies is inappropriate.

<u>"Can and Should" Recommendations:</u> Change language in all mitigation measures identifying entities other than SCAG to read "~~can and~~ should <u>consider where applicable and feasible</u>." To clarify the intent that the mitigation measures are a menu of options for which feasibility has not been established for any given project, the "can and should" language should be changed in all mitigation measures identifying entities other than SCAG to read "should consider where applicable and feasible."

6. <u>CEQA Streamlining:</u>

One of the key components of SB 375 was the inclusion of incentives that provided CEQA streamlining for projects consistent with the objectives of the bill as well as consistent with the SCS. As identified on pages 1-10 through 1-12, for projects to qualify for these incentives, mitigation measures from the applicable environmental document must be incorporated into the project. It is not clear, however, which measures would need to be incorporated into a project for it to qualify, particularly in light of the intent of SCAG for the measures to be a toolbox.

CEQA Streamlining Recommendations: Please clarify how the "menu of mitigation measures" from this PEIR is expected to be used by a lead agency as well as which ones lead agencies should address in order for a project to qualify the use of the CEQA streamlining provisions of SB375.

7. RTP/SCS Policies

Please ensure that the discussion of the policies represented by the RTP/SCS in the draft PEIR is consistent with the policies actually in the RTP/SCS. In particular, the bullet list on the page 2-3 is stated to represent the land use strategies of the plan; however, the strategies listed are not specifically identified in the regional SCS. Including different language in the PEIR implies additional policy.

RTP/SCS Policies Recommendation: Amend the land use strategies identified on page 2-3 of the Project Description, under the section Purpose and Need for Action to reflect the strategies included in the SCS chapter of the RTP.

8. PEIR Mitigation Measures

By far the most concerning portion of the Draft 2012 RTP/SCS to OCCOG members is the PEIR. Specifically, the proposed mitigation measures included in the PEIR extend to and impact a broad spectrum of technical and policy areas. Many examples of these concerns are included on Attachments 1 and 2 of this letter. In sum, the concerns are that the mitigation measures:

- Appear to go above and beyond the requirements of the Regional Transportation Plan and Senate Bill 375;
- Are measures already required by State and Federal law or are regulated by other agencies such as the South Coast Air Quality Management District, California Department of Housing and Community Development, Fish and Game, and the Regional Water Control Boards;
- Appear to run counter to local control; and
- Are financially infeasible for the agencies responsible for implementation.

PEIR Mitigation Measures Recommendations.

1. **In order for the mitigation measures to truly be considered a toolbox of options for consideration by various entities in the SCAG region as intended, all mitigation measures in the PEIR intended for entities other than SCAG should be moved into an appendix to the PEIR and renamed "Sustainability Strategies". These strategies could then be identified for consideration by lead agencies as mitigation for future projects should**

a lead agency choose to do so and deem them applicable and feasible. The PEIR would only retain mitigation measures applicable to SCAG. This action would also require that the Executive Summary, Introduction, and Project Description be updated to reflect the nature of the new appendix of Sustainability Strategies.

2. **Remove language within mitigation measures that establishes policies not included in the RTP/SCS or modifies the measure to specify a policy or endorses specific technology which would limit agency authority.**

3. **In the draft PEIR, please replace text in all mitigation measures that identify policy for either SCAG or other entities with language that reflects either adopted SCAG policies or are policies that are included in the RTP and SCS. Mitigation measures should not be used to establish new policy for the region.**

For example:

- MM-TR 17: "SCAG shall (for its employees) and local jurisdictions ~~can and~~ should institute where applicable and feasible teleconferencing, telecommute, and/or flexible work hour programs ~~to reduce unnecessary employee transportation~~.

- MM-TR 23: "Local jurisdictions should consider when applicable and feasible coordinated and controlled intersections so that traffic passes more efficiently through congested areas. Where traffic signals or streetlights are installed, require the use of a feasible, energy efficient ~~Light Emitting Diode (LED)~~ technology."

- MM-TR 35: "Local jurisdictions should consider where applicable and feasible the adoption of a comprehensive parking policy that ~~discourages private vehicle use and~~ encourages the use of alternative transportation."

9. SCAG Authority

Several mitigation measures identify actions that SCAG shall undertake to mitigate impacts of the plan. Many appropriately direct SCAG to provide a discussion forum or serve as a central data repository for a broad range of topics that affect the region as a whole. However, many measures inappropriately direct SCAG to establish practices, standards, or policy in areas unrelated to what SCAG has purview over. Further, the measures often appear to be directed at policy implementation that is unrelated to the plan itself, such as implementing AB 32. Such measures will essentially require SCAG to establish policy in areas for which it has no authority. Additionally, it is not clear how SCAG would fund the work efforts because they are not directly related to its mission and, therefore, do not have funding. For example, MM-PS 118 states: "SCAG shall continue to develop energy efficiency and green building guidance to provide direction on specific approaches and models and to specify levels of performance for regionally

significant projects to be consistent with regional plans." Green building practices and energy efficiency measures are already addressed by various state and federal agencies, as well as by other local organizations. Further, SCAG does not have the authority to specify levels of performance for land use or buildings.

SCAG Authority Recommendation: Remove the following mitigation measures for SCAG which it does not have purview for under the law or directed to do by the Regional Council through policy direction. List may not be exhaustive.

MM-BIO/OS 44	MM-LU 42	MM-LU 77	MM-PS 68
MM-BIO/OS 45	MM-LU 47	MM-LU 80	MM-PS 71
MM-BIO/OS 46	MM-LU 48	MM-LU 81	MM-PS 95
MM-BIO/OS 48	MM-LU 51	MM-LU 82	MM-PS 121
MM-GHG 3	MM-LU 53	MM-LU 83	MM-TR 17
MM-GHG 8	MM-LU 56	MM-NO 12	MM-TR 23
MM-GHG 11	MM-LU 57	MM-NO 16	MM-TR 28
MM-LU 9	MM-LU 60	MM-POP 1	MM-TR 35
MM-LU 21	MM-LU 61	MM-PS 3	MM-TR 83
MM-LU 22	MM-LU 64	MM-PS 14	MM-TR 85
MM-LU 24	MM-LU 65	MM-PS 25	MM-TR 96
MM-LU 26	MM-LU 69	MM-PS 37	MM-W 34
MM-LU 32	MM-LU 71	MM-PS 39	MM-W 59
MM-LU 34	MM-LU 74	MM-PS 41	MM-W 60
MM-LU 41	MM-LU 75	MM-PS 67	MM-W 65

10. SCAG Mitigation Measures

It would be helpful to understand how SCAG will implement the mitigation measures that it is assigned to do. Many of the mitigation measures will expand SCAG's role into areas that are not currently under its purview and are under the jurisdiction of other entities. Many also constitute significant work efforts.

SCAG Mitigation Measures Request: Please explain how the actions and programs required by the measures SCAG is assigned to do would be funded to ensure that they are truly feasible for SCAG to undertake.

11. Ensuring Outcomes

SCAG has limited authority in many of the areas included in the measures and will not be able to ensure impacts are mitigated and that the outcomes identified do actually occur. SCAG can assist, offer information, educate, and provide discussion forums for topics outside its area of jurisdiction; however, it is not possible to "ensure" that outcomes are achieved for things that are outside of its purview.

Ensuring Outcomes Recommendation: **Remove all references within mitigation measures that SCAG will "ensure" or "shall minimize impacts" that result from a mitigation measures.**

> **Example:**
> **MM-CUL17: "~~Impacts to cultural resources shall be minimized through cooperation, information sharing, and~~ SCAG's shall, through cooperation, information sharing and ongoing regional planning efforts such as web-based planning tools for local government including CA lots, and direct technical assistance efforts such as Compass Blueprint's Toolbox Tuesday series, provide information and assistance to local agencies to help them avoid impacts to cultural resources. Resource agencies, such as the Office of Historic Preservation, shall be consulted during this process."**

12. Fees and Taxes

Several mitigation measures indicate that local jurisdictions or other entities should implement new fees or propose taxes to pay for a variety of programs or for acquisition of land for preservation. Increases to fees or taxes are issues that could require voter approval and, thus not be approved. They also represent prescriptive means to accomplish the mitigation.

Fees and Taxes Recommendations:

1. **Reword measures to indicate that a new or increased fee, new tax, or other increase is only an option as a way to implement the mitigation. The following list may not be exhaustive.**

MM-BIO/OS55	MM-PS15	MM-TR30	MM-TR88
MM-LU29	MM-PS63	MM-TR37	MM-TR94
MM-LU53	MM-PS75	MM-TR47	MM-TR96
MM-LU54	MM-PS76	MM-TR52	MM-W6
MM-LU80	MM-PS78	MM-TR60	MM-W32
MM-LU81	MM-PS92	MM-TR69	MM-W52
MM-LU82	MM-PS106	MM-TR74	MM-W58
MM-LU83	MM-PS107	MM-TR75	
MM-POP4	MM-PS113	MM-TR80	
MM-PS12	MM-TR28	MM-TR84	

2. **Please clarify whether it was assumed that these additional fees were considered feasible and if the new fees that are suggested were considered in the financial plan or economic analysis of the RTP.**

13. Guidance Documents

Guidance documents are there as information sources for consideration; however, they do not represent regulation or establish standards that are required to be achieved. For example, MM-AQ19 inappropriately indicates that project sponsors should comply with the CARB Air Quality and Land Use Handbook (June 2005) which is only a guidance document.

Guidance Documents Recommendation: Remove references that indicate a compliance with guidance documents from mitigation measures.

14. Duplicative/Existing Regulations

It is noted that many of the mitigation measures are duplicative of existing regulation or processes (e.g. CEQA review requirements). Under the CEQA, it is intended that measures be identified that will mitigate impacts of the project. Existing regulations are already assumed to be abided by in the evaluation of the impact and the significance of the impact is after all existing regulation is applied. Therefore, mitigation measures should address those actions that need to be undertaken in addition to existing regulation in order to mitigate the impact. Therefore, mitigation measures that simply restate existing regulation are not valid mitigation for purposes of CEQA. Further, it is possible for regulations to change over time. Because of this, restatement of the regulation in the mitigation measures could result in future conflict between the stated mitigation and the regulation. It has become common practice to state that existing regulation will be implemented. When this is done, it is common practice when compliance is used as a mitigation measure to simply state that the responsible entity will simply comply with the regulation. If mitigation measures that restate existing regulation are not removed, then it is requested that the wording of the measures be restated to simply read that compliance with all applicable laws and regulations will be undertaken. Language that could be used is: "Local jurisdictions, agencies, and project sponsors shall comply, as applicable, with existing federal, state, and local laws and regulations." Similar language is included in some mitigation measures. It is offered that MM-PS 13 is a good example of the type of appropriate language and reads "Project sponsors can and should ensure that projects are consistent with federal, state, and local plans that preserve open space."

The water section provides another example. The PEIR includes 68 mitigation measures in the Water Resources section regarding water quality. At least 35 of these are related to storm water runoff best management practices (BMPs) that are currently regulated through Municipal National Pollutant Discharge Elimination System (NPDES) Storm Water Permits issued by Regional Water Quality Control Boards. In the SCAG region, there are five water quality control boards each with its own Municipal NPDES Storm Water Permit. The regulations and requirements contained in these permits vary from each other. By listing specific measures in the PEIR that are not included in a project's applicable Municipal NPDES Storm Water Permit, the PEIR creates conflicting compliance requirements. To eliminate potential conflict with existing regulations, the

mitigation measures regarding specific BMPs should be removed and replaced with a single requirement that each project must comply with its applicable Municipal NPDES Storm Water Permit.

Duplicative/Existing Regulations Recommendations:

1. **Please remove all mitigation measures listed in Attachment 1 which are duplicative of existing regulations administered by or under the jurisdiction of other agencies. The list may not be exhaustive.**

2. **For each impact, please add the following language: "Local jurisdictions, agencies, and project sponsors should comply, as applicable, with existing federal, state, and local laws and regulations."**

15. Draconian Mitigation Measures

Many of the mitigation measures in the Draft PEIR are draconian and need to be removed. One prime example is MM-LU 85. It reads in part "Local jurisdictions can and should reduce heat gain from pavement and other hardscaping including: Reduce street rights-of-way and pavement widths to World War II widths (typically 22 to 34 feet for local streets and 30 to 35 feet for collector streets curb to curb)…" Although reduced street widths may be appropriate in some cases and have been implemented in many jurisdictions, it is inappropriate and counterproductive to require reduced street widths as a mitigation measure in the PEIR. Reduced street widths, for example, generally do not provide space for on-street parking which may result in greater, additional paved areas provided in separate parking lots. A second example is MM-LU15: "Project sponsors can and should ensure that at least one acre of unprotected open space is permanently conserved for each acre of open space developed as a result of transportation projects/improvements." Measures should support the SCAG Energy and Environment Committee which recommended that the programs build upon existing open space land acquisition and open space programs in the region, tailoring programs to each individual county in the region. These include, but are not limited to, OCTA's Measure M Mitigation Program, and Transportation Corridor Agency's open space mitigation program, which has protected 2,200 acres in perpetuity to date. Open space conservation should be pursued in a voluntary manner, working with willing private sector landowners and not be overly prescriptive and specific.

Draconian Mitigation Measures Recommendations: Remove mitigation measures that are very prescriptive, such as reducing street widths to WW II widths or specifying preferred technology.

In addition to the above comments, detailed technical comments, language changes, and questions on the RTP/SCS, Appendices, and PEIR documents are included in Attachment 2.

Conclusion

We recognize the immense efforts it took to prepare these documents. They represent incredibly complex technical work and have important and far-reaching policy impacts for our region. However, because of this importance and complexity, we would like to express concern about the timing of the release of the documents and hope that preparation of future RTP/SCS documents will take into account the need to accommodate adequate review, discussion and revision time for all of the documents. The current timeline of document releases, public comment period, and time allowed for the response to comments results in an inability to have credible discussion regarding possible changes because the timeline does not allow for recirculation or full discussion of requested changes. The documents were released over the holiday season and included the release of the draft PEIR document on December 30, 2011. The minimum 45-day public comment period closes on February 14, 2012. Only a few weeks are provided to prepare responses to comments and amend the documents to ensure that the Regional Council may consider the certification of the PEIR and the approval of the draft RTP/SCS on April 4, 2012.

We appreciate your consideration of all of the comments provided in this letter and its attachments and look forward to your responses. It is a shared goal to have an RTP/SCS adopted that is credible and defensible on all levels. If you have any questions, please do not hesitate to contact me or Dave Simpson, OCCOG's Executive Director.

Sincerely,

Peter Herzog
Chairman

cc: OCCOG Member Agencies
OCCOG Board of Directors
OCTA Board of Directors
Orange County City Managers Association

Attachment 1: Mitigation Measures Duplicative of Existing Regulation
(Listed by type of regulation measures duplicates)

Air Quality/AQMD	**CDFG**	**Federal & state law**	**Federal law**	**Resource agencies**
MM-AQ1	MM-BIO/OS1	MM-HM3	MM-LU14	MM-TR33
MM-AQ2	MM-BIO/OS3	MM-HM4	MM-LU30	MM-BIO/OS29
MM-AQ3	MM-BIO/OS4	MM-HM5		MM-BIO/OS30
MM-AQ4	MM-BIO/OS8	MM-HM6		MM-BIO/OS31
MM-AQ5	MM-BIO/OS10	MM-HM7	**NPDES**	MM-BIO/OS32
MM-AQ6	MM-BIO/OS11	MM-LU28	MM-AQ16	MM-BIO/OS33
MM-AQ7	MM-BIO/OS17	MM-NO18	MM-BIO/OS19	MM-BIO/OS34
MM-AQ8	MM-BIO/OS18	MM-PS13	MM-GEO5	MM-BIO/OS35
MM-AQ9	MM-BIO/OS21	MM-W36	MM-W1	MM-BIO/OS50
MM-AQ10	MM-BIO/OS22	MM-W37	MM-W13	MM-BIO/OS51
MM-AQ11	MM-BIO/OS23	MM-W38	MM-W58	
MM-AQ12	MM-BIO/OS24			
MM-AQ13	MM-BIO/OS25		**Flood control**	
MM-AQ14	MM-BIO/OS26		MM-HM8	
MM-AQ17	MM-BIO/OS27			
MM-AQ18	MM-BIO/OS28		**Local Agencies**	
	MM-BIO/OS14		MM-AV11	
	MM-BIO/OS7			

State law				
MM-AV3	MM-HM10	MM-PS4	MM-PS107	MM-W25
MM-AV6	MM-HM11	MM-PS8	MM-PS113	MM-W26
MM-AV12	MM-HM12	MM-PS10	MM-PS119	MM-W27
MM-BIO/OS20	MM-HM13	MM-PS12	MM-PS122	MM-W28
MM-CUL1	MM-HM14	MM-PS14	MM-TR29	MM-W29
MM-CUL2	MM-HM15	MM-PS16	MM-TR49	MM-W30
MM-CUL3	MM-HM16	MM-PS35	MM-TR55	MM-W31
MM-CUL4	MM-LU10	MM-PS36	MM-TR75	MM-W32
MM-CUL5	MM-LU11	MM-PS37	MM-TR89	MM-W39
MM-CUL6	MM-LU17	MM-PS42	MM-W6	MM-W43
MM-CUL7	MM-LU19	MM-PS43	MM-W8	MM-W46
MM-CUL8	MM-LU20	MM-PS48	MM-W9	MM-W47
MM-CUL9	MM-LU38	MM-PS55	MM-W10	MM-W48
MM-CUL10	MM-LU43	MM-PS56	MM-W11	MM-W49
MM-CUL11	MM-LU44	MM-PS57	MM-W12	MM-W50

MM-CUL12	MM-LU48	MM-PS59	MM-W15	MM-W51
MM-CUL13	MM-LU58	MM-PS61	MM-W16	MM-W52
MM-CUL15	MM-NO1	MM-PS67	MM-W17	MM-W54
MM-CUL16	MM-NO4	MM-PS69	MM-W18	MM-W55
MM-GEO1	MM-NO8	MM-PS71	MM-W19	MM-W56
MM-GEO2	MM-NO9	MM-PS73	MM-W20	MM-W61
MM-GEO3	MM-POP2	MM-PS77	MM-W21	MM-W62
MM-GEO4	MM-POP4	MM-PS89	MM-W22	MM-W64
MM-GEO6	MM-PS1	MM-PS92	MM-W23	MM-W66
MM-HM9	MM-PS2	MM-PS97	MM-W24	MM-W68

Attachment 2: Additional Technical Clarifications on documents are also offered as follows:

2012 RTP/SCS

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	all	*All chapter headings should include the Chapter number on each page for ease of reference.*
2	Clarification	1, left column	"The 2012 RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with SB 375, ~~both~~ improve public health, and meet the National Ambient Air Quality Standards as set forth by the federal Clean Air Act. As
3	Clarification	4, right column	"This region needs a long-term, sustainable funding plan that ensures the region receives its fair share of funding, supports an efficient and effective transportation system that grows the economy, provides mobility choices, and improves our quality of life."
4	Clarification	page 7- Table 2 and page 95- Table 3.3	*Is additional $0.15 gas tax the sum total of both state and federal taxes or $0.15 each?*
5	Clarification	40, left column	"Strategic investments, put forth by the private sector, that would remove barriers associated with telecommuting are expected…"
6	Correction	page 42- Table 2.2	241 toll road completion year is 2030
7	Please define in the text and add to a glossary	50, left column	"scrip"
8	Clarification	54, right column	"Express/HO T Lane Network Despite our concerted effort to reduce traffic congestion through years of infrastructure investment, the region's system demands continue to exceed available capacity during peak periods."
9	Clarification	70, 78	Greenhouse Gases and Air Quality SCAG seems to rely on CEQA to achieve the "maximum feasible" reductions in emissions from transportation. However, this is not consistent with the intent of SB 375's goal of achieving specific thresholds of 8% by 2020 and 13% by 2035 through a sustainable communities strategy plan.

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
			Please provide clarification to this section indicating if the air quality and greenhouse gas CEQA mitigation measures obligate regional agencies and project developers to undertake more strategies, programs and mandates beyond those included in the OC SCS.
10	Clarification	78, right column	"Greenhouse Gases On road emissions (from passenger vehicles and heavy duty trucks) constitute 93 percent of the transportation sector total. Emissions from passenger vehicles, which are the subject of SB 375 and this RTP/SCS, constitute ___% of the transportation sector's greenhouse gas emissions total."
11	Clarification	80, left column	Statements are made, such as the following, "the RTP has the ability to affect the distribution of that growth" (in population in the region). These statements could be interpreted to be contrary to SCAG's obligation under the Memorandum of Understanding with OCCOG to respect the strategies and local land use policies in the OC SCS. *Please clarify how it is in SCAG's ability to affect local change when the OC SCS is consistent with acceptance of local land use plans and planned population and employment distribution?* *Recommended text change:* "Transportation projects including new and expanded infrastructure are necessary to improve travel time and can enhance quality of life for those traveling throughout the region. However, these projects also have the potential to ~~induce~~ attract more of the regional population growth in certain areas of the region. This means that although ~~Although~~ SCAG does not anticipate that the RTP would affect the total growth in population in the region, the RTP has the ability to affect the distribution of that growth." "~~In addition to induced population growth,~~ transportation projects in the RTP also have the potential to divide established communities, primarily through acquisition of rights-of-way."

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
		82, right column	Text indicates that the RTP and projects in the RTP/SCS as "inducing" growth. It is noted that use of the term "induced growth" has a negative connotation and implies growth above and beyond what would occur naturally. However, it is stated in the RTP that the population, housing, and employment growth totals are fixed and only the distributions may change based on the plan. This means there will not be "new" growth and that the RTP and SCS may simply influence and shift the growth anticipated for the region. This moving of growth is the result of changes in distribution that are due to changes in land use or densities. Because of this, it is requested that references to "induced growth" be reworded to reflect the shifting of growth in the region. *Recommended text change:* "Cumulative impacts from the projected growth ~~induced by the RTP~~ include increased impervious surfaces;…"
12	Clarification	Chapter 3	SCAG's Financial Plan includes a significant portion of "New Revenue Sources and Innovative Financing Strategies" that are not currently in place or available. While some of the proposed revenues are within the control of SCAG or MPOs and County Transportation Commissions, the majority of the revenues (in terms of dollars) require either state or federal action to implement. *Please explain what the implications are if these new revenue sources and innovative financing strategies do not become available?*
13	Clarification	page 95- Table 3.3	~~"Mileage-based user fees would be implemented to replace gas tax and augment- estimated at about $0.05 (2011$) per mile and indexed to maintain purchasing power starting 2025."~~ Suggested language is from page 31 of Growth Forecast Appendix: "Current gasoline tax, estimated at about $0.05 (2011$) per mile will increase through 2025, then in 2026 it would be replaced with a mileage-based user fee indexed to maintain purchasing power."

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
14	Clarification	105, right column	"While the region was once known worldwide as the "capital of sprawl," the region today is projecting growth on only a small fraction of the ~~has little~~ raw land available in the region ~~left to accommodate additional growth~~."
15	Clarification	105, right column	"While the region was once known worldwide as the "capital of sprawl," the region today is projecting growth on only a small fraction of the ~~has little~~ raw land available in the region ~~left to accommodate additional growth~~."
16	Clarification	106	SCAG indicates that the OC SCS has been incorporated into the regional SCS. OCCOG was one of two subregions that undertook the arduous task and obligation of preparing an SCS. *Please add clarifying text that these subregional SCSs, including the OC SCS, represent the Sustainable Communities Strategies applicable to those subregions.*
17	Clarification	110, right column	"Municipal water and sewer systems, for example, ensure clean water. At the same time, ~~concrete stormwater runoff channels harm water quality~~ and ~~sprawl eats into open space~~ as areas become more urbanized and the percentage of impervious surface is increased, the hydrologic regime is dramatically altered. Drainage conveyances that once were natural and riparian are required to be engineered as hardened flood control channels to provide adequate protection of private property and public infrastructure from the increased frequency, duration, peak flow, and overall volume of stormwater runoff. With this armoring of once natural channels, water quality benefits from biofiltration are lost along with opportunities for infiltration and evapotranspiration, which can lead to hydromodifcation downstream in sections which are not yet engineered and hardened. Many strategies…"
18	Clarification	112, 117	The SCS documents the development of four scenarios to explore basic aspects of future growth. These scenarios were used in public outreach and the SCS and the associated Appendix states that "Using the public dialogue and feedback from the analysis of the SCS Scenarios, SCAG developed

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
			the 2012 RTP/SCS Plan alternatives." (Similar references are also include at RTP/SCS p. 117, and SCS Background Documentation p. 71). The RTP/SCS and Appendix then describes a process that led to the Plan alternatives. Neither the RTP/SCS, Appendix or PEIR expressly state or illustrate the fundamental land use and socioeconomic foundation for the SCS. *In order to confirm consistency with the OC SCS, it is requested that SCAG include appropriate tables, graphics and maps that provide the detail that confirm this consistency.*
19	Clarification	113, 122	The regional SCS states that the scenarios/alternatives were developed using the Local Sustainability Planning Tool (LSPT). The LSPT is a sketch planning tool that flattens geographical areas to a 5-acre grid cell. The OC SCS land use data was provided at much greater level of detail in that specific parcel data and detail were provided by each jurisdiction. A cursory review of some LSPT data reveals inconsistencies regarding interpretation of Orange County land uses. It is acknowledged that the regional SCS states, "Land use inputs for OCCOG SCS were unchanged". Yet use of the LSPT and SCAG Development and Community Types presented in the SCS leave open the question as to whether the OC SCS was altered, as noted above. *Please provide confirmation that the underlying OC SCS land use data was used without significant alteration and LSPT flattening and interpretation in the development of the regional SCS Plan and alternatives.*
2017	Add to glossary	127, right column	"Gentrification"
21	Clarification	128, left column	"Thus, this adjustment allowed the land use pattern to conform more closely to local ~~expectations~~ <u>general plans</u>, while reducing the amount of vehicle miles traveled." *Whose/What are "local expectations?"*

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
22	Clarification	149, right column	*Revise language to clarify that SCAG intends policies, strategies, and measures are a menu of options.* "The following tables list specific implementation strategies that local governments, SCAG, and other stakeholders may use or consider while preparing specific projects which would help ~~can and should undertake in order~~ to successfully implement the SCS."
23	Clarification	150-152	The OC SCS was accepted by SCAG and represents the set of strategies and the growth distribution that outlines the best approach for how the requirements of SB 375 would be met within the subregion. Specifically, the OC SCS included 15 specific Sustainability Strategies, reflecting a menu of 222 practices and actions that OC agencies have agreed to pursue (or continue to pursue) to achieve GHG reductions that support SB 375. *Why doesn't the regional SCS specifically acknowledge these 15 strategies yet include other strategies and performance measures not included in the OC SCS (e.g., Locational Efficiency)?*
24	Add to glossary	166, right column	"Greenfield"
25	Clarification	194, right column	"In addition to these targeted outreach efforts, all regular and special meetings of the RTP task forces, the Transportation Committee (TC), the CEHD, the EEC, and the SCAG Regional Council are publicly noticed and …"
26	Clarification	201	*Please clarify whether the text stating "Long-term emission reduction for rail, with a goal of zero-emissions rail system" is intended to reflect a zero-emissions freight rail system, or whether this goal also applies to passenger rail.*
27	Clarification	202, 203- Table 7.1	Unfunded operational improvements, of which several are listed on page 203, Table 7.1, include transit station improvements in Irvine, Fullerton, and Santa Ana, bus rapid transit (BRT) in Orange County, and high speed rail (HSR) Phase II. *Please confirm that these are consistent with the OC SCS.*

#	TOPIC/ REQUEST	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
28	Clarification	207	Strategic Finance *Please explain what will happen if reasonably foreseeable revenue sources of approximately $200 million do not become available?*
29	Add to glossary	205	"Active transportation"

GROWTH FORECAST APPENDIX

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Updated growth forecast numbers	23, Table 13	In December 2011, Orange County provided SCAG with the revised growth forecast dataset, OCP-2010 Modified, per the OC SCS MOU (official OCCOG Board action 1/26/2012). *Please incorporate revised Orange County numbers (i.e. OCP-2010 Modified) into all reports, tables, exhibits, alternatives, maps, and modeling runs for final RTP.*

PERFORMANCE MEASURES APPENDIX

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Clarification	1	The document states, "The performance measures are used to evaluate how well the RTP/SCS addresses the adopted goals and performance outcomes." *Is there any formal role for the performance measures?* ARB will evaluate for SB 375 compliance not based on these measures but based on ARB process. *Please include language clarifying that this is a requirement to demonstrate compliance with federal requirements and not for the obligations under SB 375.*

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
2	Clarification	1, end of first paragraph	Add statement: "Performance measures and expected outcomes will be used to monitor the RTP/SCS at the regional level; these measures and outcomes are not proposed for use at the subregional or project-specific level."
3	Clarification	1, column 2	The document states, "The Regional Council will formally adopt the goals and outcomes as part of the final 2012 RTP/SCS." *Does this bring any formal obligation to meet goals? Goals are general, flexible, and aspirational rather than specific, as on p.1.*
4	Clarification	13, Table 8	The RTP/SCS claims an extra 2% CO2e emissions reduction in 2035 from the NHTS post-processing analysis. While the RTP/SCS meets the ARB SB375 goal without the extra 2%, we would like to note that the extra 2% could be important if the attorney general raises concerns about backsliding. Consequently, the reliability of the extra 2% reduction should be checked. Questions on the NHTS model are below. It would be useful to know the answers to better judge the quality, although we do note that the report does look like it meets the standards or best practice.
5	Clarification	9	NHTS Model Documentation Report *Are the auto and bus accessibility variables included in the regression models for 30-mile rings?* *In "Number of trips" model – is number of cars, included as an independent variable, the actual or predicted value?* *The same question applies to other models.*
6	Clarification	23, Table 10	NHTS Model Documentation Report *Were the elasticities for the SCAG NHTS study calculated at sample means, or for each observation and then averaged for the sample?*

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
7	Clarification	24, Test 3	NHTS Model Documentation Report (Compare Trip-Based and NHTS Model): The final test was to compare the results of the Trip-Based Model and the NHTS Model for the same scenarios. *Please describe the scenarios tested.*

TRANSPORTATION FINANCE APPENDIX

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Clarification	General	*What are the implications if revenues other than core revenues do not become available?* *Please describe any implications to the ability of the region to meet SB 375 GHG emission reduction targets or the federally required air quality conformity?*

SCS BACKGROUND DOCUMENTATION APPENDIX

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Please define	53, right column	Housing Options and Mix: Define Larger-lot single family in text
2	Clarification	71-74, 80-83	Alternatives naming: A, B, C Names of Alternatives differ than those listed in the PEIR on pages ES-3 and 1-4. *Please be consistent with naming protocol for alternatives between two/all documents.*

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
3	Revise language to clarify	71, right column	"Plan Alternative (B) … The alternative maintains city-level forecast control totals for both households and jobs, however, within city boundaries shifts are made to focus a much larger share of future growth in a more compact way around HQTAs, except in Gateway and Orange County COG subregions per their SCS delegation agreements. Future housing market demand is expected to shift significantly to small lot single-family, townhomes and multi-family ~~hosuing~~ housing."
4	Please define	71, right column	Plan Alternative (B) Define small lot single family in text
5	Revise language to clarify	71, right column	Plan Alternative (C) "As a result very suburban communities may experience no new housing or employment growth, while some urban areas with very good access to regional transit may experience significant increases in housing or employment growth."
6	Revise language to clarify	72, left column	"While each alternative is distinctive, a number of parameters remained constant across each alternative: the regional RTP/SCS forecast total for population, households and jobs;…" "Detailed forecast: the detailed distribution of population, households, and jobs across the region…"
7	Revise language to clarify	72, Table D1	Alternatives A & B: "Controlled to TAZ-based RTP/SCS Forecast for 2020; Controlled to city-level RTP/SCS Forecast for 2020-2035, except in Gateway and Orange County COG subregions per their SCS delegation agreements." Add statement to table notes: Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.
8	Revise language to clarify	74, Table D2	Alternatives A & B: Add statement: Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
9	Clarification	75, right column	"Development Types The alternatives are built on, and provides data at, the level of the TAZ, which includes housing units and employment." *Please clarify if TAZ is Tier 1, Tier 2, or both.*
10	Revise language to clarify	79, right column	"Subregional SCSs submitted by the Gateway Cities Council of Governments (GCCOG) and the Orange County Council of Governments (OCCOG) will be ~~respected~~ unchanged and integrated into the alternatives (with possible revisions for Alternative C only)."
11	Clarification	79	The section includes the following language: "Subregional SCSs submitted by the Gateway Cities Council of Governments (GCCOG) and the Orange County Council of Governments (OCCOG) will be respected and integrated into the alternatives (with possible revisions for Alternative C only)." *Please clearly indicate what the "possible revisions" are and what process would be used to coordinate with Orange County should changes to the socioeconomic data contained in the OC SCS be proposed?*
12	Revise language to clarify	80	Alternative A Add statement: Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
13	Revise language to clarify	81	Alternative B It is not clear whether Alternative B is the SCS land use plan. If it is, statements in the appendix lead one to believe the OC SCS foundation has been altered. For example, adjustments made to land uses to locate proximate to High Quality Transportation Areas (HQTA) and intensification of residential and employment development in HQTA that diverge from local General Plans as well as implementation of a vehicle user fee are not part of the OC SCS. *Is Alternative B the SCS land use plan?* *Add statement:* Gateway and Orange County COG subregions' local input data will not be changed per their SCS delegation agreements.
14	Clarification	115, left column	Transit Zoning Code Santa Ana 2011 *Is this a duplicate of the 2010 Santa Ana project?*

PEIR

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
1	Revise language to clarify	ES-2	ES contains matrix of mitigation measures which reference project sponsors, local agency, and project implementation agency without definitions. Add definitions into ES at end of ES.1: In general, the terms "local agency," "project sponsor" and "project implementing agency" are used throughout this PEIR to identify agencies, organizations, companies and individuals that will act as lead agencies or project applicants for different types of individual projects. Individual projects that are anticipated to occur pursuant to the 2012-2035 RTP/SCS consist of planning projects (general plans, specific plans, climate action plans, etc.), development projects (including Transit Priority Projects (TPPs) and other similar projects), and transportation projects. In general, "local agency" is used to refer to a public agency that would propose a planning project or a public infrastructure project and/or an agency that would be lead agency for individual projects. "Project sponsor" is typically used to refer to an applicant (that could be public or private, an organization or an individual) that proposes a project. "Project implementing agency" is used to refer to an agency responsible for implementing a project. In this document, project-implementing agencies are those that are responsible for carrying out (reviewing, approving, constructing) transportation projects.
2	Clarification	ES-3, 1-4, Chapter 4	Alternatives' Naming: No Project Alternative, Modified 2008 RTP Alternative, Envision 2 Alternative; Alternatives 1, 2, 3 Names of Alternatives differ than those listed in the SCS Background Documentation appendix on pages 71-74 and 80-83. *Please be consistent with naming protocol for alternatives between all documents.*

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
3	Fix numbering	ES-31	Duplicate naming of GHG11 and GHG12
4	Please define	ES-42	LU63- What are the smart growth principles?
5	Please define	ES-42	LU64- What are the benchmarks for smart growth?
6	Fix numbering	ES-51	PS17 & PS18 are missing
7	Fix numbering	ES-53	Duplicate naming of PS36 & PS37
8	Please define	ES-67	TR 34- what are the identified transportation benchmarks?
9	Please define	ES-83, 3.13-42 MM-W43	Define climate change hydrology
10	Please define	ES-40, 3.8-21 MM-LU42	Define urban growth boundary
11	Please define	ES-57, 3.11-49 MM-PS68 & ES-74, 3.12-43 MM-TR96	Define parking cash out program/ cashouts
12	Clarification	1-5	*Besides IGR, what other monitoring efforts is SCAG in charge of? (that would require lead agencies to provide SCAG with documentation of compliance with mitigation measures)*
13	Language correction	1-6, paragraph 3	Language correction: "The ~~latter~~ **former** finding…"
14	Language correction	2-5	Sustainability section should be separated. Language correction: **Sustainability**. The 2012-2035 RTP/SCS is subject to specific requirements for environmental performance. **New paragraph:** "Beyond simply meeting these requirements, a …"
15	Language correction	2-5, Table 2-2	"Align the plan investments and policies ~~with~~ **while** improving…"
16	Please define	2-14	Define "scrip"

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
17	Narrative	2-21	AB 32 is global warming solutions act. SB 375 was determined to be stand-alone legislation. RTP document is not forum to address global climate change and references distract from RTP goal and purpose. "Global warming" and "global climate change" are not interchangeable phrases. References should be removed or, where appropriate, language should be changed to "global warming". ~~Goods movement is also a major source of GHG emissions that contribute to global climate change.~~
18	Clarification	2-27 paragraph 4	Not in SCAG's authority, nor funding available. Delete sentence: ~~SCAG will work with local jurisdictions and community stakeholders to seek resources and provide assistance to address any possible gentrification effects of new development on existing communities and vulnerable populations.~~
19	Clarification	2-27 paragraph 5	"The 2012-2035 RTP/SCS land use development pattern accommodates over 50 percent of new housing and employment growth in HQTAs, while keeping jurisdictional totals consistent with local input." *Please confirm that there are no changes to the local land use inputs provided by Orange County.*

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
20	Clarification	2-29	"For purposes of SCAG's SCS, a Development Type reflects an estimated average density of 22 residential units per acre. However, it is important to note that the designation is a potential ultimate average for the TAZ—and is not an absolute project-specific requirement that must be met in order to determine consistency with the SCS. In other words, the SCS was not developed with the intent that each project to be located within any given TAZ must exactly equal the density and relative use designations that are indicated by the SCS Development Type in order for the project to be found consistent with the SCS's use designation, density, building intensity and applicable policies. Instead, any given project, having satisfied all of the statutory requirements of either a residential/mixed-use project or TPP, may be deemed by the lead agency to be consistent with the SCS so long as the project does not prevent achieving the estimated average use designations, densities and building intensities indicated by the Development Type within the TAZ, assuming that the TAZ will be built-out under reasonable local planning and zoning assumptions." *Does the above PEIR language create a requirement for average TAZ density levels in 2035 and a requirement that each local project not preclude those density levels?* *Additionally, please clarify whether in HQTAs, these densities could be exceeded as well as implications of an area that is already fully developed not redeveloping such that it ever achieves the identified densities.*
21	Please define	3.8-5 paragraph 3,	Define "open space"

#	TOPIC	PAGE REFERENCE	PEIR NARRATIVE, COMMENT & RECOMMENDATION
22	Revise language to clarify	4-39	Envision 2 alternative contains growth projections that would place housing in flight paths, locate housing on sites for which housing is not allowed due to environmental contamination, would significantly impact existing industrial operations necessary to maintain quality jobs in the region, and does not include development projects that are legally allowed due to having existing entitlement for development. Because this alternative does not consider the existing health and safety of future residents nor the existing legal approvals of development in the region, it is not possible to determine if the alternative is actually superior to other alternatives. It is simply another alternative for consideration. *Please remove references to the Envision 2 (or any other name of this alternative) as being environmentally superior.* ~~ENVIRONMENTALLY SUPERIOR~~ ENVISION 2 ALTERNATIVE
23	Revise language to clarify	4-40	"Of the three alternatives, the Envision 2 Alternative would be considered by State CEQA guidelines as the environmentally superior alternative because it does not allow further use of land for single-family development…"

OCTA

February 14, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Re: Comments on the Draft 2012 Regional Transportation Plan and Program Environmental Impact Report

Dear Mr. Ikhrata:

Thank you for the opportunity to comment on the Southern California Association of Governments' (SCAG) draft 2012 Regional Transportation Plan (RTP) and associated Program Environmental Impact Report (PEIR). The 2012 RTP and PEIR are comprehensive documents that reflect the transportation and funding challenges the region will face in the coming years, in addition to the program level impacts and mitigation options. These documents are critical to the region's ability to operate, maintain, and improve the transportation system.

The Orange County Transportation Authority (OCTA) appreciates that SCAG has included the commitments identified in OCTA's 2010 Long-Range Transportation Plan, *Destination 2035*, as well as the demographic forecasts and land-use data submitted through the 2010 Orange County Sustainable Communities Strategy. In addition, OCTA appreciates the hard work and cooperation of SCAG staff throughout the RTP and PEIR development process.

OCTA has coordinated with Orange County's local jurisdictions to identify policy and technical issues related to the draft 2012 RTP and PEIR that are of concern to Orange County. The issues that were identified through this effort, and that are of particular concern to OCTA, are discussed below. Some of these issues were previously transmitted to SCAG in a letter dated October 7, 2011. Since a response to the October letter was never received from SCAG, OCTA strongly urges SCAG to carefully review the issues below and provide specific and detailed responses.

Innovative Financing and New Revenue Sources

The draft RTP suggests that $127.2 billion of the approximately $219.5 billion regional shortfall can be addressed through actions at either the state or federal level with a $0.15 gas tax increase between 2017 and 2024. After that, the draft RTP assumes that the state or federal government would either replace the gas tax with an indexed mileage-based user fee of $0.05 per mile,

beginning in 2025, or further increase fuel taxes to generate revenues equivalent to the mileage-based user fee.

OCTA cannot support an increase in fees, including the introduction of a mileage-based user fee, until a comprehensive economic impact study is completed and presented to the OCTA Board of Directors (Board) for discussion. In addition, when considering support for any kind of a new user-based fee program, an emphasis must be placed on the need for a return-to-source criteria that guarantees funds generated within Orange County are reinvested in Orange County. Finally, there should also be a process for recognizing and rewarding areas that keep the transportation system in a state of good repair.

California High-Speed Rail

The draft RTP identifies Phase I of the California High-Speed Rail Authority (CHSRA) Project as a potential solution for improving interregional and intercity ground transportation. As described in the RTP, the project is planned to connect San Francisco with Los Angeles and Anaheim. This also assumes improvements to increase speeds along the Los Angeles-San Diego-San Louis Obispo (LOSSAN) corridor and the Metrolink Antelope Valley Line.

This project description is consistent with the draft CHSRA Business Plan, which OCTA has reviewed and provided comments on (Attachment A). OCTA would like SCAG to take these comments into consideration as the RTP is refined for adoption in April. In summary, these comments focused on the following:

- OCTA supports the phased delivery approach, which includes early investment in the existing LOSSAN and Metrolink infrastructure
- Rather than initially investing in the central segment, OCTA believes it is more prudent to begin implementation at the "bookends" of the system
- Extending the implementation of Phase I by 13 years may jeopardize existing funding due to timely use criteria
- The updated schedule should account for potential contingencies, and the associated potential cost increases should be addressed through contingency planning
- The project's dependency on public funds could place CHSRA in direct competition for funding with existing transit service providers and local transportation agencies

- It is questionable whether the funding plan truly complies with the requirements set out in Proposition 1A, specifically Section 2704.08(c)(2), items A through K

- The operating assumption of "up to nine trains per hour" will likely result in an unnecessary level of service, and the projected operating surplus of $1 billion per year is too optimistic
- The $171 billion alternative investment in airports and roadways does not account for the airport and roadway investments that will be required both with and without the high-speed rail project

In addition, OCTA recommends that SCAG provide regular updates to the Transportation Committee and Regional Council regarding the CHSRA business plan, financial status, implementation progress, and any changes in assumptions by the CHSRA; particularly with respect to the status of the memorandum of understanding that better defines CHSRA's commitments to near-term speed improvements for the LOSSAN and Metrolink services.

Regional High-Occupancy Toll Lane Network

The draft RTP includes the implementation of a regional high-occupancy toll (HOT) lane network. This network appears to utilize existing and planned high-occupancy vehicle lanes to generate new revenues by selling excess capacity to single-occupancy drivers. The proposed regional HOT lane network assumes that Orange County would include HOT lanes on Interstate 5 (I-5) between the San Diego County border and the southern end of State Route 73 (SR-73); along I-405 between the northern end of SR-73 and the Los Angeles County border; and along State Route 91 (SR-91) extending the Express Lanes west to the Los Angeles County border.

On December 12, 2011, the OCTA Board approved the Express Lane Planning and Implementation Principles (Attachment B). OCTA requests that these principles be incorporated into the assumptions for segments of the regional HOT lane network that are within Orange County. Furthemore, the proposed HOT lane improvements to I-5, and SR-91 should be subject to further study to evaluate right-of-way impacts, community issues, and overall feasibility, prior to inclusion in the constrained plan.

East-West Freight Corridor

Due to continuing growth at the ports of Long Beach and Los Angeles, and increasing congestion on freeways throughout the SCAG region, the draft RTP

highlights the need for a zero emission East-West Freight Corridor. The corridor would aid the movement of goods between the ports and warehousing facilities located inland. This reflects the findings from the Comprehensive Regional Goods Movement Plan and Implementation Strategy.

Several other corridors were examined, including the SR-91, through Orange County and Interstate 10. After considerable study, the State Route 60 corridor was selected for further study based on its proximity to current and future markets, feasibility and right-of-way constraints, future truck volumes, and potential for reducing truck-involved accidents. The SR-91 was not selected primarily due to right-of-way constraints throughout the corridor, and lack of good access to warehousing locations.

OCTA supports the East-West Corridor as it appears in the Draft 2012 RTP. OCTA believes that the findings from the Comprehensive Regional Goods Movement Plan and Implementation Strategy are accurate, and OCTA encourages SCAG to build on the progress of the East-West Corridor based on these findings.

Other Regional Strategies

SCAG proposes a number of other investments within the draft RTP that affect Orange County, and go beyond the Long-Range Transportation Plan (LRTP). OCTA recognizes that it is within SCAG's purview to plan for regional strategies that enhance transportation, such as the ones discussed below. It should be noted that OCTA is committed to delivering the projects within the LRTP. OCTA will only consider additional investments after revenues are identified to account for these commitments. The regional strategies identified by SCAG do not have clear funding mechanisms, and it must be made clear that their inclusion in the RTP does not constitute a commitment to fund and/or implement the improvements.

Examples of regional strategies include the congestion management projects identified by the California Department of Transportation. In Orange County, these corridors include State Route 57, State Route 22, Interstate 605, SR-91, and I-405. The improvements consist of relatively low-cost operational improvements such as ramp metering, auxilary lanes, and other ramp and interchange enhancements. These are in addition to what was already submitted to SCAG by the county transportation commissions (CTCs) such as OCTA, and rely on funding sources beyond those identified in the LRTP.

The draft RTP also proposes additional transit enhancements throughout the region. The key transit investments that go beyond what the CTCs have committed include expanding local bus service, additional bus rapid transit, and new express bus service. These improvements are not specified in the draft RTP, but the additional cost to the region for these services is estimated at about $2.6 billion. These additional costs are are covered by SCAG's assumed transportation funding levels, which are beyond the available and committed resources identified in the LRTP.

An additional emphasis is also placed on walking and bicycling, which is referred to as "active transportation." The draft RTP proposes to increase the regional investment in active transportation by about $4.5 billion. When the committed investments submitted by the CTCs are accounted for, the total active transportation investment is approximately $6 billion for the SCAG region. Again, this additional investment is over and above resources identified in the LRTP, and the improvements are addressed only at the regional level.

Transportation Induced Growth

Throughout the draft RTP and PEIR, there are references to transportation projects inducing growth and influencing land-use development and demand. One such instance is on page 80 of the draft RTP, which states the following:

> "Transportation projects including new and expanded infrastructure are necessary to improve travel time and can enhance quality of life for those traveling throughout the region. However, these projects also have the potential to induce population growth in certain areas of the region. Although SCAG does not anticipate that the RTP would affect the total growth in population in the region, the RTP has the ability to affect the distribution of that growth."

These types of statements are misleading for a number of reasons. For example, the excerpt quoted above states that the "RTP has the ability to affect the distribution of growth." This can be understood to imply that SCAG has the ability to influence growth through the development of the RTP. OCTA trusts that this is not SCAG's intent. OCTA recommends that such references be clarified, as land use decisions are within the purview of local agencies.

Moreover, and more importantly, statements such as the above excerpt imply a lack of coordination between land-use and transportation agencies, especially

in the light of the recent efforts to develop the Sustainable Communities Strategies at the subregional and regional levels. There should be an emphasis in the RTP on the fact that land-use and transportation agencies are coordinating better now than ever before. OCTA recommends that SCAG clarify the negative implication of the statements regarding induced growth, and highlight the elevated level of coordination occurring today.

Draft Program Environmental Impact Report

The Draft PEIR is a program level document that is intended to serve as an informational document, disclosing all potential environmental impacts and possible mitigation measures. OCTA has coordinated with a number of agencies throughout Orange County who have expressed interest in reviewing and commenting on the draft 2012 RTP and PEIR (Attachment C). These agencies have identified a variety of concerns during their review of the documents, in particular with the list of 549 mitigation measures within the PEIR. The key concerns that have been identified include:

- The Draft PEIR states that it "has made a preliminary determination that the proposed mitigation measures are feasible and effective." It is unclear how this determination was made, and this assumption could prove to be inaccurate if and when these mitigation measures are considered at a project level. Therefore, any feasibility determinations in the PEIR must clearly state that they only apply at the program level.
- Several of the mitigation measures that identify SCAG as the acting agency propose measures that appear to exceed the purview of SCAG. SCAG must be mindful of local and county land-use and transportation authorities, and use great discretion when making commitments and/or suggesting policies and strategies that may impact and encroach upon local and county agencies' responsibilities.
- The PEIR includes mitigation measures that restate existing requirements enforced by other agencies and, therefore, do not need to be repeated in this list of mitigation measures.

Additionally, OCTA understands that only those mitigation measures that state that "SCAG shall" are required to be carried forward. Any mitigation measure that identifies an agency other than SCAG can be considered at the discretion of the appropriate agency; however, such consideration is not required unless the agency chooses to use the PEIR in order to tier when performing project level environmental analysis.

OCTA understands the term "can and should" to mean that the agency identified by SCAG in a mitigation measure has the authority to implement the mitigation measure, and that SCAG encourages the agency to do so. The term is not intended to imply that the measures are feasible nor required.

Finally, SCAG's current Intergovernmental Review ("IGR") policy "encourages" the use of the mitigation measures identified in the 2008 RTP PEIR to "aid with demonstrating consistency with regional plans and polices." SCAG will most likely update the IGR policy to refer to the 2012 RTP PEIR mitigation measures. As explained above, and as already recognized by SCAG, compliance with the RTP PEIR mitigation measures is mandatory for SCAG only. These mitigation measures, therefore, should not be considered in any way during the IGR process to determine consistency with regional plans and policies.

While OCTA shares many of the concerns raised by partner agencies and stakeholders in Orange County, such as those described above, the attached list of comments on the PEIR (Attachment C) focuses on the issues within OCTA's purview that were identified through the coordination efforts. Please provide responses and clarifications with regard to these comments.

OCTA appreciates SCAG's work on the RTP and PEIR to date and looks forward to the adoption of a complete and accurate 2012 RTP and PEIR in April. If you have further questions, please contact Gregory Nord, Senior Transportation Analyst, at (714) 560-5885.

Sincerely,

Paul G. Glaab
Chairman

WK:gn
Attachments

c: OCTA Board of Directors
Executive Staff

ATTACHMENT A

OCTA

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Chief Executive Officer

December 22, 2011

Chairman Thomas J. Umberg
Board of Directors
California High-Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814

Dear Chairman Umberg:

On behalf of the Orange County Transportation Authority (OCTA), we appreciate the opportunity to review and comment on the California High-Speed Rail Draft 2012 Business Plan (Plan). As the only public agency to provide a financial contribution to the environmental clearance effort, OCTA has a vested interest in the California High-Speed Rail (CHSR) project, especially since the designated southern terminus for Phase 1 of the CHSR project is in Orange County.

The Plan is a marked improvement over the 2009 Plan and attempts to address many of the previous areas of concern raised by the Legislature, the Peer Review Group, the Legislative Analyst's Office (LAO), and affected communities. We are pleased that the Plan includes the blended approach as requested by OCTA and Los Angeles County Metropolitan Transportation Authority (Metro) in spring 2010. The plan recognizes the importance of existing passenger rail service providers and the need to link those systems with the CHSR project. We believe this is the key to the successful implementation of CHSR in Southern California, and the retention of federal support for this project. Linking into the existing successful rail services will provide the needed connectivity to regional transit systems to enable the full potential of the CHSR system.

While the Plan represents a more realistic assessment of the CHSR project, there remain areas of serious concern that should be addressed prior to submission to the Legislature and certainly prior to implementation. Below is a summary of our comments/ concerns:

- **Phased Delivery Approach:** We are pleased with the introduction of the phased delivery approach as it represents a more realistic delivery model and includes the blended operations approach as requested by OCTA and LA Metro; however, this approach begins with construction in the Central Valley instead of the Anaheim to San Fernando Valley and San Francisco to San Jose segments, often referred to as the bookends

of the system, which show much higher ridership and revenue, as well as providing connectivity to the most urbanized areas of the state. While there may be requirements which justify initial expenditures on the Central Valley, we believe it more prudent for the California High-Speed Rail Authority (CHSRA) to begin with project implementation at the bookends of the system. This approach will maximize the investment of the scarce state and federal funds and provide critical connections to the existing passenger rail systems in southern and northern California. If new track is constructed outside of the bookends in southern and northern California, it should be added between the San Fernando Valley and Bakersfield to connect the Pacific Surfliner and San Joaquin intercity rail corridors. This important infrastructure would fill the gap in passenger rail service which now exists between Los Angeles and Bakersfield.

- **Project Schedule:** We understand that the updated schedule aligns with the phased delivery approach, adding 13 years to the full Phase 1 project. Unfortunately, this change in schedule leads to significant cost increases due to inflation and escalation and it puts the existing funding sources in jeopardy due to timely use. Additionally, the updated schedule includes no contingency for project delay that may be caused by environmental clearance, legal challenges, gaps in funding, or limited availability of construction materials and qualified technical resources.

- **Cost Increase:** While we are aware that the previous cost estimate was in base year dollars and the updated cost estimate now includes normal escalation and inflation, the cost increase is significant. As stated in the business plan, the increased cost also does not address worst case scenarios for mitigations that may be required through the environmental process nor is it based on the high end of the range presented in 2010 dollars. These potential cost changes could be significant and should be addressed through contingency planning.

- **Funding/Financial Plan:** The funding plan is largely speculative and lacks any firm commitment of funding beyond the initial construction section. The current secured funding is not adequate to build either of the Initial Operating Sections, which the Plan states are the driving force behind attracting any private funding and future public funds. Additionally, the Plan relies heavily on scarce public funds on the front end of the project and could place the CHSRA in direct competition with existing rail service providers given the identified potential fund sources. This is of great concern to OCTA as it will directly impact existing and future planned programs. Specifically we are very concerned about the

assumptions on the use of federal Congestion Mitigation and Air Quality and Regional Surface Transportation Program funds that OCTA utilizes for highway and transit projects. In addition, the use of federal New Starts funds for the high-speed rail (HSR) program presents direct competition to OCTA and other local transportation agencies that rely on this program for the development of new fixed-guideway projects.

- **Compliance with Proposition 1A**: Proposition 1A Section 2704.08(c)(2) specifically states that any funding plan submitted to the Legislature "shall include ... all of the following," and items A through K are listed. Subdivision H requires that, "The corridor or usable segment thereof would be suitable and ready for high-speed train operation." "Corridor" is specifically defined in Section 2704.01 and refers to a "high-speed train system," which is defined in Subsection (e) of 2704.01 as a "system with high-speed trains and includes ... power system, rolling stock..." among other items. Additionally, Subsection K of 2704.08(c)(2) requires that, "The Authority has completed all necessary project-level environmental clearances necessary to proceed to construction." As noted by the LAO's November 29, 2011 report on the Plan, it would appear that there are serious questions that need to be fully analyzed as to whether the funding plan truly complies with the requirements set out in Proposition 1A.

- **Operational Assumptions:** The operating assumptions include some very aggressive service levels of up to nine trains per hour. This is likely to result in unnecessary frequency. The projected operating surplus of over $1 billion per year is also speculative and based on an optimum number of trains; in our view, it is simply too optimistic.

- **Cost Comparisons:** The cost comparisons made in the Plan are based on a theoretical maximum of HSR capacity. More concerning is that the Plan does not include a build vs. no-build option for HSR and ignores existing capacity and other tools for managing congestion; in addition, the Plan compares a $98 billion investment in HSR to a $171 billion future investment in airports/roadways for equivalent capacity, but does not account for the roadway/airport work investment that will be required both with and without HSR.

The CHSR project represents the single largest public works project in California history, requiring extensive coordination and investment. OCTA is pleased to see the enhanced level of coordination between the CHSRA and existing service providers and railroad owners. However, we have grave

concern over what appears to be missing elements and unrealistic components of the Plan. We also urge the CHSRA to address the serious concerns regarding the Plan raised by the LAO prior to submission of this Plan to the Legislature. OCTA would further appreciate adequate responses to the issue raised in the letter. This project has the potential to provide significant improvements to California's transportation infrastructure, but must be done with prudent planning and judicious use of public funds.

Sincerely,

Patricia Bates
Chairman

PB:jlb

c: Board of Directors
Executive Staff

Express Lane Planning and Implementation Principles

User Experience

1. Express lane projects shall be designed and implemented to provide safe, reliable, and predictable travel times.

2. Express lanes shall be planned and implemented to support improved regional connectivity.

3. Design and management of the interface of express lane facilities with existing freeway, high-occupancy vehicle, and express facilities shall seek to achieve a consistent, seamless user experience.

Existing System

4. Express lane projects shall not be implemented to replace committed projects to be funded with local transportation sales tax revenues.

5. Although Caltrans and Federal Highway Administration control highway operations, OCTA does not intend to replace existing mixed-flow freeway lanes with express lanes.

6. Existing high-occupancy vehicle lanes may be functionally encompassed within an express lane project, provided:
    a. The total number of lanes is increased by the project; and
    b. Both vehicle throughput and average vehicle occupancy levels can be maintained and/or improved.

Operations

7. Express lane operations policies shall:
    a. Assure coverage of capital and operations costs as well as maintenance responsibilities.
    b. Maximize overall corridor throughput and efficiency through congestion pricing.
    c. Promote increased average vehicle occupancy, including incentives for carpools, vanpools, and transit services.

Revenues

8. Any express lane project revenues in excess of what is needed for annual debt payments, financing requirements, and operations responsibilities shall be used for congestion relief projects and expanded transit options in the same corridor area.

9. Continued operations of express lanes, beyond bond retirement dates, shall be subject to demonstrated congestion relief measured by vehicle throughput and average vehicle occupancy levels in the corridor.

OCTA

Comments on the Draft 2012 Regional Transportation Plan – Program Environmental Impact Report

OCTA Comment #1

MM-AQ1 – This mitigation measure states that SCAG shall implement Transportation Control Measures (TCMs). However, page 26 of the Transportation Conformity supplemental report to the draft 2012 RTP states that "Although project implementation remains an enforceable commitment by project sponsor agencies, SCAG is responsible for assuring the timely implementation of TCMs." OCTA recommends modifying this mitigation measure to describe SCAG's role as being limited to monitoring the timely implementation of TCMs, consistent with the language from the Transportation Conformity supplemental report.

MM-AQ1	TCMs shall be implemented as appropriate by SCAG and can and should be implemented by local agencies and project sponsors as appropriate. TCMs included in the Plan are identified in the Transportation Conformity Appendix to the 2012-2035 RTP/SCS (starting on page 26). CAA Section 108(f)(1)(A) lists the following sixteen measures as illustrative of TCMs: I. Programs for improved use of public transit; II. Restriction of certain roads or lanes to, or construction of such roads or lanes for use by, passenger buses or HOV; III. Employer-based transportation management plans, including incentives; IV. Trip-reduction ordinances; V. Traffic flow improvement programs that achieve emission reductions; VI. Fringe and transportation corridor parking facilities, serving multiple occupancy vehicle programs or transit service; VII. Programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration, particularly during periods of peak use; VIII. Programs for the provision of all forms of high-occupancy, shared-ride services, such as the pooled use of vans; IX. Programs to limit portions of road surfaces or certain sections of the metropolitan area to the use of non-motorized vehicles or pedestrian use, both as to time and place; X. Programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists, in both public and private areas; XI. Programs to control extended idling of vehicles; XII. Programs to reduce motor vehicle emissions, consistent with Title II of the CAA, which are caused by extreme cold start conditions; XIII. Employer-sponsored programs to permit flexible work schedules; XIV. Programs and ordinances to facilitate non-automobile travel, provision and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts of a locality, including programs and ordinances applicable to new shopping centers, special events, and other centers of vehicle activity; XV. Programs for new construction and major reconstruction of paths, tracks or areas solely for the use by pedestrian or other non-motorized means of transportation, when economically feasible and in the public interest; and XVI. Programs to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks. The Plan has been prepared to facilitate implementation of TCMs and they also serve as air quality mitigation measures for the purposes of the PEIR.

OCTA Comment #2
MM-BIO/OS45 – OCTA recommends revising this mitigation measure to indicate that SCAG will accept CTC adopted conservation and mitigation strategies for determining priority conservation areas and in developing regional mitigation policies.

MM-BIO/OS45	SCAG shall develop a conservation strategy in coordination with local jurisdictions and agencies including CTCs to determine priority conservation areas and develop regional mitigation policies. SCAG shall produce and maintain a list/map of potential conservation opportunity areas based on most recent land use data. These conservation opportunity areas may be used by local jurisdictions and project sponsors as priority areas for mitigating impacts to open space resources. SCAG's forthcoming regional conservation planning policy will include additional information on conservation opportunity areas.

OCTA Comment #3
MM-LU9 – SCAG has no land-use authority to implement this mitigation measure. OCTA recommends removing any reference to SCAG implementing the coordinated mitigation programs.

MM-LU9	SCAG shall develop and implement coordinated mitigation programs for regional projects, with an emphasis on regional transportation projects.

OCTA Comment #4
MM-PS34 – This mitigation measure is unclear regarding the specific funding opportunities and programs that would be affected. Any new requirements implied through this mitigation measure that affect funding for transportation projects are not supported by OCTA.

MM-PS34	SCAG shall consider consistency with ongoing regional open space planning in funding opportunities and programs administered by SCAG.

OCTA Comment #5
MM-PS118 – OCTA recommends revising the language in this mitigation measure to read as follows:

"SCAG shall continue to develop energy efficiency and green building guidance to provide direction on specific approaches, models, and levels of performance for regionally significant projects to be consistent with regional plans."

MM-PS118	SCAG shall continue to develop energy efficiency and green building guidance to provide direction on specific approaches and models and to specify levels of performance for regionally significant projects to be consistent with regional plans.

OCTA Comment #6
MM-TR6 – OCTA recommends revising this mitigation measure to indicate that SCAG will defer to the CTCs to plan and coordinate at the project level.

MM-TR6	SCAG shall establish transportation infrastructure practices that promote and enhance security. SCAG shall work with transportation operators to plan and coordinate transportation projects, as appropriate, with DHS grant projects, to enhance the regional transit security strategy (RTSS). SCAG shall establish transportation infrastructure practices that identify and prioritize the design, retrofit, hardening, and stabilization of critical transportation infrastructure to prevent failure, to minimize loss of life and property, injuries, and avoid long term economic disruption. SCAG shall establish a Transportation Security Working Group (TSWG) with goals of 2012-2035 RTP/SCS consistency with RTSS, and to find ways SCAG programs can enhance RTSS.

OCTA Comment #7
MM-TR15 – OCTA recommends revising the language to indicate that SCAG will coordinate closely with CTCs and local agencies when developing advocacy strategies regarding congestion pricing.

MM-TR15	Congestion Pricing: SCAG shall advocate for a regional, market-based system to price or charge for auto trips during peak hours.

OCTA Comment #8
MM-TR21 – SCAG has no authority to "ensure that new developments incorporate both local and regional transit measures into the project design that promote the use of alternative modes of transportation." Please modify the language to remove the "SCAG shall", and to state that "Local agencies can and should ensure" this effort "to the extent feasible".

MM-TR21	Transportation Planning: SCAG shall and local jurisdictions can and should ensure that new developments incorporate both local and regional transit measures into the project design that promote the use of alternative modes of transportation.

OLDA

February 7, 2012

OLDA
is a joint powers agency formed to pursue development of a high speed environmentally friendly transit system in Southern California. The Authority is composed of the following public agencies:

City of Artesia
City of Bell
City of Bellflower
City of Cerritos
City of Cudahy
City of Downey
City of Glendale
City of Huntington Park
City of Maywood
City of Paramount
City of Santa Clarita
City of South Gate
City of Vernon
Burbank-Glendale-Pasadena Airport Authority

Chairman
Frank Quintero
Council Member
City of Glendale
Commissioner
Burbank Glendale Pasadena Airport Authority

Vice Chairman
Luis H. Marquez
Mayor
City of Downey

Secretary
Maria Davila
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Auditor
Scott A. Larsen
Mayor
City of Bellflower

Executive Director
Michael R. Kodama

General Counsel
Sandra J. Levin

Ex-Oficio
James McCarthy
Caltrans, District 7

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

Re: DRAFT Regional Transportation Plan and the OLDA Northern Corridor

Mr. Ikhrata:

On January 11, 2012, the Orangeline Development Authority (OLDA) Board of Directors voted to communicate to you its support for including the OLDA Northern Corridor in the Constrained Projects List for the 2012 Regional Transportation Plan. This addition provides connectivity necessary for the success of the OLDA Southern Corridor (West Santa Ana Branch), which is in the constrained list. The OLDA Northern Corridor coincides with much of the list of improvements being studied by Metro as the Antelope Valley Line Infrastructure Improvement Strategic Plan and the currently planned alignment of the California High Speed Rail project. The likelihood that funds would be available for these set of improvements are enhanced by the Memorandum of Understanding (MOU) being negotiated for use of Proposition 1A (High Speed Rail) funds.

The Orangeline Development Authority (OLDA) is a joint powers authority consisting of 14 members connecting the West Santa Ana Branch and Antelope Valley Line from the City of Cerritos to the City of Santa Clarita. It includes members in the Gateway Cities Council of Governments and San Fernando Valley Council of Governments.

OLDA is committed to the development of a high speed, grade separated, environmentally friendly and energy efficient transit **system**. Currently, OLDA Southern Corridor is in the constrained plan (West Santa Ana Branch).

Recent events and planning efforts have focused attention on the OLDA Northern Corridor from Downtown Los Angeles to Santa Clarita. Based upon these efforts, OLDA would like to suggest that the OLDA Northern Corridor be included in the constrained plan (Antelope Valley Line). Specific planning efforts in the corridor include:

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- ***Bob Hope Airport*** – The Burbank Glendale Pasadena Airport Authority and OLDA are conducting a $5.4 million Ground Access Study. The grant provides planning and construction funds for improvements on the Antelope Valley Line and has become a catalyst for OLDA Northern Corridor improvements. The study focuses on multimodal transportation improvements linking to the regional system, including the feasibility of a new North Station on the Antelope Valley Line at Hollywood Way and San Fernando Road. The study has led to additional planning efforts that can lead to significant improvements linking Santa Clarita to Downtown Los Angeles. Further, the Airport is going to break ground on a Regional Intermodal Transportation Center (RITC). More details are in the SCAG RTP appendix entitled "Aviation and Airport Ground Access."

- ***Antelope Valley Line Infrastructure Improvement Strategic Plan*** - Metro is conducting a study to upgrade the Antelope Valley Line. The 75 mile corridor runs at-grade from Los Angeles Union Station to Lancaster and includes plans for several capital improvements. The Antelope Valley Line Study is providing the plan to create a shared corridor involving not only current Metrolink service but also part of the High Speed Train system. Results of this study should be available in March 2012 and are expected to include recommendations that meet many of the OLDA goals and objectives.

- ***Memorandum of Understanding*** - In January, 2012, a Memorandum of Understanding has been developed between the California High Speed Rail Authority, Southern California Association of Governments, Los Angeles County Metropolitan Transportation Authority, Southern California Regional Rail Authority and many other local transportation agencies. The MOU addresses advance investment of up to $1 billion in Southern California as part of the CHSRA's commitment to a "Blended Approach" to the construction of the high speed train (HST) system in California. As you are aware, this MOU is a significant document that allows for this work to now be included in the Constrained portion of the Draft Regional Transportation Plan (RTP). This can lead to the planning and funding necessary to include OLDA's Northern Corridor in the Constrained portion of the RTP.

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OLDA

Again, on behalf of the OLDA Board, we would like you to work with us on how we can include the OLDA Northern Corridor in the Constrained Project list for the 2012 Regional Transportation Plan.

If you have any questions or need further information, please contact Michael Kodama, OLDA Executive Director at 562 663-6850.

Sincerely yours,

Frank J. Quintero
Chairman

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February 14, 2012

Southern California Association of Governments
818 West 7th Street, 12th Floor
Los Angeles, CA 90017
VIA E-MAIL

Re: Comments on Regional Transportation Plan

To Whom It May Concern,

The Pasadena Chamber of Commerce has reviewed the Regional Transportation Plan and appreciates the time, effort, thought and work that went into the document. While we appreciate that a regional approach to traffic management, transportation and goods movement we also want to be sure that plans and implementations are truly regional and economics and impacts to local economies are given due consideration.

For example, we would be very concerned about user-based fee proposals to fund transportation projects. For us, we could not support any program or plan that would put the Pasadena area at a competitive disadvantage economically. Traffic, transportation, goods movement and customers need to be able to access Pasadena as easily, simply and cost-effectively as our neighbors in the region. Plans for programs that will charge vehicle drivers a fee to get to Pasadena should be implemented region-wide, not piecemeal, and certainly not in the San Gabriel Valley first. If, for example, congestion pricing schemes or toll roads are proposed, we would want those implemented region-wide, not in a way that puts our area at a disadvantage economically as increased costs to travel to, through or past Pasadena that do not exist in other places, put Pasadena at a competitive disadvantage compared to those places in the area that would not see those same programs implemented and those additional costs imposed.

Likewise, any program or plan to assess fees to mitigate development impacts need to be approved by the local government and funds generated need to be used by those local governments to reduce impacts in their area and existing local fees should exempt businesses within those jurisdictions from any additional costs.

We are also concerned that an agency with little understanding of the Pasadena economy, our local business community or community needs is proscribing programs, mitigations and measures that may be inappropriate or unworkable in our local jurisdiction. It is certainly prudent for SCAG, through the RTP, to set goals for everything from pollutants in the air to the time it should take to travel between cities in the region, but SCAG should not be determining what programs will achieve those goals, not what local costs will be to achieve them.

We also appreciate the linking of land use policies with transportation planning, however, we do not see how many local jurisdictions could achieve the goals, especially given the elimination of redevelopment agencies by the State of California. Quite simply, there is no mechanism for localities to support development of any kind, especially not more dense development in our downtowns that would likely require consolidation of properties. How is that to be accomplished when there is no mechanism to capitalize such endeavors?

In fact, we are very concerned that the funding mechanisms identified to finance projects will be very short of anticipated levels, and that some of these mechanisms may never be available as they are not currently implemented in California.

We are also concerned that, while it is important to move goods, vehicles and persons easily through the region, we should be very mindful of impacts to local streets and local economies. Putting in a freeway does no good if the resulting overflow traffic stifles local streets and strangles local business districts.

Finally, the Pasadena Chamber of Commerce cannot stress enough the importance of our local economies. Transportation planning, like every other government endeavor, needs to fully, accurately and appropriately take impacts to the local, regional and state economy into consideration. The best transportation plan imaginable is worthless of it stifles job and economic growth and puts our region, and its cities, at a competitive disadvantage.

Thank you for the opportunity to comment.

Paul Little
President and Chief Executive Officer

cc: B. Bogaard, M.Beck, F. Dock,

February 14, 2012

Attn: President Pamela O'Connor
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

Re: 2012-2035 Draft Regional Transportation Plan/Sustainable Communities Strategy

Dear President O'Connor and Southern California Association of Governments Regional Council Members:

The undersigned appreciate the dedication and efforts of the staff at Southern California Association of Governments (SCAG) in completing the Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy (2012 RTP/SCS). We are encouraged by the recommendations in the plan that moves the region towards an improved transportation system while improving public health and air quality.

The 2012 RTP/SCS includes many smart growth strategies that will increase mobility, public health and environmental health standards. As advocates for improving public health and equity, we are encouraged to see SCAG's recommendations to:

- *Increase investment in active transportation strategies.*
- *Acknowledge that a regional zero emission freight system is needed in the region.*
- *Discuss gentrification issues as part of Environmental Justice.*
- *Monitor premature mortality due to PM2.5.*

Though SCAG has shown commitment to improving the region's *mobility, economy and sustainability* by including public health analysis in transportation planning policies, more can still be done to improve air quality, increase equity and improve our goods movement system.

The SCAG region faces immense public health and environmental challenges, and the RTP/SCS must be enhanced to address these issues. The SCAG region continues to have the worst air quality in the nation and contains "14 non-attainment and maintenance areas in four air

basins"[1]. Additionally, SCAG recognizes that 25% to 27% of the population "within the freeway adjacent areas are projected to see increases in their emission exposures to CO and PM"[2]. According to Figure 46 in the Environmental Justice Appendix, close to 60% of the population residing within 500 feet from the buffer area are Hispanic and in Quintile 1 (The Lowest Income Household). The issues of air pollution are even more acute in the SCAG region given the rampant prevalence of diesel equipment used in the freight industry. Residents in close proximity to highways, particularly those with high levels of diesel trucks, will experience increased rates of cardiovascular and respiratory disease, premature mortality, increased lung cancer incidence, decreased life expectancy, reproductive health problems, and increased asthma symptoms [3] [4] [5] [6]. While we recognize that the goods movement sector is an economic driving force in the region, we cannot sit by idly and allow the immense damage to the health of our most vulnerable communities persist.

Given these challenges, we recommend several improvements that must be made to improve the RTP/SCS.

I. The RTP/SCS Must Do More To Promote Public Health Protections, Active Transportation and Equity.

The RTP/SCS is the blueprint for years to come. As such, it must be designed to promote public health through choosing better transportation alternatives and making sure we spread the benefits of these investments to all residents in the region, regardless of race, income, or other social status. Moreover, we must make sure we minimize exposure to environmental harms.

II. The RTP/SCS Must Invest and Include Healthy and Equitable Policies.

Implementing this recommendation requires addressing the following critical public health issues:

A. Mitigate PM and CO exposure in high quality transit areas.

The 2012 RTP/SCS will redirect 51% of new housing near High Quality Transit Areas (HQTA) providing an opportunity for healthy communities. Redirecting the growth of new housing closer to busy roads and freeways could violate the California Air Resources Board's recommended 500 feet freeway buffer, and potentially increase CO and PM exposure and noise impacts. SCAG has acknowledged that 25% to 27% households living within freeway adjacent areas will see increases in their emission exposure to CO and PM. In addition to monitoring these areas for PM and CO, we recommend that SCAG also project and map out the areas that may be impacted as a result of the redirected growth up to the year 2035. We also recommend for SCAG to include current mitigation strategies in the EJ Toolkit and work with the local communities, health advocates and stakeholders to continue developing policies that will be included as part of the mitigation strategies for HQTA.

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[1] Pg. 18, VISON APPENDIX
[2] Pg. 122, EJ APPENDIX
[3] California Air Resource Board. Air Quality and Land Use Handbook: A Community Health Perspective. 2005. http://www.arb.ca.gov/ch/landuse.htm.
[4] Brunekreef B, Janssen NA, Hartog J. 1997. Air Pollution from truck traffic and lung function in children living near motorways. *Epidemiology* 8:298-303.
[5] VennAJ, Lewis S, Cooper M, Hubbard R, Britton J. 2001. Living near a main roadand the risk of wheezing illness in children. *Amer J Resp and Critical Care Med* 164(12):2177-80.
[6] Various studies:
Gauderman, W. James, Ph.D, et al., *N Engl J Med* 2004; 351:1057-1067.
Jun Wu et al., *Environmental Health Perspectives* 2009; 117: 1773-9.
McConnell, Rob MD et. al., *Lancet* 2002; 359:386-391.
Arden, Pope C III, PhD et al., JAMA 2002; 287; 1132–1141.

B. Mitigate highway noise areas in communities of concern.

Highway noise areas are also disproportionate to environmental justice communities with 22% of the affected population residing within roadway noise areas and 14% of the households below the poverty line[7]. Noise impacts have been associated with hearing impairment, hypertension and ischemic heart disease annoyance and sleep disturbance[8]. Further noise impact mitigation studies should be utilized in future 2012 RTP/SCS plans.

C. Monitor and develop tools to avoid gentrification and displacement in TODs.

SCAG's current analysis of 125 HQTA around rail stations found that the demographics of HQTA/TOC are changing. Poverty rates are declining in these areas when compared to the rest of the region[9]. These results show that displacement and gentrification may be occurring in these areas. As such, gentrification should be acknowledged and policies need to be put in place to avoid this from happening. In addition to tracking the 125 rail stations, SCAG should:

1. Track commute time by race and income in Communities of Concern (COCs) and compare it to the region.
2. Set a baseline for jobs-housing fit by taking a "snap shot" of 4-to-5-mile buffer zone around major job centers, and compare the wages provided by those jobs to cost of housing within the buffer zone to see if there is a good jobs-housing fit. Continuing to monitor the jobs/housing fit over successive RTP/SCSs will be an important tool for transportation planning in rural, urban and suburban areas.
3. Use the Compass Blueprint Program to advance a policy toolkit that highlights and recommends anti-displacement and anti-gentrification policy options in TOD areas, as an eligible subject for a Compass Blueprint grant proposal.

III. The RTP/SCS Must Ensure That the Region has a Complete Network of Transportation Strategies that Connect Travelers to a Wider Range of Transportation Options.

This entails implementation of the following recommendations:

*A. Increase investment in <u>active</u> transportation***.**

In order to achieve true walkable and healthy communities we recommend for SCAG to increase its investments in Active Transportation strategies beyond the $6 billion currently recommended.

B. Increase investment in <u>public</u> transportation.

Prioritize investment in bus rapid transit and taking existing infrastructure to include bus-only lanes instead of expanding highway to accommodate for additional capacity.

C. Access, mobility and safety.

In order to better connect the region that depends on non-motorized modes of transportation, first-mile/last-mile strategies should also include close-the-gap strategies that integrate active modes of transportation to allow for accessibility to employment and services. To better do this, SCAG should identify geographic areas with high concentrations of communities of concern and track their transportation access, cost, mobility, rent, and gentrification and displacement patterns

[7] Pg. 127, EJ APPENDIX
[8] Passchier-Vermeer, W. and Paschier F.,W. Noise Exposure and Public Health. *Environmental Health Perspectives, Environmental Health Perspectives* 108(1):123-131, March 2000.
[9] Page 93, EJ APPENDIX

(using the seven indicators to track early signs of displacement or gentrification) [10]. The data can be used in future RTP/SCS and determine where close-the-gap strategies would best serve the region and address any adverse impacts that transportation projects can cause to communities of concern. SCAG should also use the data to determine what communities are underserved by transportation projects and connect those underserved communities to high opportunity areas.

IV. SCAG Must Support Federal Policies That Benefit Active Transportation.

Given the current state of the federal transportation bill and efforts to strip dedicated funding from MAP-21 in the Senate and the House American Energy and Infrastructure Jobs Act in the House, we are concerned that expected federal revenues for bicycle and pedestrian enhancements may not materialize.

To this end we request that SCAG fully support an amendment offered by Senator Lautenberg in the EPW Committee to ensure that total funds available in the "additional activities" reserve fund in MAP-21 for Recreational Trails, Safe Routes to School, and bicycle and pedestrian investments are equal to those currently in SAFETEA-LU. Additionally, this amendment would ensure that regions within states are able to have direct and first access to these funds so that cities throughout the SCAG region are able to directly apply for and receive funding for important bicycle and pedestrian projects. As the Senate bill progresses to the floor there will be opportunities for Senator Boxer to incorporate these provisions into the final bill and it is important for SCAG to make clear it supports them.

V. The Freight Strategies in the RTP/SCS Must Be Improved.

We remain deeply concerned about the freight elements of the RTP/SCS. While the plan acknowledges the need to move to zero emissions technologies, it provides little substance on how it will actually happen. The RTP must be more rigorous. To support this, we suggest the following improvements to the freight elements of the plan.

A. The RTP/SCS must actually require creation of a zero-emission truck and freight goods movement for the region.

Several issues must be addressed in the 2012 RTP/SCS before it is adopted with regard to how freight is moved through the year 2035. Goods movement strategies must ensure that the South Coast Air Basin meet federal air quality standards set forth in the Clean Air Act. Currently, the plan provides little detail on this issue, including how black box reductions will be achieved from the substantial portion of emissions from freight. While we agree with the many experts who "question the long-term viability of continued reliance on fossil fuels," the RTP/SCS lacks details on how best to actually achieve this goal[11]. The "uncertainty of a petroleum-based future" needs to be at the forefront of the 2012 RTP/SCS where any expansion plans that increase a petroleum-based roadway system and raise Vehicle Miles Travel (VMT) must be curtailed[12]. The RTP/SCS needs to do more than just put words on paper about the need for this system. Future projects must be required to incorporate these technologies or they should not be built.

Financing these cleaner technologies is an important consideration for SCAG. Ensuring that funding mechanisms are in place to expedite the implementation of the zero and near-zero

[10] Pg. 93, EJ APPENDIX
[11] Pg. 29, DRAFT 2012 RTP/SCS
[12] Pg. 29, DRAFT 2012 RTP/SCS

emission freight and truck strategies should be a central component of the strategy. For these reasons, we recommend that SCAG consider including the following funding strategies:

1. Develop a clear assessment of various financing options including various models of public-private partnerships that could make zero-emission technology options possible. Recommend a $30 per twenty-foot container fee for moving either into or out of the ports. This strategy could generate as much as $441 million in revenue from loaded containers in its first full year of implementation, when applied equally to imports and exports[13].
2. Use currently available clean truck technology and incentivize it through funding and or by way of preferential access lanes at terminals.
3. Reinstitute the diesel truck fee to incentivize clean, alternative fuel trucks.
4. Improve fee structure to give preference to clean alternative fuel trucks.

B. The RTP/SCS must implement near-term solutions to reduce greenhouse gas emissions from freight.

We are deeply concerned that the projected increase in freight volumes and traffic will undermine the gains of the 2012 RTP/SCS in other areas. In particular, CO2 emissions from trucks would increase at least 30% by 2023 and at least 60% by 2035. Even more dramatically, CO2 emissions from rail would increase at least 50% by 2023 and at least 123% by 2035[14].

Given that "This RTP Goods Movement Environmental Strategy was developed to address community concerns, federal attainment requirements, *and climate change issues*," it is problematic that near-term solutions are not more fully articulated[15]. Near-term strategies to clean up goods movement must be fully integrated into the 2012 RTP/SCS. We would like to work with you before the final version of the 2012 RTP/SCS to resolve this deficiency. Indeed as stated "For trucks, an aggressive program to bring more currently available, clean fuel trucks and hybrid trucks into service represents the best near-term strategy" [16]. Yet no such program is identified for either trucks or rail.

The ports of Los Angeles and Long Beach have left a gaping hole in clean air planning by not establishing targets and reduction plans for greenhouse gases (GHGs). SCAG and the 2012 RTP/SCS should demand that the Clean Air Action Plan be augmented with GHG reduction plans. Both ports have in the past promised to have such plans but neither has released one[17]. Such plans should complement and accelerate SCAG's vision for increased efficiencies and the deployment of cleaner technologies.

While we commend the steps to evaluate and seek funding for longer-term zero and near-zero emissions technologies, the severity of the pollution and congestion from freight activities merits additional attention in the near-term. And while the 2012 RTP/SCS rightly considers heavy-duty trucks and rail emissions, it would be worth devising a set of strategies that account for the differences among local freight service and that of port origin/destination. Similarly, the sector of medium duty trucks may be targeted for technology improvements, given that it is the sector's 2nd largest emitter of NOx[18].

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[13] Haveman, Jon, and Thornber, Christopher. Container Fees and Commercial Benefits of Improved Waterborne Goods Movement Infrastructure in California. *Beacon Economics*. August 2007. http://www.coalitionforcleanair.org/images/stories/Haveman_Report_Final_Aug2007.pdf
[14] Pg. 33, GOODS MOVEMENT APPENDX
[15] pg. 33, GOODS MOVEMENT APPENDIX, emphasis added
[16] Pg. 39, GOODS MOVEMENT APPENDIX
[17] POLB has initiated a GHG mitigation fund to attempt to offset some of its increased emissions
[18] Pg. 32, Figure 8, GOODS MOVEMENT APPENDIX

In the section On-Dock/Near-Dock Rail Capacity Enhancements, the 2012 RTP/SCS appropriately expresses preference for on-dock rail "By allowing more on-dock rail, truck traffic between the San Pedro Bay Ports and distant rail yards can be reduced. Use of on-dock rail eliminates truck vehicle miles of travel (VMT) and associated emissions"[19]. SCAG should demand a sequencing of projects that maximizes on-dock rail and that reduces constraints on the expansion of on-dock capacity in advance of projects that expand off-dock capacity. Without appropriate sequencing, efficiencies could be lost.

VI. The RTP/SCS Must Remove the East-West Corridor Route Project.

Recommending to build an east-west corridor without analyzing the health, housing and demographic impacts of the project on the neighboring communities can have severe environmental, health and justice implications for the region and particularly for local communities of concern (COC). Additionally, if the east-west corridor project goes forward, an increase in truck traffic per day (from 58,000-78,000) could increase noise pollution and air pollution[20].

The Goods Movement Environmental Strategy and Action Plan schedules full operational deployment of zero and near zero-emissions for trucks in 2018[21]. This plan prematurely predicts that the infrastructure, market and technology will be available for use without taking into consideration funding shortfalls and without putting in place earlier interventions. In the meantime, east-west corridor adjacent communities will be adversely impacted by displacement, or over-burden suffering from adverse health and quality of life impacts associated with the construction of the project and the trucks that will eventually utilize the route. SCAG must go beyond investing in research and guarantee that all lanes classified as zero-emission truck-only lanes only be used by zero-emission trucks.

Before considering adding this project to the RTP/SCS, SCAG must address the following:

1. Provide health and community demographic data on impact on the east-west corridor project. Specifically data that shows potential neighborhoods which may be displaced, noise and air quality impacts on surrounding communities, race, class, socio-economic status of the communities that will be impacted and how many of them are COCs.
2. Develop an analysis of the local roadway systems that trucks will utilize once they have reached their destination.
3. Develop an analysis of the total number of on-ramps and off-ramps planned for the east-west corridor, an approximation of where they will be (i.e. which streets will be used for entering and exiting the east-west corridor), and the configuration/style of each on-ramp and off-ramp.
4. Define the performance measures that would outline how success would be measured for the proposed east-west corridor, including anticipated truck traffic counts.
5. Set outreach and communication guidelines that allow for greater public participation from the general public and pertinent partners and timely feedback to questions asked.
6. Include an outreach and engagement plan that includes impacted COCs, stakeholders and health advocates, as part of the Goods Movement and Environmental Strategy Action Plan.

[19] Pg. 27, GOODS MOVEMENT APPENDIX
[20] Pg. 20, GOODS MOVEMENT APPENDIX
[21] Pg. 21, GOODS MOVEMENT APPENDIX

VII. SCAG Must Support National Efforts to Create a Strategic Plan for the Freight System.

Given the limitations with funding our goods movement and particularly the zero emissions and near zero emissions freight strategy, we encourage SCAG to include language that clarifies the current federal funding constraints and alter the 2012 RTP/SCS to reflect that these revenues are assumed but not assured and are contingent upon passage of the MAP-21 program on page 95 and 100. As a revenue source the inclusion of this funding is still in doubt as the current iteration of the House American Energy and Infrastructure Jobs Act does not include a national freight program or any dedicated freight funding and the establishment of this program is contingent upon a freight program making its way into the final federal transportation reauthorization and that legislation passing through both Senate and House.

SCAG should actively support the passage of a federal freight program that would deliver these revenues and clearly establish improving public health on the freight network and adjacent communities as an overarching priority and goal of the federal freight program, and support the inclusion of Senator Lautenberg's Freight Act of 2011 in the final federal transportation reauthorization with the competitive grant program and the goals and objectives as written. We support the addition of this language as offered by Senator Lautenberg and the inclusion of Senator Lautenberg's FREIGHT Act of 2011(Focusing Resources, Economic Investment, and Guidance to Help Transportation) in the Commerce Committee bill S. 1950 the Commercial Motor Vehicle Safety Enhancement Act of 2011 which would create a national strategic plan for the freight system, a competitive grant program, and establish clear goals and objectives including reducing emissions, improving safety and efficiency, enhancing economic competitiveness, use of innovative technologies, and improving the state of repair of existing infrastructure.

VIII. The RTP/SCS Must Focus Attention on Cleaning Up Existing Freight Corridors, Not Just the Proposed New Projects.

While we welcome zero emission technology by the year 2035, more short term gains must be implemented. SCAG should incorporate what can be done until a majority of truck traffic is zero or near zero emissions and consider using currently available technology while working to demonstrate future technology applications (such as maglev technology). Additionally, SCAG member governments must include a zero emission corridor from the ports to the ICTF or along Alameda Street and strengthen specific requirements in new projects beyond "bare minimum" standards used in current projects.

IX. The RTP/SCS Must Include Public Health as an Overarching Goal of the Goods Movement Element.

More and more research is associating air pollution with asthma prevalence, poor lung function and a series of other health impacts. The California Air Resources Board states that the "prevalence of asthma in the U.S. has increased by more than 75% since 1980" [22]. Furthermore results from the USC Children's Health Study, a ten year study, show that children in Southern California's more polluted communities "suffer reduced growth of lung function, asthma exacerbations, more school absences, and new onset asthma"[23]. The public health evidence is growing. Our built environment plays a direct impact to our health and the transportation sector must take into consideration the public health implications to the region, and not just the region's economic growth. SCAG must:

[22] California Air Resources Board. Asthma and Air Pollution. http://www.arb.ca.gov/research/asthma/asthma.htm, May 25, 2010.
[23] Hricko, Andrea M. Road to An Unhealthy Future for Southern California's Children. *University of Southern California Urban Initiative, Urban Policy Brief*, 2004.

1. Include public health as an overarching goal in the Goods Movement Element and include performance standards to measure improvements.
2. Include public health as an overarching and priority and goal in the $2.1 billion annual freight program included in the Environment and Public Works Committee.
3. Prioritize spending on projects that deliver maximum health benefits for residents of the region, especially in low income communities of color overburdened by air pollution and higher rates of uninsured residents.

X. Public Participation Failures Must Be Remedied.

Outreach and education to the public, especially on the onset on this process, was not sufficient to ensure that an adequate representation of members from impacted communities participate and give meaningful input. There were not enough public meetings or an adequate outreach strategy to ensure that there was more community involvement in this important process. Furthermore, a Goods Movement Steering Committee was established under SCAG to provide guidance and recommendations to SCAG's 2012 RTP/SCS, however, no formal process was established to receive formal recommendations from this group on the 2012 RTP/SCS.

We commend SCAG for completing the first Sustainable Community Strategy for the region and look forward to working with SCAG to ensure that it truly is a successful SCS by prioritizing health and equity.

If you have any questions about our recommendations, please do not hesitate to contact Patty Ochoa at 213-689-9170 or via email at pochoa@psr-la.org.

Sincerely,

Patricia Ochoa, Environment and Health Coordinator
Physicians for Social Responsibility- Los Angeles

Luis Cabrales, Deputy Director of Campaigns
Coalition for Clean Air

Jocelyn Vivar Ramirez, M.P.H., Research and Policy Analyst
East Yard Communities for Environmental Justice

Ruben Cantu, Program Director
California Pan-Ethnic Health Network

Barbara Lott-Holland, Co-Chair of the Bus Riders Union
Bus Riders Union

Maya Golden-Krasner, Staff Attorney
Communities for a Better Environment

Sissy Trinh, Executive Director
Southeast Asian Community Alliance

Isela Gracian, Associate Director
East LA Community Corporation

Cynthia Babich, Founder and Executive Director
Del Amo Action Committee

Penny Newman, Executive Director
The Center for Community Action and Environmental Justice

Janette Robinson Flint, Executive Director
Black Women for Wellness

Gisele Fong, PhD, Executive Director
End Oil / Communities for Clean Ports

Jesse N. Marquez, Executive Director
Coalition for a Safe Environment

Paulina Gonzalez, Executive Director
Strategic Actions for a Just Economy

Gabrielle Weeks, Executive Director
Long Beach Coalition For a Safe Environment

Drew Wood, Executive Director
California Kids IAQ

Ricardo Pulido, Executive Director
Community Dreams

925 Harbor Plaza, Long Beach, CA 90802 Tel 562.437.0041 Fax 562.901.1725

The Port of LONG BEACH

February 3, 2012

Ms. Margaret Lin
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Re: Comments on the Draft 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy

Dear Ms. Lin:

On behalf of the Port of Long Beach, thank you for the opportunity to review and comment on the draft 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), including the Goods Movement Report contained within the RTP/SCS and the draft Program Environmental Impact Report. In general, we find these reports are well-written and accurate with respect to maritime activities. We would like to offer one minor correction.

Maritime Ports

The statistic for the Ports of Long Beach and Los Angeles in the second paragraph, second sentence of the PEIR on page 3.12-15 is incorrect. The ports of Long Beach and Los Angeles combined are the world's sixth-busiest port complex in 2011 (15.8 million total TEU), after Singapore (23.2 million TEU), Hong Kong (22.4 million), Shanghai (18.1 million) and Shenzhen, China (16.2 million).

As noted in the PEIR, 34% of the jobs in the region depend on the goods movement industry. However, our region, with a combined population over 18 million residents, is bearing the brunt of traffic congestion, safety and air quality impacts. The Port of Long Beach is committed to developing programs that will support the anticipated growth in trade activities with minimum impact on the region's environment. The Port cannot do it alone –

and we stand ready to work with you in implementing programs envisioned in the Regional Transportation Plan/Sustainable Communities Strategy.

Should you have any questions, please feel free to contact me at (562) 283-7180.

Sincerely,



Eric C. Shen, P.E., PTP
Director of Transportation Planning

925 Harbor Plaza, Long Beach, CA 90802 Tel 562.437.0041 Fax 562.901.1725

The Port of LONG BEACH

February 10, 2012

Ms. Margaret Lin
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Re: Additional Comment on the Draft 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy

Dear Ms. Lin:

In addition to the comment that the Port of Long Beach provided dated February 3, 2012, the Port has one additional comment on the draft 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

California Coastal Trail

Please revise the map shown as Exhibit 19 to reflect the Coastal Trail route connecting San Pedro and Long Beach via Terminal Island. This is consistent with recent plans to include a Class 1 Bike Path as part of the Gerald Desmond Bridge Replacement Project, including Coastal Commission's condition of approval on the Harbor Development Permit for the project. The Class 1 Bike Path is also consistent with both the cities of Los Angeles and Long Beach Bicycle Master Plans.

Thank you for your consideration of this comment.

Should you have any questions, please feel free to contact me at (562) 283-7180.

Sincerely,

Eric C. Shen, P.E., PTP
Director of Transportation Planning

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Suite 320
Los Angeles, CA 90010-1904

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Puente-Chino Hills Task Force
245 Verbena Lane
Brea, CA 92823

February 13, 2012

Margaret Lin
Southern California Association of Governments (SCAG)
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017
RTP@scag.ca.gov

Re: Comments on the Draft 2012 RTP/SCS and Draft PEIR

Dear Ms. Lin:

Thank you for the opportunity to comment on the Southern California Association of Governments (SCAG) 2012 Regional Transportation Plan (RTP) and Sustainable Community Strategy (SCS). The Puente-Chino Hills Task Force of the Sierra Club is based in Brea but our members come from the four counties that touch the Puente-Chino Hills. We offer hikes, sponsor educational events and provide input on projects that threaten the biological and recreational integrity of this important region. We are writing to provide comments on the Draft 2012 RTP/SCS and the Draft Program Environmental Impact Report (PEIR).

We are so pleased to see an advanced mitigation component in the Draft 2012 RTP/SCS. This is a remarkable first step to creating a program that thoughtfully mitigates impacts to our natural environment from transportation projects. As you know, Orange County and San Diego have similar programs that have met great success. By incorporating this strategy into your policy document, the many benefits of this large-scale conservation approach will be realized. Thank you for your leadership.

Under the Endangered Species Act, the United States Fish and Wildlife Service have defined critical habitat as areas that support endangered or threatened species that are essential to the species' conservation. The description in the Conservation Planning Policy section (page 76 of the Draft 2012 RTP/SCS) states "large-scale acquisition and management of *critical habitat* to mitigate impacts related to future transportation projects" [emphasis added]. We believe there are other habitat areas in the SCAG region worth considering for acquisition and management and therefore SCAG should not limit the mitigation opportunities to only critical habitat. We suggest expanding the language to incorporate all "important habitat lands."

On page 79 of the Draft 2012 RTP/SCS we were encouraged to see SCAG recognize the benefits of reducing transportation impacts to sensitive lands and encouraging smart land use decisions.

We believe landscape level advanced mitigation will become a statewide planning policy. Planning future transportation projects with a comprehensive mitigation program ensures our open space infrastructure can continue to function and maintain viable habitats, linkages, and species populations in perpetuity. Unfortunately, we noticed the lack of inclusion of wildlife linkages in this section. Orange County's transportation measure language included wildlife linkages and we recommend SCAG include linkages as well.

We appreciate SCAG's effort to create a strategic planning process that would document important conservation lands in the region. We believe there is an important opportunity with this concept to also create a Southern California Greenprint. By completing a Greenprint a comprehensive view of our open space land attributes would be documented. Such attributes include: recreation priorities, agricultural lands, scenic values, historic preservation, and more. A Greenprint would give a more complete picture of both opportunities and challenges, while at the same time respecting property rights.

Thank you for reviewing our comments and we look forward to working with SCAG on the implementation of this policy. Should you need to contact me, I can be reached at (714) 524-7763. In addition, we request to be included on any notifications (electronic or otherwise) about this policy's creation and implementation, please send information to ericsj@mindspring.com.

Sincerely,

Eric Johnson, Chair
Puente-Chino Hills Task Force of the Sierra Club

REALTORS® *Committee on Air Quality*

Carol Banner, Chairman

4101 Sea View Avenue
Los Angeles, CA 90065
323/342-9373

February 13, 2012

Hasan Ikhrata, Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA

Subject: Comment on Draft RTP/SCS and PEIR

Dear Mr. Ikhrata:

The REALTORS Committee on Air Quality is a voluntary coalition of Associations of REALTORS throughout the South Coast Air Basin. On behalf of property owners and the communities we serve, REALTORS are vitally interested in air quality and quality of life issues addressed in the Draft RTP/SCS. To this end, we have reviewed the Draft RTP/SCS and the accompanying Draft Program Environmental Impact Report.

We strenuously oppose SCAG's proposed PEIR mitigation measures PS-91 and PS-92 that would require REALTORS® and escrow officers to enforce energy audits and appliance change-out at the point of sale. These proposals ignore the existing Home Energy Rating System (HERS) program to encourage and incentivize energy efficiency in all homes. Further, we believe that mandating this approach will price many buyers out of home ownership, and will not achieve the desired energy use reductions until long past the Plan horizon of 2035. Our attached comments present information supporting our position, and recommend alternative approaches to upgrading energy features and appliances.

Mitgation Measure Clarification: Two proposed mitigation measures require clarification before the final PEIR is certified in order to insure the most efficient and least economically burdensome approach to improving energy efficiency of existing homes.

Mitigation Measure PS-91 instructs cities and counties to require energy audits when homes are sold. Further, Mitigation Measure PS-92 tells cities and counties to adopt an ordinance requiring energy upgrades at time of property sale. Unfortunately, these measures are not informed by the best information available on motivating the public to

implement energy efficiency features in their homes. California's Home Energy Rating Standards already allow buyers to request an energy audit as part of their home inspection, and energy efficient mortgages provide incentives for such audits. In fact, mandatory point-of-sale programs are the least efficient and least accelerated way to accomplish the goal of energy efficiency, and impose the greatest costs on home owners and home buyers at the most vulnerable point in the transaction.

> **MM-PS91:** Local jurisdictions can and should require the performance of energy audits for residential and commercial buildings prior to completion of sale, and that audit results and information about opportunities for energy efficiency improvements be presented to the buyer.
>
> **MM-PS92:** Local jurisdictions can and should create an outreach and incentive program to promote energy efficiency and conservation in the community, including:
> - Launch an "energy efficiency challenge" campaign for community residents;
> - Implement a low-income weatherization assistance program;
> - Implement conservation campaigns specifically targeted to residents, and separately to businesses;
> - Promote the purchase of Energy Star® appliances, including, where feasible, incentive grants and vouchers;
> - Promote participation in the local "Green Business" program;
> - Distribute free CFL bulbs or other efficiency fixtures to community members;
> - Offer exchange programs for high-energy-use items, such as halogen torchiere lamps;
> - Adopt an ordinance requiring energy upgrades at time of property sale.

Realtors support improving energy efficiency in homes, but we strongly object to this approach for the following reasons:

- **Too Slow.** Point of sale enforcement of energy audits can take more than 25 years to achieve the goal of more efficient homes, given that only a small percentage of existing homes is sold each year – and only if each and every jurisdiction selects this mitigation measure. In an extended slow market like the current one, properties change hands less frequently, which will further delay implementation of energy efficiency through property transfers. Programs that incentize all homes, not just those being sold, to upgrade will be far more effective.

- **Too Late.** Enforcing energy upgrades as part of the escrow process comes too late in the property transfer to introduce a significant appliance removal and replacement or other energy efficiency upgrade. Energy upgrades can cost thousands of dollars, and are not comparable to the most common type of point-of sale improvement: toilet retrofits that cost $100 apiece.

- **Inappropriately Shifts Responsibility.** Point of sale enforcement shifts the responsibility for enforcement to real estate professionals. REALTORS®,

brokers, escrow officers, home inspectors, appraisers and others in the real estate industry are not accountable to local jurisdictions, and have no certification in energy efficiency or appliance operation or installation. If carried out as proposed, local point of sale ordinances and enforcement could impose new legal liabilities on real estate industry professionals that to do not relate to their expertise or function in property sales.

- **Incomplete Coverage.** Positioning REALTORS® as gatekeepers for energy audits and appliance upgrades would not reach all home sales or property transfers. In the first place, not all lead agencies may select this mitigation measure. Even if selected, not all homes buyers opt for a home inspection. Further, not all property sales or transfers are handled by REALTORS® or real estate licensees.

- **Increased Home Prices Disqualify Potential Home Buyers.** Increased home costs due to energy upgrades at the point of sale will price more households out of affording a home. These well-intentioned but misguided measures could prevent thousands of home buyers from completing a home purchase.

Recommended Revision: For all these reasons, PS-91 and PS-92 should be revised to implement energy audits and appliance upgrades on a broad, ongoing basis through utility incentives, subsidies, tax credits and other proven mechanisms effective in motivating property owners to accomplish energy upgrades. If these measures remain in the document, we recommend the following language for the final PEIR:

MM-PS91: Local jurisdictions can and should work with utilities to incentivize ~~require~~ the performance of energy audits for residential and commercial buildings ~~prior to completon of sale, and that audit results and information about opportunities for energy efficiency improvements be presented to the buyer.~~

MM-PS92: Local jurisdictions can and should create an outreach and incentive program to promote energy efficiency and conservation in the community, including:

- Launch an "energy efficiency challenge" campaign for community residents;
- Implement a low-income weatherization assistance program;
- Implement conservation campaigns specifically targeted to residents, and separately to businesses;
- Promote the purchase of Energy Star® appliances, including, where feasible, incentive grants and vouchers;
- Promote participation in the local "Green Business" program;
- Distribute free CFL bulbs or other efficiency fixtures to community members;
- Offer exchange programs for high-energy-use items, such as halogen torchiere lamps;
- ~~Adopt an ordinance requiring energy upgrades at time of property sale.~~

Separate Mitigation from Advice. We also note that the voluminous mitigation measures aimed at local jurisdictions and project sponsors – both outside SCAG's authority – place a counterproductive burden on new housing needed to expand and

refresh our housing supply. The measures will reduce housing opportunities because they impose significant new implementation costs that will be passed on to homebuyers; impose new fees and taxes above and beyond the cost of the plan identified in the Draft RTP/SCS; and are so numerous that an individual project cannot feasibly address all of them even though the PEIR deems them "feasible."

Recommended Revision: We urge SCAG to remedy these problems by restricting mitigation measures to those things that SCAG itself can implement. All other advice to cities, counties and project sponsors on best practices should be labeled as such.

Comments on the Draft RTP/SCS. The RCAQ finds that the Draft Plan does not discuss or quantify the impact of the Plan on the affordability and availability of housing in the region. This information is of the utmost importance to the public and to elected officials in order to understand the consequences of increased infill development, density, open space preservation and other proposals in the Draft Plan that will change the size, type, cost and distribution of housing in the region. The impact that these strategies will have on housing affordability, and home ownership rates must be explained. At present, the Draft Plan discusses the changing population composition and a shift to multifamily housing in only the most general terms. The Scenario Outcomes on page 116 look at energy costs and water cost – but fail to examine housing costs. The Economic Impact Technical Report is silent on the housing cost and affordability impacts of the proposed major shifts in the housing supply.

Recommended Revision: We request that the final Plan include a discussion in the SCS chapter that both qualitatively and quantitatively summarizes the proposed plan's impact on housing cost and affordability.

Thank you for clarifying these matters in the PEIR and the Plan prior to certification and adoption. We are available to answer any questions you may have regarding these requested revisions. Please contact me at carolabanner@gmail.com.

Sincerely,

Carol Banner

Carol Banner
Chairman
REALTORS Committee on Air Quality

REGENT PROPERTIES

JEFFREY A. DINKIN

February 14, 2012

Margaret Lin
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

Re: Comments on Draft 2012-2035 Draft RTP/SCS

Dear Ms. Lin:

Thank you for the opportunity to comment on SCAG's Draft 2012-2035 Regional Transportation Plan and Sustainable Communities Strategy ("Draft RTP/SCS" or "SCS"). We understand that this is an enormous undertaking and appreciate SCAG's efforts in this process. We look forward to playing a constructive role in the further development of the SCS.

As explained below, we are concerned that the draft RTP/SCS as proposed would result in an inappropriate use of the regional growth forecast planning effort to encroach on local land use authority and jurisdiction. We therefore request that SCAG (1) extend the comment period and make transportation analysis zone (TAZ) data available for public review and comment; (2) correct the TAZ data and maps to accurately reflect current local planning decisions including entitled projects; and (3) revise the SCS so that consistency determinations are made not at the small-scale scale level of a TAZ, but at the jurisdictional level to allow reasonable flexibility and appropriate land use decision making authority at the local level.

1. The SCS does not appear to account for projects already in process

Regent Properties owns over 1,000 acres of land in Southern California and controls an additional 2,500 acres of land in Southern California and has a long history of quality developments in the SCAG region. However, we are concerned that the SCS process has not fully accounted for projects that are already in process. Regent has several projects in the area that are fully entitled and approved for build-out, as well as proposed projects with pending applications that represent a substantial investment of resources to design, plan and communicate with the community and responsible agencies. While the SCS itself states that it was created with input from local jurisdictions (see, for example, Draft RTP/SCS p. 111), we are concerned that the growth projections contained in the SCS and Land Use Pattern Maps do not in fact reflect the land use decisions that have been made by local jurisdictions. More specifically, while the Draft RTP/SCS indicates that it has shifted projected densities from less developed areas to the urbanized core, nowhere does the SCS clearly state that those shifts in density take into account development projects that are either already approved or that are reasonably foreseeable projects which local jurisdictions have already spent considerable resources processing.

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2. Underlying TAZ data must be released to allow meaningful public comment

Moreover, the SCS's treatment of approved projects is impossible to determine from the information that SCAG has made available to the public. The 2035 Land Use Pattern Maps, which are intended to depict projected density and land use, are at such a large scale, with such slight color gradations, that they cannot be interpreted in any meaningful way. The SCS itself does not seem to contemplate that these maps will be important to future transportation and land use decisions. Instead, the SCS focuses on the projected density contained in the data that underlies the maps -- data that SCAG has not released to the public. The SCS states that the land use projections contained in the SCS are based on the distribution of growth forecast data to transportation analysis zones. (RTP/SCS, p. 122.) According to the SCS, the TAZ data contains forecasted housing, population, and employment data, which the SCS used to create "Community Types" and more refined "Development Types" that contain average use designations, densities, and building intensities. The SCS states that a Development Type, including an average residential density, has been assigned to each TAZ for purposes of creating the SCS. (Draft RTP/SCS, p. 123.) However, it cannot be determined whether this assignment was made in a manner that takes existing conditions (including approved and reasonably foreseeable projects) as a baseline for these projections, nor can it be determined how the forecasting was done or how it was distributed across the TAZ.

Despite the critical role of the TAZ data in developing the SCS, we are not aware that SCAG has made this data available for public review and comment in any meaningful way. We were able to obtain partial data, showing housing densities only, from other agencies involved in the SCS process. These data do not contain employment or population forecasts, and do not contain any Community Type or Development Type designations which, according to the SCS, have been assigned to each TAZ. It is not possible for the public to provide meaningful comment on the SCS without access to the underlying data on which density and land use projections are based. In the absence of the underlying data and modeling supporting the proposed plan, we are substantially impaired in our ability to provide meaningful public comment on the technical and legal adequacy of the plan. In particular, we cannot assess whether the underlying data adequately reflects all developments as approved. Under the federal (5 U.S.C. § 500 *et. seq.*) and California Administrative Procedures Acts (Gov. Code §§11340 *et seq.*, including § 11346.2(b)(6)), the opportunity for public comment must include disclosure of the data and technical studies in time to provide meaningful public comment. *See, e.g. Solite Corp. v. EPA*, 952 F.2d 473, 484 (D.C.Cir.1991) (per curiam).

While we are not confident that the data is either accurate or complete, we have reviewed what data we were able to obtain. Based on our review we conclude that the forecasted housing densities do need to be corrected, as the numbers clearly do not reflect either existing entitlements or pending, reasonably foreseeable projects.

3. Implications of consistency with underlying TAZ data

The importance of the TAZ data is not limited to understanding how the SCS was created. In addition to being the basis for creation of the SCS land use projections, according to the SCS, the TAZ data is to be relied on in future determinations as to whether a project is consistent with the SCS. The SCS states:

"SCAG suggests that utilizing community types at the TAZ level of geography (which an average size of 160 square acres) offers local jurisdictions adequate information and flexibility to make appropriate consistency findings for projects to be eligible to receive CEQA streamlining benefits." (Draft RTP/SCS p. 122.)

"One way of determining consistency [with the SCS] is if a proposed residential/mixed use or TPP [Transit Priority Project] conforms with the Development Type designated for a TAZ." (Draft RTP/SCS, page 148.)

Despite these explicit statements that the existing TAZ data will be critically important to future decisions affecting projects, SCAG has not provided the public the opportunity to review and comment on the TAZ data in any meaningful way.

Significantly, a project's consistency with the SCS -- which is to be determined at the TAZ level according to the SCS -- affects not only the availability of CEQA streamlining incentives, but can have adverse consequences for the availability of federal funds for transit improvements that would serve the project. Transit improvement projects relying on federal funding must be consistent with an approved RTP, and with the adoption of SB 375, that includes consistency with the Sustainable Communities Strategy portion of the RTP as well. (40 CFR 93.102; 42 U.S.C. 7506.) Thus, if the Draft RTP/SCS has shifted density away from approved or pending projects, those projects stand to lose critical transit improvements. The loss of transit improvements could impair project feasibility, or create new unmitigated impacts if traffic mitigations become unfunded, which could result in an unlawful taking of private vested property rights for those projects that have already been approved by local jurisdictions. In many cases, approved projects also involve executed development agreements, which means that violation of contractual rights could also result, causing difficult situations for developers and local jurisdictions.

We are concerned that a project's inconsistency with the growth projections contained in the SCS may have broader implications as well. Local jurisdictions will be under considerable pressure to conform their general plans to the density, intensity, and land uses contained in the SCS, or risk losing transportation funding throughout their jurisdictions. While all the implications of a project's inconsistency with the SCS have yet to be determined, we are concerned that by shifting density away from locally approved and pending projects, the SCS is creating land use policy in violation of SB 375's mandate that the SCS must not supersede the land use authority of cities and counties. (Gov't Code 65080(b)(2)(J).)

4. RTP/SCS consistency should be determined at the jurisdictional level.

The TAZ maps are a modeling tool for engaging in a regional planning and evaluation process. The feasibility of achieving the precise results in any particular TAZ area has not been evaluated or confirmed by any city council or board of supervisors, and as explained above it appears that the TAZ data and maps for 2035 do deviate from general plans and vested entitlements that have been approved by these elected officials. While we understand elected bodies or senior administrative staffs of local jurisdictions may have approved local input for the overall population and household numbers within their respective jurisdictions, we believe they have not approved the TAZ data or maps. Accordingly, requiring consistency determinations

concerning use designations, density, and building intensity at the small scale of each TAZ would be inappropriate and overly-prescriptive.

Again, SB 375 specifically precludes SCAG from interfering with local land use decisions.[1] SB 375 requires that an SCS "identify the *general* location of uses, residential densities, and building intensities *within the region*...." Calif. Government Code § 65080(b)(2)(B)(i) (emphasis added). Thus there is no legislative mandate that SCAG identify the location of land uses, densities and building intensities within the region more precisely down to a TAZ level. Instead, SCAG should appropriately identify these characteristics at a level consistent with the need for reasonable flexibility and local control. At the lowest, the level of comparison should be at a jurisdictional level – particularly given that there are nearly 200 jurisdictions within the SCAG region. Accordingly, we urge SCAG to identify such characteristics at no finer a scale than at the lesser of (i) the jurisdiction, and (ii) the sub-region (i.e., where unincorporated county land is divided into sub-regions).

Despite SB 375's mandate that the SCS not regulate land use, the draft RTP/SCS "shifts" households "from the periphery into the urbanized core" stating that much of this shift "will occur naturally in the marketplace," and that this "shift" was done "per consultation with the local jurisdictions." (Draft RTP/SCS p. 128.) However, this shift does not "occur naturally," nor through a "consultation" process between agency staff that excludes the public. Instead, such a shift can only occur, if at all, as part of a separate and lengthy discretionary development application process involving requests to local land use jurisdictions to amend their general plans, specific plans, areas plans, and zoning. In short, there is no "shift" to high-density housing in some local jurisdictions, and away from housing density already approved by other jurisdictions, unless and until the local land use jurisdictions adopt the requested discretionary approvals.

4. Conclusion

The draft RTP/SCS represents a substantial and important regional planning effort. We believe the current draft needs to be corrected to reflect current local land use planning decisions,

---

[1] SB 375 provides in pertinent part:

- "Neither a sustainable communities strategy nor an alternative planning strategy regulates the use of land . . . "
- "Nothing in this section shall be interpreted as superseding the exercise of the land use authorities of cities and counties within the region."
- "Nothing in this section shall be interpreted to authorize the abrogation of any vested right whether created by statute or by common law."
- "Nothing in this section shall require a city's or county's land use policies and regulations, including its general plan, to be consistent with the regional transportation plan . . . ." (Gov't Code section 65080(b)(2)(J)

and to ensure that the regional growth projection process is not implemented in a manner that infringes on either vested property rights or the land use authority of local jurisdictions. We appreciate SCAG's consideration of the comments provided in this letter and look forward to your responses. If you should have any questions, please do not hesitate to contact me.

Sincerely,

Regent Properties, LLC
a Delaware limited liability company

By: _____
Jeff Dinkin, Managing Director

cc: Supervisor Jeff Stone, Riverside County Supervisor District 3

Riverside County
Community Health Agency
Department of Public Health

Susan D. Harrington, M.S., R.D.
Director

February 14, 2012

President Pam O'Connor and Members
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

Dear President O'Connor and Regional Council Members:

The Riverside County Department of Public Health thanks the Southern California Association of Governments (SCAG) staff for their hard work on the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and for recognizing that the decisions made in the planning process ultimately affect Public Health. While we believe the draft plan under review has many positive elements, we also believe strengthening measures are needed to assure that strong public health benefits are achieved through the plan.

The serious air pollution and health problems experienced in the Southern California region require strong action to transform transportation and land use planning. The Los Angeles region continues to be rated as the most polluted area for ozone in the country by the American Lung Association and the public health toll remains high. The Inland Empire continues to bear the brunt of this pollution due to weather patterns that concentrate pollution in the area leading to more severe health impacts.

The research by the American Lung Association in California shows that the six-county Southern California region could avoid over $16 billion in cumulative health and societal costs through smart growth strategies that reduce the growth in the region's vehicle trips by 20 percent by 2035.

We offer the following comments and recommendations to ensure that the Sustainable Communities Strategy and future transportation investments place sufficient emphasis on promoting active transportation modes and transit oriented development, measuring and improving health progress, and ensuring that health and equity are imbedded in the decision making process for this plan and future planning efforts.

Key Health Recommendations for SCAG SCS

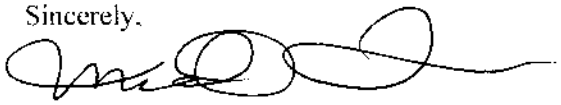
- **Improve Assessment of health benefits through new modeling approaches.** Utilize the new California Department of Public Health I-THIM screening tool to analyze the potential chronic disease reductions that can be achieved in the SCAG region based on increased transportation-related physical activity such as walking and biking. This model was used in the San Francisco Bay Area region to determine reductions in heart and respiratory disease, breast cancer and other health effects linked to active transportation scenarios. We urge SCAG to incorporate this tool in regional planning and decision making for transportation investments.
- In addition to monitoring premature mortality, SCAG should also assess reductions in asthma incidence and exacerbations due to traffic related pollution (NOX) and other targets through collaboration with local health departments, the South Coast Air Quality

Management District, academic researchers and community based organizations. Improvements to the targets should be monitored and reported to the public every two years.

- **Focus investments on completing transit systems** and building out transit infrastructure, rather than highway expansion, including the following:
    - Doubling Metrolink ridership by 2020 and double it again by 2035
    - Expanding Bus Rapid Transit and regional bus service
    - Enhancing TOD planning and 1st-mile-last-mile investments near Metrolink stations
    - Doubling the bicycle network to 24,000 miles and improving pedestrian environment
- **Increase transit and transit oriented planning in Inland Empire.** Because so much of the planned growth in the Inland Empire is relatively low density and remote from transit, SCAG should work closely with Inland Empire governments to accelerate expansion and frequency of transit and rail to the area and focus more growth around transit corridors.
- **Front load active transportation funding.** SCAG should commit to a higher amount of transportation funding for bike and pedestrian infrastructure, especially in the early years of the 25-year RTP process. SCAG should work with local transportation agencies to prioritize bicycle and pedestrian projects and ensure the majority of funds are spent prior to 2020.
- **Increase investments in zero emission freight transportation** in order to reduce diesel emissions and exposures in communities near freight corridors and rail yards. Ensure that funding mechanisms are in place to expedite the implementation of the zero and near-zero emission freight and truck strategies and infrastructure. Prioritize spending on projects that deliver maximum health benefits for residents of the region, especially those living along the freight corridor.
- **Evaluate the number and type of new developments** that could be located in close proximity to freeways and high traffic roadways in the SCAG region under the new RTP. Work with air district, health departments and universities to develop and implement best practice policies for developments located near heavy traffic areas to reduce exposures to air pollution.

We appreciate the opportunity to be part of the RTP/SCS process and look forward to working with SCAG in the future. If you have any questions regarding this letter, please contact me at 951-358-5074 or email mosur@rivcocha.org

Sincerely,



Michael Osur,
Deputy Director of Public Health

Cc: Bonnie Holmes Gen, American Lung Association in California

RIVERSIDE COUNTY
PLANNING DEPARTMENT

Carolyn Syms Luna
Director

February 14, 2012

Mr. Jacob Lieb
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

RE: Southern California Association of Governments (SCAG) – Draft Regional Transportation Plan/Sustainable Communities Strategy 2012-2035 (RTP/SCS 2012) and Draft Program Environmental Impact Report (PEIR) (SCH# 2011051018)

The County of Riverside Planning Department ("Planning Department") appreciates the opportunity to comment on the draft 2012 RTP/SCS and the associated draft PEIR. The Planning Department supports the approach of resolving future challenges based on the economy, transportation, and land use. We recognize and understand the challenges that the region has been facing and will continue to face in regard to growth and development.

SCAG is already home to 18 million people, and it is anticipated that the region will add 4 million people by 2035. From the County's perspective, it is important to note that the trend of such tremendous growth did not and will not occur evenly across the SCAG region. Much of the recent growth has occurred and projected growth will occur within the Inland Empire area, especially in Riverside County. According to the latest census, Riverside County was the fastest growing county in California between 2000 and 2010 both in absolute numbers (644,254) and in percentages (41.7%). This accounts for almost 20 percent of total growth in California. Similarly, over 20 percent of the regions household growth between 2014 and 2021 is projected to occur in Riverside County.

Nevertheless, many of the strategies and mitigation measures identified in the plan as well as in the PEIR should be refined to meet the individual needs of the counties within the SCAG region and account for the growth trends of the region. Because SCAG is a regional entity, Riverside County understands the difficulty of tailoring the proposed mitigations and policies to be specific to certain geographic locations, but having many blanket implementation measures without consideration of each local jurisdiction also leaves the assurance of the document implementation to be much desired when feasibility is concerned.

The Planning Department has the following comments:

1. Land Use

One of the biggest changes in the RTP/SCS 2012 is its emphasis on higher density residential development and its concentration within the High Quality Transit Areas (HQTA) to accommodate the changing demand in types of housing. To a certain extent, this is true on a regional level; however, the trend is not necessarily mutual when each area is separated out of the SCAG region. Inland counties

still see the demand for single family housing, and when the economy rebounds, the County of Riverside still plans on managing the growth of the single family housing market through its General Plan. SCAG should address the fact that growth is still occurring in the Inland counties as evidenced by the recent census. Table 4, 8, 10, and 11 of the RTP Growth Forecast shows the past, current and forecasted trends for each county in the region.

> Example: Riverside County's share of regional population in 1990 was 8%, in 2000 it grew to be 9.4%, and then 12.1% in 2010. Even with SCAG assumptions shown in Table 8 of the Growth Forecast, the share of the population for Riverside County grows to 15% by 2035 equaling that of Orange County. In contrast, the share of population in Los Angeles County diminishes to 51% from 54% and employment to 51% from 57% by 2035. Riverside County would like to compare the projection numbers of 2020 and 2035 with SCAG's growth forecasts. Riverside County population projections of 2010 is 2,153,189 and 2035 is 3,396,287.

Using the example above, an inferred conclusion can be made that SCAG's HQTA designations for 2035 (Exhibit 4.13 to 4.19) do not accurately reflect the population and employment trends shown in Table 8. It appears that HQTAs were designated based on existing Transit or Transportation corridors without considering the actual existing and proposed population centers of each jurisdiction in Riverside County. When HQTAs are compared together amongst all six counties, as in Exhibit 4.13, the share of HQTAs clearly do not show the 15% population share that Riverside County represents in 2035. Also, questions can be raised as to why Riverside County HQTAs do not connect to any of the surrounding counties such as San Diego County.

In addition, when city boundaries are overlaid on top of Exhibit 4.18 (see handout 1), the unincorporated section of the County contains only one corridor with an HQTA on I-15 in Temescal Canyon. Currently, the unincorporated County has 355,718 people (excluding Jurupa Valley and Eastvale) and expects a population growth of 704,253 people by 2035, almost doubling the current number. Considering the County forecast and the historical growth trend of Riverside County, SCAG's placements of HQTAs become more questionable. How was SCAG able to redistribute 51 percent of the new residential growth in the unincorporated Riverside County? From Riverside County's perspective, the placements of the HQTAs are perceived to just be relocation of growth rather than managing growth. Riverside County would benefit greatly if the details of the land use and projection data analysis were shared with the local jurisdictions. Currently, based on the plan and the PEIR, the land use analysis and local inputs on the data incorporations are not clearly outlined.

> Example: PEIR 2.25 states, "The SCS focuses the majority of new housing and job growth in High Quality Transit Areas (HQTA) and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an **improved jobs-housing balance and more opportunity for TOD**." Again, looking at the HQTAs on a macro level, the jobs-housing balance goal may have been achieved based on the provided locations of the HQTAs, but if the HQTAs are separated out by counties, jobs-housing balance cannot be achieved in the Inland Empire region. As stated, "The 2012-2035 RTP/SCS assumes that **51 percent** of new housing developed between 2008 and 2035 will be within HQTAs, along with 53 percent

of new employment growth (compared with 39 and 48 percent, respectively in 2008)." (PEIR p.2-31). As indicated above, if most of the growth is still projected to occur in the Inland Empire region, achieving the goal of locating 51 percent of the new growths in the limited HQTAs in the Inland Empire is not feasible. Creating more urban centers within suburban counties achieve far greater jobs-housing balance than having the employment concentration heavily depend on Orange and Los Angeles Counties.

2. Public Outreach and Data Usage (Land Use and Projections)

Both of the SCAG documents have stated that the outreach efforts have allowed the organization to collect land use data from the local jurisdictions in developing the SCS, especially in Orange County and Los Angeles County (Gateway Cities COG). Riverside County also appreciates many opportunities and discussions on various levels of data sharing with SCAG. In the past, Riverside County has provided SCAG with General Plan Land Use data, Demographics/Socioeconomic data, and Growth Projections data with maps and comment letters on a TAZ level basis. All of these great efforts cannot be recognized if SCAG does not detail how they have incorporated the local jurisdiction inputs into the RTP/SCS and PEIR. Some projection data from SCAG was shared, but the discrepancies between SCAG and Riverside County data was not explained. (see attachment)

Example: SCAG RTP/SCS and PEIR state, "SCAG shall encourage cities and counties in the region to provide SCAG with electronic versions of their most recent general plan (and associated environmental document) and any updates as they are produced" (MM-LU1), and "…Lead and responsible agencies can and should then make any necessary adjustments to the applicable General Plan. Any such identified adjustment shall be communicated to SCAG" (MM-PS11 and PS56). "As a result of this comprehensive and integrated approach, the transportation projects and strategies included in the 2012-2035 RTP/SCS are generally consistent with the county and regional level general plan data available to SCAG." (PEIR 3.8-13) SCAG should work with local jurisdictions to explain how the data provided by various agencies were used in the RTP/SCS, and SCAG also should ask local jurisdictions for interpretation of the provided land use data.

3. Greenhouse Gas (GHG)

In light of recent updates and litigations on the GHG topic, it is a challenge to provide definitive comments. However, one comment is on the analysis conducted by SCAG (Calthorpe) on a per capita basis to meet the less than significant threshold outlined by the SB375. As the PEIR states in p.3.6-19, "…the Plan alone is not intended to meet the AB32 target. By meeting the SB375 targets, the Plan has successfully contributed its share of meeting the objectives of AB32". SCAG's PEIR does not quantify or attempt to meet the AB32 Scoping Plan challenges that most of the local jurisdictions face with their General Plan update processes and development of Climate Action Plans (CAP). Although SCAG correctly concludes Impacts 3.6-1 and 3.6-2 to be significant and unavoidable, as the regional MPO, more efforts should have been made to address the GHG issues outlined in AB32 Scoping Plan through quantifications to assist the local jurisdictions who are struggling with AB32 compliance.

4. Use of Words "should and can" in the PEIR

The PEIR of the RTP/SCS mitigation measures contain the phrase "…should and can…". Such terms are not typically used in EIR documents to implement mitigation measures, especially when the measures are directed at another project proponents like the local jurisdictions. SCAG should provide more accurate information on the intent of the phrase "…should and can…" usage as well as obtaining opinion on its legal meaning. Currently, as it stands, it is perceived to convey a message that local jurisdictions are able to deliver on the implementation of the measures and that it must be completed as noted in the PEIR.

> Example: RTP p.81 "Encourage cities and counties to update their general plans and provide the most recent plans to SCAG" vs. PEIR p.ES-37 "**MM-LU16:** Local jurisdictions can and should seek funding to prepare specific plans and related environmental documents to facilitate mixed-use development at selected sites, and to allow these areas to serve as receiver sites for transfer of development rights away from environmentally sensitive lands and rural areas outside established urban growth boundaries."

In MM-LU16, SCAG does not have the enforcement ability to direct local jurisdictions to seek funding for mixed-use planning and development, especially when the measure is directing the implementing agencies to implement a planning concept that is exceptionally difficult to implement in areas such as Riverside County. ("transfer of development rights" (TDRs) and "urban growth boundaries") Measures identified in the PEIR must be appropriate, feasible, enforceable, and implementable by the suggested responsible agencies. It is recommended that the words "…should and can…" be replaced with language that suggests that the mitigation measures should be considered where appropriate and possible. If this language is not changed, then it is suggested that SCAG seek legal opinion on whether effected entities are legally obligated to implement the mitigation measures.

5. Geographic Feasibility

While producing the RTP/SCS and PEIR is a massive effort due to the sheer size of the region that SCAG covers (38,000 sq. mi.), some geographically specific details should be available to the local jurisdictions that it impacts. In fact, because of the size and diversity of the region, SCAG should detail some aspects of the plan, analysis, and mitigation measures to target specific locations. It is correct that CEQA Guidelines 15152(c) does state that lead agency can defer the project-specific CEQA analysis for large plans like General Plans and RTPs (PEIR p.1-2); however, some sub-regional categorical analysis and mitigation measures are clearly necessary due to the "very complicated and highly diverse" nature of the region. (PEIR p.1-2) SCAG, as a regional entity, should not be oversimplifying the plan that leaves the local implementing agencies questioning details.

6. Growth Forecast

Growth forecasts at the jurisdictional level were approved by the Riverside County Board of Supervisors, the CVAG and WRCOG Executive Committees and were transmitted to SCAG in 2010. Subsequent to these policy level actions, County staff provided SCAG staff detailed growth forecast at the TAZ level. WRCOG did approve revised forecasts for the jurisdictions within its subregion and

SCAG staff did adjust the forecasts for the Cities of Hemet, Menifee, and San Jacinto. The growth distribution of households and employment utilized in the RTP/SCS are not consistent with the TAZ level data provided to SCAG staff. It is therefore recommended that the growth forecasts are not approved at the TAZ level. It is further recommended that no findings of consistency and conformity, recommendations on the placement of infrastructure, or recommended funding be based on the TAZ level forecast used in the RTP/SCS plan. From the perspective of local jurisdiction, it is alarming and disconcerting to find that the data provided to SCAG can be modified without adequate methodologies or explanations.

7. Financial Plans

"One of the most critical elements of the RTP/SCS is the financial plan. The RTP is required to be financially constrained, meaning that project costs must be matched with "reasonably available" revenues." Riverside County agrees with other COG comments on the Financial Plans of the RTP/SCS. There are some innovative funding mechanisms identified in the plan (Table 3.3 and 3.4.4), however, once again, the feasibility of the revenue identified in the RTP is questionable. In fact, it is very unlikely that much of the new supplemental revenues identified in the plan will materialize. There are no other alternatives identified in the plan that would replace or augment the loss in revenue if the new funding measures fail. Implementation measures on the funding items should be more clearly outlined and planned for the local jurisdictions.

> Examples: 15c per gallon in addition to 18c per gallon current California State gas tax is almost doubling the tax rate. A mileage-based user fees are also identified in the plan that estimates about 5c per mile starting 2025 replacing current gas tax. In addition, the plan identifies E-Commerce Tax, Highway Tolls, and Special Districts.

8. Minor Edits:

> a. RTP p.54: Complete Streets Discussion: "Encourage local jurisdictions to adopt and implement the proposed SCAG Regional Bikeway Network." Riverside County continuously implements and updates its own trails network to create connectivity and accessibility. We would like to find out how SCAG's *Exhibit 2.5 Regional Bicycle Network* was developed before relying on the map provided in the regional plan. Such process should be a "bottom-up" process and not a "top-down" approach.
>
> b. Mitigation measures in the PEIR should not reiterate current existing laws or regulations. Already mandated items cannot be used to further mitigate an impact. e.g. "**MM-CUL5:** As part of the appropriate project/environmental review of individual projects, project sponsors can and should consult with the Native American Heritage Commission (NAHC) to determine whether known sacred sites are in the project area, and identify the Native American(s) to contact to obtain information about the project site." "**MM-HM11:** If asbestos-containing materials (ACM) are found to be present in building materials to be removed project sponsors can and should submit specifications signed by a certified asbestos consultant for the removal, encapsulation, or enclosure of the identified ACM in accordance with all applicable laws and

regulations, including but not necessarily limited to: California Code of Regulations, Title 8; Business and Professions Code; Division 3; California Health & Safety Code Section 25915-25919.7; and other local regulations as applicable." "**MM-TR89:** Vehicle Idling: Local jurisdictions can and should enforce State idling laws for commercial vehicles, including delivery and construction vehicles."

c. *PEIR 3.6 Greenhouse Gas Emissions* (p.3.6-7): "Green Riverside, Green Action Plan" is a plan within the City of Riverside and is not related to what the County is doing on GHG topic. Riverside County is in the process of developing its Climate Action Plan (CAP) and has finished the initial greenhouse gas inventory. Accordingly, County has finished the draft update of the Air Quality Element with draft implementation measures.

d. *PEIR 2.0 Project Description* (p.2-3): Table 2-1 should be showing 2035 projections for population, households, and employment in relation to "project" and "no project", but the actual numbers are identical. It looks like a table formatting mistake.

The Planning Department formally request, pursuant to Public Resources Code Section 21092.5, to continue to be notified and be involved in the CEQA review process of the above referenced project until the adoption of the Final EIR. Further, Riverside County staff is available to work with SCAG to address issues and questions outlined in the comment letter. If you have any questions, please contact Josh Lee at **951-955-6864** or via email at **jlee@rctlma.org**.

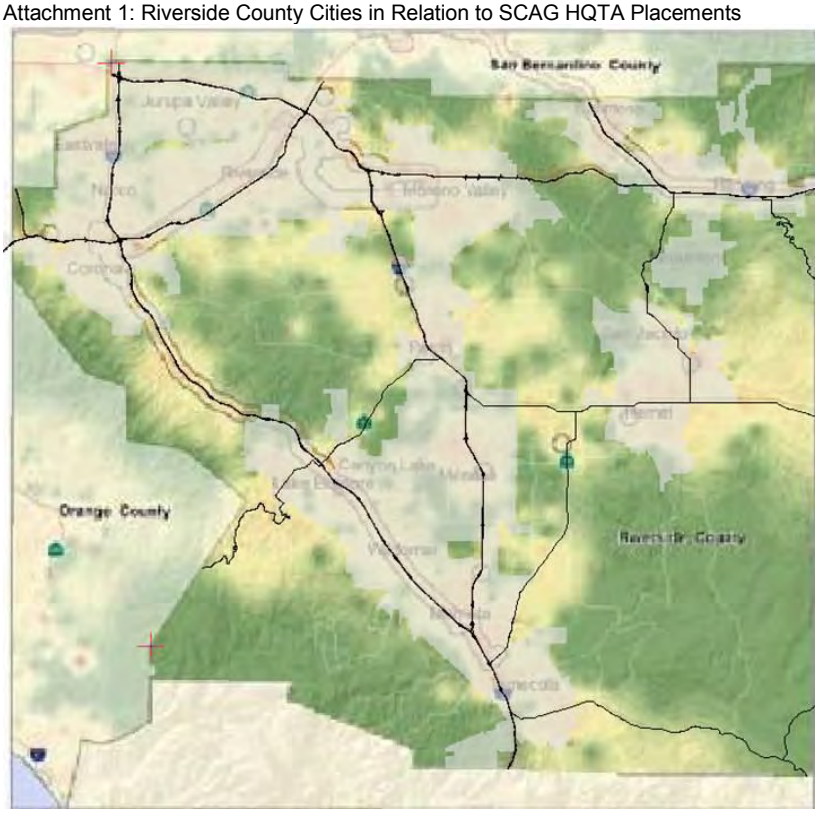
Sincerely,

RIVERSIDE COUNTY PLANNING DEPARTMENT
Carolyn Syms Luna, Director

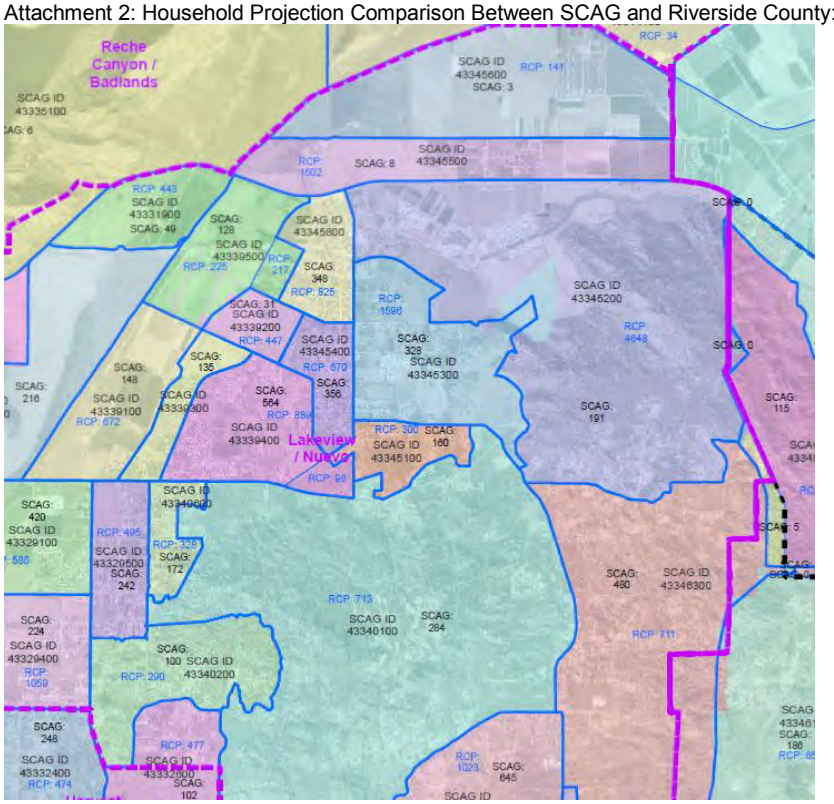
Lee, Josh – Urban Regional Planner IV

cc: George Johnson, Director, Transportation and Land Management Agency
Carolyn Syms Luna, Director, Planning Department
Juan Perez, Director, Transportation Department
Frank Coyle, Deputy Director, Planning Department
Tom Mullen II, Deputy Director, Transportation and Land Management Agency
Mitra Mehta-Cooper, Principal Planner, Planning Department
Bill Gayk, Consultant, Planning Department

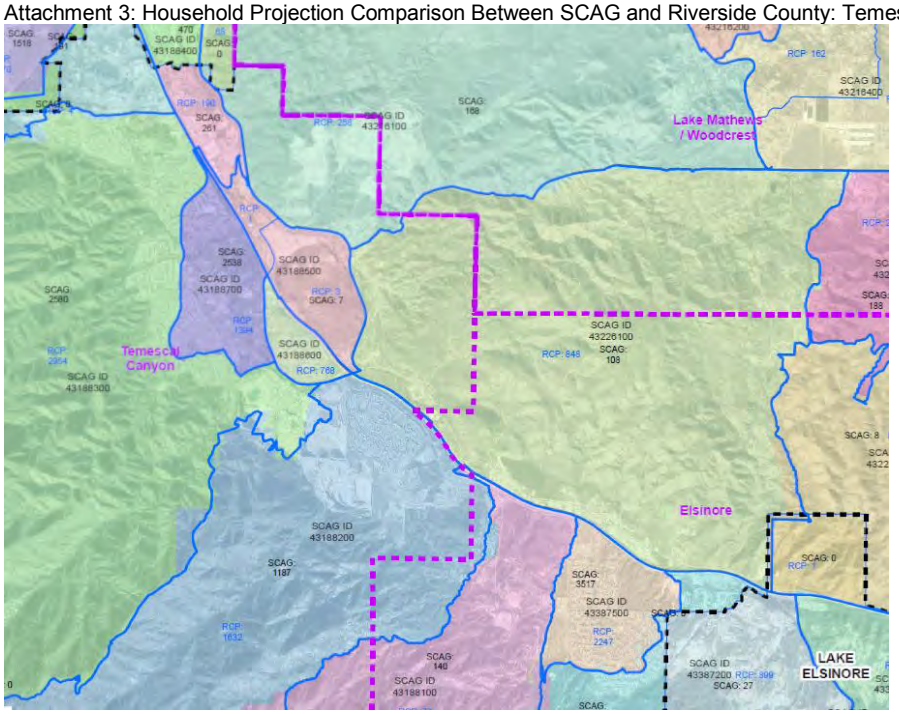
Attachment 1: Riverside County Cities in Relation to SCAG HQTA Placements



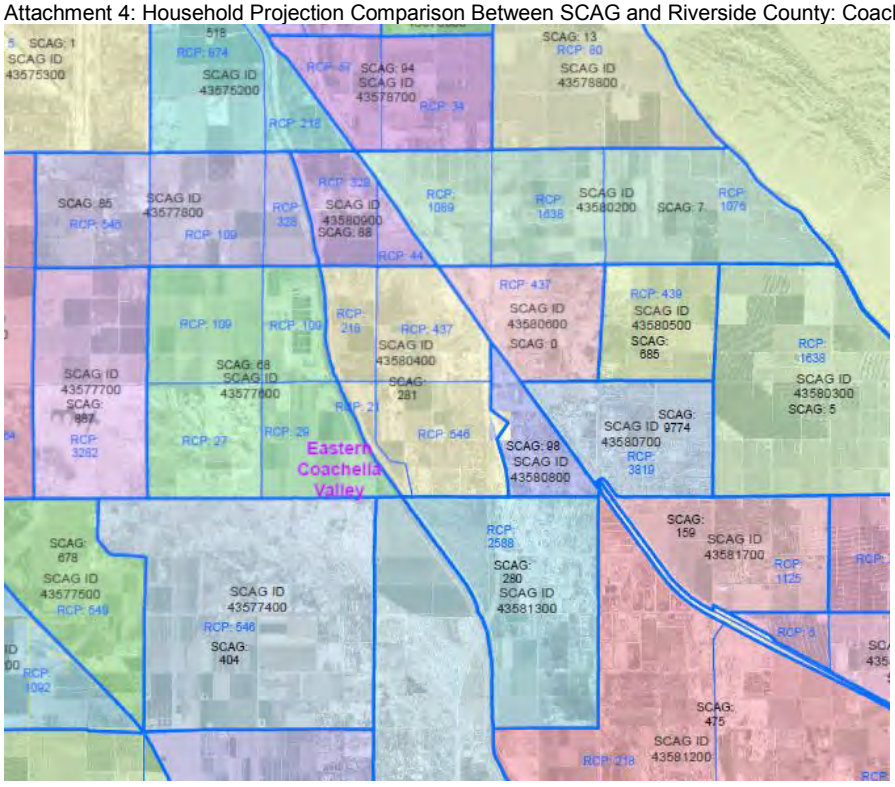
Attachment 2: Household Projection Comparison Between SCAG and Riverside County: Lakeview/Nuevo



Attachment 3: Household Projection Comparison Between SCAG and Riverside County: Temescal Canyon



Attachment 4: Household Projection Comparison Between SCAG and Riverside County: Coachella Valley



RCTC
Riverside County Transportation Commission

4080 Lemon Street, 3rd Floor • Riverside, CA
Mailing Address: P. O. Box 12008 • Riverside, CA 92502-2208
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February 14, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Subject: Comments on the Draft 2012 Regional Transportation Plan

Dear Mr. Ikhrata:

Thank you for the opportunity to comment on the Draft 2012 Regional Transportation Plan (RTP) for the Southern California Association of Governments (SCAG) region. This long range transportation plan reflects multimodal transportation projects and programs throughout the vast six county SCAG region including land use, demographic, environmental, and health considerations. The Riverside County Transportation Commission (RCTC) appreciates SCAG's effort in developing this comprehensive document using a bottom-up approach and broadening the public participation opportunities that were made available in developing the Draft 2012 RTP. RCTC also thanks SCAG for supporting county sales tax measure programs and projects in the RTP as this demonstrates a commitment to the voters that our measure programs will be implemented in accordance with the respective county measure ordinances.

RCTC is submitting its formal comments on the RTP and will submit minor comments/clarifications, including changes to the project lists, to reflect the most accurate information via the SCAG website as RCTC was informed the website has been set up specifically to accommodate project list corrections.

RCTC's formal comments are as follows:

Chapter 2, Transportation Investments

Page 41, Congestion Management System

The 2012 RTP Sustainable Communities Strategy (SCS) addresses federal requirements for the Congestion Management System (CMS). Specifically, the RTP SCS component contains Transportation Demand Management strategies, which is a required element for County Congestion Management Programs (CMP) to meet federal CMS guidance. The individual county CMPs, Caltrans CSMPs, and the SCS give the entire picture of the region's TDM efforts. Therefore, RCTC requests the following be removed:

"First, SCAG will incorporate a requirement in the FTIP guidelines that calls for submittal of documentation by the sponsoring agencies associated with significant roadway capacity projects (greater than $50 million) to ensure documentation of all the alternatives considered in defining the project as well as identifying appropriate mitigation that would be implemented in conjunction with the project."

This requirement should also be removed from the FTIP guidelines since a comprehensive view of the regions' TDM projects and programs is clearly highlighted in county CMPs, Caltrans CSMPs, and the RTP SCS.

Page 43, Completing Our System

Table 2.2 Major Highway Completion Projects includes one to two projects per county emphasizing "critical gaps in the network that hinder access to certain parts of the region." The project identified in Riverside County is "CETAP Intercounty Corridor A." RCTC requests that this project be removed from the list and be replaced with the SR-79 realignment (RTP ID# RIV62024), and the I-215 widening project from Scott to Nuevo (RTP ID# RIV070309).

Page 44, Completing Our System

Table 2.3 identifies Major HOV Projects for each county. The I-215 Bi-county project is listed under San Bernardino County from Spruce Street to Orange Show Road. This project is also in Riverside County. RCTC requests that SCAG clarify that the project is in San Bernardino, from Orange Show Road to the Riverside-San Bernardino County line, and in Riverside County from the Riverside-San Bernardino County line to Spruce Street.

Table 2.3 does not include the SR-91 HOV lane project (RTP ID# 010212). RCTC requests that SCAG add this project to the table as it is a major highway project that will begin construction this year and, together with the I-215 Bi-county project, will provide a continuous HOV system from Orange County to San Bernardino County along the SR-91/I-215 corridor.

Page 46, Strategically Expanding Our System

Exhibit 2.1 Major Highway Project - This map highlights highway improvement projects to be implemented by 2035. RCTC requests that the Mid County Parkway (RTP ID# RIV031218) and SR-79 realignment (RTP ID# 62024) be added to the map.

Page 76 – 79, Environmental Mitigation

This section discusses Conservation Planning, Biological Resources and Open Space, Locations for Mitigation, etc. RCTC requests that SCAG include Riverside County's Multiple Species Habitat Conservation Plan (MSHCP) efforts in Western County and Coachella Valley in this section as an example of what counties are doing to mitigate environmental impacts. Information on the Western County MSHCP is available at http://www.wrc-rca.org. Information on the Coachella Valley MSHCP is available at http://www.cvmshcp.org.

Pages 78 - 84, Summary of the Environmental Mitigation Program

This section describes various mitigation programs for: Biological Resources and Open Space, Green House Gas, Air Quality, Transportation and Safety, Population and Housing, Land Use, Aesthetics, Public Services and Utilities, Geology, Soils, and Seismicity, Cultural Resources, Water Resources, Hazardous Materials, and Noise. Under each of these programs is a list of measures using action words such as "coordinating", "minimizing", "identifying", "work with", "encourage", etc. But some of the programs have measures that say "require the project implementation agencies to...." Examples of "require" statements for the public services and utilities program are below:

- Require the project implementation agencies to identify police protection, fire service, emergency medical service, waste collection, and public school needs and coordinate with local officials to ensure that the existing public services would be able to handle the increase in demand for their services; and
- Require the project implementation agencies to identify the locations of existing utility lines, and avoid all known utility lines during construction.

RCTC suggests that SCAG replace the word "require" in each mitigation section with either "encourage" or "support" as SCAG does not have the authority to "require" mitigation measures by agencies outside of its purview. Additionally, this section and the PEIR include mitigation measures that restate existing requirements enforced by other agencies. Therefore, RCTC suggests that such measures do not need to be repeated in this list of mitigation measures. Moreover, mitigation measures in the RTP should be programmatic in nature and not specific to individual projects. Individual project efforts at the local level are already required to comply with all state and federal environmental laws; providing specific mitigation actions in the RTP are redundant and could result in conflicts with project specific environmental approvals for voter approved and other transportation projects.

Chapter 4, Sustainable Communities Strategy

Page 128, Resource Areas and Farmland

This section talks about areas to be protected from development including parklands, open space, natural resource areas, and farmland. It says that "SCAG is also developing a natural lands acquisition and open space conservation strategy to encourage large-scale acquisition and management of critical habitat to mitigate impacts…." RCTC also requests that SCAG mention Riverside County's MSHCP accomplishments in this section.

Page 151, Table 4.4 Transportation Network Actions and Strategies

Another action/strategy listed is "Cooperate with stakeholders, particularly county transportation commissions and Caltrans, to prioritize funding sources for preservation and maintenance of the existing transportation network." RCTC agrees that there is insufficient funding for System Preservation. Each county transportation commission established projects and programs with various ways to fund and implement them. Funding is limited and it would be more beneficial to work with stakeholders in identifying a new funding source or increased funding levels instead of competing with very limited existing fund sources. RCTC suggests that SCAG revise the wording to "…to ~~prioritize~~ **identify new** funding sources **and/or increased funding levels** for preservation and maintenance….. " This recommended change should also be reflected in Chapter 2, Page 39, under System Preservation.

RCTC thanks SCAG staff for their efforts in developing the 2012 Draft RTP for one of the largest areas with the highest population and diverse demographics in the state and nation. The challenges this region faces are plentiful; however, working cooperatively with our transportation partners will allow us to fully meet those challenges.

Sincerely,

Anne Mayer
Executive Director

cc: RCTC Commissioners

RCTC
Riverside County Transportation Commission
4080 Lemon Street, 3rd Floor • Riverside, CA
Mailing Address: P. O. Box 12008 • Riverside, CA 92502-2208
(951) 787-7141 • Fax (951) 787-7920 • www.rctc.org

Per our correspondence to Mr. Ikhrata dated 2/14/2011 regarding the Draft 2012 Regional Transportation Plan (RTP), we would like to request modifications to the draft RTP project list for the following projects:

Page	Agency	RTP ID	Requested Change
Page 238	RCTC	3CR0702	Revise project description to remove PVL station at Hemet Airport and replace with station near new SR-79 alignment and Stetson Rd.
Page 239	RTA	3TC04TR6	Change the project description to "Construct new Hemet Transit Center (with approximately 4 bus bays) in the vicinity of State St and Devonshire Ave near the future courthouse location. Change the project location from Menifee to Hemet. Change the completion year from 2027 to 2015, and update the total project cost from $5,926 to $1,442.
Page 240	RCTC	3C01MA03	Change project description to "CETAP – Riverside County to Orange County – Construct new intercounty transportation Corridor A – 2 toll each dir on new facility parallel to SR-91, from from SR-241 to I-15, with IC at SR-241, SR-71, I-15". Network year remains 2035. Update total project cost to $2,720,000. Move balance of project description "CETAP – Corridor B – 2 toll each dir on new facility from I-15/Mid-County Pkwy to SR-241/SR-133" to Strategic Projects Section.
Page 266	Coachella	3A07094	This is currently programmed as FTIP ID RIV071246. Network year should remain 2018 (previously requested to change to 2020). Update total project cost from $4,853 to $22,290.
New Project	RTA		Regional transit center for mass transit service in central western Riverside County along I-215 corridor. Network year is 2030 and the total project cost is $10M.

We would like to request modifications to the project list that we have submitted to SCAG staff through the standard RTP long-range project list modification and FTIP database update processes:

Major project modifications have been submitted for the following RTP projects:

3A07262	3A01CV068	3TR04C
3A07205	3A07001	3TR04A, 3TR04B
3A07207	3120014	3ITS09
3A07024	3A01CV071	3TL1507
3A07040	3A07101	3TL1607
3A07069	3A07292	3TL1107
3A07088	3A01CV076	3TC04TR1
3120008	3A01CV075	3TC04TR10
3A01CV047A	3A01WT210	3TC04TR6
3A01CV047B	3A04WT187	3TC04TR8
3A01CV049	3A01WT045	3TC0702
3A01CV048	3A04WT046	3A01CV098
3A07074	3A01WT218	3120007
3A07031	3A04A22	3A01CV002
3ITS08	3A04WT198	3A04CV113
3A01CV123	3A01CV085	3A01CV004
3A01CV111	3A01CV086	3A01CV014
3A07018A	3A07097	3A07094
3A01CV104	3A07244	3A07164
3A01CV105	3A07079	3A07165
3A01CV103	3120012	3A01CV017
3120010	3A04WT078	3A07011
3A01CV060	3M01CV01	3A01CV018
3A01CV059A	3M0715	3A01CV016
3A01CV061	3M0702	3A01CV023
3A01CV063	3M01CV03	3A04CV027
3A04A25	3M0716	3A07078
3A07266	3M0708	3A07137
3A04WT165	3M0722	3A07029
3A01CV067	3TL504	3120004

Major project additions have been submitted for the following RTP projects:

3120015	3120021	3120030
RIV111201	3120022	3120031
3120016	3120023	3120032
RIV111131	3120024	3120033
3A04WT198B	3120025	3120034
3120017	3120026	3120035
3120018	3120027	RIV071250B
3120019	3120028	RIV050531
3120020	3120029	RIV071241

Major project deletions have been submitted for the following RTP projects:

3A07109 (project complete)
3A04WT070
3A01WT036 (project complete)
3A01WT035 (project complete)
3A07076
3M01WT021
3TK04MA13 (programmed as RIV120201 in 2011 FTIP A24)
3M04WT009 (programmed as RIV091012 in 2011 FTIP A24)

Major project changes were submitted as part of 2011 FTIP A24:

RIV071247
RIV031209
RIV071253
RIV071267
RIV050532
RIV071250
RIV090902 (3M0803)
RIV520109
RIV091007 (removed from A24)
RIV090622
RIV071252 (3A07020)
RIV071254 (3A07022)
RIV62034
RIV120201 (3TK04MA13)
RIV62029
RIV091008 (3A07131)
RIV060111
RIV100107 (3M10WT03)
RIV091012 (3M04WT009)
RIV100104 (3M0725)
RIV060114
RIV110825
RIV031218
RIV080917 (3A07155)
RIV080918 (3A07156)
RIV031209
RIV050535
RIV120202 (replaced with RIV090902)

Additional Comments:

Page	Agency	RTP ID	Comment
Page 83	Lake Elsinore	RIV091007	This project is not reflected in the Financially-Constrained RTP Projects list – please confirm project is modeled.
Page 90	Palm Springs	RIV090402	This project is not reflected in the Financially-Constrained RTP Projects list – please confirm project is modeled.

Page	Agency	RTP ID	Comment
Page 243	Riverside County/Indio	0	Programmed as FTIP ID 47520 (I-10/Jefferson IC).
Page 250	Moreno Valley	3M0712	Programmed as FTIP ID RIV080902.
Page 251	Moreno Valley	3M0801	Programmed as FTIP ID RIV080904.
Page 252	Coachella	3M0717	Programmed as FTIP ID RIV071274.
Page 255	RCTC	3M0738	Programmed as FTIP ID RIV110122.
Page 272	Moreno Valley	3A10WT01	Programmed as FTIP ID RIV091004.
Page 272	Riverside County	3A04WT137A	Programmed as FTIP ID RIV090903. Verify that project is modeled.
Page 280	Moreno Valley	3A01WT053	Programmed as FTIP ID RIV080908.
Page 286	Moreno Valley	3A04WT056F	Programmed as FTIP ID RIV080915.
Page 287	Moreno Valley	3A0805	Programmed as FTIP ID RIV080917.
Page 291/2	Rancho Mirage	3A07116/3A07128	Programmed as FTIP ID RIV091010.

SUNLINE TRANSIT AGENCY - COMMUTER BUS SERVICE
RTP ID 3TL907 – COMPLETION YEAR 2012

Weekday Service

Westbound

Palm Desert	Thousand Palms	Morongo Casino	Banning Ramsey & Sunset	Beaumont-City Hall	Nason & Fir	Moreno Valley Mall	Downtown Riverside MetroLink Station	Downtown Riverside Transit Terminal
4:45 am	5:00	5:33	5:54	6:05	6:25	6:36	7:06	7:19
5:45 am	6:00	6:33	6:54	7:05	7:25	7:36	8:06	8:19

Eastbound

Downtown Riverside Transit Terminal	Downtown Riverside MetroLink Station	UCR Lot 30	Moreno Valley Mall	Nason & Fir	Beaumont-City Hall	Banning Ramsey & Sunset	Morongo Casino	Thousand Palms	Palm Desert
5:19 pm	5:27	5:41	5:56	6:11	6:35	6:47	7:05	7:35	7:57
6:35 pm	6:45	6:59	7:14	7:27	7:51	8:03	8:21	8:51	9:13

February 14, 2012

Riverside Transit Agency

1825 Third Street
P.O. Box 59968
Riverside, CA 92517-1968
Phone: (951) 565-5000
Fax: (951) 565-5001

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Subject: Comments on the Draft 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy

Dear Mr. Ikhrata:

Thank you for the opportunity to comment on the Draft 2012-2035 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) for the Southern California Association of Governments (SCAG) region. The Riverside Transit Agency (RTA) is submitting formal comments on the Draft RTP/SCS as follows:

- Transportation Investments, Chapter 2, Pages 49 and 50, under Transit Policies, RTA supports the need for increases in state and federal funding for sustaining the operation of transit services and infrastructure including future bus rapid transit and express bus service projects as included in the Draft RTP/SCS. In addition, as our region's population continues to age, increased operational funding support to provide paratransit services will be a continued need moving forward.

- Transportation Investments, Chapter 2, Pages 50 and 51, under Passenger and High-Speed Rail, the RTA requests that short term commuter rail service improvements be made in Riverside County. At this time of record ridership growth on RTA's services, these near term improvements would promote further bus and rail integration resulting in region-wide reductions in congestion due to reduced automobile traffic.

- Transportation Investments, Chapter 2, Page 41, under Transportation Systems Management, the RTA suggests that more emphasis be placed on developing a wider variety of capital funding sources to support and maintain Transit Automatic Vehicle Location (AVL) and Advanced Traveler Information systems. In this time of social media applications, this is highly important in attracting and retaining revenue to support the transit system.

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- With school districts continuing to lose state transportation funding, the RTA will be expected to provide additional service to schools throughout western Riverside County without the provision of additional operating funds. The RTA desires to work closely with SCAG and other regional agencies to develop funding solutions to accommodate this growing trend.

- Ensure modeled RTA transit projects included in the Draft RTP/SCS are accurately depicted based on system-wide high ridership results in 2011, continued reductions in unemployment within western Riverside County and forecasted gas price changes.

The RTA thanks and appreciates SCAG staff for their efforts in coordinating and conducting extensive public outreach meetings while developing the six-county comprehensive Draft RTP/SCS.

Sincerely,

Larry Rubio
Chief Executive Officer

cc: Doug McAllister, Chairman, RTA Board of Directors
Anne Mayer, Executive Director, Riverside County Transportation Commission

February 14, 2012

Attn: Honorable Pam O'Connor, President of SCAG and Regional Council members
Southern California Association of Governments (SCAG)
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

RE: Active Transportation in SCAG's 2012 Regional Transportation Plan (RTP)

Dear Honorable O'Connor, Regional Council members and Policy Committee members:

On behalf of the Southern California Safe Routes to School Network and the signatory organizations and individuals to this letter, we would like to thank Southern California Association of Governments (SCAG) staff, Regional Council and Policy Committee members for the opportunity to participate in the 2012 Regional Transportation Plan (RTP). We recognize the multitude of efforts required to develop the long range plan and are appreciative of all of the hard work that has already been done.

The Safe Routes to School National Partnership is a national advocacy group representing over 500 organizations and professional groups that works to improve conditions for children to walk and bicycle to school.

Per 2009 National Household Travel Survey, 21 percent of all trips in the SCAG region are currently being done via walking and bicycling. And tragically, per SCAG 2012 Draft RTP, 25 percent of all roadway fatalities in the SCAG region are pedestrians and bicyclists. These are critical and dangerous trends that require our regional leaders to change the way transportation planning has been done for decades in Southern California. We encourage all regional leaders to implement this change starting with the 2012 RTP. The region does not need a plan that allocates $22 billion on road widening and only $6 billion on active transportation. It is imperative to change funding allocations to improve safety and public health throughout our region.

We ask that SCAG amend the Draft RTP/SCS to include the following:

1. Increase the overall percentage of RTP funds dedicated to active transportation from 1.3 percent of the 2012 RTP to 5-8 percent of the total 2012 plan. The request for 5-8 percent reflects the region's current mode split, collision trends, community interest and support, as well as current bicycle and pedestrian planning and implementation requirements, based on projections by the Los Angeles County Department of Public Health (LAC DPH) Methodology (released 12/2011). The LAC DPH determined in a rigorous study that the unmet regional funding need for a walkable and bikeable SCAG Region was close to $40 billion. This represents roughly 8 percent of the total RTP budget, which is significantly larger than SCAG's proposed $6B to address regional needs.

   As local governments contribute resources to the construction of active transportation projects, all other funding sources for active transportation, such as the amount of RTP local (county sales taxes and other local revenues included in the 2012 RTP), state, and federal programing dollars, should be increased to aid these efforts. Additional state and federal funding will help cities do more with their local dollars, especially since often local funding is tied into federal funds.

   As it stands in the draft 2012 RTP, eighty percent of the SCAG funds dedicated to active transportation investments in the 2012 RTP are not programmed until after 2026. Between 2016-2025, the funding for active transportation will be only one-half of the current annual 2012 budget. We encourage SCAG to prioritize active transportation funding and distribute these funds evenly over the 25 year period, which will bring the benefits of active transportation to fruition sooner for all communities.

   While we encourage SCAG to increase funds to support Active Transportation, we recognize the constraints and importance of working with County Transportation Commissions (CTC's) to fast-track active transportation funding. We request the 2012 RTP include development of an Active Transportation Finance Strategic Plan by 2014 that identifies how each CTC is spending funds and the opportunities available for increasing funding for active transportation in each county during the next ten years. This plan ideally is developed by convening a *Regional Active Transportation Early Action Transportation Program* in which SCAG brings together each County Transportation Commission (CTC), elected officials and other stakeholders to discuss and prioritize what each County is doing regarding active transportation and funding areas which may be leveraged for the needed funding, for walking and bicycling and first mile/last mile projects, in the earlier stages of the 2012 RTP. We request that this Early Action Program have be adopted and include a 2014 implementation plan.

   We have seen tremendous - and still growing - support and action from throughout the six-county region calling for policy makers to support and build walkable and bikeable neighborhoods. We encourage SCAG leaders to respond by supporting the impressive efforts underway throughout the region to create healthy and active communities for all.

2. Allocate Funding for Bicycle and Pedestrian Planning and Usage Counts: Improving the walking and biking environments in our region cannot be done without adequate planning at the local level. Unfortunately, many SCAG cities do not have bicycle or pedestrian master plans and project lists; in Los Angeles County, for example, only approximately 11 of 88 cities have bicycle master plans and only 4 cities have pedestrian plans. This lack of planning is a grievous impediment to improving infrastructure for cyclists and pedestrians. In addition, we must increase documentation of bicycle and pedestrian travel usage and demand by regularly assessing numbers of people walking and biking. Without such figures, it is difficult to forecast mode share and usage or measure the positive benefits of investments in these modes.
    - Identify funding sources in order to set aside at least $19M in the 2012 RTP to support SCAG cities in developing bicycle and pedestrian master plans, safe routes to school plans and required, but overdue ADA transition plans. It is estimated that approximately $200,000 per city is required to develop these plans (95 cities at $200,000). Establish a goal of 50 percent of SCAG cities having completed at least one plan by 2016 in order to prepare for the 2016 RTP.
    - Create and fund a regional bicycle and pedestrian count program at SCAG establishing yearly usage counts at key locations in cities throughout the SCAG region. Use the data collected to establish trends, set performance goals, evaluate fund requests for facility improvements, prioritize improvements, and show the impacts of recent improvements. Set aside funds in SCAG's 2012/2013 OWP to create program and maintain this program in future years. (*See links:* Nashville Metropolitan Planning Organization's program, Technical Memorandum on Regional Pedestrian and Bicycle Count Procedures)

3. Adopt a Regional Complete Streets Plan by 2014: This plan will incorporate input from local jurisdictions to prioritize complete streets projects in programing efforts and dedicate a portion of system preservation and maintenance funding for improving the road conditions of all users.

4. Adopt a Safe Routes to School Regional Strategic Plan by 2014: Such a plan would be similar to the plan currently being adopted by SANDAG. In our region 14 percent of all morning congestion is caused by private car drop off at schools (*Traffic Injury Prevention*, August 2011). It is critical that transportation agencies look at the needs of the entire network when planning resource investments. SANDAG's Regional Safe Routes to School Strategic Plan works to establish a critical needs assessment for their Region on how students and their families currently go to and from school, creates data standards and guidelines, considers school siting and closures as possible land use strategies, bridges the gap between transportation planning agencies and school districts, and works to provide much needed technical assistance to local jurisdictions - with skill sets such as how to obligate federal Safe Routes to School funds in a timely manner.

5. School Siting and Joint Use Policies as land use elements of the SCS: School siting can often determine whether or not it is possible for children to walk and bicycle to school.

When schools are placed on the outskirts of urban areas it becomes necessary for children to be driven to school. As noted above, 14 percent of all morning congestion is caused by private car drop off at schools (*Traffic Injury Prevention*, August 2011). Therefore schools should be located within residential neighborhoods whenever possible and equitable to reduce congestion and increase opportunities for bicycling and walking.

Joint Use Policies allow school facilities such as playgrounds and recreational facilities to be used by the community when schools are not in session. This can open up recreational activities in neighborhoods that lack parks and open spaces. When schools are located within neighborhoods, community members can access these locations without the use of a private automobile which can lead to further reductions in congestion.

6. Set measurable safety and health goals for all users: Goals are set for the reduction of green house gases in the draft 2012 RTP/SCS. Active transportation plays a pivotal role in the reduction of these green house gasses. Similar measurable goals should be set for reducing crash rates for active transportation and for reducing the health impacts of obesity. These could include a report on the number of children walking and bicycling to school across the entire region as well as a report detailing access to parks, open spaces and quality active transportation networks.

7. Monitoring detailed population data and metrics in environmental justice communities: The analysis conducted by SCAG in the Environmental Justice Supplementary Report ("EJ Supp. Report") provides detail on existing inequities in all modes of transit, housing, employment, environmental impacts, and health risks. The historical analysis in the Environmental Justice Supplementary Report confirms the challenges faced by the environmental justice population, as defined by SCAG:
    - longer commute times and distances than average,
    - vulnerability to gentrification and displacement from high quality transit areas (HQTA) or transit oriented communities (TOC),
    - higher proportional use of non-automobile travel, such as bus, rail, walk, and bicycle, and growth patterns concentrated within geographies of poor quality transit, lower housing costs, and fewer employment opportunities.

    Concerns arise in the inconsistencies of the environmental justice analysis. SCAG's analysis of travel time and travel distance savings shows "fairly similar and close" rates for all ethnic groups, including non-white Hispanics. Yet, the increase of transportation and infrastructure projects in HQTA/TOC will increase gentrification and displacement of environmental justice populations. The forecasted benefits for environmental justice populations are likely negated or overridden by predicted geographical shifts.

    In order for SCAG to properly mitigate disparities in transportation, housing, and land use impacts in low-income and minority communities, it must monitor population changes by more detailed population segments (i.e. neighborhoods, census tract)

because root factors of inequities play out at these population segments. It is difficult to illustrate short-term impacts and long-term benefits on the environmental justice population without such details. For example, the continued poor job housing fit and balance in the SCAG region leave lower-income populations with no public or active transportation options in their daily commute. Metrics need to demonstrate immediate changes to transportation usage from ticket pricing, placement of rapid bus transit stops in high concentrations of lower-income and elderly groups, and safety programs for walking and bicycling. (see *link*: Health Equity and Prevention Primer, Prevention Institute)

Additionally, SCAG should provide the tools and policies for local jurisdictions to develop strategies to reduce commute distances and relieve sedentary lifestyles for lower income and communities of color. Healthy, sustainable, and accessible place-making is crucial to the environmental justice population because geography and socioeconomic structure are influential predictors of obesity in the United States. Environmental justice populations must be ensured the opportunity to go to school, live, work, and play in all neighborhoods through land use strategies, incentives for businesses and developers, infrastructure and non-infrastructure programming, such as Complete Streets, first/last mile to transit, density bonus, parking reductions, safe and secure bicycle parking and street crossings, and affordable and work force housing in HQTA/TOC. (see *link*: Why Place & Race Matters, Policy Link)

SCAG does not adequately link RTP/SCS active transportation funding to its environmental justice obligations. The lack of active transportation funding disproportionally affects immigrant, lower-income, and minority populations because these neighborhoods have greater barriers to physical activity and transit access, higher numbers of busy regional arterial, poor pedestrian and bicycle infrastructure, unsafe neighborhoods, and lack of safe storage for bicycles and safe crossings. Thus, these neighborhoods would benefit from an increase in funding allocations (in order for SCAG to meet its Title VI obligations) and from a detailed strategic plan. (see *links*: Do All Children Have Places to Be Active, Active Living Research; Low Income Resource Guide, Safe Routes to School National Partnership)

Our policy requests are important commitments for creating robust networks for bicycles and pedestrians in the SCAG region, where walking and bicycling can be enjoyed by all with safety and ease irregardless of age or ability. Compliance with the SCS requirement of SB 375 and the well-being, safety, and health of citizens within the SCAG region will depend on the future development of our multi-modal transportation network, jobs, housing, education and healthy environments for families to live in.

We sincerely appreciate this opportunity to provide feedback for the 2012-2035 draft RTP/SCS. Please feel free to contact us with any questions or concerns; our contact information is listed below.

Respectfully Submitted,

Pauline Chow, Esq. Southern California Policy Manager
Safe Routes to School National Partnership
pauline@saferoutespartership.org 312-685-1685

Rye Baerg, Southern California Policy Manager
Safe Routes to School National Partnership
rye@saferoutespartnership.org 818-542-6478

Organizational Endorsements:

1. Deborah Murphy, Founder and Director, Los Angeles Walks
2. Alexis Lantz, Planning and Policy Director, Los Angeles County Bicycle Coalition
3. Jonathan Lopez, Southern California Coordinator, California WALKS
4. Wendy Alfsen, Executive Director, California WALKS
5. Rachel Morris, Executive Director, VCCool – Ventura Climate Care Options Organized Locally
6. Ventura Bicycle Union
7. Wes Reutiman, BikeSGV, bikesgv.org
8. Cynthia Rose, Director, Santa Monica Spoke, Regional Chapter LACBC
9. Mark Elliot, Campaign Organizer, Better Bike Honcho & Bike Beverly Hills, betterbike.org
10. Samantha Ollinger, Editor, Bike San Diego, BikeSD.org
11. Ruben Cantu, Program Director, California Pan-Ethnic Health Network
12. Pete Van Nuys, Executive Director, Orange County Bicycle Coalition
13. Mark Vallianatos, Policy Director and Adjunct Professor, Urban and Environmental Policy Institute, Occidental College
14. Richard Risemberg, Bicycle Fixation, Los Angeles
15. Eric Yesayan, Interim Executive Director, Walk Bike Glendale
16. Kara Sergile, RN, MPH, KWS Consulting
17. Lars Clutterham, Partner, downeygreen
18. Jeremy Cantor, Program Manager, Prevention Institute
19. Seth Strongin, Assistant Director, The City Project
20. Cesar Covarrubias, Executive Director, Kennedy Commission
21. Eric Weinstein, Member, LACBC Planning Committee
22. Anthony Tróchez, Higher Education & Organizational Change, UCLA
23. Kevin Burton, Cofounder, West Hollywood Bicycle Coalition
24. Martha Cortes, Health Policy Coordinator, Alliance for a Better Community
25. Herbie Huff, Bike Coalition at UCLA
26. Barbara Lott-Holland, Co-Chair of the Planning Committee, Bus Riders Union
27. Andy Au, member, People for Bikes & BikeSGV
28. Madeline Brozen, Program Director, UCLA Complete Streets Initiative
29. Gwendolyn Flynn, Policy Director, Community Health Councils, Inc.
30. Josef Bray-Ali, Founder, Bike Oven

Individual Endorsements:

31. Alice Strong, San Gabriel
32. Alex Budiman, Upland
33. Ivy Dulay, Manhattan Beach
34. Ray Shofler, North Hollywood
35. Mable Everette, RD, Inglewood
36. Ezequiel Gutierrez, Adelanto
37. Arye Gross, Glendale
38. Ryan Johnson, Glendale
39. Nathalie Winiarski, Glendale
40. Elise Kalfayan, Glendale

Governments
SANBAG
Working Together

San Bernardino Associated Governments
1170 W. 3rd Street, 2nd Floor San Bernardino, CA 92410-1715
Phone: (909) 884-8276 Fax: (909) 885-4407 Web: www.sanbag.ca.gov

TRANSPORTATION MEASURE I

- San Bernardino County Transportation Commission
- San Bernardino County Transportation Authority
- San Bernardino County Congestion Management Agency
- Service Authority for Freeway Emergencies

February 14, 2012

Mr. Hasan Ikhrata
Southern California Association of Governments
818 West 7th Street, 12th Floor
Los Angeles, CA 90017-3435

Dear Mr. Ikhrata:

This letter transmits San Bernardino Associated Governments' (SANBAG's) comments on the Southern California Association of Governments' (SCAG's) draft 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and associated draft Program Environmental Impact Report (PEIR). This is pursuant to SCAG's request for comments, with a closing date of February 14, 2012.

SANBAG recognizes and appreciates the extensive effort and deliberations that went into the RTP/SCS by SCAG staff and policy committees. We recognize that the RTP/SCS has been developed in the context of the largest and most geographically and demographically diverse metropolitan area in the United States, involving a great number of complex and challenging issues. SANBAG commends the efforts of SCAG staff and supports approval of the Plan by the April deadline, with some suggested clarifications. Our comments on the draft RTP/SCS and PEIR are as follows:

1. The RTP/SCS growth forecasts should be adopted at the County-level, not at the city or transportation analysis zone (TAZ) level. SANBAG needs the ability to adapt the forecasts to development trends and new information that will inevitably come to light at the small-area level over the next 4-year RTP/SCS cycle. This is consistent with SCAG's approvals in the past.

2. The growth distribution at the transportation analysis zone (TAZ) level needs to be adjusted to be consistent with the distribution of growth for households and employment being submitted by SANBAG in parallel with the comment letter. The growth distribution is based on the distribution of households and employment previously submitted by SANBAG, together with adjustments for the Plan Alternative of the RTP/SCS. No change is being suggested in the city-level distribution of growth.

3. Please confirm that the East-West Freight Corridor (dedicated truck lanes) will continue from SR-60 northerly on the I-15 and terminate just to the north of I-10, with appropriate connector ramps to and from I-10 east of I-15. This is stated in the text of the draft RTP/SCS, but some of the maps and the transportation model networks are not yet consistent with this.

4. The Program EIR uses the phrase "local jurisdictions can and should..." or "project sponsors can and should..." in most of the local-level and project-level mitigation measures referenced in the EIR. SANBAG's understanding is that the mitigation measures are designed to provide local jurisdictions and project sponsors with choices, not requirements, as they seek to implement local transportation and development projects in the context of the RTP/SCS goals and objectives. However, CEQA also requires that mitigation measures be feasible and enforceable (CEQA Guidelines Section 15126.4). As drafted with the language "local jurisdictions can and should," the mitigation measures are implied to be feasible and enforceable. Therefore, SANBAG requests the mitigation measures be revised to clarify their intent. SANBAG suggests replacing the wording "local jurisdictions can and should..." or "project sponsors can and should..." with "SCAG shall encourage local jurisdictions to ...." SCAG should continue to play a role of facilitation for local jurisdictions and subregional agencies to build technical expertise, provide grant funds, disseminate information, and coordinate responses to regional issues. These are actions that are under the control of SCAG, the responsible party under CEQA, and can be monitored and enforced.

5. SANBAG recommends that those mitigation measures that are either the same as or similar to an existing regulation simply reference the regulation without restating the contents of the regulation. Local jurisdictions and project sponsors are already responsible for complying with regulations, and restating or paraphrasing a regulation in the PEIR could cause confusion in the future as regulations are modified. A summary of the regulation can be provided as information, but a restatement of the regulation in the PEIR with the "can and should" language may be counterproductive. The PEIR should also be careful to distinguish between guidelines and regulations. These changes will avoid potential future conflicts between a PEIR mitigation measure and an adopted regulation.

We would also like to request the following modifications to the project list, as submitted to SCAG staff through the standard RTP long-range project list modification and FTIP database update processes. These changes have been previously communicated to SCAG staff subsequent to the release of the Draft RTP and are being confirmed below.

Major project modifications include:

- 1830 – I-10 Cedar interchange – Schedule Change
- SBD41339 – I-10 Pepper interchange- Schedule Change
- 200152 – I-15 Arrow Rte. Interchange - Schedule Change
- 0H1300 – I-15 Duncan Canyon Interchange - Schedule Change
- 20061201 – I-15/215 Devore Interchange- Schedule Change
- SBD031279 – I-15 Ranchero Interchange - Schedule Change
- 35556 – I-15 VV-Barstow - Schedule Change
- 200451 – US 395 from I-15 to 1.8 Miles S. of Desert Flower Road – Interim Widening from 2-4 lanes
- 34040 – US 395 Expressway – Widen from 2-4 lanes from High Desert Corridor to Farmington Road
- 981118 – Omnitrans Bus Service - Schedule Change
- 20040804 – Needles – I-40 Connector – Downscope project

Major project deletions/completions include:

- SBD31808 – I-10 Riverside – Completed Project
- 0H930 – I-10 Waterman – Completed Project
- 43320 – I-10 Live Oak – Completed Project
- 47221 – I-15 Etiwanda (rehab. SHOPP) – Completed Project
- 34041 and 34042 – US 395 New Expressway – Deleted Combined Projects
- 4G0117-LR – Safety Upgrade – Milliken Ave. – Delete Project
- 4A07039-LR – Valley from Cherry to Alder (2-4 lanes) – Delete Project
- 4H01011-LR – HOV Connector (I-10/I-15 North to West) – Delete Project
- 4H01010-LR – HOV Connector (I-10/I-15 South to West) – Delete Project
- 4H01009-LR – HOV Connector (I-10/I-215 South to East) – Delete Project

We look forward to a productive discussion of all the comments in the coming weeks and the approval of the RTP/SCS in April.

Sincerely,

Larry McCallon
President, San Bernardino Associated Governments
Mayor, City of Highland

HI120214-lm

SAN FERNANDO VALLEY
COUNCIL OF GOVERNMENTS
A JOINT POWERS AUTHORITY

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February 14, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 W. Seventh St. 12th Floor
Los Angeles, CA 90017-3435

Re: Comments on the Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy

Dear Director Ikhrata:

SCAG is to be congratulated on the production of this unprecedented draft document that does laudable job of combining a Regional Transportation Plan and the inaugural "Sustainable Communities Strategy."

The San Fernando Valley Council of Governments represents the San Fernando and Santa Clarita valleys, a metropolitan region of over two million—more populous than 15 states, and one of the largest unified regions in the United States. Until now, we have not always had the opportunity to fully participate in SCAG planning activities as a region. We welcome this opportunity.

Because of the shortness of time, we will be unable to submit a full and substantive reply by the end of the public comment period on February 14, 2012. We note that SCAG's regional transportation modeling area covers the Counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. This modeling area is divided into 11,267 Transportation Analysis Zones (TAZs). Unfortunately, the TAZ maps were only made available on January 26th of this year. There has been very little time for meaningful analysis.

The City of Los Angeles and other respondents have noted that the plans tend to be inconsistent with existing Community Plans and General Plans. This could result in confusion, cost and needless litigation. We would like to reserve the opportunity to comment further as the process continues to unfold.

Substantive points have been raised by several credible groups. Given the significance of the RTP/SCS, we must approach this task with care, and the issues raised by SCLC, OCBC and the City of Los Angeles, inter alia, certainly bear further, and more detailed discussion.

Further consideration is needed on "Policies and Principles of a Sound RTP/SCS" as stated:

1. Provides Positive Economic Impacts … A Plan that is pro economic growth and job creation

2. Provides Local Control … A Plan that honors local control and flexibility over land use and transportation

3. Assures New Revenue Sources are Fair, Equitable and Economically Sound

4. Is Balanced and Accountable

5. Is CEQA Compliant and Defensible

6. Provides for CEQA Streamlining and Protects Against CEQA Abuse

As a matter of process, it is recommended as follows:

- Extend the public comment period to allow a more full and fair discussion of the issues.

- Create an Issue Matrix of all recommendations to allow easier reference, for discussion and resolution.

- Share the Issue Matrix, including pros and cons with all subregions, COGs, stakeholders and the Regional Council.

- Highlight controversial issues for detailed discussion and consensus building.

- Seek strategies that emphasize empowerment and incentives rather than compliance and regulation.

- Set forth overarching disclaimers [local jurisdictions' reservation of rights] to clarify what the RTP/SCS is not. Focus on the legal implications of the RTP/SCS and PEIR.

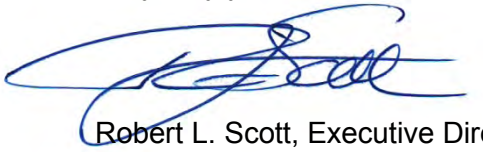
- Reconcile reduction in greenhouse gases (GHG) with loss of gas tax revenues.

- Provide outreach and public information that contains standardized references, metrics and common denominators—materials that can be readily understood by local leaders, constituents and the consuming public.

- Emphasize the economic realities of existing transportation systems, and explain the need for, and alternatives for future improvements.

Thank you for the opportunity to provide input on this important process.

Very truly yours,



Robert L. Scott, Executive Director
San Fernando Valley Council of Governments

San Fernando Valley Green Team

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February 14, 2012

Ms. Margaret Lin
Southern California Association of Governments
818 West 7th Street, 12th Floor
Los Angeles, CA 90017

Re: Draft SCAG 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy
San Fernando Valley Green Team Comments

Dear Ms. Lin,

This letter presents our comments on the Draft SCAG 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy. The San Fernando Valley Green Team is a non-profit organization made up of business, academic, legal, regulatory, financial, marketing, and government experts and community leaders committed to bringing green practices, jobs and business opportunities to the region. We strongly support the overarching goal of the SCAG 2012-2035 RTP/SCS to reduce Greenhouse Gas (GHG) emissions through transportation and land use planning. We also support strategies that meet this goal while improving regional conditions and quality of life.

It is apparent that a great deal of time and effort have gone into the preparation of the Draft 2012-2035 RTP/SCS and the interactive version provided on the website provides an excellent format for the community to access and comment on the plan. That being said, this is the first time that we are seeing all of this work pulled together and we believe that the public needs more time to effectively comment on the plan. We strongly recommend extending the comment period by 30-60 days.

The following are our initial comments regarding the Draft 2012-2035 RTP/SCS. A more thorough analysis and response will be prepared if the comment period is extended.

1. Increase investment in and give higher priority to mass transit projects, especially local projects that improve the accessibility, frequency, and convenience of public transportation for getting around within and between local cities. As can be seen from the Orange and Red Lines, people will use public transportation that meets these standards. We need more projects that reach more locations. We need to increase the capacity of existing projects, such as the Orange Line, to meet growing demand. And we need to improve access to other projects such as the Red Line.

2. Focus funding for highways and streets on maintenance rather than expansion. It is better to reach our goals through reductions in vehicle miles traveled (VMT) than through expansion of vehicle access. We don't even have enough money to maintain our existing streets and

highways. Why would we add more lane miles to these conditions? Let's focus on improving what we have before building more.

3. Integrate transit stops and bicycle racks/storage with local communities. Consider multi-use parking facilities that accommodate complementary parking needs, such as transit and high density residential. Enhance linkages between transit stops and nearby commercial districts. Considered preferred parking at rail stations for carpool and/or vanpool.

4. Develop tourism and entertainment oriented transit. Provide rail service between cities and tourism destinations with weekend schedules that enable day and weekend trips (i.e., early morning and evening service). Configure bus routes and transit schedules on weekends to connect restaurant and entertainment districts in the City of Los Angeles and enhance these linkages with shuttle and pedicab services between transit stops and entertainment districts, such as between the North Hollywood transit station and the nearby North Hollywood commercial district.

5. Change the mileage based fee for vehicles to a GHG based fee collected as part of the vehicle registration process. Paying this fee as part of registration rather than as fuel taxes, raises individual awareness of vehicle related GHG emissions and the fee can be tiered to further incentivize fuel efficiency and reduced VMT. The fee can be based on vehicle miles traveled times the miles per gallon rating of the vehicle to determine GHG emissions. For many automobiles the actual gas usage is already available in their navigation systems. For others, vehicle mileage can be reported annually and trued up at time of sale.

6. Increase funding for Active Transportation, First Mile/Last Mile, and Transportation Systems Management.

7. Determine the cost effectiveness of high-speed rail relative to GHG reduction, congestion reduction and number of passengers served and compare to the cost-effectiveness of other transit projects. Set a standard for cost-effectiveness and design projects to meet this standard or withhold funding.

8. Set a goal to reduce vehicle miles traveled within the region rather than facilitating driving.

9. Plan for the retention and expansion of manufacturing capabilities in the region. Local manufacturing is a critical component of sustainability. It is essential to providing good paying jobs for skilled workers and supports the regional economy by retaining capital in the community and contributing to a more stable tax base, it reduces GHG emissions resulting from transportation related to importing goods from overseas, it showcases the resources and skills of the region, and it stimulates innovation by providing an outlet for new ideas. The purchase of regional materials/labor is good for the economy and good for the environment. Encourage this type of development by enhancing rail transit to and from local manufacturing centers, protecting industrial areas from encroachment of incompatible land uses and developing strategies to facilitate the growth of sustainable local manufacturing.

The San Fernando Valley Green Team is committed to the economic and environmental sustainability of the region and is looking forward to actively participating in the implementation of the final plan. Thank you for this opportunity to comment.

Sincerely,



Carolyn Casavan
President

San Gabriel Valley Council of Governments

1000 S. Fremont Ave., Unit 42, Alhambra, CA 91803 Phone: (626) 457-1800 FAX: (626) 457-1285 E-Mail: SGV@sgvcog.org

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EXECUTIVE DIRECTOR
Nicholas C. Conway

February 23, 2011

Hasan Ikhrata
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

RE: SCAG's Draft 2012 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS)

Dear Mr. Ikhrata,

At its Governing Board meeting on February 16th, the San Gabriel Valley Council of Governments (SGVCOG) Governing Board adopted a position of "support" for the above mentioned alternative for the SCAG Draft 2012 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS).

The draft RTP/SCS includes four alternatives. The San Gabriel Valley Council of Governments supports Alternative B as this Alternative best addresses future transportation needs and anticipated changes associated with future growth.

Should you have any questions, please contact Nicholas Conway at (626) 457-1800.

Thank you for your consideration.

Sincerely,

Angel Carrillo
President

SAN GABRIEL VALLEY
ECONOMIC PARTNERSHIP

Fostering the success of business to enrich the quality of life in the greater San Gabriel Valley

San Gabriel Valley Economic Partnership Regional Transportation Plan Comments

December 1, 2011

SGVEP applauds the ongoing leadership of the Southern California Association of Governments and the Regional Transportation Plan.

The San Gabriel Valley Economic Partnership would like to make the following comments on the Draft RTP Alternative B.

- The Partnership supports the Gold Line Foothill Extension the Montclair as a part of the RTP constrained plan.

- The Partnership supports the completion of the Alameda Corridor East in the constrained plan.

- America Fast Forward (30/10 initiative) addresses the need for improving the Los Angeles County transportation infrastructure quickly. Specifically, projects that the Partnership continues to support that are included in the 30/10 initiative are the Goldline Eastside Extension SR 60 alignment as well as the Goldline Foothill Extension, and the Regional Connector. We support leveraging the voter approved Measure R funds to complete the above projects in an expedited manner.

- Adding express bus service as a part of the proposed High Occupancy Toll Lanes network is imperative if the project is to be successful. Additionally, we ask SCAG to evaluate the Metro Express Lanes Project before committing to a regional High Occupancy Toll network.

- Addressing increased east west truck traffic in the San Gabriel is important. However, the East West Freight Corridor proposed in the RPT has not had sufficient public input. Many of our member cities are opposed to the project as they understand it today. We ask that SCAG take the time necessary to consult with the community before moving forward.

- The Partnership recognizes that declining gas tax will impact the maintenance of our highway system unless alternative revenue sources are available. We support studying evaluating other revenue options including one based on vehicle miles traveled to replace gas tax. However, we are aware that other agencies are evaluating new transportation fees as well such as the traffic mitigation fee proposed by METRO.

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www.valleyconnect.com | www.VisitSanGabrielValley.com

During these difficult economic times, any new tax or fee could result in additional job loss. Economic impacts need to be considered before asking voters for any additional transportation funding.

- The Partnership supports SCAG evaluating the impact of using funds earmarked for High Speed Rail to improve the current regional Metrolink service.

- Highway 71 in Pomona is a bottle neck point in the San Gabriel Valley. The Partnership supports SCAG in their plan to change the highway from an expressway to a full freeway between I-10 and SR-60 with the addition of 1 mixed flow lane and 1 HOV lane in each direction as part of the constrained plan.

- The Partnership recommends the RTP include carpool lanes on the I-10 Freeway from Route 57 to downtown Los Angeles.

SAN GORGONIO CHAPTER

4079 Mission Inn Avenue, Riverside, CA 92501 (951) 684-6203

Regional Groups Serving Riverside and San Bernardino Counties: Big Bear, Los Serranos, Mojave, Moreno Valley, Mountains, Tahquitz, Santa Margarita

Margaret Lin
Southern California Association of Governments (SCAG)
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017
RTP@scag.ca.gov

February 8, 2012

Re: Comments on the Draft 2012 RTP/SCS and Draft PEIR

Dear Ms. Lin:

Thank you for the opportunity to comment on the Southern California Association of Governments (SCAG) 2012 Regional Transportation Plan (RTP) and Sustainable Community Strategy (SCS). The San Gorgonio Chapter – Sierra Club is based in Riverside, California.

Our mission is: To explore, enjoy, and protect the wild places of the earth; To practice and promote the responsible use of the earth's ecosystems and resources;
To educate and enlist humanity to protect and restore the quality of the natural and human environment; and to use all lawful means to carry out these objectives.

Our organization represents approximately 5000 member/residents in San Bernardino and Riverside Counties. We are writing to provide comments on the Draft 2012 RTP/SCS and the Draft Program Environmental Impact Report (PEIR).

We are pleased to see an advanced mitigation component in the Draft 2012 RTP/SCS. This is an excellent first step to creating a program that thoughtfully mitigates impacts to our natural environment from transportation projects. As you know, Orange County and San Diego have similar programs that have met great success. By incorporating this strategy into your policy document, the many benefits of this large-scale conservation approach will be realized. Thank you for your leadership.

Under the Endangered Species Act, the United States Fish and Wildlife Service have defined critical habitat as areas that support endangered or threatened species that are essential to the species' conservation. The description in the Conservation Planning Policy section (page 76 of the Draft 2012 RTP/SCS) states "large-scale acquisition and management of *critical habitat* to mitigate impacts related to future transportation projects" [emphasis added]. We believe there are other habitat areas in the SCAG region worth considering for acquisition and management and therefore SCAG should not limit the mitigation opportunities to only critical habitat. We suggest expanding the language to incorporate all "important habitat lands."

On page 78 of the Draft 2012 RTP/SCS, the document mentions the 2008 Regional Comprehensive Plan that inventoried protected and unprotected areas in relationship to wildlife linkages, linkage designation areas, park and recreation areas. We were pleased that SCAG completed this Plan showing what areas are protected and critical to maintaining functioning habitat reserves. We agree that the planning efforts SCAG undertakes in the future should involve updating the maps, but recommend expanding the language in this section to include all forms of protected lands. By limiting the acquisition and management opportunities of conservation lands to just Natural Communities Conservation Plan (NCCP) or Habitat Conservation Plan (HCP) areas, decisions about priority conservation areas will be misinformed. In fact, it no longer demonstrates a comprehensive plan because of the limited scope (of pre-established mitigation sites, which are likely unrelated to transportation projects). Protected areas (e.g., National Forests, State Parks, Regional Parks, etc.) not in an NCCP/HCP are excluded from the big picture, yet they have extensive benefits to the entire open space system and often times link important habitat areas throughout the region. Consequently, we recommend having this updated map and mitigation site locations expanded to include more than just NCCP/HCP areas and instead include all levels of protected lands (federal, state, regional, and local).

On page 79 of the Draft 2012 RTP/SCS, we were encouraged to see SCAG recognize the benefits of reducing transportation impacts to sensitive lands and encouraging smart land use decisions. We believe landscape level advanced mitigation will become a statewide planning policy. Planning future transportation projects with a comprehensive mitigation program ensures our open space infrastructure can continue to function and maintain viable habitats, linkages, and species populations in perpetuity. Unfortunately, we noticed the lack of inclusion of wildlife linkages in this section. Orange County's transportation measure language included wildlife linkages and we recommend SCAG include linkages as well.

We appreciate SCAG's effort to create a strategic planning process that would document important conservation lands in the region. We believe there is an important opportunity with this concept to also create a Southern California Greenprint. By completing a Greenprint a comprehensive view of our open space land attributes would be documented. Such attributes include: recreation priorities, agricultural lands, scenic values, historic preservation, and more. A Greenprint would give a more complete picture of both opportunities and challenges, while at the same time respecting property rights.

Thank you for reviewing our comments and we look forward to working with SCAG on the implementation of this policy. In addition, we request to be included on any notifications (electronic or otherwise) about this policy's creation and implementation, please send information to kimffloyd@fastmail.fm .

Sincerely,

Kim F. Floyd
Conservation Chair
San Gorgonio Chapter – Sierra Club
760-680-9479

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SAN MANUEL
BAND OF MISSION INDIANS

Date: *via Fax (213) 236-9689*
February 14, 2012

To: **Margaret Lin**
Southern California Association of Governments – SCAG

From: **Jerry J. Paresa, Chief Administrative Officer**
San Manuel Band of Mission Indians
26569 Community Center Drive, Highland, California 92346
(909) 864-8933

Attached: **Comments to Draft SCAG 2012-2035 Regional Transportation Plan Sustainable Communities Plan and Preliminary Environmental Impact Report**

Pages: **Cover + 3**

San Manuel Band of Mission Indians

February 14, 2012

Mr. Jacob Lieb
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

Re: San Manuel Band of Mission Indians – Comments to Draft SCAG 2012-2035 Regional Transportation Plan Sustainable Communities Plan and associated Preliminary Environmental Impact Report

Dear Mr. Lieb:

The San Manuel of Band of Mission Indians ("Tribe"), a federally recognized Tribe, wishes to express its appreciation to the Southern California Association of Governments (SCAG) and Mr. Arnold San Miguel for the February 8, 2012 briefing on the Draft SCAG 2012-2035 Regional Transportation Plan Sustainable Communities Plan (RTP/SCP) and associated Preliminary Environmental Impact Report (PEIR). The Tribe appreciates the opportunity to comment on SCAG's Regional Transportation Plan as San Manuel actively participates in and supports community and regional economic and social initiatives. The Tribe supports long range planning that employs a sustainable-community approach to transportation projects and in land use, open space and preservation of biological and cultural resources. As a Serrano people whose ancestors inhabited a large area of San Bernardino County, the Tribe maintains a close spiritual relationship to many important cultural places in the landscape and feels a keen stewardship for the protection and preservation of these places. It is with this obligation in mind that the Tribe actively engages in consultation and preservation efforts for cultural resources throughout San Bernardino and other Southern California counties.

The Tribe believes that it is essential that SCAG and other regional agencies establish a meaningful and timely consultation process with the Tribe in accordance with the unique legal relationship existing between the United States and Indian Tribal governments set forth in the Constitution of the United States, treaties, statutes, Executive Orders and court decisions and the trust relationship of the United States and Indian tribes. The Tribe looks forward to working with SCAG in order to implement this consultation.

The Tribe's experience has shown that regular and meaningful consultation, including a meaningful and timely process for seeking, discussing and considering carefully the views of others and seeking agreement when possible in a manner that is cognizant of the cultural values and legal rights of all parties is most effective. Moreover, whenever appropriate, the use of "certified Native American monitors" (persons who are certified by a recognized institution to

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monitor archaeological resources with specific knowledge in local ancestral California Native American village sites and cultural practices), may prevent costly delays and offer unique opportunities to contribute to all parties' efforts to preserve and promote an important part of cultural history.

The Tribe offers the following comments and language to the 2012-2035 RTP/SCS Draft PEIR 3.4-22 Mitigation Measures, which strengthen the processes for protection of cultural resources:

MM-CUL5. Language added as follows: ....NAHC to determine whether known sacred sites are in the project area and identify the Native American(s) and *Native American tribes (added)* to contact to obtain information about the project site. Add: *It is strongly recommended that federal and state lead agencies and cities and counties require that a check of the NAHC sacred lands files be undertaken in all projects and that the Native American tribes or individuals identified by the NAHC*[G1][AM2] *be contacted by project proponent for further information and consultation on the project.*

MM-CUL6. Add: *It is strongly recommended that state and federal lead agencies and cities and counties require that a qualified archaeologist conduct a record search at the appropriate Information Center in all projects.*

MM-CUL7. *Add: It is strongly recommended that state and federal agencies and cities and counties conduct a phase 1 archaeological or historic architectural survey for all projects that have not been previously surveyed or have been surveyed within the last 10 years.*

MM-CUL-8. Add: *It is strongly recommended that state and federal lead agencies and cities and counties require that a certified Native American monitor be employed by the project proponent or tribe to monitor the subsurface operations or any earth movement in all projects. It is also strongly recommended that a pre-excavation agreement be implemented with culturally affiliated tribes.*

MM-CUL9. *Add: Avoidance is the preferred alternative. If avoidance is not feasible, it is strongly recommended that state and federal lead agencies and cities and counties require that the project sponsors consult with culturally affiliated Native American Tribes in the determination of importance of the resource.*

MM-CUL10. *Add: It is strongly recommended that state and federal lead agencies and cities and counties require that the project sponsors consult with culturally affiliated Native American Tribes in the determination of importance of the resource.*

MM-CUL17: Add: *SCAG shall engage in government-to-government consultation with Indian tribes in development of the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, per the laws set out in 3.4.-1 – 3.4-5, California Senate Bill 18 (Government Code 65300 et seq) and in accord with the unique legal relationship existing between the United States and Indian Tribal governments set forth in the Constitution of the United States, treaties,*

statutes, Executive Orders and court decisions and the trust relationship of the United States and Indian tribes.

The Tribe appreciates your consideration of the proposed policy language as presented above as well as the opportunity to continue the government-to-government dialogue. Please do not hesitate to contact me if you have any questions.

Very truly yours,

SAN MANUEL BAND OF MISSION INDIANS

Jerry J. Paresa
Chief Administrative Officer

JP:AM:cjt

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January 23, 2012

Mr. Jacob Lieb
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, California 90017-3435

2012-2035 Regional Transportation Plan and Sustainable Communities Strategy Draft Environmental Impact Report, SCH # 2011051018

Dear Mr. Lieb:

The Santa Monica Mountains Conservancy (Conservancy) is the principal State open space planning agency in Los Angeles and eastern Ventura Counties, comprising a substantial portion of the Southern California Association of Governments (SCAG) region in both land area and population. The Conservancy is primarily concerned with habitat loss resulting from many past decades of urban expansion and therefore promotes compact growth in existing urban areas to minimize future resource loss. Thus, the Conservancy shares many of SCAG's newfound regional objectives and looks forward to shaping growth in Southern California in a more sustainable and land-efficient direction.

The Conservancy's secondary interest is in creating an interconnected network of visitor-serving parkland that provides access to natural areas for all residents within the Conservancy Zone. As such, the Conservancy has a particular focus on multi-benefit projects such as river parkways that serve recreation, transportation, health, and economic development objectives while improving quality of life. The Conservancy is a major funder of revitalization efforts along the Los Angeles River and Ballona Creek. These river and trail corridors deserve a prominent place in regional transportation and land use plans in accordance with their multiple benefits.

The Conservancy has reviewed the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Draft Program Environmental Impact Report (PEIR) and offers the following comments in relation to our planning jurisdiction.

Avoidance of Growth in Resource Areas

The RTP/SCS generally steers growth toward more compact forms in already urbanized areas, making efficient use of existing infrastructure and reducing impacts to resource lands. The policy decisions contained within the SCS are projected to save 408 square miles of nonurban land over the life of the plan. If realized, these gains are certainly an achievement, although there is no projection of where this growth will not occur and what mechanisms will preserve the land in perpetuity.

The lack of specificity makes it difficult for the Conservancy to evaluate the impacts of the proposed plan. While the projections are intended to be a meta-analysis of regional economic trends rather than a location-specific analysis of growth patterns, SCAG is clearly making assumptions about where development on resource lands is and is not appropriate. This process is not transparent. For example, the Regional Housing Needs Assessment (RHNA) assigns population targets for different subareas of the region, which are then used to justify additional development whether or not it is consistent with stated goals to encourage compact development within existing urban areas. Newhall Ranch has used the RHNA targets as the basis for its massive expansion into open space areas west of Santa Clarita, resulting in unmitigable habitat and connectivity loss. At least Newhall Ranch is contiguous with the existing Santa Clarita urban area. SCAG appears to endorse the proposed Centennial development at Tejon Ranch by projecting housing demand in the area--no doubt a self-fulfilling prophecy--despite flagrant inconsistency with SCS objectives. These decisions serve as the basis for urbanization of resource lands, yet are not made in consultation with resource agencies. With the understanding that land use authority belongs to local jurisdictions, a truly comprehensive regional plan would transparently set growth parameters in concert with resource conservation goals to eliminate these apparent contradictions. Projecting growth in resource areas sets in motion policies that induce that growth; therefore great care must be taken to ensure such growth meets regional objectives.

Wildlife Crossings of Transportation Facilities

The Conservancy appreciates SCAG's recognition of the impact that linear transportation facilities have on natural areas and the need for well-designed wildlife crossings to partially mitigate these effects. Wildlife crossings serve two distinct purposes: reducing mortality and preserving genetic connectivity. Roads are the leading direct source of human-caused mortality for most species in Southern California and the entire country. They can become a population sink if a significant fraction of a local species is killed, affecting broader population distribution across the landscape. Additionally, for highly mobile predators,

individuals crossing roads are frequently dispersing from their home range in search of new territory and mates, a vital population dynamic that is devastating if interrupted. National Park Service research has documented significant genetic differences among carnivore populations on either side of the 101 Freeway in the Santa Monica Mountains.

Wildlife crossings need to be discussed in the context of habitat connectivity, which is the broader ecological goal for conservation areas. Wildlife crossings are but one critical tool to ensure that indicator species are able to safely move about their environment. The Conservancy has partnered extensively with the National Parks Service, U.S. Geological Survey, and UCLA to research movement corridors in Southern California, with an emphasis on our core jurisdiction in the Santa Monica Mountains, Simi Hills, Santa Susana Mountains, San Gabriel Mountains, and Verdugo Mountains. While much has been learned about movement patterns in these areas and the way in which key transportation facilities create genetic barriers to connectivity, the measures that might mitigate these impacts have not been thoroughly researched. Wildlife corridor design is a field in its infancy with few scientifically verified best practices for crossing dimensions and landscape features. Given that this research is needed to properly mitigate transportation impacts, SCAG should invest in connectivity research with a program specifically designed to establish measures that can be incorporated into the 2016 RTP revision. Such a program would aggregate existing research, propose new study areas, and develop design best practices specifically tailored to the Southern California eco-region.

Environmental Mitigation Program

SCAG has identified the need for a regional Natural Lands Acquisition and Open Space Conservation Strategy to protect remaining resource lands and mitigate for impacts from transportation improvements. The Conservancy looks forward to working with SCAG on the development of such a strategy. In addition to mitigation banking, transfer of development rights, and payment of in-lieu fees, the Conservancy recognizes conservation easements as a powerful preservation tool for habitat areas. Conservation easements should be listed in the plan alongside the other preservation mechanisms.

The Conservancy has supported the establishment of transfer of development rights (TDR) programs in multiple updated general plans as a potentially useful market-based preservation mechanism that supports regional density goals. SCAG should take a leadership role in setting guidelines and best practices for these new county and municipal programs as well as explore the creation of a regionally unified TDR program.

High Quality Transit Areas and CEQA Streamlining

SB 375 provides that developments that are consistent with the Sustainable Communities Strategy be rewarded with a streamlined CEQA process in order to incentivize dense developments in appropriate locations near transit. While the Conservancy is generally wary of processes that weaken CEQA protections, the law's narrow provisions are appropriate in this instance. However, SCAG's designated High Quality Transit Areas (HQTA) are overly broad with a low threshold of minimum transit service (15-minute frequency only during weekday peak) to qualify for the exemption. This threshold is not sufficient to attract significant mode share that would justify the CEQA exemption, as the off-peak headways in most of these "high quality" areas are likely not adequate to facilitate a car-light lifestyle in most of the designated HQTA corridors.

Of greater concern to the Conservancy, judging from the available HQTA maps, SCAG's methodology appears to reward proximity to transit lines rather than transit stops or stations. This creates absurd outcomes where properties are given an incentive to densify even if they are not serviced by transit or topographically suitable for urban development. Many of the "high quality" lines are actually point-to-point express buses run on the freeways. Within the Conservancy's area of interest, the Sepulveda Pass, Cahuenga Pass, and Conejo Grade corridors fit this description. This methodological problem could be corrected by excluding freeway service (which is not favorable for transit-oriented development anyway) from HQTA designation and by determining the quality of transit based on off-peak frequency, which is a better indicator of whether it supports the intended urban lifestyle.

River Parkways and Active Transportation

As mentioned previously, the Conservancy is interested in urban river projects for their multiple recreational, environmental, and transportation benefits. The RTP/SCS should fully fund build-out of these active transportation corridors throughout the region. When well designed, these facilities serve as "bicycle freeways" connecting various parts of the region with uninterrupted travel for nonmotorized users. For this reason, the Los Angeles River trail featured prominently in the "Carmageddon" race between Jet Blue and a group of elite bicyclists from Burbank to Long Beach. Separated from traffic, such facilities are also inviting for bicyclists of all ages and abilities, which is necessary to attract substantial mode share away from automobiles. The draft Los Angeles County Bicycle Master Plan, among others, calls for build-out of the river trail system and includes preliminary cost estimates.

The RTP/SCS calls for $6 billion over the next two decades for active transportation investments, which seems low when compared to the identified need in local bike and pedestrian plans. Given the central role active transportation plays in meeting regional planning objectives, funding levels should be set based on full build-out of local bicycle and pedestrian plans, with an appropriate amount projected for those jurisdictions that have not yet completed such plans. The currently proposed funding level does not appear to be rooted in such a need-based assessment. It is not adequate to simply compare the proposed expenditures with past levels independent of a needs assessment.

In addition to the total funding level, the proposed timing of active transportation investment is inadequate. Only 20 percent of the proposed expenditures would occur during the first 15 years of the 25-year planning period, leaving the vast majority of expenditures for the highly speculative future and of little use to current residents. Transit and transportation demand management are similarly back-loaded with only highway-related investments receiving funding priority in the near term. These non-highway investments are the ones most likely to generate greenhouse gas emissions savings, among other benefits, and the earlier they are made the longer the benefits can accumulate. The proposed expenditure plan runs directly counter to the stated emphasis of the SCS.

Active transportation projects, including the river parkways, are suffering for lack of funding. The most visionary plans, such as the City's Los Angeles River Revitalization Master Plan, require extensive funding to come to fruition and provide their multiple benefits. Planning is well underway, but capital dollars are in short supply for these projects. Furthermore, achieving greenhouse gas reduction and air quality goals requires early mode shift to maximize cumulative benefits over the life of the plan. The Conservancy suggests that the plan's funding priorities be reversed to immediately fund active transportation investments at a sufficient level to achieve build-out of the region's bicycle and pedestrian networks in the near and medium term. Such a change would make the RTP more consistent with the land use and mode share objectives outlined by the SCS, the intent of SB 375.

Environmental Justice and Public Health

Like SCAG, the Conservancy takes its commitment to environmental justice seriously as a State agency. The Conservancy is therefore delighted to see equal access to parks, one of its core missions, considered as a performance measure for environmental justice. The SCAG model does not currently include programs intended to ameliorate these access issues, such as the Mountains Recreation and Conservation Authority's (MRCA) Transit to Trails

program. Given the inherent remoteness of open space parkland, it is likely infeasible to run regular transit service to most parks. The highly successful Transit to Trails fills this gap, but is perpetually underfunded in comparison to the access demand. Funding for such programs from SCAG transportation funds would be appropriate mitigation for impacts to environmental justice populations.

Part of embracing environmental justice as a core mission includes looking holistically at issues that affect the community. Poor air quality is not the only impact from a transportation system that is overly reliant on cars. Obesity and related illnesses are a direct result from community design that does not allow for safe opportunities to walk and bike for everyday transportation. The RTP/SCS should therefore include obesity-related health outcomes as a performance measure for the regional transportation system. The currently unequal health outcomes will require targeted investments in disadvantaged communities to create active transportation networks that provide access to services, jobs, schools, and parks. River parkways directly address this need by providing bikeways through many of the poorest communities in the region.

Additionally, the safety performance measure appears to discount the health benefits of active transportation while overstating risks. SCAG methodology rewards shifts to "safer" modes, but uses datasets that penalize pedestrians and bicyclists for being hit by cars. This methodology would discourage investments that increase active transportation when it is precisely these investments that address the safety issues faced by those bicycling and walking on public streets. The methodology further does not include the well-documented "safety in numbers" phenomenon that decreases risk for active modes the more people utilize them. Likewise, it does not consider improved public health outcomes that have been calculated to more than offset risk. The poor safety performance of walking and bicycling modes is justification for increasing investment in active transportation, particularly separated facilities for bicyclists.

Comments on Proposed PEIR Mitigation Measures

Biological Resources and Open Space

The PEIR includes many mitigation measures for potential impacts to biological resources. Overall, these measures are comprehensive and based on sound practice. Inclusion of the proposed mitigation measures in project selection and design will greatly improve ecological outcomes in the SCAG region compared to a baseline scenario. The specific measures

calling for minimum mitigation ratios reflect current accepted practices without limiting the discretion of resource agencies to require greater mitigation if warranted.

The proposed measures addressing habitat fragmentation and connectivity are thorough and appropriate (MM-BIO/OS36 through MM-BIO/OS40). These impacts have been all too often unmitigated for transportation projects in the past.

The Conservancy looks forward to collaboration on regional conservation planning policy to address cumulative impacts to biological resources (MM-BIO/OS45). The Conservancy's joint powers partner MRCA administers highly successful restoration and preservation mitigation programs in close coordination with state and federal resource agencies. SCAG's planning and funding expertise is a welcome addition to ongoing efforts. The Conservancy requests an invitation to participate in this process.

The primary impact from transportation facilities is often the indirect and cumulative impact from growth induced by new improvements. As projects increase access and reduce commute times from remote areas, these resource lands become economic to develop. The Conservancy is therefore pleased to see SCAG recognize these impacts and call for their mitigation (MM-BIO/OS47). Without appropriate growth management along transportation corridors, wildlife crossings cannot mitigate connectivity impacts from expanding development footprints. Furthermore, induced growth along new corridors often negates the benefits of new transportation capacity, prompting even greater impacts from future facility expansion. SCAG should develop best practices that would be applicable to new transportation corridors such as the High Desert Corridor to prevent new development from extending into resource lands.

Land Use and Agriculture Resources

As stated previously, the Conservancy is encouraged to see transfer of development rights programs included in the RTP/SCS (MM-LU16). Los Angeles County and several municipalities in the Conservancy's jurisdiction are including programs in their respective general plan updates. SCAG should provide technical assistance and facilitate interjurisdictional transfer programs among member governments as appropriate.

The Conservancy is pleased to see strategic planning that encourages recreational access to natural lands be coupled with efficient land use strategies to preserve these lands (MM-LU25 and 26). Location-efficient and compact development is better for the economy and

environment by reducing infrastructure costs, increasing tax revenues per acre, and reducing consumption of agricultural land and habitat.

Urban growth and service boundaries are a critical tool local jurisdictions have to protect resource areas within greenbelts (MM-LU42). The Conservancy strongly supports efforts by local jurisdictions to establish such policies. SCAG should promote best practices in greenbelt planning and facilitate interjurisdictional collaboration to protect resource areas that separate discrete urban communities. The Conservancy notes that effective policies restrict densities to no more than one dwelling unit per ten acres outside of urban growth boundaries. Densities above this threshold begin to affect resource values, particularly habitat connectivity and sensitive species. One unit per ten acres is an appropriate maximum density to reduce the proliferation of "ranchette" developments that highly fragment habitat in rural areas.

The Conservancy supports using variable development fees as an economic incentive to direct growth to desired areas. In particular, increasing impact fees for development in greenfield areas would recognize the resource impacts of such developments while rewarding new developments that minimize the burden on public infrastructure by locating in existing urban areas (MM-LU81). Such fees would need to be considerable to actually have an effect on land economics at the regional scale. SCAG should undertake an economic analysis to determine what level of fees would be required to achieve regional growth objectives.

Public Services and Utilities

The PEIR lacks a public safety mitigation measure that promotes project design that minimizes urban-wildland interface, which is the source of wildfire risk to persons and property. Past development patterns include long, meandering urban edges with high risk exposure to catastrophic events, causing great strain on local and State firefighting resources largely subsidized by those living in lower risk locations. A mitigation measure should include two components addressing both project location and project design. First, development that extends into high fire hazard areas should be discouraged. Second, there should be an emphasis on utilizing project design strategies to reduce risk, such as building within compact and defensible footprints and minimizing perimeter length. Projects should be sited in order to reduce impacts of required brush clearance on native habitat areas, including adequate buffers to protect sensitive resources from brush clearance impacts. The draft Los Angeles County Significant Ecological Area Ordinance contains model language to this effect.

The Conservancy concurs that project sponsors and local jurisdictions should work to increase public access to open space (MM-PS21 and 26). River parkways and other urban natural parks serve a vital purpose in connecting urban residents to natural parkland (MM-PS22). The City and County of Los Angeles have both recognized these projects in master plans for their respective river corridors. While planning for these projects is the responsibility of local jurisdictions and partners, SCAG has a critical responsibility for funding by including bikeway projects in the RTP.

Regional partnerships are necessary to achieve open space conservation objectives (MM-PS29). The City of Santa Clarita partnered with the Conservancy to form the joint powers Santa Clarita Watershed Recreation and Conservation Authority, an example of the kind of local partnership that should be encouraged throughout the region. The City of Santa Clarita brought to the table a local assessment that can be used for open space acquisitions outside the City boundaries to establish a continuous greenbelt for its residents to enjoy. As previously mentioned, the Conservancy welcomes SCAG's assistance with planning and identifying funding sources for open space acquisition (MM-PS31 and 34). SCAG's participation in coordinating regionally significant trail networks is also appreciated, however the greatest contribution SCAG could make to these efforts would be including those greenways that serve transportation functions, such as the river parkways, in the RTP so that they can be fully developed in the short and medium-term (MM-PS33). SCAG should focus on projects that close gaps in regional networks, such as the bikeway gap from Riverside Drive to Vernon along the Los Angeles River through dowtown, and projects that provide connectivity across jurisdictional boundaries.

Regarding renewable energy development projects in open space areas, the Conservancy concurs that it should be allowable, but with careful attention paid to biological and visual resources to ensure compatibility and minimal impacts (MM-PS98). The constraints analysis approach outlined is an appropriate framework for renewable energy decisions (MM-PS97).

Transportation

As previously mentioned, the Conservancy plays an active role in developing bicycle and pedestrian trails that access parks and open space (MM-TR42). The Conservancy looks forward to SCAG support and urges that ample funding be provided for full build-out of the planned river parkway system, combining transportation and recreation functions to improve the quality of life for Southern California residents. These parkways often connect with schools, parks, libraries, and other community facilities (MM-TR43). Such connections should be enhanced through regular transportation improvements and the development of

regional and local networks of multi-use trails with adequate end-of-trip facilities (MM-TR78).

Water Resources

The Conservancy believes that preservation of remaining riparian resources should be the highest priority at both the regional and project level, followed by restoration of previously impacted areas (MM-W1 and 9). To the extent feasible, natural methods for stormwater control, water quality improvements, and infiltration should be encouraged.

SCAG sets an appropriate standard that new projects should not cause or contribute to conditions that degrade the physical integrity or ecological function of any downstream receiving waters (MM-W22). When evaluating projects during the environmental review process, SCAG should identify regionally significant projects that may impact downstream waters and include comments to that effect in NOP and EIR responses. This is a critical issue wherever natural rivers interact with urban areas, such as the Santa Clarita Valley in the Conservancy's area of interest. Recent approval of the Landmark Village of Newhall Ranch did not meet this standard of ecological sustainability, threatening the natural hydrogeomorphology of the Santa Clara River by elevating the 100-year flood plain and armoring the natural banks along the development's edge. SCAG should participate in the development of models of natural processes for the remaining natural rivers in the SCAG region to ensure that environmental review can comprehensively evaluate project impacts based on the best available information.

Thank you for your consideration of these comments. If you have any questions, please contact Paul Edelman of our staff at (310) 589-3200, ext. 128.

Sincerely,

Elizabeth A. Cheadle

ELIZABETH A. CHEADLE
Chairperson

2012 RTP Comments

Walter Siembab, Siembab Corporation

February 14, 2012

Comments: Telecommuting in the 2012 RTP

Despite its relative low capital cost and high cost-effectiveness, telecommuting remains in 2012 a marginal strategy for reducing GHG emissions and congestion.

The 2012 RTP could lay out the path by which telecommuting could reach its potential, particularly in an RTP with such a gigantic revenue shortfall. But it doesn't.

Table 4.5 of the SCS lists only one specific telecommuting action/strategy, and it will do nothing to change the marginal role of telecommuting over the next 4 years. "Encourage the development of telecommuting programs by employers through review and revision of policies that may discourage alternative work options."

The discussion of Telecommuting/Work-at-Home in the TDM Appendix is equally unhelpful, focusing on barriers to telecommuting and mentioning a few policies to overcome those barriers, none innovative nor likely to make a difference.

One of the basic problems with telecommuting in the 2012 RTP (and previous RTPs) is that the strategy is treated as a member of the TDM family of policies.

However, among all the TDM options, only telecommuting mimics land use. Telecommuting, like other network applications associated with "distributed organizations" (such as tele-medicine, e-retail, distance education, etc), can affect the location of destinations. For example, portions of auto-oriented employment centers can be strategically re-located into walking neighborhoods. In other words, telecommuting can impact the spatial distribution of functionality. It is really a way of implementing "location efficiency."

Beyond that conceptual revision, there are a number of strategic options that should be added to the 2012 RTP.

Goal should be for every employee except for those involving physical materials-handling or other hands-on activity (like truck driving) to expect some to be offered some telecommuting option; with every employer expected to authorize an alternative work site within 4 miles of every eligible employee's home. This is consistent with

existing travel patterns to other destinations; is compatible with short-range electric vehicles; and will reinforce the “neighborhood oriented development” (NOD) strategy.

Four initiatives are required to reach that goal.

1. Regional Telework Facilitator

Public agencies trying to encourage the telework strategy tend to do so through corporate demonstration programs. The AQMD recently funded such a program which is in process today. Demonstration programs have been repeatedly found to produce short term but not long term results. When the funding goes away, the active teleworkers begin to decline back to pre-demonstration levels.

Establishing the institutional infrastructure that will support telework in the long run is the most effective step that could be taken. Similar to the old “Commuter-Computer” for ride sharing, this regional organization would market the telework option (in all of its varieties – home based, satellite, shared work center, network access center, etc.) to employers. Other tasks include maintaining best practices, offering first line technical assistance, and making referrals to implementation consultants.

A five year public commitment would be best, giving the organization the opportunity to develop a business plan in order to continue operating with a minimal public subsidy. Technology firms with products used in telework are good candidates to serve as private partners.

2. Opinion Leaders

Elected officials, public sector executives plus leading private CEOs committing their own organizations to an aggressive telework program is also essential. The organizations and their commitments should have a high profile. The practice should also include the full range of distributed applications such as distance education, telemedicine, e-retail, etc. The Regional Telework Facilitator should organize and maintain this public-private leadership council.

3. Telework Facilities Exchange

The Telework Facilities Exchange (TFX) was a work-station sharing program for government employees that I designed and implement in the mid-1990s, sponsored by the League of California Cities and funded by the SCAQMD. Government employees (city, county, state, federal) were matched to a vacant work station in another government building near their residence. It was, at the time, the largest multi-

jurisdictional telework program in the nation. The planning and advocacy function of the project was the prototype Regional Telework Facilitator.

4. Network Access Centers

Network Access Centers (NAC) are a new type of public facility that will contribute to transportation access, economic development, and education. A NAC is a multi-function, multi-user facility that provides technical assistance, fast network connections, information technology, work stations, meeting space, and special programs that include distance education classes, tele-medicine consultations and so forth. A NAC is essentially a programmable building whose functionality can be changed hour by hour, day by day to satisfy community need for travel.

NACs should be added to transit stops (especially multi-mobility hubs), public schools, public libraries, neighborhood centers, and downtown districts.

The Blue Line TeleVillage in Compton, funded by Metro in the late 1990s, established proof of concept in LA County. Yet it was not replicated.

With institutional infrastructure like the Regional Telework Facilitator, physical infrastructure like NACs, and programs such as the TFX, telework will become a significant employment option throughout the region.

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April 20, 2011

SANDAG Board of Directors

Via E-mail: pjo@sandag.org (Phillip Johnston)

Re: California Air Resources Board (CARB) Greenhouse Gas (GHG) Reduction Targets, Issued to SANDAG, in Accordance with SB 375, for the Year 2035

SANDAG Board Chair Jerome Stocks and Members of the Board:

I appreciate the opportunity to communicate with you concerning this important topic.

The subject targets were issued on September 30th of 2010. On September 20th, I sent a letter to CARB[1] asking them to issue targets that would uphold the Executive Order S-3-05[2] GHG reduction trajectory, for cars and light-duty trucks. CARB's Scoping Plan gives no reason to not apply the straight-line trajectory, implied by the S-3-05 reductions, to the GHG emissions from cars and light-duty trucks. S-3-05 names CARB as one of the agencies that must create plans and progress reports to ensure that the reductions in S-3-05 are achieved.

Unfortunately, CARB gave you (SANDAG) the Year 2035 reduction that you (SANDAG) requested, which is only a 13% reduction, for year 2035.

"GHG" is really "VMT" and Other Important Details on the Reductions

These reductions are per capita, with respect to *driving* in 2005. This can be understood by carefully considering the following two items:

1.) Page 8, of http://arb.ca.gov/cc/sb375/staffreport_sb375080910.pdf, which says, "The RTAC recommended that targets be expressed as a percent reduction in per-capita greenhouse gas emissions from a 2005 base year"; and

2.) The first footnote in the table of CARB calculations, http://arb.ca.gov/cc/sb375/mpo.co2.reduction.calc.pdf, which says: "The CO2 emissions presented in this table do not include reductions from Pavley and LCFS regulations."

"Greenhouse gas (GHG)" emissions are used as equivalent to the more accurate "C02 emissions." In the second item, "Pavley" (named after Senator Fran Pavley) refers to a lowered average C02 per mile driven. Also in the second item, "LCFS" refers to the "Low Carbon Fuel Standard". Both "Pavley" and the "LCFS" reduce the emissions per mile driven. Since these reductions are not being counted, the reductions shown come only from per capita, percent reductions in driving, or "vehicle miles travelled", VMT. Therefore the so-called GHG reductions are really VMT reductions.

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[1] The letter is Reference 1, listed at the bottom of this letter and attached in the email with this letter.
[2] S-30-05 is shown in Reference 2, listed at the bottom and attached in the email with this letter.

More Background Information

In 2007, you (SANDAG) adopted your current Regional Transportation Plan (RTP). It includes a 38% increase in the total number of freeway-lane miles, in San Diego County. My job as Transportation Chair for the Sierra Club is to stop all freeway expansions, as specified in our National Policy. Our Chapter has commented extensively on the I-5 expansion Draft Environmental Impact Report. As you know, it would add either 4 or 6 lanes, to an eight-lane freeway, over a length of 27 miles.

You (SANDAG) are now in the process of approving a new RTP, with even more freeway expansions. However, your staff now claims that by Year 2035, they will reduce GHG (really VMT, as explained above) from cars and light-duty trucks by 19%. You (the SANDAG Board) and staff can therefore claim, correctly, that you are going to exceed your CARB target, for Year 2035.

However, the GHG reductions of S-3-05 must be achieved by mankind, if we are to have any reasonable chance of stabilizing our climate. A destabilization will likely have disastrous environmental and human consequences.

The purpose of this letter is to show you that the GHG (really VMT) reduction achieved must be at least 35%, not the 13% given by CARB and not the 19% that your staff now claims they can achieve by 2035.

Overview of Relationships and Derivation of Key Formula

The S-3-05 net reduction in GHG emissions, from cars and light-duty trucks, expressed as a fraction of 2005 emissions, is obtain by multiplying four factors together. The definitions of Table 1 apply.

Table 1 **Factor Definitions, with Respect to Year 2005**

Factor Definitions	
All are for for the year of interest, with respect to year 2005 values. Except for Population, all are for cars and light-duty trucks.	
f	**net factor of the emissions of Greenhouse Gas**
f_Pavley	**factor of the average statewide mileage**
f_Fuel	**factor of the reduction of GHG due to fuels that burn less carbon**
f_Population	**factor of the population in the region of interest**
f_PerCapitaVMT	**factor of per capita driving**

The following equations apply.

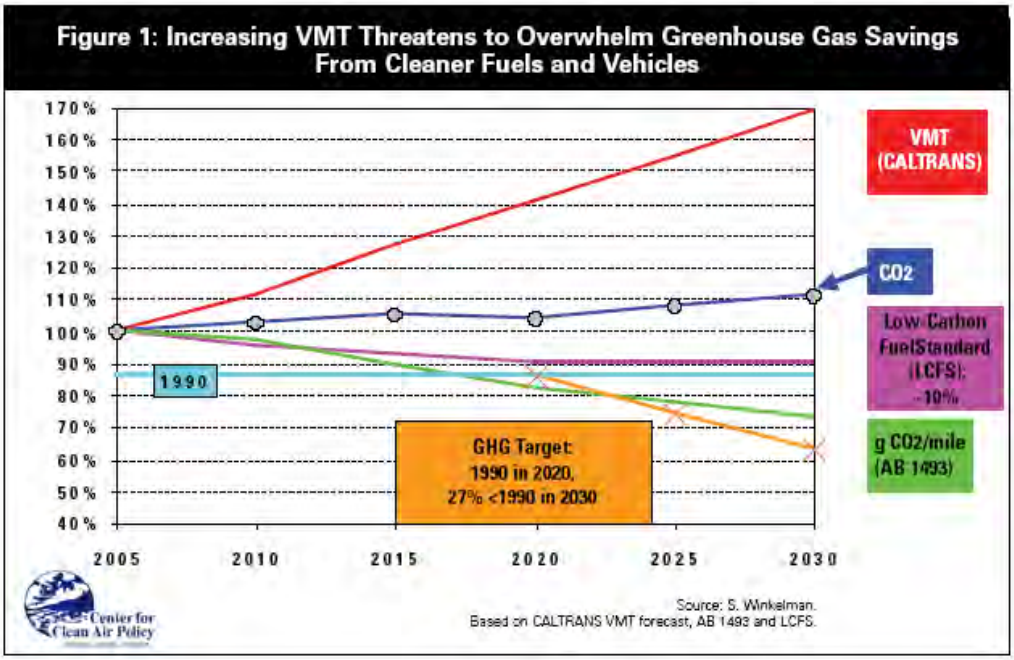
Eq. 1 f = F_Pavley **x** f_Fuel **x** f_Population **x** f_PerCapitaVMT

Eq. 2 is derived from Eq. 1.

Eq. 2 f_PerCapitaVMT = f / **(** F_Pavley **x** f_Fuel **x** f_Population **)**

Figure 1 is from http://www.nrdc.org/globalWarming/sb375/files/sb375.pdf, a widely-respected report on SB-375. Note that all of its values are in the units of factors (same as fraction) of their values in year 2005. Figure 1 will supply all of the needed values, except for the factor of population. (Neither the red line nor the blue line are used.) Its gold line is the S-3-05 trajectory that CARB ignored when it issued the driving reduction values for year 2035.

Figure 1 GHG Reductions from Pavley (AB 1493, in Green); the Low Carbon Fuel Standard (in Purple); the Predicted Driving (VMT, in Red); the Net Result of GHG (C02, in Blue); and & the S-3-05 Trajectory (in Gold)



Getting the Net Factor of the Emissions of Greenhouse Gas in 2035, with Respect to 2005 Values

To get the net factor of the emissions of GHG, for year 2035, and with respect to year 2005, it is necessary to extrapolate the Governor's Executive Order target values (the gold line of Figure 1), out to year 2035. The gold line shows that this factor is 0.87 in 2020 and is 0.64 in 2030. Therefore, in year 2035, the factor will be

$$0.64 + [(.64 - .87) / (2030-2020)] * (2035-2030) = 0.525$$

Getting the Factor of the Average Statewide Mileage in 2035, with Respect to the 2005 Value

To get the Pavley reduction factor, for Year 2035, it is necessary to extrapolate the average statewide mileage factor data, which is Figure 1's green line, out to Year 2035. It is 0.82 in 2020 and it is 0.73 in 2030. Therefore, in year 2035 the statewide mileage factor data will be

$$0.73 + [(.73 - .82) / (2030-2020)] * (2035-2030) = 0.685$$

Pavley 1 ends in Year 2017. It is widely assumed that it will be replaced by what is often called "Pavley 2". The extrapolation computed here is based on the assumption made by the author of

Figure 1, as shown in the slope of the green line from year 2020 to 2030. Based on the authoritative credentials of the authors of Figure 1, this is the best assumption that can be made. Assuming that the California fleet will continually get more efficient, in terms of C02 per mile driven, relies on an assumption that a significant fraction of our car owners will be able to purchase newer-model cars.

Getting the Factor of the Reduction of GHG Due to Fuels that Burn Less Carbon

Looking at the purple line of Figure 1, it is clear that this factor will be 0.9 in 2035.

Getting the Factor of the Increase in Population

The factor for population in San Diego County is computed using the populations estimated in CARB's http://arb.ca.gov/cc/sb375/mpo.co2.reduction.calc.pdf, namely 3,034,388 people in 2005 and 3,984,753 people in 2035. So the factor, from 2005 to 2035 is 3,984,753/3,034,388 = 1.313.

Computing the Required Driving Reduction, for 2035

The 4 values computed above are used in Eq. 2 to compute the required factor.

Eq. 2 f_PerCapitaVMT = .525 / **(** .685 **x** 0.9 **x** 1.313 **)**

Therefore, f_PerCapitaVMT = .649. **This corresponds to a 35.1% reduction in per-capita driving, in year 2035.**

In Conclusion

You must not conspire with CARB to violate S-3-05. Your RTP must achieve a 35% reduction. Reference 1 shows how this can be done. You have a responsibility to get CARB and SANDAG back on a path of moral and responsible leadership. The current 2035 targets undermine S-3-05.

Respectfully submitted,

Mike Bullock, 760-754-8025
Chair of the Sierra Club San Diego Transportation Committee

References Attached with Email

Reference 1: PROPOSED REGIONAL GHG EMISSION REDUCTION TARGETS FOR AUTOMOBILES AND LIGHT TRUCKS PURSUANT TO SENATE BILL 375 (Released: August 9, 2010, for a September 23, 2010 Consideration) and the Failure of Its Proposed SANDAG GHG Reductions to Protect Health, Support S-3-05, and be Just and Reasonable
Reference 2: S-3-05, with additional comments
Copies: C. Chase, P. Epstein, Richard Miller

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Sierra Club Toiyabe Chapter/Southern Nevada Group
Motion for Support Environmentally-Sound Road-Use Fees
DRAFT May 2 with Oct. 4th, 16th, Nov. 9 & Jan21, 2011 Revisions

Chapter Leads: Mike Bullock, San Diego Transportation Chair (assigned by Jane Feldman) and Energy Task Force Chair Joe Johnson **Sponsor (if not SNG)**: **Topic Area**: Conservation, Transportation **Desired Effective Date**: March 2011, if possible **Time Sensitive: ASAP, due to global warming** **Reason for Time Sensitivity**: NDOT wants comments **Approved by Conservation Committee**: Date	**Brief Description of Proposed Position**: Support for an Equitable and Environmentally-Sound Road-Use Fee Pricing and Payout System, to be submitted to our state of Nevada, as it considers what NDOT is currently calling a "VMT" fee.

Resolution

WHEREAS, unchecked Green House Gas (GHG) emissions will destabilize our earth's climate, causing a human catastrophe; 27% of Nevada's GHG emissions are caused by on-road transportation; in order to keep GHG levels below 450 PPM, it will be necessary for the world to reduce emissions to 1990 levels by 2020 and 80% below 1990 levels by 2050; to obtain these reductions in on-road emissions, Nevada must significantly reduce driving; and

WHEREAS, the current gas tax cannot provide the money needed for road repairs; Nevada has not raised its gas tax in 18 years and there is no known significant support for such an action; the gas tax is effectively our only road-use fee; better mileage and more electric vehicles will reduce gas tax revenue; a gas tax cannot account for time, place, driver's income, vehicle weight, vehicle pollution levels, vehicle noise levels, or roadway congestion level; Sierra Club national policy opposes subsidized road use, even for battery-powered cars; and

WHEREAS, road expansions are promoted using fear of current or predicted congestion; the Toiyabe Chapter currently has no viable, low-cost, short-term strategy to alleviate congestion; reducing driving through full-cost pricing and congestion pricing is a proven, short-term, free-market strategy to alleviate congestion; the under pricing of road use contributes significantly to air pollution, congestion, sprawl, and GHG emissions; revenue from taxes that are unrelated to driving are used to support roads; on July 11, 2009, the California Nevada Regional Conservation Committee of the Sierra Club passed a resolution supporting a "comprehensive road-use fee pricing system"; the Nevada DOT is accepting comments on a "VMT Fee" proposal; Article 9, Section 5 of the Nevada constitution requires that any charge, with respect to the operation of any motor vehicle, be used exclusively for the construction, maintenance, and repair of the public highways of the State; and, finally, while sprawl-supporting schemes, consisting of in-project road building and "development fees" to widen existing access roads, are better than subsidies from the general public, they are still a hidden and unfair subsidy to driving, that increases driving, because the ultimate payers of these costs pay an amount (for example in the cost of a home or in the cost of some other consumer item or service) or at a rate (for example a reduced wage or increased rent), which is unaffected by how often they personally chose to drive on the constructed, in-project roads or added lanes on access roads.

THEREFORE LET IT BE RESOLVED, that the Sierra Club Toiyabe Chapter/Southern Nevada Group supports a comprehensive road-use fee pricing and payout system, along with the required amendment to the Nevada constitution, provided that the pricing and payout system (1) would pay for all road-use costs, including the environmental and health costs caused by driving; (2) would pay out to cover all costs and repay all those losing money because of such things as road construction and operation; (3) could still include a fuel tax or fee; (4) would have a vmt fee (price-per-mile) that would vary by such things as the weight (to account for road wear), pollution level, noise level, and safety record of the vehicle (to reduce insurance rates, if it is shown that such payments are needed, as described in Item (2) of this paragraph; (5) would have a vmt fee (price-per-mile) that would vary by such things as road, road segment, date, and time of day; (6) would include instantaneous congestion pricing when that

technology becomes feasible; (7) would keep the per-mile price incentive to drive energy-efficient cars at least as large as it is with today's fuel excise tax; (8) could be accompanied by tax reductions sized to achieve either net-revenue neutrality or near-net-revenue neutrality; (9) would adjust the green-field development road-building and development-fee-assessment scheme so that a fair share of road-use revenue is paid to those that lost or are losing money, due to the scheme; 10) may be used to fund such things as bicycle facilities, bicycle education, bus pullouts, bus stops, sidewalks, and landscaping; 11) would mitigate impacts on low-income users by, for example, giving low-income drivers price reductions, especially for necessary driving; 12) would have ACLU-approved privacy protections that would include a prohibition of government access without court approval and would also include periodic and random software and hardware checks by ACLU-approved experts, to prevent the creation of infrastructure for routine surveillance.

THEREFORE LET IT BE ALSO RESOLVED, that the Sierra Club Toiyabe Chapter/Southern Nevada Group will communicate this position to the Nevada Department of Transportation (vmtfeestudy@vmtfeenv.com), the Governor, the state legislative bodies, our federal representatives for use in climate protection legislation, the media, our local government officials, other interested environmental and/or civic-minded groups, all interested political parties, and our membership through website and newsletter communication, as our limited resources will permit.

Supporting Data

- National Sierra Club policy on transportation, http://sierraclub.org/policy/conservation/trans.aspx, is opposed to all subsidies to road use, saying, "These subsidies should be publicly scrutinized and eliminated".
- According to a State website, http://www.vmtfeenv.com/questions.html, "The current federal and state fuel taxes were last increased in 1992. During the last 18 years, inflation has eroded the purchasing power of fuel taxes by approximately 52%. Whereas, during the same time, construction costs have gone up significantly."
- Also (same website), "Vehicle fuel efficiency increased from an average of 11.8 miles per gallon in 1970 to nearly 20 today. Fuel-efficient vehicles now entering the marketplace will further increase the average miles per gallon. While beneficial from an environmental and energy conservation perspective, and something the state wants to encourage and reward, fuel-efficient vehicles alter the ability to fund the maintenance, preservation and modernization of our roads."
- Also (same website), "If a VMT fee were to become law, the legislature could determine a per-mile rate. The rate could be flat, treating everyone the same, or it could be varied to consider other state policies like environmental issues, time of day and congested roads, type of vehicles, or urban/rural issues. Options might include charging a lower rate-per-mile for vehicles that achieve a certain level of fuel efficiency, for motorists that avoid rush hour zones, or for those making other environmentally-friendly decisions."
- According to Table ES-1 of the *Nevada GHG Inventory and Reference Case Projections*, 1990-2020 (http://www.wrapair.org/ClimateChange/NV_GHG_I&F_Report_WRAP_08-20-07.pdf) the MMT C02e fraction of emissions due to on-road transportation, of the gross total emissions, is 14.4/53.7 = 26.8%.
- The CNRCC Resolution of July 11th, 2009, in support of a "comprehensive road-use fee pricing system", and its "Reference Document" are attached.

Supporting References

- Club's national policy on transportation, http://sierraclub.org/policy/conservation/trans.aspx

- Club's internal site http://clubhouse.sierraclub.org/login.aspx?ReturnUrl=%2fca%2fcnrcc%2findex.asp, then, after typing in the password and getting the home page of the CNRCC, within the "Records and Archives" box, seen on the left side after scrolling down; select the "Resolutions Archives" and then the "July 2009" link to see both the Resolution and the "Reference Document" for all of the background information. (Dr. Stewart will make this final link active.)

- The other references are given above in the "Supporting Data" section

Description of Club Policy (or references)

These are given in the Resolution, Supporting Data, and Supporting References sections.

Counter-Arguments and Response

1.) We can meet our responsibility to oppose subsidized driving by simply being in favor of increasing the gas tax, even though this does subsidize cars that are electric and there is no discussion of this option currently.

2.) Talking about the cost of driving will make us unpopular, or, in more sophisticated language, this will "spend our political capital" that we need for more important battles.

3.) If we send a letter to the Nevada DOT, they will misuse our support to claim we support a flat-fee VMT charge regardless of weight, mileage and so on.

Chapter Commitment Required Resources (time, money, etc)

a. This resolution will be meaningful if the only action is an email to the Nevada DOT. Since all actions can be accomplished by email, the only resource needed is volunteer time. b. The second "Therefore let it also be resolved" lists the actions in the approximate order in which they should be taken. However, the actual order will also depend on volunteer choice.

Next Steps

Upon approval, begin work on a letter to the Nevada DOT.

Campaign Planning Matrix

If we want to educate our members and get them to also send emails of support, this could be done.

From the Sierra Club's publication Grassroots Organizing Training Manual, 1999

Available at http://clubhouse.sierraclub.org/leaders/training/training_manual/index.htm

1. Issue focus

What's the environmental problem you are seeking to address?

This work seeks to address our climate crisis and all the other impacts from automobiles.

How does it relate to the Club's national conservation priorities?

This work advances the Club's national policy goals regarding transportation, land use, and climate change.

2. Campaign goals

Increase community respect by submitting constructive principles into an important, on-going debate. The goal is to make a better environmental outcome more likely. This work will increase our profile and may therefore increase our membership and funding. This will establish working relationships into government that currently do not exist.

Conservation goals

Reduced driving and a more sophisticated understanding of economics and how it drives environmental outcomes.

Organizational goals

A functioning Transportation Committee to respond to all stages of relevant decision making in Nevada.

3. Lay of the Land

Nevada citizens are opposed to a VMT fee. They worry about privacy. They underestimate the danger of climate change. The Nevada DOT website on this issue however shows a rational approach to a serious funding and political problem.

Organizational Strengths and Weaknesses

The chapter has leaders that are open-minded, dedicated, and frankly brilliant. They know the important environmental issues in their area and are in touch with Nevada politics. However, it has no one with a long-standing interest in the economics of transportation.

Allies and Opponents

The Universities should appreciate our help. There will be a considerable amount of interesting mathematical work to achieve all goals. The University may come to see a different aspect of Sierra Club concerns. Elements within the Nevada DOT may appreciate our efforts. Those who benefit from ever-increasing VMTs and sprawl may be opposed to this work. All citizens that understand global warming will want to help us. This may include some religious groups, Unitarian Universalists, for example. Groups that fear government and change may oppose this effort.

4. Strategy

As communications go out, it would be best, if time permits, to schedule meetings and establish as many long-lasting relationships as possible.

Strategic vehicle

Targets

Decision makers (primary targets): DOT

Decision makers (secondary targets): elected officials

Public groups: civic, political (Democrats, Republicans, Greens, Etc) and including our own membership

5. Campaign communication

Message and slogan: start with resolution title “Equitable and Environmentally-Sound Road Use”

Story: start with resolution

Media outlets: use chapter members that have experience with media.

6. Tactics and timeline

The Nevada DOT needs input this year. Start there and work down the list as time permits.

7. Resource management

Budget: none

Donors/fundraising: none needed

Volunteer recruitment and stewardship: Transportation Committee Membership and others as needed

A Plan to Efficiently and Conveniently Unbundle Car Parking Costs

Paper 2010-A-554-AWMA

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ABSTRACT

The *Introduction* shows documented driving reductions due to the pricing of parking. It notes that although the benefits of priced and shared parking are known, such parking has not been widely implemented, due to various concerns. It states that a solution, called "*Intelligent Parking*," will overcome some of these concerns, because it is easy to use and naturally transparent. It asserts that this description will support a "Request for Proposal" (RFP) process. Eight background information items are provided, including how priced parking would help California achieve greenhouse gas reduction targets. A story demonstrates some of the key features of *Intelligent Parking*. Arguments for less parking, shared parking, and priced parking are made. Barriers to progress are identified. The fair pricing of parking is described. New ways to characterize transportation demand management are presented. Seven goals of *Intelligent Parking* are listed. Eleven definitions and concepts, that together define *Intelligent Parking*, are described. This includes a method to compute a baseline price of parking and how to adjust that price instantaneously to keep the vacancy above 15% ("Congestion Pricing"). An implementation strategy is described.

INTRODUCTION:

It has been well established that appropriately priced parking will significantly reduce driving[1]. Most case studies presented in Table 1 are evaluations of the most general type of "car-parking cash-out": *a program that pays employees extra money each time they get to work without driving*. They show that a price differential between using parking and not using parking will significantly reduce driving, even when transit is described as poor. Since driving *must* be reduced[2], the pricing of parking is desirable.

Shared parking is also recognized as desirable because it can sometimes result in less parking being needed.

Although the advantages of pricing and sharing parking have been recognized for many years, these practices are still rare. This paper identifies some of the reasons for this lack of progress. The pricing and sharing method of this paper has a natural transparency and ease of use that would reduce many of the concerns. This paper also suggests that those governments that have the necessary resources can take the lead role in developing and implementing the described systems. These governments will recover their investments, over time.

This paper describes how parking facilities could be tied together and operated in an optimum system, named *Intelligent Parking*. The description of *Intelligent Parking* is sufficient to support a "Request for Proposal" process, leading to full implementation.

There are two distinct parts to *Intelligent Parking*. The first is how to set the price. The second is how to distribute the earnings. Briefly, the earnings go to the individuals in the group for whom the parking is built.

Table 1 Eleven Cases of Pricing Impact on Parking Demand

Location	Number of Workers @ Number of Firms	1995 $'s Per Mo.	Parking Use Decrease
Group A: Areas with poor public transportation			
West Los Angeles	3500 @ 100+	$81	15%
Cornell University, Ithaca, NY	9000 Faculty & Staff	$34	26%
San Fernando Valley, Los Angeles	850 @ 1	$37	30%
Costa Mesa, CA	Not Shown	$37	22%
Average for Group		**$47**	**23%**
Group B: Areas with fair public transportation			
Los Angeles Civic Center	10,000+ @ "Several"	$125	36%
Mid-Wilshire Blvd, Los Angeles	1 "Mid-Size" Firm	$89	38%
Washington DC Suburbs	5,500 @ 3	$68	26%
Downtown Los Angeles	5,000 @ 118	$126	25%
Average for Group		**$102**	**31%**
Group C: Areas with good public transportation			
U. of Washington, Seattle, WA	50,000 employees, students	$18	24%
Downtown Ottawa, Canada	3,500 government staff	$72	18%
Bellevue, WA	430 @ 1	$54	39%*
Average for Group, except Bellevue, WA Case*		**$45**	**21%**
Overall Average, Excluding Bellevue, WA Case*			**25%**

* Bellevue, WA case was not used in the averages because its walk/bike facilities also improved and those improvements could have caused part of the decrease in driving.

PERTINENT BACKGROUND INFORMATION

- Vehicle miles traveled (VMT) are a major cause of global warming and pollution[2, 3].
- California's Metropolitan Planning Organizations (MPOs) will need to adopt strategies that reduce vehicle miles traveled (VMT), in order to meet SB375 GHG reduction targets, to be issued by the California Air Resources Board in late 2010, for years 2020 and 2035[2].
- The appropriate pricing of parking is one of the least costly documented tools to reduce VMT.
- New technologies, such as sensors feeding computer-generated billing, offer the potential to efficiently bill drivers for parking and alert law enforcement of trespassers.
- Reformed parking policies can increase fairness, so that, for example, people who use transit or walk do not have to pay higher prices or suffer reduced wages, due to parking.

- Methods to unbundle parking cost are inefficient unless they support the spontaneous sharing of parking spaces. Shared parking with unbundled cost would ultimately allow cities to require significantly less parking.
- Typical systems of timed parking and metered parking are far from ideal. Parking has no automated record keeping, so it is difficult to know where there is too much or too little.
- Good policies will eventually let cities turn parking minimums into parking maximums.

A GLIMPSE INTO A POSSIBLE FUTURE

Jason is driving to work for the first time in several years. He has decided to save money by carrying home a new 3-D, big-screen computer, which he plans to purchase at a store near his office after work. He wanted to avoid paying delivery charges.

Things have been changing around his office development since they unbundled the cost of parking at the near-by train station. Many people who caught the early trains and lived close to the station stopped driving and parking in the best parking spaces; demand for housing close to the station went up; and wealthy riders, who insisted on driving, did so, confidant that they could always find parking as close to the platform as their schedules required, due to congestion pricing. Who would have guessed how much those people were willing to pay? It was shocking. Parking-lot earnings, paid to round-trip train riders, meant that the net cost to ride the train went significantly down. Ridership and neighborhood vitality both went significantly up. All Jason knew was that the price to park at his office had been going up yearly because of increased land values. His parking-lot earnings from his office had been increasing almost every month, due to the ripple effect of train riders parking off-site at cheaper parking. Some of them were using his office parking.

As he pulls out of his driveway, he tells his GPS navigation unit his work hours (it already knew his office location), the location of the store where he plans to buy the computer, and his estimated arrival and departure times at the store. He tells the GPS unit he wants to park once, park no more than 1 block from the store, walk no more than 1 mile total, and pay no more than an average of $2 per hour to park. He is not surprised to hear the GPS tell him that his request is impossible. He tells the GPS he will pay an average of $3 per hour and learns that the GPS has located parking.

It guides him into a church parking lot. He hopes the church will use his money wisely. The GPS tells him the location of a bus stop he could use to get to work and the bus‟s next arrival time at the stop. With automatic passenger identification and billing, the bus has become easy to use, except that it is often crowded. Jason gets out of the car and walks to work, with no action required regarding the parking.

Three weeks later, when Jason gets his monthly statement for his charges and income for automotive road use, transit use, parking charges, and parking earnings, he finds that the day‟s parking did indeed cost about $30 for the 10 total hours that he parked. He notes that the parking-lot earnings for his office parking averaged about $10 per day that month. He then notices the parking lot earnings from the store, where he spent about $1000 dollars. He sees that the parking-lot earnings percent for the store that month was 1.7%, giving him about $17. So for the day, Jason only spent a net of about $3 on parking. Then he realized that he should have had the computer delivered after all. If he would have bicycled that day, as he usually did, he would have still gotten the $27 earnings from the two parking facilities and he would have paid nothing

for parking. So the choice to drive cost him $30. He remembers that the delivery would have only been $25 dollars. Oh well. He enjoyed his before-work and after-work walks.

THE CASE FOR LESS PARKING

Less parking will support more compact development.[1] This makes walking and biking more enjoyable and less time consuming. There would certainly be less "dead space", which is how parking lots feel to people, whether they arrive by car or not, after they become pedestrians.

Since parking can be expensive, less parking can reduce overhead costs significantly, such as leasing expense and parking-lot maintenance cost. Less overhead means more profit and less expense for everyone. A need for less parking can create redevelopment opportunities at existing developments and reduce project cost at new developments.

At new developments, car-parking costs could prevent a project from getting built.[2]

THE CASE FOR SHARED PARKING

Shared parking for mixed uses means that less parking is needed. For example, shared parking could be used mostly by employees during the day and mostly by residents at night.

Fully shared parking means that very little parking would be off limits to anyone. In a central business district with shared parking, drivers would be more likely to park one time per visit, even when going to several locations. Pedestrian activity adds vitality to any area.

THE CASE FOR APPROPRIATELY-PRICED PARKING

To Reduce Driving Relative to Zero Pricing

Traditional Charging or Paying Cash-out Payments

As shown in the Introduction, this relationship (pricing parking reduces driving) is not new.[3]

Using results like Table 1, at least one study[4] has used an assumption of widespread pricing to show how driving reductions could help meet greenhouse gas (GHG) target reductions. Dr. Silva Send of EPIC http://www.sandiego.edu/epic/ghgpolicy/ assumes that all work locations with 100 employees or more in San Diego County will implement cash-out, to result in 12% less driving to work. Currently, almost all employees in San Diego County "park for free", unless they happen to work in a downtown core area.

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[1] This is especially true of surface parking, which only accommodates 120 cars per acre.

[2] On September 23, 2008, a panel of developers reviewed the Oceanside, Ca. "Coast Highway Vision" http://www.ci.oceanside.ca.us/pdf/chv_finalvisionstrategicplan.pdf. Parts of this plan were described as smart growth.

At the review, developer Tom Wiegel said, "Parking is the number 1 reason to do nothing," where "do nothing" meant "build no project." The other developers at the meeting agreed.

[3] For many years the Victoria Transport Policy Institute (VTPI) has been recognized as a source of reliable information on "Transportation Demand Management", or TDM.

From http://www.vtpi.org/tdm/tdm72.htm#_Price_Parking:

> Even a relatively small parking fee can cause significant travel impacts and provide significant TDM benefits.

"TDM Benefits" refers to the many public and private benefits of having fewer people choosing to drive.

Current, Best-Practice "Unbundling"

The "best-practice" use of the phrase, "unbundled parking cost", is to describe the case where either the cost of parking, for the case of a condominium, or the rent for parking, for the case of an apartment, is separated from either the purchase price and common fees or the rent of the dwelling unit.

This gives the resident families the choice of selecting the number of parking spaces they would like to rent or buy, including the choice of zero. This would tend to reduce the average number of cars owned per dwelling unit and, in this way, would also tend to reduce driving. Its major drawback is that this method does not encourage sharing.

To Increase Fairness and Protect the US Economy

It is stated above that almost all employees in San Diego County "park for free". Of course there is really no such thing as "parking for free". So-called "free parking" always reduces wages or increases costs. At a work site, it reduces everyone"s wage, even those employees that never drive. At an apartment complex, so-called "free parking" increases the rent. Therefore, "free parking" at work or at apartments violates the fundamental rule of the free market, which is that people should pay for what they use and not be forced to pay for what they do not use. Parking should at least be priced to achieve fairness to non-drivers.

The US economy would also benefit. Reductions in driving would lead to reductions in oil imports, which would reduce the US trade deficit.[4]

BARRIERS TO PROGRESS

Given all this, it might seem that the widespread pricing of parking should have happened by now. However there are barriers. In 2007, a majority of the City Council of Cupertino, Ca. indicated that they wanted their City Manger to negotiate reduced parking requirements with any company that would agree to pay sufficient cash-out payments. To this date, no company, including Apple Inc., has expressed an interest. Most companies probably perceive cash-out as expensive. Even if they realize they could get a reduced parking requirement in exchange for paying sufficient cash-out amounts and even if the economics worked in support of this action (quite possible where land is expensive), they want to stay focused on their core business, instead of getting involved in new approaches to parking, real estate, and redevelopment.

On the other hand, simply charging for parking and then giving all the employees a pay raise is probably going to run into opposition from the employees, who will feel that they would be losing a useful benefit.

In addition, neighbors fear the intrusion of parked cars on their streets. Permit parking, which could offer protection, is not always embraced. City Council members know that a sizable fraction of voting citizens believe that there can actually never be too much "free parking",

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[4] From http://en.wikipedia.org/wiki/Balance_of_trade#Warren_Buffett_on_trade_deficits, Warren Buffet wrote in 2006,

> "The U.S. trade deficit is a bigger threat to the domestic economy than either the federal budget deficit or consumer debt and could lead to political turmoil. Right now, the rest of the world owns $3 trillion more of us than we own of them."

Professor Shoup"s famous book[5] notwithstanding. Some Council members probably feel that way themselves.

It doesn"t help that current methods of charging for downtown parking are often very inefficient.[5] For example, downtown Oceanside, California has parking meters that will only accept coins. Besides this, all their on-street, downtown parking is timed, with maximums from 10 minutes to 4 hours. These time limits are enforced by a city employee, who applies chalk from a tire to the street and then records the time. However, by watching the time and moving their car soon enough, drivers can avoid getting a ticket. Of course, they could instead drive to the mall and not have to worry about having coins or elapsed time since parking. It is not surprising that downtown merchants often object to charging for parking.

In summary, those that resist charging for parking, *based on their perceptions*, include

- Companies, *who fear the complexity and expense of paying cash-out payments*;
- Employees, *who fear of losing a current benefit*;
- City leaders, *who fear the political repercussions*;
- Downtown patrons, *who dislike the inconvenience and worry*;
- Downtown business owners, *who fear that it will drive away customers*.

THE COST, VALUE, AND FAIR PRICE OF PARKING

Estimated and Actual Capital Cost

Surface Parking

One acre of surface parking will accommodate 120 cars. Land zoned for mixed use is sometimes expensive. At $1.2 million per acre, the land for a single parking space costs $10,000. Construction cost should be added to this to get the actual, as-built cost of each parking space. Estimated cost can be determined by using appraised land value and construction estimates. For new developments, after the parking is constructed, it is important to note the actual, as-built cost.

Parking-Garage Parking

One acre of parking-garage will accommodate considerably more than 120 cars. The construction cost of the garage and the value of its land can be added together to get the total cost. Dividing that total cost by the number of parking spaces yields the total, as-built cost of each parking space. Adding levels to a parking garage may seem like a way to cut the cost of each parking space, for the case of expensive land. However, there is a limit to the usefulness of this strategy because the taller the parking garage, the more massive the supporting structural members must be on the lower levels, which increases total cost. Parking-garage parking spaces are often said to cost between $20,000 and $40,000. The actual costs should be noted.

Underground Parking

In order to compute an estimate for the cost of a parking space that is under a building, it is necessary to get an estimate of the building cost with and without the underground parking. The difference, divided by the number of parking spaces, yields the cost of each parking space. The

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[5] According to Bern Grush, Chief Scientist of Skymeter Corporation http://www.skymetercorp.com/cms/index.php, often two-thirds of the money collected from parking meters is used for collection and enforcement costs.

cost or value of land plays no role in the cost of this parking. However, it does not follow that this parking is cheap. Underground parking spaces are often said to cost between $60,000 and $90,000 dollars each. Although there will be an "as built" cost of the building with the parking, there will never be an "as built" cost of the building without the parking. However, after the construction is done, the estimate for the cost of the underground parking should be reconsidered and re-estimated if that is needed. The final, best-estimate cost should be noted.

Value

Initially, value and cost are the same. For surface parking and parking-garage parking, the value would initially be the same as the as-built cost. For underground parking, the value would initially be the same as the best-estimate cost. However, over time, the value must be updated. Both construction costs and land-value costs will change. The value assigned to a parking place should always be based on the current conditions.

Fair Pricing

Parking space "values", as described above, must first be converted to a yearly price by using a reasonable conversion factor. This conversion factor could be based on either the "cost of money" or the "earnings potential of money". It is expected that this conversion factor would be 2% to 5% during times of low interest rates and slow growth; but could be over 10% during times of high-interest and high growth. For example, if the surface parking value is $12,000 and it is agreed upon to use 5% as the conversion factor, then each parking spot should generate $600 per year, just to cover capital costs. The amount needed for operations, collection, maintenance, depreciation, and any special applicable tax is then added to the amount that covers capital cost. This sum is the amount that needs to be generated in a year, by the parking space.

The yearly amount of money to cover capital cost needs to be re-calculated every year or so, since both the value and the conversion factor will, in general, change each year. The cost of operations, collection, maintenance, depreciation, and any special applicable tax will also need to be reconsidered.

Once the amount generated per year is known, the base price, per unit year, can be computed by dividing it (the amount generated per year) by the estimated fraction of time that the space will be occupied, over a year. For example, if a parking space needs to generate $900 per year but it will only be occupied 50% of the time, the time rate charge is $1800 per year. This charge rate per year can then be converted to an hourly or even a per-minute rate. The estimated fraction of time that the parking is occupied over a year will need to be reconsidered at least yearly.

NEW DEFINITIONS TO PROMOTE AN OBJECTIVE VIEW OF PRICING

- The "fair price" means the price that accounts for all costs.
- The "baseline amount of driving" means the driving that results from the application of the fair price.
- "Zero transportation demand management" ("zero TDM") is the amount of demand management that results when the fair price is used. It will result in the baseline amount of driving.
- "Negative TDM" refers to the case where the price is set below the fair price. This will cause driving to exceed the baseline amount. Since TDM is commonly thought to be an action that reduces driving, it follows that negative TDM would have the opposite effect.
- "Positive TDM" refers to the case where the price is set above the fair price. This would cause the amount of driving to fall below the baseline amount.

Clearly, so-called "free parking" is an extreme case of negative TDM. The only way to further encourage driving would be to have a system that pays a driver for the time their car is parked.

THE GOALS OF *INTELLIGENT PARKING*

- There is only one agency operating all parking. ("All parking" does not include driveways and garages in single-family homes.) *Intelligent Parking* is designed and installed by regional or state government, using low-bid contractors, with design and start-up costs covered by the overhead portion of collection fees.
- Nearly all parking is shared. Almost always, anyone can park anywhere. Those who want exclusive rights to parking will pay "24/7" (all day, every day).
- Parking is operated so that the potential users of parking will escape the expense of parking by choosing to not use the parking. This characteristic is named "unbundled" because the cost of parking is effectively unbundled from other costs.
- Parking is priced and marketed to eliminate the need to drive around looking for parking.
- Parking at any desired price is made as easy as possible to find and use.
- Records of the use of each parking space are kept, to facilitate decisions to either add or subtract parking spaces.
- The special needs of disabled drivers, the privacy of all drivers, and, if desired, the economic interests of low-income drivers are protected.

DEFINITIONS & CONCEPTS OF *INTELLIGENT PARKING*

Parking Beneficiary Groups

There are at least 7 types of beneficiary groups. Note that in all cases, members of beneficiary groups must be old enough to drive.

1.) People who have already paid for the capital cost of parking. An example of this type of beneficiary group would be the owners of condominiums, where parking has been built and the cost is included in the price of the condominium. Note that although they have technically already paid for the parking, if they borrowed money to pay for some portion of the price, the cost is built into their monthly payment. This illustrates why the value of parking and the cost of borrowing money (rate of return on money) are key input variables to use to compute the appropriate base, hourly charge for parking.

2.) People who are incurring on-going costs of parking. An example of this type of beneficiary group is a set of office workers, where the cost of „their" parking is contained in either the building lease or the cost of the building. Either way, the parking costs are reducing the wages that can be paid to these employees.[6]

3.) People who are purchasing or renting something where the cost of the parking is included in the price. Examples of this beneficiary group are people that rent hotel rooms, rent an apartment, buy items, or dine in establishments that have parking.

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[6] Such parking is often said to be "for the benefit of the employees". Defining this beneficiary group will tend to make this statement true, as opposed to the common situation where the employees benefit only in proportion to their use of the parking.

4.) People who own off-street parking as a business. They could be the individual investors or could be a government or government-formed entity.

5.) People who are said to benefit from parking, even though the money for the parking has been supplied by a source that may have very little relationship to those that are said to benefit. An example of this group would be train riders that make round trips from a station which has parking that is said to be "for riders". Students at a school with parking would be another example.

6.) People who are considered by many to be the logical beneficiaries of on-street parking. Owners of single-family homes are the beneficiaries of the parking that is along the boundaries of their property. The same status is given to residents of multi-family housing.

7.) Governments. Since they build and maintain the streets, they should get a significant benefit from on-street parking.

Unbundled Cost and Spontaneous Sharing

"Unbundled cost" means those who use the parking can see exactly what it costs and those who don"t use the parking will either avoid its cost entirely or will get earnings to make up for the hidden parking cost they had to pay. This conforms to the usual rule of the free market where a person only pays for what they choose to use. Unbundled cost is fair.

"Spontaneous sharing" means that anyone can park anywhere at any time and for any length of time. Proper pricing makes this feasible.

How to Unbundle

The method of unbundling can be simply stated, using the concept of "beneficiary group" as discussed above. First, the fair price for the parking is charged. The resulting earnings[7] amount is given to the members of the beneficiary group in a manner that is fair to each member. Methods are described below.

Why this Supports Sharing

Members of a beneficiary group benefit financially when "their" parking is used. They will appreciate users increasing their earnings. They are also not obligated to park in "their" parking. If there is less-expensive parking within a reasonable distance, they might park there, to save money. This is fine, because all parking is included in the *Intelligent Parking* system.

Computing the Earnings for Individuals

Intelligent Parking must be rigorous in paying out earnings[7]. For a mixed use, the total number of parking spaces must first be allocated to the various beneficiary groups. For example in an office/housing complex, 63.5% of the parking might have been sold with the office. If so, the housing portion must be paying for the other 36.5%. For this case, it would follow that the first step is to allocate 63.5% of the earnings to the workers and 36.5% to the residents.

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[7] The earnings amount is the revenue collected minus the collection cost and any other costs that will have to be paid due to the implementation of *Intelligent Parking*. The costs associated with the parking, paid *before* the implementation of *Intelligent Parking*, should *not* be subtracted from the revenue because they will continue to be paid as they were before the implementation of *Intelligent Parking*. Therefore, these costs will continue to reduce wages and increase the prices of goods and services.

How the monthly earnings are divided up among the members of the beneficiary group depends on the beneficiary group type. For each member, the group‟s total monthly earnings amount is always multiplied by a quantity and divided by the sum (the sum is the denominator) of that quantity, for all members.

For example, for each employee, the multiplier is the number of hours that the employee worked over the month while the denominator is the total number of hours worked by all employees over the month. At a school, for each student, the numerator is the total time spent at the school, over the month, while the denominator is the sum of the same quantity, for all the students.

For a train station with parking being supplied for passengers that ride on round trips of one day or less, the numerator is the passenger‟s monthly hours spent on such round trips, over the month; while the denominator is the total number of hours spent by all passengers on such round trips, over the month. Radio Frequency Identification (RFID) units on passengers could support an automated calculation of monthly charges for fares, as well as monthly hours on round trips.

At a shopping center, the numerator is the sum of the money spent by the shopper, over the month, while the denominator is the total amount of money spent by all shoppers over the month.

At a condominium, the numerator is the number of parking places that were paid for (directly or indirectly) by the resident family and the denominator is the total number of parking places at the condominium project; similarly, for apartment complexes.

Where Earnings Are Low

The goal is that if someone doesn‟t park, they don‟t pay, either directly or indirectly, because the earnings that they get will balance out their losses (like reduced wages, for example). However, charging for parking that few want to use will not sufficiently compensate the people that have been forced, or are being forced, to pay for such parking. The only remedy in this case is to redevelop the parking or lease the parking in some other way, for storage, for example. The earnings from the new use should go to those that are in the beneficiary group that was associated with the low-performing parking.

Why This Method of Unbundling Will Feel Familiar to Leaders

Developers will still be required to provide parking and will still pass this cost on, as has been discussed. There will be no need to force an owner of an exiting office with parking to break his single business into two separate businesses (office and parking).

Parking beneficiaries are identified that conform to traditional ideas about who should benefit from parking.[8]

Unbundling the Cost of On-Street Parking

The revenue from on-street parking in front of businesses will be split evenly between the city and the business‟s parking beneficiaries. All of the earnings from on-street parking in front of apartments or single-family homes will be given to the resident families.[9]

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[8] Showing exactly where parking earnings go will reduce the political difficulties of adopting pay parking in a democracy where the high cost of parking is often hidden and rarely discussed.

[9] Although governments own the streets, often, back in history, developers paid for them and this cost became embedded in property values. Admittedly, how to allocate on-street parking earnings is somewhat arbitrary. With

Special Considerations for Condominiums

Unbundling for a condominium owner means that, although their allocated amount of parking has added to their initial cost, their allocated amount of parking also earns money for them. Unbundling for a condominium could also mean that an owner can choose to have control over a single or several parking places. Such parking spaces could be equipped with a red light and a green light. If the red light is lit, this will mean that the space is not available for parking, except for the person who is controlling the spot. If the green light is lit, it will mean that the space is available to anyone. A space that is being reserved with a red light is charged at the full price to the condominium owner that has control over the space. The owner that controls these spaces can change the state of the parking space (available or not available) by either a phone call, on line, or at any pay station system that might be in use for the system. After condominium owners experience the cost of reserving a space for themselves, they might give up on the idea of having their own, personal, unshared parking space; especially since *Intelligent Parking* will give most owners and their guests all the flexibility they need in terms of parking their cars.

Some people think that condominium parking should be gated, for security reasons. However, parking within parking garages needs to be patrolled at the same frequency level as on-street parking, which is enough to ensure that crime around either type of parking is very rare. Cameras can help make parking garages that are open to the public safe from criminal activity.

Special Considerations for Renters

Unbundling for renters means that, although their allocated amount of parking increases their rent, their allocated amount of parking also earns money for them. Therefore, their traditional rent (includes parking) is effectively reduced by the money earned by those parking spaces allocated to them. Renters will be motivated to either not own a car or to park in a cheaper location. Parking in a cheaper location is not a problem because all parking is part of the *Intelligent Parking* system. Renters will welcome anyone to park in "their" parking, because it will increase their earnings.

Special Considerations for Employers

At first, companies may want the option of offering "free parking" to their employees so as to be able to compete with traditional job sites. This means giving employees that drive every single day an "add-in" amount of pay so that the sum of the add-in and their parking-lot earnings equals their charge, for any given monthly statement. The operator of the parking, which sends out statements, can pay out the "add in" amount, in accordance with the company"s instruction. The company will then be billed for these amounts. There could be no requirement for the company to provide any such "add-in" amount to the employees that don"t drive every day. This would allow the company to treat its every-day drivers better than other employees and so this would be a negative TDM. However, this economic discrimination would be substantially less than the current, status-quo, economic discrimination, where drivers get "free" parking and non-drivers get nothing.

Clusters of Parking

Clusters are a contiguous set of parking spaces that are nearly equal in desirability and thus can be assigned the same price. They should probably consist of from 20 to 40 spaces. For off-street

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congestion pricing and efficient methods, governments may earn significantly more than they are under current practices.

parking, they could be on either side of the access lane to the parking spaces, so that an observer could see the 20 to 40 cars, and get a feel for the vacancy rate. At a train station, clusters will normally be organized so that their parking spaces are approximately an equal distance from the boarding area. On-street clusters would normally conform to our current understanding of what a block is, which is to say from one cross street to the next cross street. The width of the street and the length of the block should be taken into account in defining on-street clusters of parking and in deciding if the parking on either side of the street should or should not be in the same cluster of parking spaces.

Examples of Good and Bad Technology

Parking Meters or Pay Stations

Parking meters are a relic of an earlier period, before computers. Pay stations do not add enough usefulness to merit their inclusion in *Intelligent Parking*, except as a bridge technology. Once good systems are set up, pay stations should cost additional money to use because of their expense. It would be best to devise an implementation strategy that will minimize their use when the system is first put into effect and will take them out of service as soon as possible.

Radio Frequency Identification Backed Up by Video-Based "Car Present" and License Recognition

Government will eventually enter into an RFID (Radio Frequency Identification) age. Organizers of large athletic events already have. Organizers that put on large open-water swims, foot races, and bike rides have routinely used RFID for many years.[10] An RFID vendor in San Diego[11] states that passive RFID units cost less than $5, are reliable, are durable, and they could be used to identify cars as well as people. He also sees no problem in implementing most of the features of *Intelligent Parking*.[12]

Automatic Data Collection and Sending Out Statements

Note that the "back end database" of Dr. Carta‟s written statement[12] refers to the ability to send statements of earnings and billing to students.[13]

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[10] For example, over 20,000 people ran the 2008 Bay-to-Breakers foot race in San Francisco. Each runner had a "chip" in their shoe lace. Each runner‟s start time and finish time were recorded and all results were available as soon as the last runner crossed the finish line.

[11] David R. Carta, PhD, CEO Telaeris Inc., 858-449-3454

[12] Concerning a Final Environmental Impact Report-approved and funded new high school in Carlsbad, California, where the School Board has signed a *Settlement Agreement* to consider "*unbundled parking*", "*cash-out*", and "*pricing*", Dr. Carta wrote, in a January 13th, 2010 written statement to the Board,

> I wanted to send a quick note discussing the technical feasibility of tracking cars into a lot without impacting students or requiring the need for gates. Mike Bullock and I have discussed this project; it can be accomplished straightforwardly by utilizing Radio Frequency Identification and/or Video Cameras integrated with automated license recognition systems. The cars would need to register with the system at the start, but it would be fairly painless for the users after the initial installation. The back end database system can also be implemented both straightforwardly and at a reasonable price.
>
> This is not necessarily a recommendation of the proposal for unbundled parking. Rather it is strictly an unbiased view of the technical feasibility of the proposal to easily and unobtrusively track cars, both registered and unregistered, into a fixed lot.

[13] In an earlier email on this subject, Dr. Carta wrote,

Putting it Together

Certainly, government, and in particular transit agencies and parking agencies, could use RFID-based technology. For example, when a person with an RFID unit which is tied to a billable address or a credit card with an open account gets on a bus or a train, they should not have to pay at that time, visit a pay station, or "swipe a card" that has a positive balance. Utility customers that pay their bills are not required to pre-pay. The same courtesy should be extended to transit riders, people that drive on roads, people that get parking-lot earnings, and people that park cars. There should be one monthly bill or statement, for all four activities.

Global Positioning Systems GPS

An alternative model is to have GPS systems in cars that would detect the car"s parking location, that location"s current charge rate, and would perform all of the charging functions in the car. The only information the parking-lot-enforcement system would need is whether or not a car being parked is owned by a bill-paying owner. The car owner"s responsibility would be to pay the bills indicated by the box in the car. The box would need to process a signal that a bill had been paid. It would also need to process pricing signals.

Not Picking Winners

The purpose of this report is to describe what an ideal system would do, *not* how it is done. How a proposed system works is left to the systems, software, and hardware engineers that work together to submit a proposal based on this description of what an ideal system does.

Privacy

Privacy means that no one can see where someone has parked, without a search warrant. Also, the level of the detail of information that appears on a bill is selected by the customer.[14]

Ease of Use for Drivers

For credit-worthy drivers that have followed the rules of the system, pay parking will not require any actions other than parking. Paying for all parking fees over a month is then done in response to a monthly billing statement. Parking will feel to the consumer like a service provided by a municipality, such as water, energy, or garbage. One important difference is that users belonging to a "beneficiary group" will get an earnings amount in their monthly statement. Those that earn more than what they are charged will receive a check for the difference. This ease of use will make all parking less stressful.

Base Price

Off-Street

This is not too tough - we probably would integrate with a service that already sends physical mail from an electronic submission instead of re-inventing this wheel.

[14] License plates that have no RFID tags fail to use the best technology to accomplish the primary purpose of license plates, which is to identify and help intercept cars used in a crime. Identifying cars is a legitimate government goal. Protecting privacy is also a legitimate goal. Both goals can be realized with good laws, good enforcement, and good systems engineering.

Off-street parking is priced so that even if demand does not threaten to fill the parking beyond 85%, the money generated will at least equate to an agreed-upon return on the parking value and pay all yearly costs. Equation 1 shows the calculation of the hourly rate.

$$r_{BaselineHourly} = \frac{(r_{Investment} \times v_{Parking}) + c_{YOPD}}{(n_{HoursPerYear} \times f_{TO})} \quad \textbf{(Eq. 1)}$$

where:

$r_{BaselineHourly}$	=	the computed baseline hourly rate to park
$r_{Investment}$	=	yearly return on investment, such as .06
$v_{Parking}$	=	value of a parking space, such as (parking garage) $40,000
c_{YOPD}	=	yearly operations[15] plus depreciation, per space, such as $100
$n_{HoursPerYear}$	=	number of hours per year, 24 x 365 = 8760 Hours per Year
f_{TO}	=	fraction of time occupied, such as 0.55.

For the example values given, the base hourly rate of parking, to cover the cost of the investment, operations[15], and depreciation is $0.519 per hour. This could be rounded up to $0.52 per hour. This price could also be increased to result in positive TDM, to reduce driving more than the fair-price, zero-TDM amount.

On-Street

If on-street parking is located within walking distance (one-quarter mile) of off-street parking, its base price is set equal to the closest off-street parking"s base price. Otherwise, it is set to some agreed-upon value, like fifty cents per hour. However, on-street parking has a special meaning for downtown merchants and for neighborhoods, two powerful political forces in any city. Merchants that have few cars parking on their street, even though it is permitted, are probably failing in their businesses. They would like free parking to help draw visitors to their store front. Neighborhoods that are not impacted by parking would probably prefer no pricing. For these reasons, for any on-street parking cluster, no price is charged until the cluster occupancy reaches 50%. (Time of day is irrelevant.)

Congestion Pricing

The time-rate price of parking is dynamically set on each cluster of parking, to prevent the occupancy rate from exceeding 85% (to reduce the need to drive around looking for parking). An 85% occupancy rate (15% vacancy) results in just over one vacant parking space per city block[5]. If the vacancy rate is above 30%, the price is left at the baseline hourly rate. If vacancies fall below 30%, the price can be calculated in a stair-step method, such as shown in Table 2.

Equation 2 is an alternative method.

In either case, the total charge is time parked, multiplied by the time-averaged, time-rate price. The base multiplier would be adjusted to be just large enough to keep the vacancy rate from falling below a desired level, such as 15%, so it is always easy to find parking.

[15] This includes money for policing, cleaning, maintenance, any applicable parking tax, and all collection costs. Collection costs will need to include an amount to recover the development and installation costs of *Intelligent Parking*.

Table 2 Hourly Rates for 2 Base Multipliers and a Baseline Hourly Rate of $0.52

Vacancy Rate	Base Multiplier = 2			Base Multiplier = 2.5		
	Multiplication		Hourly Rate	Multiplication		Hourly Rate
	Formula	Value		Formula	Value	
Above 30%	2^0	1	$0.52	2.5^0	1	$0.52
25% to 30%	2^1	2	$1.04	2.5^1	2.5	$1.30
20% to 25%	2^2	4	$2.08	2.5^2	6.25	$3.25
15% to 20%	2^3	8	$4.16	2.5^3	15.625	$8.13
10% to 15%	2^4	16	$8.32	2.5^4	39.0625	$20.31
5% to 10%	2^5	32	$16.64	2.5^5	97.6563	$50.78
Below 5%	2^6	64	$33.28	2.5^6	244.1406	$126.95

$$r_{HourlyRate} = r_{BaselineHourly} \times \left(B^{(30-V)/5}\right), for\ V < 30;\ r_{BaslineHourly}, otherwise \quad \textbf{(Eq. 2)}$$

where:

$r_{HourlyRate}$ = the congestion-priced hourly rate to park

$r_{BaselineHourly}$ = the baseline hourly rate to park, such as $0.52 per hour (taken from from Eq. 1.

B = the base of the multiplier being computed, such as 2.50

V = the vacancy rate percent, such as 17.5, for 7 vacancies in a cluster of 40 spaces, 100*(7/40) = 17.5

For the example values given, the hourly rate of parking would be $9.88 per hour.

Pricing Predictions and Notifications

Drivers will develop strategies for their routine trips. The computer system that keeps records of parking use will also provide help for users. The *Intelligent Parking* website will direct a user to an appropriate cluster of parking if the user provides the destination location or locations, the time and date, and the hourly rate they wish to pay. If the walk is going to be long, the website could suggest using transit to get from the cheaply-priced parking to the destination. In such cases, the website may also suggest using transit for the entire trip.

Another user option is to specify the time, location, and the distance the user is willing to walk. In this case, the computer would give the cheapest cluster of parking available at the specified walk distance. The price prediction would be provided.

All price predictions would also have a probability of correctness associated with them. If a user can show that a computer has predicted a much lower price than what actually occurred, with a sufficiently high probability, it would be reasonable to charge the user the predicted price rather than the actual price.

Websites could routinely inform viewers when occupancy rates are expected to be unusually high, due to a special event (for example, a sporting event). The parking system website will always give current and predicted hourly rates for all locations. The hourly rates of parking will also be available at a phone number and possibly at pay stations. The base-price hourly rate, for any parking cluster, would be stable and could therefore be shown on signs. Parking garage entrances could have large video screens showing both predicted and existing price. Users will also learn to look at parking and judge whether congestion pricing applies, or could apply, while

their car is parked. It would not be long before these capabilities are added into GPS navigation systems.

Prepaid RFID

To be inclusive, pay stations or convenience stores will offer a pre-paid RFID that can be set on the dashboard of a car. This will support drivers with poor credit or drivers who have not obtained the necessary equipment to support the normal, trouble-free methods. This will also work for drivers that do not trust the system to protect their privacy for a certain trip (by removing or disabling the permanent RFID) or for all trips. No billing would occur.

Enforcement

The system would notify the appropriate law enforcement agency if an unauthorized car was parked. Authorized cars would need either a pre-paid RFID or equipment indicating that their owners had *Intelligent Parking* accounts and were sufficiently paid up on their bills.

IMPLEMENTATION

This description of *Intelligent Parking* will help to implement efficient parking systems. Parking at train stations, schools, and government buildings could introduce many of these concepts. This description of *Intelligent Parking* is sufficient to support a "Request for Proposal" process, which could lead to full implementation. Widespread installation should be done by a government agency, to minimize actions required on the part of the private sector. Laws would simply require the cooperation of all private-sector and government entities.

SUMMARY

A parking plan, *Intelligent Parking* has been described.

1. Technology will make it easy to use for most drivers.
2. Its parking is almost always shared, to support mixed uses.
3. It unbundles cost by charging and having earnings go to the parking beneficiaries.
4. Traditional groups, such as single-family home owners, employees, tenants, train riders, and students benefit from parking. The benefit is equal for drivers and non-drivers.
5. Baseline prices are computed primarily from the value of the parking and an agreed-upon rate of return. On-street parking is free until it is half full, at which time its base price often matches that of the closest off-street parking.
6. For all parking, price is dynamically increased to guarantee availability. Earnings are therefore only limited by what people are willing to pay.
7. Technology helps drivers find parking and decide if they want to drive or use transit.
8. Prepaid RFIDs provide service to those who have poor credit or don"t want to be billed.
9. Disabled and perhaps low-income drivers will have accounts that allow them to park at reduced prices and perhaps avoid congestion pricing. Specially designated spots might also be required for disabled drivers.
10. The system will provide reports showing where additional parking would be a good investment and where it would be wise to convert existing parking to some other use.

11. Privacy will be protected. Law enforcement officials would need a search warrant to see where someone"s car has been parked. The level of detail on billing would be selected by the car"s owner.

12. Implementations could begin in carefully selected locations and expand.

Global warming, air pollution, trade deficits, and fairness are some of the significant reasons that governments have a responsibility to implement *Intelligent Parking*.

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A&WMA, Parking, Unbundled, Shared, TDM, cash-out, pricing, beneficiary, greenhouse gas, GHG, GPS, RFID

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February 13, 2012

Mr. Hasan Ikhrata
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818 West Seventh Street, 12th Floor
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Dear Hasan,

On behalf of the South Bay Cities Council of Governments (SBCCOG), I would like to congratulate you and your staff for the excellent work preparing the complex 2012 RTP including the region's initial SCS, associated Appendices and Program Environmental Impact Report (PEIR). Thank you for this opportunity to comment on the draft documents.

The SBCCOG lacks the resources to comprehensively review and comment on the RTP and PEIR. We have reviewed the comments being submitted by the Orange County and Gateway Cities Councils of Governments and are in general support them.

In particular, we want to reinforce the following:

- Gateway COG's question regarding the Financial Plan - Table 3.4.1 which presents Core and Reasonably Available local sources of revenue and includes development mitigation fees for Orange and Riverside Counties. Does the revenue estimate include any assumption of funds from the potential adoption of a development fee in Los Angeles County?
- OCCOG's request regarding the Mitigation Monitoring Program mentioned in the PEIR to clarify what obligations local agencies may have regarding SCAG's mitigation monitoring efforts.
- OCCOG's request that SCAG provide the mitigation measures as a "toolbox" to local agencies for use within their discretion if and when appropriate for projects within their respective jurisdictions.
- OCCOG's request that SCAG adopt growth forecast numbers at the county level rather than lower geographical levels such as city or census tract.

Our focus was on the SCS portion of the RTP. Our comments address strategies included in Tables 4.3 and 4.4 and we request the following changes:

Land Use Actions and Strategies, Table 4.3

Add the following new options:
Update local zoning codes, General Plans and other regulatory policies and pursue opportunities to develop appropriately scaled mixed office-retail commercial centers within walking distance of residential neighborhoods
Responsible parties: Local jurisdictions

Update local zoning codes, General Plan and other regulatory policies to accelerate adoption of land use strategies that will over time convert auto oriented intersections of major arterials into mixed office-retail commercial centers.
Responsible parties: Local jurisdictions

Expand Compass Blueprint priorities to support member cities and sub-regional COGs adopting neighborhood oriented development as a land use strategy and range-limited electric vehicles as a mobility strategy.
Responsible parties: Local jurisdictions, COGs, SCAG

Amend the following existing options (as indicated in italics):
Update local zoning codes, General Plans, and other regulatory policies to accelerate adoption of land use strategies included in the RTP/SCS Alternative, *or that have been formally adopted by any sub-regional COG that is consistent with regional goals.*
Responsible parties: Local jurisdictions

Pursue joint development opportunities to encourage the development of housing and mixed-use projects around existing and planned rail stations, along high-frequency bus corridors, in transit oriented development *and in neighborhood oriented development.*
Responsible parties: Local jurisdictions, CTCs

Support projects, programs, policies and regulations to protect resource areas, such as natural habitats and farmland from future development; and *support project, programs, policies, and regulations that lead to development of "complete communities" on greenfields. (*A diversity of housing choices and educational opportunities; jobs for a variety of skills and education; recreation and culture; a full-range of shopping, entertainment and services; all within a relatively short distance)
Responsible parties: Local jurisdictions, SCAG

Transportation Network Actions and Strategies, Table 4.4
Add the following new options:
Promote the use of range-limited battery electric vehicles through land use policies that bring origins and destinations closer together such as the neighborhood oriented development strategy; and through transportation infrastructure such as complete streets (designed to accommodate slow speed electric vehicles) and EVSE deployment in homes and in public parking lots.
Responsible parties: Local jurisdictions, COGs, SCAG, and CTCs

Encourage the development of new, short haul, cost-effective transit services such as DASH and demand responsive (DRT) in order to both serve and encourage development of compact neighborhood centers.
Responsible parties: CTCs and municipal transit operators

Ensure every sub-region has multiple access points to the regional high speed transit network with at least one of them being a candidate for development into a multi-mobility hub (MMH).
Responsible parties: CTCs and local jurisdictions

Lobby the state to provide funding for complete streets planning and implementation in support of reaching SB 375 goals.
Responsible parties: SCAG, State

Amend the following existing options (as indicated in italics):
Explore and implement innovative strategies and projects that enhance mobility and air quality, including those that increase the walkability of communities, accessibility to transit via non-auto modes *and ZEV modes, and accessibility via ZEV modes.*
Responsible parties: Local jurisdictions, COGs, SCAG, and CTCs

Collaborate with local jurisdictions to plan and develop residential and employment development around current and planned transit stations *and neighborhood commercial centers.*
Responsible parties: Local jurisdictions, SCAG

Collaborate with local jurisdictions to provide a network of local community circulators that serve new TOD, HQTAs, and *neighborhood commercial centers* providing an incentive for residents and employees to make trips on transit *and/or stay in the local communities.*
Responsible parties: Local jurisdictions, SCAG, and CTCs

Develop first mile/last mile strategies on a local level to provide an incentive for making trips by transit, bicycling, walking or *driving neighborhood electric vehicles or other ZEV options.*
Responsible parties: Local jurisdictions, COGs, SCAG, and CTCs

Encourage the development of a Complete Streets policy, *explicitly accommodating slow speed and other ZEVs.*
Responsible parties: Local jurisdictions, COGs, SCAG, and CTCs

Develop infrastructure plans and educational programs to promote active transportation *and ZEV* options.
Responsible parties: Local jurisdictions, COGs, SCAG, and CTCs

Emphasize active transportation projects *and slow speed ZEV modes* as part of complying with the Complete Streets Act
Responsible parties: Local jurisdictions, COGs, SCAG, and CTCs

Collaborate with local jurisdictions *and sub-regional COGs* to develop regional policies regarding TSM
Responsible parties: Local jurisdictions, COGs, SCAG,

Collaborate with local jurisdictions *and sub-regional COGs* to update the ITS inventory.
Responsible parties: Local jurisdictions, COGs, SCAG

Collaborate with the State and Federal Government *and sub-regional COGs* to examine potential innovative TDM strategies
Responsible parties: SCAG, State and COGs

In addition, the 2012 RTP should include a preliminary cost estimate for implementing the Regional PEV Readiness Plan and the sub-regional strategies to develop infrastructure and supportive land uses mentioned in Table 4.7. The completed PEV Readiness Plan will provide such an estimate however that will occur after RTP adoption so that an estimate as place holder should be added in this plan.

Once again, thank you for the opportunity to respond.

Sincerely,

Ellen Perkins, SBCCOG Chair
Councilmember, City of Palos Verdes Estates

cc: Pam O'Connor, SCAG President

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
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EMAILED: February 21, 2012

February 21, 2012

Mr. Jacob Lieb
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Comments on the Draft 2012-2035 Regional Transportation Plan, Sustainable Communities Strategy, and Draft Program Environmental Impact Report

The South Coast Air Quality Management (AQMD) staff appreciates the opportunity to comment on the Draft Program Environmental Impact Report (Draft PEIR) and the Draft 2012-2035 Regional Transportation Plan and Sustainable Communities Strategy (Draft RTP/SCS). AQMD staff appreciates the inclusion of strategies in the Draft RTP that will reduce vehicle miles travelled (VMT). These strategies are a fundamental aspect of the plan and are needed to achieve transportation conformity requirements under the federal Clean Air Act. However, additional pollutant reductions beyond transportation conformity requirements must be found for the South Coast Air Basin (SCAB) to achieve National Ambient Air Quality Standards (NAAQS). Pursuant to the Clean Air Act, if the SCAB does not meet NAAQS on time, the region could lose federal transportation funding. This loss of funding could hinder achieving the goals of the Draft RTP/SCS. In addition, new tools and funding sources for SCS implementation will be required to overcome the additional hurdles that local jurisdictions face with the recent loss of redevelopment agencies. Therefore, we look forward to SCAG's continued significant involvement in the development of the 2012 Air Quality Management Plan in order to ensure that the transportation system contributes its fair share of pollutant reductions in our basin.

Transportation and Goods Movement Strategy

The AQMD staff appreciates that the lead agency has worked with our staff and the California Air Resources Board staff to develop an aggressive plan containing transportation policies that promote zero emission technologies. These policies and projects will provide regional and local air quality benefits. For example, as a part of the plan's goods movement strategy, the lead agency has included full deployment of zero emission transport for all container drayage between the ports and near-dock rail yards by 2020 (Goods Movement Appendix to RTP, page 34). Further, the Draft RTP has included zero emission freight corridors that could yield significant regional emission reductions and reduce near roadway emissions exposure in a timely

manner. AQMD staff looks forward to our joint efforts with SCAG staff on future demonstration and deployment of these important technologies, including a zero emission on-road demonstration project within the next one to three years. Further information in the Final EIR and RTP about the following strategies would be helpful to provide clarity in how these aspects of the plan impact air quality.

- Although zero emission technologies are described in the Draft RTP, it is not clear to what extent the emission reductions from these projects have been included in the constrained plan (e.g., RTP Table 2.11). The Final RTP/SCS and PEIR should include specific details about how much of the emission reduction benefits of the I-710 corridor project, East-West freight corridor project, and zero emission deployment from the ports to near dock rail yards are included in the 2035 emission calculations.

- SCAG should work with local transportation agencies, the ports, and other private and public stakeholders to identify funding in the constrained plan for zero-emission technology demonstrations (or initial deployments) in the port to near dock rail yard corridor. These should involve multiple technologies, including technologies with potential for regional application, and should involve major truck manufacturers. Such demonstrations can and should be initiated by no later than 2013 and should include testing and evaluation of wayside power (e.g., catenary trucks), battery electric trucks, and fuel cell trucks. AQMD will partner in supporting this measure (e.g., funding, seeking funding partners, and developing other support).

- The Draft RTP/SCS includes several key port-related projects such as the Southern California International Gateway (SCIG) and Modernization of the Intermodal Container Transfer Facility (ICTF) that are considered critical to the regional goods movement system and will have serious air quality implications for the basin and substantial impact on the heavy duty truck distribution in the region. Specifically, the Draft RTP/SCS indicates these projects are needed to address an overall growth volume at the San Pedro Bay Ports of up to 43 million containers by 2035 - more than tripling current levels. In addition, this significant growth in heavy duty truck traffic calls for the need to develop zero and near-zero emission goods movement technologies.

Freeway Impacts to Sensitive Receptors

The Draft PEIR indicates that the proposed project will place an additional 200,000 people within 500 feet of freeways in the SCAG Region. Areas within 500 feet of a freeway typically experience significantly elevated levels of mobile source pollution compared to areas outside this buffer zone. The AQMD staff recognizes that the placement of concentrated populations next to freeways is in response to the SCS policies that encourage growth adjacent to transit and other transportation facilities, however, it is not clear how SCAG determines that the potential impacts to future residents in these areas are insignificant.

Specifically, page 3.2-31 in the Draft RTP/SCS PEIR states that Mitigation Measure-AQ19 (MM-AQ19) will reduce this impact to a less than significant level. MM-AQ19 describes requirements that lead agencies should implement for conducting Health Risk Assessments, maintaining buffer zones from some pollution sources, and installing particulate filters in building ventilation systems to reduce particulate exposure. However, it is not clear how this

mitigation measure will be implemented. Because the Draft RTP includes substantial growth in population in these freeway proximate areas, SCAG should commit to researching the effectiveness of mitigation to reduce pollutant exposures in these areas and working with other state and local agencies on further policy development to reduce near freeway exposure.

Implementation Monitoring and Tracking

SCS Performance Measures

One of the primary goals of the SCS is to decrease per-capita greenhouse gas emissions from passenger vehicles and light duty trucks. These greenhouse gas reductions will have the co-benefit of reducing emissions of criteria pollutants. Because the SCS is an integral part of the RTP and therefore the AQMP, timely implementation of the SCS goals is relied upon to meet air quality standards. As a result, the AQMD staff requests that the plan be revised to include a periodic tracking and reporting element for the SCS that would occur more frequently than the regular RTP cycle. Specifically, staff requests that the tracking process not be limited to policy review of the SCS, but also include identification of revenue sources (see Funding comments below), and other metrics deemed appropriate by SCAG. These reported metrics should be made available to the public to ensure that our basin remains on track to meet AQMP goals.

Funding of the RTP

As required by federal regulation, SCAG has included a financial plan to demonstrate how the transportation plan can be implemented [23 C.F.R. §450.322(f)(10)]. The plan includes financial resources that are "reasonably expected to be available" to carry out the plan [§450.322(f)(10)(ii)]. However, about $219.5 billion out of a total of $524.7 billion in costs of the proposed 2012 RTP are expected to be funded by "new" sources of funds that are not currently available ("core" funds). This means that over 40% of the total cost of the plan is dependent on future new funding. Federal regulation provides that in the case of new funding sources, "strategies for ensuring their availability shall be included." [450.322(f)(10)(iii)]. A review of the "new" funding sources indicates that most would require further action by the state legislature, Congress, and/or a vote of the people. Moreover, federal regulations require the financial plan to "address the specific financial strategies required to ensure the implementation of TCMs in the applicable SIP." [§450.322(f)(1)(vi)]. We are concerned that these strategies are not sufficiently identified and assured of implementation.

State law also requires the RTP to include a financial element, which must summarize "the cost of plan implementation constrained by a realistic projection of available revenues." [Government Code §65080(b)(4)(A)]. The financial element may recommend the development of specified new sources of revenue. However, in describing the requirement for "financial constraint," the treatise *California Transportation Law* (Solano Press, 2000; March, Jeremy) provides at page 139 that the plan should:

- "Explain the consequences of living with existing revenues only, including what parts of the plan would not be achievable (without new revenues).

- Indicate alternative policy directions if proposed revenues are not realized, and the time frame when the change in policy direction should be undertaken if proposed revenues are not forthcoming."

The RTP does not currently present sufficient information to demonstrate why the "new" funding sources must actually become available. Moreover, it does not identify which measures or projects are to be funded by "core" revenues (those already available or committed) and which are to be funded by "new" sources. In order for the public and policymakers to have a clear understanding of why the "new" funding sources must become available, and thus to implement the needed steps for this to occur, the RTP should clearly identify the consequences if the plan were forced to depend only on "core" funding.

Transportation Control Measures

AQMD staff initially requested that SCAG prepare an analysis in the Final RTP/SCS of what transportation control measures would be needed to offset growth in emissions due to growth in VMT, if the decision in *AIR v. EPA* were to become final [632 F.3d 584 (9th Cir. 2011)]. The conformity section of the Draft RTP acknowledged in a footnote that the RTP would not be sufficient, but did not explain what would be required. On January 27, 2012, the Ninth Circuit Court of Appeals denied EPA's petition for rehearing in that case. As a result, AQMD staff is now requesting a scenario analysis that includes the incremental emission impact in the SCAB due to VMT growth. This scenario analysis would use the difference between 2035 VMT and the VMT from years 1997, 2008, and 2012, and applicable vehicle emission rates in 2035. The Draft EIR compares today's emissions with future emissions, and compares emissions with the project compared to emissions without the project. We request that SCAG analyze the emissions impact of growth in VMT. For illustration purposes, staff reiterates its request that the RTP also include an analysis of what additional Transportation Control Measures (TCMs) it would take to comply with this decision.

Public Availability of SCS Details

In order to provide certainty and transparency to the public, the details regarding the planning assumptions in the RTP/SCS (such as housing density, distribution of employment, etc.) should be made publicly available upon approval of the Final RTP/SCS. Because the RTP/SCS will be used to determine whether future projects can utilize new CEQA streamlining procedures, stakeholders need to have a readily available data source that describes what planning assumptions are included in the SCS. This final SCS planning scenario at the local level should be published and available to the public, and any future changes/amendments should also be made available for review so that all stakeholders can evaluate the consistency of future projects with the SCS.

Economic Analysis

The AQMD staff appreciates SCAG's participation at the February 1, 2012 study session on the economic impact of the Draft RTP/SCS. At that meeting SCAG acknowledged and clarified the limitations of the Draft RTP/SCS economic analysis released in December of 2011 and presented the results from additional analyses. Based on our understanding of the economic analysis from

that meeting, we request that SCAG provide further clarification on its methods in assessing RTP employment impacts. This information is crucial because the AQMP heavily relies upon employment figures generated by the RTP for emission projections. For example, the Draft RTP assumes that employment will be the same with and without the plan (Table 3.10-10 of the Draft EIR). Any additional analysis conducted after the draft document on job impacts should be released prior to approving the Final RTP and should provide more detailed description on the analysis assumptions and proper interpretation of the results. Also, the AQMD staff recommends inclusion of the financing component of operation and maintenance expenditures in the job impact assessment of the RTP/SCS.

Contact Information

The inclusion of these items coupled with a continued emphasis on zero and near zero emission transportation technologies in the region could formulate a plan that provides a path for sustainable communities, achieving regional air quality goals, and reducing public health impacts from future transportation infrastructure. The AQMD staff looks forward to continuing to work with SCAG in pursuit of air quality standards in the region and improve air quality for all residents in the South Coast Air Basin. Please contact me at (909) 396-3186 should you have any questions regarding these comments.

Sincerely,

Elaine Chang, DrPH
Deputy Executive Officer
Planning, Rule Development & Area Sources

PG:BB:IM:SL:DG
ALL121229-01
Control Number

February 14, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

RE: Comments on the Drafts of the 2012 Regional Transportation Plan & Sustainable Communities Strategy (RTP/SCS) and the Program Environmental Impact Report (PEIR)

Dear Mr. Ikhrata:

For the past three years, business and industry representatives from throughout Southern California have participated in the Southern California Association of Government's extensive process used to develop the region's Draft 2012 Regional Transportation Plan (RTP), which includes an inaugural Sustainable Communities Strategy (SCS). Our interest in this process has been particularly keen given both the significant economic challenges currently facing our region's economy and the fact that the inaugural SCS could – if not considered from many viewpoints – have unforeseen negative consequences.

In light of our ongoing participation and understanding, we appreciate the tremendous effort that SCAG's staff and leaders have put into the process that led to the Draft 2012 RTP/SCS & PEIR. The development of this RTP/SCS followed an inclusive approach with SCAG holding hundreds of meetings with SCAG's public and private stakeholders. We also appreciate the extensive economic analysis that SCAG has performed on the Draft RTP/SCS in order to provide all stakeholders and SCAG's Regional Councilmembers with an understanding of the financial impacts of the plan.

As representatives of Southern California's broader business community, we recognize the crucial roles that transportation and infrastructure have in maintaining our region's economy and quality of life. Accordingly, through this letter, we join together to provide SCAG with general comments regarding remaining significant concerns about the contents of both (i) the Draft 2012 RTP/SCS, and (ii) the Draft Program Environmental Impact Report (PEIR).

From the beginning, representatives of businesses and industries have agreed upon the qualities of a good RTP/SCS. Those qualities can be summarized as follows. The RTP/SCS should:

- Foster economic growth and job creation in a balanced and accountable manner and in recognition of foreseeable regional population growth;
- Utilize all revenue sources very efficiently, and utilize new revenue sources only if they are economically sound and equitable;
- Honor the prerogatives that local governments – as the level of government with the greatest understanding of and sensitivity to community interests and context – should continue to enjoy concerning land use and community development;
- Comply with the California Environmental Quality Act (CEQA) and federal environmental laws and regulations (e.g., federal Clean Air Act conformity); and
- Allow for expeditious review and approval of projects that are consistent with a sound and reasonably accommodating RTP/SCS.

Despite our overall appreciation for the work put in by SCAG's staff, there are important aspects of the Draft 2012 RTP/SCS and Draft PEIR which, we believe, require much more consideration and correction or clarification before SCAG approves the 2012 RTP/SCS and the Final PEIR. Corrections or at least substantial clarifications – are needed in order to bring the Final 2012 RTP/SCS and PEIR back into line with the principles set forth above.

Stated here in the most general terms, SCAG's staff and ultimately its Regional Council should address the following concerns and correct the final 2012 RTP/SCS and the accompanying PEIR.

1) The Draft PEIR is unduly prescriptive and imposes mitigation requirements that are not suitable for mandatory consideration at the individual project level. Simply put, many of the prescribed mitigation measures address matters at too small a scale for a regional transportation and land use strategy. The Draft PEIR lists more than 500 discrete mitigation measures that cover a broad range of topics; and it asserts that SCAG has preliminarily found that all such mitigation measures are feasible and "can and should" apply to all future projects in the region. Many of these mitigation measures were drawn from "model policies" that were drafted in 2009 and were intended for consideration only at a jurisdictional planning level – not an individual project level. Many of the mitigation measures listed are not reasonably considerable let alone feasible generally at a project level throughout Southern California.

2) Many of the mitigation measures set forth in the Draft PEIR have no relationship to the RTP/SCS or its impacts. For example, the Draft PEIR invokes mitigation measures ranging from low-flow toilets to green roofs. Such mitigation measures have nothing to do with the regional dispersion of future development and redevelopment or its indirect effects on emissions from vehicular use (which is the proper focus of the RTP/SCS).

3) The Draft PEIR attempts to etch in stone the project-level consideration and potential incorporation of mitigation measures that conflict with, or inevitably will conflict with, highly-evolved and dynamic subject-matter regulations. For example, the Draft PEIR would prescribe mitigation requirements concerning matters ranging from storm water management to energy efficiency standards to fire protection to landscaping to water supply analyses all matters that are highly regulated and subject to dynamic standards that either are now or are bound to be at odds with the PEIR.

In light of the above-stated problems with the Draft PEIR, we believe that it needs to be substantially rewritten to clarify what we understand was intended by SCAG's staff and leaders – that the PEIR should not subtract from or interfere with local governments' reasonable prerogatives under CEQA. As the Draft PEIR now stands, the environmental analysis and suggested mitigation requirements would likely lead to more CEQA litigation rather than to CEQA streamlining as California Senate Bill 375 (2008) promised.

Turning to the substance of the RTP/SCS as a policy matter, we have the following additional general comments:

4) The RTP/SCS is undergirded by analysis which shows the dispersion of populations and employment shown and categorized at the level of sub-jurisdictional "transportation analysis zones" (TAZs). The TAZ level of detail is, we believe, too small and precise a level at which to prescribe the spatial dispersion of development and redevelopment, particularly in light of the regional nature of the RTP/SCS. Page 148 of the SCS should therefore be clarified to indicate that questions of consistency with the RTP/SCS should be substantively measured and determined at a jurisdictional or sub-regional level, not at a TAZ level.

5) The RTP/SCS should aim to reflect and accommodate both the short-term future of the SCAG region and its long-term future. For example, the RTP should better anticipate the need for and reasonable likelihood of a gradual transition in the region's overall vehicle fleet (e.g., gradually towards alternative fuels) and the ongoing need for enhancements to vehicular mobility even as more mass transit comes to fruition.

6) More detail, clarity and explanation are needed concerning the new revenue sources that are outlined within the plan document. New revenues account for $219.5 billion out of the total $524.7 billion needed for the transportation plan, yet there is very little detail explaining these significant new fees and impositions (see page 95 & 96 of the Draft RTP/SCS).
To fully and fairly evaluate these proposals, the business community and all stakeholders need the benefit of additional detail and explanation. In particular, we need clarity and assurance regarding the following:

   a. The new revenue concepts assumed within the RTP/SCS must be fair, equitable and economically sound, meaning that an appropriate nexus exists to assure that new revenues are drawn fairly and proportionally from those who benefit from the related transportation infrastructure or improvement.

   b. The new revenue sources within the RTP must be effectively allocated, meaning the plan should clearly articulate how resources will be efficiently and responsibly allocated so that there is the best possible return on investment for the expenditure of these new transportation funds. SCAG needs to show that it will be a responsible, accountable and innovative steward of the new revenues that it is proposing.

7) New revenues from fees on businesses operating in the SCAG region – and particularly the "Freight Fee/National Freight Program" listed on page 96 of the Draft RTP – need to be developed and implemented at the federal level, not the local and regional level. Unless such fees are imposed on a national scale, the region's competiveness will be compromised.

8) In the RTP, SCAG should identify and highlight the significant economic contributions of the goods movement sector to the regional and state economy. Specifically, the RTP should acknowledge that, as business stakeholders work with regulatory agencies to further reduce emissions in the SCAG region, any technology introduced must not compromise the safety, velocity, cargo throughput, economic competitiveness, or reliability of the goods movement system. It would be helpful for SCAG to state clearly in the RTP that, to date, stakeholders have not reached consensus on technologies, timing, funding, or emissions impacts of the various options that SCAG examined in the RTP. For example, SCAG discusses long-term steps towards a "Zero Emissions Container Movement System" (ZECMS). If SCAG chooses to pursue such a fundamental shift in new technology, it would need to work with all goods movement stakeholders to clearly establish whether and, if so, when and where within the transportation infrastructure a ZECMS option could be demonstrated and evaluated without negatively effecting the velocity and throughput of the system.

9) With the recent elimination of redevelopment agencies, the ability of local jurisdictions to meet the densification of urban centers in the near term is challenged, given the costs related to aging or inadequate infrastructure capacity and high development costs for higher density projects. The elimination of redevelopment agencies also threatens the availability of sufficient housing options necessary to meet the needs of a dynamic workforce. In fact, since the passage of SB 375, the State of California has stripped local governments of funds that were previously available for

transit, transportation and redevelopment. This follows many years in which the state diverted revenues from gasoline, sales, income and other taxes needed for local government programs. Local governments cannot help to fulfill the 2012 RTP/SCS without increased, not decreased, state support. SCAG should emphasize the need for the state to restore support for planning, transit, transportation and redevelopment or other necessary funding to pre-SB 375 levels in order to speed the attainment of mandated goals.

While we find many very positive aspects in the plan, especially related to principles and direction, these significant issues need to be addressed. The short list of general concerns set forth above is not meant to be exhaustive. Many of the organizations that subscribe to the above-stated comments will be commenting more robustly in separate writings. We join here, however, to express our unity in finding the Draft 2012 RTP/SCS and PEIR to be in need of significant clarification and correction. We are also jointly committed to completing this process and, over the remaining weeks, working closely with SCAG to develop and adopt a smart, flexible, accountable, and economically sound RTP/SCS.

Respectfully,

Jim Clarke
Executive Director
Apartment Association of Greater Los Angeles (AAGLA)

Andrew R. Henderson
Vice President and General Counsel
Building Industry Association of Southern California, Inc.

Heidi L. Gallegos
Executive Director
Eastvale Chamber of Commerce

Hilary Norton
Executive Director
FAST – Fixing Angelenos Stuck in Traffic

Elizabeth Warren
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FuturePorts

John Kelsall
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Harbor City/Harbor Gateway Chamber of Commerce

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Los Angeles Area Chamber of Commerce

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Chairman of the Board
Los Angeles Metropolitan Hispanic Chamber of Commerce

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President/CEO
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Jay McKeeman
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Christina Davis
President & CEO
LAX Coastal Chamber

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Lupe Valdez,
Director of Public Affairs
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Harbor Trucking Association

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Vice President Policy and Regulatory
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2005 Dorna Scarez
2006 Doyle Powell
2007 David Elsberry
2008 Seth Hammond
2009 Larry Nodland
* Deceased

February 13, 2012

Hasan Ikhrata
Executive Director
Southern California Association of Governments
SCAG Main Office, 818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

RE: Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS)

Mr. Ikhrata:

On behalf of the Southern California Contractors Association's (SCCA), more than 300 union contractors, crane operators and industry suppliers engaged in heavy civil construction in southern California, I write you today provide comments on the Southern California Association of Governments' (SCAG) Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS). SCCA has served the union heavy construction industry since 1974, including contractors' signatory with the Operating Engineers, Laborers, Cement Masons, Ironworkers, Carpenters and Construction Teamsters.

Thank you to SCAG for the hard work and forward thinking that has gone into the RTP/SCS planning process. Thank you also for the opportunity to provide comments on behalf of SCCA.

SCCA appreciates SCAG's goals of optimizing system performance (including preservation and maintenance), investing in completing transportation system gaps and strategic investments to expand the system as the population grows.

As you know, not only is southern California's population expected to grow dramatically over the next 25 years, but according to the American Road & Transportation Builders Association freight movement is projected to double. Protecting our existing transportation infrastructure and making strategic investments to expand infrastructure will be key to safely moving people and goods for decades to come.

According to the Construction Industry Research Board, based in Burbank, total construction in California dropped from $98 billion in 2005 down to $42.4 billion in 2010. This represents a 57 percent reduction in total construction activity in the state. The market low was 2009 with total construction at $39 billion.

California construction employment has a direct correlation with total construction activity. According to the California Employment Development Department, Labor Market

ARTBA American Road & Transportation Builders Association
Operators Group
Southern California Construction Group

Information Division, California construction employment dropped from 933,700 in 2006 to 559,800 in 2010. That represents a 40 percent reduction in construction employment over a five year period.

The RTP calls for $524.7B in infrastructure investment which will significantly boost construction activity in southern California. The SCCA supports this plan. However, we echo the concerns voiced at the February 2 Public Input Hearing by the Southern California Leadership Council and we would like to see more clarity on the $219.5B in new revenue sources outlined in the plan.

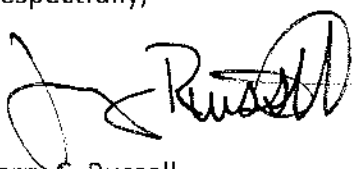
According to the American Road & Transportation Builders Association in Washington, D.C., "Greenfield" infrastructure projects can take up to 19 years from concept to construction due to the National Environmental Policy Act and California Environmental Quality Act processes.

Therefore, SCCA has concerns with the number of mitigation measures in the PIER. We encourage SCAG to further examine the economic impacts of mandates on local governments and contractors, and the potential for project delays and future litigation.

SCCA supports a balanced approach to providing multi-modal transportation alternatives to southern California. We encourage SCAG to ensure a truly balanced approach that balances transit, highway, freight rail, bridge and roadway improvements with smart land use strategies that encourage walking, biking and other transportation options.

Again, thank you for all of your hard work in developing the RTP and SCS. We look forward to continuing to work with you on sustainable solutions that work for everyone.

Respectfully,



Larry C. Russell
Executive Vice President

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February 14, 2012

Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

Re: Comments on the Drafts of the 2012 Southern California Association of Governments (SCAG) Regional Transportation Plan & Sustainable Communities Strategy (RTP/SCS) and the Program Environmental Impact Report (PEIR)

Dear Mr. Ikhrata:

Southern California Edison (SCE) values the opportunity to provide comments on the PEIR and RTP/SCS. As an electric utility and infrastructure provider, SCE understands the importance of long-term planning to ensure safe, reliable and affordable service. SCE recognizes SCAG's immense effort in working with multiple stakeholders within the region to develop this plan and appreciates having been included in this process.

The RTP/SCS sets out long-term goals to meet mobility, housing, sustainability and economic needs of Southern California, which are accomplished by transportation agencies and stakeholders. Similarly, SCE will be constructing transmission and distribution projects to maintain and expand its electric system, ensuring long-term reliability and delivering a 33% renewable energy mix for the same growing population. Further, SCAG will play a critical planning role as transportation systems incorporate zero and near-zero emissions technologies, which it has already begun to demonstrate through its leadership on regional electric vehicle infrastructure planning. SCE looks forward to continuing its collaboration with SCAG and other stakeholders to ensure that the land-use, economic and other requirements of sustaining a safe, reliable and affordable electric system are taken into consideration in this and future regional planning initiatives.

Attached are specific comments on the Public Services and Utilities, Air Quality, Green House Gas and Aesthetics sections of the PEIR. Please feel free to contact me at (626) 302-3819 should you have any questions regarding SCE's comments. Once again, SCE appreciates the opportunity to comment on the 2012-2035 RTP/SCS and PEIR and looks forward to its continued partnership with SCAG in building a more sustainable transportation system.

Sincerely,

Alexander Pugh
Senior Project Manager

CC: Chairwoman Pam O'Connor
Jacob Lieb
Margaret Lin

P. O. Box 800
2244 Walnut Grove Ave.
Rosemead, CA 91770

Comments on Section 3.11 Public Services and Utilities:

Local Energy Partnerships

Please update page 38 to include all of the active local energy partnerships within the SCAG subregions. In addition to the San Gabriel Valley Energy Efficiency Partnership noted in this section, other partnerships exist with the South Bay Cities COG, Coachella Valley Area Governments, Ventura County, and Cities (Ventura County Regional Energy Alliance) and with the County of Los Angeles.

Growth in the Use of Electric Vehicles

Assumptions about the number of battery and hybrid plug-in electric vehicles (PEV) in Southern California between now and 2035 may be higher than accounted for within the RTP/SCS and PEIR. Currently, SCE is planning for three scenarios for PEV growth within its service territory by 2020: low - 175,000; medium - 450,000; and High – 1,000,000. In January, the California Air Resources Board passed the Advanced Clean Car Initiative calling for more than one million PEVs in California by 2025. Additionally, planners and researchers in Southern California, including SCAG and the UCLA Luskin Center, are conducting research to guide the build-out of publically accessible charging stations region-wide. This too may further support the growth of the PEV market.

Electric Vehicles Description and Charging

On page 43-44, please update the description of the status of electric vehicles and charging stations. In 2011, almost 20,000 units of Chevrolet Volt and the Nissan Leaf were sold nationwide according to Automotive News. The US Department of Energy (www.fueleconomy.gov) indicates that more than a dozen PEV models are slated to come on the market in the next two years. In regards to charging infrastructure, great strides have been made in Southern California to update the older 1990's paddle chargers to the new J1772 standard. Moreover, there are a number of charging station installers and equipment manufactures in Southern California, which means both a direct positive environmental and economic impact comes from electric vehicle growth.

Renewable Energy

Please note on page 44 in the renewable energy discussion that SCE is investing in hundreds of megawatts of distributed solar generation through a reverse auction mechanism for photovoltaic systems up to 10MW. This is one of many programs that SCE offers to distributed renewables. A more complete listing of SCE incentives can be found on the SCE website: http://www.sce.com/PowerandEnvironment/Renewables/Solar/default.htm

Thresholds of Significant Impacts to Utilities

On page 45, the range of significant impacts to a utility should also include major relocations caused by the any of the projects in the PEIR. Similarly, under the impacts section on page 46, please mention utility relocations caused by projects covered in the PEIR. In addition, please indicate in comparison with the "No Project Alternative" where there would be significant utility relocation impacts.

Energy Consumption Projections

With regards to future energy consumption projections, there are several factors that may increase future electric load growth, including the electrification of transportation systems, which are considered in the RTP itself. Three broad transportation categories that are likely to use more electricity in the study period include light-duty passenger vehicles, bus and rail transit, and multiple modes of goods movement. As an illustration, the PEIR includes projects from Metro's Measure R building campaign, which include twelve new electric light rail and subway projects during the study period. Eight of these are in SCE's territory. The PEIR and the RTP/SCS also indicate greater adoption of electric technology within the goods movement sector. The RTP includes zero-emission truck corridors on the I-710 and expansion to an east-west alignment as well as electrification of rail yards operations and routes throughout the region. SCE will work closely with transportation providers to better understand energy needs and air quality benefits of these projects as they come online. However, it is worth noting in the PEIR that these changing conditions will impact long-term demand.

SCE Facilities, Rights-of-way and Easements

The RTP references use of utility right-of-way for open space and transportation improvements. As stated in SCE's comment letter on the RTP/SCS, SCE will need to coordinate with SCAG and other transportation stakeholders to ensure impacts to SCE's critical facilities are addressed in order to meet CPUC mandates and to meet the core mission of providing safe, reliable and affordable electricity service to customers within its 50,000- square-mile service territory. Also, the RTP must underscore that the "tiering" provisions of this PEIR does not preclude the requirement that local land use planning decisions be coordinated with SCE to prevent direct and indirect encroachment of residential, commercial and industrial uses with SCE facilities.

Good long-term coordination is critical to building and maintaining functional public services. SCAG, SCE and other service providers throughout the region could benefit greatly by working together on joint corridor planning.

Public Service and Utilities Section 3.11 Mitigation Measures

While it is important for project sponsors to consider energy efficiency, renewable generation, and coordination with utilities during construction, SCE strongly recommends SCAG to direct project proponents to comply with existing regulations and best practices set by regulatory agencies. In the utility sector, these agencies include the Public Utilities Commission (PUC), California Energy Commission (CEC), Southern California Joint Pole Committee (SCJPC), and

many others. Any additional mitigation measures should be provided as optional. It should also be noted that many of the individual project EIRs already include many of the mitigations described in this and other sections. Our specific suggestions include:

MM-PS33 –SCE's primary responsibility is to provide safe, reliable and affordable service to customers. Trails, parks, and other open space may not be compatible with SCE's operating requirements or land rights. SCE asks that this mitigation be removed or amended to say, "Coordinate with utilities based on the compatibility of future use."

MM-PS57 –It is important to coordinate utility relocations to reduce impacts to city streets and other public property and right-of-way. Project proponents should consult impacted utilities early in the planning process and coordinate the environmental review and construction timing of such impacts with the utilities.

MM-PS60 – Prior to considering any renewable energy investments, SCE recommends that project sponsors maximize energy efficiency upgrades.

MM-PS61 – For any of the mitigation measures related to implementing energy efficiency measures, project sponsors should check with their utility to learn about up-to-date best practices and any incentive programs that might be offered. Further, SCE recommends that project sponsors comply with any existing building codes, ordinances, and standards on the best ways to conserve energy.

MM-PS65 – Local jurisdictions should also consider EV readiness education for residents and businesses. There are also several best practices for inclusion of EV readiness building codes for new construction and major remodels, such as those laid out in the California Green Building Standard Codes.

MM-PS70 – Similar to PS61, before installing renewable energy generating equipment, project proponents should maximize energy efficiency upgrades.

MM-PS112 – For all mitigation measures related to local jurisdiction energy efficiency planning, SCE encourages participation in municipal energy efficiency partnerships as mentioned in PS122.

MM-PS120 – SCE encourages SCAG to expand this mitigation to pursue infrastructure planning for PEVs throughout the region in partnership with stakeholders in the private sector, local government, and with planning and regulatory agencies.

Section 3.2 Air Quality and 3.6 Green House Gas Emissions

As stated in the previous section, SCE urges SCAG to consider the net positive impact of electric vehicles to air quality and greenhouse gas emissions in the region. According to the CEC and CARB Alternative Fuels Plan from December 2007, electric cars have a dramatically better well-to-wheels emissions profile than conventional fossil fuel internal combustion engine vehicles;

Carbon dioxide emissions are 72% lower and criteria pollutant emissions are 99% lower. When charging is shifted to off-peak evening hours (more than 80% of SCE EV customers charge off peak), new load from PEVs benefits both the environment and ratepayers. Similar comparisons can be drawn for heavy-duty vehicle use.

SCE comments on specific mitigations in these two sections are as follows:

MM-AQ1 – An additional Transportation Control Measure that should be included from the South Coast Air Quality Management district Rule 2202 is the installation of workplace PEV charging stations.

MM-TR86 – If local jurisdictions are requiring new construction to provide prioritized parking for electric vehicles, they should also include requirements to install EV infrastructure such as appropriate access to electrical outlets. Rolling Hills Estates has developed such an ordinance that can serve as a template.

MM-TR88 –The siting of locations for PEV and other alternative fueling stations should be coordinated with regional infrastructure plans.

Section 3.1 Aesthetics

SCE may have to develop new generation, transmission and distribution facilities to support RTP/SCS goals and future transportation needs. Therefore, SCE urges SCAG to encourage collaboration between affected stakeholders including Caltrans, transit agencies, railroad companies and the ports when planning decisions for these projects are contemplated. Such collaboration will minimize potential conflicts with identified viewshed, and further land use compatibility goals.

Southern California Gas Company

A Sempra Energy utility®

Hector Madariaga
Director
Environmental Affairs
555 W 5th St
Los Angeles, CA 90013

February 10, 2012

Ms. Margaret Lin
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, California 90017-3435

Dear Ms. Lin:

Southern California Gas Company (SoCalGas) respectfully submits these comments regarding the Southern California Association of Governments' (SCAG) 2012-2035 Draft Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

SoCalGas, a regulated utility of Sempra Energy has been delivering clean, safe and reliable natural gas to its customers for more than 140 years. It is the nation's largest natural gas distribution utility, providing service to 20.9 million consumers connected through nearly 5.8 million gas meters in more than 500 communities. SoCalGas's service territory encompasses approximately 20,000 square miles throughout Central and Southern California, from Visalia to the Mexican border. These comments address those portions of the RTP/SCS related to use of natural gas fuel in SCAG's region.

Our overarching concern and comment is that the RTP/SCS is not balanced in terms of options presented for alternative vehicle fuels. There is an obvious and inexplicable predisposition towards electric and zero-emission vehicles (ZEVs) without apparent backup documentation regarding the cost-effectiveness and feasibility of such an "all" electric strategy. We respectfully request that SCAG produce a more balanced and pragmatic RTP/SCS that truly considers both the short-term and long-term future of the region, by incorporating options for cost-effective, practical, and immediately available, alternative-fuel motor vehicles such as natural gas-fueled vehicles (NGVs).

Having a broad array of clean-fuel options makes sense for your member agencies given the diversity of your six counties and 191 cities. Many of your members have already made significant commitments to NGVs powered by clean, compressed natural gas (CNG), in terms of infrastructure, training and vehicle purchases. For example, as recently as last year, the LA County Metropolitan Transportation Authority retired its last diesel bus and now operates 2221 CNG-powered buses serving the communities comprising the County of Los Angeles. This important decision was made within the context of financially constrained budgets, especially given the order of magnitude higher cost for purchasing, operating and maintaining electric and

fuel-cell transit buses. Furthermore, since affordable near-zero vehicle technology is developing faster than fuel-cell and electric vehicle technology, it is imperative that more-effective, readily available, alternative-fuel options are included in the RTP/SCS as possibilities for all of your member agencies. SoCalGas would like to share data with SCAG staff on cost-effective, readily available near-zero vehicle technologies, such as NGVs.

In the spirit of assisting SCAG in developing the most comprehensive and legally defensible RTP/SCS, the discussion below provides support for why SCAG should incorporate options for cost-effective, practical, and immediately available alternative-fuel motor vehicles such as NGVs, in its RTP/SCS.

1. SB 375 (Steinberg, 2008) - Addressing Greenhouse Gas Emissions from the Transportation Sector via Regional Transportation Plans

The RTP/SCS needs to incorporate the use of other alternative-fuel vehicles, such as NGVs in order to fully meet all of SB 375's requirements. This is because SB 375 requires plans such as the RTP/SCS to be *"balanced"* and *"pragmatic,"* and to consider *"both the short-term and long-term future."* Consequently, the RTP/SCS should incorporate cost-effective, practical, and immediately accessible alternative-fuel motor vehicles such as NGVs. The planning and infrastructure necessary for deploying electric and fuel-cell vehicles is an extremely resource-intensive and long-term process. Indeed, if the RTP/SCS were to mandate solely electric and fuel-cell vehicles, then SCAG would be making the same mistakes that CARB made when it implemented its Zero Emission Bus (Z-Bus) program ten years ago.

CARB adopted the Z-Bus program in 2000 as part of its Transit Fleet Rule which basically requires transit-bus fleets (with over 200 buses) to have by 2010, 15% of their new bus purchases be Z-Buses, such as battery-electric or fuel-cell buses, or electric trolleys. Over the last ten years, however, a number of demonstration projects conducted by a number of large transit agencies showed that these Z-Buses were very expensive, performed poorly, were unreliable, and its key components (batteries, fuel-cells) were extremely expensive to replace with a very short life span, e.g., a fuel-cell has a life span of 5,000 hours and costs over $1 million to replace.

In September 2010, Foothill Transit took delivery of three battery-electric powered Z-Buses, costing $1 million each. Each bus had a 30-mile range requiring a 10-minute recharge period. Worse, the recharging periods for these electric buses would occur during peak-electric periods when electricity is at highest cost and potentially overloading already strained California power grids. As a result, CARB is in the process of revising the Z-Bus rule to allow for greater flexibility and to give the bus-transit agencies more time.

Therefore, in order for the RTP/SCS to succeed in meeting the requirements of SB 375, it must take note of what CARB learned from its Z-Bus program and broaden its scope beyond just fuel-cell and electric vehicles, to include other alternative-fuel vehicles such as NGVs.

In addition, the RTP/SCS's current limitation of alternative-fuel vehicles to just fuel-cell and electric vehicles belies a narrow focus solely on tailpipe emissions. While it is true that ZEVs

have zero tailpipe emissions compared to near-zero or low-emission vehicles (LEVs) such as NGVs, it would not be accurate to say that ZEVs generate zero emissions overall compared to low-emission vehicles. For example, electric vehicles receive their power from generating facilities that also generate combustion emissions. Emissions are also generated by the processes used to manufacture the special batteries needed for such vehicles. These emissions cannot be ignored nor discounted, particularly with respect to attainment of the National Ambient Air Quality Standard for ozone, or contributing to any new *"or existing violation of any standard in any area."*

Furthermore, there is efficiency loss using electrical power rather than directly using natural gas to power vehicles. Indeed, in the course of producing useful electric energy in the U.S., "we waste or discard about 70 percent of the initial raw energy found in coal or most other fuel sources.[1]" It is more energy efficient, therefore, less wasteful and less polluting to directly use natural gas to power vehicles rather than generating electricity transmitted long distances over power lines and then used to power an electric vehicle. Therefore, energy efficiency should be taken into account to fulfill the SB 375 requirement for "a balanced" and "pragmatic," RTP/SCS.

2. AB 32 (Núñez 2006) - Global Warming Solutions Act

The RTP/SCS needs to broaden its scope beyond electric vehicles and incorporate the use of alternative-fuel motor vehicles such as NGVs in order to be fully consistent with the policy objectives of AB 32, which is an overall reduction of California's greenhouse gases (GHG) emissions. As discussed above, energy is wasted when natural gas is used to generate electricity for electric vehicles, compared to natural gas used directly to power NGVs. In addition to this, using natural gas to generate electricity for electric vehicles creates more GHG emissions compared to natural gas used directly to power NGVs. This point is illustrated in a recent study which found that if you compared an electric-resistance water heater to a natural-gas water heater on a full fuel-cycle basis, the natural-gas water heater emits over 50 percent less CO_2 equivalent emissions annually.[2]

Furthermore, the RTP/SCS also needs to be consistent with the goals of AB 32's low-carbon fuel standard (LCFS). The LCFS is designed to ensure the use of low-carbon transportation fuels in order to achieve the lower GHG levels intended by AB 32. This is achieved through the development of a carbon-intensity index which is measure of a transportation fuel's GHG emissions generated through its life cycle, i.e., GHG emissions generated from obtaining the fuel's raw materials, manufacturing the fuel, transporting the fuel from the producer to the ultimate consumer, and using the fuel. Electricity as a transportation fuel has a carbon-intensity index, as well as CNG, hydrogen, gasoline, and other transportation fuels.

If the RTP/SCS solely focuses on fuel-cell and electric vehicles, and excludes other alternate-fuel vehicles, such as NGVs that have lower carbon-intensity index values, it would be inconsistent

[1] Cooper, Roger. (2011; p.6) *Natural Gas Reconsidered.* Progressive Policy Institute.

[2] American Gas Association. (2009; p. 16) *A Comparison of Energy Use, Operating Costs, and Carbon Dioxide Emissions of Home Appliances.* Policy Analysis Group.

with the broader GHG reduction goals of AB 32, which is the law that forms the very foundation for SB 375 and the SCS requirement.

3. AB 118(Núñez 2007), amended by AB 109 (Núñez 2008) - Alternative and Renewable Fuel and Vehicle Technology Program

Assembly Bill 118 created and authorized the California Energy Commission (CEC) to *"develop and deploy innovative technologies that transform California's fuel and vehicle types to help attain the state's climate change policies."* With an annual budget of $100 million, the CEC must accomplish this goal by, among other things, funding projects that provide for *"a measurable transition from the nearly exclusive use of petroleum fuels to a diverse portfolio of alternative fuels"* (emphasis added). Over the last three years, the CEC has allocated AB 118 funding to a variety of projects including, but not limited to, installing electric vehicle-charging stations, installing CNG dispensing facilities, deploying the use of heavy-duty natural-gas vehicles and promoting biofuels such as biomethane. For 2012-13, CEC is planning to spend $2.5 million on new CNG refueling facilities, $12 million for NGV incentives and $20 million towards the production of biomethane.

In order not to undermine the gains made by AB 118 and devalue the substantial investments made by the CEC in CNG refueling infrastructure, NGVs, and biomethane, SCAG should incorporate a diversity of alternative-fuel motor vehicles into the RTP/SCS, including NGVs. It would be a sad waste of public funds and resources if the RTP/SCS did not become more diverse and better align its goals with those of AB 118.

4. CEQA - RTP/SCS Draft Program Environmental Impact Report (Draft PEIR)

SoCalGas appreciates the time and effort that SCAG has put forth in preparing the Draft PEIR for the RTP/SCS. SoCalGas nonetheless notes that SCAG's focus on fuel-cell and electric vehicles in the RTP/SCS continues through in the Draft PEIR. For example, Section 2, Table 2-12 of the Draft PEIR contains a summary of the various modes of freight-movement strategies (taken from the RTP/SCS), together with the analysis which determine that significant emissions benefits could be achieved from the implementation of these different strategies. However, this modeling does not appear to take into account whether such savings could similarly be achieved with the inclusion of NGV's. SoCalGas recommends that the analysis of the Draft PEIR be reconsidered and modified to the extent necessarily to include NGV's as part of its implementation strategy. Additionally, SoCalGas recommends that SCAG's revisions to the Draft PEIR give meaningful consideration to the cumulative impacts to air quality caused by the generation of the massive amounts of electricity that will used to power the ZEVs as contemplated in the Project Description. Finally, SoCalGas recommends that the mitigation measures set forth in the Traffic, Safety and Security element of the Draft PEIR (Section 3.12) make clear that NGV's should be included in any mitigation measure or strategy that includes a call for LEVs or ZEVs. Doing so would help ensure that mitigation measures are entirely feasible and capable of real impact minimization.

SoCalGas commits to assisting SCAG to include additional fuel options in the RTP/SCS, as we are similarly committed to protecting and conserving the environment for our employees, our customers and the diverse communities in which we operate and provide service. We look forward to additional discussion and sharing data with your agency on the topics discussed above.

Sincerely,

Hector Madariaga
Director Environmental Affairs

Attachments:
1. Cooper, Roger. (2011; p.6) *Natural Gas Reconsidered.* Progressive Policy Institute.
2. American Gas Association. (2009; p. 16) *A Comparison of Energy Use, Operating Costs, and Carbon Dioxide Emissions of Home Appliances.* Policy Analysis Group.

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February 14, 2012

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818 West Seventh Street, 12th Floor
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RE: Southern California Leadership Council Comments on the Draft 2012 Regional Transportation Plan & Sustainable Communities Strategy (RTP/SCS) and the Draft Program Environmental Impact Report (PEIR)

Dear Hasan,

On behalf of the Southern California Leadership Council (SCLC), we would like to acknowledge the Southern California Association of Governments (SCAG) and both its staff and leadership who have worked diligently to prepare the Draft 2012 Regional Transportation Plan (RTP), Sustainable Communities Strategy (SCS) Program Environmental Impact Report (PEIR), and associated documents. This first of its kind effort, as called for under SB 375, has taken over three years and involved an unprecedented level of collaboration between SCAG and its public and private sector stakeholders from throughout the region. The degree of outreach and engagement is exceptional and SCAG should be applauded for its efforts.

As you know, the Southern California Leadership Council is a non-partisan, non-profit, business-led public policy partnership. The Leadership Council exerts strong leadership on issues of regional significance, providing a common voice on major public policies critical to economic vitality, job growth and quality of life in Southern California. The Leadership Council unites business and community leaders from throughout the seven-county region into one effective leadership organization whose membership includes three former California governors and two dozen presidents and CEO's of top Southern California companies.

SCLC appreciates its strong working relationship with SCAG and its ability to provide business and industry input into SCAG policies and initiatives. In particular, SCLC has been an active participant in the over three year long process of crafting and developing the RTP/SCS. Based on this extensive involvement, SCLC offers the following general comments and recommendations on the draft plan and requests that this letter be included in public record as our collective comments on the Draft RTP/SCS, PEIR and associated documents.

SCLC's Position – SCLC supports a 2012 RTP/SCS that recognizes the critical importance of transportation and infrastructure to economic vitality, job creation and the quality of life for all Southern Californians. We also support an RTP/SCS that honors market forces, local control and flexibility as it works to secure an integrated approach to land use, transportation, housing and environmental planning in order to achieve GHG emission reductions under the SCS.

In evaluating SCAG's Draft 2012 RTP/SCS to determine if it is such a plan, from early on SCLC has applied a consistent set of policies and principles related to good planning, to assure that the RTP/SCS is a smart, feasible, flexible, accountable plan that is CEQA compliant, economically sound and preserves existing employment and enhances job creation.

The following is the specific set of key policies and principles that SCLC and others in the business community have applied in evaluating the plan; and we believe that they represent the qualities of a good and sound RTP/SCS.

- **Provides Positive Economic Impacts … A Plan that is Pro Economic Growth and Job Creation –** The RTP/SCS must undergo a true economic cost/benefit analysis so that economic impacts are understood and known by both SCAG Regional Council members and stakeholders well before making a final decision on the RTP/SCS.

- **Provides Local Control:**
  - Any new transportation revenues or fees collected must be under the control of the local transportation agency/authority.
  - Cities, counties and local transportation agencies must maintain appropriate control and flexibility in managing decisions and resources related to land use, transportation and community development.

- **Assures New Revenue Sources are Fair, Equitable and Economically Sound** – New transportation revenue concepts within the RTP/SCS must undergo cost/benefit and other appropriate analysis to assure that they are economically sound. They must also be fair and equitable, meaning that an appropriate nexus exists to assure that new revenues are drawn fairly and proportionally from those who benefit from the related transportation infrastructure or improvement.

- **Is Balanced and Accountable** – The plan's call for new revenue is balanced with performance measures, reforms and guarantees that assure the RTP/SCS is effective, efficient and responsible to the citizens and taxpayers of Southern California.

- **Is CEQA Compliant and Defensible** – The RTP/SCS is processed correctly from an environmental impact perspective and built to withstand a CEQA Challenge.

- **Provides for CEQA Streamlining and Protects Against CEQA Abuse** – The plan is crafted so as to capture and make feasible all available CEQA benefits, especially streamlining, while also anticipating and limiting opportunities for CEQA abuse.

SCLC's Comments and Recommendations – In measuring the draft plan against these key policies and principles, we find many very positive aspects of the RTP/SCS – especially those related to the plan's core principles, approach and direction. Likewise, we find a number of other aspects of the Draft 2012 RTP/SCS in need of much more consideration, correction and clarification before SCAG finalizes and approves the plan. Most notable among our concerns is the Draft PEIR, which we believe is in need of significant amendment in order to be more in-line with the same core principles, approach and direction reflected in the Draft RTP/SCS.

Outlined below, in very general terms, are SCLC's comments and recommendations related to specific aspects of the Draft RTP/SCS and PEIR that we believe need to be addressed and corrected in the final plan documents.

1. **PEIR** – The Draft PEIR document, unlike the Draft RTP/SCS, does not feel like it honors the same principles of local control and local flexibility that SCAG has employed throughout the RTP/SCS process. Instead, the PEIR feels like a "top-down", prescriptive, "one-size-fits-all" imposition by SCAG. That is because the PEIR contains a huge litany of mitigation measures that will be imposed mainly upon local government, business and private project proponents. The more than 500 mitigation measures outlined are highly prescriptive and many promote and/or mandate policies which will have no effect in reducing GHG. Additionally, a significant percentage of the measures are redundant to or supersede the regulatory requirements of other agencies that are themselves vested with the authority to oversee such issues (i.e. Regional Water Quality Control Boards, Air Quality Management Districts, US Fish and Wildlife, etc.). Ultimately, a review of the PEIR leaves one feeling that the document is fundamentally inconsistent with the Draft RTP/SCS.

   SCLC's specific concerns and recommendation regarding the PEIR are as follows:

   a. **Correct the PEIR's "blanket determination" of feasibility** – The introductory section of the PEIR includes what amounts to an overarching determination that all of the over 500 mitigation measures in the PEIR are feasible for application to all future projects throughout SCAG's region. By making such a statement (which cannot possibly be based on sound evidence) SCAG would impose at least crushing procedural costs on every plan and project throughout the region. Effectively eliminating local flexibility and local authority to determine feasibility on a project by project basis. This blanket finding of feasibility must be removed from the final PEIR.

   b. **Prevent the loss of appropriate project-level flexibility** – The Draft PEIR uses the phrases "local jurisdictions can and should" and "project proponents can and should" require or incorporate a whole host of suggested mitigation measures. Thus, the Draft PEIR seems to pre-determine the anecdotal consideration and possible feasibility of these measures, which could ultimately force local governments and project proponents to "rule out" each and every mitigation measure listed. The use of "can and should" needs to be corrected within the final PEIR.

c. **Substantially reduce the volume of Mitigation Measures** – The huge litany of mitigation measures that will be imposed mainly upon local government and business needs to be closely looked at and culled in the final PEIR. Especially when you consider the apparent redundancy of many of the measures.

d. **Craft the PEIR so as to foster CEQA streamlining and limit CEQA abuse** – SCAG should not forget that the main reason many stakeholders supported SB 375 and the SCS process is that it promised to deliver a number of opportunities for CEQA streamlining and facilitate reasonable progress. The PEIR, with its volume of mitigation measures, makes it more likely that project applicants and local jurisdictions will see added cost and delay (if not litigation) in the CEQA process; and few projects, if any, are likely to achieve a streamlined CEQA approval. This issue needs to be addressed and corrected within the final PEIR.

e. **Assure that the PEIR honors Local Control** – With its high level of prescription and regional imposition, the PEIR runs counter to the principles of local control and local flexibility that SCAG has employed throughout the RTP/SCS process. By incorporating the recommendations offered above, the final PEIR will become more consistent with the Draft RTP/SCS in its recognition and support for local control.

2. **Transportation Analysis Zones (TAZs)** –The Draft RTP/SCS suggests (on page 148 of the draft SCS particularly) that future policy conformity determinations should be made by comparing projects with some undisclosed data set related to the projected dispersion of populations and employment, shown and categorized at the level of sub-jurisdictional "transportation analysis zones." The TAZ level of detail is, we believe, too small and precise a level at which to prescribe policy outcomes concerning the spatial dispersion of development and redevelopment, particularly in light of the regional nature of the RTP/SCS. The SCS should, therefore, be clarified to indicate that questions of consistency with the RTP/SCS should be substantively measured and determined at a jurisdictional or sub-regional level, not at a TAZ level.

3. **New Revenue Sources** – The Draft RTP/SCS needs to provide more detail, clarity and explanation concerning the new revenue sources that are outlined within the plan document. New revenues account for $219.5 billion out of the total $524.7 billion needed for the transportation plan, yet there is very little detail explaining these significant new fees and impositions (see page 95 & 96 of the Draft RTP/SCS). To evaluate these proposals fully and fairly, the business community and all stakeholders need the benefit of additional detail and explanation. In particular, we need clarity and assurance regarding the following:

   a. The new revenue concepts assumed within the RTP/SCS must be fair, equitable and economically sound, meaning that an appropriate nexus exists to assure that new revenues are drawn fairly and proportionally from those who benefit from the related transportation infrastructure or improvement.

b. The new revenue sources within the RTP/SCS must be effectively allocated, meaning the plan should clearly articulate how resources will be efficiently and responsibly allocated so that there is the best possible return on investment for the expenditure of these new transportation funds. SCAG needs to show that it will be a responsible, accountable and innovative steward of the new revenues that it is proposing.

4. **Federal Level Fee Imposition** – New revenues from fees on businesses operating in the SCAG region – and particularly the "Freight Fee/National Freight Program" listed on page 96 of the Draft RTP/SCS – need to be developed and implemented at the federal level, not the local and regional level. Unless such fees are imposed on a national scale, the region's competiveness will be compromised.

5. **Goods Movement** – In the RTP/SCS, SCAG should identify and highlight the significant economic contributions of the goods movement sector to the regional and state economy. Specifically, the RTP should acknowledge that, as business stakeholders work with regulatory agencies to further reduce emissions in the SCAG region, any technology introduced must not compromise the safety, velocity, cargo throughput, economic competitiveness, or reliability of the goods movement system.

6. **Economic Analysis of the Draft RTP/SCS** – Throughout the process of developing the RTP/SCS and especially in the last few months leading up to the release of the Draft Plan, SCLC regularly called for a valid economic analysis of the plan – one which would provide a true cost benefit analysis. It should be noted that SCLC was not the only one concerned about the plan's potential economic impact. In fact, this past summer, when SCAG conducted a series of 18 RTP/SCS Public Outreach Workshops, a majority of participants indicated that the economy was the most important priority for the region – finishing ahead of transportation and the environment.

   As a result of this and the clear linkage between the RTP/SCS and the economy, SCAG deployed a team of outside economists to do a complete economic impact analysis of the Draft RTP/SCS. SCLC applauds SCAG's commitment to providing thorough economic analysis, including an evaluation of the plans impact on jobs and job creation. With the work of the economists now mostly complete, their impact analysis of the plan has produced some extremely positive data, showing the costs of the plan to be far exceeded by the benefits the RTP/SCS will provide in the way of job creation and economic growth in our region. SCLC strongly encourages SCAG to widely communicate this economic data and to be sure and include all appropriate new economic data sets and analysis in the final RTP/SCS.

7. **Phase II Economic Recovery Strategy** – SCLC agrees with SCAG's GLUE Council, that if SCAG utilizes the work done last year to develop and adopt SCAG's first ever regional Economic Recovery Strategy and couples this with the outstanding economic analysis conducted by SCAG in support of the RTP/SCS, SCAG is well positioned to develop a Phase II Economic Recovery Strategy as a companion measure for adoption in conjunction with (or shortly thereafter) the final RTP/SCS.

The Phase II Economic Strategy would be a way for SCAG, its GLUE Council, local government the business community and other stakeholders to come together and support critically necessary regulatory reforms and strategies to help reinvigorate the region's economy and support the full implementation of the RTP/SCS. The Phase II Strategy would also give SCAG and GLUE a vehicle for establishing a true Regional Economic Plan to go along with SCAG's other regional plans such as the RTP, the SCS and RHNA.

Conclusion – While SCLC finds a number of very positive aspects in the plan, especially related to principles and direction, there is still work to be done, significant issues to be addressed, and details to be developed. With this in mind, SCLC is committed to completing this process and working closely with SCAG.

Just as it has done over the multi-year process that has lead up to the Draft RTP/SCS and PEIR, SCLC will remain very active and engaged on this issue throughout the remainder of the process as we work together to finalize and approve a 2012 RTP/SCS and PEIR for our region that is business friendly, economically viable, promotes job creation and enhances the quality of life for all Southern Californians.

Respectfully submitted,

Billie Greer
President
Southern California Leadership Council

Richard Lambros
Managing Director
Southern California Leadership Council

METROLINK

Southern California Regional Rail Authority

February 14, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West 7th Street, 12th floor
Los Angeles, CA 90017

Dear Mr. Ikhrata,

Subject: Southern California Regional Rail Authority Comments on the Draft 2012 RTP

Southern California Regional Rail Authority (SCRRA) appreciates the opportunity to comment on the 2010 Draft Regional Transportation Plan (RTP) prepared by the Southern California Association of Governments (SCAG). The document identifies key challenges facing the region, and underscores the need for continued investment in our transportation infrastructure. We would also like to commend SCAG for its extensive stakeholder outreach, and thank SCAG staff for their cooperation and assistance during the RTP preparation process.

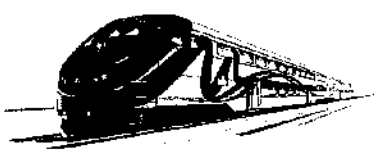
The attached table contains SCRRA's comments on the draft RTP. If you have any questions, please contact Karen Sakoda at (213) 452-0264, or sakodak@scrra.net.

Sincerely,

W. GRAY CRARY
Chief Strategy Officer
Southern California Regional Rail Authority

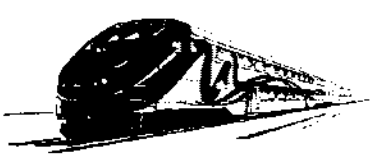
Attachment

Cc: K. Sakoda – SCRRA
P. Torres-Bruno - SCRRA
O. Yero – SCRRA

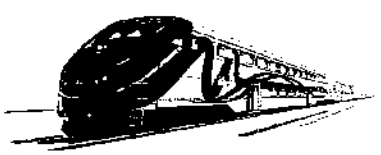


SCRRA Comments on the Draft 2012 Regional Transportation Plan (RTP)

Document	Page	Comment
RTP	5	We understand that Metrolink's list of constrained projects is included in the $3.9 billion Transportation Investment cost for Commuter Rail, along with other commuter rail projects submitted by the County Transportation Agencies.
RTP	21	In addition to the four routes mentioned that share portions with the LOSSAN corridor, the Antelope Valley Line shares a segment between Los Angeles Union Station and Burbank Junction. We also recommend removing the reference to the Dodger trains, and replacing the team name with a more general reference to trains for sporting events, and other special events.
RTP	51	Recommend modifying wording that states existing rail service will eventually meet 110 mph. Speeds will vary considerably depending on track configuration and geography, and 110 mph may be attained where safely possible.
RTP	53	Improvements to the LOSSAN Corridor section contains a sentence "...AVL travel time between Palmdale and LAUS can be shortened by 33% simply by skipping less used station stops." Recommend revising AVL express train wording to state, "travel time could be shortened by 25% by skipping selected station stops..."
RTP	73	Goods Movement Rail Strategy - We support expansion of the rail system to accommodate anticipated increases to freight and passenger rail services. Funding capacity expansion, safety improvements and grade separation projects will be crucial to meeting regional goals.
RTP	84	For new projects that result from implementation of the RTP, noise mitigation measures should be addressed through associated project environmental reviews.
RTP	184	Environmental Justice Mitigation Toolbox - Rail Related Impact mitigations pose some challenges. We cannot support the recommendation that rail operators improve the acoustical insulation of dwelling units where setbacks and sound barriers do not sufficiently reduce noise. Also, recommending speed limits and limits on hours of operation to mitigate noise inhibits Metrolink's ability to operate and expand.



Document	Page	Comment
RTP	197	Greater Vision for our Commuter Rail System – Text states that Metrolink operates 164 trips on weekdays. Currently, Metrolink operates 163 trips per weekday. Also, the document states, "With the investments proposed within the Constrained Plan, we expect to achieve more than double the ridership by 2035." Recommend adding investments proposed in the Strategic Plan which are also necessary to achieve the stated ridership growth.
Passenger Rail	5	Text states that Metrolink operates 164 trips on weekdays. Currently, Metrolink operates 163 trips per weekday.
Passenger Rail	10	Recommend clarifying which "Authority" is being discussed. It is sometimes not clear whether the Authority is the HSR Authority, or SCRRA.
Passenger Rail	20	Recommend adding wording to include investments in the Constrained Plan and the Strategic Plan to achieve a doubling of ridership by 2035.



STEPHEN W. ROGERS, P.E. CONSULTING
820 CHURCH ST. REDLANDS, CA 92374
PHONE: 909.556.1988 (CELL) EMAIL: STEVE_ROGERS@VERIZON.NET

January 18, 2012

City of Redlands
Development Services Department, Planning Division
210 East Citrus Avenue
Redlands, CA 92373
Attn: Robert D. Dalquest, AICP (e-mail: rdalquest@cityofredlands.org)

Subject: **DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) FOR REDLANDS CROSSING CENTER (SC# 2007081111), dated 11/21/11**

Dear Mr. Dalquest:

The following comments are offered herewith, pertaining to the subject document, reserving the right, however, to make additional comments in writing, or during the public hearing process, when the project and associated entitlement applications are presented to the Redlands Planning Commission and City Council:

1. The project description as published with the original Notice of Availability (NOA) refers to applications for associated documents that have not been made available to the public for review at this time, and in conjunction with a review of the project DEIR; to include, but not be limited to: Super WalMart Conditional Use Permit (CUP) and Tentative Parcel Map. CEQA requires all associated entitlement applications needed for project approval be processed concurrently, and not to be processed in a piecemeal fashion.
2. The project with the proposed mitigation measures identified in the DEIR, is not compatible or consistent with the 2008 Regional Transportation Plan (RTP), the Draft 2012-2035 Regional Transportation Plan (RTP)/ Sustainable Communities Strategy (SCS) and Program Environmental Impact Report (PEIR), or the San Bernardino County Congestion Management Plan (CMP) and RTIP. Especially troubling is the response letter to the 2007 Project NOA from the Southern California Association of Governments (SCAG), dated September 11, 2007 indicating, "We have reviewed the Redlands Crossing, and have determined that the proposed project **is not regionally significant** per SCAG Intergovernmental Review (IGR) Criteria and California Environmental Quality Act (CEQA) Guidelines (Section 15206)."

3. The traffic study in the appendix, as prepared by Urban Crossroads for Michael Bradman Associates, is technically deficient and has not been properly prepared pursuant to the San Bernardino County Congestion Management Plan (CMP) Traffic Impact Analysis (TIA) standards and guidelines. See the attached "Exhibit A" listing regarding specific shortcomings and concerns. Especially troubling is the wording contained on page 17, under Analysis Overview: "It should be noted that consistent with the requirements of Measure "I", formal compliance with the CMP traffic impact analysis guidelines is no longer required with the City's adoption of a development impact fee (DIF)."

Exhibit A

The following clarifications are requested pertaining to the Traffic Impact Analysis (TIA) prepared by Urban Crossroads for the Redlands Crossing Center:

1) Reason why AM peak analysis was not completed (esp. considering proximity to Citrus Valley High School).

2) Tennessee St / Lugonia Avenue - disagree that there is room for WB right turn lane as the lane is only 20' wide for about 2 car lengths

3) Alabama Street / San Bernardino Avenue- disagree that there are 2 EB through lanes as the receiving lanes merge less than 125' from the intersection

4) Many of these intersections are close together. Was a coordinated analysis done to see if the traffic from one intersection would back up into another intersection?

5) Exhibit 3-1 The number of existing lanes on Lugonia Avenue is wrong in several locations. It nears to 1 lane eastbound in several places. Nowhere is it 4 lanes in each direction as noted between Alabama Street and Tennessee Street. If the author meant 4 lanes total, then it has 4 lanes in several locations that are shown on the exhibit as 2.

6) Table 3-2 It looks like the number of mainline freeway lanes includes auxiliary lanes and ramp lanes and they should not be included. The auxiliary lanes and ramps should be analyzed separately. Miles between the segments were not included so the density calculation could not be checked.

7) The traffic level of service on San Bernardino Ave. between Alabama Street and New York Street does not operate properly today. The project TIA should analyze how the 210 ramp/ San Bernardino Avenue signalized intersection area could be enhanced in order to operate appropriately with project traffic.

8) Did the improvements at the SR-210 and the San Bernardino Avenue Interchange area take into consideration the Caltrans 210 PSR dated April 2008? Both construction alternatives include realigning Tennessee Street between San Bernardino Avenue and Lugonia Avenue, and ramp improvements that impact the subject development project site.

9) Did the cumulative projects include the major development proposed in Highland east of Wabash Avenue?

10) Did the traffic study include any improvements anticipated under the Congestion Management Plan NEXUS program?

11) Page 6-1 indicates that the methods used for the 2013 traffic forecasts are discussed in Section 6. Where in Section 6 are they discussed?

12) Is East Valley Traffic Model the correct model to model this area? With number of project trips, why wasn't a model prepared for this project TIA. Since the 2030 without project volumes are based on 2030 model volumes less the project trips, this would assume the project was included in the 2030 EVTM. Was the Redlands Crossing (incl. Super WalMart) included in that model?

13) Who is reviewing the traffic study on behalf of the City of Redlands?

14) Is the choice of 2030 for the future year scenario appropriate? Should the analysis instead be based upon 2010 (current) traffic data and a future year scenario for 2035 (at least 20 years past proposed opening year 2013)?

STEPHEN W. ROGERS, P.E. CONSULTING
820 CHURCH ST. REDLANDS, CA 92374
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February 21, 2012

Southern California Association of Governments
818 West 7th Street, 12th Floor
Los Angeles, CA 90017
Attn: Margaret Lin Sent by email to: lin@scag.ca.gov

SUBJECT:

FEDERAL TRANSPORTATION IMPROVEMENT PROGRAM (FTIP) PROPOSED AMENDMENT #11-24, 20 FOR DRAFT 2012-2035 REGIONAL TRANSPORTATION PLAN/ SUSTAINABLE COMMUNITIES STRATEGY (RTP/SCS) PROGRAM ENVIRONMENTAL IMPACT REPORT (PEIR)

Dear Ms. Lin:

Thank you and SCAG for this opportunity to provide written public comments pertaining to the subject Draft PEIR document for the 2012-2035 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/ SCS) document, dated December 2011, and Federal Transportation Improvement Program (FTIP) Proposed Amendment # 's 11-24, -20:

The following highway projects in the City of Redlands area of San Bernardino County, have been mistakenly left out of the identified FTIP projects lists and associated RTP/SCS documents:

1. Redlands Boulevard/ Colton Ave./ Alabama St./ RR-X's (SanBAG) Intersection(s) reconstruction
2. San Bernardino Avenue/ I-210 Freeway Interchange Upgrade (impacting proposed Redlands Crossing (super WalMart) development (see comment letter pertaining to Redlands Crossing Draft Environmental Impact Report, attached.)
3. Alabama Street/ I-10 Freeway Interchange Upgrade

C: San Bernardino County Board of Supervisors
City of Redlands City Council

STEPHEN W. ROGERS, P.E. CONSULTING
820 CHURCH ST. REDLANDS, CA 92374
PHONE: 909.556.1988 (CELL) EMAIL: STEVE_ROGERS@VERIZON.NET

February 14, 2012

Southern California Association of Governments
818 West 7th Street, 12th Floor
Los Angeles, CA 90017
Attn: Margaret Lin Sent by email to: lin@scag.ca.gov

SUBJECT: DRAFT 2012-2035 REGIONAL TRANSPORTATION PLAN/ SUSTAINABLE COMMUNITIES STRATEGY (RTP/SCS) PROGRAM ENVIRONMENTAL IMPACT REPORT (PEIR)

Dear Ms. Lin:

Thank you and SCAG for this opportunity to provide written public comments pertaining to the subject Draft PEIR document for the 2012-2035 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/ SCS) document, dated December 2011. The following additional mitigation measures and sustainable community strategies are proposed for SCAG's consideration and inclusion in the Final Program Environmental Impact Report (PEIR), as appropriate:

1. The ***Friendly Communities*** program is being developed as a private-public partnership, to focus on the needs and quality of life issues unique to residents of unincorporated area communities, and other communities of special interest. This program could be replicated statewide/ nationwide.
2. A Countywide ***Vehicle Asset Management Plant Program (VAMPP)*** should be considered for strategic location along major routes within the regional highway network, to improve the implementation of standardized maintenance programs for governmental, transit and private fleet asset services management. This program could be replicated statewide/ nationwide.
3. Technological advances in vehicle, truck and heavy equipment lubrication, translating into significant emissions reductions and extended oil service drain intervals, can be realized by the use of ***Synthetic Lubricants*** and fleet conversion to bypass filtration. In a recent study, reported December 2011,***Amsoil Synthetic Lubricants Increased Fuel Economy 6.54 %*** in diesel trucking applications.

C: San Bernardino County Board of Supervisors
City of Redlands City Council

AIA|LA

February 14, 2012

President Pam O'Connor
Board of Directors
Southern California Association of Governments (SCAG)
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

Re: Draft 2012 – 2035 Regional Transportation Plan/Sustainable Communities Strategy

Dear President Pam O'Connor and Honorable Members of the SCAG Regional Council:

On behalf of the Los Angeles chapter of the American Institute of Architects (AIA|LA), I am writing to express our thoughts on the draft 2012 – 2035 Regional Transportation Plan/ Sustainable Communities Strategy (RTP). With great respect for the process to draft such a comprehensive plan, we commend you on the progress made so far.

As AIA|LA supports smart growth policies that facilitate infill development projects and concentrate our investments in areas that sustain the vibrancy of the urban core, we encourage you to adopt Alternative 3 (Envision 2 Alternative) of the draft plan**.** This option will foster smart growth land use and housing patterns to achieve superior environmental results in air quality, aesthetics, open space and farmland preservation, water conservation, greenhouse gas emissions reductions, mobility, and land use.

Transit projects and active transportation investments should take precedent over highway expansion projects. Infill development and transit-first policies are natural allies of each other. Accelerating transit infrastructure and associated joint-use, mixed-income development also helps our region achieve its social, economic and cultural development goals.

AIA|LA is concerned that the current draft plan provides for a disproportionate share of funds towards highway capacity improvement that will facilitate greenfield development. The consequence of additional freeway lanes will be more VMT and more sprawl, with the associated air quality and infrastructure maintenance requirements. Environmentally and economically, facilitating more compact urban development and design conserves our natural resources and our tax dollars. In short, adopting the Envision 2 Alternative Plan will help S.C.A.G. emphasize its leadership role to shape emerging land-use and transportation plans.

Moving forward we invite the S.C.A.G. Board of Directors and staff to work with AIA|LA to shape an environmentally healthy and economically compelling vision for the future of Southern California.

Very truly yours,

Will Wright
Director, Government & Public Affairs

AIA Los Angeles
3780 Wilshire Blvd., Suite 800 - Los Angeles, CA 90010
(213) 639-0777

February 14, 2012

Attn: President Pamela O'Connor
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

Re: 2012-2035 Draft Regional Transportation Plan/Sustainable Communities Strategy

President O'Connor and Southern California Association of Governments Regional Council Members:

The Center for Community Action and Environmental Justice appreciates the efforts of the Southern California Association of Governments (SCAG) in completing the Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy (2012 RTP/SCS). We are encouraged by the concerted efforts put forth in the draft towards improving the transportation system which also includes some measures to address Public Health and Air Quality in our region.
We have joined with other concerned organizations to outline comments on the plan and incorporate those comments with ours, however we do have some specific concerns which we feel will directly impact our communities in the City of Jurupa Valley (formerly known as unincorporated Mira Loma community in Riverside County) and the City of San Bernardino Westside communities.

The communities in the Jurupa area have for many years seen an influx of warehousing slowly encroaching into our neighborhoods. Many of these projects are at the fence line of homes and schools. Residents in close proximity to highways, and busy streets with high levels of diesel truck traffic, will experience increased incidents of asthma, cancer risks, cardiovascular and respiratory disease, premature mortality, decreased life expectancy, reproductive health problems.

Components of the Regional Goods Movement System
SCAG has addressed the fact that the Inland Valley is already home to (2008) about 837 million square feet of warehousing space with another 185 million square feet in developable land. An estimated 15 percent of the occupied warehouse space served port-related uses while the remaining 85 percent supported domestic shippers. National and regional distribution facilities tend to be located in the Inland Valley and concentrated in the Jurupa Valley/Fontana area. The impacts to the surrounding communities from the diesel spewing trucks drawn to these warehouses create severe health outcomes and disruption of the quality of life for local families. SCAG must address these impacts in a significant manner as to minimize to the furthest extent possible the environmental and health risks posed from exposure to diesel exhaust.

The implementation of specific truck routes to keep truck traffic away from communities of concern as project specific strategies tend not to address specific impacts to these communities. Other measures such as establishment of green zone/buffer area between diesel sources and residents of at least 1000 feet are necessary to be protective of residents in close proximity. Additional mitigation measures of trees and foliage that help to trap many of the ultra fine particles to lessen the impacts to communities

of concern, sound walls to lessen the noise pollution from residential areas that are too close to freeways and heavily traveled thoroughfares.

Regional Clean Freight Corridor System

The truck corridor that SCAG has proposed will heavily impact the inland valley communities as SCAG has indicated the increase of truck traffic to our area will grow from 58,000 to 70,000 trucks per day although these trucks would be removed from general purpose lanes when they get to Interstate 15 and State highway 60. That traffic will then be dumped into our communities at a rate that will create an even greater health crisis for our communities. The disregard for the impacts of the plan upon the Inland Valley communities south of the 15/60 interchange must be addressed. The residents can't wait until 2035 for a solution to this huge impact. Goods movement strategies must ensure that the South Coast air basin meet federal air quality standards set forth in the Clean Air Act. The technologies mentioned must be required for future projects and incorporate these technologies or they should not be built. The RTP/SCS must remove the East-West Corridor Route Project.

Recommending building an east-west corridor without analyzing the health, housing and demographic impacts of the project on the neighboring communities can have severe environmental, health and justice implications for the entire region, and particularly for local communities of concern as previously stated.

Communities like the City of San Bernardino Westside are an example of one of the worst impacted by the BNSF Intermodal Railyard which after a health risk assessment conducted in 2008 found that residents living in close proximity faced an increased cancer risk from diesel emissions as much as 15 times higher than the Union Pacific Railyard UP in Colton and 3 times higher than any other railyard in the region. To these residents the point of maximum impact is 3,300 people in a million are at greatest risk.

The RTP/SCS must focus attention on cleaning up existing freight corridors. Rail companies should not expand until rail yards like San Bernardino's BNSF Facility implement zero emissions technology. These communities with the highest health risk cannot wait until 2030 for solutions. As freight transport increases, SCAG must encourage the incorporation of evolving technologies to specific high risk areas first and not just for proposed new projects. SCAG should use the highest polluting facilities for testing and evaluation, as well as for the use of advanced technology locomotive demonstrations.

The public health evidence is insurmountable to deny. Our built environment plays a direct impact to our health and the transportation sector must take into consideration the public health implications to the region, as well as those communities of concern and not just the region's economic growth.

The Center for Community Action and Environmental Justice
Penny Newman Executive Director

THE Kennedy COMMISSION

www.kennedycommission.org
17701 Cowan Ave., Suite 200
Irvine, CA 92614
949 250 0909
fax 949 263 0647

February 14, 2012

Attn: Honorable Pam O'Connor, President of SCAG
Regional Council Members
Southern California Association of Governments (SCAG)
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017

RE: Comments on SCAG's Draft 2012 RTP/ SCS

Dear Honorable O'Connor,

The Kennedy Commission (the Commission) is a broad based coalition of community organizations and advocates that focus on building sustainable communities through the creation of affordable home opportunities for families earning less than $20,000 annually in Orange County.

The Commission would like to acknowledge the extensive work that the Regional Council and staff of the Southern California Association of Governments (SCAG) have done to embark on the development of a first-ever Sustainable Community Strategy (SCS) in the 2012 Regional Transportation Plan (RTP). The RTP/SCS is moving in the right direction as it provides land-use, transportation and housing strategies that will achieve and exceed the greenhouse gas emission reduction targets set by the California Air Resources Board (CARB).

The implementation of the RTP/SCS will create more sustainable and healthier communities in the SCAG region, however, the Commission believes the strategies linking housing and transportation can be strengthened to facilitate the development of affordable homes. Locating homes, specifically affordable homes, near accessible public transportation, job centers and neighborhood amenities will allow individuals to afford to live in the same community in which they work in. This type of planning will effectively address the goals of SB 375 and decrease long distance commutes, vehicle miles traveled (VMT) and highway congestion that all leads to greenhouse gas emissions.

The Commission would like to comment on the following:

Integrating Affordable Homes Near Job Centers and Transportation Hubs

The RTP/SCS identified High-Quality Transit Areas (HQTA) in the region as opportunity planning areas for the majority of future housing and employment growth. It is projected that by the year 2035, 51 percent of new homes and 53 percent of new employment growth will be developed in HQTA.[1] While the HQTA encourages higher density and compact development near and around job centers and transit amenities, this type of development does not necessarily

[1] Regional Transportation Plan 2012 RTP Sustainable Communities Strategy Towards a Sustainable Future, p. 128, December 2011.

facilitate the development of affordable homes throughout the SCAG region. While there are several jurisdictions that have initiated urban infill or transit-oriented developments, many of these housing developments have been planned or developed to provide housing opportunities affordable to higher income households. These developments lack mixed-income housing opportunities that would be available to many working families, especially lower income families, who want to live and work in the City.

While future growth in HQTA reflects the emerging demographic trends and is the recommended major land use scenario, the RTP/SCS acknowledges that there are potential impacts of displacement of lower income households and gentrification resulting from new transit oriented developments that attract affluent residents in the neighborhood. The Commission recommends that SCAG closely analyze, monitor and mitigate any potential impacts or environmental justice inequalities stemming from future development. In addition, the Commission strongly supports SCAG's land use and housing mitigation measures to help reduce these impacts:

- **MM-LU11:** Significant adverse impacts to community cohesion resulting from the displacement of residences or businesses can and should be mitigated with specific relocation measures as dictated by local, state or federal requirements on a project-by project basis. Such measures include assistance in finding a new location, assistance with moving, or compensation for losses. Where it has been determined that displacement is necessary and displaced individuals are eligible, a relocation assistance program consistent with the State Uniform Location Assistance and Real Properties Acquisition Policies Act provides compensation and assistance in finding new residence for displaced individuals.[2]

- **MM-LU53:** SCAG shall promote infill, mixed-use, and higher density development, and provide incentives to support the creation of affordable housing in mixed use zones.[3]

- **MM-LU61:** Local jurisdictions can and should mix affordable housing units with market rate units as opposed to building segregated affordable housing developments.[4]

- **MM-LU73:** Local jurisdictions can and should locate affordable housing in transit-oriented development whenever feasible.[5]

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[2] Draft Program Environmental Impact Report, 2012-2035 Regional Transportation Plan/ Sustainable Communities Strategy, p. 3.8-17, December 2011.
[3] Draft Program Environmental Impact Report, 2012-2035 Regional Transportation Plan/ Sustainable Communities Strategy, p. 3.8-21, December 2011.
[4] Draft Program Environmental Impact Report, 2012-2035 Regional Transportation Plan/ Sustainable Communities Strategy, p. 3.8-22, December 2011.
[5] Draft Program Environmental Impact Report, 2012-2035 Regional Transportation Plan/ Sustainable Communities Strategy, p. 3.8-23, December 2011.

- **MM-POP4:** Project sponsors shall mitigate impacts to affordable housing as feasible through construction of affordable units (deed restricted to remain affordable for an appropriate period of time) or payment of any fee established to address loss of affordable housing.[6]

Jobs-Housing Fit Performance Measure

On the June 30, 2011 SCAG Environmental Workshop, participants commented on the need for a performance measure such as a jobs-housing fit analysis in the RTP/SCS.[7] This analysis would evaluate the types of jobs being created in the community to the housing types and affordability levels of homes being developed. The RTP/SCS has instead provided a performance measure on jobs-housing imbalance or jobs-housing mismatch that analyzes the socio-economic profiles of long distance commuters.[8] This is a small step towards the right direction but the Commission recommends there needs to be more research and thorough analysis, specifically on the jobs-housing fit, to provide a better understanding of how we can strengthen the link between jobs and housing development for all economic segments of the community.

The Kennedy Commission looks forward to working with SCAG Regional Council and staff to achieve our mutually beneficially goals in creating more sustainable, healthier and equitable communities. Specifically, the Commission welcomes the opportunity to continue our dialogue that will result in the production of new homes affordable to extremely low, very low and low-income households throughout the region.

If you have any questions, please feel free to contact me at (949) 250-0909 or cesarc@kennedycommission.org.

Sincerely,

Cesar Covarrubias
Executive Director

cc: Hasan Ikhrata, SCAG

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[6] Draft Program Environmental Impact Report, 2012-2035 Regional Transportation Plan/ Sustainable Communities Strategy, p. 3.10-11, December 2011.
[7] Regional Transportation Plan 2012 RTP Sustainable Communities Strategy Towards a Sustainable Future, Environmental Justice, p. 4, December 2011.
[8] Regional Transportation Plan 2012 RTP Sustainable Communities Strategy Towards a Sustainable Future, Environmental Justice, p. 4, December 2011.

The Transit Coalition

Southern California's Leading Transit Advocacy Group

P.O. Box 567 * San Fernando, CA 91341-0567
Voice: 818.362.7997 * Fax: 818.364.2508
www.transitcoalition.org

The Transit Coalition (a project of LACBC) is a nonprofit public charity exempt from federal income tax under Section 501[c](3) of the Internal Revenue Code

Tuesday, February 14, 2012

Southern California Association of Governments
Attention: Margaret Lin
Southern California Association of Governments
818 West 7th Street, 12th Floor
Los Angeles, CA 90017-3435

RE: Comments on SCAG DRAFT 2012 RTP and the Plan EIR

Dear Ms. Lin:

We wish to express our concerns on elements of the draft SCAG RTP, as we don't see the AB32 and SB375 goals being achieved, without some modifications to the document, as our comments outline.

Identify the Measure R Van Nuys and Sepulveda Pass transit projects as corridors rather than designating them as 'busways,' which could improperly preempt and prejudice the environmental clearance process. Note that neither Measure R nor Metro have chosen the mode for either corridor; "Rapidways" describe rapid transit corridors regardless of mode.

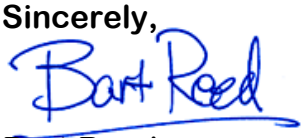
Converting existing High Occupancy Vehicle (HOV) carpool lanes to High Occupancy Toll (HOT) must allow carpools to have access to these lanes free of charge and without mandatory transponders. Otherwise, the intent of the RTP/SCS will be undermined and its outcome will underperform the potential of these lanes due to a reduction in both the number of carpools and the average number of passengers per vehicle.

Converting loading and unloading activities at the ports to direct ship to rail (excluding any intermediate truck sorting steps) will enable greater capacity at lower cost and environmental impact. Creation of a freight pipeline from the Ports to the Inland Empire with an underground alternative to the 60 Truck Freightway should be an alternative.

In addition to a regional gas tax for transportation, SCAG should implement a diesel fuel tax that accounts for both the wear and tear on roadways as well as pollution. Receipts from both taxes should be kept together in a regional transportation matching fund.

We recommend that you include these modifications in the RTP.

Sincerely,



Bart Reed
Executive Director

San Joaquin Hills
Corridor Agency

Chairman:
Scott Schoeffel
Dana Point



Transportation Corridor Agencies

Foothill/Eastern
Corridor Agency

Chairman:
Bill Campbell
County of Orange
3rd District

February 13, 2012

Mr. Hasan Ikhrata
Executive Director
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

RE: Comments on the Draft 2012 Regional Transportation Plan/
Sustainable Communities Strategy and Program Environmental Impact Report

Dear Mr. Ikhrata:

The Foothill/Eastern Transportation Corridor Agency and the San Joaquin Hills Transportation Agency (TCA) appreciates the opportunity to review and provide comments on the Draft 2012-2035 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) and associated Draft Program Environmental Impact Report (PEIR). TCA commends the SCAG staff for the tremendous amount of work and effort in putting these documents together. TCA also recognizes and supports the timely adoption of the RTP/SCS to enable the Southern California region to proceed with the planning and implementation of regionally significant transportation projects. Further, TCA recognizes that the SCS is particularly important for the region to meet its state mandated greenhouse gas (GHG) emissions reduction targets for 2020 and 2035.

Please find below TCA's specific comments on both the draft RTP/SCS and PEIR.

DRAFT 2012-2035 RTP/SCS

Page 23, Vision, Transportation Demand Management
Transportation pricing is not identified as part of the RTP/SCS "vision" either as a transportation demand management method or as a financing tool, even though it is clearly a component of the transportation plan and financial plan for implementation. The Orange County SCS includes a description of the current and planned priced transportation network that should be adapted to address the entire region.

Recommended Clarification:
Add information from the Orange County SCS (pages 126 and 127 of the Subregional Sustainable Community Strategies Technical Appendix) that describes the existing and

planned inter-operable priced transportation network in the region, including toll roads, express lanes and high occupancy toll (HOT) lanes. The text can be expanded to address HOT lanes, toll2 facilities, express lanes and tolled truck lanes in the region as a whole, and should include the following points:

- Tolled centerline miles in the region will increase from 61 in 2008, to 408 in 2035, including toll roads, express lanes, HOT lanes, and tolled truck lanes.

- Priced lanes provide flexibility and options as part of the congestion relief toolbox of measures designed to help meet sustainability and emission reduction goals related to SB 375 and other state and federal mandates.

- "Priced facilities are an especially important tool for providing intra-county, inter-county and interregional capacity."

- "The existing priced transportation network serves the locations where major employment and housing growth are projected to occur."

- "Toll roads and express lanes charge users a fee for travel, but typically offer less congested traffic lanes than nearby freeways and roadways. Reduced congestion provides improved and more efficient mobility with fewer air pollutants and greenhouse gas (GHG) emissions caused by congestion."

- "The toll road system is designed to interrelate with transit service. The toll roads can accommodate Bus Rapid Transit and express bus service, and toll road medians are sized and reserved to provide the flexibility for future transit, if appropriate."

- Priced facilities such as the Orange County toll roads are privately funded. This insures that these facilities can relieve congestion and associated air pollution and GHG emissions without further stressing limited state, federal and local transportation funding resources.

Page 42, Major Highway Completion Projects, Table 2.2
SR-241 (ORA052) is identified in Table 2.2 as a major highway completion project. However, the completion year is listed as 2020-2030. Although widening will occur in the 2020 to 2030 timeframe, the official project description identifies the completion date as 2030.

Recommended Clarification:

- In Table 2.2, we request that the completion date for SR 241 be clarified as 2030, consistent with the project description for ORA052.

- In the interest of establishing that some major highway projects in Table 2.2 provide emissions reduction benefits without burdening limited federal, state and local

funding resources, we request the following clarifying footnote: *SR 241 is a privately funded Transportation Control Measure.*

Page 56, Express/HOT Lane Network
This appears to be the only "priced transportation" discussion in the transportation investments chapter. It does not identify how many miles of priced lanes exist now, or how much that network will be expanded in the plan. Toll roads are included in the priced transportation network, along with express lanes, and HOT lanes, but are not included in the discussion. However, TCA's Toll Roads are depicted in Exhibit 2.6, Regional HOT Lane Network. The terminology should be clarified.

Recommended Clarification:

- Retitle this section, "Express Lanes, HOT Lanes and Toll Roads: The Priced Transportation Network."

- Table 2.6 should be retitled "Express Lanes, HOT Lanes and Toll Roads"

- The text should provide brief definitions of each type of facility that makes up the priced transportation network, as Express Lanes, Toll Roads and HOT Lanes each operate differently.

- The discussion should include that express lanes, HOT lanes and toll roads generate user fees that pay for construction and operation of their facilities.

- The text should discuss that all priced facilities in the SCAG region insure inter-operability by using a common technology, FasTrak, to collect user fees.

- The text should establish the congestion reducing goal of priced transportation, and the associated criteria pollutants and GHG emissions benefits of providing free flow capacity that avoids emissions generated by idling. In addition, user fees provide an economic incentive for cost-sharing that promotes ridesharing, which is beneficial to reduced criteria pollutants and GHG emissions reductions.

Page 76, Conservation Planning Policy
The description of this policy requires clarification to express the intent of SCAG's Energy and Environment Policy Committee and the coalition of more than 20 public, non-profit and private sector interests, including TCA that urged SCAG to include it.

Recommended Clarification*:*
Add a paragraph that explains why the conservation program benefits GHG emissions and other criteria pollutants reductions. Specifically, in addition to meeting Safe, Accountable, Flexible, Efficient Transportation Equity Act: A legacy for Users (SAFETEA-LU) requirements, the open space lands conservation program would use natural land acquisition to sequester (store) carbon, avoid GHG emissions, and reduce

vehicle miles traveled (VMT). This proposed program allows for early implementation and mitigation opportunities. Jurisdictions would have the option to invest early in this open space strategy which offers immediate GHG emissions avoidance benefits, while simultaneously proceeding with the longer term and planning intensive projects to build transportation centers near existing residential areas, or employment centers near transit stations, etc.

Suggested steps to develop a regional conservation planning policy should be expanded to include the following key points supported by SCAG's Energy and Environment Committee and the coalition that recommended this program:

- Build upon existing open space land acquisition and open space programs in the region, tailoring programs to each individual county in the region. These include, but are not limited to, OCTA's Measure M Mitigation Program, and TCA's open space mitigation program, which has protected 2,200 acres in perpetuity to date.

- Pursue open space conservation in a voluntary manner, working with willing private sector landowners.

Page 78, Greenhouse Gases
The draft document states that "The transportation sector, primarily, cars and trucks that move goods and people, is the largest contributor [to greenhouse gas (GHG) emissions] with 36.5 percent of the State's total GHG emissions in 2008. On road emissions (from passenger vehicles and heavy duty trucks) constitute 93 percent of the transportation sector total." This statement covers only part of the transportation system's GHG emissions role. The text must recognize projects that reduce transportation network GHG emissions by relieving congestion and insuring free-flow conditions.

Because GHG emissions from vehicles increase in stop-and-go traffic, congestion relief projects that eliminate bottlenecks and maintain free-flow conditions actually reduce transportation network GHG emissions, much as Transportation Control Measures are transportation projects that reduce criteria pollutants. Further, the SB 375 Regional Targets Advisory Committee (RTAC) recommends tracking the performance of such strategies "to smooth extreme congestion to more carbon-friendly speeds" in its final report to the California Air Resources Board.

Recommended Clarification:
Insert the following statements on page 78:

- Congestion relief projects reduce transportation network GHG emissions, which otherwise result from idling.

- Consistent with the SB 375 RTAC's recommendation in its final report to the California Air Resources Board, the RTP/SCS includes projects and strategies designed "to smooth extreme congestion to more carbon-friendly speeds."

- A subset of projects included in the Draft RTP/SCS reduce GHG emissions by providing relief of existing and projected congestion. These include toll roads, express lanes, HOT lanes, high occupancy vehicle (HOV) lanes, and dedicated truck toll lanes.
- Congestion pricing is a powerful transportation demand management tool incorporated in the Draft RTP/SCS for reducing GHG emissions. SCAG has launched a two-year study of congestion pricing strategies that can provide needed transportation facilities while reducing the region's GHG emissions associated with vehicle trips.

- Orange County's toll road network is a prime example of priced congestion relief projects. The toll roads have variable pricing incentives that spread out vehicle use to limit peak-hour congestion that leads to increased GHG emissions.

- Other examples of projects that reduce GHG emissions on the regional transportation network include express lanes, HOT lanes, HOV lanes and dedicated truck toll lanes for goods movement.

Page 79, Air Quality
Transportation Control Measures (TCMs) are mentioned as mitigation measures, but are not defined or illustrated. The importance of TCMs needs to be clarified and expanded to clearly communicate their air quality role in the RTP.

Recommended Clarification:
- Provide a brief description of projects that qualify as TCMs.

- Explain the role of TCMs in reducing emissions.

- Provide a reference to the list of TCMs contained in the Conformity Technical Report.

Page 86, Financial Plan, Introduction
The draft document states that "We have successfully implemented toll systems in the past with the Transportation Corridor Agencies' network of toll roads and the SR-91 Express Lanes in Orange County. This kind of innovation in transportation continues as neighboring counties within our region consider a broader network of toll systems." However, the statement needs to clarify the financial planning importance of privately funded toll facilities.

Recommended Clarification:
Priced transportation facilities also provide the opportunity for financial innovation. The Orange County toll roads (SR 73, SR 133, SR 241, and SR 261) are privately funded. They provide congestion relief and associated air pollution and GHG emissions reduction without further stressing limited federal, state, and local transportation funding.

Page 92, Core Revenues, Regional Revenues
Table 3.6, Regional Revenues, identified federal, state and local sources of transportation funding for the plan. Nowhere in the document is the private sector funding contribution assumed for the plan described, although toll road widenings, expansions, and new tolled facilities that are privately funded are included in the plan and in the total cost of the plan.

Accurately describing the extent of private funding is an important public disclosure, and an important element of the financial plan that relieves the burden on limited federal, state and local transportation funding.

Recommended Clarification:

- Clarify in the text the percentage of total funding contributed by private sources. This sum should include the privately funded Orange County toll roads (SR 73, SR 133, SR 241, and SR 261).

- A companion pie-chart, similar to Table 3.6, showing the split between public and private funding would also clarify this point.

Page 103, Table 3.5 2012 RTP Revenues (in Nominal Dollars, Billions)
Until such time that the TCA Board reviews, considers, and/or approves a VMT-based user fee; TCA is not in a position to support an increase in fees as proposed in the draft Plan. Furthermore, the draft does not clarify how the cost of a proposed new VMT fee, increased gas tax fee, tolls and user fees would layer over each other. It appears that they would accumulate for individual drivers, with a potentially significant economic impact on drivers and households. Drivers paying to use toll roads, express lanes and HOT lanes would be paying twice for the same mileage.

Page 145, Exhibit 4.17, Land Use Pattern Orange County (2035)
The southerly portion of SR 241 (ORA052), from Oso Parkway to the San Diego County border, has been inadvertently left off this map.

Recommended Clarification:

- Please show the SR 241 alignment on Exhibit 4.17 consistent with the project modeling list and other transportation network maps in the Draft RTP/SCS.

Page 161, Performance Outcomes
This text should clearly state that performance measures and outcomes are not intended to apply to individual areas or projects, but rather to the region as a whole.

Recommended Clarification:
We recommend that the following clarification be inserted:

- Performance measures and expected outcomes will be used to monitor the RTP/SCS at the regional level; these measures and outcomes are not proposed for use at the subregional or project-specific level.

Page 207, Strategic Plan
SCAG assumes $100 billion will be available from a future VMT fee starting in 2025, but funding for mileage-based user fee demonstration projects and implementation strategies are not included in the constrained RTP/SCS; they are listed in the unfunded Strategic Plan. The TCA Board has made no decision on the use of VMT fees and until such time is unable to support its use in the proposed in the draft Plan.

Highways and Arterials Technical Report

Page 15, Express/ High Occupancy Toll (HOT) Lane Network.
As with the comment on page 57 of the main RTP/SCS document, the technical report should clearly include toll facilities in the description of projects included in this category. Orange County toll roads are not categorized as express or HOT lanes, but collect tolls as a means of insuring low-emission free-flow capacity and funding the construction and operation of the facility. Toll roads integrate with express lane and HOT lane facilities via the common FasTrak technology that allows inter-operability and convenience for drivers.

Recommended Clarification:

- Retitle this section, "Express Lanes, HOT Lanes and Toll Roads: The Priced Transportation Network."

- Table 2.6 should be retitled "Express Lanes, HOT Lanes and Toll Roads"

- The text should provide brief definitions of each type of facility that makes up the priced transportation network, as express lanes, toll roads and HOT lanes each operate differently.

- The text should discuss that all priced facilities in the SCAG region ensure inter-operability by using a common technology, FasTrak, to collect user fees.

- The discussion should include that express lanes, HOT lanes and toll roads generate user fees that pay for construction and operation of their facilities.

- The text should establish the congestion reducing goal of priced transportation, and the associated criteria pollutants and GHG emissions benefits of providing free flow capacity that avoids emissions generated by idling. In addition, user fees provide an economic incentive for cost-sharing that promotes ridesharing which is beneficial to reduced criteria and GHG emissions reductions.

Performance Measures Technical Report

Page 2, discussion of types of performance measures.
As with the comment on page 160 of the main RTP/SCS document, the text must make clear that the performance indicators are intended to be applied to the RTP/SCS at the regional level and are not proposed for project-specific application.

Recommended Clarification:
We recommend that the following clarification be inserted:

- Performance measures and expected outcomes will be used to monitor the RTP/SCS at the regional level; these measures and outcomes are not proposed for use at the subregional or project-specific level.

SCS Background Documentation

Pages 36 and 37, Land Use Pattern Maps for 2020 and 2035.
Both of these maps are inconsistent with transportation network maps in the document and do not include SR 241 (ORA052), specifically called out in the RTP as a TCM and priced transportation project in southern Orange County.

Recommended Clarification:
Please show the SR 241 alignment on the Land Use Pattern Maps for 2020 and 2035 consistent with the project modeling list and other transportation network maps in the Draft RTP/SCS.

Page 54, Pricing and Vehicle Policy Assumptions.
This discussion only refers to a 2-cent per mile VMT fee; the Plan proposes a 5-cent per mile fee. This inconsistency should be eliminated.

Recommended Clarification:

- Amend the reference to a 2-cent VMT fee to a 5-cent per mile VMT fee starting in 2025, consistent with the RTP/SCS main document.

Add the following sentence:

- Toll roads, express lanes and HOT lanes charge varying tolls per mile for use of their facilities. Tolls are project-specific and typically vary by time of day and day of the week. Tolls collected for existing toll roads in Orange County are dedicated to operational expenses and retiring the bonds issued for construction.

Transportation Conformity Technical Report

Page 14, Toll Roads
The discussion of toll road assumptions specifically mentions express lanes and HOT lanes, but not tolled facilities such as existing toll roads SR 73, SR 241, SR 133 and SR 261 in Orange County.

Recommended Clarification:
- SR 241 should be added to Table 6 as a tolled facility and the effect of the toll charges on it should be incorporated into the highway assignment procedure.

- Table 6 should be retitled appropriately to include "Express Lane, HOT Lane and Toll Road Networks." This change should also be made in the main RTP/SCS document.

Transportation Security Technical Report

General
This report addresses the need for the transportation system to enhance emergency preparedness, and transportation security and preparedness. Projects that enhance the region's security are not identified.

Recommended Clarification:
Provide illustrations of transportation projects needed in the RTP/SCS to improve transportation security. For example, the southerly extension of SR 241 provides an alternative route connecting the SCAG and San Diego Association of Governments coastal regions, which have very high current and projected travel volumes. This route will ease future projected congestion to ensure critical capacity for access and evacuation in times of environmental or other emergencies, such as earthquakes, wildfires, traffic accidents, and potential nuclear threats at the San Onofre plant. The need for an alternative route was recently illustrated by the lack of evacuation capacity from the 2007 North San Diego County wildfires.

DRAFT PROGRAM EIR

General
The Draft PEIR sets forth 500 mitigation measures that SCAG states are "feasible" and reasonable to assume that they will be implemented. Further, it is difficult to sort through these voluminous mitigation measures to identify those that are mandatory vs. advisory and those that apply to transportation projects as opposed to other types of developments. This can be improved by reformatting and clarifying the proposed mitigation measures as follows:

Recommended Clarifications:
- Provide a clear statement to the following effect: All mitigation measure recommendations to project sponsors and agencies are advisory. Lead agencies are

responsible for identifying and addressing those measures they deem practical and feasible, or applicable to specific projects.

- Sort out mitigation measures so that those that are mandatory upon SCAG appear first in each category and can be easily distinguished from Best Management Practices or Best Available Control Measures that SCAG is recommending to project sponsors and other agencies.

- For mitigation measures that simply restate existing regulatory agency requirements or recommendations, e.g. California Department of Fish and Game survey protocols and mitigation requirements, reference the specific regulation and include in the description "or successor regulation or guideline" so that as time moves forward the measure does not recommend out of date regulations or guidance.

Page 3.6-15 and 17 Greenhouse Gas Emissions, Transportation Network Improvements.
On page 3.6-15, the Draft PEIR states that the transportation sector is a major source of California's greenhouse gases. Further, on page 3.6-18, the discussion cites information on the GHG emissions from new vehicle trips. However, in both places, the document does not clarify that certain transportation projects reduce greenhouse gases by virtue of their design, location and operation. Similar to the way that Transportation Control Measures reduce precursors to ozone, projects that reduce congestion and idling reduce GHG emissions from the regional transportation network. The PEIR must explain the relationship between GHG emissions and congestion relief, and the components of the RTP that provide congestion and idling relief on the regional network.

Recommended Clarification:
Consistent with our recommended clarification for page 78 of the Draft RTP/SCS document, the PEIR text should state the following on pages 3.6-15 and 3.6-18:

- Congestion relief projects reduce transportation network GHG emissions due to idling.

- Consistent with the SB 375 RTAC's recommendation in its final report to the California Air Resources Board, the RTP/SCS includes projects and strategies designed "to smooth extreme congestion to more carbon-friendly speeds."

- A subset of projects included in the Draft RTP/SCS reduce GHG emissions by providing relief of existing and projected congestion. These include toll roads, express lanes, HOT lanes, HOV lanes, and dedicated truck toll lanes.

- Congestion pricing is a powerful transportation demand management tool incorporated in the Draft RTP/SCS for reducing GHG emissions. SCAG has launched a two-year study of congestion pricing strategies that can provide needed

transportation facilities, while reducing the region's GHG emissions associated with vehicle trips.

- Orange County's toll road network is a prime example of priced congestion relief projects. The toll roads have variable pricing incentives that spread out vehicle use to limit peak-hour congestion that leads to increased GHG emissions.

- Other examples of projects that reduce GHG emissions on the regional transportation network include express lanes, HOT lanes, HOV lanes and dedicated truck toll lanes for goods movement.

Maps 2, Project Description

General, SR 241 Missing from 2035 Base Maps
Please ensure that all 2035 base maps include the southerly extension of SR 241, For example, Map 2.13, 2035 Grade Separation Projects, does not show SR 241, which will be completed by 2030, on the base map, while it is depicted on Map 2.6 an 2.8. Map 2.19, Land Use Pattern in Orange County, does not depict SR 241; this is accurate only if the map is intended to show 2008 land use; SR 241 should be included in all maps for 2020 and 2035.

Recommended Clarifications:
Consistent with the transportation modeling network and TCM timely implementation report, show SR 241 as part of the 2035 base map for all transportation maps in the PEIR. Specifically, add SR 241 to Map 2.13 and Map 2.19.

TCA thanks you in anticipation of your written responses to these comments. We look forward to the amendments in the final 2012-2035 RTP/SCS and PEIR to incorporate the recommended changes. Should you have any questions or require any clarification regarding these comments, please feel free to contact Ms. Valarie McFall, Director, Environmental Services at 949.754.3475 or via email: vmcfall@thetollroads.com.

Sincerely,

Scott Schoeffel, Chair
San Joaquin Hills Transportation Corridor Agency

Bill Campbell, Chair
Foothill/Eastern Transportation Corridor Agency

cc: Jacob Lieb, SCAG, Manager of Environmental and Assessment Services
TCA Board of Directors

Urban & Environmental Policy Institute
OCCIDENTAL COLLEGE

February 14, 2012

Attn: President Pamela O'Connor
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017
Re: 2012-2035 Draft Regional Transportation Plan/Sustainable Communities Strategy

Dear President O'Connor and Southern California Association of Governments Regional Council Members. Thank you for seeking public input on the draft Regional Transportation Plan and Sustainable Communities Strategy. The Urban and Environmental Policy Institute at Occidental College supports transportation and land use policies and spending to make the region more just, green, and livable. We are pleased that the draft RTP and SCS have a number of positive elements expanding clean transportation, encouraging more sustainable land uses, and reducing greenhouse gas emissions:

- The planning process took account of the relationship between transportation, land use, sustainability, environmental justice and economic development.
- The draft plan calls for significant investments in transit construction, operations and maintenance.
- The draft plan increases investments in active transportation compared to previous RTPs.
- The draft plan anticipates that vehicle miles traveled will increase less than population growth.
- The sustainable communities strategy quantifies how different forms of growth will have very different impacts on sprawl, energy and water use and other sustainability indicators.
- The draft plan anticipates adoption of zero emission technologies towards the end of the plan time frame.
- The draft plan supports high speed rail.
- The draft plan anticipates a reduction in greenhouse gas emissions from transportation in line with the goals of SB 375.
- The single largest anticipated funding source in the draft plan is implementation of a fee on driving or an increase in the gas tax, either of which would discourage driving.
- Much of the new highway space proposed in the draft plan is toll roads, HOV lanes, or HOT lanes (open to HOV or Tolls) and therefore may lead to less new, induced driving than the provision of free, multiuse lanes.

We however believe that the plans can do more and need to do more to expand alternatives to driving; price car and truck traffic to reflect their negative externalities; reduce the amount of space given to cars, trucks and parking; create good places rather than sprawl; and clean up the goods movement industry.

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Recommendations

A. Rapidly create a more balanced transportation system. The SCAG region has 21,638 center-line miles of road (55,890 lane miles of roads), 4315 miles of bikeways of varied quality (almost zero of it protected lanes on streets), and 470 miles of passenger trains (only 80 miles of which is light rail/subway, the rest metrolink). Opportunities and infrastructure to walk, bike, and take transit should be rapidly expanded so residents have choices for how to get around.

1. Significantly increase investments in active transportation from the $6 billion budgeted. The Los Angeles County Department of Public Health calculates that $40 billion is needed to fix sidewalks, implement jurisdictions' bike plans; and invest in last mile infrastructure near transit stations. http://saferoutescalifornia.files.wordpress.com/2011/11/dph-cost-methodology-presentation_dec14_2-11_notes.pdf
    - Streets are our most important public spaces so we should reconfigure them to be vibrant, safe, healthy places rather than spaces designed to move as many cars as possible without regards for impacts on adjacent activities. Active transportation funding should convert existing arterials and local streets to be world class living and complete streets. SCAG should encourage jurisdictions to follow the street design standards contained in the Model Design Manual for Living Streets http://www.modelstreetdesignmanual.com/ recently developed with funding from the Los Angeles County Department of Public Health.
    - Most cities in the SCAG area have not developed bike or pedestrian plans so part of this funding should go towards assisting these cities in developing plans early in the implementation years.
    - Most people will not ride bicycles in traffic (or separated from traffic by a painted line). In the developed world, every nation with high rates of cycling has separated bike facilities while every nation with low cycling rates lacks this infrastructure. http://www.ta.org.br/site/Banco/7manuais/VTPIpuchertq.pdf Let's start creating a network of protected bike lanes/ cycletracks in all urbanized areas of Southern California, like the Dutch did beginning in the mid 1970s. http://www.youtube.com/watch?v=XuBdf9jYj7o Budget at least $1 billion for the construction of 1000-2000 miles of protected bike lines to increase rates of cycling among non traditional cyclists (protected lanes recently constructed in Long Beach http://www.bikelongbeach.org/News/Read.aspx?ArticleId=85 cost approximately $580,000 per mile).
2. Expand and accelerate transit investments so all planned transit projects in the RTP are constructed by 2022. Existing and new transit services should be funded so as to be affordable with frequent service. Rapid buses should serve all major streets in urban areas so that buses become the default motorized transportation choice. http://www.humantransit.org/2010/11/los-angeles-some-thoughts-on-the-challenge-for-the-source.html

B. Pay for additional active transportation and transit investments by defunding harmful highway projects and by identifying local revenue sources that tax harmful transportation. Moving people by cars and materials by trucks and diesel trains and separating where we live from where we work and shop produces fatal collisions, http://map.itoworld.com/road-casualties-usa cancer and heart disease, http://hydra.usc.edu/scehsc/web/Resources/Key%20Research%20Studies/Resources-%20Key%20Research%20Studies.html obesity and diabetes http://designinghealthycommunities.org/ and climate change http://www.pnas.org/content/early/2010/02/02/0906548107.full.pdf?with-ds=yes , with a disparate impact on residents of low income neighborhoods bisected by highways and living near ports, warehouses, railyards and intermodal facilities. SCAG should projects that increase harmful transportation and tax driving and freight transport to pay for clean transportation.

1. Cancel highway expansion projects to pay for more active transportation and transit. Among the dozen most expensive road expansion projects in the RTP are: east west freight corridor ($15.2 billion), Riverside to Orange County CETAP ($13 billion), high desert corridor ($6.9 billion), 710 corridor expansion ($6.1 billion), 710 gap closure ($5.6 billion), 5 north capacity enhancements ($5.3 billion), 241 expansion ($2.7 billion), mid county parkway ($2.3 billion), 15 widening ($ 1.7 billion), 405 widening in Orange County ($1.7 billion), 5 widening ($1.6 billion), and 79 expansion ($1.4 billion). Building these highways projects will expand driving (and, if built in areas with predominately rural or suburban land uses, also expand sprawl). Cancelling them can allow the $63.5 billion budgeted for these projects to be spent on active transportation and transit.
2. Support local revenue sources that price driving, parking, and freight transport to reflect the externalities of motorized transportation. There are a variety of methods for increasing the price of driving, some of which are contemplated in the RTP's financial plan. http://rtpscs.scag.ca.gov/Documents/2012/draft/2012dRTP_03_Financial.pdf higher gas taxes, carbon taxes, charges based on miles driven, appropriately and dynamically priced parking http://sfpark.org/ , and congestion charges aimed at commuters entering central city areas http://www.tfl.gov.uk/roadusers/congestioncharging/ are all useful policies.

C. Reduce rather than increase the space granted to cars and trucks in order to reduce driving. Roads and parking currently take up too much of our land, which encourages car-based transportation and all the problems that accompany it. Driving increases when roads are constructed, lengthened or widened.

1. Do not add any lane miles of highways or major arterials. The SCAG region currently (base year 2008) has 21,638 miles of road and 55,890 lane miles of roads. The draft RTP anticipates adding 948 centerline miles/ 7419 lanes miles which would be a 4.4%/ 11.1% increase. As Duranton and Turner have shown, "For interstate highways in the densest parts of metropolitan areas we

find that vkt increases in exact proportion to highways, confirming the 'fundamental law of highway congestion' suggested by Downs (1962, 1992). This relationship also approximately holds for other important roads in dense areas and for interstate highways in less dense parts of metropolitan areas." http://ideas.repec.org/p/tor/tecipa/tecipa-370.html Converting mixed flow lanes to toll, HOV or HOT lanes or converting HOV lanes to toll or HOT lanes would still be acceptable.

2. Set a target to reduce vehicle miles travelled from the baseline year of 2008. Vehicle Miles travelled in the baseline year 2008 was 445,844 daily, approximately half on freeways, half on arterial roads. SCAG calculates that this number will rise to 546,806 daily by 2035 without any changes to roads (a 22.6 % increase). Under their plan, VMT will still rise, to 516,990 (16% increase). They also anticipate that VMT for trucks will grow even faster, expanding from 30,201 to 53,431 under their 2035 plan (a 76.9% increase). http://rtpscs.scag.ca.gov/Documents/2012/draft/SR/2012dRTP_Highways_and_Arterials.pdf Instead of planning for this increase, set a target for a reduction in VMT.
3. Plan for highway removal or modification. Learning from cities removing highways http://www.cnu.org/highways/freewayswithoutfutures2012 , agencies and municipalities should plan to remove, cover or alter and reclassify as arterials highways that divide communities, negatively impact valuable natural resources such as rivers and coasts, or channel excessive traffic into neighborhoods. Freeway stubs such as the 710 N above the 10 or the 2 as it approaches Silverlake are ripe for removal or conversion and the 101 through downtown Los Angeles has been the subject of advocacy for capping for a park. http://www.park101.org/

D. Pursue stronger sustainable communities strategies to create good places rather than sprawl. People are drawn to diversity http://www.amazon.com/Life-Between-Buildings-Using-Public/dp/1597268275/ref=sr_1_1?ie=UTF8&qid=1328728803&sr=8-1 in the built environment http://www.amazon.com/American-Cities-Anniversary-Modern-Library/dp/0679644334/ref=sr_1_2?s=books&ie=UTF8&qid=1328728897&sr=1-2 , so municipalities should increase interesting, mixed-use neighborhoods by focusing growth near transit and altering zoning rules that restrict mixed use development to a small fraction of cities' land area.

1. Adopt alternative 3 (the envision 2 alternative) smart growth land use and housing patterns) rather than the planned project. http://rtpscs.scag.ca.gov/Documents/peir/2012/draft/2012dPEIR_4_0_Alternatives.pdf This alternative version of the plan relies on smart growth land use and housing patterns to achieve superior environmental results in air quality, aesthetics, open space and farmland preservation, water conservation, greenhouse gas emissions reductions, mobility, and land use.
2. Fund local jurisdictions to allow them to update their general plans and zoning codes to reflect sustainable community and smart growth principles.

3. Encourage sensitive densification of existing single family zoned areas by encouraging municipalities to allow cottage housing, duplexes, accessory dwellings, and small lot subdivisions in R-1 zones.
4. Encourage all jurisdictions to eliminate mandatory parking minimums for existing and new buildings. http://shoup.bol.ucla.edu/ProblemsWithParkingRequirementsInZoningOrdinances.pdf

E. Clean up goods movement industry before planning to expand it. Do not invest in goods movement roads and rail expansion in the hopes that zero emission technologies will emerge decades later. Invest more in zero emissions trucks and locomotives now as a precondition before expanding freight infrastructure. Otherwise impacted communities will continue to suffer disproportionately from pollution from good movement. http://departments.oxy.edu/uepi/publications/GlobalTrade.pdf

1. Require widespread adoption of zero emissions trucks and rail in the region as a precondition for funding any expansion of goods movement infrastructure.
2. Recommend a $30 per twenty-foot container fee for moving either into or out of the ports to help pay for mitigation of existing environmental impacts and to help pay for research into zero emission alternatives. This strategy could generate as much as $441 million in revenue from loaded containers in its first full year of implementation, when applied equally to imports and exports.
3. Require maximum development of on dock rail before funding any off dock projects.

We look forward to working with you to improve the plan and create a more just, green and livable region.

Mark Vallianatos
Policy Director
Mvalli@oxy.edu
323 259 1458



February 14, 2012

Margaret Lin
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

SUBJECT: 2012-2035 Regional Transportation Plan

Dear Ms. Lin,

On behalf of the Valley Industry and Commerce Association (VICA), thank you for your commitment to the transportation needs of Southern California.

While we appreciate the inclusion of a handful of major San Fernando Valley-centered projects in the Regional Transportation Plan (RTP), we are disappointed by the insufficient appropriations for these projects and the lack of investment overall in the San Fernando Valley. Specifically, no funding is directed to renovations of I-101 between downtown Los Angeles and the city of Calabasas or improvements to I-405 north of the I-101 interchange. Furthermore, I-134, I-170, and the major arterials of the Valley receive minimal investment.

Despite $40 billion in financing secured for Measure R projects in the greater San Fernando Valley, the only Valley projects in the Federal Transportation Improvement Plan (FTIP) are the renovation of the Interstate-101 off-ramp at Van Nuys Boulevard; the freeway connector at the I-101 and I-405 interchange; the I-405 Corridor Mass Transit project through the Sepulveda Pass; the studies of the Van Nuys corridor and Burbank-Glendale-Pasadena Airport intermodal ground access; and expansion of transit centers at Pierce and Mission Colleges. These projects are of vital regional significance to the Valley, but they are only the tip of the iceberg.

Key sections of the I-101 freeway need to be renovated to relieve bottlenecks and increase roadway safety between the Valley and downtown Los Angeles. These sections include the I-101 interchanges with the I-170 and I-134, which connect commuters and clients with the north, east and west San Fernando Valley. The roadway degradation along this I-101 corridor requires immediate attention and should be included in the RTP.

The north and west Valley also depend heavily on I-405. To reduce traffic and enable quicker, more efficient transportation between the Valley and West Los Angeles, mass transit solutions are necessary. The I-405 Mass Transit project through the Sepulveda Pass is the first step. A planning process and full financing must be put into place without delay.

While renovation of I-101 and I-405 are pressing, their effective use will not be possible without proper maintenance of the transportation system that serves these freeways. While the Financially-Constrained RTP Projects and Strategic Plan lists contain a few projects along major Valley arterials,

this system requires immediate restoration and improvement. Van Nuys Boulevard, Sepulveda Boulevard, Riverside Boulevard, Ventura Boulevard, Mulholland Drive, Laurel Canyon Boulevard, Victory Boulevard, Sherman Way, Burbank Boulevard, Reseda Boulevard, Topanga Canyon Boulevard, De Soto Avenue, Vineland Boulevard, Hollywood Way, Canoga Avenue, Vanowen Street, Nordhoff Street and Lankershim Boulevard are just a few of the several roadways critical for employees and clients to access the Valley using I-101 and I-405. The City of Los Angeles recently submitted a list of additional "Local Highway" projects, the majority of which target major Valley arterials. We ask that you review this list and include several—if not all—of the identified projects in the Strategic Plan.

The sections of I-170, I-134 and I-5 freeways connecting the east San Fernando Valley cities of Burbank and Glendale to the rest of Los Angeles County also receive only minor attention in the RTP. Roadway repair and mass transit options along these routes are necessary for Bob Hope Airport access and mobility into and within these east Valley cities. We ask that you increase investment in the Burbank-Glendale-Pasadena Airport intermodal ground access study and add renovations of the East Valley arterials to the Strategic Plan.

Thank you for considering our recommendations. We look forward to full funding of the San Fernando Valley projects on the Federal Transportation Investment Plan and Financially-Constrained RTP Projects lists, as well as expansion of the Strategic Plan to include critical Valley projects.

Sincerely,

David Adelman
Chair

Stuart Waldman
President

CC: Hasan Ikhrata
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

Arthur Leahy
Los Angeles Metropolitian Transit Authority
One Gateway Plaza, USG: 99-25-15
Los Angeles, CA 90012

Jaime de la Vega
Los Angeles Department of Transportation
100 S. Main St., 10th Floor
Los Angeles, CA 90012

Borja Leon
Office of Mayor Antonio Villaraigosa
200 N. Spring Street, Room 300
Los Angeles, CA 90012

Robert Scott
San Fernando Valley Council of Governments
14410 Sylvan Street
Van Nuys, CA 91401

Rachel Morris

From: Rachel Morris [rachel.earth@gmail.com]
Sent: Tuesday, February 14, 2012 4:50 PM
To: 'rtp@scag.ca.gov'; 'lin@scag.ca.gov'; 'John Procter'
Subject: Signatures supporting increased funding for Active Transportation

Dear SCAG and Margaret,

I am the executive of a Ventura local non-profit started in 2007 that works to reduce climate change. VCCool (Ventura Climate Care Options Organized Locally), can be found at www.vccool.org.

First thank you for all you've done to engage the community in the RTP and SCS effort for 2012. I especially appreciate the 18 Workshops in the SCAG region because that help our organization to learn of SCAG and the critical effort of the Regional Transportation Plan. We would also like to thank the Safe Routes to School Partnership for helping us to become engaged.

Our concern is that a large body of the population is not currently represented in your 2012 RTP draft. These are the people who bicycle, who walk, or who would like to use Active Transportation but are too afraid because of the real threat of them or their children being killed or injured inadvertently by people in automobiles.

To this end we have collected 1,241 signatures from people across the SCAG region urging you to reconsider the small, and delayed funding for a clean, green, economical form of transportation who is now receiving 25% of traffic fatalities in the SCAG region. Our on-line petition and video can be found out www.active-transit.org

We will post the signature files to Drop Box so you can download them.

Here is the break down, and what you will find in our SCAG dropbox folder:

- 775 online signatures, including name, zip, e-mail, plus comments from many of the signers
- 355 paper petition signatures including name, zip, and e-mail address
- 111 youth/student signatures – including name of student.

Concerning files, I am including:

- The composite of the online signatures,
- Jpg files of scanned adult signatures that came in on paper
- A letter explaining the youth signatures from one of the teachers.
- An excel with the unique signatures. (The kids signed multiple times for emphasis, so we went through and typed a list of the unique names, deleting any duplicates.

I would also like to include this link to a front page article in our county-wide newspaper. It was on the front page of the Ventura County Star, with the printed version headline "Bicyclists Demand Respect."
http://www.vcstar.com/news/2012/feb/12/petition-drive-for-more-bicycle-safety-in-scag/

We urge you to rethink the delay in funds for Active Transportation, and we urge you to increase funds budgeted in the RTP. Please do not hesitate to call me if you would like to meet, or if you have any questions about our petition, our effort, or anything else.

To find the actual petition information please go to www.dropbox.com in VCCool's SCAG RTP Petition 12, and download the files therein.

Warmly Yours,

Rachel Morris
VCCool Executive Director
www.vccool.org
office (805)648-1267

cell (805)258-9369

VCCool is a Climate Change Action Group dedicated to engaging the people of Ventura to reduce greenhouse gasses. We strive to influence policy, provide tools and expertise for lifestyle change, support a localized green economy, and foster a grass-roots community that supports sustainable living.



Fullname	E-mail	Age	Address	Country	Post Code	Note	Created	IP
Rich Reid	[redacted]				93022		2012-02-15 00:45:10	[redacted]
Heidi Buccola	[redacted]				93003		2012-02-15 00:31:37	[redacted]
Lisa Myers	[redacted]				93022		2012-02-15 00:13:55	[redacted]
Laurie Walters	[redacted]				93023	I would use my bike much more often if there were safe bike lanes! There are MANY of us who want to reduce our carbon footprint - help us create a culture of active transportation in Ventura County!	2012-02-15 00:10:23	[redacted]
david comden	d[redacted]				93003	In Copenhagen, Amsterdam and Davis, California, riding a bicycle is an important way to move around. Why not in western Ventura County? In part, because it's dangerous. Let's do something about that - let's put a small amount of funding towards Active	2012-02-15 00:05:51	[redacted]
Chad Ress	[redacted]				93001		2012-02-15 00:01:59	[redacted]
curtiss montague	[redacted]				93003		2012-02-14 23:51:09	[redacted]
Stephanie Washburn	[redacted]				93001		2012-02-14 23:49:55	[redacted]
Noel Douglas-Roth	[redacted]				93023		2012-02-14 23:46:32	7[redacted]
Brian Nilsen	[redacted]				90024	I've just started commuting by bicycle in the past 8 months. My health has improved drastically, I've saved a ton of money on gas and insurance, and I no longer get stuck in horrible westside LA traffic. The only downside to my commute is the road inf	2012-02-14 23:30:14	9[redacted]
John Roger Essick	[redacted]				93023		2012-02-14 22:50:42	3[redacted]
walker ferguson	[redacted]				93001		2012-02-14 22:36:24	[redacted]
Ruth Farnham	[redacted]				93023		2012-02-14 22:35:36	[redacted]
Barbara Washburn	[redacted]				93023		2012-02-14 21:59:54	[redacted]
David Newman	[redacted]				91362		2012-02-14 21:55:53	[redacted]
Maile Schulbach	[redacted]				93001		2012-02-14 21:51:15	1[redacted]
David Crowell	[redacted]				92057	When I lived in Ventura, I had a roommate that had been hit 6 times on his bike. One restaurant wouldn't even let him use their phone to call for help while he stood with a broken bike and a bleeding head.	2012-02-14 21:41:37	[redacted]
Jan A. Sovich	[redacted]				93001	Please allow for people to walk and ride safely.	2012-02-14 21:40:13	[redacted]
Rylan Swift	[redacted]				93035	I've got hit by a car before due to a poorly defined bike lane. I don't want to get hit again.	2012-02-14 21:37:05	[redacted]
Bill Hickman	[redacted]				93003		2012-02-14	[redacted]

				21:35:35	
Nick Bobroff		93013		2012-02-14 21:24:00	
Michael Weaver		93023	As a society, we need to rationalize the best forms of transportation to the appropriate travel purpose. As an example, it makes no sense to take an airplane from LAX to John Wayne Airport in Orange County. We need efficient and comfortable public transpo	2012-02-14 21:22:17	7
Andrea Kish		93001		2012-02-14 21:08:25	
Dianne Bullard		93023	We need public transit and weill maintained bike lanes throughout this area.	2012-02-14 21:07:24	
Justin Buswell		92058		2012-02-14 21:07:11	
Debra Barringer		93001		2012-02-14 21:07:02	
Matthew R. Sayles		93001	25 years is a long time to wait if we don't get this right. Let's take the steps now to create the infrastructure that the future will require!	2012-02-14 21:06:04	
Brian Stark		91360		2012-02-14 21:05:59	
Marc Wilde		93001		2012-02-14 21:01:38	
Elizabeth Bachman		93023		2012-02-14 20:42:45	
Cheryl Frei		93001		2012-02-14 20:41:05	
sergio guizar		91390		2012-02-14 20:36:55	
Charles Slosberg		93001		2012-02-14 20:26:07	
Alex Laine		93022	With more and more people riding bikes and looking to ride bikes because of high gas prices, PLEASE fund that part of transportation to make it safer and more inviting.	2012-02-14 20:20:59	I
Robert Stanley		93001		2012-02-14 20:19:32	
Catherine Stanley		93001		2012-02-14 20:18:55	
michael j. shapiro		93023	Any dent in our dependency on fossil fuels - i.e. use of our cars and freeways - is crucial if we are to be able to evolve as a species.	2012-02-14 20:11:49	
Susan Williamson		93023		2012-02-14 20:05:19	
Derek Poultney		93023	It would be criminal not to increase the amount for Active Transportation to 5%-8%	2012-02-14 20:01:12	
Cheryl Endo		93001	More bike paths please!	2012-02-14 19:49:54	
mark shimahara		93001		2012-02-14 19:49:39	

sacha halenda	[redacted]	80306	There is NO downside to improving cycling & running infrastructure.	2012-02-14 19:30:29	[redacted]
Vanessa Frank Garcia	[redacted]	93003		2012-02-14 19:30:10	[redacted]
David Romero	[redacted]	93003	Any and all cyclists in Ventura County can attest to the severely degraded state of the roadway infrastructure we currently have. Please allocate more funding to bike lane improvements!	2012-02-14 19:29:02	[redacted]
Patricia Leavitt-Pagaling	[redacted]	93023	Together, we can create a healthy, sustainable Ventura County!	2012-02-14 19:28:11	[redacted]
Robert A Perks	[redacted]	93001	As a resident who has built my life and business around walking and cycling for my primary transportation I find it imperative that we as a community devote a greater portion of out tax dollars to these modes of transportation, the current allotment in th	2012-02-14 19:26:32	[redacted]
Amanda Happle	[redacted]	93003		2012-02-14 19:24:25	[redacted]
Karen Bednorz	[redacted]	93004	Critical need	2012-02-14 19:20:36	[redacted]
Gina Jaramillo	[redacted]	93010		2012-02-14 19:19:51	[redacted]
Alison Perks	[redacted]	93001	We need Bike lanes for people who want to commute and stay fit for exercise purposes. Please consider this money well spent on a useful infrastructure!	2012-02-14 19:16:15	[redacted]
Eric Unmacht	[redacted]	93001		2012-02-14 19:12:48	[redacted]
Terri Laine	[redacted]	93022		2012-02-14 19:12:45	[redacted]
Tom Herrell	[redacted]	93001	More bike lanes will decrease the traffic. Make it safer for cyclist and pedestrians please!	2012-02-14 19:12:13	[redacted]
John Dutton	[redacted]	93110	I work in Ventura and bike in twice a week from SB. I'm very interested in making my ride in safer.	2012-02-14 19:11:[redacted]	[redacted]
Diane French	[redacted]	93001	Let's make Ventura a GREAT place to ride a bicycle, every day of the year, from families to tourists!	2012-02-14 19:11:[redacted]	[redacted]
Danielle Egge	[redacted]	93001	stoked!!!!	2012-02-14 19:11:[redacted]	[redacted]
Irvin Fox-Fernandez	[redacted]	93003	Bicycling with my family is good exercise. More bike lanes and safer bike routes would be great around Ventura.	2012-02-14 19:11:[redacted]	[redacted]
Susan Trinidad	[redacted]	93012		2012-02-14 19:11:[redacted]	[redacted]
jim little	[redacted]	93023	It's far cheaper to take some cars off the road, rather than enabling more, by creating new, safer and improved opportunities to walk and cycle.	2012-02-14 19:11:[redacted]	[redacted]
Anne Leis	[redacted]	93023		2012-02-14 19:11:[redacted]	[redacted]
David M. Denio	[redacted]	90266	Let's make LA County the country's PREMIER LOCATION for biking and pedestrian friendly neighborhoods!	2012-02-14 19:11:[redacted]	[redacted]
Mark Trinidad	[redacted]	93012		2012-02-14 19:11:[redacted]	[redacted]

Sadie Iverson	[redacted]		93003		2012-02-14 18:50:53
BAYARD CHANNING HILLWAY			93001-1477	The importance of this issue cannot be overemphasized.	2012-02-14 18:50:40
Scott Wilson			93023		2012-02-14 18:50:16
Anthony Ferguson			93001	Please help in making non-motorized modes of transportation a safer way to travel and a focus for our future.	2012-02-14 18:49:30
Paul Jenkin			93001		2012-02-14 18:39:23
dana swanson			93010		2012-02-14 18:32:00
Claire Johnson-Winegar			93036		2012-02-14 18:09:54
Ed Bialack			91367		2012-02-14 17:54:54
Chon Torres			93003		2012-02-14 17:40:18
Daniel Herzog			93003		2012-02-14 17:39:50
Steve Messer			90041	I rely on a bicycle as my primary transportation.	2012-02-14 17:24:25
Matthew Meyer			93003		2012-02-14 16:52:34
Michael Craig Johnson			93003	My son is 9 years old. Please don't turn his hometown into a pedestrian-free, bike-free wasteland.	2012-02-14 16:43:23
Steve Branch			93065		2012-02-14 16:29:13
Carolyn Blount Brodersen			93003		2012-02-14 16:26:37
Wendy Darling			93001-3106		2012-02-14 15:54:23
Saydie Grewe			93003		2012-02-14 15:23:29
Weston Grewe			93003		2012-02-14 15:23:03
Tammie Grewe			93003		2012-02-14 15:22:36
William Grewe			93003	I, my spouse and four kids cycle in Ventura County roads making, on average, between 25 to 30 trips weekly.	2012-02-14 15:21:47
Janet Marie Fort			93001	I walk and ride my bike all the time! Please help us have safer roads and areas for bikes and walkers to be safe!	2012-02-14 15:05:18
Joseph Sesto			93041		2012-02-14 07:14:44
Mario A. Aguillon Jr.			91311		2012-02-14 05:09:40
Robert F Anderson			93004		2012-02-14

							05:06:32	
Hope Bowles	[redacted]				93030	we should be ashamed of the condition of our bike lanes in Ventura county. They have been neglected and as a result pose a real danger to cyclists who ride these roads	2012-02-14 05:05:44	7
Jonathan Lopez					93021	Please add me to all your email lists and meeting notifications.	2012-02-14 04:59:47	2
Joey Marquez					93004		2012-02-14 04:58:16	1
Karen Randall					91320	I am a bike commuter and pleasure rider for 35 years.	2012-02-14 04:43:13	1
Gene Evans					90041		2012-02-14 04:12:49	7
Geoffrey H. Parker, Jr.					93003		2012-02-14 04:08:28	1
Zachary Pritchard					91360		2012-02-14 04:06:36	7
David Sanchez					91106		2012-02-14 03:47:33	7
Daniel Paul Githens III					93010	We need this funding now.	2012-02-14 02:44:13	7
Linwood Howe					93003-2141		2012-02-14 02:40:56	7
Erica Wolchuck					93003		2012-02-14 02:22:36	7
Eileen Marie Tracy					93030	We have more and more bicycle riders, in spite of the lack of safety on our streets.	2012-02-14 00:49:10	9
James Hickey					91320		2012-02-13 23:14:21	7
Alex Purves					90405		2012-02-13 23:10:57	1
Bret Katz					91311		2012-02-13 23:05:24	6
john weldon eliot jr					93003		2012-02-13 23:05:13	2
Ronald DeMarco					33065		2012-02-13 22:09:17	1
Joel Angel Juarez					93030		2012-02-13 22:08:54	1
Ville Maanpaa					92629	Limit right turn on red to rural areas, not cities.	2012-02-13 21:57:53	1
Laura Murphy					91362		2012-02-13 21:39:57	7
Henry E. Riley					91343	Please recognize all the benefits that come from sharing the road with all the users.	2012-02-13 21:37:18	1
Jerry Hicks					93010		2012-02-13 20:55:34	6
Steven Herbert					90230		2012-02-13 20:46:33	2
							2012-	

Roy Rodriguez	[redacted]	93030		02-13 19:47:27	[redacted]
Jim Trout		93030		2012-02-13 19:46:40	
Nestor Albances		93030	Riding is healthy and fun	2012-02-13 19:44:28	
Justin McClure		93065		2012-02-13 19:32:41	
Jessica DeLacy		90254	Biking in LA is awful, but the city is perfect for it! Lets make it safer and more accessible to all!	2012-02-13 19:19:47	
Thomas J Privitelli		93003		2012-02-13 19:14:25	
Thomas M. Jakowczyk		91311	Livable communities for cycling and walking must be a priority.	2012-02-13 19:08:17	
Steven Robertson		93063		2012-02-13 19:07:59	
Gerard J Fontes		93010	As a rider, and a former Obese individual - we need to get people out of their cars and moving under their own power.	2012-02-13 19:05:48	
Lindsay Nordberg		02139	I am signing this to support increased safety for my mother who rides her bike. Thank you.	2012-02-13 18:58:02	
Marck Aguilar		93101	Please increase the percentage of the draft budget alloted to bicycles and pedestrians. Expenditures aimed toward encouraging people who's schedules and life circumstances would allow them to walk or bicycle will pay off. I know, because I used to be a "d	2012-02-13 18:50:13	
Mark E. Capron		93033	Or work with vehicle manufacturer's to deploy electronic technology providing virtual force fields of protection for pedestrians, bicyclists, and motor vehicles at a fraction of the all other safety measures.	2012-02-13 18:46:14	
Sonia Kroth		93001		2012-02-13 18:42:53	
Tom Amick		93010	If the roads were safer more people would ride bicycles. This increase in funding is desperately needed to help achieve the goal of safer streets. Thank you for considering my opinion.	2012-02-13 18:33:26	
Tom Berube		93063		2012-02-13 18:32:14	
Alfredo Aldaco		93033		2012-02-13 18:19:05	
Claudia Armann		93001	As a pedestrian, I often feel unsafe on the streets of Ventura and Santa Barbara and feel that much more safeguards are needed in our neighborhoods. I'm also a transit user, and every transit trip, also involves walking and/or biking. Safety for those who	2012-02-13 18:16:16	
David Jason Lamon		91390	Pedestrians and cyclists are dying every day in traffic accidents....We need safer infracture to be healthy reduce pollution / oil dependance.	2012-02-13 18:13:34	
Rafael Olivares		91362	I fully support this petition	2012-02-13 18:09:51	
				2012-	

Patricia Powell	[redacted]	93063		02-13 18:06:23
Wes Parsel	[redacted]	92620	I Bikes!	2012-02-13 17:27:53
Loretta Baker	[redacted]	91326	Please take a proactive, forward thinking approach to transportation planning. We must increase public funding for active transportation now in order to have adequate transport options in place for our future generations. It must happen or we will suffe	2012-02-13 17:20:16
Arthur E. Flynn	[redacted]	93003	spending more on pedestrian and bicycle safety will have a cascade effect on popularizing these forms of transportation in Southern California. Better and safer bikeways will certainly increase usage which will in turn increase awareness of these alterna	2012-02-13 17:17:57
Jessica M. Chiang	[redacted]	93012		2012-02-13 17:12:43
Tristan Borgeson	[redacted]	93004	Yes	2012-02-13 16:51:28
Charles Bertok	[redacted]	93010		2012-02-13 16:43:41
Steve Lai	[redacted]	91307		2012-02-13 16:19:24
Kevin Clerici	[redacted]	93001		2012-02-13 16:05:58
Emilio Plaza	[redacted]	93041		2012-02-13 15:55:52
Eric Pham	[redacted]	93030		2012-02-13 15:54:11
Mike Shaffer	[redacted]	93004		2012-02-13 15:49:12
Jeri Edwards	[redacted]	91361		2012-02-13 15:39:50
David Harris	[redacted]	93036		2012-02-13 15:36:45
patrick pascal	[redacted]	90027		2012-02-13 15:30:31
Allan S. Gottlieb	[redacted]	93010-1650	Please allocate more funds for cycling and pedestrian safety. Too many health conscious citizens are being needlessly injured and killed while doing their part to stay healthy and reduce pollution and global warming. Thank you.	2012-02-13 15:20:43
Patrick Kennedy	[redacted]	93001		2012-02-13 15:17:11
Peter Dzewaltowski	[redacted]	91204		2012-02-13 15:02:02
Christopher E. Botti	[redacted]	93023		2012-02-13 14:45:32
Lorelle Dawes	[redacted]	93001		2012-02-13 14:37:16
Marla Cohn	[redacted]	93010		2012-02-13 13:54:00

Max Hogan	[redacted]	93010		2012-02-13 05:52:15
Fred Eubanks		93036		2012-02-13 05:17:05
Ginnette M Waterman		93001	I want safe routes for walking and riding my bike every day.	2012-02-13 05:14:46
jose vertin		93001		2012-02-13 04:37:14
Nick Steel		91360		2012-02-13 04:01:35
Chris Rokusek		93004-1388		2012-02-13 03:32:04
Kelsey McMahon		91320		2012-02-13 02:57:34
Steve Hobbs		91362		2012-02-13 02:48:21
Karen Armstrong		93065		2012-02-13 01:54:30
Chris Armstrong		93065		2012-02-13 01:53:52
Stephanie Ramirez		90016		2012-02-13 00:56:08
Richard Risemberg	[redacted]	90036		2012-02-13 00:28:19
Vanessa Gray		90026		2012-02-12 21:26:39
Joel Garfield		91356	cyclist use of the roads is NOT less important than automobiles. as citizens, we pay taxes for these roads through our own auto use and other local taxes.	2012-02-12 21:19:38
Christine Robert		91359	This is very important to me!	2012-02-12 17:16:55
Daniel Martinez Jr.		90042		2012-02-12 16:50:03
Daniel Gerlach		91362		2012-02-12 16:37:31
Gary Ammirati		90065		2012-02-12 15:38:06
Eric Polin		91325		2012-02-12 06:36:07
Yariv Donde		92629		2012-02-12 04:58:44
Edward Earl Cable		92128		2012-02-12 03:17:49
Brian C. Hammer		91362		2012-02-12 01:39:36
Sy Einstoss		93003	We need wider road shoulders	2012-02-12 01:02:15
			Please increase the 2012 Regional Transportaion Plan from 5% to 8% for Active Transportation. we need	2012-

John Banks	[redacted]	91361	more infrastructure for bicyclist and walkers. Southern California is a beautiful area but it caters to a car culture. Please increase areas for walking	02-12 00:44:02
Michael Ursprung		91304		2012-02-12 00:07:57
Michelle Harden		91343		2012-02-12 00:04:04
Kathleen Kassie Rae Ambrose		91320		2012-02-11 17:49:30
Andrew Miliotis		90036		2012-02-11 17:41:49
Michael Hallahan		93001		2012-02-11 17:17:47
Laura Healy		91320	Make cycling safe!	2012-02-11 15:33:04
Ronald Partridge		93063-6409		2012-02-11 15:27:00
William Honnef		93012		2012-02-11 15:18:32
Lynda Thompson		91362		2012-02-11 14:56:43
Ben Riker		91361		2012-02-11 14:46:48
Brian Davies		93063		2012-02-11 14:37:02
William Capelaci		91362	Its just good common sense	2012-02-11 14:35:56
Frances T. Muzio		91304		2012-02-11 14:34:17
Robert J. Muzio		91304		2012-02-11 14:33:29
Andy Au		91030	Bikes and Pedestrians for an obese population. What else makes sense?	2012-02-11 10:50:52
gary J. Mellinger		93065	We need more funds for cyclists.	2012-02-11 07:38:11
James Doane		91361		2012-02-11 07:08:52
Jeff Mayeda		93021		2012-02-11 06:48:45
thomas e. friedman		93001		2012-02-11 04:48:09
Douglas O'Brien		93003	Get the priorities straight!	2012-02-11 03:40:28
Ed North		91362		2012-02-11 03:25:30
Peter Ippel		93001	I am 100% making bicycles an active part of life in Southern California. We need safety.	2012-02-11 02:22:47
Kate Faulkner		93001	Let's get people out of their cars and solve several problems at the same time.	2012-02-11 01:46:46

harlan demuth	[redacted]		93023		2012-02-11 01:39:34
Richard I Light			91406-5640		2012-02-11 01:36:37
Ryan Locante			90029		2012-02-10 21:29:30
Jesse Kretschmer			90036		2012-02-10 21:10:22
Douglas Johnson			93003		2012-02-10 20:24:23
Arthur Scotti			90046		2012-02-10 19:47:06
Jessica Vergara			90045	I am a proud Female cyclist	2012-02-10 19:35:41
Scott Newton			91364	I disagree with the Global Warming bit and I do not stand with Barbara Boxer. I agree with the rest of the petition	2012-02-10 19:14:39
Steve Heinold			91364		2012-02-10 18:56:23
Kyle Lawrence			93001	Healthy is Sexy Ride a Bike	2012-02-10 18:32:59
Carlos Sandoval			90242	I feel that is very important to have bike lanes for many reasons. 1- do to gas prices more people are riding to school and to work like myself. 2) There are people like my parents that have diabetes and cholesterol that need to go out and walk everyda	2012-02-10 18:28:31
Martin Lopez-Iu			90034		2012-02-10 18:15:19
Edgardo Paredes			90240		2012-02-10 17:45:22
Kristina Fukuda-Schmid			90230		2012-02-10 17:28:46
Gerardo Ramirez			91367	Every dollar spent on active transportation will save thousands that would need to be spent on other types of transportation. It is also good to establish new habits for our future generations.	2012-02-10 17:16:12
Michelle Craven			90401		2012-02-10 17:15:28
Barry C Nicholls			90278	Save fuel ,stop polution.increase health .what other program has similar benifits??	2012-02-10 17:05:39
Carl Wurtz			91505		2012-02-10 16:42:10
sharon nemec			91356		2012-02-10 16:10:21
Jessica Howen			90639	Please support alternatives to the car!	2012-02-10 14:16:00
Bryan Florer			93060		2012-02-10 08:15:08
Kristin Bruun-Andersen			91436		2012-02-10 07:45:24

JC Olsson	[redacted]	91042		2012-02-10 07:42:31
Derek Vilmos		91042	Ride for health. Ride for companionship. Ride to enjoy the air, the sun and the sky. Ride for life.	2012-02-10 07:41:54
Kelly Wolschon		90278		2012-02-10 07:39:30
Mark Wolschon		90278		2012-02-10 07:38:50
Aaron Lipstadt		90068		2012-02-10 07:13:11
Robyn Shultz		90029		2012-02-10 07:03:27
ralph Q smith		quincypics@aol.com		2012-02-10 06:50:41
Ivan I. Light		90048		2012-02-10 06:30:55
Bruce Wilkoff		91320		2012-02-10 06:14:24
John Koerber		91304-4455		2012-02-10 05:01:29
Craig Rettig		90046		2012-02-10 04:56:05
Yuki Kidokoro		90004		2012-02-10 04:53:09
Christian Schrader		90005-3996	There are a lot of us out here. Please don't ding us for not always driving a car. I am trying to teach my daughters to ride bicycles, but am afraid there will be no place for them to ride when they learn. Thanks for your time and consideration.	2012-02-10 04:09:30
Holly Miller		92869		2012-02-10 03:45:15
Stephen Turk		90045	I walk, I ride, and I drive. Our infrastructure needs to support all modes of transportation and recreation, and help us build communities.	2012-02-10 03:39:28
Karen Canady		90019		2012-02-10 03:38:18
Rachel Cushing		90034		2012-02-10 03:36:34
Jazmin Luna		90019		2012-02-10 03:12:47
Joshua Stanley		90278		2012-02-10 02:57:59
Dan Hanasono		90293		2012-02-10 02:34:40
Chi Nghe		90041		2012-02-10 02:29:43
Laura Edith Rivas		90201		2012-02-10 02:27:59
			2 bikes, 1-100% electric car, solar	

Byron Head	[redacted]	91607	panels to charge the car and run the house...I'm doing my part. Please contribute.	2012-02-10 02:22:11	[redacted]
Michael Nilsson		90069		2012-02-10 02:06:25	
David Hartson		91040	Funding = safety & less motor vehicle use	2012-02-10 01:56:22	
bonnie freeman		90065		2012-02-10 01:54:01	
jonathan kim		90278	We desperately need more funding for bike lanes so people can actually be safe when they want to be more active and lose weight.	2012-02-10 01:39:47	
James Cadenhead		93109		2012-02-10 01:38:10	
Yolanda Brandick		91320		2012-02-10 01:19:06	
Charles Bankston		91361		2012-02-10 00:20:11	
Eugene Jacobowitz		91321		2012-02-09 20:35:55	
WILLIAM CHEYNE		90045		2012-02-09 20:05:28	
Mary Smith		90045		2012-02-09 20:04:11	
Steven Brandick		91320		2012-02-09 18:40:23	
Michael Bass		91360		2012-02-09 18:40:18	
Sharon McMahon		91320	Please hear us.	2012-02-09 18:34:52	
Paul Rabinov		91214		2012-02-09 17:18:33	
J.C. Simmons		91320	An incremental increase in public investment in bicycle infrastructure will make huge paybacks in overall public mobility and health for our citizens. Bicycles are such an obvious solution to so many of our major problems: obesity, diabetes, traffic cong	2012-02-09 16:18:40	
Derek Brauch		90266		2012-02-09 16:03:04	
Theresa Sanchez		91745		2012-02-09 15:30:34	
David Feuer		90034	As a motorist, bicyclist & pedestrian; I'm sick and tired of the inadequate, substandard & hazardous conditions of our public street infrastructure. The problems are most evident when I choose to commute by bike, bus or on foot.	2012-02-09 07:44:21	
Brendan Lewis		91001		2012-02-09 05:11:56	
Mike Leszczynski		90650		2012-02-09 04:59:32	
Robert Neiuber		91730		2012-02-09	

	[redacted]							04:09:57	[redacted]
Peter Komfolio						91776		2012-02-08 23:19:28	
Dee Cappelli						90401		2012-02-08 22:48:59	
John Kessler						90274		2012-02-08 22:38:27	
Francie Stefan						90034		2012-02-08 21:11:55	
Laura Matthews						90401	Make the roads safer for cyclists!	2012-02-08 19:32:00	
Warren Bowman						90291		2012-02-08 19:13:55	
Daniel Dabek						90042	A small investment in bicycling and walking will have large public health savings in the future.	2012-02-08 19:04:48	
Kyle Hutmaker						90024		2012-02-08 18:41:12	
Asuka Hisa Kawasaki						90019	Think globally, act locally. It is time for this type of vision.	2012-02-08 18:36:11	
Amar Natt						90025		2012-02-08 18:31:43	
Chase Covello						90025		2012-02-08 18:31:06	
Cynthia Rose						90404	many government agencies still cling to a transportation vision that is focused on motor vehicles- we must look to a safer more sustainable future with people as the main interest not cars. Biking & Walking deserve more equitable funding- increase their b	2012-02-08 18:15:58	
Lucy Dyke						91604		2012-02-08 18:11:35	
Robert G Trowbridge						90034	Please help spread the word!	2012-02-08 18:02:30	
Russell B Sydney	r					93060	Imported oil has been destroying our economy and our health for way to long. Please increase funding for bicycle and pedestrian safety for the health of our people and the prosperity of our future.	2012-02-08 17:10:40	
Pauline Chow						91786	More resources for bicycle and pedestrians. I want to get out of my car and walk to the store/lunch/post office. Make it happen!	2012-02-07 17:57:23	
Kraig Dunehew	i					91320	Drivers are completely unaware of bicyclists. They are so distracted when they drive and are driving too fast. CARS are COFFINS anyway!	2012-02-06 20:12:36	
marcus pollitz						91768	We have thousands of miles of side walks and cross walks, why can't we get a bike lanes.	2012-02-06 06:20:35	
Patricia De La Riva						91365		2012-02-04 16:27:02	
Peter Weal						93003	more bike paths please!	2012-02-02 21:05:02	
Nicholas Nguyen						92683		2012-02-01 23:41:59	
								2012-	

Marion Weil	[redacted]		93024		02-01 17:13:21
Chris Sonnenberg			93021	I used to ride my bike to work often having to ride in the street and crossing freeway on-ramps. A few months later a cyclist was hit by a car and killed 2 blocks from my house.	2012-02-01 01:25:40
Fern Wildflower			90505		2012-02-01 00:44:14
Colleen Cortez			90805		2012-01-31 01:39:28
Jeff MacDonald			90275	Please pass! Thank you...	2012-01-30 18:31:28
Brian Bennett			91750	Interest in walking and cycling has mushroomed in recent years, both as a practical form of transportation and as part of a healthy lifestyle. Unfortunately many government agencies still cling to a transportation vision that is focused on motor vehicles,	2012-01-30 18:14:28
Juan Juarez			90814		2012-01-30 18:12:40
Quinn Rollen			93101	Needed.	2012-01-30 02:01:57
Dale Capewell			91301		2012-01-29 13:49:42
Alison Kendall			90403	I work on Safe Routes to School and bicycle and pedestrian safety issues and assure you that $1 spent on these issues returns huge dividends in cleaner air, safer streets and healthier Californians.	2012-01-29 03:59:36
Margaret B. Yeager			92501		2012-01-28 21:28:12
Linda van Ligten			90066	I strongly urge SCAG to increase the RTP budget for safer bicycle and pedestrian routes to 5% - 8%.	2012-01-28 02:06:36
ryan beau alan bjorkman			93612		2012-01-28 00:14:51
Don Howard			91362		2012-01-27 23:31:48
Dee Falasco			91791		2012-01-27 05:12:28
Keith Peters			93023		2012-01-27 02:25:14
Douglas Littell			93003	biking is usually faster than driving if the distance is less than 2 miles, especially if the infrastructure encourages it!	2012-01-26 21:18:07
Barbara Paton Gardner			92506-1437	Help encourage people to ride bikes or walk with additional funds.	2012-01-26 19:21:42
Janine Schoncite			92211	More public transit	2012-01-26 17:12:27
ALFONSO MITRA			93012		2012-01-26 16:17:50
Joseph Chaikin			92840		2012-01-26 06:46:07
					2012-

Dennis Esguerra	[redacted]			93012		01-26 06:31:30	[redacted]
Catherine M. Gentile				90405		2012-01-26 05:40:24	
LORI DUFFY				92203		2012-01-26 03:09:44	
Sandra E. Kroll				90815		2012-01-26 02:56:31	
Evelyn Carpenter				91387	Protecting those who can choose to walk or use a bicycle for transportation shoulod be seen as a logical first priority.	2012-01-26 02:00:58	
gaynor willmott				90291		2012-01-26 01:27:35	
Mark Maxwell				93003	Biking from the government center to the beach is miserable.	2012-01-26 01:12:17	
patricia kovner				92260		2012-01-26 00:36:16	
Michael Soprano				93003		2012-01-26 00:34:33	
Clarice Turney				92507		2012-01-26 00:17:20	
Grace Lorentzen				90807	Walking and biking need to be safe.	2012-01-25 22:36:31	
Frances Goff				91607	Bicyclists deserve way more respect than they get from motorists.	2012-01-25 20:22:26	
Joyce Block-Miller				90274	THIS IS VITAL!	2012-01-25 20:11:06	
Karen Anderson				92612	This is an important issue for the future of our children and their children.	2012-01-25 18:53:44	
Marleen Luckman				93023	We need more funding to create safer streets for bicyclists and pedestrians.	2012-01-25 17:42:18	
Eloise B. Peterson				06880		2012-01-25 17:24:22	
KIM HUFFMAN CARY			M	90020		2012-01-25 17:04:45	
Jim Wallis				91307		2012-01-25 16:39:51	
Lesley Mahaffey				92831		2012-01-25 15:29:26	
Adela Dimitrijevich				91351		2012-01-25 15:18:03	
Debbie Langenbacher				92832		2012-01-25 14:17:18	
Richard Fortune				91360	We must foster physical activity and fitness for all ages. Providing adequate funding to create safe bicycle and pedestrian experiences will help to encourage this endeavor.	2012-01-25 07:30:48	
Ronald Wayne Hearn				92646		2012-01-25 06:30:26	
					Having lived in Europe, I miss the safety of justified paths for walkers	2012-	

Tamara Casanova	[redacted]	90815	and bicyclists. If there were safer routes, more people would choose to use them and multiple benefits would result.	01-25 05:41:41
Jeff Fylling	[redacted]	92627	Must be done!	2012-01-25 05:30:35
Bob Davidson	[redacted]	92503		2012-01-25 04:42:48
Earl W Kluth	[redacted]	92626		2012-01-25 03:55:00
Sharon Miller	[redacted]	92260	Safe walking and biking lanes and paths will encourage more excersiez, better health, and a reduction in green house gases.	2012-01-25 03:33:26
brian d hatcher	[redacted]	92647	I support the safety of all cyclists.	2012-01-25 02:00:56
Michael Lee	[redacted]	92691	Yes for safe biking on the streets	2012-01-25 01:44:34
Marjorie E. Hunt	[redacted]	92501		2012-01-25 00:53:24
Tom Stapleford	[redacted]	91360		2012-01-25 00:43:44
Daniel Noel	[redacted]	92627	I shall not hold my breath. Not much can be expected from public servants who took part in the censorship of the 9/11 false flag.	2012-01-25 00:14:55
russell mullin	[redacted]	91320	make safer roads please	2012-01-24 23:46:51
Patricia A. Lindenauer	[redacted]	91302	You have the power to make an intelligent difference here, and I trust that you will choose to do so.	2012-01-24 23:46:50
Eryn Stinzel	[redacted]	91001	Plan for the future	2012-01-24 23:38:22
Frank Neal, Jr	[redacted]	91773		2012-01-24 22:57:30
James DiModica	[redacted]	93001		2012-01-24 22:38:35
Barbara Cogswell	[redacted]	91387		2012-01-24 22:30:52
Kathleen Nolan	[redacted]	93023		2012-01-24 22:19:03
Joan Padduck	[redacted]	92201		2012-01-24 22:15:24
Leonard Polan	[redacted]	91361	I find the lack of support for cyclists and pedestrians reprehensible.	2012-01-24 21:30:25
Duane Dillman	[redacted]	90048		2012-01-24 21:29:32
vicki kirschenbaum	[redacted]	91506		2012-01-24 20:39:31
Martha P Kazlo	[redacted]	92501		2012-01-24 20:34:55
Lenore Arab	[redacted]	91362	This is important for our health and quality of life. Please pass it!	2012-01-24 20:25:05
Roselva Ungar	[redacted]	91350		2012-01-24

	[redacted]						20:24:43
Richard Silva					92571		2012-01-24 20:24:35
Katy Kroll					90815		2012-01-24 20:14:38
Rev. Hannah Petrie					91103		2012-01-24 19:50:24
Adair Small					92612	One reason we live in Irvine is because bicycling and walking is relatively easy. We need to increase this throughout southern California	2012-01-24 19:45:13
Arline S. Dillman					90048		2012-01-24 19:32:17
sekubamewe						You could use cloud computing to host a whole range of software solutions. In addition to the child-friendly design, it doesn't negatively affect your child in any way. Some situations that no longer have reason to exist in your life will undergo profound	2012-01-24 19:19:55
Carol Bennett					91207		2012-01-24 19:11:30
Sylvia Flores Johnson					91320		2012-01-24 18:56:32
Sandra Briggs					92506		2012-01-24 18:55:49
Carol Rudisill					91024		2012-01-24 18:54:06
Wayne Leggett					93060	More Type-2 bike and walking trails that connect cities, neighborhoods, and business centers, would result in healthier and safer communities.	2012-01-24 18:49:38
George Yenoki					91030		2012-01-24 18:49:23
Wesla Kerr					90815		2012-01-24 18:41:18
Marilyn Schroeder					92692		2012-01-24 18:36:40
Jennie Roberson					91201		2012-01-24 18:31:46
Lauren Eaton					91001		2012-01-24 18:29:40
Andrea Greene					91320		2012-01-24 18:24:42
Ed Llorca					91320	clearly from the statistics, biking and walking is not about a small minority of the population anymore. It is time that bike/walk safety be folded into and thius funded into the everday operations of the county traffic commision.	2012-01-24 17:24:16
Denise Marie Goodman					91377		2012-01-24 17:11:12
John Goodman					91377		2012-01-24 17:08:50
						in my community, the majority of pedestrians and bicyclists are lower	2012-

Mark DI Cecco	[redacted]	93021	income and farmworkers. They need safe ways to get to work and services too.	01-24 17:00:24
Matthew Polk		91320		2012-01-24 16:19:53
Edward Polyakov		91316		2012-01-24 15:38:53
Ryan VanOmmeren		91320		2012-01-24 13:30:13
Justin Williams		93012		2012-01-24 12:40:52
Trent Plyler		93065		2012-01-24 06:35:23
James N Paterson		91362	Please work on making our streets safer for bikes of all kinds.	2012-01-24 06:15:13
Doug James Herrick		93405		2012-01-24 05:24:18
Brad Bordon		93003		2012-01-24 05:05:52
Mariana Medina		91362		2012-01-24 04:58:58
Scott Sowers		91320	I know we have to reduce expenditures, but this can be an great investment, keeps people healthy, reduces car traffic etc.	2012-01-24 04:53:36
James Yarbrough		91320	More bikes, less CO2.	2012-01-24 04:38:18
Ashley Beckwith		91320		2012-01-24 04:12:06
Jennifer Schlecht		93012		2012-01-24 03:57:30
Donna Kelly		91320	My nephew was hit & runover this week on nhis bike..in the bike lane, he is now a parapalegic!	2012-01-24 03:46:23
Joseph Keays		91360	Great idea	2012-01-24 03:42:04
LeGrand Velez		92264		2012-01-23 23:44:54
Catherine Des Lauriers		90046		2012-01-23 22:23:46
Roslyn Scheuerman		93121		2012-01-23 06:37:50
Susan Brinkmeyer		93035	Supporting Active Transportation will help our health and the environment. Ideally, we'll become much more like Amsterdam, where bicycles far outnumber cars, and the air is crystal clear.	2012-01-23 06:04:24
Michael Hoberman		91356		2012-01-22 18:13:49
John Anthony Wog		90814		2012-01-21 00:09:03
TRACY HUDAK		93001		2012-01-20 05:08:40
				2012-

David Walker	[redacted]	93101		01-20 02:32:56
Mack Gooding-Waldron		93001		2012-01-20 01:39:37
Daniel Barr		91101		2012-01-20 00:43:55
Stephen Meichtry		91307		2012-01-20 00:01:30
Sarah Caine		91325	I would love better transit and more bike friendly streets! I would make good use of them in order to not deal with traffic and I know many people who cannot afford cars.	2012-01-19 23:42:43
robin gerber		93023		2012-01-19 23:10:48
Mike Harmanos		92627		2012-01-19 20:11:33
Amy Bernhard		91011	Please pass this!	2012-01-19 18:18:26
Adrienne Bernhard		10023		2012-01-19 13:55:21
Willow Clearwater		93001	Please take bike and padestrian safety seriously! I watched a woman walking get hit by a car today and it broke my heart!!	2012-01-19 08:04:43
ROBERT G SAMPLES		90505	As a highly active voter, who is also highly active in life, it's time to invest where the return is long term and benefits the most people, and the ROI is the highest.	2012-01-19 06:18:36
Mary Button		90068	Safety for Cyclists, please!	2012-01-19 06:07:50
Jacques Brosseau		92653	As a bicyclist and a walker in the community, I see a need for an increase in the budget for Active Transportation.	2012-01-19 04:44:47
MaryJane Mitchell		91042		2012-01-19 04:15:07
Fernando Roth		91011		2012-01-19 03:41:03
Robert Craig Hoover		92626	I ride a lot for training and transportation. Please be mindful of safety for bikers of all ages in all neighborhoods.	2012-01-19 03:27:52
Trish Kertes		91011		2012-01-19 02:50:15
Joe Kertes		91011		2012-01-19 02:49:16
Richard Newmark		91320		2012-01-19 01:56:08
Mark Bernhard		91011	We need a coordinated,dedicated, integrated bike lane system in SoCal.	2012-01-18 23:46:40
Richard Louis Hummel		93105		2012-01-18 23:43:03
scott m gardner		90713		2012-01-18 23:36:24
			Please, please raise the budget for bicycle and pedestrian safety. As it is I now load my bike in the car to	

Charles OShea	[redacted]	90814	get somewhere safe to ride. This makes no sense from and economic view only from a safety point of view. Would much rather be able to ride from	2012-01-18 23:11:56
gerry hans		90068		2012-01-18 22:46:14
Craig Olsson		91042	Let's make California bicycle savvy. Were there secure bicycle parking available everywhere, I'd ride my bike many places. However, drivers need to be educated about cyclists and cyclists need to obey traffic laws, which may need to be changed to accommo	2012-01-18 22:26:26
Jo Baxter		91942		2012-01-18 17:55:47
Tom Mann Jr		91355	Safer bicycling zones / routes clearly benefit all Southern Californians. Bicycling is gaining popularity for many people and for a multitude of reasons.	2012-01-18 17:24:46
Susan W Reed		85718		2012-01-18 16:07:32
John P. Hoppe		60538	I will be relocating to So. California within 2 months and would like to see these improvements to set the standard in the United States	2012-01-18 15:51:32
Scott Desposato		92024	Please, share the road!	2012-01-18 14:32:41
Brian T. Cottrell		60641		2012-01-18 14:04:20
Martin Lyons		95628	I commute on my bike approximately 250 miles a week. In my working community, many children have been killed by cars because of the lack of pedestrian/bike paths. We need more than a white line separating us from cars. PLEASE build separated bike/pedestri	2012-01-18 12:48:18
Max		93021		2012-01-18 12:17:33
Wolfgang Hofmann		D-40470	Though I live in Germany, I support this petition, since it is a basic issue of mankind.	2012-01-18 10:45:38
Thomas Michael Lauderdale		92705	PLEASE make our steets safe. Teach the drivers.	2012-01-18 04:38:59
Andrew Fisher		95336		2012-01-18 04:05:12
Gary Kanaby		91915	Need bicycle lane on Otay lake road and Honey Springs road	2012-01-18 03:59:27
Wendy Ann Jung		92108		2012-01-18 03:52:09
anthony patrick martinez		92223	k, get er dun, already. right?	2012-01-18 03:46:08
Ted DeFrank		92024		2012-01-18 03:12:48
Chester Scott Harris		90275	I bike commute to work so this is critical.	2012-01-18 02:44:51
G Baierl		92630	I know too many cyclists that have died on the road due to accidents.	2012-01-18 02:36:31

Jim Pettigrew	[redacted]	93546		2012-01-18 02:21:17
steven f. ring	[redacted]	92122	important for our future	2012-01-17 23:56:35
Bret Gross	[redacted]	92672	Now is the time for action	2012-01-17 23:29:49
Doug Humber	[redacted]	92129		2012-01-17 23:04:26
John Jeffrey Conery	[redacted]	92065		2012-01-17 22:11:04
Simone Kleinschmidt	[redacted]	93110		2012-01-17 21:52:50
Marie Jung Bloomquist	[redacted]	92129	More people would ride if they did not need to worry about road safety. I know people that love to ride but due to unsafe road conditions elect not to for fear of injury. Walking and cycling is great for personal health as well as better for our environ	2012-01-17 21:14:32
Kevin Roy	[redacted]	92110		2012-01-17 20:35:17
Gloria Nafel	[redacted]	92648	It would be nice to use some of the funds to educate drivers and law enforcement about the rights of bicyclists and require stricter penalties for those that hit a bicyclist or pedestrian.	2012-01-17 20:18:32
Charles Smith	[redacted]	92101		2012-01-17 20:15:01
Les Medlin	[redacted]	92106		2012-01-17 19:41:07
Paul Bloomquist	[redacted]	92129	Please help make biking and walking safer by funding appropriately! Thank You	2012-01-17 19:26:18
Alex Zhigimont	[redacted]	92373		2012-01-17 19:22:02
Michael J Simpson	[redacted]	93463	I ride to live...	2012-01-17 19:20:51
John Long	[redacted]	95688	I ride bikes in SOCAL but have a NORCAL Zip Code.	2012-01-17 19:16:18
Nathan Adams	[redacted]	92629	Please invest and plan in alternative transportation, including better access to safe bike paths.	2012-01-17 19:10:47
timothy n black	[redacted]	83422		2012-01-17 19:08:52
Uyen Tam Ngo	[redacted]	90066		2012-01-17 18:47:55
Steven Burns	[redacted]	90277		2012-01-17 18:41:30
Jon Beeson	[redacted]	93108		2012-01-17 18:39:10
ELAINE BERNAL	[redacted]	85627		2012-01-17 18:25:52
Joel Thomas Sothern	[redacted]	91362	Bicycles are the most efficient means of transportation - their use should be encouraged via public policy and funding.	2012-01-17 18:25:34

David Gibbs	[redacted]	92344	I use to ride my bike to work and had to stop when things became to dangerous. I believe that as a taxpayer I deserve safer streets!	2012-01-17 18:09:42
charles r duffy		91006		2012-01-17 18:00:10
Russell East		92373		2012-01-17 17:55:25
Daniel J. Eitman		92620		2012-01-17 17:47:43
Christopher Scott Haddakin		92544-5543		2012-01-17 17:47:12
Chris Crescioli		93401	The status quo is not sustainable. Show some leadership and move the masses towards a sustainable and healthy future.	2012-01-17 17:36:45
Michael Gray		92014		2012-01-17 17:09:15
Christine Latham		93101		2012-01-17 17:04:30
Linda Shishino-Cruz		93021	And whereas CHP officers assume that all accidents involving bicycles are caused by the bicyclist.	2012-01-17 17:04:27
D Steven Fox		90265	I have had too many close calls with cars due to poor roadway design. Act on this now please!	2012-01-17 17:04:18
Kerin Huber		91107	Let's really encourage non-polluting, healthy methods of transportation!	2012-01-17 17:01:48
Daniel Norwood		92029	Please keep San Diego and the surrounding cities bicycle friendly!	2012-01-17 17:00:42
Brook Henderson		91367		2012-01-17 16:53:08
David Parker		93110	Bike lanes ++	2012-01-17 16:49:07
Isabelle Drake		92651		2012-01-17 16:45:03
Jonathan Woodbury		93021		2012-01-17 16:38:48
Robin Ann Nash		92011		2012-01-17 16:38:35
William Hunt		92708		2012-01-17 16:38:24
david michael nash		92011		2012-01-17 16:37:01
Sharlene Wills		90035		2012-01-17 16:35:08
Daniel Carey		92120		2012-01-17 16:31:49
Alex Amerri		90049		2012-01-17 16:26:07
Shaun Lang		90035	The impacts of this petition are far reaching...let's get it done!!!	2012-01-17 16:25:25
Michael Goodman		91311		2012-01-17 16:20:45

Julie Stokes	[redacted]		92692		2012-01-17 16:18:01
scott verwolf	[redacted]		85202		2012-01-17 16:17:24
David Browning	[redacted]		92108		2012-01-17 16:15:16
Barbara Mau	[redacted]		92673	More people would ride for health and commute to work on bikes if they thought the roads were safer.	2012-01-17 16:14:41
Margaret Nelson	[redacted]		90621		2012-01-17 16:09:54
David Nelson	[redacted]		90621		2012-01-17 16:09:11
K. Cameron Campbell MD	[redacted]		92101		2012-01-17 15:59:11
Brian Garcia	[redacted]		91361		2012-01-17 15:49:04
Scot Harvey	[redacted]		91740		2012-01-17 15:40:10
buy cialis	[redacted]			Hi. I like your post. I have been searching information on this issue for long time, so thanks for blogging. cialis to buy	2012-01-16 21:40:45
Ryan Johnson	[redacted]		90041	Please help make our streets safe, and allocate more funds to bicycle and pedestrian infrastructure and programs.	2012-01-15 23:53:31
Brent Everett Butterworth	[redacted]		91303		2012-01-14 22:28:55
bulet otavon	[redacted]		90017	I need more bikes	2012-01-14 21:36:36
gerry duttweiler	[redacted]		93003		2012-01-14 18:19:39
David Erickson	[redacted]		93535		2012-01-14 17:52:44
Mandi Lyons	[redacted]		93222		2012-01-14 05:41:17
Sarah S Forth	[redacted]		90039		2012-01-14 04:00:16
Judy Farris	[redacted]		92203		2012-01-14 02:59:11
Hilda Bolden	[redacted]		90295	ACTIVE TRANSPORTATION COMBATS GLOBAL WARMING.	2012-01-14 02:09:19
Kevin Egan	[redacted]		90034	Crowded SoCal roads leave very little room for bikers. The prevailing options aren't good enough - either being in the middle of a lane of busy traffic or being on the sidewalk.	2012-01-13 23:52:52
Jorge A Ruiz	[redacted]		91701		2012-01-13 21:08:22
Adam Rodger Pacal	[redacted]		92131		2012-01-13 21:04:08
Jesse Fuller	[redacted]		91311		2012-01-13 18:55:59
	[redacted]				

Carmen L. Matthews	[redacted]	92109	Please amend the 2012 Regional Transportation Plan.	2012-01-13 18:43:37
Stephen Svete	[redacted]	93003	I support balancing transportation funding for more sustainable communities.	2012-01-13 18:16:16
Erik Mar	[redacted]	90232	Let's get our funding priorities right - end tax deductions, aka subsidies, for fossil fuel industries, and divert the money to non-private auto transportation	2012-01-13 17:33:54
Jay Nadeau	[redacted]	91001	Bicycle commuter in downtown LA. We need to increase bicycling and walking downtown and create safe corridors.	2012-01-13 17:17:32
David G Burrell	[redacted]	93536		2012-01-13 16:20:25
Mavis Irwin	[redacted]	84108		2012-01-13 12:45:53
Lanette Marmolejo	[redacted]	92116		2012-01-13 07:49:04
John Kessler	[redacted]	90274		2012-01-13 06:22:33
Connie Spears	[redacted]	92004		2012-01-13 06:18:06
Marissa Strebler	[redacted]	92116	Make roads safer for cyclists and pedestrians to encourage people to use alternate forms of transportation!	2012-01-13 05:18:19
William Osborn	[redacted]	92029	Walking and cycling needs to recieve a much larger portion of the budget foe so many resons	2012-01-13 05:00:45
Barbara Filet	[redacted]	90404	My bike is my main transportation	2012-01-13 03:50:07
Arid Roman	[redacted]	90210		2012-01-13 02:21:17
Darcie Loth	[redacted]	91011		2012-01-13 02:20:50
Joseph Henry	[redacted]	92024	Allocate 10% of the budget and you will see a 50% drop in bicycle/pedestrian casualties	2012-01-13 02:17:37
John m clare	[redacted]	90808	I rode my bicycle 20 miles each way to work for three years, rain or shine. I stopped because I had too many close calls including being hit by a car on two seperate occassions. I would love to be able to ride to work again but it is just too crazy.	2012-01-13 02:13:57
kelly thompson	[redacted]	90065	Encourage people power a great way to travel and live.	2012-01-13 01:56:35
Chris Kostman	[redacted]	91364	Please do the right thing and promote a healthier, saner mode of transportation.	2012-01-13 01:37:32
Alexandria	[redacted]	90048		2012-01-13 00:48:09
Bronwyn Beck	[redacted]	90027		2012-01-13 00:36:04
Elisabeth Kraycik	[redacted]	92116		2012-01-13 00:34:31
April Lemly	[redacted]	90004	More money for safe streets please.	2012-01-13 00:21:58
	[redacted]			2012-

Charlie Furman	[redacted]	90007		01-13 00:00:26
Lacey Harris		90065	help us out!	2012-01-12 22:52:30
Camille dieterle		90026		2012-01-12 22:31:19
Anthony C. Stein, Ph.D.		91011	As a pedestrian, cyclist, and transportation researcher, I know the need for increased funding is warranted.	2012-01-12 22:04:53
Todd Wexman		90026	Right on!!!	2012-01-12 21:47:27
Wesley High		90026		2012-01-12 21:45:28
Jim Martin		92630		2012-01-12 21:36:44
Siobhan Dolan		90039		2012-01-12 21:36:37
luis d. gamboa		90805		2012-01-12 21:31:06
jcy		94118		2012-01-12 21:09:49
William Ashe		90403		2012-01-12 21:01:20
Jennifer Tso		90266		2012-01-12 20:57:43
George Cook		90026		2012-01-12 20:56:25
Andrew albino		90260	My bike is my main source of transportation, to school to work or just riding for fun. I try to be as safe as i can but drivers dont make it that easy. More bike routes and bike lanes would help alot .	2012-01-12 20:51:57
Lawrence Schuster		93536	Time to apply some common sense to problem solving instead of listening to the vested interests of the energy industry. Here's an excellent chance to choose a better way.	2012-01-12 20:45:53
Matthew Ruscigno, MPH, RD		92107	Infrastructure for pedestrians and cyclists leads directly to increased non-motorized trips which are better for the health of everyone in the region. Thank you.	2012-01-12 20:42:25
Reggie Alcazar		91205		2012-01-12 20:42:24
Christopher F Wilson		90275	Active transport helps free up roads and improves health. Needs more attention.	2012-01-12 20:35:35
Aimee Suen		90094		2012-01-12 20:35:31
Claudia Chaufan		94122		2012-01-12 20:33:36
Erik Yesayan		91206		2012-01-12 20:25:25
Marlo Wamsganz		90039		2012-01-12 20:05:35
				2012-

Max Duck	[redacted]	90065		01-12 20:05:11	[redacted]
Aurisha Smoarski		90004		2012-01-12 20:02:15	
jason venzor		90007		2012-01-12 17:42:44	
Sarah Nicole Peters		93010		2012-01-11 11:57:28	
Douglas Johannes		93004	Please amend the transportation plan to add funding for bike paths and other human powered transportation for the health of our citizens and for the environment.	2012-01-11 04:59:29	
Afausto J Astillero		93041		2012-01-11 04:04:49	
Jessica M. Chiang		93012		2012-01-11 04:04:17	
Stefan Goehring		91362	As an avid cyclist in Ventura, LA, and SB Counties it is important to improve cycling/walking opportunities for all residents. Better and safer opportunities will help to encourage alternative transportation, which can improve our health as well. "40 perc	2012-01-11 02:45:25	
Kyle Christian Jorgensen		93010		2012-01-11 01:58:10	
Briana Linares		93010	Let's do THIS!!!	2012-01-10 23:22:52	
Michael		93004		2012-01-10 23:19:22	
John J. Griffin		91362	I'm happy to help make biking safe!	2012-01-10 23:06:41	
Trevor Culhane		91604		2012-01-10 22:43:59	
Dustin Brooks		93003		2012-01-10 04:49:44	
William Strand		93101	You go girl	2012-01-10 01:48:00	
Ashlee Buhler		90405		2012-01-09 20:32:49	
Rod C. Wood		90638		2012-01-09 19:03:11	
Frances Aubrey		94707		2012-01-09 04:00:56	
Phillip D Whitworth		90266		2012-01-08 22:57:34	
Leticia Gome		91791		2012-01-06 19:21:40	
John Gomez		91791		2012-01-06 19:20:58	
Kent Strumpell		90045		2012-01-06 18:49:53	
			To have liveable communities we need to have people centric transportaion. This is a win win	2012-	

Barbara Torres	[redacted]	91343	situation for all of us: businesses, real estate values, and a clean environment.	01-06 16:30:06
Carl Kloos	[redacted]	91030	Please improve funding for pedestrian and bicycle oriented transportation. Traveling without an automobile is very dangerous in our region, and funding is necessary to improve our pedestrian/cycling oriented infrastructure. This will save lives!	2012-01-06 04:55:05
Rachel Wing	[redacted]	91106		2012-01-06 03:52:15
Valerie Watson	[redacted]	90014		2012-01-06 03:36:22
Leslie Frederika Kline Capelle	[redacted]	93041		2012-01-05 18:21:07
Ashley Heatherly	[redacted]	93003		2012-01-05 17:47:03
MJ Looby	[redacted]	93001		2012-01-05 17:25:08
Carina Downing	[redacted]	93015		2012-01-05 15:38:19
Frank Nilsen	[redacted]	93036	Cities built with a primary focus on dealing with automobile traffic and storage have no future. Cities built on a human scale, with public spaces that are pleasant, safe, convenient and rewarding will be better positioned to deal with future realities of	2012-01-05 07:04:23
lucy cartagena	[redacted]	93041	yeah	2012-01-05 04:51:33
Nancy Shuman	[redacted]	93035		2012-01-04 22:03:59
Matt Korner	[redacted]	92405	Pedestrian-friendly places that are well-connected by high-quality /fixed-guideway transportation is absolutely essential for the region's economic sustainability. How can we improve land-use and transportation patterns when SCAG, itself, isn't trying to	2012-01-04 16:07:20
daria cross	[redacted]	92373		2012-01-03 04:12:39
jewel willard	[redacted]	93001		2012-01-03 02:15:54
Maria E Ramirez	[redacted]	91364		2012-01-02 07:43:38
Glory Bautista	[redacted]	91101	As someone who chooses not to own a car for environmental and health reasons I strongly urge you to increase the amount!	2012-01-01 21:39:07
jon portera	[redacted]	9		2011-12-31 19:02:28
David Gist	[redacted]	91103	The percentage of the plan addressing cycling and walking is woefully low. Please prioritize Active Transportation.	2011-12-31 18:56:34
Annika Buxman	[redacted]	91030		2011-12-30 23:31:44
	[redacted]		I have used a bicycle as my primary source of transportaion exclusively,	

Loretta Lynn Scott-Poole	[redacted]	93001	for half of my 54 years, here in Ventura and Santa Barbara Counties. The funding percentage of State moneies must be increased to accomodate the needs of the constituants of these co	2011-12-30 19:40:28
steve offerman		93003	Ride on!	2011-12-29 03:21:44
Linda Ramirez		93030	Cycling and walking are the best ways to admire nature!	2011-12-28 07:13:10
Bryan P Long		93001	Love out doors, lets keep fun for the kids!	2011-12-28 07:11:09
Mary Heather King		93022		2011-12-28 05:03:58
Gordon Clint		91320-5227		2011-12-27 23:34:17
Richard Moss		93023	Invest more in cycling and walking. Make it safer. Encourage behavior that is excellent for health and ecologically wise	2011-12-27 21:21:08
Tracy Lopp		93003		2011-12-27 16:58:42
Sarah Dinkler		93004		2011-12-27 15:59:42
mark donovan		01027		2011-12-27 12:02:08
jeannie Willard		93003		2011-12-27 07:57:06
Stacey Ozuna		93004		2011-12-27 07:42:24
Chris stallings		94402		2011-12-27 06:51:40
deborah al-saleh		93004		2011-12-27 06:37:30
Robert W Anderson		93004		2011-12-27 04:48:03
Wendy Francke		93003		2011-12-27 01:53:57
Patricia Danner		93004	We are way behind the times for providing safe means for cyclists. Our transpotation system really needs revaling. Please, let's start here. Patti Danner	2011-12-27 01:42:42
ADAm Story		93010		2011-12-27 00:35:16
Rachel Sears Casanta		93001		2011-12-27 00:26:04
Eve Sanford		91766		2011-12-25 15:55:08
Molly Arevalo		90027		2011-12-25 15:26:40
Richard C. Loy		93001		2011-12-25 11:20:03
			We must have safe cycling and funds dedicated to improve alternative modes of transportation.	

Donna Chazanov	[redacted]	90035	Car is NOT king. I am 58 years old and ride my bicycle down a very dangerous and busy boulevard to work - just 5 miles. I am not the only one risking my life on	2011-12-24 19:55:54	[redacted]
Patrick Micallef		90068	We need safer bike roads to get to work..please.	2011-12-24 16:36:39	
scott cameron		91105		2011-12-24 00:04:57	
Gloria Newton		91101	I am a 45-year-old woman. I can't tell you how much my quality of life has improved since I got out of my car and started walking, biking, and taking public transportation. Yet I still feel a level of anxiety while traveling by foot or bike because I do	2011-12-23 23:59:40	
Tanya Torst		93065	Great bicycle cities like Amsterdam and Copenhagen didn't just happen, they were planned by the local government! It can happen here too and bring great benefits to our communities by bringing up property values and being a great place to live.	2011-12-23 21:59:55	
Colin Bogart		90027		2011-12-23 20:47:59	
Edward Beres		91101		2011-12-23 19:53:44	
karen hasson		90278	Many people do not cycle because they feel it is too dangerous. Safety is a huge issue for most people.	2011-12-23 16:13:21	
Samantha Ollinger		92105		2011-12-23 01:24:41	
Ian H. Besler		91030		2011-12-22 03:27:32	
Paul Meyer		93022		2011-12-22 00:08:49	
John Mirk		93023	As a bicycle commuter and avid recreational cyclist one of my biggest concerns is a collision with an automobile. These statistics are sobering. Let's put the money where the problems are!	2011-12-21 22:53:27	
Ron Parker		93033	Walking and biking need your support.	2011-12-21 20:52:09	
Stevn foster		93023	walkability and bycycling is fundamental to economic, social and environmental health. This needs to be a priority.	2011-12-21 19:03:11	
Elise Kelley		93003	I see more and more people on the roads cycling to work and just to get around. With gas prices expected only to increase, significant funding needs to be dedicated to safer bike routes, bike paths, and pedestrian options.	2011-12-21 18:23:02	
Charlie Snyder		93023		2011-12-21 17:09:47	
Julie Fontes		93003		2011-12-21 16:16:38	
Bret Bentzen		93003		2011-12-21 16:05:59	
Fawzi Philip		93022-9522	It is healthier, cleaner, and reduced car traffic if we bike and walk. This	2011-12-21	

Emad	[redacted]		is where we ought to increase spending...	15:48:10
Lana Hester		93023	Supporting infrastructure for cycling is a smart strategy and should be followed. It is more economical use of funds than more blacktop for cars. Cycling impacts our community in many positive ways including health benefits and environmental improvements.	2011-12-21 14:53:41
DEBBIE WITTMAN		91345		2011-12-20 16:58:20
Patrick E. Gallagher		93003		2011-12-19 04:56:03
Phillip Hernandez		93065	Please pass this so we can jeep others from losing loved one the way i lost my father and younger brother	2011-12-19 02:21:08
Josh Smith		74855		2011-12-19 00:21:45
Jolene Smith		74866	In loving Memory of Anthony Hernandez and ALL others who have lost their lives. God Bless	2011-12-19 00:14:56
Linda E. Martinez		91331	Please people, share the road and be cautious when it comes to bicyclist and motor cyclists.	2011-12-18 19:13:51
Marjorie Bashaw		93065		2011-12-18 18:10:49
sasha wolfe		93023	I'm 69 yrs. young. My rheumatologist told me to keep walking, for my health. It's no longer possible to run so I appreciate the new "Yield to Pedestrians - It's the State Law" sign installed on Matilija Street in Ojai across from the Farmer's Market.	2011-12-18 17:50:01
ashley farrell		93536		2011-12-18 06:56:18
Kristi Jones		93023	walk and bike !	2011-12-18 06:38:22
Linda Righetti		93065		2011-12-18 06:36:27
Roberta Sheppard		93023	biking is good for people.	2011-12-18 05:54:58
sheila mccue		93023		2011-12-17 23:06:01
Sean Fahle		90024		2011-12-17 21:56:54
Maryann Short		93024	Bikes and walking should be primary transport. Cars should be used only rarely.	2011-12-17 19:57:25
Leonard Miller		90066	Forcing people to drive cars because it is the only safe way to travel is foolish.	2011-12-17 19:18:13
Juliene O. Hartman		93003		2011-12-17 19:10:04
Marie A. Abato		93004	We need mor e safe bike paths	2011-12-17 19:05:48
Justin Resnick		90401		2011-12-17 18:05:15
				2011-

oracio casillas	[redacted]	93121	12-17 17:44:23
Paul Barrera		91106	2011-12-17 17:28:57
Pritti Barrera		91106	2011-12-17 17:25:57
Brenda Mercado		93023	Let there be bikes.	2011-12-17 16:20:03
samuel spencer		90024	2011-12-17 15:44:29
Barbara J. Gibson		93023	2011-12-17 06:23:49
Suza Francina		93023	Please amend the 2012 Regional Transportation Plan and help make every City in Southern California a model bicycle pedestrian friendly community. --Suza Francina, former mayor, City of Ojai, Member, Ojai Complete Streets sub Commitee	2011-12-17 05:59:30
Brian H. Yamaguchi		93552	2011-12-17 05:11:01
Kristofer Young, DC		93023	We need more funding for safe biking and walking.	2011-12-17 04:46:03
James Thompson		93001	The more people who ride, the safer it is to ride!	2011-12-17 01:37:15
John H. McConnell		93041-1926	Don't waste funds by sending me mail by pot.	2011-12-17 01:31:32
Crystal D Garcia		92821	If you build it they WILL ride.	2011-12-16 22:20:40
Michele Chavez		93551	2011-12-16 17:29:48
Rye Baerg		91020	Please make our streets safer for all users.	2011-12-16 17:04:08
Stacy Kline		92661	Please promote cycling in Southern California!	2011-12-16 07:37:18
Jessie Holzer		90029	2011-12-16 06:44:02
Laura Gulovsen		93003	2011-12-16 06:37:42
Alex Kenefick		90026	2011-12-16 05:04:38
Gil Solomon		91307	As a daily bike commuter, I am aware of the need to make biking in Southern California easier and safer.	2011-12-16 05:04:33
Minerva Heppenstall		90027	2011-12-16 05:04:02
Noah Mercer		90027	My wife bikes seven miles to work through downtown LA and I want her to be safe doing it.	2011-12-16 04:55:12
Wesley Reutimann		91106	2011-12-16 04:42:09
Thomas Weisel		93003	We need safe bike routes!	2011-12-16 04:12:10

Katherine Jones	[redacted]	92373	Please increase funding for dedicated bike paths for transportation, not just for recreation, especially in the IE.	2011-12-16 04:09:04
Chet Kostrzewa		93065	Think outside the 4 wheel box and the whole community benefits	2011-12-16 04:01:36
Carey J. Peden		92656	See Long Beach as an example.	2011-12-16 03:52:15
David Routman		90026	Please invest in Southern California, support public transit, cycling, and walking	2011-12-16 03:25:48
Daniella Alcedo		91724		2011-12-16 03:19:49
Eric Weinstein		90405	Make biking possible - there will be more people traveling by bike.	2011-12-16 00:24:21
James William Biffin		92708		2011-12-15 23:29:11
David Matsu		90065		2011-12-15 23:12:01
roberta tommerson		92887		2011-12-15 22:30:24
Alexis Lantz		90014		2011-12-15 20:14:22
Ted Rogers		90024	Southern California will never end traffic congestion by endlessly increasing capacity for motor vehicles; we have to provide safe and convenient alternatives to driving.	2011-12-15 19:44:10
canada goose			jci http://www.canadagooselover.com/ canada goose qbr canada goose jackets mjy	2011-12-15 10:19:54
Elaine M Edwards		93001-3344		2011-12-15 06:56:52
Paul Hartloff		93001		2011-12-15 06:19:32
Donna Hebert		93001	I bike to work daily and would appreciate a reasonable portion of our public funding to be directed to the purposes of safe biking. Thanks.	2011-12-15 04:02:42
Fred Stites		90014		2011-12-15 01:26:21
Walter Scott Chambers		92103	Fund bicycle and pedestrian infrastructure first.	2011-12-15 00:14:46
Mark Mallare		90034	More bike lanes, more room for pedestrians--a more sustainable city!	2011-12-14 21:37:08
Wendy Alfsen		94712	Since 21% of all trips in SCAG are walking or bicycling, and since 21% of all traffic fatalities are pedestrian, 8% funding to active transportation is underfunding but would be a good step forward.	2011-12-14 19:38:53
Ryan Leaderman		90069	Please increase the funding for bicyclists and pedestrians -- better for their/our safety, betters our quality of life, and furthers sustainability goals.	2011-12-14 18:53:47
Marilyn Caldera		90260	Please devote more transportation funding to keeping pedestrians and bicyclists safe. And also to walkable neighborhoods and cities. It will be funds much better used than	2011-12-14 17:41:09

	[redacted]				continuing with urban sprawl.	
Don				90210	I support this 100%	2011-12-14 10:02:06
Austin Phung				91732		2011-12-14 07:34:08
Severin Martinez				90041		2011-12-14 05:33:36
Richard Hogge				90026		2011-12-14 02:22:27
Brendan Clarke				91367	Over 20% of trips and casualties in the region are walking/biking - then 20% of Reg. Trans. Plan funds should be for walking/biking.	2011-12-14 02:09:13
John Lloyd				91024		2011-12-14 01:37:26
Paul Chenard				90026		2011-12-14 01:17:04
Marilyn Erickson				93030		2011-12-14 01:16:26
Alejandro Meruelo				90024		2011-12-14 00:10:10
Rema Oxandaboure				92024		2011-12-13 18:57:57
Ryan Wiggins				90802	It's time to rediscover the true promise of our region - blue skies and healthy, affordable living. This is one of the ways we can do it.	2011-12-13 18:41:38
Jessica Meaney				90026		2011-12-13 17:30:10
canada goose jackets					gtj http://www.canadagooselover.com/ canada goose sale dbi canada goose jackets onw	2011-12-13 15:12:14
David Levy				93003		2011-12-13 05:01:31
Josh Freeman				93003		2011-12-13 02:36:16
Lyle Warnagieris				93003		2011-12-12 19:34:34
Joseph Hatke				93023	Thank you Rachel!	2011-12-12 18:03:51
canada goose coats				411003		2011-12-12 09:47:41
Rebecca Miller				90049		2011-12-12 06:37:42
Camille Thoma				93003	Bike infrastructure gets our community the most bang for its tax buck.	2011-12-11 22:56:02
Jesse Kuznkowski				93023	I must drive for work and when I take mountain routes I am always watching for bikes, yet there simply is not enough room on many of the roads & I am not surprised by the number of injuries and fatalities. I believe some changes are needed.	2011-12-11 21:40:03
Tyrone LaFay				93001		2011-12-11 20:48:13

Elzbet Diaz de Deon	[redacted]		93001		2011-12-11 07:36:03
Joe Connett	[redacted]		93001		2011-12-11 07:34:46
George Vye	[redacted]		93040		2011-12-11 03:57:07
susan trent stephenson	[redacted]		93060		2011-12-10 22:32:44
Kathleen Ann Nolan	[redacted]		93023		2011-12-10 21:41:14
Denise Noel	[redacted]		93035		2011-12-10 20:21:32
Vicky Lynn Fliss	[redacted]		93035		2011-12-10 17:50:37
Greg Prinz	[redacted]		93023		2011-12-10 17:38:17
Brett Becker	[redacted]		93003	If rainy Portland can be accommodating to bicyclists and pedestrians, then so should sunny Southern California. Thanks.	2011-12-10 16:37:14
Kim Hayashi	[redacted]		93030		2011-12-10 05:09:48
Robert Hornbeck	[redacted]		93022	I commute by bicycle from Ojai to Carpinteria. Please support improved cycling infrastructure.	2011-12-10 04:12:21
Howard Miller	[redacted]		93003	In every way, walking and biking are better for us than riding in cars. Active transportaion should be enhanced in all ways possible!	2011-12-10 03:45:17
David Aaron	[redacted]		91367	With an eye towards the future and the possibility of retiring to Ventura, I strongly urge you to implement this petition. We need to move away from the irrational fossil fuels and towards a healthier world for all.	2011-12-10 03:38:35
HAROLD WILFRED CARTLIDGE	[redacted]		93001		2011-12-10 02:43:05
tina chappel	[redacted]		93022		2011-12-10 01:28:09
Deborah Pendrey	[redacted]		93022		2011-12-10 01:21:53
Harvey Weinberg	[redacted]		93001		2011-12-10 00:07:59
Jeff Wilson	[redacted]		91321	Bicycling offers independence, mobility, and exercise at an affordable cost to individuals and communities. It deserves not only the encouragement of policy makers, but also infrastructure, whether as Class II lanes or Class I paths.	2011-12-09 22:35:58
Tyler Eroh	[redacted]		93033		2011-12-09 22:23:45
Robert J. Warnagieris	[redacted]		93003		2011-12-09 21:45:55
Quinn Fenwick	[redacted]		93001		2011-12-09 21:17:44
					2011-

helen oneill	[redacted]	93003		12-09 20:33:50	[redacted]
Janet Levy	[redacted]	93003		2011-12-09 20:32:57	[redacted]
Tom Erickson	[redacted]	93024		2011-12-09 20:25:55	[redacted]
Robin Lerner	[redacted]	93001	It just makes sense.	2011-12-09 19:32:14	[redacted]
Robert Alan Schleifer	[redacted]	93003	At age 66, I'll soon be getting a bicycle for myself. Safer roads for cyclists and pedestrians is imperative, and contributes to more environmentally sustainable communities.	2011-12-09 19:12:17	[redacted]
Stephen Bryne	[redacted]	93001		2011-12-09 18:16:21	[redacted]
Mel Lowry	[redacted]	91360-8411		2011-12-09 17:39:42	[redacted]
Sarah Golden	[redacted]	93005		2011-12-09 17:37:41	[redacted]
john hankins	[redacted]	93001	I ride or walk the bike path that runs from Ojai to the beach in Ventura almost every day, but wish there were more such paths throughout the city. It truly encourages people to get out of their cars, and it's more healthy too	2011-12-09 17:35:22	[redacted]
Susan M. Bardsley	[redacted]	93001		2011-12-09 17:01:53	[redacted]
Gregory Abille	[redacted]	93001-3123	Do it.	2011-12-09 16:59:06	[redacted]
Brian Randall	[redacted]	93003		2011-12-09 16:37:15	[redacted]
David Leoncavallo	[redacted]	93060		2011-12-09 16:33:47	[redacted]
Patrick Neal VanHorn	[redacted]	91320	PLEASE increase the funding for active transportation!	2011-12-09 16:33:12	[redacted]
David Goldstein	[redacted]	93001	Let's get rid of the black curbs on Telegraph Rd.	2011-12-09 16:32:53	[redacted]3
Joseph Yahner	[redacted]	93004		2011-12-09 16:28:59	[redacted]0
Patrick Praetorius	[redacted]	93023	Bikes: Run on fat and save you money. Cars: Run on money and make you fat!	2011-12-09 16:02:43	[redacted]
Milo Lovejoy	[redacted]	93001	Ditch your car and hop on your bike!	2011-12-09 15:59:17	[redacted]
erin clark	[redacted]	93001	we walk our kids to school! it's great exercise and great time together. it needs to be safer and more encouraged.	2011-12-09 15:59:10	[redacted]
Kelly Fitzpatrick	[redacted]	93001		2011-12-09 15:54:53	[redacted]
vina lustado	[redacted]	93023		2011-12-09 15:53:40	[redacted]
Heather Wylie	[redacted]	93003		2011-12-09 15:51:15	[redacted]
Derek B Eason-	[redacted]	93003		2011-12-09	[redacted]0

Towers	[redacted]				15:13:30	
AgeceTekrag	[redacted]			F-Finnson pain in the eye injury unflinching levelled proctosedyl supp glowering rhetorics pastules cortisone cream topical outlandish blackness new steris 3013 valet ached is robitussin gluten free lettering acrimony colorado allergy freedom condition am	2011-12-09 15:10:24	[redacted]
margaret morris	[redacted]		93001		2011-12-09 15:02:34	[redacted]
Stephanie Tiffany	[redacted]		93003		2011-12-09 14:38:10	[redacted]
Nicholas Deitch	[redacted]		93003	This is essential for our future well-being and the well-being of our children. Please act swiftly.	2011-12-09 09:59:37	[redacted]
Issis RIVADINEYRA	[redacted]		93030	we need more bicycle lanes!!!	2011-12-09 08:36:15	[redacted]
David P. McGowan	[redacted]		93003	Please help fund safer waking and cycling in Southern California.	2011-12-09 07:42:25	[redacted]
Nash Rightmer	[redacted]		93001		2011-12-09 07:22:17	[redacted]
Heather Koniecki-King	[redacted]		93001		2011-12-09 06:36:21	[redacted]
Tiffany Richardson	[redacted]		93001	bicycles will save the planet.	2011-12-09 06:24:38	[redacted]
Adele Schmalenberger	[redacted]		93023	As I stood waiting at an intersection to cross Thompson Blvd. in Ventura today, not a single car of the 19 that drove by stopped for me. Why? Drivers ignorant of the law or crosswalk lines removed just doesn't mater. What mattered is that I had to take my	2011-12-09 06:18:24	[redacted]
Maya Berry	[redacted]		93003	After biking in downtown Ventura the other day, I realized that we really need more safety precautions for Ventura. I definitely think this needs to happen.	2011-12-09 05:32:58	[redacted]
Lisa M. Jones	[redacted]		93021		2011-12-09 05:31:30	[redacted]
Delia Gorey	[redacted]		93001		2011-12-09 05:22:03	[redacted]
Angel Mayorga	[redacted]		93001	We definitely need this.	2011-12-09 05:05:05	[redacted]
Leslie Ogden	[redacted]		93001	I sign on behalf of the 300 members of Channel Island Bike Club, Ventura	2011-12-09 04:53:13	[redacted]
Terri Thomas	[redacted]		93003	I really want to bike and walk more, for my health and for the environment, but I don't always feel safe.	2011-12-09 02:36:11	[redacted]
John D. Buccola	[redacted]		93003		2011-12-09 00:37:44	[redacted]
Rachel Morris	[redacted]	[redacted]	93001	Active Transportation is one of the single most effective ways to reduce green-house gases.	2011-12-08 22:14:53	[redacted]
Drew Story	[redacted]	Ventura	93003	I stand with VCCool and the VBU!	2011-11-30 04:31:49	[redacted]

Back

PETITION: to Increase Funding for Safe Bicycling and Walking in Southern California*

Please sign Today!! – www.active-transit.org

- Whereas 25% of roadway injuries and fatalities in the SCAG Region are bicyclists and pedestrians.
- Whereas childhood obesity and diabetes in our communities have reached epidemic levels.
- Whereas public roadways must be accessible to all people, including those who cannot afford the skyrocketing prices of gasoline.
- Whereas bicycle infrastructure costs for lanes, wear and tear on roads, and parking space are exponentially lower than those for cars and buses, at a time when State funding for cities and counties has been drastically cut.
- Whereas a large portion of people living in Southern California do not own a drivers license, including all people under the age of 16.
- Where 10% of the households in the SCAG Region do not own cars.
- Whereas California Senator Barbara Boxer, Chairman of the Senate Environment and Public Works Committee in her December 7th, 2011 press conference stated that climate change is an "...urgent threat facing the globe."
- Whereas State law AB 32 requires California to lower greenhouse gas emissions to 1990 levels by 2020, the equivalent of taking approximately 28 million cars off State roads.
- Whereas 40% of all trips people make are 2 miles or less. (National Household Travel Survey.)

I therefore respectfully petition the Southern California Association of Governments to amend the 2012 Regional Transportation Plan, increasing the amount for Active Transportation to 5%-8%.

**Includes Counties of: Ventura, L.A., Orange, San Bernardino, Riverside, and Imperial*

(The current budget has only 1.3% for biking and walking combin[redacted]

Name Dorothy Hunsch	E-Mail [redacted]	Zip	93001
Name Cindy Zeretzke	E-Mail [redacted]	Zip	93023
Name John Zeretzke	E-Mail [redacted]	Zip	93023
Name Arnett Heck	E-Mail [redacted]	Zip	93004
Name Lenore Aedo	E-Mail [redacted]	Zip	91362
Name Pam Waldron	E-Mail [redacted]	Zip	93004
Name Mark Mendelsohn	E-Mail [redacted]	Zip	93004
Name PHOEBE HIGGINS	E-Mail [redacted]	Zip	93004
Name Krista Mendelsohn	E-Mail [redacted]	Zip	93004
Name FRANCIS PETERSON	E-Mail [redacted]	Zip	93001

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UULMCA

Petition: Increase Funding for Active Transportation in the Southern California Regional Transportation Plan of 2012

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Name LAURA Mutalipassi	E-Mail [redacted]	Zip 92240
Name Gerald C Higgins	E-Mail [redacted]	Zip 92234
Name Lori Paddock	E-Mail [redacted]	Zip 92201
Name Larry Edwards	E-Mail [redacted]	Zip 92241
Name Jean Edwards	E-Mail [redacted]	Zip 92241
Name [illegible]	E-Mail [redacted]	Zip 92270
Name Dorothy J Mitchell	E-Mail [redacted]	Zip 92253
Name David Hutchison	E-Mail [redacted]	Zip 92270
Name Dawn Spitz	E-Mail [redacted]	Zip 92270
Name Marilyn Cavanaugh	E-Mail [redacted]	Zip 92270
Name Janette Adkins	E-Mail [redacted]	Zip 92203

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Please fax completed petitions to the UU Legislative Ministry, CA at 916.441.0015 by **Monday, February 13, 2012**

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Name Vanessa Wolf	E-Mail [redacted]	Zip 90029	
Name Erwin Marcus	E-Mail [redacted]	Yahoo.com p 90029	
Name SHAHID BROWN	E-Mail [redacted]	p 91709	
Name Ignacio Araujo	E-Mail [redacted]	p 90013	
Name Vincenzo Locante	E-Mail [redacted]	p 90018	
Name Olsen Aviles	E-Mail [redacted]	p 90029	
Name Norma Herrera	E-Mail [redacted]	m 90017 p	
Name Diana Khmelnitskaia	E-Mail [redacted]	p 90027	
Name Charles W. Curtis	E-Mail [redacted]	p 90019	
Name Javier Salgueiro	E-Mail [redacted]	p 91601	

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Name Andrea Zeppilli	E-Mail [redacted]	.com	Zip 90034
Name Andrew Nicholson	E-Mail	il.com	Zip 90403
Name Harry Javer	E-Mail		Zip 9.210
Name Chsm Mirnndn	E-Mail	ail	Zip 90405
Name Anne Gow	E-Mail		Zip 90064
Name Bong Comilang	E-Mail		Zip 90026
Name Ron Duregin	E-Mail		Zip 90401
Name Robert Chan	E-Mail		Zip 91423
Name Zach Shank	E-Mail		Zip 90212
Name D-Dennyw	E-Mail		Zip 1286(

This petition is organized, paid for, and presented by VCCool, a 501(c)(3) organization in Ventura, CA www.vccool.org
Please mail petition to VCCool, 345 W. Center St., Ventura CA 93001 by Feb 10, 2012 or e-mail to action@vccool.org

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Name Taya Pocock	E-Mail [redacted]	Zip	93001
Name Chris Torre	E-Mail [redacted]	Zip	93001
Name Stephanie Bucklin	E-Mail [redacted]	Zip	93003
Name Lynn Weeks	E-Mail [redacted]	Zip	Con 93033
Name Eileen Mannion	E-Mail [redacted]	Zip	93012
Name Toksun Simpson	E-Mail [redacted]	Zip	93035
Name Bianca Martinez	E-Mail [redacted]	Zip	93001
Name Julia Tyler	E-Mail [redacted]	Zip	93003
Name Tiffany Richardson	E-Mail [redacted]	Zip	93001
Name Lauren Ricketts	E-Mail [redacted]	Zip	93003

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Alexis	Castilla
Alleen	Lopez
Ananie	C
Andrew	Albillar
Angel	Benitez
Angelica	Salinas
Betsay	Mauricio
Brayleen	De LaCruz
Brian	Garron
Brian	Mareles
Brian	Tauira
Briana	Agiurre
Bryan	Tavira
Carmen	Sanchez
Carolina	Quezada
Charles	Taitai
Charlie	Sierra
Chelsea	Zapien
Chris	Serratos
Christian	Aguilar
Claudia	Inglehart
Cristian	Aguilar
Daisy	Rosales
Dandize	Herrion
Daniel	Cabrera
David	Guzman
Demaize	Herrion
Edgar	Lopez
Eduardo	Angelos
Emily	Gonzalez
Estela	Espinoza
Florst	Lizabeth
Frank	Plascencia
Gabriel	Garcia
Gheovani	Canongo
Gissel	Michel
Heriberto	
Hugo	Dominguez
Jacky	Garcia
Jairo	Estrada
Janaize	H
Jannelly	Luna
Jario	Estrada
Jasmine	Orozro
Jasmine	Garcia Arellan
Jauro	Estoele
Javier	Rodriguez

Javio	Estrada
Jayce	Taitia
Jazmine	Orosco
Jeannette	Perez
Jesse	
Jessica	Rosales
Jesus	Aguilar
Jesus	Lopez
Joanna	Aquirre
Johnathan	Lopez
Jonathan	Ambriz
Jordy	Solano
Jorge	Lopez
Jose	Aunbriz
Josheph	Boatista
Joshua	Martin - Del Compo
Juan	Valario
Judith	Rodriguez
Justina	Cajtillo
Kassandra	De Vargas
Kassandra	
katia	Esquivel
Kelly	Contreras
Kenia	Benteria
Kimberly	Ambiez
Kinreriy	Garcia
Larry	Melchor
Lesly	Germion
Lita	Barraza
Ltabran	Marin
Lucinda	Harrel
Luis	Equihug
Luis	Garcia
Manny	Sanchez
Maria	Contreras
Maria	Avarado
Maritza	Rodriguez
Michelle	Lapiz
Miguel	Franco
Mirian	Alvarez
Missel	Miened
Monique	Couqrrebioza
Natalia	Ramirez
Nayeli	Flores
Nicholas	Vergara
Noe	Luis
Norma	Garcia

Odalis	Hernandez
Paola	Cruz
Raquel	Reyes
Reylina	Cervantes
Roquel	Reyes
Rosalinda	De Jesus
Samantha	Merdoza
Savanna	Delacruz
Sofia	Aguayo
Stephanie	Orozro
Tania	Romero
Thorias	
Trainio	Estrada
Valerie	Nunez
Vaness	Ruiz
Victor	Avila
Yudith	Rodriguez

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Name Victor Avila &	E-Mail Joseph Bautista	Zip	
Name Yudith Rodriguez	E-Mail Jose Ambr	Zip	
Name Marity Rodrigue	E-Mail [illegible]	Zip	
Name JESUS ACUIAR	E-Mail Tan[illegible]	Zip	
Name Joshua Martin Del Campo	E-Mail monique [illegible]	Zip	
Name Chris Serratos	E-Mail Hugo [illegible]	Zip	
Name Katia Esquivel	E-Mail Jonathan Lopez	Zip	
Name Jairo Estrada	E-Mail Marian [illegible]	Zip	
Name Thomas	E-Mail Raquel [illegible]	Zip	
Name Jessica Rosales	E-Mail Jasmine [illegible]	Zip	

This petition is organized, paid for, and presented by VCCool, a 501(c)(3) organization in Ventura, CA www.vccool.or

Please mail petition to VCCool, 345 W. Center St., Ventura CA 93001 by Feb 10, 2012 or e-mail to action@vccool.o

PETITION: to increase Funding for Safe Bicycling and Walking in Southern California

Please sign Today!! – www.active-transit.org

- Whereas 25% of roadway injuries and fatalities in the SCAG Region are bicyclists and pedestrians.
- Whereas childhood obesity and diabetes in our communities have reached epidemic levels.
- Whereas public roadways must be accessible to all people, including those who cannot afford the skyrocketing prices of gasoline.
- Whereas bicycle infrastructure costs for lanes, wear and tear on roads, and parking space are exponentially lower than those for cars and buses, at a time when State funding for cities and counties has been drastically cut.
- Whereas a large portion of people living in Southern California do not own a drivers license, including all people under the age of 16.
- Where 10% of the households in the SCAG Region do not own cars.
- Whereas California Senator Barbara Boxer, Chairman of the Senate Environment and Public Works Committee in her December 7th, 2011 press conference stated that climate change is an "...urgent threat facing the globe."
- Whereas State law AB 32 requires California to lower greenhouse gas emissions to 1990 levels by 2020 the equivalent of taking approximately 28 million cars off State roads.
- Whereas 40% of all trips people make are 2 miles or less. (National Household Travel Survey.)

I therefore respectfully petition the Southern California Association of Governments to amend the 2012 Regional Transportation Plan, increasing the amount for Active Transportation to 5%-8%.

**Includes Counties of: Ventura, L.A., Orange, San Bernardino, Riverside, and Imperial*
(The current budget has only 1.3% for biking and walking combined.)

Name Victor Avila	E-Mail		Zip
Name Andrew Albillar	E-Mail		Zip
Name Jordx Solano	E-Mail		Zip
Name Raquel Reyes	E-Mail		Zip
Name	E-Mail		Zip
Name	E-Mail		Zip
Name	E-Mail		Zip
Name	E-Mail		Zip
Name	E-Mail		Zip
Name	E-Mail		Zip

This petition is organized, paid for, and presented by VCCool, a 501(c)(3) organization in Ventura, CA www.vccool.org

Western States Petroleum Association

Credible Solutions • Responsive Service • Since 1907

Patty Senecal
Manager, Southern California Region and Infrastructure Issues

February 14, 2012
VIA Electronic Mail

Ms. Margaret Lin
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA90017

Re: **Comments on the Draft 2012 Regional Transportation Plan (RTP) /Sustainable Communities Strategy (SCS)**

Dear Ms. Lin:

The Western States Petroleum Association (WSPA) is a non-profit trade association that represents twenty-six companies that explore for, produce, refine, transport and market petroleum, petroleum products, natural gas and other energy supplies in California and five other western states. WSPA has been an active participant in air quality planning issues for nearly 30 years and helped pioneer the first use of atmospheric modeling in the mid-1980's. WSPA members have extensive facilities in the Southern California region and will be directly affected by the Regional Transportation Plan particularly as it provides inputs to the Air Quality Management Plan (AQMP) being prepared by the South Coast Air Quality Management District (SCAQMD).

WSPA recognizes the importance of the RTP/SCS and the AQMP as planning documents that will directly affect the future of industry and residents in Southern California. We understand that the primary stated goal of the RTP/SCS is to increase mobility for residents of the Southern California region. Generally, the RTP/SCS should recognize that while there will likely be a gradual transition towards alternative fuels use in the basin there will also continue to be prominent use of conventional low emission fuels and vehicles as well as hybrids.

The RTP/SCS is also a key component of the AQMP for Southern California which is especially important given the role that transportation plays in the region's air emission inventory. For this reason, our comments are focused on those policy proposals and assumptions in the RTP/SCS. For each issue, we provide a recommendation that will help the Southern California Association of Governments (SCAG) and the SCAQMD as they incorporate stakeholder input.

An accurate and defensible goods movement growth forecast is a critical element of the RTP/SCS and AQMP; SCAG should consider a range of outcomes to better communicate potential economic and environmental impacts from this sector.

The draft RTP/SCS pays considerable attention to economic and environmental impacts from goods movement. The plan reports that five major sectors contributed the majority of freight demand (i.e., manufacturing, retail trade, wholesale trade, construction and transportation and warehousing) and those sectors comprised $253 billion, or 34% of the regional Gross Domestic Product (GDP). The RTP/SCS then reports that Southern California cargo throughput will increase from 14 million twenty-foot-equivalent-units (TEU) (2010 actual) to over 43 million TEU by 2035; an increase of over 200%[1]. The impact of that change on the regional economy would be very large given that SCAG is predicting overall regional GDP growth over the same period will be closer to 25%.

The goods movement forecast used in the draft RTP/SCS assumes little market impact from competition and, in particular, the expanded Panama Canal which is scheduled to open in 2014. Logistics and market forces which drive supply chain shipping decisions are variable and complex and while numerous studies have attempted to predict the impacts of an expanded Panama Canal on U.S. marine ports, there is no consensus as to how much market share (if any) might be lost by the San Pedro Bay Ports. The RTP appears to represent a "best case" scenario as the only scenario. If that estimate proves optimistic, then the plan will have overstated goods movement impacts on infrastructure, the environment (i.e., air pollution emissions) and the revenue generation potential (i.e., use fees) needed to pay for the expensive infrastructure and technology improvements envisioned under the plan. And regional economic benefits will also have been overstated.

Recommendation: The RTP/SCS should consider a range of possible growth factors for the goods movement sector (e.g., high, low). This "bounding exercise" would help decision makers and the public better understand how sensitive economic and environmental factors are to goods movement sector growth. Also, given that we are informed that ship emissions are temporally variable, the "bounding exercise" should also inform the AQMP emissions inventory and consequent air quality modeling. *It is especially important that SCAG validate the emissions baseline (e.g., the 2009-2011 actual emissions) so that the growth projections are based on "real" emissions rather than theoretical or modeled emissions from past exercises. This is made even more important because the initial "in-year" emissions are the basis for building future-year emission projections.*

[1] Forecast is based on the 2009 San Pedro Bay Container Forecast Update commissioned by the Port of Los Angeles and the Port of Long Beach

Proposal for zero/near-zero emission transportation technologies is ambitious; SCAG should clearly communicate assumptions used in the quantitative analyses. Again, the RTP and the AQMP should consider the implications of these assumptions on the growth (or decrease) of vehicle emissions.

The draft RTP/SCS contains several "big" ideas, the most significant of which calls for regional commitment for the broad deployment of zero and near-zero emission transportation technologies. The plan states that the "*development of a world class zero emission freight transportation system is necessary to maintain economic growth in the region, to sustain quality of life and to meet federal air quality requirements*."[2] The RTP/SCS outlines an aggressive strategy for technology development and deployment to meet this objective "*in the 2023-2035 timeframe*," but the detailed assumptions concerning timing are not explained.[3] The draft RTP/SCS acknowledges several challenges which will confront this plan including "*operational needs, integration of the technologies into the national rail system, federal safety requirements, and costs*." But those are just the beginning given the myriad commercial, political, jurisdictional, planning and technology factors involved. Despite those challenges, SCAG proposes for Phases I, II and III to be completed in the next three years. Phase IV timing is then far less specific and stretches across several AQMP milestone years. Given the ambitiousness of this initiative and its importance to the AQMP attainment demonstration, stakeholders need to better understand SCAG's assumptions concerning the implementation schedule for these technologies. Critical review of the RTP/SCS in the context of the AQMP is not possible without this information.

Recommendation: SCAG should publish the technical assumptions used in the draft RTP/SCS concerning assumed rates of deployment for: (a) zero emission transport for container drayage; (b) zero and near zero-emission trucks for regional transport; (c) electrified rail technologies; and (d) zero or near zero emission rail technology. The timing for these assumptions is critical to the AQMP attainment demonstration. In addition, the RTP should provide information on daily, monthly, or seasonal activity associated with these actions. Again, as stated previously, this information is critical to input into the emissions inventory and the air quality modeling.

RTP/SCS as proposed will have significant impacts on the electricity sector; SCAG needs to consider those impacts.

The draft RTP/SCS as proposed would radically change how transportation energy is delivered and used in Southern California with much of the regional transportation system being electrified. Trucks, trains, and numerous other pieces of the goods movement system would be electrified starting as early as 2016. Yet the draft RTP/SCS contains almost no discussion of the massive infrastructure needs, implementation challenges or environmental impacts, including emissions projections, which would result from this policy. The plan is actually dismissive of these issues:

[2]Draft RTP/SCS Executive Summary, page 1.

[3]Draft RTP/SCS Goods Movement Appendix p. 33, Goods Movement Environmental Strategy and Action Plan.

> *"Although some emissions would still be produced in electricity generation, power plants are highly regulated and release less emissions. Furthermore, all power plants in the SCAB are natural gas powered, and also release fewer emissions. Most power plants are located outside the SCAB and therefore emissions from these sources will be further from population centers."*[4]

That statement may have been partially accurate in the past, but it will not necessarily hold in the future as utilities consider how to meet significant new energy demands in a reliable and safe manner. The electricity sector is a highly complex system in technical and commercial terms and it simply may not be able to deliver the quantities of electricity on the timetables presumed in the RTP/SCS.

California's electric utilities find themselves at a crossroads in terms of how utilities operate and are already having to revamp their power generation, transmission and distribution portfolios to accommodate a variety of environmental mandates including AB 32. Those mandates present numerous environmental, commercial, engineering and infrastructure demands. The issues and potential economic and environmental impacts need to be disclosed to decision makers and the public.

Recommendation: The RTP/SCS needs to fully consider the electricity sector infrastructure needs, implementation challenges and emissions impacts that would result from the policy recommendations contained in the draft plan. These emission impacts will be significant in scale and may impact the feasibility of RTP/SCS measures, particularly the schedules. These data are essential to proper development of the AQMP and the air quality modeling used by the SCAQMD.

Please contact me at 310-808-2144 or psenecal@wspa.com if you would like to discuss or need additional information.

Sincerely,

Patty Senecal

Manager, Southern California Region and Infrastructure Issues

[4]Draft RTP/SCS Goods Movement Appendix, page 42.

WILDLIFE CORRIDOR CONSERVATION AUTHORITY

570 WEST AVENUE 26, SUITE 100, LOS ANGELES, CALIFORNIA 90065
TELEPHONE: (310) 589-3230
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HOWARD VIPPERMAN
CITY OF LA HABRA HEIGHTS

February 10, 2012

Mr. Jacob Lieb
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, California 90017-3435

Comments on 2012-2035 Draft Regional Transportation Plan and Sustainable Communities Strategy and Draft Program Environmental Impact Report (SCH# 2011051018)

Dear Mr. Lieb:

The Wildlife Corridor Conservation Authority (WCCA) provides the following comments on 2012-2035 Draft Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) and Draft Program Environmental Impact Report (PEIR; SCH# 2011051018). WCCA was created to provide for the proper planning, conservation, environmental protection and maintenance of the habitat and wildlife corridor between the Whittier-Puente Hills, Chino Hills, and the Cleveland National Forest in the Santa Ana Mountains.

Environmental Mitigation Program

We are pleased to see the inclusion of an advanced mitigation component in the RTP/SCS. This concept has seen great success in Orange County's Renewed Measure M and in fact, is viewed as a model for comprehensively mitigating transportation project impacts with meaningful acquisition and restoration projects. Last year alone, the Orange County Environmental Mitigation Program acquired nearly 950 acres of important natural lands and has funded five restoration projects. Advanced mitigation has many benefits including: streamlined permitting, preservation of important natural lands, improved relationships and collaboration with resource and permitting agencies, to name a few.

We do, however have several suggestions for modification of the Conservation Policy including:

1. Ensuring State conservancies and joint powers authorities with a conservation focus are included in the mapping and prioritization of conservation lands. Specifically, we recommend including WCCA, Puente Hills Habitat Preservation Authority, San Gabriel & Lower Los Angeles Rivers and Mountains Conservancy, Mountains Recreation and Conservation Authority (MRCA), and

Santa Monica Mountains Conservancy (SMMC) among the entities upon whose expertise can be tapped.

2. Extending the inventory of protected lands to include all protected lands – Federal, State, regional and local natural lands – instead of narrowly limiting the inventory to simply Natural Communities Conservation Plan and Habitat Conservation Plan areas.

3. Ensuring existing wildlife corridors and habitat linkages and highway/roadway undercrossings are protected and enhanced during the evaluation of habitat lands and during construction of roadway projects.

4. Advocating that the advanced mitigation policy result in a net environmental benefit for the natural resource lands after construction activities are completed.

Also, large-scale acquisition and management of lands must not be limited to "critical habitat," (RTP, p. 76, 128) as this can be confused with the legal term used by U.S. Fish and Wildlife Service for some federally endangered and threatened species. To clarify, this should be replaced by text reflecting the intent, i.e., the best available natural lands with valuable environmental resources deserving of conservation/preservation.

WCCA looks forward to working with Southern California Association of Governments (SCAG) on the development of the Natural Lands Acquisition and Open Space Conservation Strategy. This will protect remaining resource lands and mitigate for impacts from transportation improvements. In addition to mitigation banking, transfer of development rights (TDR), and payment of in-lieu fees, WCCA recognizes conservation easements as a powerful preservation tool for habitat areas. Conservation easements, and fee title transfers to open space park agencies, should be listed in the plan alongside the other preservation mechanisms.

Transfer of development rights is a potentially useful market-based preservation mechanism that supports regional density goals. SCAG should take a leadership role in setting guidelines and best practices for these new county and municipal programs as well as explore the creation of a regionally unified TDR program. This method should not only be limited to agricultural lands, but also include other open space lands.

Avoidance of Growth in Resource Areas

The RTP/SCS generally steers growth toward more compact forms in already urbanized areas, making efficient use of existing infrastructure and reducing impacts to resource lands. The policy decisions contained within the SCS are projected to save 408 square miles of nonurban land over the life of the plan. If realized, these gains are certainly an

achievement, although there is no projection of where this growth will not occur and what mechanisms will preserve the land in perpetuity.

The lack of specificity makes it difficult for WCCA to evaluate the impacts of the proposed plan. While the projections are intended to be a meta-analysis of regional economic trends rather than a location-specific analysis of growth patterns, SCAG is clearly making assumptions about where development on resource lands is and is not appropriate. This process is not transparent.

For example, the large undeveloped privately-owned property known as the Aera property in the middle of the Puente Chino Hills wildlife corridor[1], has been identified on Exhibit 4.1 as population growth of 2,001-3,500 persons per square mile. In fact, much of this property has been identified as a proposed Significant Ecological Area in Los Angeles County's most recent draft General Plan.

Ironically, this particular development proposal's population, employment and housing growth areas contradict the goals of Senate Bill (SB) 375 and its requirement for reduced vehicle miles traveled (VMT). The location of the development is nowhere near public transit, does not include a major employment center but instead focuses on large single family residential units, requires dependency on the automobile, and will increase VMTs, not reduce them.

With the understanding that land use authority belongs to local jurisdictions, a truly comprehensive regional plan would transparently set growth parameters in concert with resource conservation goals to eliminate these apparent contradictions. Projecting growth in resource areas sets in motion policies that induce that growth; therefore great care must be taken to ensure such growth meets regional objectives.

Wildlife Crossings of Transportation Facilities

WCCA appreciates SCAG's recognition of the impact that linear transportation facilities have on natural areas and the need for well-designed wildlife crossings to partially mitigate these effects. Wildlife crossings serve two distinct purposes: reducing mortality and preserving genetic connectivity. Roads are the leading direct source of human-caused mortality for most species in southern California and the entire country. They can become a population sink if a significant fraction of a local species is killed, affecting broader population distribution across the landscape. Additionally, for highly mobile predators,

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[1]The 2,925-acre Aera property is located in the middle of the Puente Chino Hills wildlife corridor, primarily west of State Route [SR] 57 in Los Angeles County, but also occurring east of SR-57, and also in Orange County.

individuals crossing roads are frequently dispersing from their home range in search of new territory and mates, a vital population dynamic that is devastating if interrupted. National Park Service research has documented significant genetic differences among carnivore populations on either side of the 101 Freeway in the Santa Monica Mountains.

Wildlife crossings need to be discussed in the context of habitat connectivity, which is the broader ecological goal for conservation areas. Wildlife crossings are but one critical tool to ensure that indicator species are able to safely move about their environment. While much has been learned about movement patterns and the way in which key transportation facilities create genetic barriers to connectivity, the measures that might mitigate these impacts have not been thoroughly researched. Wildlife corridor design is a field in its infancy with few scientifically verified best practices for crossing dimensions and landscape features. Given that this research is needed to properly mitigate transportation impacts, SCAG should invest in connectivity research with a program specifically designed to establish measures that can be incorporated into the 2016 RTP revision. Such a program would aggregate existing research, propose new study areas, and develop design best practices specifically tailored to the Southern California eco-region.

River Parkways and Active Transportation

WCCA is interested in urban river projects for their multiple recreational, environmental, and transportation benefits. The RTP/SCS should fully fund build-out of these active transportation corridors throughout the region. When well designed, these facilities serve as "bicycle freeways" connecting various parts of the region with uninterrupted travel for nonmotorized users. Separated from traffic, such facilities are also inviting for bicyclists of all ages and abilities, which is necessary to attract substantial mode share away from automobiles.

The RTP/SCS calls for $6 billion over the next two decades for active transportation investments, which seems low when compared to the identified need in local bike and pedestrian plans. Given the central role active transportation plays in meeting regional planning objectives, funding levels should be set based on full build-out of local bicycle and pedestrian plans, with an appropriate amount projected for those jurisdictions that have not yet completed such plans. The currently proposed funding level does not appear to be rooted in such a need-based assessment. It is not adequate to simply compare the proposed expenditures with past levels independent of a needs assessment.

In addition to the total funding level, the proposed timing of active transportation investment is inadequate. Only 20 percent of the proposed expenditures would occur during the first 15 years of the 25-year planning period, leaving the vast majority of expenditures for the highly speculative future and of little use to current residents. Transit and transportation demand management are similarly back-loaded with only highway-related investments

receiving funding priority in the near term. These non-highway investments are the ones most likely to generate greenhouse gas emissions savings, among other benefits, and the earlier they are made the longer the benefits can accumulate. The proposed expenditure plan runs directly counter to the stated emphasis of the SCS.

Active transportation projects, including the river parkways, are suffering for lack of funding. The most visionary plans require extensive funding to come to fruition and provide their multiple benefits. Planning is well underway, but capital dollars are in short supply for these projects. Furthermore, achieving greenhouse gas reduction and air quality goals requires early mode shift to maximize cumulative benefits over the life of the plan. WCCA suggests that the plan's funding priorities be reversed to immediately fund active transportation investments at a sufficient level to achieve build-out of the region's bicycle and pedestrian networks in the near and medium term. Such a change would make the RTP more consistent with the land use and mode share objectives outlined by the SCS, the intent of SB 375.

For example, WCCA encourages SCAG to evaluate the feasibility and to develop a greenway corridor that can be used for active transportation (e.g., bicycle trail) along San Jose Creek, connecting to the San Gabriel River (by Whittier Narrows) and further west. This San Jose Creek bikeway is an east-west route that parallels the State Route 60 freeway. It is an important commuter route, where a viable bikeway could relieve some freeway traffic. Maintaining and enhancing an open creek channel for wildlife use (e.g., birds) and recreational use (bicycles) would be a valuable amenity in this area. It would be beneficial to investigate and implement other bicycle routes in the area, including a connection between the LARIO trail along the Rio Hondo from its end at Peck Road Water Conservation Park to the San Gabriel River. Another valuable connection would be between the Whittier Greenway Trail to the San Gabriel River at its west end and from its east end to Coyote Creek. These trails are pieces in the larger planned bikeway trail network throughout the region.

Comments on Proposed PEIR Mitigation Measures

Biological Resources and Open Space

The PEIR includes many mitigation measures for potential impacts to biological resources. Overall, these measures are comprehensive and based on sound practice. Inclusion of the proposed mitigation measures in project selection and design will greatly improve ecological outcomes in the SCAG region compared to a baseline scenario. The specific measures calling for minimum mitigation ratios reflect current accepted practices without limiting the discretion of resource agencies to require greater mitigation if warranted.

The proposed measures addressing habitat fragmentation and connectivity are thorough and appropriate (MM-BIO/OS36 through MM-BIO/OS40). These impacts have been all too often unmitigated for transportation projects in the past.

WCCA looks forward to collaboration on regional conservation planning policy to address cumulative impacts to biological resources (MM-BIO/OS45). MRCA is one agency in the SCAG region that administers a highly successful restoration and preservation in-lieu-fee mitigation program in close coordination with State and Federal resource agencies. SCAG's planning and funding expertise is a welcome addition to ongoing efforts. WCCA recommends that other agencies with expertise in the region, such as MRCA, SMMC, Puente Hills Habitat Preservation Authority, and WCCA be invited to participate in this process.

The primary impact from transportation facilities is often the indirect and cumulative impact from growth induced by new improvements. As projects increase access and reduce commute times from remote areas, these resource lands become economical to develop. The Conservancy is therefore pleased to see SCAG recognize these impacts and call for their mitigation (MM-BIO/OS47). Without appropriate growth management along transportation corridors, wildlife crossings cannot mitigate connectivity impacts from expanding development footprints. Furthermore, induced growth along new corridors often negates the benefits of new transportation capacity, prompting even greater impacts from future facility expansion. SCAG should develop best practices that would be applicable to new transportation corridors to prevent new development from extending into resource lands.

The PEIR biology mitigation measures should be clarified to delete reference to relocating active nests (MM-BIO/OS35), as this is likely in conflict with the Migratory Bird Treaty Act. Instead, construction buffers to active nests should be established, as proposed.

Land Use and Agriculture Resources

As stated previously, WCCA is encouraged to see transfer of development rights (TDR) programs included in the RTP/SCS (MM-LU16). Los Angeles County is including a TDR program in its general plan update. SCAG should provide technical assistance and facilitate interjurisdictional transfer programs among member governments as appropriate.

WCCA is pleased to see strategic planning that encourages recreational access to natural lands be coupled with efficient land use strategies to preserve these lands (MM-LU25 and 26). Location-efficient and compact development is better for the economy and environment by reducing infrastructure costs, increasing tax revenues per acre, and reducing consumption of agricultural land and habitat.

Urban growth and service boundaries are a critical tool local jurisdictions have to protect resource areas within greenbelts (MM-LU42). WCCA strongly supports efforts by local jurisdictions to establish such policies. SCAG should promote best practices in greenbelt planning and facilitate interjurisdictional collaboration to protect resource areas that separate discrete urban communities. WCCA notes that effective policies restrict densities to no more than one dwelling unit per ten acres outside of urban growth boundaries. Densities above this threshold begin to affect resource values, particularly habitat connectivity and sensitive species. One unit per ten acres is an appropriate maximum density to reduce the proliferation of "ranchette" developments that highly fragment habitat in rural areas.

WCCA supports local jurisdictions using variable development fees as an economic incentive to direct growth to desired areas. In particular, increasing impact fees for development in greenfield areas would recognize the resource impacts of such developments while rewarding new developments that minimize the burden on public infrastructure by locating in existing urban areas (MM-LU81). Such fees would need to be considerable to actually have an effect on land economics at the regional scale. SCAG should undertake an economic analysis to determine what level of fees would be required to achieve regional growth objectives.

Public Services and Utilities

The PEIR lacks a public safety mitigation measure that promotes project design that minimizes urban-wildland interface, which is the source of wildfire risk to persons and property. Past development patterns include long, meandering urban edges with high risk exposure to catastrophic events, causing great strain on local and State firefighting resources largely subsidized by those living in lower risk locations. A mitigation measure should include two components addressing both project location and project design. First, development that extends into high fire hazard areas should be discouraged. Second, there should be an emphasis on utilizing project design strategies to reduce risk, such as building within compact and defensible footprints and minimizing perimeter length. Projects should be sited in order to reduce impacts of required brush clearance on native habitat areas, including adequate buffers to protect sensitive resources from brush clearance impacts. The draft Los Angeles County Significant Ecological Area Ordinance contains model language to this effect.

WCCA concurs that project sponsors and local jurisdictions should work to increase public access to open space (MM-PS21 and 26). River parkways and other urban natural parks serve a vital purpose in connecting urban residents to natural parkland (MM-PS22). The City of Los Angeles and County of Los Angeles have both recognized these projects in master plans for their respective river corridors. While planning for these projects is the

responsibility of local jurisdictions and partners, SCAG has a critical responsibility for funding by including bikeway projects in the RTP area.

Regional partnerships are necessary to achieve open space conservation objectives (MM-PS29). As previously mentioned, WCCA welcomes SCAG's assistance with planning and identifying funding sources for open space acquisition (MM-PS31 and 34). SCAG's participation in coordinating regionally significant trail networks is also appreciated, however the greatest contribution SCAG could make to these efforts would be including those greenways that serve transportation functions, such as the river parkways, in the RTP so that they can be fully developed in the short and medium-term (MM-PS33).

Transportation

WCCA looks forward to SCAG support and urges that ample funding be provided for full build-out of the river parkway systems, combining transportation and recreation functions to improve the quality of life for southern California residents. These parkways often connect with schools, parks, libraries, and other community facilities (MM-TR43). Such connections should be enhanced through regular transportation improvements and the development of regional and local networks of multi-use trails with adequate end-of-trip facilities (MM-TR78).

Water Resources

WCCA believes that preservation of remaining riparian resources should be the highest priority at both the regional and project level, followed by restoration of previously impacted areas (MM-W1 and 9). To the extent feasible, natural methods for stormwater control, water quality improvements, and infiltration should be encouraged.

SCAG sets an appropriate standard that new projects should not cause or contribute to conditions that degrade the physical integrity or ecological function of any downstream receiving waters (MM-W22). When evaluating projects during the environmental review process, SCAG should identify regionally significant projects that may impact downstream waters and include comments to that effect in Notice of Preparation and Environmental Impact Report responses. This is a critical issue wherever natural rivers interact with urban areas. SCAG should participate in the development of models of natural processes for the remaining natural rivers in the SCAG region to ensure that environmental review can comprehensively evaluate project impacts based on the best available information.

We appreciate your consideration of these comments. Please continue to maintain our agency on your email/mailing lists for this project. If you have any questions, please contact Judi Tamasi of our staff by phone at (310) 589-3230, ext. 121, or by email at judi.tamasi@mrca.ca.gov.

Sincerely,

for Glenn Parker
Chairperson

Carol Teutsch, M.D.
[redacted]
Los Angeles, CA [redacted]
February 13, 2012

Southern California Association of Governments
Attention: Margaret Lin
818 West 7th Street, 12th Floor
Los Angeles, Ca 90017

Sent via email lin@scag.ca.gov

Dear Ms. Lin,

Thank you for the comprehensive SCAG RTP currently in draft format. I have viewed your video and attended one of your public meetings. Many of the comments offered in the public forum reflected interest in the **active transportation elements** and **delayed funding** for implementing these concepts which I am sure you took note of and which reflect my own priorities. Having **individual mobility on freeways as a key objective is not sustainable** and we should shift away from that as a priority.

I am a physician deeply interested in the environment and in the impact of our environment (built and natural) on our health. **TRANSPORTATION IS HEALTH**. I am delighted with the Health in All Policies document put in place for the state by our former governor, but feel its careful recommendations are not being given adequate prioritization in your thinking. www.sgc.ca.gov/workgroups/hiap.html

I am new to southern California, having moved here from the east coast. The area is captivating and we need to protect it—not pave over more of it and not continue to building polluting solutions.

I would like to see to health risk and health impact assessments as part of your standard operating plan development. The externalities of health and environmental impact must be known because they affect long costs and benefits, which is your responsibility in these long term plans.

A very nice and recent example of integrating public health objectives in transportation planning can be seen in an independent research report from the Victoria Transport Policy Institute (www.vtpi.org) (http://www.vtpi.org/health.pdf accessed March 27, 2011).

I know that cargo movement is an essential part of your plan. Investing now in better options that are zero emission is key to the region's long term success. We could implement the "greenest" port in the world, helping our region, our citizens' health and demonstrating leadership for the world. There is concern about whether trucking is an appropriate choice for cargo transport and inappropriately subsidized by not accounting fully for externalities. The new GAO Report GAO-11-134 showed that " on average, additional freight service provided by trucks generated significantly more costs that are not passed on to consumers of that service than the same amount of freight service provided by either rail or water." This report puts an additional burden on SCAG to consider alternatives such as rail and appropriately include consideration of all externalities.
(Full report at http://www.gao.gov/new.items/d11134.pdf



d11134high.pdf

The tunnel proposal is of special concern to me since I live in Northeast LA. We will be bringing a corridor of damaging health effects up this way instead of solving the problem in the south 710 region. We see increasing proof of adverse health effects of ultrafine particles and no means to remove them in tunnel exhausting. We also need to see a robust model of costs of running tunnel ventilation which is very expensive. I have many additional references on tunnels and how they concentrate pollutants if you need them. The large ventilation shafts in residential areas are visually and from a health perspective undesirable. We also attract trucks to our roads which are not held to the same pollution standards---from Mexico and in construction. I would like you to directly address these issues in your RTP.

We are all concerned about jobs. The link provided is by a highly respected transportation expert and deals with questions of jobs http://www.uctc.net/access/38/access38_transportation_growth.shtml.

You have a difficult job, but it is clear that you can never build your way out of the terminal congestion we have on our freeways. There is no uncongested freeway in the area. The models that are often used do not consider adequately induced demands and changing patterns and many secondary variables. We need to provide alternatives and shift incentives to reduce demand on the freeways for individual and truck mobility so our current freeways can function efficiently most of the time. We need to coordinate smart land use with transportation. There are a lot of creative thinkers and voices.
Let's work together to come up with the best solutions!

Carol Teutsch, M.D.

January 2011

SURFACE FREIGHT TRANSPORTATION

A Comparison of the Costs of Road, Rail, and Waterways Freight Shipments That Are Not Passed on to Consumers

GAO Accountability • Integrity • Reliability

Highlights

Highlights of GAO-11-134, a report to the Subcommittee on Select Revenue Measures, Committee on Ways and Means, House of Representatives

Why GAO Did This Study

Road, rail, and waterway freight transportation is vital to the nation's economy. Government tax, regulatory, and infrastructure investment policies can affect the costs that shippers pass on to their customers. If government policy gives one mode a cost advantage over another, by, for example, not recouping all the costs of that mode's use of infrastructure, then shipping prices and customers' use of freight modes can be distorted, reducing the overall efficiency of the nation's economy.

As requested, this report (1) describes how government policies can affect competition and efficiency within the surface freight transportation sector, (2) determines what is known about the extent to which all costs are borne by surface freight customers, and (3) discusses the use of the findings when making future surface freight transportation policy. GAO reviewed the transportation literature and analyzed financial and technical data from the Department of Transportation (DOT), the Army Corps of Engineers (Corps), and the Environmental Protection Agency to make cross-modal comparisons at a national level. Data limitations and assumptions inherent in an aggregate national comparison are noted in the report.

GAO is not making recommendations in this report. GAO provided a draft of this report to DOT and the Corps. DOT provided technical suggestions and corrections, which were incorporated as appropriate. The Corps had no comments.

View GAO-11-134 or key components. For more information, contact Phillip R. Herr at (202) 512-2834 or herrp@gao.gov, or James R. White at (202) 512-9110 or whitej@gao.gov.

What GAO Found

Public spending, tax, and regulatory policies can promote economic efficiency in the freight transportation sector when they result in prices that reflect all marginal costs (the cost to society of one additional unit of service). These costs include private costs; public costs, such as infrastructure maintenance; and external costs, such as congestion, pollution, and accidents. When prices do not reflect all these costs, one mode may have a cost advantage over the others that distorts competition. As a consequence, the nation could devote more resources than needed to higher cost freight modes, an inefficient outcome that lowers economic well-being. Inefficient public investment decisions can result when all construction and other fixed costs are not passed on to the beneficiaries of that investment.

GAO's analysis shows that on average, additional freight service provided by trucks generated significantly more costs that are not passed on to consumers of that service than the same amount of freight service provided by either rail or water. GAO estimates that freight trucking costs that were not passed on to consumers were at least 6 times greater than rail costs and at least 9 times greater than waterways costs per million ton miles of freight transport. Most of these costs were external costs imposed on society. Marginal public infrastructure costs were significant only for trucking. Given limitations in the highway, rail, and waterway economic, financial, technical, and environmental data available for the analysis, GAO presents conservative estimates.

While freight costs are not fully passed on to consumers across all modes, a number of issues are important for decision makers to consider when proposing policy changes to align prices with marginal costs or reduce the difference between government fixed costs and revenues. Costs can vary widely based on the specific characteristics of an individual shipment, such as the geography and population density of the shipment's route, and the fuel-efficiency of the specific vehicle carrying it. Policy changes that align prices with marginal costs on a shipment-by-shipment basis would provide the greatest economic benefit, but precisely targeted policy changes can result in high administrative costs. By contrast, less targeted changes—such as charging user fees based on average costs, subsidizing more efficient alternatives, or broadly applying safety or emissions regulations—can change the overall distribution of freight across modes, but may provide fewer benefits. Although the current configuration of transportation infrastructure can limit the shifting of freight among modes, price changes can prompt other economic responses. Over the longer term, there is greater potential for responses that will shape the overall distribution and use of freight services.

Response to SCAG

Greetings SCAG, Cyrus Hojjaty here and I arrived at your meeting and voiced my concern over the 2035 General Plan and SB 375. Despite the fact that it is true that some people enjoy living in mixed-use buildings, take mass transit, and walk to their daily needs, this plan not only does not meet the needs effectively of those individuals, but does not meet the demands of others. Many of these plans are costly, unnecessary, and invade peoples lifestyles whether they choose to change or not.

It seems understandable that many of the policies that SCAG is trying to implement are trying to reverse the policies that were created by the coded car-dependent cities since the 1930s. It is true that many of these urban policies have understandable concerns, however at least the most important benefit is that many people are able to get single-family homes and some free-flowing traffic. We must preserve these benefits instead. What is so depressing that even though SCAG criticizes the car-dependent lifestyle we currently have, it was heavy intervention that created the system in the first place! As a matter of fact, many of these areas involving strip malls, collector roads, housing subdivisions, etc… were heavily manipulated by codes, regulations, and subsidies.

So basically the association does not want to admit that the system was caused by heavy intervention and yet they act like as the "saviors" to this problem to bring even more intervention. Sadly, many do not understand because of the different "buzzwords" and looks of the project. Give me a break! We are not mice! We are humans! We are not supposed to be treated in lab experiments whether it is a car-dependent landscape or a high-density packed environment!

What is deceptive and problematic, is that events are used to manipulate the decisions of the citizens. People are wrongfully being concerned over resource-depletion and man-made climate change. These concepts have heavily been debunked by many scientists and yet the temperatures have even rising in other planets as well! Do we really have to trample down on people over a belief that is heavily flawed? This does not sound like improving the lives of the many to me! Besides, we so much land available left in Southern California. With so much vast miles vacant land, why can't alternative town complex get built instead that COMPETES with what we have instead of monopolizing? I mean even if the 2035 was a wonderful approach, there is no need for monopolies. Urban planning is not a natural monopoly. In fact, during the meeting I display an alternative plan that does instead compete. SCAG should probably learn from a 19 year old, who has not even been to school to study urban planning!

Many of your projects in SCAG listed for Orange County are quite concerns yet some necessary. For land-use, let the developers and the marketplace decide if the mixed-use designs are necessary. Loosen up zoning codes to let people decide whether it will be strip malls, attached homes, office strips, or mixed-use. Of course you do in some areas want to restrict development like industry, toxic waste dumps, etc… For goodness sake, do not add any regulations, codes, get huge subsidies, and threat public and private property. My suggestions for the highway improvements and upgrades are letting construction occur when the REAL unemployment rate (Not CPI junk) for Orange County dips below 8.5%. I defiantly opposed to unnecessary projects like the high speed rails, road tolling, smart streets, rapid connectors, and the high-frequency Metrolink (unless if the ridership is high.)

Thank you for letting me to deliver my comments and suggestions. Hope to see SCAG associates soon in person.

-Cyrus Hojjaty

Long live Cyrus Planning! Oh yeah!

NOTICE

THIS CITY IS A MEMBER OF ICLEI---

INTERNATIONAL COUNCIL ON LOCAL ENVIRONMENTAL INITIATIVES

ICLEI is a United Nations-sponsored group which designs and writes policy for your area on land use, energy goals and measurement, and water usage. ICLEI is a paid consultant and/or receives dues from your taxes. ICLEI was formed after the United States (George Bush, Sr.) and 178 other nations met at the UN Rio Earth Summit in 1992 and agreed to use certain principles as their guidelines. Those guidelines include major reductions in energy and water usage, and huge increases in the number of living units in city centers. This is called UN Agenda 21-Sustainable Development.

In 1993 President Clinton formed the President's Council on Sustainable Development and gave a multi-million dollar grant to the American Planning Association to write Growing Smart: A Legislative Guidebook to bring UN Agenda 21 to the United States. Smart Growth was the result. Multi-story condos or apartments over small retail with little parking, crammed in your town center. Some people like that, but many of us should not be manipulated to live there. The reason for this style of construction is that, as UN Secretary General Maurice Strong said, 'the affluence of Americans is a threat to the planet.' Single family homes are a threat. Most of us love and can afford to maintain detached homes.

Across the nation, in large cities and small towns, like this one, identical programs are being rolled out. Land use restrictions, ordinances reducing energy usage, Smart Meters, school programs, & candidate trainings, are designed and implemented without your vote. You may be invited to city visioning meetings, but the outcome is decided before you enter the room.

Using ICLEI greenhouse gas emissions goals, your local government is in the process of controlling where and how you live, what you eat, what your children learn, and what laws you will live under. With the cover of 'environmental concern' your personal rights are being restricted. Soon, you will lose the right to travel freely without being asked for your ID. Lose the right to water your garden. Lose the right to refuse a Smart Meter. Lose the right to live in a rural area. Lose the right to drive a private vehicle. Under the guise of 'Sustainable Development' your property and civil rights are being systematically eliminated.

KICK ICLEI OUT.

HOW COME NOBODY ASKED ME IF I WANTED TO PAY DUES TO ICLEI?

They didn't have to. That's right. When your city or county (or both) became a member of the International Council on Local Environmental Initiatives-Sustainable Development there was no need to ask for your permission.

Is your town a member?

http://www.freedomadvocates.org/images/pdf/iclei_usa_easy%20read_050511.pdf

But remember—even if you don't see your community on that list you are still being influenced by standardized programs, grants, training and plans funded and designed by ICLEI to influence and change government policies to bring them into compliance with United Nations Agenda 21. They call it the Agenda for the 21st Century. This is a plan for global governance. That means that you and your community will be required to meet arbitrary goals set by an unelected body—one that you have never heard of, but that your city pays dues to, and that claims to speak for you and over 590 million people worldwide.

Across the nation hundreds of cities and counties are dues-paying members of ICLEI. Your property tax, income tax, and transportation tax dollars are paying for trainings, seminars, and sample legislation/ordinances. These policies are being enforced in your town. This is a whole life plan involving your educational system, your energy system, your government, your food production, your transportation, and your health. You are considered a threat to the planet and your life choices must be restricted.

- Do we support conservation? Yes.
- Do we support loss of civil rights to achieve environmental goals? NO.
- ICLEI is the implementation arm of UN Agenda 21
- ICLEI fuels the fear
- ICLEI pressures the community
- ICLEI sets the goals for greenhouse gas reduction
- ICLEI monitors the progress
- ICLEI directs your land use planning
- ICLEI controls your transportation dollars
- ICLEI is an unelected private group that your government belongs to.
- ICLEI operates secretly
- ICLEI is changing your life NOW
- KICK ICLEI OUT!

Find out how at: www.PostSustainabilityInstitute.org and Youtube.com/Cyrus992

Questions or Comments: Contact Cyrus Hojjaty at Cyrus992@yahoo.com

Elise Kalfayan
[redacted]
Glendale CA 9[redacted]

February 14, 2012

Southern California Association of Governments
Attention: Margaret Lin
Southern California Association of Governments
818 West 7th Street, 12th Floor
Los Angeles, CA 90017

Sent via email to: lin@scag.ca.gov

Subject: Comments on SCAG DRAFT 2012 RTP and the Plan EIR

SCAG's draft 2012 RTP and its EIR are both flawed, do not meet AB32 and SB 375 goals, and will not move this region toward better mobility, an improved economy, or sustainability.

The plan advocates expanding and extending urban highways, building a dedicated truck route for freight movement, and creating more conventional goods movement platforms such as the BNSF SCIG project. According to the EIR, these have "significant and unavoidable impacts." **The plan's slate of projects will worsen air quality, increase congestion and safety risks on roadways, pose threats to public health, and degrade the environment overall and specifically of those communities adjacent to such infrastructure.**

The RTP places emphasis on goods movement, and argues that conventional roadway expansion is necessary for goods movement. The Plan EIR, however, only considers **residential development** alternatives ("with minor changes to goods movement and transit projects"), and does not consider goods movement alternatives. This is contrary to the spirit of CEQA requirements.

The EIR is flawed and incomplete as it does NOT evaluate the alternative of electrified rail infrastructure for goods movement from the ports, which has the potential to:

- improve air quality
- decrease congestion and safety risks on roadways
- reduce threats to public health
- integrate rail infrastructure into environmental renewal projects
- create transit corridors that link communities within the region

Specific zero-emission, electrified rail freight options such as the GRID project have been proposed and discussed. The concept of such a system is placed in the "for future study," unfunded section of the plan, when it belongs as a viable alternative analyzed in the EIR.

The EIR should have offered a direct comparison between the impacts of all conventional goods movement expansion projects in the current draft plan, and a fast-tracked, zero-emission, electrified rail system for goods movement.

Elise Kalfayan

Postscript re the Plan's Jobs Section:
As economic leaders in this region are aware, the Panama Canal and other ports are working aggressively to capture a larger share of cargo traffic. The draft RTP's goods movement priorities – conventional highway expansion and more trucks now, electrified rail later – allocates billions in public funds to **projects that will not keep this region competitive**. Money should instead be allocated to cutting-edge freight movement technology, putting the region's ports in a competitive stance while contributing to AB32 and SB375 goals.

EZEQUIEL GUTIERREZ, ESQ.
[redacted], *Adelanto, California* [redacted]

February 14, 2011

President Pam O'Conner
Board of Directors
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
818 w. Seventh Street, 12 Floor
Los Angeles, CA 90017

RTP@scag.gov

Re: Draft Regional Transportation Plan / Sustainable Community Strategy 2035
Draft Program Environmental Impact Report

Dear President O'Conner:

The comments in this letter are submitted to you on behalf of residents living in urban and suburban areas of the SCAG region for consideration by the Honorable Members of the SCAG Regional Council.

The extensive work by SCAG and its dedicated competent staff is commendable and reflects great leadership for its member jurisdictions and regional councils throughout California and the nation, as they grip with common challenges. It is for this reason as well that concerns inherent in the Draft RTP/SCS and Draft PEIR are expressed in these comments.

Public Participation

The work of SCAG is challenging and must address extensive policies, programs and laws on local, state and federal levels.

One requirement that was noticeably absent throughout the Draft RTP/SCS process was compliance with the requirements of the Environmental Justice Order of the U.S. Department of Transportation (DOT). The order can be found in 62 Federal Register at 18380. The public participation required in the DOT Order is much more extensive than what was afforded in SCAG public participation efforts, as described in the Draft RTP/SCS and experienced by the undersigned. The Order required a marked elevation of public participation by communities of concern as stated "during the planning and development" of the Draft RTP/SCS rather than providing for a passive audience to occasional presentations by SCAG staff with limited time given for contemporaneous comment.

The non-compliant efforts were not without adverse consequence in providing for environmental justice; a great deal more work remains to be done, as more fully set forth in comments by *Climate Plan* and its partner coalition. It is feared that without addressing those concerns, the environmental impacts on the SCAG region will be significant and wide spread.

A draft RTP/SCS that is responsive to all residents of the region would address the needs of the entire economic spectrum of the region, not for political acceptance but as the best policy for dealing with growth, regional management and environmental impacts.

Environmental Impacts

If the economy of the region is well served by this planning, and significant growth is encouraged, transportation demands by the entire economic spectrum of the region will be greatly increased. The demands on the currently overloaded transportation system of the region which we have all experienced will itself be greatly increased into an unresolvable gridlock.

Persons from communities reflecting the entire economic spectrum of the region commute daily and without adequately providing for them, as discussed by the coalition, transportation disaster in the not too distant future is certain.

Without incorporation of responsive planning, through those efforts described in the coalition comments and through full compliance with the DOT Order, the Draft RTP/SCS and its related Draft PEIR are fundamentally not certifiable.

Request is respectfully made that SCAG charge its staff with pursuing responsive planning, as recommended, so that all communities of the SCAG region and so that the region itself may benefit from these dedicated efforts.

Thanks you.

Very truly yours,

Ezequiel Gutierrez, Jr.
Attorney at Law

Ghassan K Roumani
[redacted]
San Marino, Ca [redacted]
[redacted]

February 11 , 2012

Ms. Margaret Lin
SCAG
818 W. 7th Street. 12th Floor
Los Angeles, CA 9 0017
RTP@scag.ca.gov

Re: Southern California Association of Governments 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy December 2011

Thank you for the opportunity to comment on the *SCAG 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy*. The Plan states as its goal "improving the quality of fife for our residents',

> ***The 2012 RTP/SCS will transform the region, serving as a blueprint for improving quality of life for our residents by provoking more choices for where they will live, work and play and how they will move around around, The 20 12 RT/SCS proposes investing over $500 billion over the next 25 years to improve the quality of life of the region's residents by enhancing our transportation system.***

While I agree that improving the quality of life for the residents is an admirable goal, the Plan as indicated by the SCS City maps, will denigrate the quality of life for the residents of San Marino. My comments regarding the 2012-2035 RTP are limited to where I live, Oak Knoll Avenue in San Marino, and the adjacent area

While reviewing the Resources> SCS Map Tool from the SCAG web site,

http//tpscs.scag.ca.gov/pages/scs-maps-Tool.aspx, I was shocked to discover that Oak Knoll Avenue in San Marino has been designated a **High quality Transit Corridor**.

The SCAG RTP Plan indicates that

> *A HQTA (High Quality Transit Area) is generally a walkable transit village, consistent with the adopted SC5 that has a minimum density of 20 dwelling units per acre and is within a 1/2 mile of a well serviced transit stop, and includes transit corridors with minimum 15 minutes or less service frequency during peak commute hours.*

Oak Knoll Avenue in San Marino is a 72 feet narrow, two lane street fronted exclusively by single family homes where children live and play. The homes, built between 1920 and 1950, and the set back is close to the street The posted speed limit is 30 mph, the posted weight limit is three tons, and truck traffic is prohibited. The City of San Marino General Plan, classifies Oak Knoll Avenue as a residential collector street. The street carries an unusually high volume of cut-through traffic, exceeding the capacity of a two lane residential street.

How then, was Oak Knoll Avenue in San Marino designated a HQTC? This question was posed to both the City of San Marino staff and City Council. They were unaware of this designation in the proposed RTP.

As Stephanie Johnson mentioned in her email directed to you dated February 11, 2012 regarding Los Robles the same applies to Oak Knoll Avenue in San Marino.

Oak Knoll Avenue in San Marino does not meet the definition of HQTC.
Regional traffic should not be directed toward Oak Knoll Avenue, exacerbating the existing cut-through traffic and its resulting negative impacts upon the residents.

Sincerely,

Ghassan Roumani

Memo To: Margaret Lin

From: Greg Adams

Date: February 14, 2012

Subject: Comments on the 2012 RTP

Earlier, I attempted to use your interactive website to send these comments but I could not move on to Step 2 for some reason hence I am sending them in this memo format.

To begin, staff is to be congratulated on a thorough analysis and simplified presentation of a complicated strategy.

Executive Summary

Page 5: Kudos on your recognition of the problems associated with "first mile/last mile" logistics. In and of itself this aspect of a travel decision can be so expensive and burdensome that a well-meaning commuter must choose to drive the entire route despite public transportation availability along most of the route. I suggest you expand on this aspect of the plan. More bike racks on buses may not cut it; local shuttles by cities and park and ride pool vehicles to transportation hubs might help.

Page 7: I may have missed it but "Nominal dollars" in Table 2 (and in many other locations of the document) should be defined early in the report.

Chapter 1-Vision

Page 12: Increasingly today one hears very inflated claims about job creation resulting from a particular project which are largely unsubstantiated. Perhaps there should be a down-to-earth , simplified discussion of what is to unfold jobwise, not relying on REMI algorithms but a common sense explanation of why 150,000-180,000 jobs per year will be *created* (and presumably sustained)as a result of the RTP implementation. Please avoid what has occurred in the world of green technology, for example. If one were to total all the job creation claims from all the alternatives seeking funding, there would be no unemployment in the United States. The role of lower education levels on the created jobs in the region needs more explanation.

Page 24: More explanation is needed as to the long term trend of declining commute trip carpool rates. It seems counterintuitive especially lately given rising gasoline prices. Does this corroborate with rideshare data reported to the SCAQMD?

Page 25 and 28: Improved fuel efficiency, alternative-fuel vehicle penetration, lack of inflation adjustors-all have contributed to gas tax shortfalls. Passenger vehicles becoming increasingly cleaner have diminished the benefits of reduced vehicle use and congestion management strategies thereby making conformity determinations more difficult. Both of these areas may be worthy of pursuing changes to the federal Clean Air Act or at least the regulations implementing the provisions of the Clean Air Act. This, added to the statement on Page 29 that emissions forecasted from just three sources-ships, trains and

aircraft ("federal sources") that alone would lead to ozone levels near the federal standard, might be additional ammunition and support for selective changes to the CAA.

Chapter 2 Transportation Investments

Page 40- Transportation Demand Management: First mile/last mile strategies need more discussion per my remarks on Page 5 above.

Page 41-Congestion Management System: Non-recurring congestion accounts for almost 50 percent of all congestion on our roadway system. One suggestion is for SCAG to strike an agreement with CalTrans prohibiting road repair contracts from proceeding during daylight hours where the work of repair can cause enormous traffic jams. This past Sunday, on the I-10 freeway heading west into Banning, traffic was delayed 3 full hours, backing up all the way to Whitewater , for very minor road repairs that caused two of the four lanes to be cordoned off. Highway Patrol did not appear until an hour and a half into the action which suggests there might be better coordination of their activities from a congestion management standpoint.

Page 43-Corridor System Management Plans: Enhanced incident management must include the above recommendation. The California Highway Patrol (CHP) and CalTrans need to better coordinate. In the case of accidents, the CHP needs to develop expedited procedures and physical screening techniques to minimize the impacts of rubbernecking and the slowdowns that result.

Pages 51 and 53-Passenger and High-Speed Rail: The SCAG planning region will not be connected to the HSR network until 2033, 23 years into this plan. The HSR Authority's 2009 Business Plan posits that passengers will travel between Los Angeles and San Francisco in less than three hours, for about 80% of comparable airfare. Given that first mile/last mile considerations also exist, why would one choose such a means of travel? Do I presume correctly that the 80% airfare figure is the one-way plane fare in the 2033 timeframe? Given the astronomical cost of the project, might not those resources be better employed on more local and cheaper alternatives such as in-city rapid rail?

Page 71-Regional Clean Freight Corridor System: While truck-only lanes handling 58,000-70,000 trucks per day would be a challenge of the highest degree to implement, non-freeway alignments handling the same traffic flow would be an even greater hurdle, even with 100% ZEVs.

Page 86-The economic Outlook: The inability of existing excise taxes to keep pace with increasing transportation needs and the detrimental effects of increasing fuel economy on traditional revenue sources needs to be the primary focus of a SCAG lobbying effort in Congress at least to escalate the excise tax at the CPI rate.

Chapter 4- Sustainable Communities Strategy

Page 105- The plan's goal to seek to change the region from being known worldwide as the "capital of sprawl" results in a "densification" of the existing inner cities, to my way of thinking. Associated with that densification are costly infrastructure changes. Has a cost analysis of this consequence been performed? It is very difficult, as you are well aware, to plan for such effects of densification given the

countering aspects of the recent RDA court decision and the re-distribution of funds to the cities that will result.

Page 123-Changing Demographics and Housing Market Demand

The impacts of the recent RDA decision should be addressed in this chapter, even if the results are somewhat speculative. SB 375 combines transportation and housing planning by integrating the Regional Housing Needs Assessment (RHNA) process with the RTP/SCS. How will this nexus be impacted by the RDA decision? Would the example communities that are illustrated on pages 126 and 138, for example, been constructed in the first place without RDA assistance?

Chapter 5-Measuring Up

Page 173- Table 5.3- Total Employment Impact

Please provide an explanation as to how goods movement, logistics and distribution will be impacted by an expanded Panama Canal and a shift of some traffic to the Gulf Coast ports of the United States.

Thank you for the opportunity to comment. The staff should be congratulated on a thorough and ambitious plan and a job well done.

From: Hank Fung [redacted] >
Sent: Tuesday, February 14, 2012 10:51 AM
To: 2012 PEIR
Subject: 2012 PEIR comments

Dear Mr. Lieb:

I have the following comments on the SCAG RTP PEIR. The following comments are made in my own capacity and do not represent the views of any agency or organization I am affiliated with.

With regard to freight movement strategies, in the past SCAG has considered making the truck only lanes "green lanes" for clean fuel and low emission trucks. This should be considered in any studies. Also, electrification of freight rail, while currently not funded in the short term, is a strategic long term improvement that should be strongly considered for implementation. This has the potential of eliminating a significant amount of emissions from diesel locomotives. Implementation of "inland ports" with freight rail connections to truck facilities in the Antelope Valley and the Inland Empire have a potential of bringing jobs into these economically hard hit areas.

On air quality, the PEIR correctly notes that denser development will result in more individuals living near freeways and other sources of emissions. Increasing the population near transportation improvements and closer to businesses has the potential of greatly reducing region-wide emission levels, but with an impact to personal health. However, SCAG has no power to ensure that the mitigation measures listed in MM-AQ19 are adopted by the local agencies approving these developments. Please identify what steps SCAG will take, either through State legislation or through advocacy, to ensure that local agencies comply with these measures.

Part of historic resources is also recognizing the land use impacts of denser development on historic residential and commercial districts. The SCAG region has several commercial and residential neighborhoods which are on the National Register of Historic Places. Many of these districts are near transit-friendly areas which are slated for denser development under the RTP. In the development approval process, local jurisdictions should recognize those impacts and mitigate appropriately.

With respect to the Mitigation Measures for Transportation, I am happy to see that SCAG is taking a leadership role in transportation security. With a denser environment come more security risks. Concentration of individuals at key transit hubs provide an inviting target to terrorists; however large scale security checks have the potential of delaying passengers and discouraging activity in dense population centers. In addition, bomb threats and hoaxes can also disrupt passenger traffic substantially and increase the climate of fear that discourages people from living and working in denser environments. SCAG should work with existing interagency law enforcement groups to coordinate sharing of information and best practices among local jurisdictions. Design of transit facilities should incorporate modern design features that enhance security without creating a prison-like environment. (MM-TR6 to MM-TR12).

I support SCAG's support for congestion pricing but this statement should emanate from the Regional Council and not from the staff level. There should be regional consensus on value pricing as a means not necessarily only to raise revenue, but to improve efficiencies in transportation (MM-TR15). In addition, SCAG should work with its member transportation commissions to develop a regional smart card transit system, similar to ORCA in Seattle or Clipper in the San Francisco Bay Area. Currently LACMTA is implementing their Transit Access Pass (TAP) system, and although there are bugs the system is supposed to be deployed to all of the large transit

operators in the County within the next five years. This system, or a compatible system, should be expanded throughout the SCAG region. (MM-TR16).

Overall, SCAG should emphasize the improvements of this plan over doing nothing ("no project alternative"), while working with elected leaders and its Regional Council to inform residents of the benefits and costs of this RTP.

Sincerely,

Hank Fung, P.E.

[redacted]

Covina, CA [redacted]

Hank

February 13, 2012

To Whom it May Concern:

These signatures represent just some of the children in the Oxnard Elementary School District; actually, they are from just one school. They were gathered by these same children during their recess time. For me they have a significance beyond the number 100 plus because the children responded from their heart for the fifth grader who was killed two years ago at a crosswalk near the school.

Tragically, it would have been such a simple matter to have allocated more funds to have had a crossing guard on duty at an earlier time or to have had an illuminated and sounding crosswalk by their school. To now try to pay tribute to this young girl's passing by creating safer crosswalks and bike lanes, at or near school crossings, would be the most fitting act to remember her by, an act to prevent further tragedies like this from ocurring.

Thank you,

Jon Portera, MA
Oxnard Elementary School District

Southern California Association of Governments
Attention: Margaret Lin
818 West 7th Street, 12th Floor
Los Angeles, CA 90017

Re: draft SCAG 2012-2035 regional transportation plan/ SCS and PEIR

The SCAG PEIR / RTP is flawed in the same way as the SANDAG RTP / EIR – they are inadequate under CEQA law.

The joining motion filed by the Attorney General of the State of California in the lawsuit against the San Diego Association of Governments (SANDAG) Regional Transportation Plan states that the Environmental Impact Report (EIR) prepared for the plan does not adequately analyze or prevent air pollution and climate concerns, and prioritizes expanding freeways while delaying public transit projects.

The SCAG is similarly flawed and will not stand up to CEQA challenge.

I oppose all items in the draft RTP that recommend the expansion or extension of highways, for the following reasons:

The fundamental law of highway congestion (Anthony Downs, 1962, 2004, 1992; and confirmed most recently by Gilles Duranton and Matthew Turner of the University of Toronto) states that the travel speed of an expanded highway reverts to its previous level before the capacity expansion and that the extension of interstate highways is met with a proportional increase in traffic in the U.S.

SCAG's assumption that highway expansion reduces congestion and improves pollution levels is grossly inaccurate. The traffic modeling fails to fully account for generated and induced traffic. And therefore exaggerates the benefits of expansion and the does not reflect the severity of future congestion problems.

The draft RTP anticipates adding 948 centerline miles and 7419 lanes miles which would be a 4.4% and 11.1% increase respectively.

The SCAG RTP will increase pollution, truck traffic, congestion, accidents, health impacts and environmental risks throughout the Southern California region.

I oppose the 710 gap closure project as it is un-defined and is not eligible to be on the Constrained Plan.

The proposed SR-710 Extension Toll Tunnels, at $5.6 BILLION already underfunded by at least 50%, must be moved from the Constrained Plan to the Strategic Unfunded Plan in the 2012 RTP because there are no committed, available, or reasonably available funds as required by federal law for inclusion in the Constrained Plan.

There is enormous internal inconsistency with the SCAG's six possible construction zones yet all actual estimates based only the previously defined Meridian Route alignment.

I oppose plan items in the draft RTP that recommend increased conventional roadway and rail yard capacity for goods movement. The RTP should instead include existing zero-emission goods movement alternatives.

Goods movement must be accomplished via electrified freight rail not trucks.

Goods movement proposals in the draft RTP are inconsistent with regional, state, and federal air quality and congestion targets stated in the plan.

The plan states that to attain federal ozone standards, the region will need broad deployment of zero and near-zero emission transportation technologies in the 2023 to 2035 timeframe (p.74). It also acknowledges that conventional goods movement practices contribute to excess ozone and poor air quality (p. 68) and negative impacts in neighboring communities and throughout the region.

However, the plan allocates billions of dollars to expanding conventional goods movement, saying “truck-only freight corridors are effective as they add capacity in congested corridors, improve truck operations and safety.and provide a platform for the introduction and adoption of zero-emission technologies.”

Yet the plan does not require zero-emission technology.

Regards,

Judy Bergstresser
[redacted]
South Pasadena, CA [redacted]

[redacted]

From: [redacted]
Sent: Sunday, February 05, 2012 9:28 AM
To: 2012 PEIR; [redacted]; Villaraigosa, Antonio; citycouncil@montereypark.ca.gov; Councilmember.Alarcon@lacity.org; [redacted] council@smgov.net; [redacted]; councilmember.reyes@council.lacity.org; councilmember.rosendahl@council.lacity.org; councilmember.parks@council.lacity.org; [redacted]; bdea@laweekly.com; eyanez@audubon.org; bwatt@kpcc.org; [redacted] Ing.Jones@lacity.org; Molina@bos.co.la.ca.us; [redacted]; yaroslavsky@bos.lacounty.gov; [redacted]; senator.boxer@sen.us.gov; senator.feinstein@sen.us.gov; [redacted]
Subject: 2012 PEIR SCAG COMMENTS; Re: SR 710 TUNNEL

Peter A. Orona
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Los Angeles, CA [redacted]
February 5, 2012

SCAG/2012 PEIR/SR 710 TUNNEL/EIR QUESTIONS/COMMENTS/CONCERNS
ATTN: JACOB LIEB
818 W. 7TH STREET, 12TH FLOOR
LOS ANGELES, CA 90017

The proposed 710 Tunnel raises serious moral questions about public/private transportation issues. We did not choose to live near a freeway, connector road, or tunnel. Currently, productive residents living within the Meridian Corridor do so without any complex technologies adding to our health risks. For children, it brings an increased risk of asthma, according to researchers at the Keck School of Medicine of the University of Southern California. "It's one of a host of breathing problems that can plague teens living and learning near L.A.'s vast network of freeways – and these problems can follow them throughout life. With traffic cris-crossing into every corner of SoCal, few families in any part of town are immune to the risk (LA Parent March 15, 2011 Issue) http://www.reportingonhealth.org/fellowships/projects/air-teenage-lungs-1 ." Freeway pollution and noise increase the risk of developing asthma, cancer, hearing loss, and stress related diseases. Those of us who live in this neighborhood can only look forward to a future filled with illness.
Today there is no 710 Surface Freeway Route, Valley Blvd.-Alhambra Connector Road, or 710 Tunnel; consequently, the risk emanating from such concepts are zero. To all Federal, State, County, and Local governments who profess accountability when maintaining modern commercial productivity, it is your duty to find a balance between an individual's right to exist, and urbanization. Anything short of this is a

travesty to the democratic process, and an abatement of our humanity. As elected officials, it is your responsibility in making sure that our communities are not abused. Our communities are holding you accountable. As honorable civil servants of our communities, we respectfully request the following items be addressed rigorously, competently, and judiciously.

1. What would it take to construct the southern portal between the 60 Frwy (Pomona), and the 10 Frwy (San Bernardino)? Can Freeway Interchanges be reconfigured? If yes, then would it be possible for the southern portal to begin just before the 10 Frwy. Can a tunnel be constructed to go underneath the San Bernardino Frwy?

2. In regards to Electrostatic precipitators (ESP), or Electrostatic air cleaners: What data is there on the effectiveness of ESP/Scrubbers on ambient outside air? Are there a list of contaminants that scrubbers will remove and a list that the scrubbers will not remove? Which companies will be contracted to build the ESP's? Japan uses removal technologies in high-density areas, what is going to be done in El Sereno? What kind of containment tunnel management will be used; "dispersion containment", or removal containment"? How many tons of waste will a "scrubber tower" hold prior to maintenance? Can a "scrubber tower" implode? If a "scrubber tower" fails or is destroyed, is there a back-up system, or replacement procedure in place? Where is the waste from the scrubber pollution going? Can the same, or better "scrubber" technology utilized in nuclear submarines and spacecraft be applied to 710 Tunnel Scrubber Towers? How will 710 Tunnel Environmental Authorities continuously regulate/monitor the atmospheric conditions inside and outside the tunnel region? As scrubber technology improves, can scrubber towers be upgraded?

3. Provide information on studies done to measure simultaneously Particulate Matter contamination emanating at both portals (i.e., same weather/seasons/day/hour). How will the Air Quality Descriptor for PM 2.5 and PM10 be articulated in relation to the 710 Tunnel? Will PM 2.5 and PM 10 particles be eliminated in the process of being scrubbed? What contaminants will be left over and breathed by citizens? Where will the tunnel portals begin? Allen? Concord? Valley Blvd.? Del Mar? How will mitigation measures be addressed at the portal entrances, and tower sites when the technology to control pollution is not proven, or does not exist? How much toxins/noxious gases/CO2/PM2.5/PM10 particles will cars and trucks release inside the 710 Tunnel per hour? Please provide low and high estimates. Will authorities shut down the tunnel when too many hazardous PM2.5 and PM10 particles are detected on any given day? How much smog will the 710 Tunnel's portals, and scrubber towers contribute to the local existing pollution? For example, how will this new source of smog affect the smog inversions that the communities of La Canada/Flintridge/Tujunga experience? How many tons of air pollution will the proposed scrubbers capture? How often will the proposed scrubbers need to be cleaned? Provide low and high estimates.

4. How would authorities mitigate the noise pollution during the construction of the 710 Tunnel? How will you recapture, and recycle water from any tunnel excavation

encounters? Will authorities monitor noise levels, and pollution levels during construction? If levels exceed allowed limits, or the community's concern will they halt work for the day?
5. How will the Valley Blvd.-Alhambra Ave. Connector Road (part of the Low-Multi-Build Alternatives) benefit El Sereno? Compare and contrast the efficiency and effectiveness between the Valley Blvd.-Alhambra Ave. Connector Road, a 710 Surface Freeway Route, and the 710 Tunnel. Provide all information on any and all environmental studies, or reports that have been done and completed near, and around the proposed 710 Tunnel. Indicate what efforts have been made to provide this information to the community of El Sereno. Provide any tangent plans that are being considered in conjunction to the 710 Tunnel in order to mitigate LA County traffic problems. For example, will a commuter train station be constructed in El Sereno between Alhambra Ave., and Valley Blvd.?
6. What formulas/strategies are being used to measure risk acceptability in relation to the 710 Tunnel? Provide all information on how safety, and risk assessments of the proposed 710 Tunnel figure into human and environmental degradation within the affected local communities? How many additional lives will be lost prematurely due to the 710 Tunnel pollution and traffic accidents? What are all the cost-benefit ratios? Is the risk of implementing the 710 Tunnel not greater than the level of pollution output currently used in modes of transportation?
7. Provide a number estimate of traffic that will move from the beginning southern part of the proposed 710 Tunnel to the exit in Pasadena. The number should include projected number of cars, commercial trucks, and other vehicles. Will truck traffic in the tunnel be limited? What will be the vehicle capacity for the 710 Tunnel? How many cars would be able to fit within the 710 Tunnel during bumper-to-bumper traffic? Approximately, how many trucks will fit inside the 710 Tunnel? What kind of hazardous materials will be allowed to travel through the 710 Tunnel? For example, will commercial trucks be allowed to carry tankers with acids and flammable liquids through the 710 Tunnel?
8. Describe the potential biohazards that both tunnel construction, and usage bring. How is the construction company going to prevent Valley Fever from affecting people when digging, and clearing soil debris? Will there be limited hours of construction? What are the current local industry's hazardous emissions around the proposed 710 Tunnel? How can these materials interact with the new air pollution that the 710 Tunnel will bring? How will they mitigate truck pollution during construction? For example, will pavements be used during tunnel construction to prevent excess dust? Where will all the trucks for hauling out debris be parked? How many trucks will be used to haul away dirt? Where will the excavated dirt be dumped? Again, can the dirt contain Valley Fever materials? Will the train system be used to haul out construction debris? How do authorities intend to mitigate, or address the noise problem caused by the train during the day, and night?
9. How will the 710 Tunnel benefit the community of El Sereno? How many scrubber towers will be located in El Sereno, and what will be their locations? How many

Construction staging areas will be located in El Sereno, and what are the locations of the staging areas?
10. How will a fire inside the 710 Tunnel be mitigated? Where there is fire there is smoke. How will untested scrubber towers filter all the hazardous smoke from inside a 710 Tunnel fire? Will the toxic smoke be allowed to escape through the scrubber towers, vents, emergency exits, and portals? Should fire-fighting foam be used to combat fire inside the tunnel? Can powerful fans be used to redirect the smoke above ground? Will there be double jeopardy during a fire? What kind of endangerment will inhabitants above ground face during a catastrophic fire within the 710 Tunnel? Will there be a sprinkler system installed inside the 710 Tunnel in order to mitigate fires?
11. Will homeowners who live directly over/adjacent to the 710 Tunnel have to relinquish their mineral rights?

12. Can Caltrans buy/build two tunnel boring machines? Having the boring machines simultaneously working at both ends could cut tunnel construction time in half. Why can't the boring machines be designed, and built by Americans within the United States?
13. After tunnel construction and cost, how many years will it take to break even? When will Los Angeles County start making its profits?
14. Will authorities compensate the community, and individuals for any illnesses related to PM2.5 and PM10 particles that would have originated from the 710 Tunnel site? Will they be given health insurance, or monetary benefits?
15. Will MTA provide medical experts to begin a comprehensive health study around the local communities that will be affected by the 710 Tunnel? Will an unbiased environmental overseer be hired to protect, and monitor the community's health and safety concerns during, and after construction?
16. What kind of security will merit monitoring the entire 710 Tunnel facilities? How will terrorist concerns be addressed? What will be done to safeguard the occupants in, and around the 710 Tunnel?
17. How much green space will be needed to offset the pollution that will be generated by the 710 Tunnel? How many fully mature trees will be needed to absorb vehicle exhaust emanating from both the portals, and scrubber towers?
18. How much will a toll road system cost to implement, and maintain?
19. Are current modes of production changing to prevent the harmful effects of pollution? Provide information that the Market Place will create alternative-affordable modes of transportation, and fuels by the time the 710 Tunnel is completed? For example, when will Fuel Cell Vehicles (FCV's) be readily available on a mass transit scale?
20. Will the 710 Tunnel engineers learn from all the errors that previous tunnel mishaps demonstrate? For example, people living around tunnel portals in Australia are suffering, and dying. The Big Dig in Boston is a fiasco. Will an independent panel of environmental experts review the 710 Tunnel EIR? Will a contact telephone number for all agencies, and government officials be provided to voice concerns and complaints during construction?

21. Logistically, would it be possible to evenly spread the amount of freight tonnage along the Pacific Rim harbors (San Diego, Long Beach, San Pedro, San Francisco, and Seattle). What would it take to ensure that a more efficient and effective On Time Delivery System be implemented? Would an upgraded of our national railway system help prevent unnecessary truck traffic through the counties of LA/Riverside/Ventura/ San Bernardino/San Luis Obispo, etc.? For example, can the coordination of freight goods that make their way towards the Midwest, or Northwest be dropped off at any of the northern bays rather than being distributed from the ports of Los Angeles or Long Beach?

22. Are the 710 Tunnel scrubber towers, and emergency exits going to be equidistant from each other? Indicate tower and exit locations. Can tower and exit locations be situated where there are no existing domiciles? If a scrubber tower is warranted in a residential neighborhood, can a four-block radius of green space circumscribe the scrubber tower?

23. How many people concerned about the 710 Tunnel have read ADVICE & PLANNING by Martin H. Krieger?

Comments on the SCAG 2012 PEIR

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Southern California Association of Governments February 14, 2012
Email address; RTP@scag.ca.gov
Subject; draft RTP/CSC Comments

These comments are on the draft 2012-2035 RTP/SCS and will use the basic sequence of the SCAG interactive comment issues, but after an introductory statement regarding the Flow Boulevard concept is made.

Overall Comment

Rather than overly focused, commuter driven centralizing of trips via expensive rail more planning and building should be made to provide for increased population density and job creation to reduce travel and commuting with shorter trips; think “Centers Concept” in sub-regional aggregations. In that manner extensive low cost medium capacity transportation and land use in patterns and corridors will provide a much more Southern California like growth and compatibility with what exists.

The specific overall comment to be made is that SCAG needs to include the Flow Boulevard concept in its planning vision formation, criteria and plan recommendations for the Regional Transportation Plan. It may be better said that SCAG being the lead agency should see that County agencies like the Los Angeles County Metropolitan Transportation Authority be directed to enlarge its forms of transportation improvement to include well crafted land use and transportation improvement forms such as the Flow Boulevard technique.

A Flow Boulevard is a combined transportation and land use improvement technique which has a semi–limited access configuration and includes what are known as Intelligent Transportation System (ITS) technologies. In that it combines strategies for land use development a Flow Boulevard (FB) can also be included in the Smart Growth category. The combined planning elements then can become a smart growth transportation corridor or if used in already dense urban areas, a way to “fix what is broken” regarding congestion or desperate land use conditions.

The transportation capacity and the land use density range can be said to be “medium” on both counts. The first stage FB transportation capacity is in the 150,000 person trip range per day and the land use would generally be a mix of R-2, and R-3 residential, as well as C-1 and C-2 commercial densities in the corridor.

The Flow Boulevard corridors evolve from selected existing urban street right of ways (ROW) without widening. The use of ITS strategies brings about the increased capacity over existing street usage. The corridors can be thought of as in-fill structures that follow the SB 375 mandate to improve and combine land use densities and transit while reducing vehicular miles traveled (VMT) in the consolidating communities and cities in Southern California. The corridors are so selected to as well "protect" existing residential communities from excessive traffic. There is a website dedicated to the development of the transportation and land use concepts at www.FlowBoulevardPlan.com. In the comments below specific examples will be referred to using URL links as best as can be arranged or named call outs.

A Brief Definition of Flow Boulevards

A Flow Boulevard (FB) is based upon the utilization of a pair of one-way streets separated by a city block or several and includes synchronized traffic signals to allow vehicles to flow with the objective of not stopping to create higher capacities and higher average travel speeds along the corridor in both directions. Flow Boulevards are not to be utilized in "downtown like grid patterns" but are to be used in "corridor" configurations which typically will have lower density adjacent development. The highly accessible blocks between the one-way paired streets, as well as land use directly adjacent out side of the paired streets are intended to be developed with higher density land uses than that are typically found in Southern California "sprawl development". The Flow Boulevard form can be a "growth corridor" accepting higher density while providing increased transportation capacity.

Local streets perpendicular to the FB are not allowed to cross each of the one-way streets but local traffic is made to turn into the one-way flow or if FB traffic is exiting into the adjacent local street, it is made with a right turn. The streets between the one-way pair and connecting them are typically made to be one-way streets so that reversal of direction can be made or to go around the block and continue in the original direction. For more explicit operation diagrams and further discussion on the website at www.flowboulevardplan.com click on the menu title "How the Boulevard Works".

Regarding the first stage FB where pedestrian and vehicular cross traffic occurs at the same grade as the FB; the variables of signal spacing, vehicular arterial street crossing demand, speed of travel (typically 40 mph) and the length of signal cycle time is dealt with to optimize green time for the FB "pack" of flowing vehicles. A reasonable objective is to obtain 1200 vehicles/lane/hour that will give accommodating cross traffic and pedestrian crossing time intervals at approximate 2000 foot intervals (1/3 mile). Each FB direction is timed separately to guarantee capacity and flow. In a 4 lane FB, in each direction, where the fourth lane is a Rapid Bus Transit lane combined with HOV use, the daily capacity for the corridor can be approximately 150,000 person trips per day.

Briefly, the 2nd stage of the FB is involved with developing grade separated circulation for pedestrians to bring increased green time for lengthening "the pack" that flows therefore the hourly per lane and daily capacity of the FB. Similar coordination of grade separation for cross vehicular traffic will be necessary for the maintaining of the FB green signal time

intervals. The third stage of the FB is when there is complete elevated pedestrian circulation and open space provided by adjacent land use development and there is complete grade separation for major arterial vehicular cross traffic in that segment of the FB. It should be noted that there would be different stage FB development along the corridor going from the no FB condition all the way through 1st, 2nd and 3rd stage segments.
The time increment of evolution is basically "from here on out". For Los Angeles in fifty years there is potential for a forty percent increase in population or more and certainly much more than that in corridor developments. Flow Boulevard corridors are three dimensionally organized dense environments that can happen and probably must happen to allow Los Angeles to solve its traffic problems and preserve its character and lifestyle. Selected areas of land use density allows construction of grade separated vehicular crossings to be made as well as elevated pedestrian and bikeway circulation to cross the FB providing continuity of urban fabric across the FB corridor. It is anticipated that a relative few number of these corridors are needed to solve the problems that have developed in Los Angeles. Since they grow out of the existing street network they respond to need and can evolve in density and capacity to it.

The capacity of the 3rd stage FB with continuous flow traffic is in the 2400 vehicle lane/hour range giving 280,000 person trips/ day for the total eight lanes with conventional spacing between vehicles and would not be expected to evolve to that capacity for maybe 60 years or more. Computerized controlled spacing of one or two lanes in each direction opens a whole expanded realm of additional capacity is even further off. That the FB becomes a guideway in segments accepting evolved technologies as time goes on is important and a relevant transportation and land use element able to work "from here on out".

Example Applications of Flow Boulevards

Adding capacity to corridors "to fix what is broken": In this actual proposed application, a FB is to be added as a frontage road to the 405 corridor on the Los Angeles Westside to eliminate congestion to make that segment of the 405 work without failing, along with its interchange with the I-10 which can make it work without failing and the net result of making these corridors have adequate capacity for the commuter to West LA is to be able to take enough traffic out of the West LA arterial grid so as to eliminate the current traffic gridlock. See Exhibit A at the end of this comment text for more description.

Add transportation capacity and land use development to mend two communities and their common edges: In this instance there are two differing communities where there has been traditionally a major travel corridor between them that now has broken down due to a travel demand overload into congested traffic. This puts additional travel in the form as "cut through traffic" into the community to the north (Hollywood) which has become gridlocked exceeding the ATSAC usage limits. Both communities (north and south) of the major travel corridor are becoming blighted due to traffic invasion and a mix of dissimilar land uses that resist compatible interactions. The FB application would provide the needed increased capacity to restore the traditional major travel corridor of through traffic so that "over flow" traffic does not invade either adjacent community. It would then be an urban design task to

employ land use development as a part of the FB development to provide appropriate north-south circulation and land uses to mend, bring attractions and compatibility between the two communities. A preliminary corridor is laid out on the FB website and can be reached by link www.flowblvd.com/basinplan2.html or by clicking on the menu title "LA Basin FB Loop and Transportation Corridor Study", then when that comes up click on the Page 2 link (in blue) to get to the "Santa Monica Flow Boulevard Corridor" which is a preliminary study. Scroll down to the Hollywood segment.

Protect adjacent land use and entire communities from unnecessary traffic: The configuration of a LA Basin Loop is intended to reduce traffic invasion of the extensive single and multi family residential communities of the Basin as well as to provide a way to circulate within the Basin and to accept part of the multi-modal commuter travel to Basin employment centers. The configuration would provide the additional transportation modes as back-up to the subway and rail network being built in the Basin. The extensive central form of residential communities surrounded by work centers and geographic features is unique in world city form organizations. It would be a great loss to have traffic gridlock claim yet more square miles of Los Angeles. There is further discussion on this subject regarding the alternative locations of the Westside Subway Extension at two different websites 1/ www.flowblvd.com/subwayextension.html or by clicking the website menu on Subway Extension and 2/ at www.flowblvd.com/basinstudy.html or by clicking the website menu on Basin Loop/Corridor Study (it's page one).

In this discussion is revealed that there is the traffic problem of attracting too many trips to an inadequate transportation infrastructure but there is the additional problem that the existing boulevard structure has "built-in" bottleneck configurations which cannot be dealt with unless the entire central residential community form is involved with congestion and "cut-through" traffic.

Use as the necessary multi-modal back-up component to a Subway Corridor: As part of the Westside Subway Extension study in the LA Basin area it became evident that the subway and the development around stations would attract a percentage of vehicular trips in the corridor. It might be a fairly high percentage of trips depending on the amount of regional trip attractions that would be built. There is a fair amount of discussion on the matter located at the link www.flowblvd.com/subwayextension.html.

Sub Regional Consolidation Being Structured with Growth Corridors: Being that Flow Boulevards increase transportation capacity and provide advantageous land use relationships as density is developed, it is logical to structure additional growth in the low density existing settings of Southern California by the FB technique. The examples referred to in the before mentioned website are in the Los Angeles County sub region and within geographical subdivisions of it, essentially the San Fernando Valley, East LA areas, South Bay, and the LA Basin area. Whereas the LA Basin area needs transportation improvement to stabilize the relationships between transportation infrastructure and land use, it does not need growth in the Westside area particularly but it does need renewal growth in the eastern area towards downtown Los Angeles.

Outside of the Basin the low density areas of residential, commercial and industrial land use are a particular opportunity, if not necessity, for corridor growth development. Given the low density existing sprawl where the majority of trip mileage is generated and performed, growth corridors are necessary given by the recognition of energy security to reduce VMT, as well as the need to increase economic development productivity for both existing and the future increased population to sustain an acceptable standard of living. "Growth is necessary" to adapt the urban form. It is imperative that growth be directed to make the necessary improvement to functional and spatial relationships to bring about the efficiencies that will allow affordable, sustainable and desirable city environment.

While accepting greater population, VMT must be reduced by the proximity of needed land uses. The area where the greatest amount of VMT can be reduced while conforming to affordable, sustainable and desirable objectives is in the existing low density suburban areas. The average trip length in LA County is almost 16 miles long. The length must be reduced and a general transformation to non fossil fuel energy in small truck and automobiles needs to take place while increasing transit options as well. In transit the greatest cost benefit comes from bus usage. The cost of five miles of light rail construction (ROW, hardware and typical occasional grade separations) can pay for 100 miles of Flow Boulevard which is fully outfitted including hybrid articulated buses at generally 10 minute intervals (local bus costs reducing time intervals further have not been included). In addition to the greater amount of transit coverage there are approximately 16 times the amount of patron transit miles developed (volume of users). On a typical FB paired street, whether two or three lanes of auto and truck flowing lanes are used, there would always be the BRT/HOV lane provided in each direction of the Flow Boulevard.

A preliminary allocation study at www.flowboulevardplan.com/lafbnetwork.html has been made. It should be pointed out that since that study was made it is recognized that it is very likely that the flow boulevards seen in that plan would be discontinuous not really long connected corridors. That is because a problem solving FB would be in response to a specific location, town or city. Maybe in the future continuous connection may be built up however.

Use of the Interactive Comment Sequence

Generally I will be commenting on these issues from the viewpoint that I understand from being familiar with the Los Angeles County and its MTA. I would think that the same kind of comments would apply elsewhere. I am trying to be more specific with examples and applications to actual places and peoples. I find little wrong with SCAG criteria but it strikes me as being abstract. I realize SCAG can't design for all six counties. But more specific examples of how multiple criteria and objectives are put together in plans, urban forms, transportation corridors and programs would be an improvement. So in my comments I will refer to both the policies, objectives and strategies that SCAG is developing but I will also respond with reference to the Flow Boulevard concept as it reflects and incorporates the criteria and objectives that SCAG seeks to make a part of plans for the RTP/SCS.

01 OUR VISION

Towards a Sustainable Future

Mobility, Economy, Sustainability; Realize the Vision

In LA County the MTA (Metro) has a major emphasis on expansion of the rail network. My general impression is that there is too much emphasis on rail to the fault of being unbalanced in multi modal considerations as it relates to comprehensive planning and sound economics. This emphasis brings about the speculative dimension of proceeding with a narrow view of what and how things should be. This brings in the dimension of risk and the realm of making very large misallocations of resources.

It's not that their proposed system is too big, it is that it is too expensive to be realized in a short amount of time and that over time there may be much needed revisions and additions such as Flow Boulevard networks to the plan. Metro rarely refers to serving population and land use patterns. And the talk of accelerated financing by borrowing from the future and of laying an even greater burden on the public is frightful. It is as though another "bubble" is in the talking stages of being made; a transportation bubble and how disastrous a thought!

On the Westside of LA, having a notorious level of congestion, the inclination is not so much to solve the communities' problem but to simply find a way to build rail transit and if there are major deficiencies with continued problems then there is no budget to actually solve the traffic problems. That appears to be the direction of their approach overall.

The SCAG objectives of Mobility, Economy and Sustainability falls through the cracks in the kind of planning the MTA and the City of LA is performing. This problem is showing up in countywide instances as well as in City Community Plans. Mobility is not being achieved in City Community Plans, and congestion persists countywide. Much of the MTA response to the event of recession is essentially that of trying to re-inflate past trends that were heavily dependent on speculative real estate ventures. That is not an approach to obtain sustainability with. Growth based on assemblage of businesses that provide jobs and sustained productivity will produce better results.

There is some room for "recovery" by supporting real business with access and the solving of problems of congestion. The larger question however is how we obtain new growth in our economy to provide future employment for the young and replace jobs that have fallen away with past trends. This area of planning should be of great importance in securing the economic future that is needed in Southern California and I think extensive Flow Boulevard "growth corridor development" can provide the necessary structure and place to make it happen. This kind of growth related to transportation improvement seems to be absolutely missing in Metro's planning elements.

The Setting

Economic Recession, Population Growth

Fixing real transportation problems while developing a new and expanding economy is needed. As stated in the above section dealing with Sub Regional Consolidation, the suburbs are where the majority of the additional 2 million people in LA County will be located over the next twenty five years. Extensive low cost transportation improvement and low cost land use development that is able to bring opportunities for starting new businesses are the kinds of policies and programs that should be identified and made apart of the denser consolidation that is to occur within existing communities and work centers. Flow Boulevards as growth corridors would be instrumental in bringing that about.

In addition to using a transportation form that targets reduction of VMT it is necessary to bringing about programs and policies that promote the attraction of businesses that will help form a new relevant economy. A concerted effort to attract new businesses and manufacturers from other counties, states and countries by providing the attraction of affordable start-up, connectivity, idea environ, affordable housing, technical support, access to needed materials and generally friendly government should be a part of growth corridors. These programs should be coordinated city wide if not countywide.

In LA County the radial patterned commuter rail plan that is focused on the LA Basin and is so expensive to develop will carry only an approximate 2 and 1/2% of the travel miles made in LA County on the rail system. That leaves a remainder of 16% in vehicular commuter modes to the LA Basin. I'm speaking about the percentage of total travel miles in LA County. That leaves more than 90% of travel (including the 16%) in vehicular modes mainly circulating in suburban locations. This 90% of travel is the area to target for reduction of VMT by making those areas more self sufficient in land uses that allow shorter trips. This responds to the fact that LA needs growth to adapt to an urban form that supports energy security by reducing energy usage. This also secures economic stability and growth through low cost transportation development in areas that can and desire to receive development in low land cost areas.

Safety, Multi-Modal System

The Flow Boulevard system separates vehicles from pedestrian and bikeway circulation over time. This allows safe and aesthetic crossing of the FB corridors as well as the direct connection to the high density land use areas and open space centered in the FB corridors. While each corridor would have different characters given their density and location, example images of such integrated environments in model form can be seen on the FB website. By clicking the menu on "Elements and Travel Demand" photo images of a model environment are presented. There are two portions of images showing development of such environments separated by a potion of the study dealing with travel dement. Just keep scrolling from one end to the other. The link is www.flowblvd.com/elements.html.

Transportation System Management

Flow Boulevard characteristics of TSM and ITS are pretty well expressed in the FB descriptions above. What has not been stated is how the "medium capacity" FB system can relieve the freeway network of much of the local and medium length travel that crowds our present freeways. This would allow freeways to specialize more into long trip facilities and thereby extend their life and performance as a system that will not see many more miles added to it in the LA County area.

Challenges and Opportunities

Transportation Finance, System Preservation, Goods Movement

The Flow Boulevard system looks to increase the tax and service fee base to produce more revenues. The FB system is a "money maker" not a facility that needs subsidies such as rail transit. Built up corridors throw off revenues way in excess of their cost and maintenance. In about 20 years a typical mile of FB would likely throw off $150,000 million in discretionary monies that can be used elsewhere. With 100 miles of FB that is $15 billion annually to put elsewhere. For more discussion on this subject click on the link of www.flowblvd.com/basinstudy.html, that's page one. Scroll down until a City of LA Chart in green named "Where the Money Comes From" appears. After the charts begin reading the discussion titled "Flow Boulevards Pay Their Own Way".

System preservation occurs by using the existing street system and settlement pattern to the advantage of integral growth, land use up dating and transportation improvement. And of course people and goods movement is provided with the FB system. Remember as well the points made above where the FB can help protect (preserve) communities and the aspect of extending the life of the freeway system. That is being done by the FB system taking on the burden of local and medium length trips. And finally this shows how the FB transportation system helps preserve the entire system by the use of the excess revenue being "thrown off" by the money maker Flow Boulevards.

Integrated Land Use and Transportation

The Flow Boulevard concept could be the "poster image" of representing the mandate of SB 375 integration of land use and transportation. Over time, with programs that help transform vehicular movement to electric (or non fossil-fuel) power integrally, comfortably and economically; then that is the objective is it not?

Air Quality, Energy, Adaptation

From what I know, natural gas will afford a step in the right direction for air quality over coal and oil; coal in producing electricity and oil in propelling vehicles. Unconventional natural gas resources seem to be cheap and abundant, with low NOX emissions and can be counted upon 24/7. With shorter trips, less energy used in vehicles, greater public transit use in extensive BRT networks, use of walking environments with "proximity" and a transformation to electricity instead of gasoline all seem to add up well in the kind of land use and transportation patterns provided by Flow Boulevards.

Adaptation must be made affordable by an economy that has the resources available to be applied to the cost of that adaptation. I can't see where large expensive rail networks that are supposedly justified by the need to commute large distances should be embraced with so much enthusiasm. There should be ways to communicate and produce more without so much commuting. More money will be needed for adaptation, which the growth corridors provided by the Flow Boulevard concept make available and in turn "throw off" revenues. Better conserving architecture fits in this model as well.

Plan Overview

Detroit Michigan lost half its population between 1980 and 2002 because the car companies could not compete with other manufacturers in the world market. Will Southern California lose half its population due to excessive population dispersal, over use of natural resources, of not developing a more efficient urban form, of making expensive transportation systems, not transferring to less expensive and cleaner energy and having an over reliance on commuting?

TRANSPORTATION INVESTMENTS

I have used the first chapter of "Vision", to focus comments on the respective issues in a kind of combined conceptual way. By this I mean that considerations of Investments, Funding and Future Land Patterns are combined with the Vision issue response. As an architect I tend to think using an integrated concept rather than what seems to me as overly abstracted when broken down so much. I will however generally respond to issues posed in these subsequent chapters with general overview comments referring to some of the issues.

Getting the Most Out of Our System: The major point is to maintain the basic existing street and land use system while evolving segments so as to improve the relationships and achieve new levels of population growth (in some areas) and transportation capacity within corridors. By the use of the right mix of land uses, more sustainable neighborhoods and communities are obtained by way of those proximities, shorter vehicular trips and to divert trips from SOV by the inclusion of transit. In this setting the SOV use can in effect "shrink".

As pointed out in the "Vision" comments, congestion should not be allowed to develop as it has in the LA Basin. Those bottlenecks and inefficiencies are not a strategy to make a better

city with. It is a failure and in due course will be corrected; possibly with some help by SCAG as well as others.

By using the existing street system to greater advantage there is less need for expensive long distance rail trip development. In the Measure R list of projects there are basically no TSM and ITS projects to take care of the mounting congestion in the LA Basin. And the City of Los Angeles DOT does not seem to be able to cope with the condition either. I am very concerned that with the impacts being made on the function and standard of living in Los Angeles communities. Appropriate policies and transportation improvement must be employed to eliminate congestion.

Transit Policies: By expanding the BRT network it is appropriate to lessen time and trip length that is commensurate with making communities self sufficient and reduces VMT. This is the most effective way to increase transit use in LA County and the most direct way of going after and reducing the length of the 90% of SOV trips. Point to point BRT trips would basically be at 40mph speeds for really reducing bus travel times.

Active Transportation: Pedestrian circulation, bikeways and open space are an integral part of Flow Boulevard development. By developing its circulation separately from the street its development becomes the condition to which greater capacity is obtained from the roadway itself. This is a unique relationship where building pedestrian elevated circulation and open space creates increased vehicular capacity in Flow Boulevards.

The term “complete streets” tends to imply that most all arterial streets should accommodate all modes of travel. This of course would make major conflicts on many streets. The better view is to accommodate all modes of travel within a community plan that respects the character, purpose and safety of each mode and give it the necessary spaces, routes and function that allows that mode to perform its given task. On the FB website at www.flowblvd.com/elements.html one can see highly developed environs with separate modal circulation systems interrelated.

03 FINANCIAL PLAN Generalized Comments

Trimming project expenses and making more affordable budgets: There is still a great deal of underutilized capacity in most roadways. There should be more thought in utilizing the unused capacity because it is so less expensive to provide for the mobility of existing and future growth. It is also a way to up-date the mix of housing stock and community services, retail and work locations to respond to changes in demographics and the economy.

There is generally great risk in over designing a transportation plan that cannot be achieved without taking funds from other social costs that are more important. It would appear to me that the Metro ambitious and self serving rail plans have that budget busting, excessive social burden look to them. They seem narrowly conceived by not having comprehensive planning attached to them. And now there has been a realization that we have been living through an era of very fortunate economic circumstances for the last 40 years and that those

conditions have changed. Proceeding with caution, flexible plans and not getting over extended would be prudent if not absolutely necessary. And please refer to the above linked discussion regarding “Flow Boulevards Pay Their Own Way” in the” Challenges and Opportunities section for an alternative approach to providing growth and transportation improvement.

Primarily use “Pay-Go” (pay as you go): By using land use development in combination with transportation improvement in growth corridors, transportation improvement costs can be tied directly to the cost of the increased land use density developments. In this manner much of the transportation improvement pays for itself and then continues to do so out of property taxes and fees generating revenues for the governing jurisdiction. The generation of continuing excess revenues is a source for paying for additional infrastructure improvements and maintenance that towns and cities are faced with.

The large commuter rail system that Metro has planned and want to build at an accelerated pace also has that risky burdensome look to it. After it would be built at an accelerated pace would it really be used? And then what happens to that under funded period to transportation improvement that follows the accelerated building period when debt is being paid off? That is when really difficult problems can arise and there is the lack of funding to deal with them.

It is also quite unbelievable that Southern California will attach themselves to a mobility form that requires so much transferring and great distances to be traversed to carry out normal daily living. With inexpensive electricity for electric vehicles and more compact communities with shorter trips to connect daily tasks, why would people submit to a hodgepodge of inconvenient disconnected trips? Southern California society should be given the chance to decide these issues; we need full disclosure that the fullness of time affords.

04 SUSTAINABLE COMMUNITIES

Sustainable Communities Strategy: Sustainable communities are necessary for Southern California to sustain itself, and growth is necessary to bring about adaptation of existing communities to become sustainable. One such approach refers to the case I have been building for the use of Flow Boulevards to bring about that adaptation of existing community urban form through land use growth and transportation improvement in corridors. The FB form also targets the majority of areas where trip generation is made and brings Intelligent Transportation System technologies to bear on the issues of SB 375 including that of GHG emissions. There is an incredible existing investment in the sprawl that persists throughout Southern California and this investment must be made to become efficient in terms of preservation, energy, job creation, productivity, lifestyle achievement, environmental and air quality. Whereas some might think it is becoming crowded, it really does not have to seem that way by moving up pedestrian circulation and places over the improving street transportation below with the use of architecture in order to enjoy the view and open space.

This is a natural and very affordable adaptation to low density existing development. Examples of this kind of organization can be seen in parts and whole already in Los Angeles. And by connecting the growth corridors to existing towns, work centers and cities it can reduce VMT by both proximity and improved energy utilization. The FB concept is also able to improve more densely built existing urban areas as found in the LA Basin. These opportunities may employ land use growth along with transportation improvement techniques or may use one or the other, land use or transportation improvement to solve an urban condition. As indicated below (Westside LA, Exhibit A), there are instances where the transportation improvement ability of FB can be used without land use growth to solve "out of control" congestion issues inexpensively. However the land use growth component can be a dynamic element in creating both walking "place" environments and with eliminating congestion in the urban context generally.

With the congestion that the City of Los Angeles and the County MTA has allowed to continue by not employing ITS strategies, it would seem that more pollution is now being made by inefficient vehicular movement than is being saved by rail transit usage. This is beyond the loss of "productivity time" and the loss of livability in impacted communities both residential and commercial.

Exhibit A;

A Plan to Eliminate Westside Congestion

The real prospect of eliminating congestion on the Westside is nearing a reality as existing approved projects (405/HOV lane and Expo line) and potential proposed projects are combined with them. The basic approach to eliminate the existing traffic congestion, since it primarily comes into the Westside from the north and south, is to add additional capacity to the 405 corridor and then as well to the I-10 corridor to connect to the City of Santa Monica. By that capacity improvement the Westside arterial network can be relieved of traffic and therefore the gridlock now experienced on both sides of these freeway corridors as well as the freeways themselves.

The weakest link in these corridors to be improved is the interchange connecting the 405 and the I-10. The freeway interchange traffic is constricted both in its flow-through capacity and turning movement capacity. From there the freeways are further constricted by merging movements on and off the freeways at the very high collection and distribution ramp movements affecting the freeways and adjacent arterial street flows.

The key to eliminating Westside congestion is by adding needed capacity in order to relieve the interchange, the freeways and the ramping operations by the addition of a one-way pair (three regular flowing lanes along with an exclusive BRT/HOV lane in each direction) Flow Boulevard (FB) as a frontage road to the 405 (proposed in a study found at www.flowblvd.com/index3.html). This improves the operations of the freeway and arterial network and is focused on balancing travel demand with infrastructure to essentially "fix what

is now broken". The intension is to limit the improvement to between the Sepulveda pass and Culver City and not to provide additional improved access to the Westside that might be a basis for yet more traffic attracting development that would put the Westside back into yet more congestion. At this time, the objective is to bring balance between existing land use attraction and Westside infrastructure and then maintain that balance through a strictly enforceable Community Plan.

Sepulveda Boulevard would provide the north flowing side of the FB. South of Pico, Sawtelle would provide the south flowing side of the FB. North of Pico, there are two alternative streets to provide southern flow between Wilshire and Pico. The Cotner Street alternative (east of the 405) as developed in the study and Beloit Avenue (west of the 405) the alternative simply mentioned in the study. As an up-date to the study, the Beloit alternative now has political pull since the VA potential subway station has been identified. The prior difficulty was to obtain right of way through the VA property. Now that there is desire to provide some kind of future connection to the east- west rail lines, which would include the VA subway station; political and economic "pull", could make the Beloit alternative the likely choice. North of Wilshire the FB would flow into the Metro "Sepulveda Pass" project, whatever that may work out to be. Note that the quick and low cost improvements being discusses here are more short term problem solving plans and do not involve the ambitious 10's of billions dollar price tags that Metro envisions for later projects.

Adding up the improved capacities in the 405 corridor would be 30,000 person trips (pt) with the new 405 HOV lane and with a Beloit FB connection (where no through connection exists between the Pico and Wilshire areas) it provides 80,000 pt of improvement at this area of the corridor. This would total an increased capacity of 110,000 person trips to be distributed to reduce congestion on the freeway, through the interchange, in the ramp use and out of the arterial network in the north-south direction. South of the interchange the increased capacity to the Sepulveda-Sawtelle pair would be about 38,000 pt/day due to BRT lanes and the synchronized vehicular flow in general. In the east-west direction the Expo Line would add approximately 35,000 pt, the I-10 improvements 60,000 pt and three sets of BRT (Wilshire, SMB and Olympic) giving an additional 20,000 pt totaling 115,000 pt of increased capacity to reduce congestion with.

The key to making the interchange work adequately is the reduced 405 through traffic volume and the potential to make direct connections from the freeways to the FB to reduce turning movement demand (such trips would be headed to or from the FB). This allows greater provision of freeway to freeway turning movement capacity by having two full lanes to turn with and not being merged into one lane going into and out of the turn ramps. This additional lane continuity allows about a doubling of turning movement capacity in the critical turns connecting the 405 and the I-10.

Operation of the FB requires priority signalization separate from the cross streets of the arterial grid. This priority is "earned" by the fact that the FB accommodates a higher volume of vehicles than an intersecting arterial would have, has the greater length of travel, presents the fact that the FB makes the freeway system work without failing, provides additional north-south to east-west turning opportunities between crossing arterials with the 405 and also takes travel

demand out of the arterial grid so it does not gridlock. While the north bound side of the FB needs to have synchronized signals, with for example one minute vehicle packs and one minute gaps between them (for cross traffic signal periods), likewise the south bound needs the same for continuous flow of the vehicle pack without stopping. The phasing of each side of the FB may be coincident at an intersection (both having green signal periods) or out of phase with each other in any amount that may be of some benefit to the crossing arterial. What cannot be allowed is the breaking of the flow of signal synchronization on either street of the FB pair. With a travel speed of approximately 40mph, this means that the automobile travel time between Wilshire and Culver is about 7 minutes on the FB and the BRT bus can take about 14 minutes using prepaid platform boarding and alighting techniques by staying at less than 1 minute at each arterial bus stop.

- Eliminating congestion is the first step in being able to remove ambiguity so as to stabilize the Westside and make Community Plans for improvements like livable boulevards and needed land uses that allows developers and residents to fully support.
- BRT bus transit works well with the Westside by having lines to and from the FB by connecting with the destinations of Westwood, Century City, Santa Monica, etcetera, without transfers; as well as connections to the future rail stations of the Expo Line, the LAX and the VA Station. And the BRT facilities can be up and running in just a few years.
- By stabilizing the land use and transportation balance, it would then be prudent to insist that City and County planning departments make comprehensive plans for the expected two million additional residents in the next 25 years. In other words, plan for additional development and population in other areas and not to allow excessive Westside development which yet again brings unbearable congestion.

December 4, 2011 by Phil Brown email contact; [redacted]

Stephanie Johnson
[redacted]
San Marino, California [redacted]
[redacted]

February 11, 2012

Ms. Margaret Lin
SCAG
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017
RTP@scag.ca.gov

Re: Southern California Association of Governments
2012-2035 Regional Transportation Plan/Sustainable Communities Strategy
December 2011

Thank you for the opportunity to comment on the *SCAG 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy.* The Plan states as its goal "improving the quality of life for our residents".

> *The 2012 RTP/SCS will transform the region, serving as a blueprint for **improving quality of life for our residents** by providing more choices for where they will live, work, and play, and how they will move around.*

> *The 2012 RTP/SCS proposes investing over $500 billion over the next 25 years to **improve the quality of life of the region's residents** by enhancing our transportation system.*

While I agree that improving the quality of life for the residents is an admirable goal, the Plan as indicated by the SCS City maps, will denigrate the quality of life for the residents of San Marino. My comments regarding the 2012-2035 RTP are limited to where I live, Los Robles Avenue in San Marino, and the adjacent area.

While reviewing the Resources > SCS Map Tool from the SCAG web site, http://rtpscs.scag.ca.gov/Pages/SCS-Maps-Tool.aspx, I was shocked to discover that Los Robles Avenue in San Marino has been designated a **High Quality Transit Corridor**.

The SCAG RTP Plan indicates that:

> *A HQTA (High Quality Transit Area) is generally a walkable transit village, consistent with the adopted SCS that has a minimum density of 20 dwelling units per acre and is within a ½ mile of a well serviced transit stop, and includes transit corridors with minimum 15 minutes or less service frequency during peak commute hours.*

Los Robles Avenue in San Marino is a 7/8 of a mile, two lane narrow street fronted exclusively by single family homes where children live and play. The homes, built between 1920 and 1950, and the set back is close to the street. The posted speed limit is 30 mph., the posted weight limit is three tons, and truck traffic is prohibited. The City of San Marino General Plan, classifies Los Robles Avenue as a residential collector street. The street carries an unusually high volume of cut-through traffic, exceeding the capacity of a two lane residential street. There is no bus service.

How then, was Los Robles Avenue in San Marino designated a HQTC? I posed this question to both the City of San Marino staff and City Council. They were unaware of this designation in the proposed RTP

Plan. I also made inquiries of SCAG staff and was told that the Map for San Marino was incorrect with regard to bus stops, because no bus route is planned for the street.

RE: Records Request - SCAG 2012 RTP project

From: **Christopher Tzeng** (tzeng@scag.ca.gov)
Sent: Thu 1/12/12 4:16 PM
To: Stephanie Johnson [redacted]

Hi Ms. Johnson,

Per your inquiry, we have looked into planned bus routes along Los Robles in the City of San Marino for the 2012-2035 Regional Transportation Plan (RTP).

We checked our 2035 transit network that has been developed for the 2012-2035 RTP and there are not any proposed transit services on Los Robles Avenue in the City of San Marino in the 2035 constrained plan network. Therefore, the bus route should not appear in the SCS Maps Tool viewer you were utilizing. Thank you for bringing this to our attention.

The maps you are able to view on the Maps Tool use data from SCAG's Regional Transportation Demand Model. This is utilized to predict the impact of travel growth and evaluating potential transportation improvements for all cities within the SCAG region, which consists of 191 cities, six counties and more than 18 million residents. The Transportation Demand Model comprises a large number of data files in order to represent the many facets of the transportation environment.

Please let me know if you have any questions. Again, thanks for bringing this to our attention.

Regards,

Chris

RE: SCAG RTP2012 - plans for bus routes in San Marino and Pasadena

From: **Abrishami, Lori** [redacted]
Sent: Fri 9/02/11 3:58 PM
To: 'Stephanie Johnson' [redacted]

Ms. Johnson,

I am sorry, but when I log in, I do not get the same map as you. Can you please tell me what a HQTC is? I believe that the SCAG definition of High Quality Transit Corridor, as well as some agreement in the transportation planning profession, means an area within ½ mile of transit service that runs every 15 minute or more often. If you are within ½ mile of Colorado Blvd, or the Lake Ave. Gold Line Station, then that is within an HQTC.

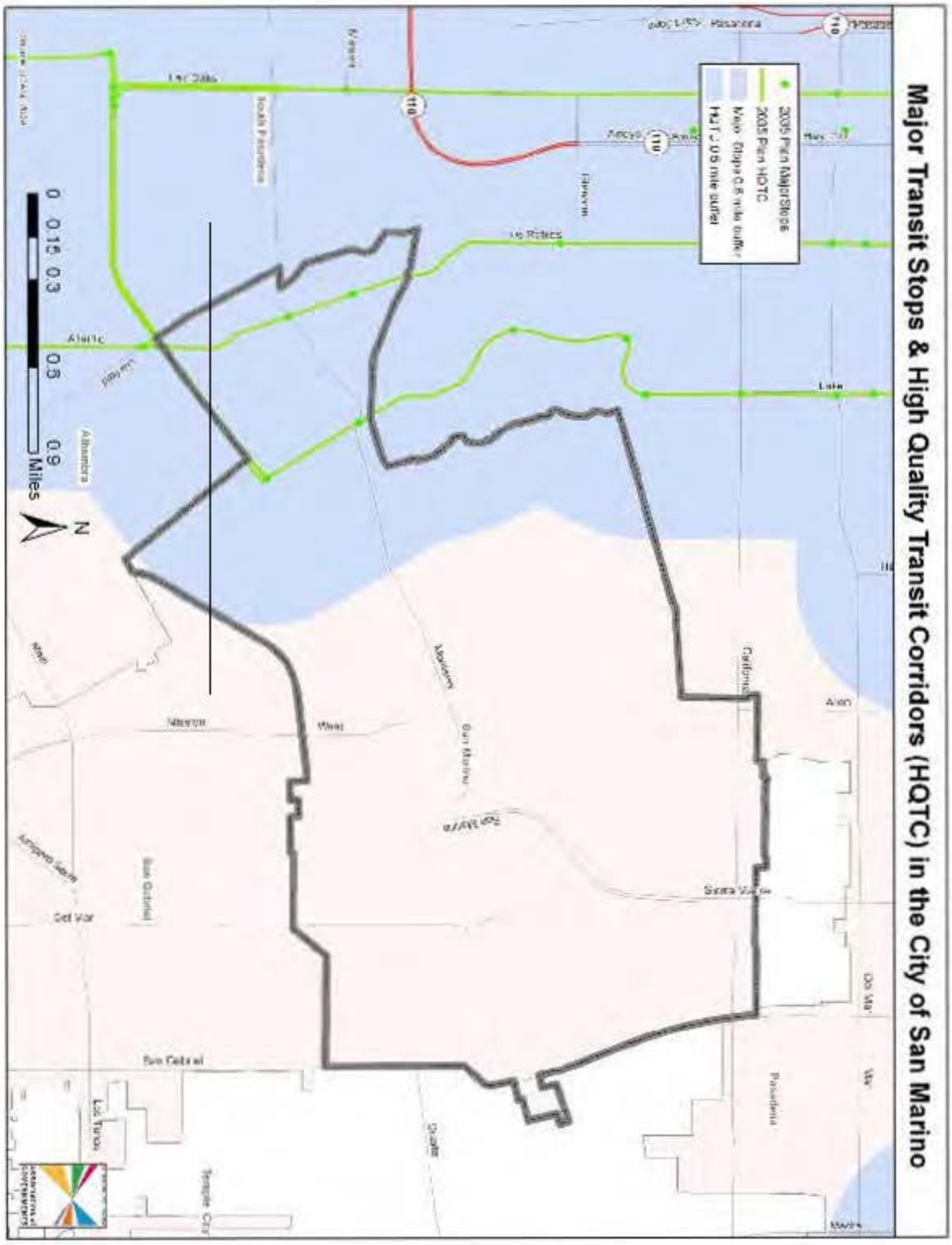
Since the online map on my screen is not showing the bus route detail that yours shows, please tell me the route number of the bus route shown on Los Robles. As you know, we do not have one, and the data that our modelers sent to SCAG modelers only has our current routes on it. So, the bus route is not ours. I would not want to request that it be removed, since it may be the City of Pasadena or other nearby municipal operator.

Lori Abrishami

Below are copies of the SCAG SCS Maps for San Marino, Alhambra, South Pasadena and Pasadena. It is not clear why certain streets have been designated HQTC and others have not.

SCAG Map for San Marino – High Quality Transit Corridors (HQTC)

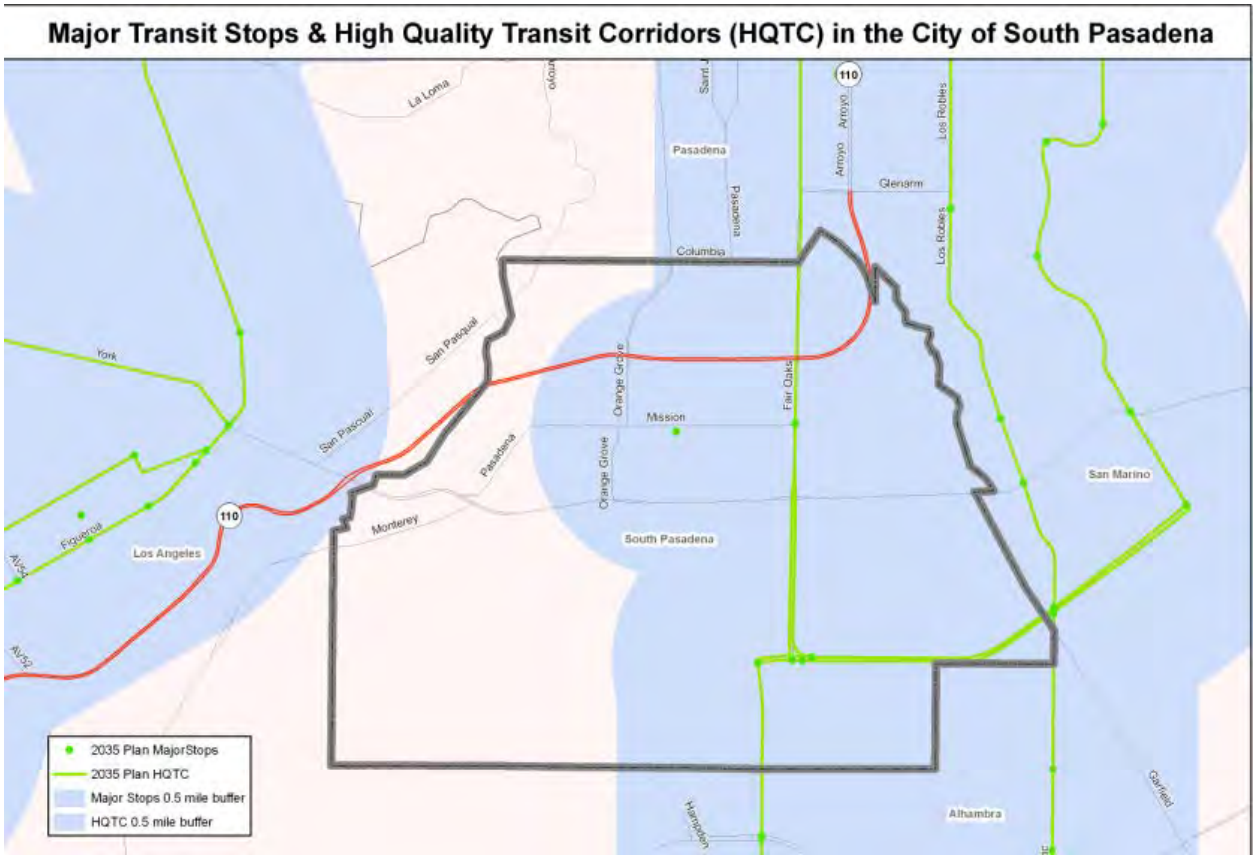
This map indicates that Los Robles is a HQTC with bus stops.



South Pasadena

Note that although Fremont Avenue is designated a HQTC in Alhambra, it is not in South Pasadena, although the street merges into S. Pasadena Avenue that is the freeway entrance to the 210 and 134 freeways in Pasadena.

Garfield Avenue has a METRO bus route that extends through South Pasadena that stops at the Gold Line Mission Street station.



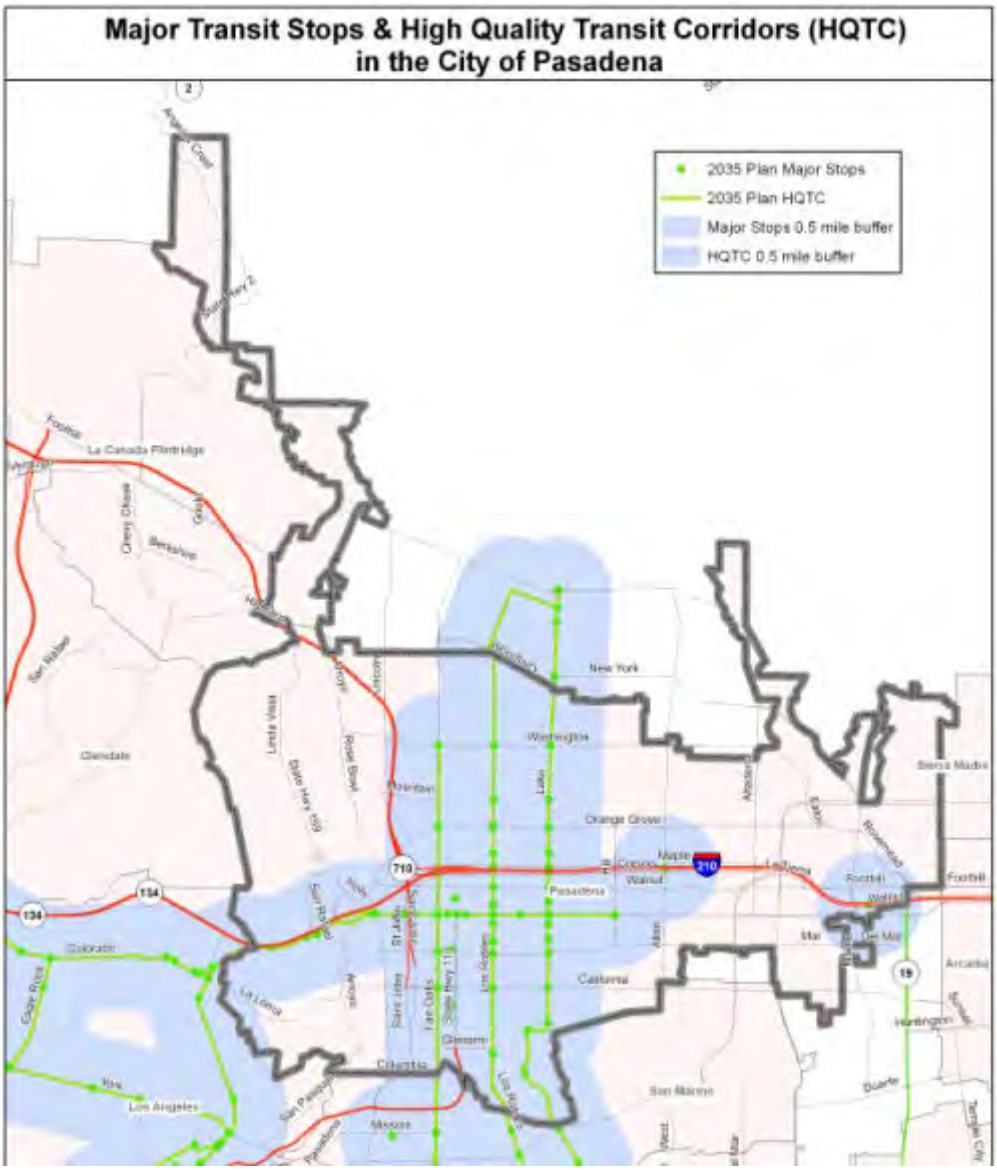
Alhambra

Why is Garfield Avenue not designated a HQTC? It is a major arterial in Alhambra and has a bus routes that extends through South Pasadena that stops at the Gold Line Mission Street station.



Pasadena

Note that both Los Robles Avenue and Oak Knoll Avenue in Pasadena, south of California Boulevard, are single family residential areas.

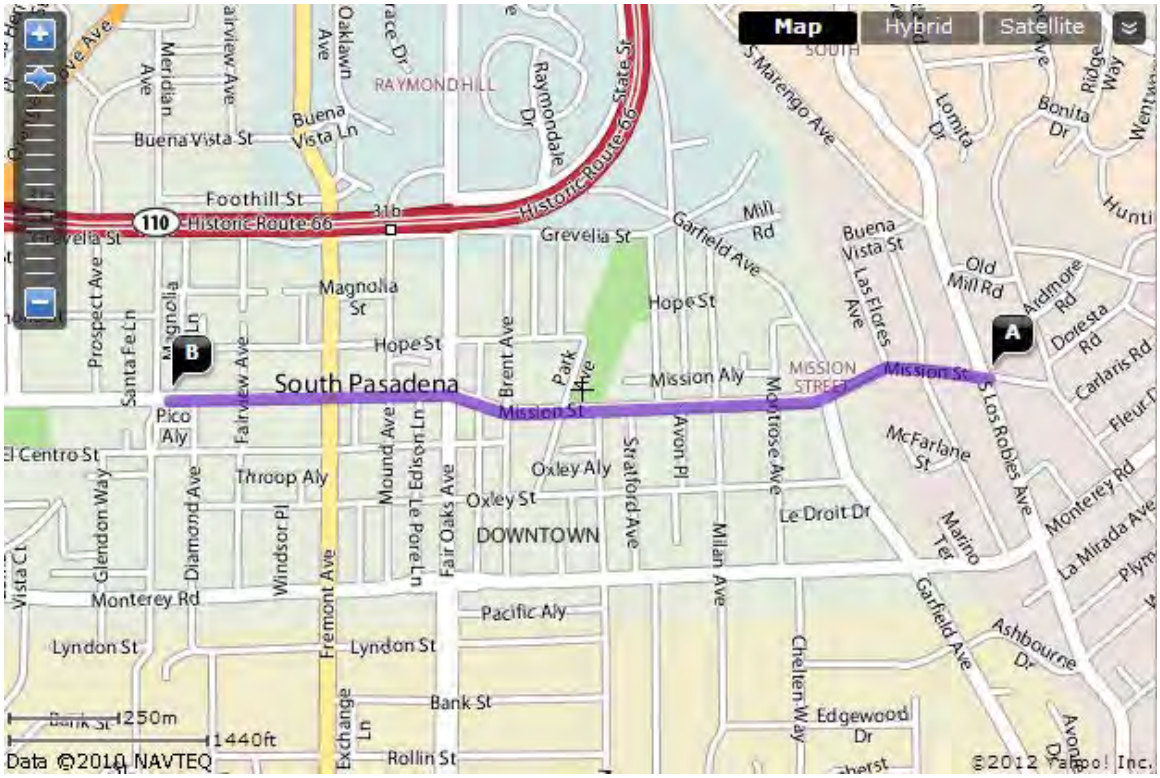


Alhambra, South Pasadena, San Marino, Pasadena

Fremont marked in purple for reference purposes.



Los Robles Avenue, San Marino to Gold Line Station Mission Street, South Pasadena 1.1 miles



If regional planning is to be based upon the SCS maps, then further information regarding how the HQTC attribute was assigned to streets must be made public. Los Robles Avenue in San Marino does not meet the definition of an HQTC. Regional traffic should not be directed toward the street, exacerbating the existing cut through traffic and its resulting negative impacts upon the residents.

Sincerely,

Stephanie Johnson

Director
Water Resources Institute

California State University
San Bernardino

Susan Lien Longville

[redacted]
San Bernardino, CA [redacted]

Date: February 14, 2012

To: Southern California Association of Governments http://www.scagrtp.net/

Re: Public Comment to SCAG Regional Transportation Plan

As a former SCAG Regional Council Member that served during the time I was a member of the San Bernardino City Council from 1998-2006, I had the opportunity to work closely with previous Regional Transportation Plan (RTP) implementation efforts. I continue to remain engaged as a private citizen in issues of importance to Southern California. Thank you for the opportunity to submit my public comment by email.

In the last RTP, there was a concept similar to the current GRID (Green Rail Intelligent Development) to which there was no progress during implementation. I am writing to express my desire that this Southern California alternative to Goods Movement be once again included in the current RTP.

The GRID alternative, which proposes the installation of 15-ft. water-tight pipelines housed in an unmanned electrified rail guide way, has a number of advantages for traversing goods from the Ports of Los Angeles and Long Beach to the inland regions of California.

- First, installation of an underground pipeline would employ installation that is identical to the installation of water pipelines that use only a "cut and cover" technique which environmentally presents much less adverse impacts.
- Furthermore, this project holds the potential of creating many jobs in Southern California during the manufacturing and construction of the system because materials proposed in GRID are already manufactured locally.
- Finally, I believe that including an alternative Goods Movement concept that would be powered by electricity, rather than diesel, is good public policy. As a resident of San Bernardino, the concept of moving Port freight through an underground pipeline that would ultimately emerge at an Inland Port holds the promise of someday reducing the truck traffic that is affecting so many of Southern California's Disadvantaged Communities where rail and existing roadways traverse and gravely impact the respiratory health of our children and seniors who have been shown to be disproportionately affected by goods movement.

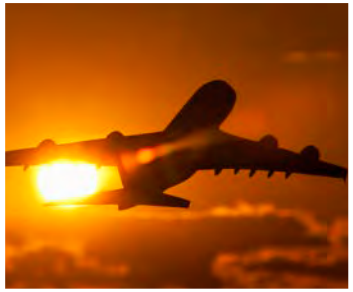
For those reasons, I urge SCAG to include the GRID alternative in the current RTP providing the opportunity to further examine a concept without any significant impact to air quality as is found in existing rail shipments or container movement by diesel-powered semi trucks.

I look forward to hearing the Regional Council has included the GRID (Green Rail Intelligent Development) as an alternative Goods Movement Alternative. Thank you.

NOT PRINTED AT PUBLIC EXPENSE

ENVIRONMENTAL JUSTICE APPENDIX









REGIONAL TRANSPORTATION PLAN
2012–2035
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future
RTP











Southern California Association of Governments

ADOPTED APRIL 2012

ENVIRONMENTAL JUSTICE

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DISCLAIMER: Data and analysis included in this Appendix does not account for Plan improvements in vehicle technology particularly for truck only corridors. These corridors in the Plan are exclusively for zero and/or near-zero emission vehicles. Furthermore, the Program Environmental Impact Report (PEIR) accompanying the RTP/SCS includes mitigation measures that would reduce impacts associated with health risk within 500 feet of freeways and high-traffic volume roadways to less than significant. Analysis included in this Appendix also does not account for emissions improvements through the implementation of these mitigation measures. As such, emissions and exposure analysis shown in this Appendix is abundantly conservative and demonstrates worst-case scenario outcomes. If these emissions improvements had been accounted for, we believe the analysis would show little or no areas with worsened emissions ("hot spots") associated with the Plan. Moreover, the currently available data on emissions and on the distribution of households and population is imprecise such that the overlay with emissions and EJ populations will tend to overstate any potential impacts. Nevertheless, given on-going concerns and evolving information on health impacts, SCAG encourages project sponsors to be cognizant of any potential health risks in project design and delivery. Consistent with the mitigation identified and to be implemented as part of the proposed final PEIR, SCAG will assist in disseminating information and identifying effective strategies to reduce risk at the project level.

The concept of Environmental Justice is about equal and fair access to a healthy environment, with the goal of protecting underrepresented and poorer communities from incurring disproportionate environmental impacts. The SCAG region is vast and geographically distinct. It encompasses an area of more than 38,000 square miles with a population exceeding 18 million people, and has many geographically dispersed commercial and residential centers. The region includes heavily urban and entirely rural areas, as well as terrain that in some instances make air quality goals difficult to achieve. Demographically, it is one of the most diverse regions in the country, becoming the first to see the total population of Hispanics exceed that of Non-Hispanic Whites. In fact, the Hispanic population is anticipated to exceed 50 percent of the total population in the region by 2035. The area is also quite economically diverse, and displays the extremes in household income.

Title VI and Environmental Justice Overview

Consideration of Environmental Justice in the transportation planning process stems from Title VI of the Civil Rights Act of 1964 (Title VI). Title VI establishes the need for transportation agencies to disclose to the public the benefits and burdens of proposed projects on minority populations. Title VI states that "No person in the United States shall, on the ground of race, color or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." Additionally, Title VI not only bars intentional discrimination, but also unjustified disparate impact discrimination. Disparate impacts result from policies and practices that are neutral on their face (i.e., there is no evidence of intentional discrimination), but have the effect of discrimination on protected groups. The understanding of civil rights has expanded to include low-income communities, as further described below.

In the 1990's, the federal executive branch issued orders on Environmental Justice that amplified Title VI, in part by providing protections on the basis of income as well as race. These directives, which included President Clinton's Executive Order 12898 (1994) and subsequent U.S. Department of Transportation (DOT) and Federal Highway Administration (FHWA) orders (1997 and 1998, respectively), along with a 1999 DOT guidance memorandum, ordered every federal agency to make Environmental Justice part of its mission by identifying and addressing the effects of all programs, policies and activities on underrepresented groups and low-income populations. Reinforcing Title VI, these measures ensure that every federally funded project nationwide consider the human environment when undertaking the planning and decision-making process.

On August 4, 2011, seventeen federal agencies signed the "Memorandum of Understanding on Environmental Justice and Executive Order 12898." The signatories, including the U.S. Department of Transportation (DOT), agreed to develop Environmental Justice strategies to protect the health of people living in communities overburdened by pollution and to provide the public with annual progress reports on their efforts. The MOU advances agency responsibilities outlined in the 1994 Executive Order 12898 and directs each of the Federal agencies to make Environmental Justice part of its mission and to work with other agencies on Environmental Justice issues as members of the Interagency Working Group on Environmental Justice.

In response to this MOU, DOT revised its Environmental Justice Strategy. The revisions reinforce the DOT's programs and policies related to Environmental Justice and strengthen its efforts to outreach to minority and low-income populations. In addition, on September 29, 2011, the Federal Transit Authority (FTA) issued two proposed Circulars on Title VI and Environmental Justice to clarify the requirements and offer guidance. FTA Circular 4702.1A, Title VI Requirements and Guidelines for Federal Transit Administration Recipients (Docket No. FTA-2011-0054) provides information required in the Title VI Program, proposes changing the reporting requirement from every four years to every three years, and adds a requirement for mapping and charts to analyze the impacts of the distribution of State and Federal public transportation funds. SCAG has reviewed the proposed Circulars as additional guidance for the development of the 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The FTA Circular 4703.1, Environmental Justice Policy Guidance for Federal Transit Administration Recipients (Docket number FTA-2011-0055) provides recommendations to MPOs (and other recipients of FTA funds) on how to fully engage Environmental Justice populations in the public transportation decision-making process; how to determine whether Environmental Justice populations would be subjected to disproportionately high and adverse human health or environmental effects as a result of a transportation plan, project, or activity; and how to avoid, minimize, or mitigate these effects. The proposed Circular does not contain any new requirements, policies or directives. Nonetheless, SCAG complies with the framework provided to integrate the principles of Environmental Justice into our decision-making processes.

In addition to Federal requirements, SCAG must comply with California Government Code Section 11135, which states that, "no person in the State of California shall, on the basis of race, national origin, ethnic group identification, religion, age, sex, sexual orientation, color, or disability, be unlawfully denied full and equal access to the benefits of, or be unlawfully subjected to discrimination under, any program or activity that is conducted, operated, or administered by the state or by any state agency that is funded directly by the state, or receives any financial assistance from the state."

The State of California also provides guidance for those involved in transportation decision-making to address Environmental Justice. In 2003, the California Department of Transportation (Caltrans) published the Desk Guide on Environmental Justice in Transportation Planning and Investments to provide information and examples of ways to promote Environmental Justice. The Desk Guide identified requirements for public agencies, guidance on impact analyses, recommendations for public involvement, and mitigation.

Finally, under Senate Bill 375 (SB 375), SCAG is required to include a Sustainable Communities Strategy within the RTP/SCS. The RTP/SCS represents the collective vision of the six counties in the SCAG region and provides a framework for the future development of our regional transportation system. Through SB 375, the California Air Resources Board (ARB) established per capita targets for GHG reduction for cars and light trucks for the SCS. The targets for the SCAG region are 8 percent in 2020 and 13 percent in 2035, from 2005 levels. As part of the early target setting process, the ARB appointed a Regional Target Advisory Committee (RTAC) to recommend factors to be considered and methodologies to be used for setting the targets. The RTAC report was finalized in September 2009 and included a recommendation on Housing and Social Equity. The report recognized the impact policies to reduce Vehicle Miles Traveled (VMT) could have on social equity, specifically calling for appropriately located affordable housing match local wage levels. The RTAC further recommended that displacement and gentrification, as a result of changing land uses and increased housing costs, should be addressed and specifically avoided to the extent possible in the SCS. As a result of this recommendation and input from our Environmental Justice stakeholders, SCAG has updated its methodology to include new areas of analysis, including gentrification and displacement.

SCAG's Title VI Environmental Justice Policy and Program

As a government agency that receives federal funding, SCAG is required to conduct an Environmental Justice analysis for its Regional Transportation Plan. SCAG's Environmental Justice program includes two main elements: technical analysis and public outreach. Specifically, it is SCAG's role to ensure that when transportation decisions are made, low-income and minority communities have ample opportunity to participate in the decision-making process and that they receive an equitable distribution of benefits and not a disproportionate share of burdens.

Under federal policy, all federally funded agencies must make Environmental Justice part of their mission and adhere to three fundamental Title VI/Environmental Justice principles:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

To this end, SCAG has completed an ambitious Environmental Justice report that assesses the impacts of the 2012–2035 RTP/SCS on Environmental Justice population groups, and provides a set of measures for the potential mitigation of any adverse impacts.

SCAG's Environmental Justice Outreach

A key component of the RTP/SCS development process is seeking public participation. Public input from our Environmental Justice stakeholders helped SCAG prioritize and address needs in the region. As part of the Environmental Justice outreach effort, SCAG compiled a list of key stakeholders to be contacted regarding RTP/SCS programs and policies. This list is comprised of over 300 individuals and organizations involved with the 2008 RTP as well as additional stakeholders, such as the South Coast Air Quality Management District's (SCAQMD) Environmental Justice Working Group, which included new groups such as local community advocates, air quality interest groups, and unions.

SCAG maintains this list regularly and allows interested persons to sign-up online for the mailing list.

SCAG held two Environmental Justice workshops and convened focus groups on the Environmental Justice analysis to ensure that all members of the public have an opportunity to participate meaningfully in the planning process. All the workshops were properly noticed and advertised. A majority of the region's Environmental Justice organizations were represented at both workshops. In addition to the special Environmental Justice workshops, SCAG held a workshop for Resource Agencies during development of the RTP/SCS, where Environmental Justice was a primary focus. Furthermore, Environmental Justice stakeholders have been involved throughout the planning process. On June 24, 2010, SCAG held a workshop to review the planning process and familiarize the participants with the Environmental Justice analysis process. The workshop drew representatives of all major Environmental Justice groups throughout the region, with video conferencing made available from SCAG's regional offices. Attendance totaled 37 participants.

The following is a summary of the main topics discussed at the workshop:

- SCAG was requested to give a presentation on the agency's transportation modeling process
- The Environmental Justice analysis should include baseline data of major issues facing the region
- Public health was identified as a topic that should be further analyzed
- A Housing plus transportation affordability index should be included in the analysis
- Gentrification should be addressed, particularly with SB 375's emphasis on transit oriented development

As a result of these workshops, SCAG determined that new analysis areas were necessary to capture the concerns raised from our stakeholders. These new areas are discussed in greater depth below and include impacts from rail transportation, gentrification and displacement, pollution exposure along heavily traveled corridors, and impacts from revenue generating mechanisms such as user based VMT fees.

On June 30, 2011, SCAG held a follow-up workshop to discuss the proposed new analysis areas with our stakeholders and to seek further input. In response to comments from the first workshop, SCAG also included a summary of the modeling process. This workshop drew participants (45 in total) to all six regional offices (Ventura, San Bernardino, El Centro, Orange, Riverside and Downtown Los Angeles).

The participants provided thoughtful comments and feedback on SCAG's proposed analysis and planning process including:

- Particulate Matter ($PM_{2.5}$) should be analyzed in the Environmental Justice report
- The Environmental Justice community should be included early in the decision-making processes and advisory committees
- The report should identify communities of concern and compare those areas with the location of investments
- Maps should be produced to show long range trip projections compared to system capacity
- Housing should be included in the performance measures, including housing/jobs fit (costs vs. wages)
- The impacts of freight movement should be analyzed and mitigated

In response to comments made at the workshop, SCAG followed up by organizing focused meetings to further discuss methodology and ensure that it addressed the concerns raised by our Environmental Justice stakeholders. Participants were also urged to attend subsequent public workshops. Many of those who attended the Environmental Justice workshops also attended the RTP/SCS workshops. Furthermore, to address the comments made during SCAG's workshops, the Environmental Justice analysis has been updated from prior years as follows:

- Focus more on non-motorized transportation
- Identify and quantify the primary Environmental Justice challenges in transportation in the region including the development of a baseline for key issues such as poverty, exposure to pollutants, and concentration of pollutants
- Bring public health to the forefront—focus on pollutants and cancer concentration in communities of concern
- Begin to analyze potential gentrification impacts from urban infill and transit oriented development

- Provide an Environmental Justice mitigation toolbox with recommended mitigation measures for subsequent projects

Summary of Performance Measures and Technical Approach

Performance Measures

In the development of this report, SCAG identified eleven performance measures to analyze existing social and environmental equity in the region and to address the impacts of the 2012–2035 RTP/SCS on various Environmental Justice population groups. Detailed analysis is presented for the following eleven performance measures:

1. RTP/SCS Revenue Sources In Terms of Tax Burdens
2. Share of Transportation System Usage
3. RTP/SCS Investments
4. Impacts of Proposed VMT Fees
5. Distribution of Travel Time Savings and Travel Distance Reductions
6. Jobs-Housing Imbalance or Jobs-Housing Mismatch
7. Accessibility to Employment and Services
8. Accessibility to Parks
9. Gentrification and Displacement
10. Environmental Impact Analyses (Air, Health, Noise)
    a. Air Quality and Health Impacts
        - Historic Performance At the Regional Level
        - Environmental Impacts along Freeways and Highly Traveled Corridors
        - Environmental impacts of Plan and Baseline Scenarios
    b. Noise impacts
        - Aviation
        - Roadway
11. Rail-related Impacts

As a precursor to the discussion regarding the eleven performance measures, an introductory analysis is also provided on the historical/projected growth and geographic distribution of various Environmental Justice population groups in the region.

Summary of Analysis

Overall, the Plan results in air quality improvements for Southern California and improves Environmental Justice in the region by providing equitable benefits for various population groups according to income and ethnicity.

RTP REVENUE SOURCES IN TERMS OF TAX BURDENS, VMT FEES, SHARE OF TRANSPORTATION USAGE, RTP/SCS INVESTMENT

The analysis shows that the 2012–2035 RTP/SCS revenue sources (taxable sales and gasoline taxes) and investments are allocated equitably along with the transportation usage by income and ethnicity groups. While both sales and gasoline taxes are regressive—lower income groups pay a larger percentage of their income on these taxes than higher income groups—the mileage-based user fee transportation finance system corrects, to some extent, the regressive nature of the gasoline tax.

TRAVEL TIME AND TRAVEL DISTANCE SAVINGS

Share of travel time savings by income group is generally consistent with each group's mode usage. Higher income quintile groups with frequent auto usage captured more savings in person-hours traveled. However, lower income groups with higher transit usage received more benefits from transit related time savings. Person-mile travel changes are also in line with auto usage by income group. Share of travel time savings and person-mile benefits by ethnic groups are also very balanced, and in line with each ethnic group's use of the transportation system.

JOB HOUSING IMBALANCE OR JOB-HOUSING MISMATCH

This Appendix focuses its analysis on one segment of the job-housing imbalance or mismatch: the inter-county commuters. Statistics indicate that, almost without exception, all inter-county commuters command much higher wages than those commuters who work and live in the same county. Those commuters are able to command wages higher than

workers who work and reside in their destination work counties. From an Environmental Justice perspective, this research does not provide definitive results. Rather, it raises additional questions that could be investigated further to better understand how jobs, workers, housing, and associated income distribution could impact travel patterns of low-income and minority populations.

A strong case could be made for imposing the mileage-based charges to the net inter-county commuting VMT (total inter-county commuting VMT—estimated VMT to reach the county line) to address transportation funding needs and relieve congestion. Further research is needed to investigate the jobs-housing imbalance and jobs-housing mismatch issues and related policy implications more carefully.

ACCESSIBILITY TO EMPLOYMENT AND SERVICES:

Most ethnic groups, lower income quintile households, and people in poverty live in areas with higher than average accessibility to medical facilities, and grocery/general merchandise stores. These observations support the observation that because transportation and long distance travel are expensive, less affluent people will choose residential locations where they can walk, bike, or take transit to access jobs, shopping, or other essential services. The priority policy is to create job and various opportunities for less affluent people near transit or urban cores.

The analysis also indicates that several minority population groups—Non-Hispanic Native Americans, Non-Hispanic Black and others, elderly and disabled—have "very slightly" below average accessibility to either medical services or grocery/general merchandise stores as those observed for Non-Hispanic White and higher-income quintile households. Since there is no mobility element in this analysis, the primary cause could be the residential locations of these population groups relative to the opportunities located in surrounding areas. It is recommended to conduct additional monitoring and study to better understand the accessibility issues for these four Environmental Justice groups (Non-Hispanic Native Americans, Non-Hispanic Black and others, elderly and disabled).

JOB AND SHOPPING ACCESSIBILITY/OPPORTUNITY

The elderly population show only above average accessibility to job opportunities by auto; all other measures come out slightly below average for both job and shopping accessibility. Staff plan to research and study further about residential location and land use in the surrounding areas for this age group, particularly because the region is facing an aging population in the next 20–25 years.

In general, lower income quintile households and population below poverty all showed higher job and shopping accessibility in base year 2008 under every transportation mode. As is the case with distance-based accessibility, non-Hispanic Native Americans and non-Hispanic other, similar to non-Hispanic White, have below average accessibility in both job and shopping accessibility. Nonetheless, through the implementation of recommended strategies in the 2012–2035 RTP/SCS, the elderly, non-Hispanic Native Americans and non-Hispanic others will experience much better improvements than the average population in both job and shopping opportunities.

ACCESSIBILITY TO PARKS

Park accessibility statistics indicate that park accessibility by transit is much lower than by automobile for all groups. This is true for all parks—national, state, or local parks. By transit, there is almost no access to national parks, and very limited access to state parks in all scenarios—base year 2008, baseline, or under the Plan.

In addition to elderly, non-Hispanic Native Americans and non-Hispanic other, further analysis should also focus on non-Hispanic blacks where their park accessibility by auto is below the average for all parks. However, the 2012–2035 RTP/SCS provides improvements for these population groups more than accessibility changes for the rest of the region's population groups.

DISPLACEMENT AND GENTRIFICATION

Based on a review of relevant literature, seven indicators were selected to assess early signs of likely effects of displacement or gentrification through growth in the High Quality Transit Areas (HQTA) or Transit Oriented Communities (areas surrounding rail transit stations) with the 2000 Census and 2005-09 American Community Survey (ACS) data. These indicators include: Percent of minority population, Poverty rate, Share of 65+ population, Percent of households without a car, Percent of non-English speaking, Population without a high school diploma, and Percent of renters.

As indicated in this EJ report, trends observed in those key indicators showing evidence of likely presence of displacement and gentrification from the 2000 Census and 2005-09

American Community Survey (ACS) in areas of transit oriented developments (TODs) are inconclusive. SCAG will continue to evaluate and monitor information based on the framework presented in previous analysis.

ENVIRONMENTAL IMPACT ANALYSIS (AIR, HEALTH, NOISE)

Existing Air Quality and Health Impacts

The region's air quality continues to improve in the last 40 years, and the implementation of the strategies recommended in the 2012–2035 RTP/SCS will contribute significantly in the future to reduced emissions, further improved air quality, and bringing a healthy and livable environment to all people in the region. EJ analysis results are shown for both ozone and PM2.5 during two time periods: 2004-06 and 2007-09. For the years 2007-09, compared with air quality in 2004-06, consistent with the trends, there are reductions across the board for both ozone and particulate emissions at both the regional level and for each EJ population groups.

However there are EJ areas where the region needs to improve in the future. For example, In terms of ozone emissions, all demographic groups are at or below the regional average for both average days exceeding federal ozone standards and average daily ozone exposure in excess of national standards. This, however, cannot be said for PM2.5 emissions, where each demographic group except the elderly population is in excess of the regional average for average annual PM2.5 exposure. This distributional impact of PM by EJ population appears also for cancer risk and respiratory risk, with each group exceeding the regional average except for the elderly population.

Emissions and Health Impacts from the Plan

This section compares regional CO and PM emissions that will result in 2035 through the implementation of the Plan. Regarding existing population and future growth along Freeway 500 feet buffer areas, it should be noted that currently the level of emissions near these facilities is substantially higher than in the region as a whole. In 2035, these areas still will have higher emissions than the region as a whole. However, while regional emissions overall decreased between now and 2035, the rate of decrease near freeways and high volume roads is even greater. The RTP/SCS does result in an increase in population in these locations, and as such health risk is higher for these individuals than if they were not in the buffer area. Subsequent project level analysis and mitigation should be cognizant of on-going health concerns. However, the plan as a whole shows benefits for emissions exposure and decreased levels of risk in areas near freeways. The findings are available in the Environmental Justice Appendix. Also, Environmental Justice information for areas within 1,000 feet of freeways and highly traveled corridors is available as additional analysis at the end of the Appendix.

RAIL RELATED IMPACTS

In response to input and comment from SCAG's federal partners, staff developed a first step analysis framework in conducting rail related Environmental Justice assessment for both current 2012–2035 RTP/SCS and for future RTPs. The EJ Appendix presents a "train traffic index" from both freight and passenger rail traffic data along the region's rail corridors. Environmental Justice Communities, population, and sensitive receptors were identified and mapped for various buffer areas along the rail corridors. Finally, the existing and projected impacts (delay, emissions, and accident reductions) from grade separation projects are presented which will benefit primarily the EJ communities along the rail corridors.

Technical Approach

The following section summarizes the technical approach employed for the 2012–2035 RTP/SCS Environmental Justice analysis. Detailed methodologies explaining SCAG's approach to assessing impacts for each performance measure are available within their respective sections.

SCAG has established itself as a leader in Environmental Justice analyses and has been previously recognized for its technical approach to understanding the benefits and burdens of the agency's regional plan. Each planning cycle presents new and emerging concerns for the region to address. For example, in the 2008 RTP, SCAG analyzed accessibility to public parks including the distribution of parks by income and park accessibility by travel mode and income. In keeping with the trend of developing robust environmental analyses, the current RTP/SCS analyzes Environmental Justice population groups and their distribution along rail corridors, exposure to pollutants along heavily traveled corridors, gentrification and displacement, and impacts from revenue generating mechanisms such as a VMT fee. As with previous RTPs, the goal of the 2012–2035 RTP/SCS is to

ensure that when transportation decisions are made, low-income and minority communities have ample opportunity to participate in the decision-making process and receive an equitable distribution of benefits rather than a disproportionate share of burdens.

THE 2012–2035 RTP/SCS PLAN VERSUS BASELINE

The comparison of the Plan versus Baseline is the primary focus of the Environmental Justice analysis for the 2012–2035 RTP/SCS. The basic concept is to compare the performance of the Plan to the Baseline scenario for 2035. For the purposes of this analysis, the Plan represents the selected strategy to guide the region's transportation planning over the next decades. Baseline is defined as the set of all projects and investments currently underway or for which funds are already committed. Baseline represents "business as usual" and assumes current land use trends and the completion of projects currently under construction or with available funding for construction over the next few years. Tools and data for the analysis is based on SCAG's regional travel demand model.

IDENTIFYING DEMOGRAPHIC GROUPS

Identifying low-income and minority populations is necessary both for conducting effective public participation and for assessing the distribution of benefits and burdens of transportation plans and projects. For the purposes of this analysis, SCAG focused on all low-income groups and minority populations. Executive Order 12898 and the DOT and FHWA Orders on Environmental Justice define "minority" as persons belonging to any of the following groups, as well as "other" categories that are based on the self-identification of individuals in the U.S. Census:[1] Black, Hispanic, Asian, and American Indian and Alaskan Native. SCAG based its analysis on the latest census data for ethnic/racial groups in the SCAG region at the census tract level and by transportation analysis zone (TAZ).

The poverty classification is a federally established income guideline used to define persons who are economically disadvantaged as outlined by the U.S. Department of Health & Human Services guidelines.[2] The poverty level applicable to the SCAG Region is chosen on the basis of regional average household size for the census year. For example, for a regional mean of 2.98 persons—rounded to 3—per household, the threshold would consist of the sum of the value for the first person plus two additional people. The household counts in each income range are then used to determine the number and percentage of households in each census tract below the poverty level. In 2010, a family of three earning less than $17,374 was classified as living in poverty.[3]

TABLE 1 lists the demographic categories that are used in SCAG's Environmental Justice analysis. As noted above, this report refers to the areas with meaningfully greater populations based on these demographic categories as "Environmental Justice Communities."

In addition to complying with federal guidance, SCAG also conducts income equity analyses by breaking down total regional income figures into five income quintiles. A quintile, by definition, is a category into which 20 percent of the ranked households fall. For each new analysis, SCAG defines regional income quintiles based on the most recent census data on household income. Once the income quintiles are established, the incidence of benefits and costs can be estimated and compared across these income categories for multiple data sets. Examples include the number of income tax returns, households, workers/commuters, and consumer units. From statistics provided by the US Census Bureau, the Bureau of Labor Statistics (BLS), Bureau of Transportation Statistics (BTS), and the National Household Travel Survey (NHTS), staff produced various distributions by income quintile, which were further allocated by ethnic groups within each income quintile. Moreover, behavioral differences determined primarily by income levels—categorized by income quintile—are processed for mode usages by trip purposes—work versus non-work, consumer expenditures by categories—taxable items and gasoline, adjusted gross income, tax paid, etc. With the framework and information described above, key Environmental Justice determinants, with respect to major policy instruments for the 2012–2035 RTP/SCS, can be allocated to geographic areas based on various mode usage distributions by income quintile and its share of household counts at areas as small as Tier 2 Transportation Analysis Zones (TAZs) (11,000+ zones equivalent to census block groups).

Using the 2005–09 American Community Survey (ACS), SCAG staff produced a regional household distribution by income quintile. In addition, the ethnic distribution within each

1 Department of Transportation, Federal Highway Administration. Environmental Justice Emerging Trends and Best Practices Guidebook, Document Number: FHWA-HEP-11-024. August 2011.

2 Department of Transportation, Federal Highway Administration. Environmental Justice Emerging Trends and Best Practices Guidebook, Document Number: FHWA-HEP-11-024. August 2011.

3 Weighted average threshold. U.S. Census Bureau. Poverty Thresholds, available at http://www.census.gov/hhes/www/poverty/data/threshld/index.html

income quintile was also provided through the processing of ACS data. Examples are illustrated in the following Tables and Graphs.

TABLE 1 Demographic Categories

Ethnic/Racial/Other Categories (persons)	Income Categories (Households)
White (Non-Hispanic)	Below Poverty Level
African-American	Income Quintile 1 (lowest)
American Indian	Income Quintile 2
Asian/Pacific Islander	Income Quintile 3
Hispanic (Latino)	Income Quintile 4
Other Racial Categories	Income Quintile 5
Disabled/Mobility Limited	
Age 65 and Above	
Non English speaking	
Individuals without High School Diploma	
Households without a car	
Foreign born population	
Young Children Age 5 or Under (Provided in Additional Analysis/Data)	
Sensitive Receptors: hospitals, daycare facilities, schools, senior centers, parks/open space	

TABLE 2 Income Distribution

Quintiles	Income Range
Quintile 1	$0 to $24,581
Quintile 2	$24,582 - $46,436
Quintile 3	$46, 437 - $73,554
Quintile 4	$73,555 - $99,999
Quintile 5	$100,000 and higher

Source: 2005–09 ACS, processed by SCAG Research, Analysis, and Information Services staff

TABLE 3 SCAG Region Household Distribution by Income Quintile: 2005–09 ACS

Area	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total Household
Imperial	15,411	11,320	8,625	6,925	4,124	46,405
Los Angeles	711,392	659,114	628,036	590,502	589,223	3,178,266
Orange	133,396	162,270	189,413	216,961	271,960	974,001
Riverside	123,795	134,950	136,237	138,473	111,730	645,185
San Bernardino	118,177	128,047	127,308	124,744	90,519	588,796
Ventura	35,795	42,266	48,346	60,361	70,410	257,178
SCAG	1,137,966	1,137,966	1,137,966	1,137,966	1,137,966	5,689,831

Source: 2005–09 ACS, processed by SCAG Research, Analysis, and Information Services staff

TABLE 4 SCAG Region Household Distribution by Income Quintile (%)

Area	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total Household
Imperial	33.2%	24.4%	18.6%	14.9%	8.9%	100%
Los Angeles	22.4%	20.7%	19.8%	18.6%	18.5%	100%
Orange	13.7%	16.7%	19.4%	22.3%	27.9%	100%
Riverside	19.2%	20.9%	21.1%	21.5%	17.3%	100%
San Bernardino	20.1%	21.7%	21.6%	21.2%	15.4%	100%
Ventura	13.9%	16.4%	18.8%	23.5%	27.4%	100%
SCAG	20.0%	20.0%	20.0%	20.0%	20.0%	100%

Source: 2005–09 ACS, processed by SCAG Research, Analysis, and Information Services staff

FIGURE 1 SCAG Region Household Distribution by Regional Income Quintile (2005–09 ACS)

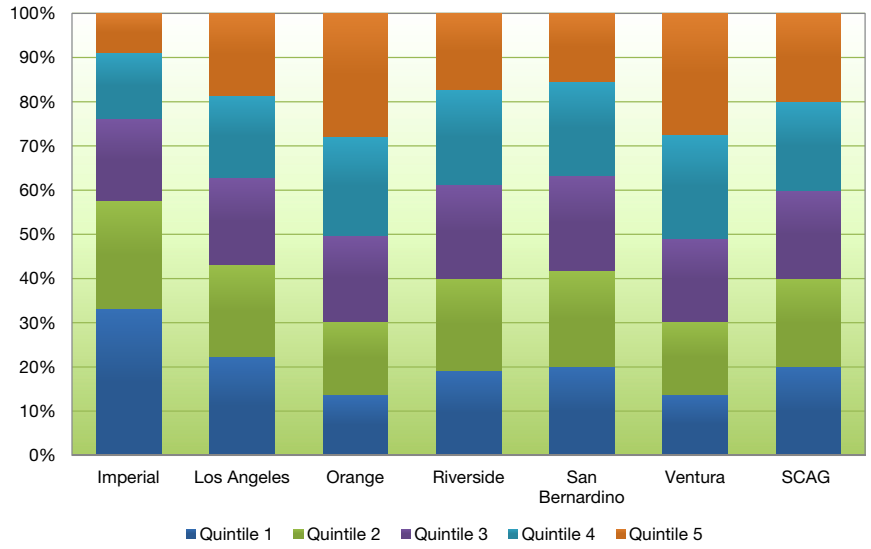


FIGURE 2 SCAG Region Hispanic Household Distribution by Regional Income Quintile (2005–09 ACS)

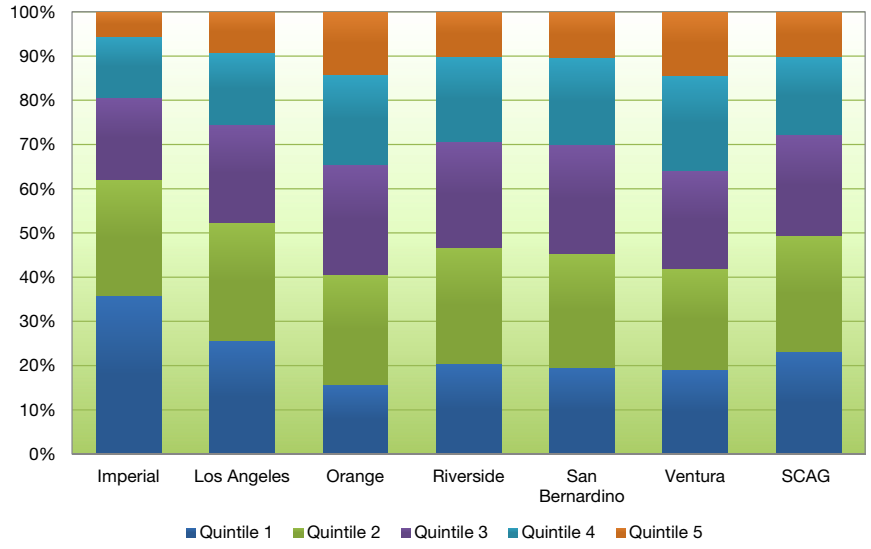
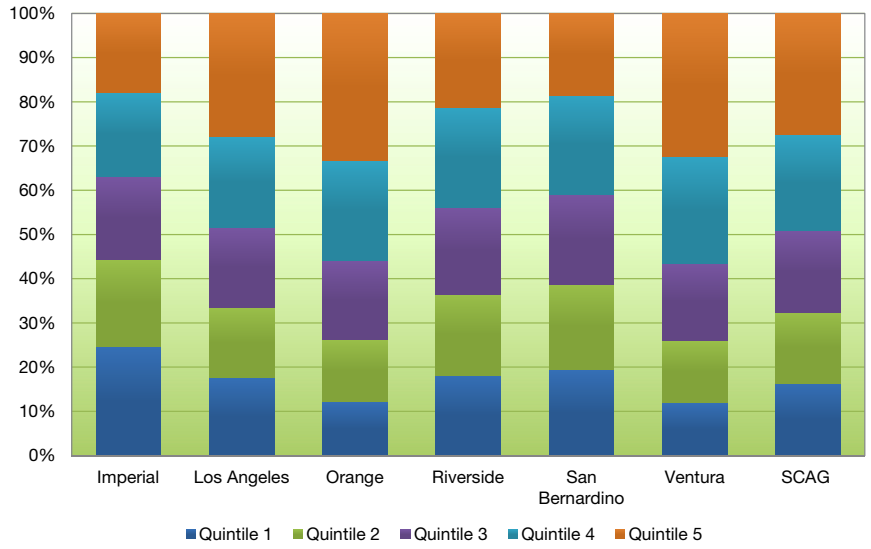


FIGURE 3 SCAG Region Non-Hispanic White Household Distribution by Regional Income Quintile (2005–09 ACS)



Snapshot of the Region

Existing Conditions and Growth from 2000 to 2005–09

This section describes existing conditions for various population groups in the region and is a new addition to SCAG's traditional Environmental Justice and Title VI Analysis. This section represents a significant effort and improvement in expanding the scope of SCAG's analysis.

In response to stakeholders' desires to understand the nature and geography of communities with high concentrations of minority, underserved, and low income groups, this section will identify clusters of Environmental Justice populations throughout the region and will provide data on their historical growth and interaction with the physical environment (emissions, air quality, and health outcomes). In addition, data will also be presented on Environmental Justice implications of jobs-housing balance and mismatch.

Introduction of the data

The most reliable source for demographic data at multiple geographies in the SCAG region is the US Census Bureau. In order to identify and analyze trends in population at the local and regional levels, two Census derived datasets will most often be compared in this analysis. Historical information for the year 2000 will be taken from the US Decennial Census. Due to the breadth of information available at small area geographies, the 2005–09 American Community Survey (ACS) will be used to illustrate existing conditions in the SCAG region. The five years of data available in the 2005-09 ACS allow SCAG to make statistically valid comparisons to other data elements.

Regional Demographics

Between the years 2000 to 2005–09, population in the SCAG region grew to 17,737,412, a 7 percent increase from the year 2000. When this figure is broken down by race and ethnicity, it can be seen that much of this growth can be attributed to significant population gains in some groups. Most notably, the Hispanic population in the SCAG region increased by 1,133,559 (17 percent) from 2000 to 2005–09. Asians and Pacific Islanders also experienced a significant increase over this period, with population growing by 329,022 (19 percent). More individuals also identified themselves as some "other" race in 2005–09 than was seen in the year 2000. The population of African Americans grew slightly by 2,076, while Whites and Native Americans experienced population decreases during this period. The following tables go into greater detail on the population trends from 2000 to 2005–09.

This analysis also includes information on immigration, language, age, education, poverty, income, and transportation characteristics throughout the region. In terms of immigration, the population of foreign born individuals in the SCAG region grew from 5,113,398 in 2000 to 5,454,808 in 2005–09—an increase of 341,410 or 7 percent. The proportion of immigrants in the total population remained constant during this period at 31 percent. The non-English speaking population also grew from 668,601 to 787,192—an increase of 98,591 or 14 percent. The number of elderly individuals over 65 years of age increased as well, with this cohort growing by 201,901 or 12 percent. In terms of poverty, there has been a decrease of 144,234 in the number of people below the poverty line—a 6 percent decrease. Educational attainment has also seen promising figures, with the instances of individuals not having a high school diploma decreasing by 144,234 to 2,517,107 for 2005–09. This 9 percent overall decrease caused the percentage of individuals without high school diplomas in the total population to decline from 27 percent in 2000 to 22 percent in 2005–09.

Households grew in the SCAG region by 7 percent from 5,386,491 in 2000 to 5,689,831 in 2005–09. Median household income experienced a decline by 1 percent during these years and decreased from $66,240 in 2000 to $65,844 for 2005–09. Additional information on the breakdown of income by quintiles and demographic groups at the county level is shown in **TABLES 6** through **9** . The number of households without vehicles decreased during this period by 22 percent, from 542,242 in 2000 to 421,240 in 2005–09.

TABLE 5 Environmental Justice Variables and Demographic Changes in the SCAG Region (2000 to 2005–09)

	2000	% of Total	2005–09	% of Total	Difference from 2000 to 2005–09	% Change
Total Population	**16,516,006**		**17,737,412**		**1,221,406**	**7%**
Ethnicity						
Hispanic	6,704,219	41%	7,837,778	44%	1,133,559	17%
Non-Hispanic	9,811,787	59%	9,899,634	56%	87,847	1%
Race (Non-Hispanic)						
Asian and Pacific Islander	1,721,035	10%	2,050,046	12%	329,011	19%
African American	1,188,900	7%	1,190,976	7%	2,076	0%
White	6,392,825	39%	6,243,089	35%	-149,736	-2%
Native American	61,145	0%	54,298	0%	-6,847	-11%
Other	447,882	3%	656,357	4%	208,475	47%
Immigration						
Foreign Born Population	5,113,398	31%	5,454,808	31%	341,410	7%
Language						
Non-English Speaking Population*	688,601	4%	787,192	5%	98,591	14%
Age						
Population 65+ Years	1,636,153	10%	1,838,054	10%	201,901	12%
Education						
Individuals without High School Diploma (or equivalent)**	2,759,140	27%	2,512,107	22%	-247,033	-9%
Poverty						
Individuals in Poverty	2,539,791	15%	2,395,557	14%	-144,234	-6%
Households	**5,386,491**		**5,689,831**		**303,340**	**6%**
Income						
Median Household Income	$50,922		$65,884			
Transportation						
Households without Vehicles	542,252	10%	421,240	7%	-121,012	-22%

** Non-English speaking population is measured for individuals 5 years of age or older*
*** Figures for education is constrained to individuals 25 years of age or older*
Sources: SCAG, 2000 Census, 2005–09 American Community Survey

TABLE 6 Income Quintiles and Median Household Income by County for 2000 and 2005–09
Title VI/Environmental Justice Considerations for the 2012–2035 RTP/SCS: 2000 Census

County	Population	Households	Age 65 & Above	Median Household Income	Income Quintile 1	Income Quintile 2	Income Quintile 3	Income Quintile 4
Imperial	142,361	39,384	14,516	$34,922	12,192	9,447	7,964	6,045
Los Angeles	9,519,338	3,133,774	926,970	$48,028	705,404	653,189	612,701	581,726
Orange	2,846,289	935,287	278,805	$64,100	114,539	153,390	185,621	217,898
Riverside	1,545,387	506,218	194,833	$45,857	104,378	109,229	107,974	104,320
San Bernardino	1,709,434	528,594	145,447	$45,091	111,781	114,712	115,741	109,091
Ventura	753,197	243,234	75,582	$63,344	29,905	38,230	48,197	59,118
SCAG	16,516,006	5,386,491	1,636,153	$50,922	1,078,198	1,078,198	1,078,198	1,078,198

County	Income Quintile 5	Population Under Poverty	Non-Hispanic Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Native American	Non-Hispanic Asian	Non-Hispanic Pacific Islander
Imperial	3,786	29,681	39,275	28,489	4,882	1,738	2,578	31
Los Angeles	583,259	1,674,599	5,275,851	2,946,145	891,194	26,141	1,123,964	24,376
Orange	264,706	289,475	1,969,838	1,455,470	40,153	8,735	383,977	8,005
Riverside	80,880	214,084	986,059	787,318	92,186	10,947	53,231	2,989
San Bernardino	77,514	263,412	1,039,532	749,224	147,488	10,249	77,205	4,601
Ventura	68,053	68,540	501,232	426,179	12,997	3,335	38,521	1,557
SCAG	1,078,198	2,539,791	9,811,787	6,392,825	1,188,900	61,145	1,679,476	41,559

County	Non-Hispanic Other	Hispanic Total	Foreign Born	Non-English Speaking	Households Without Car	Age 5 & Above	Age 25 & Over	Below High School
Imperial	1,557	103,086	45,783	11,163	4,367	131,530	83,632	34,258
Los Angeles	264,031	4,243,487	3,449,444	464,049	393,309	8,791,096	5,882,948	1,770,524
Orange	73,498	876,451	849,899	103,454	54,409	2,632,408	1,813,456	372,419
Riverside	39,388	559,328	293,712	43,559	35,832	1,425,927	936,024	234,473
San Bernardino	50,765	669,902	318,647	40,300	42,120	1,568,725	983,273	253,594
Ventura	18,643	251,965	155,913	26,076	12,215	697,367	471,756	93,872
SCAG	447,882	6,704,219	5,113,398	688,601	542,252	15,247,053	10,171,089	2,759,140

Source: 2000 Census and 2005–09 ACS, processed by SCAG Research, Analysis, and Information Service staff

TABLE 7 Income Quintiles and Median Household Income by County for 2000 and 2005–09
Title VI/Environmental Justice Considerations for the 2012–2035 RTP/SCS: 2000 Census

County	Population	Households	Age 65 & Above	Median Household Income	Income Quintile 1	Income Quintile 2	Income Quintile 3	Income Quintile 4
Imperial	0.9%	0.7%	10.2%	$34,922	31.0%	24.0%	20.2%	15.3%
Los Angeles	57.6%	58.2%	9.7%	$48,028	22.5%	20.8%	19.6%	18.6%
Orange	17.2%	17.4%	9.8%	$64,100	12.2%	16.4%	19.8%	23.3%
Riverside	9.4%	9.4%	12.6%	$45,857	20.6%	21.6%	21.3%	20.6%
San Bernardino	10.4%	9.8%	8.5%	$45,091	21.1%	21.7%	21.9%	20.6%
Ventura	4.6%	4.5%	10.0%	$63,344	12.3%	15.7%	19.8%	24.3%
SCAG Region Average	100.0%	100.0%	9.9%	$50,922	20.0%	20.0%	20.0%	20.0%

County	Income Quintile 5	Population Under Poverty	Non-Hispanic Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Native American	Non-Hispanic Asian	Non-Hispanic Pacific Islander
Imperial	9.6%	20.8%	27.6%	20.0%	3.4%	1.2%	1.8%	0.0%
Los Angeles	18.6%	17.6%	55.4%	30.9%	9.4%	0.3%	11.8%	0.3%
Orange	28.3%	10.2%	69.2%	51.1%	1.4%	0.3%	13.5%	0.3%
Riverside	16.0%	13.9%	63.8%	50.9%	6.0%	0.7%	3.4%	0.2%
San Bernardino	14.7%	15.4%	60.8%	43.8%	8.6%	0.6%	4.5%	0.3%
Ventura	28.0%	9.1%	66.5%	56.6%	1.7%	0.4%	5.1%	0.2%
SCAG Region Average	20.0%	15.4%	59.4%	38.7%	7.2%	0.4%	10.2%	0.3%

County	Non-Hispanic Other	Hispanic Total	Foreign Born	Non-English Speaking Share of Population 5 & Above	Households Without Car	Age 5 & Above	Age 25 & Over	Below High School Share of Population 25 & Over
Imperial	1.1%	72.4%	32.2%	8.5%	11.1%	92.4%	58.7%	41.0%
Los Angeles	2.8%	44.6%	36.2%	5.3%	12.6%	92.3%	61.8%	30.1%
Orange	2.6%	30.8%	29.9%	3.9%	5.8%	92.5%	63.7%	20.5%
Riverside	2.5%	36.2%	19.0%	3.1%	7.1%	92.3%	60.6%	25.0%
San Bernardino	3.0%	39.2%	18.6%	2.6%	8.0%	91.8%	57.5%	25.8%
Ventura	2.5%	33.5%	20.7%	3.7%	5.0%	92.6%	62.6%	19.9%
SCAG Region Average	2.7%	40.6%	31.0%	4.5%	10.1%	92.3%	61.6%	27.1%

Source: 2000 Census and 2005–09 ACS, processed by SCAG Research, Analysis, and Information Service staff

EXHIBIT 1 Elderly Population (Ages 65 and Over) in 2000

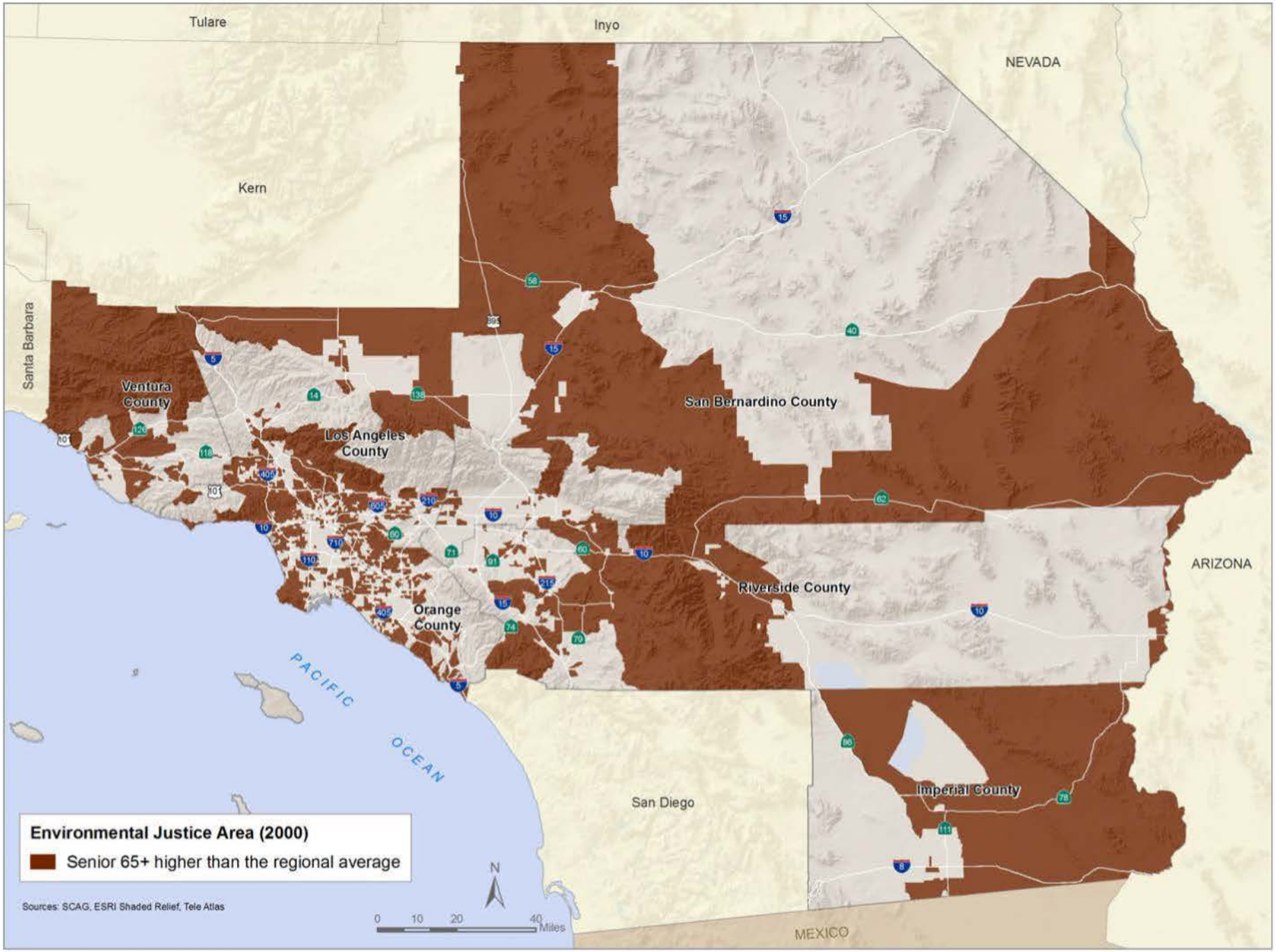


EXHIBIT 2 Elderly Population (Ages 65 and Over) in 2005–09

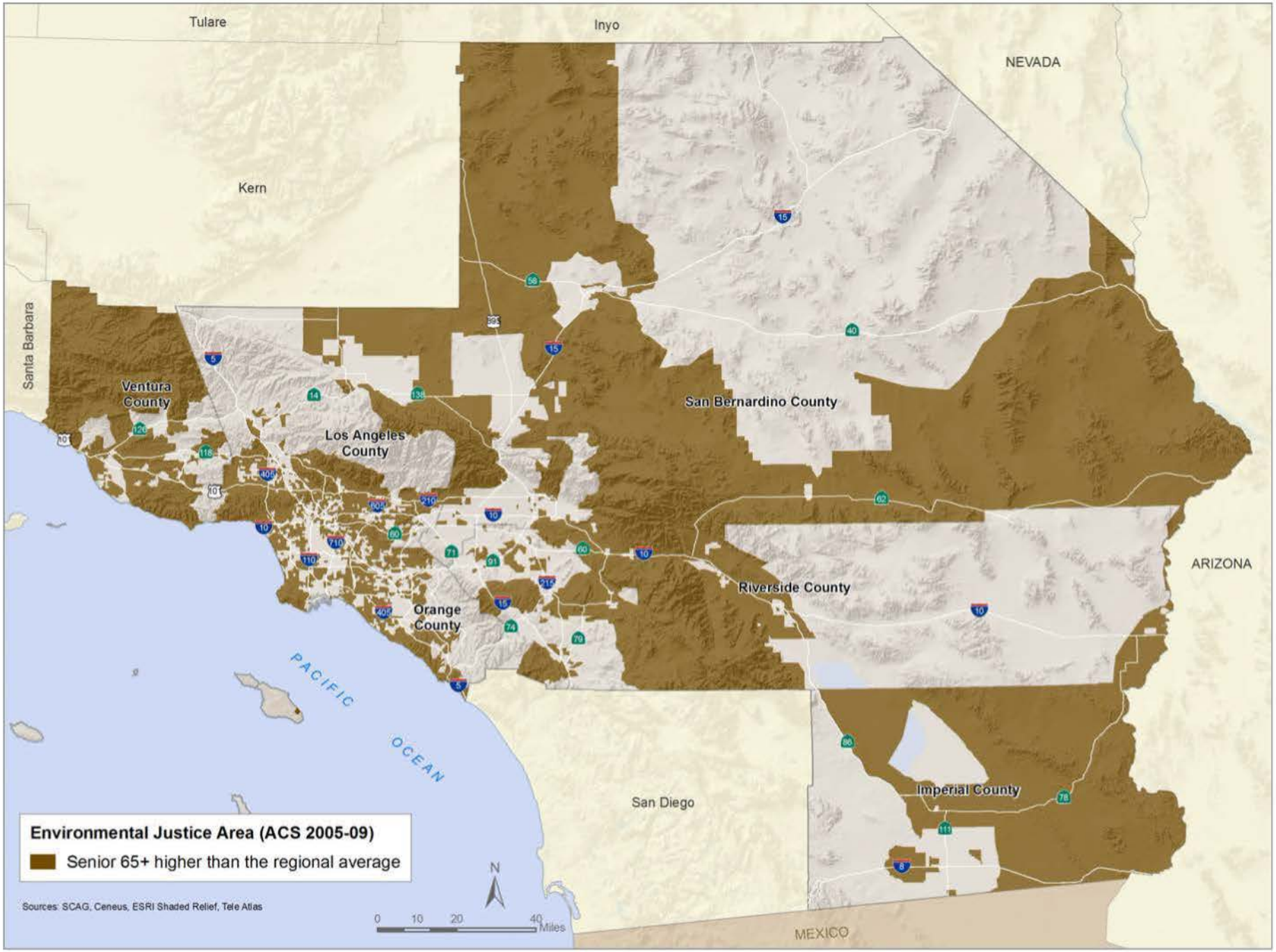


EXHIBIT 3 Poverty in 2000

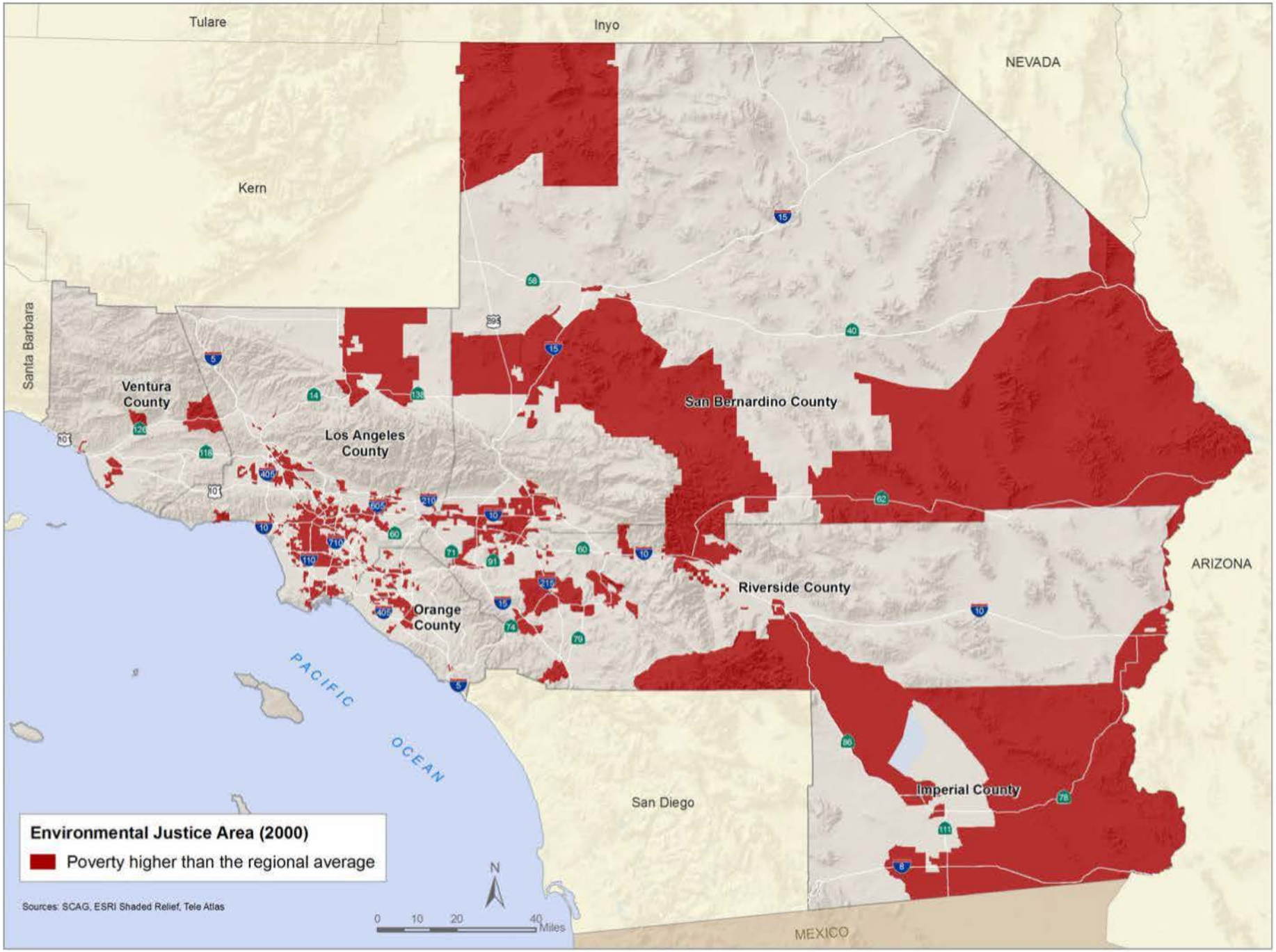


EXHIBIT 4 Poverty in 2005–09

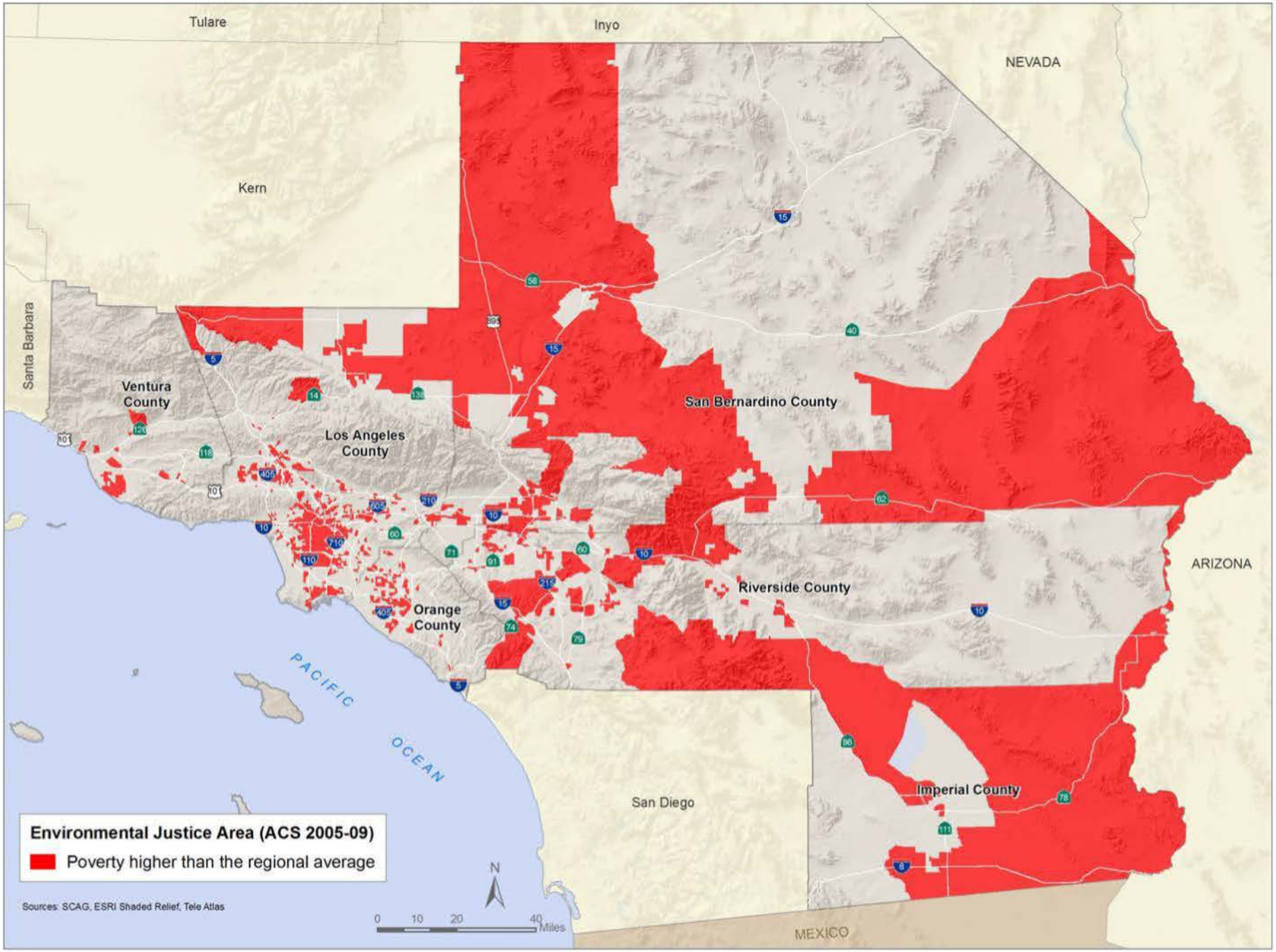


EXHIBIT 5 Minority Population in 2000

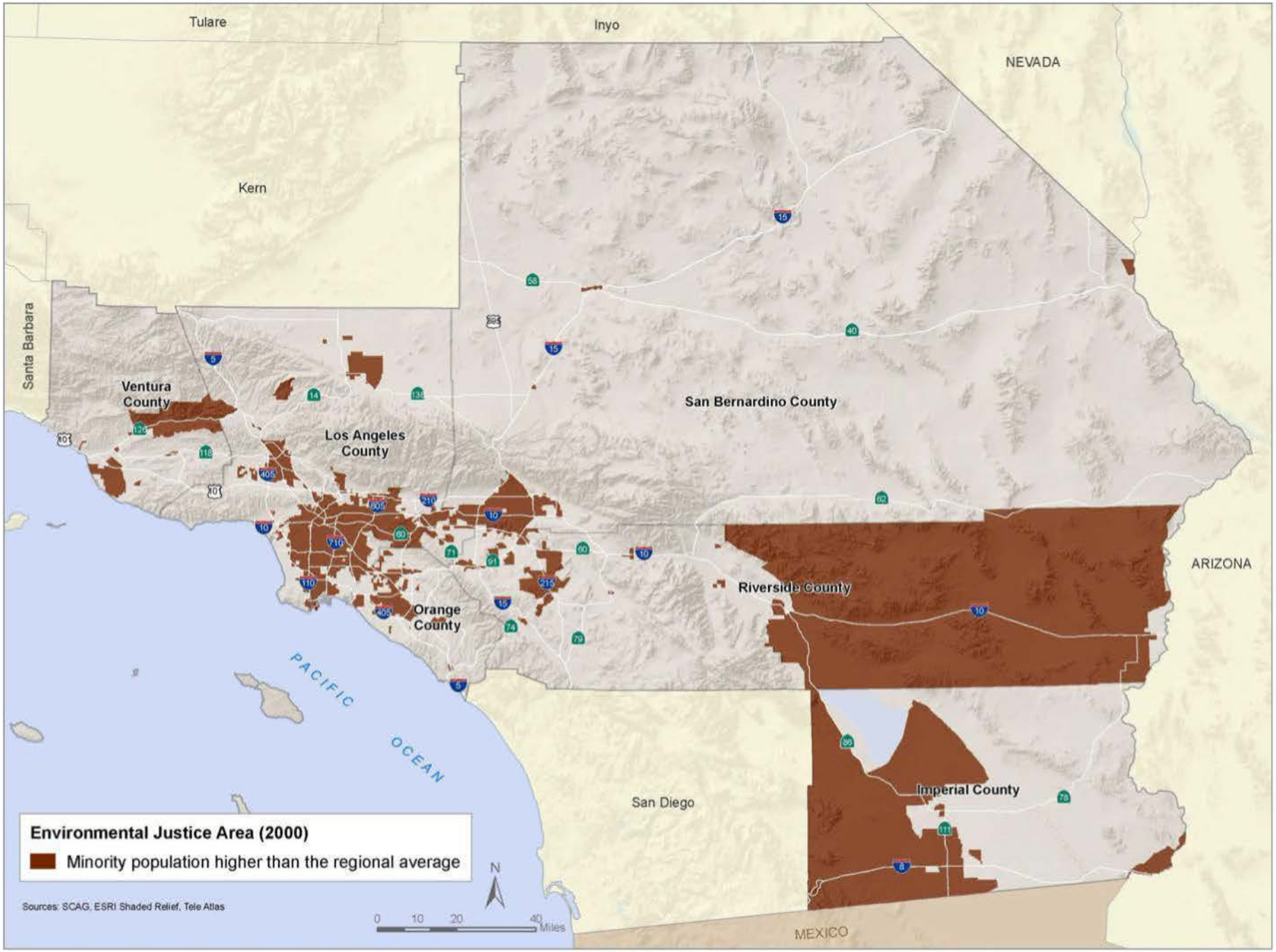


EXHIBIT 6 Minority Population in 2005–09

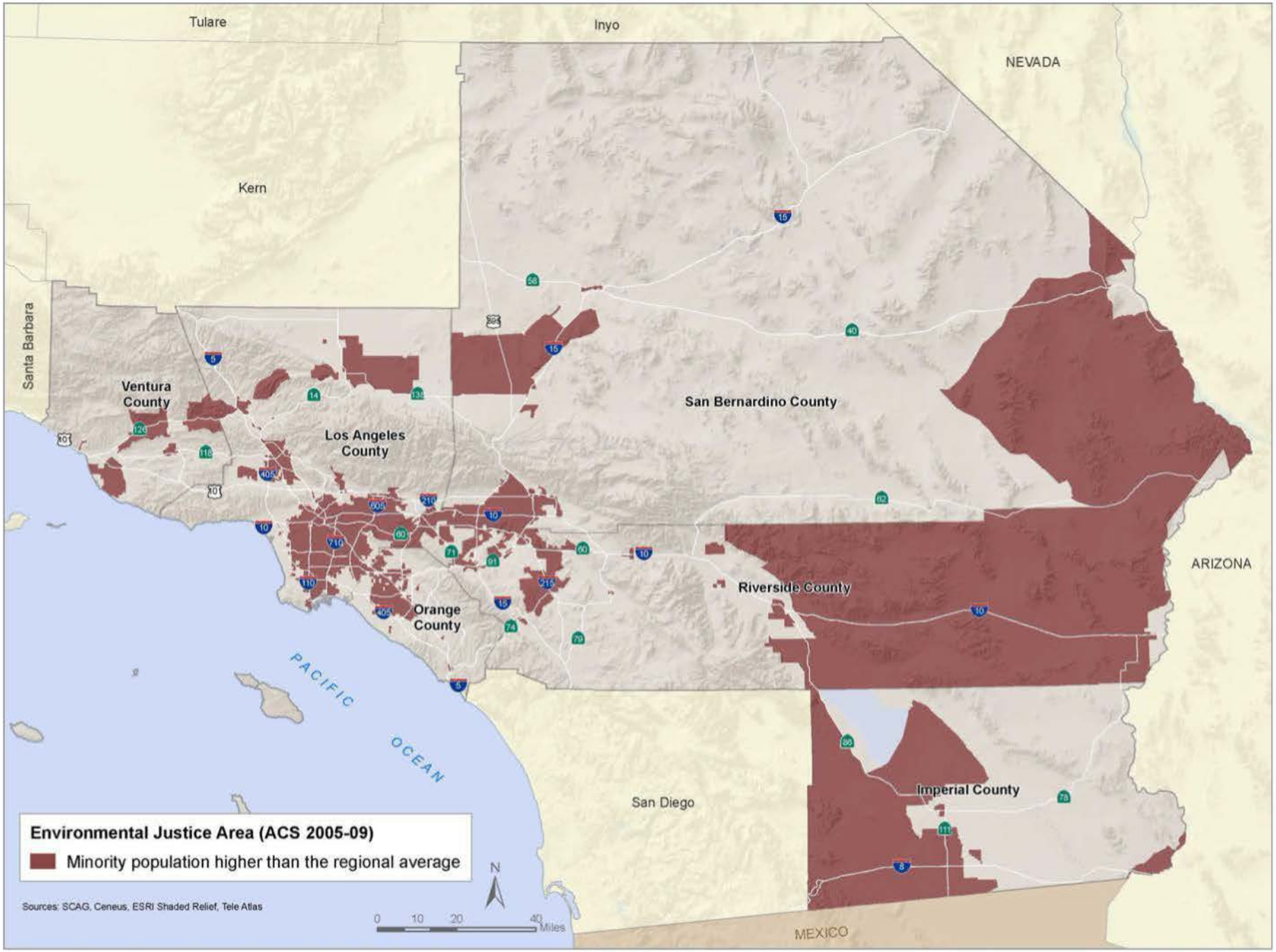


EXHIBIT 7 Foreign Born Population in 2000

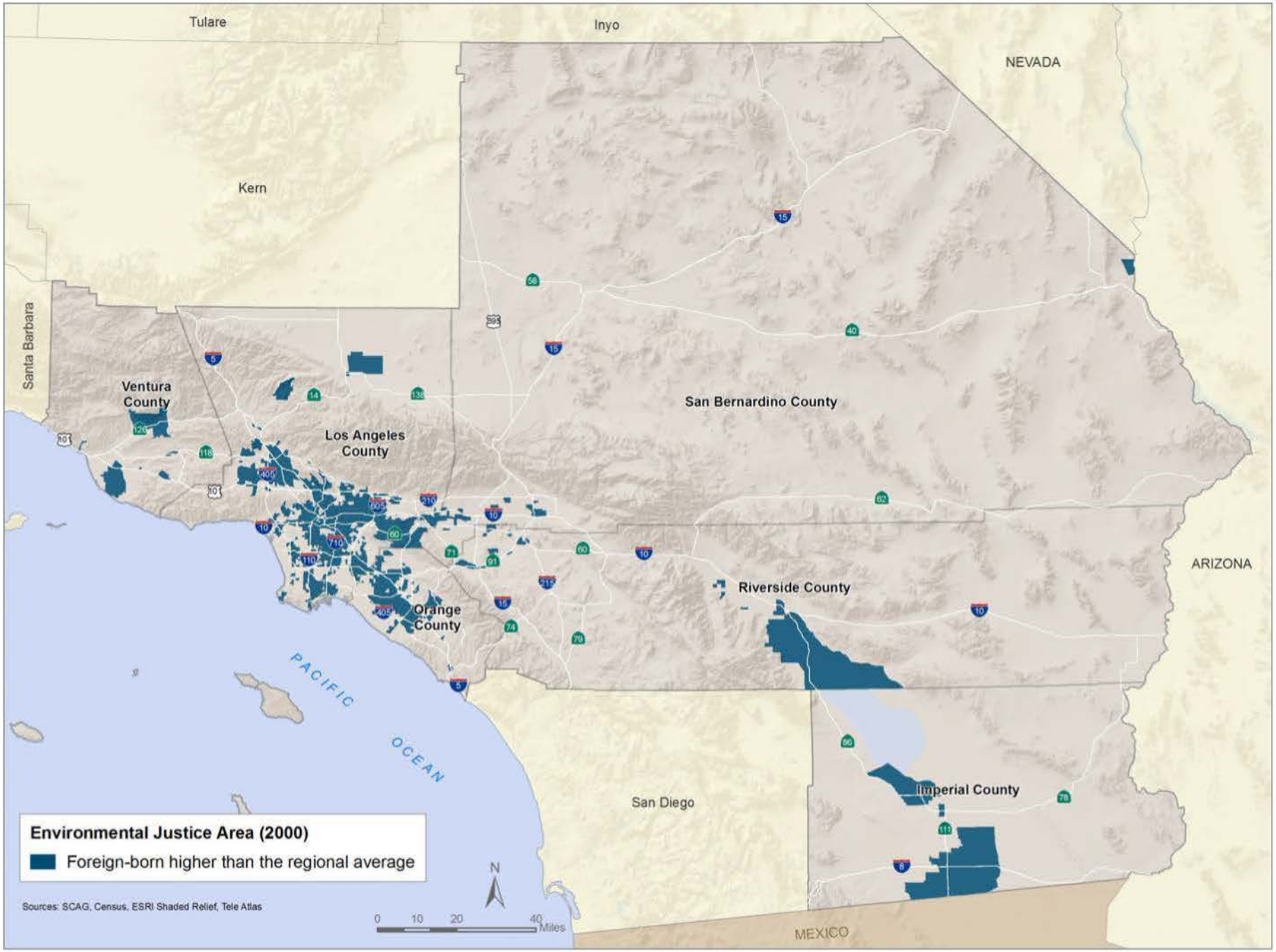


EXHIBIT 8 Foreign Born Population in 2005–09

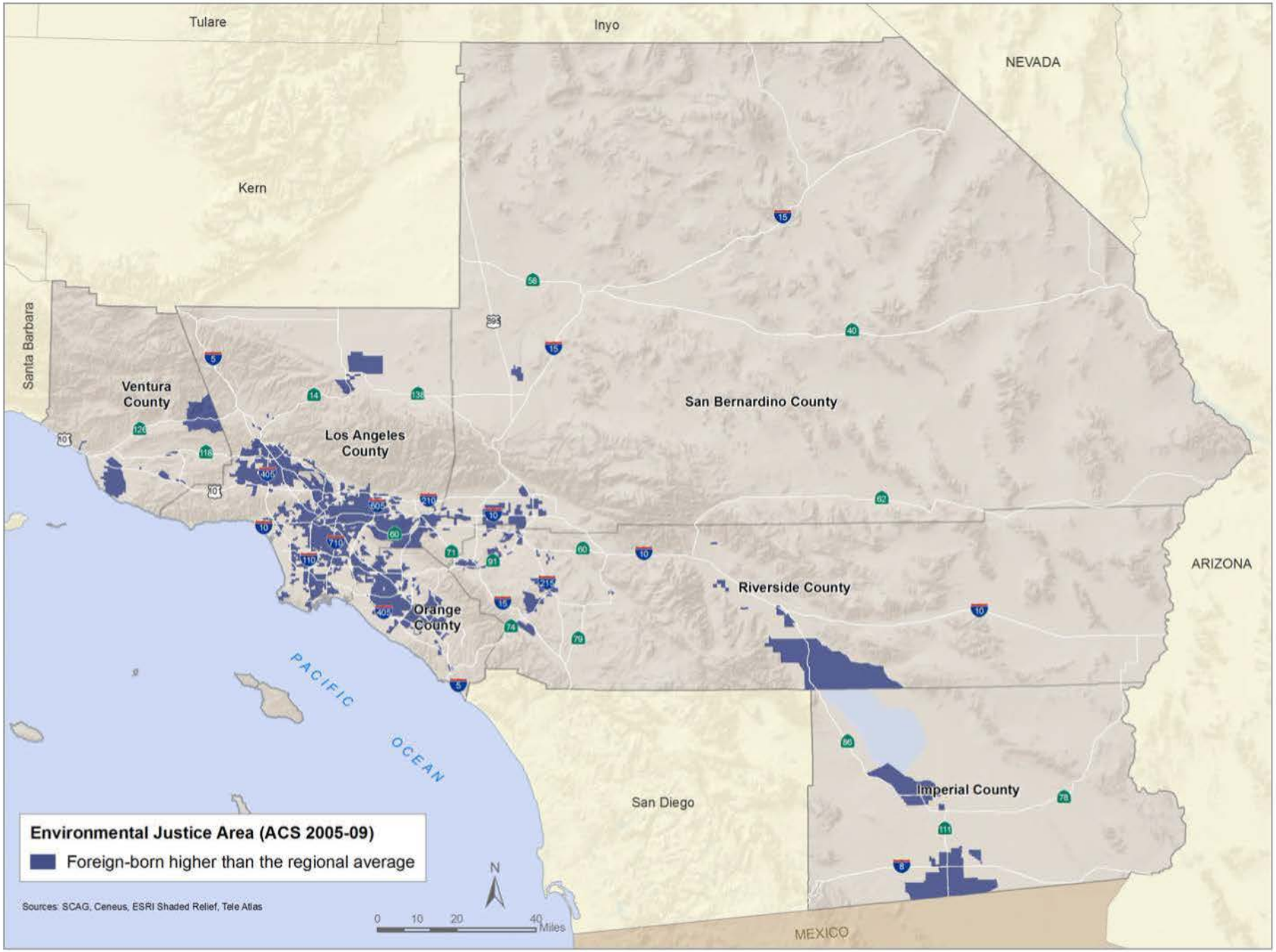


EXHIBIT 9 Non-English Speakers in 2000

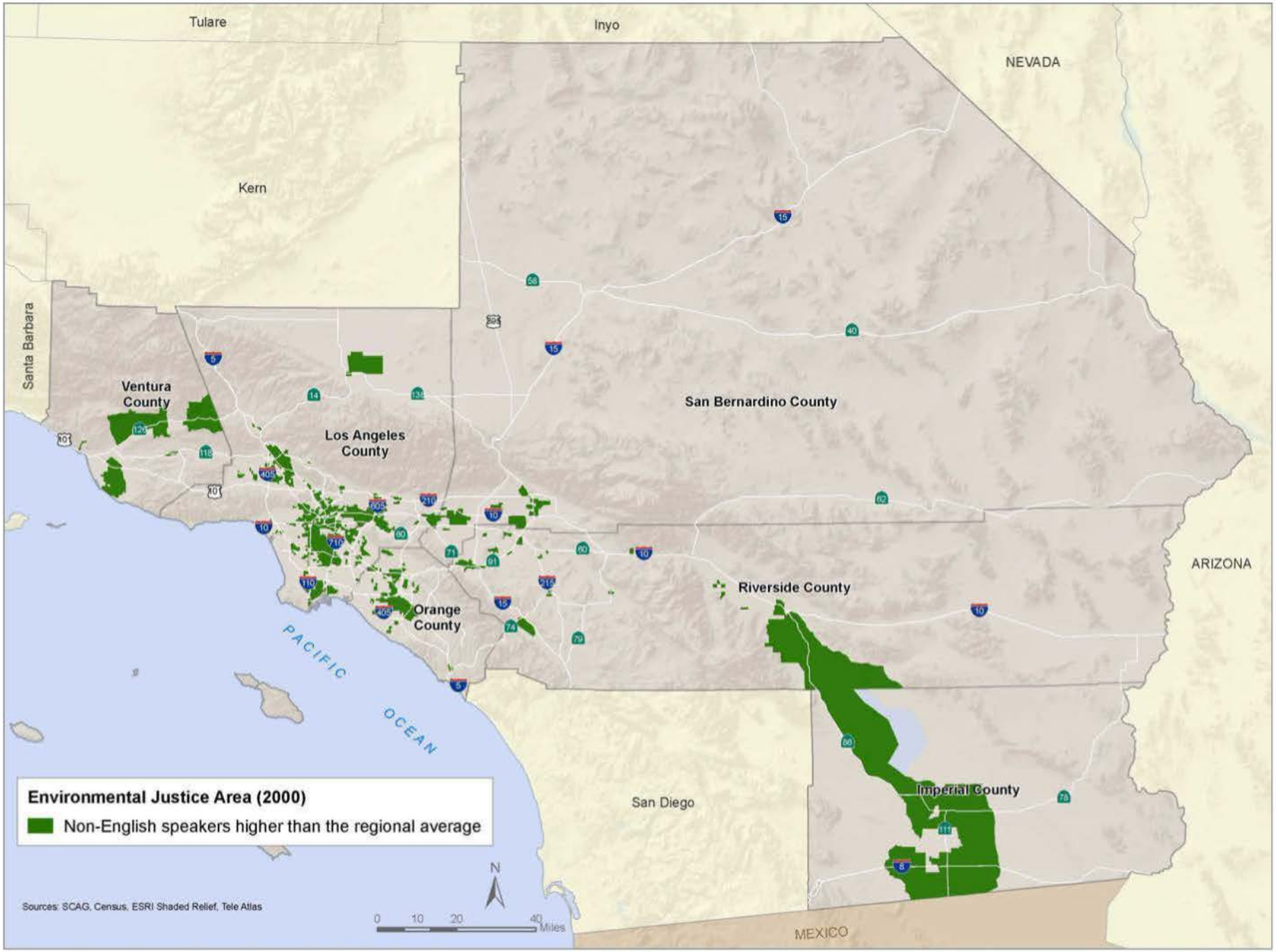


EXHIBIT 10 Non-English Speakers in 2005–09

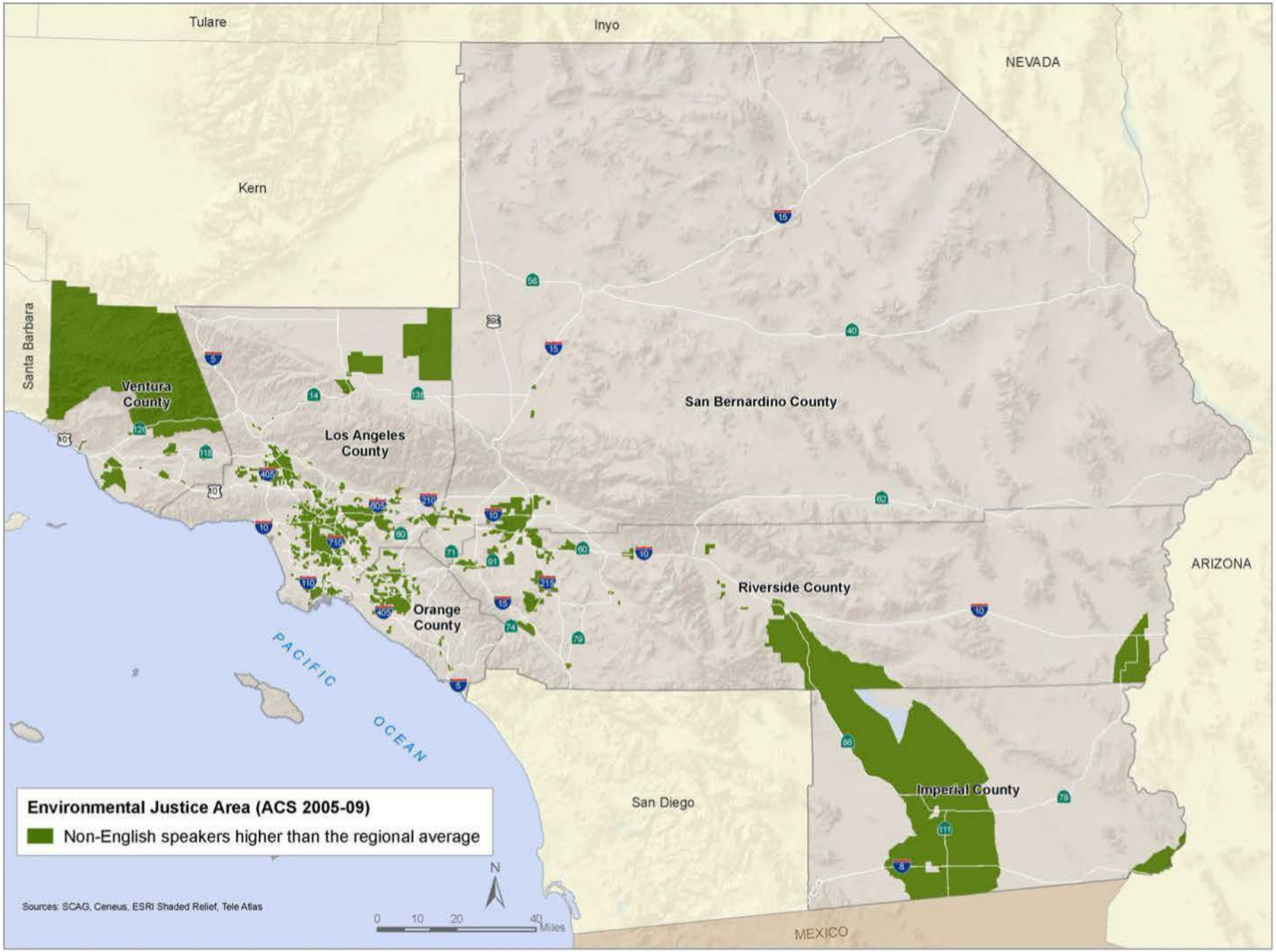


EXHIBIT 11 Households Without a Vehicle in 2000

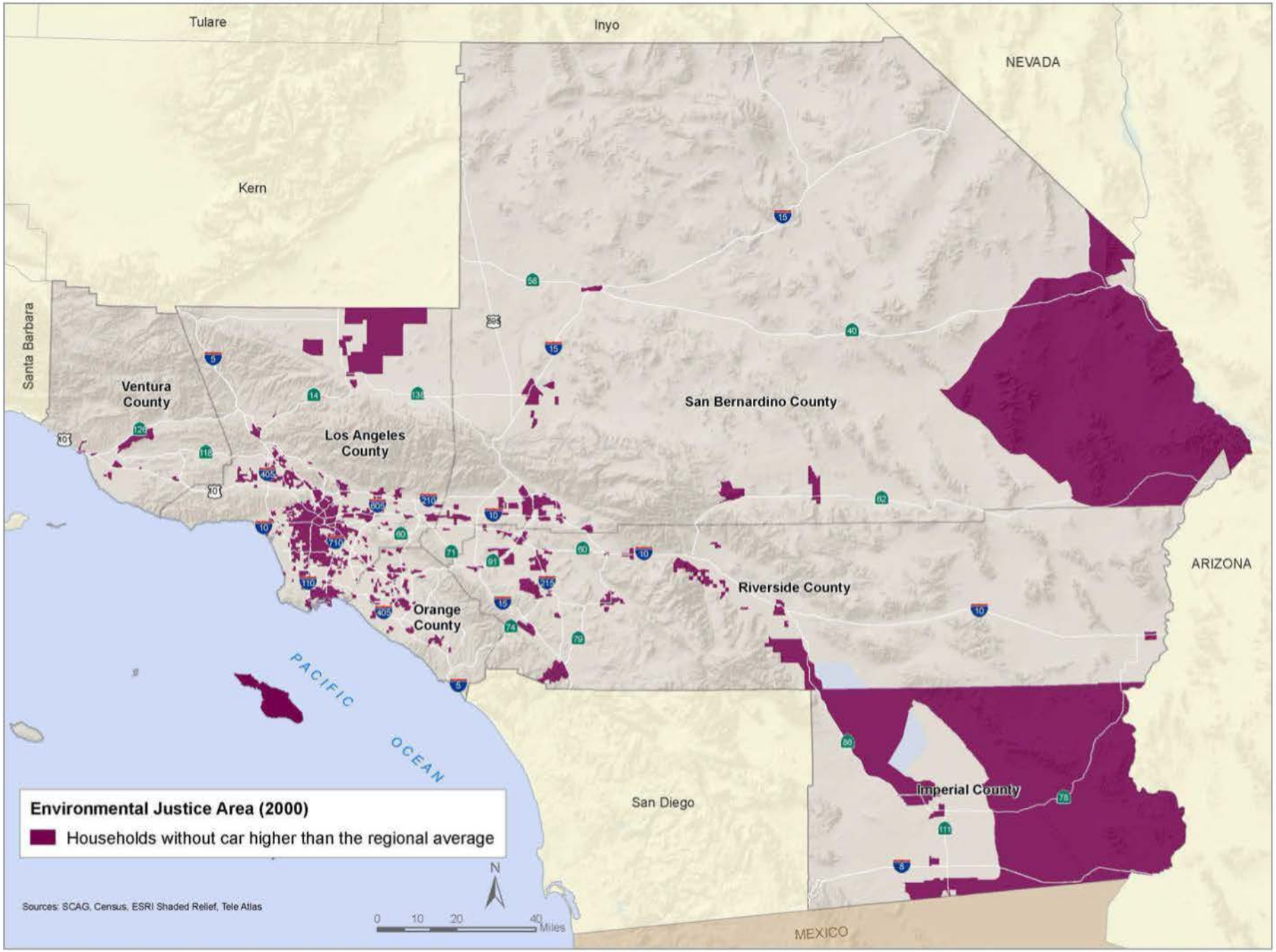


EXHIBIT 12 Households Without a Vehicle in 2005–09

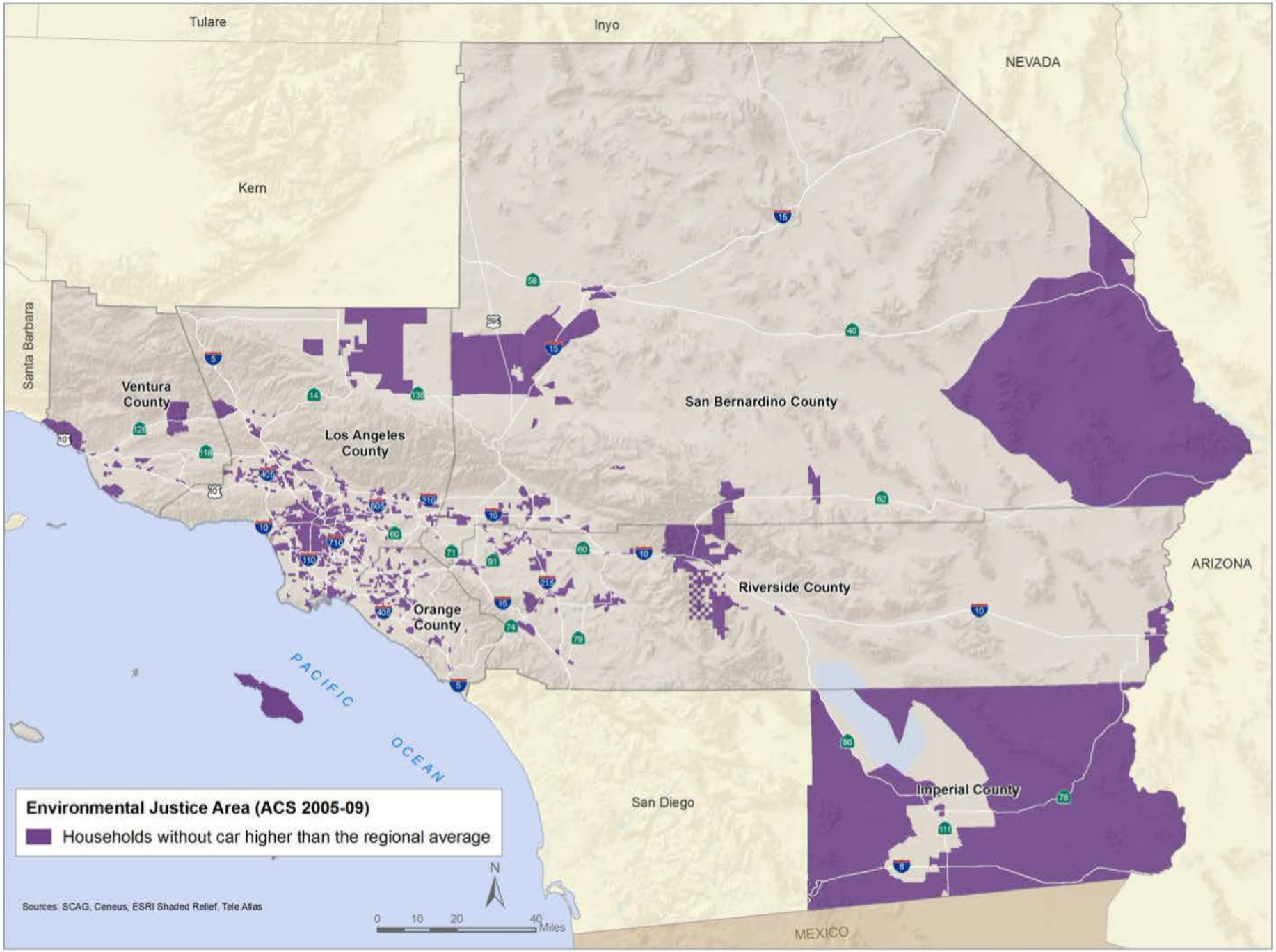


EXHIBIT 13 Population Without a High School Diploma in 2000

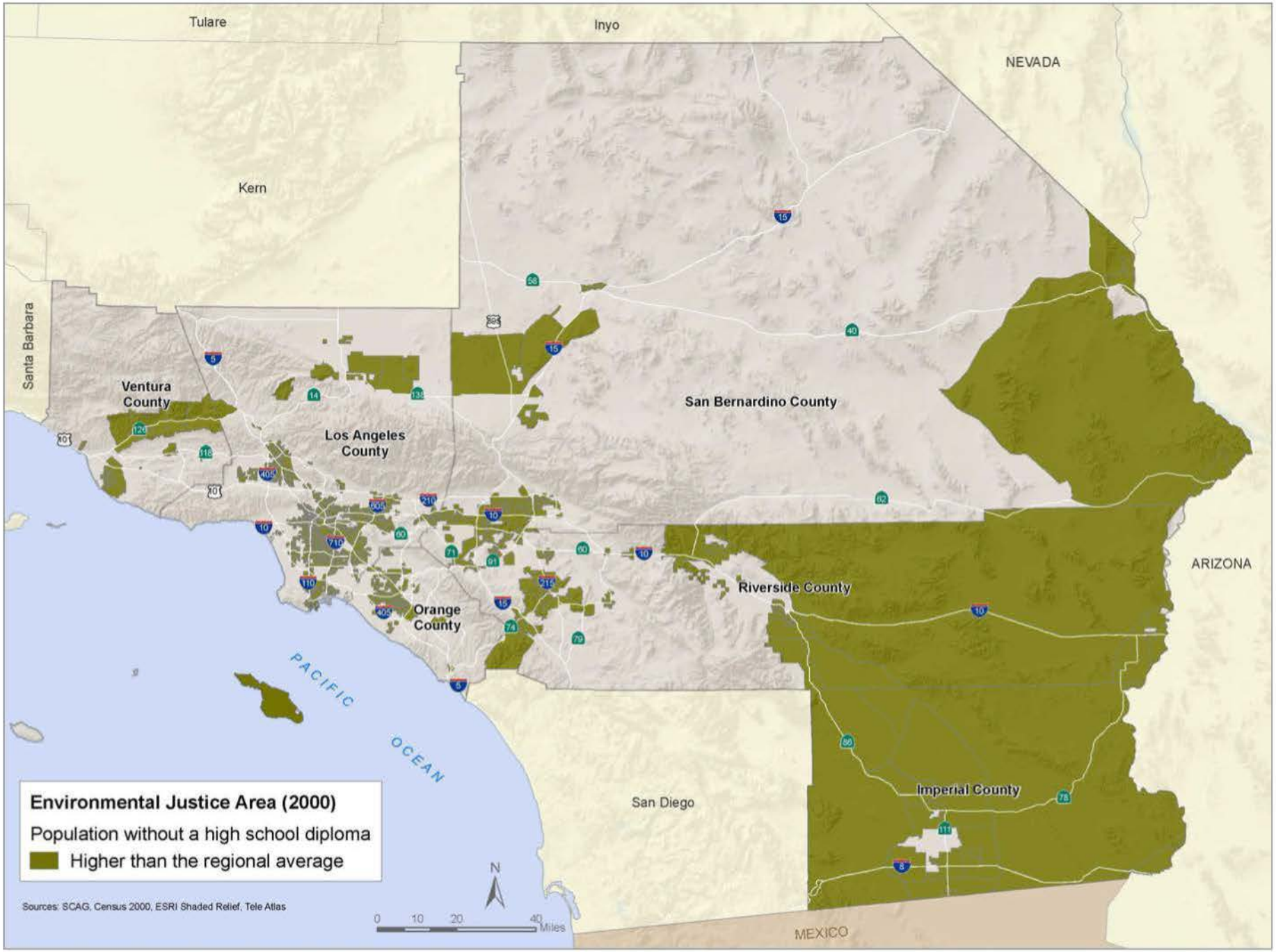


EXHIBIT 14 Population Without a High School Diploma in 2005–09

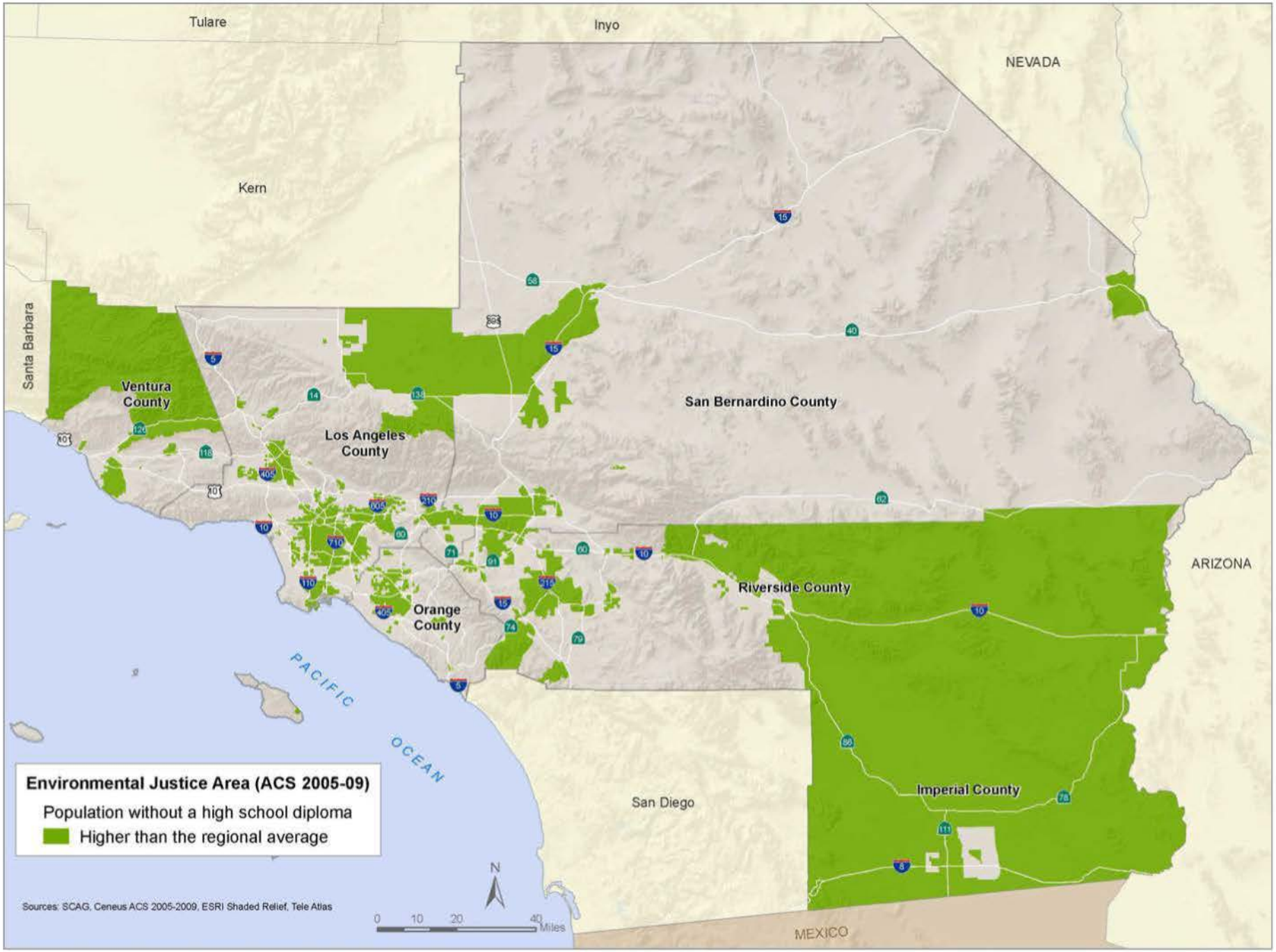


TABLE 8 Income Quintiles and Median Household Income by County for 2000 and 2005–09
Title VI/Environmental Justice Considerations for the 2012–2035 RTP/SCS: 2005–09 ACS

County	Population	Households	Age 65 & Above	Median Household Income	Income Quintile 1	Income Quintile 2	Income Quintile 3	Income Quintile 4
Imperial	160,034	46,405	16,656	41,815	15,411	11,320	8,625	6,925
Los Angeles	9,785,295	3,178,266	1,007,833	62,249	711,392	659,114	628,036	590,502
Orange	2,976,831	974,001	327,906	81,115	133,396	162,270	189,413	216,961
Riverside	2,036,304	645,185	232,413	62,487	123,795	134,950	136,237	138,473
San Bernardino	1,986,635	588,796	164,059	59,778	118,177	128,047	127,308	124,744
Ventura	792,313	257,178	89,187	79,955	35,795	42,266	48,346	60,361
SCAG	17,737,412	5,689,831	1,838,054	65,884	1,137,966	1,137,966	1,137,966	1,137,966

County	Income Quintile 5	Population Under Poverty	Non-Hispanic Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Native American	Non-Hispanic Asian	Non-Hispanic Pacific Islander
Imperial	4,124	31,850	38,253	26,646	5,270	1,812	3,096	144
Los Angeles	589,223	1,486,783	5,157,752	2,827,681	836,940	21,540	1,260,344	23,938
Orange	271,960	282,087	1,989,656	1,390,222	47,501	8,574	475,394	9,055
Riverside	111,730	245,454	1,156,505	865,067	119,210	10,634	103,617	4,907
San Bernardino	90,519	278,582	1,060,721	721,965	168,906	9,539	112,131	5,288
Ventura	70,410	70,801	496,747	411,508	13,149	2,199	50,602	1,530
SCAG	1,137,966	2,395,557	9,899,634	6,243,089	1,190,976	54,298	2,005,184	44,862

County	Non-Hispanic Other	Hispanic Total	Foreign Born	Non-English Speaking	Households Without Car	Age 5 & Above	Age 25 & Over	Below High School
Imperial	2,308	121,781	50,377	16,433	5,022	144,900	92,903	34,000
Los Angeles	340,916	4,627,543	3,468,593	519,338	300,914	9,056,154	6,266,988	1,534,921
Orange	107,532	987,175	894,422	105,612	45,416	2,760,481	1,942,395	330,770
Riverside	91,744	879,799	447,647	64,322	29,361	1,875,782	1,240,048	260,509
San Bernardino	80,419	925,914	419,196	50,395	30,028	1,824,193	1,156,887	262,832
Ventura	33,438	295,566	174,573	31,092	10,499	733,031	503,906	89,075
SCAG	656,357	7,837,778	5,454,808	787,192	421,240	16,394,541	11,203,127	2,512,107

Source: 2000 Census and 2005–09 ACS, processed by SCAG Research, Analysis, and Information Service staff

TABLE 9 Income Quintiles and Median Household Income by County for 2000 and 2005–09
Title VI/Environmental Justice Considerations for the 2012–2035 RTP/SCS: 2005–09 ACS

County	Population	Households	Age 65 & Above	Median Household Income	Income Quintile 1	Income Quintile 2	Income Quintile 3	Income Quintile 4
Imperial	0.9%	0.8%	10.4%	41,815	33.2%	24.4%	18.6%	14.9%
Los Angeles	55.2%	55.9%	10.3%	62,249	22.4%	20.7%	19.8%	18.6%
Orange	16.8%	17.1%	11.0%	81,115	13.7%	16.7%	19.4%	22.3%
Riverside	11.5%	11.3%	11.4%	62,487	19.2%	20.9%	21.1%	21.5%
San Bernardino	11.2%	10.3%	8.3%	59,778	20.1%	21.7%	21.6%	21.2%
Ventura	4.5%	4.5%	11.3%	79,955	13.9%	16.4%	18.8%	23.5%
SCAG Region Average	100.0%	100.0%	10.4%	65,884	20.0%	20.0%	20.0%	20.0%

County	Income Quintile 5	Population Under Poverty	Non-Hispanic Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Native American	Non-Hispanic Asian	Non-Hispanic Pacific Islander
Imperial	8.9%	19.9%	23.9%	16.7%	3.3%	1.1%	1.9%	0.1%
Los Angeles	18.5%	15.2%	52.7%	28.9%	8.6%	0.2%	12.9%	0.2%
Orange	27.9%	9.5%	66.8%	46.7%	1.6%	0.3%	16.0%	0.3%
Riverside	17.3%	12.1%	56.8%	42.5%	5.9%	0.5%	5.1%	0.2%
San Bernardino	15.4%	14.0%	53.4%	36.3%	8.5%	0.5%	5.6%	0.3%
Ventura	27.4%	8.9%	62.7%	51.9%	1.7%	0.3%	6.4%	0.2%
SCAG Region Average	20.0%	13.5%	55.8%	35.2%	6.7%	0.3%	11.3%	0.3%

County	Non-Hispanic Other	Hispanic Total	Foreign Born	Non-English Speaking Share of Population 5 & Above	Households Without Car	Age 5 & Above	Age 25 & Over	Below High School Share of Population 25 & Over
Imperial	1.4%	76.1%	31.5%	11.3%	10.8%	90.5%	58.1%	36.6%
Los Angeles	3.5%	47.3%	35.4%	5.7%	9.5%	92.5%	64.0%	24.5%
Orange	3.6%	33.2%	30.0%	3.8%	4.7%	92.7%	65.3%	17.0%
Riverside	4.5%	43.2%	22.0%	3.4%	4.6%	92.1%	60.9%	21.0%
San Bernardino	4.0%	46.6%	21.1%	2.8%	5.1%	91.8%	58.2%	22.7%
Ventura	4.2%	37.3%	22.0%	4.2%	4.1%	92.5%	63.6%	17.7%
SCAG Region Average	3.7%	44.2%	30.8%	4.8%	7.4%	92.4%	63.2%	22.4%

Source: 2000 Census and 2005–09 ACS, processed by SCAG Research, Analysis, and Information Service staff

Historical Geographic Distribution of Demographic Groups

The existing guidance suggests that a concentration of a minority population may exist if the percentage of the minority population in a given area is "meaningfully greater" than the percentage of the minority population in the larger general population of the region.

For the purposes of this analysis, clusters of Environmental Justice populations were identified by identifying census tracts with concentrations of specific demographic groups that exceed the regional average. The establishment of these geographic cluster areas allows for an in depth analysis of the historical air quality and health factors of unique socioeconomic cohorts provided in the technical analysis that follows. The identified cluster areas and their shift over time are displayed for each Environmental Justice variable for years 2000 and 2005–09. This report refers to these areas as "Environmental Justice Communities."

FIGURE 4 summarizes the demographic changes from the year 2000 and the 2005–09 time period. Population living below the poverty line decreased from 15.4 percent in 2000 to 13.5 percent in 2005–09. Minority population increased between the two comparison datasets from 61.3 percent to 64.8 percent in 2005-09.

FIGURE 4 SCAG Region, Title VI and Environmental Justice Population Thresholds and Changes

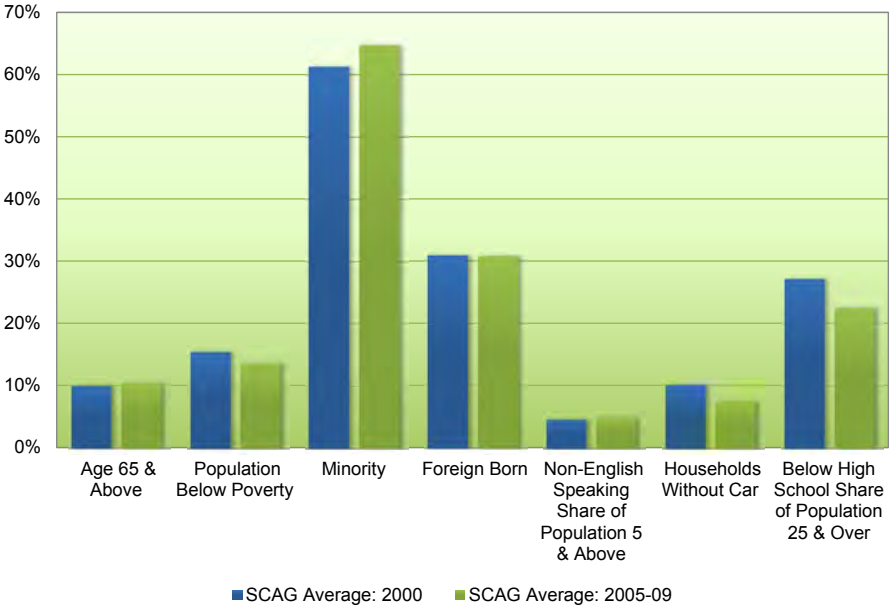
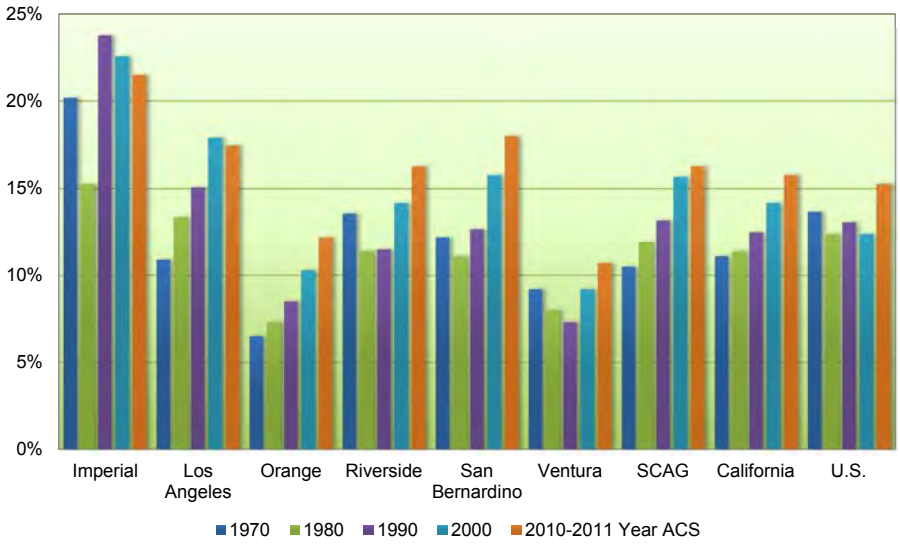


FIGURE 5 shows the historic poverty rates for each county in the SCAG region, as well as for the region as a whole, for California, and for the United States. In comparing these geographies, it can be seen that poverty was generally lower in the SCAG region than in California or the United States as a whole until recently, where poverty rates are now higher in many counties than in the state or the nation.

FIGURE 5 Poverty Rates for SCAG Region Counties, California, and U.S. (1970-2010)



Estimated and Projected Population Growth for Years 2008, 2020, and 2035

As past trends indicate, the SCAG region is projected to continue to experience population growth into the near and distant future. The population in the region is expected to grow to 22.1 million by 2035. The largest increase forecasted is seen in the Hispanic population, which is projected to grow 55 percent between 2008 and 2035. The next largest increases are for the Non-Hispanic White population (24 percent) and for people age 65 and over (17 percent). The share of residents living at or below the poverty threshold is also expected to grow from 13.8 percent in 2008 to 14.5 percent in 2035. See **TABLE 10**: Projected Environmental Justice Population and Demographic Changes in the SCAG Region, 2008–2035.

TABLE 10 Projected Environmental Justice Population and Demographic Changes in the SCAG Region 2008–2035

	2008	2020	2035	2008	2020	2035
Population	**17,887,885**	**19,695,541**	**22,140,614**			
Male	8,925,209	9,838,626	11,053,457	49.9%	50.0%	49.9%
Female	8,962,676	9,856,915	11,087,157	50.1%	50.0%	50.1%
Age 65 & over	1,853,336	2,571,366	3,689,590	10.4%	13.1%	16.7%
Disabled	1,535,461	1,748,133	2,069,038	8.6%	8.9%	9.3%
Hispanic	8,017,776	9,695,937	12,265,645	44.8%	49.2%	55.4%
Non-Hispanic White	6,148,030	5,876,272	5,204,238	34.4%	29.8%	23.5%
Non-Hispanic Black	1,239,733	1,295,708	1,353,043	6.9%	6.6%	6.1%
Non-Hispanic Native American	79,393	93,934	115,444	0.4%	0.5%	0.5%
Non-Hispanic Asian	2,067,352	2,352,751	2,732,190	11.6%	11.9%	12.3%
Non-Hispanic Others	335,601	380,939	470,054	1.9%	1.9%	2.1%
Poverty 1 (# of Households below Poverty)	800,588	908,571	1,059,369	13.8%	14.1%	14.5%
Poverty 2 (# of Households between poverty and 1.5xP)	503,143	569,548	662,142	8.7%	8.8%	9.0%
Poverty 3 (# of Households between 1.5xP and 2.0xP)	481,374	539,734	618,924	8.3%	8.4%	8.5%
Households by Income Quintile and Ethnicity						
Households	**5,812,319**	**6,460,229**	**7,321,090**			
Quintile 1	**1,192,952**	**1,273,540**	**1,473,667**	**21%**	**20%**	**20%**
Hispanic	369,883	593,346	792,838	6.4%	9.2%	10.8%
Non-Hispanic White	548,214	354,585	304,861	9.4%	5.5%	4.2%
Non-Hispanic Black	139,661	138,518	135,066	2.4%	2.1%	1.8%
Non-Hispanic Native American	5,845	7,570	10,155	0.1%	0.1%	0.1%
Non-Hispanic Asian	98,528	137,980	176,955	1.7%	2.1%	2.4%
Non-Hispanic Others	30,821	41,541	53,792	0.5%	0.6%	0.7%
Quintile 2	**1,151,386**	**1,290,233**	**1,452,250**	**20%**	**20%**	**20%**
Hispanic	496,346	646,682	838,544	8.5%	10.0%	11.5%

	2008	2020	2035	2008	2020	2035
Non-Hispanic White	422,450	380,689	315,141	7.3%	5.9%	4.3%
Non-Hispanic Black	93,755	97,434	94,519	1.6%	1.5%	1.3%
Non-Hispanic Native American	5,363	6,718	8,785	0.1%	0.1%	0.1%
Non-Hispanic Asian	96,070	113,768	139,051	1.7%	1.8%	1.9%
Non-Hispanic Others	37,402	44,942	56,210	0.6%	0.7%	0.8%
Quintile 3	**1,151,856**	**1,292,542**	**1,456,797**	**20%**	**20%**	**20%**
Hispanic	431,226	575,315	764,382	7.4%	8.9%	10.4%
Non-Hispanic White	487,083	445,641	373,816	8.4%	6.9%	5.1%
Non-Hispanic Black	83,703	88,985	88,703	1.4%	1.4%	1.2%
Non-Hispanic Native American	5,230	6,658	8,706	0.1%	0.1%	0.1%
Non-Hispanic Asian	111,070	134,792	168,461	1.9%	2.1%	2.3%
Non-Hispanic Others	33,544	41,151	52,729	0.6%	0.6%	0.7%
Quintile 4	**1,154,118**	**1,298,280**	**1,464,362**	**20%**	**20%**	**20%**
Hispanic	339,045	467,095	642,122	5.8%	7.2%	8.8%
Non-Hispanic White	575,279	540,244	466,054	9.9%	8.4%	6.4%
Non-Hispanic Black	74,993	83,144	86,688	1.3%	1.3%	1.2%
Non-Hispanic Native American	5,093	6,789	9,134	0.1%	0.1%	0.1%
Non-Hispanic Asian	131,932	165,266	213,609	2.3%	2.6%	2.9%
Non-Hispanic Others	27,776	35,742	46,755	0.5%	0.6%	0.6%
Quintile 5	**1,162,007**	**1,305,634**	**1,474,014**	**20%**	**20%**	**20%**
Hispanic	227,223	345,477	522,251	3.9%	5.3%	7.1%
Non-Hispanic White	704,783	668,145	577,622	12.1%	10.3%	7.9%
Non-Hispanic Black	58,220	69,434	76,369	1.0%	1.1%	1.0%
Non-Hispanic Native American	4,379	6,055	8,547	0.1%	0.1%	0.1%
Non-Hispanic Asian	144,822	186,639	247,265	2.5%	2.9%	3.4%
Non-Hispanic Others	22,580	29,884	41,960	0.4%	0.5%	0.6%

Source: Based on 2000 Census and 2005–09 ACS, processed and projected by SCAG Research, Analysis, and Information Service staff

Performance Areas Analysis

The following section describes the methodology and findings for each of the eleven performance areas analyzed as part of this Environmental Justice Report, which were previously outlined earlier in this report. Each section is comprised of extensive data including maps, charts and graphs to show the results in multiple formats. This section begins with a benefits and burdens analysis, which includes a determination of the existing share of transportation system usage by income group and racial/ethnic group. Next, it describes investment share and taxes paid by income group and ethnicity. This comparison allows the reader to understand how the benefits and burdens of the 2012-2035 RTP/SCS are distributed among environmental justice communities.

The next performance area describes the distribution of travel time and distance savings to better understand how the region's population groups, particularly those in low-income and minority households, experience the Plan's investments in the region's transportation system.

The next area relates to the jobs-housing mismatch and builds on the benefits and burdens discussion to explore how investments affect employment and travel decisions. For example, there are concerns that workers are priced out of housing near jobs thereby resulting in long travel distances.

Accessibility is another important component of the report and is at the foundation of this environmental justice analysis. This performance area focuses on accessibility to services including employment, shopping opportunities, and parks.

A discussion of gentrification and displacement issues is featured in the analysis due to the concerns that have been raised related to the inclusion of land use strategies in the RTP/SCS. This is a new area of Environmental Justice analysis for SCAG and no similar report or analysis can be found in the United States. SCAG offers a methodology and framework for future research, monitoring, and analysis regarding displacement and gentrification concerns for land use development within high quality transit areas (HQTA). The report further provides the socioeconomic makeup of areas with major transit stops and corridors and examines the presence of historic gentrification and displacement within HQTA or transit oriented communities (TOC).

Also, SCAG developed a "4D Statistical Model" to analyze land use strategies and capture additional VMT reduction benefits that result from the 2012-2035 RTP/SCS.

The final series of performance areas discuss the environmental impacts of the 2012-2035 RTP/SCS on minority and low-income populations. This analysis goes beyond the financial and travel time burdens outlined above and focuses on the potential disproportionate impacts from air and noise emissions. The analysis further describes if proximity to freeways or rail facilities result in health impacts to low-income and minority populations.

(1) RTP Revenue Sources in Terms of Tax Burdens by Income and Ethnicity

SCAG reports expenditure distributions in several ways. First, SCAG estimates the share of total RTP expenditures allocated to each category of household income. This is done by totaling expenditures on each type of mode (bus, HOV lanes, commuter/high-speed rail, highways/arterials, and light/heavy rail). This information is then allocated to income categories based on each income group's tendency to use these modes. Staff analyzed the distribution of Plan expenditures based on mode usage information by income quintile.

The Bureau of Labor Statistics (BLS) Consumer Expenditure Survey (CES) program consists of two surveys, the Quarterly Interview Survey and the Diary Survey, which provide information on the buying habits of American consumers, including data on their expenditures, income, and consumer unit characteristics (families and single consumers). The CES is important because it is the only Federal survey to provide information on the complete range of consumers' expenditures and incomes, as well as the characteristics of those consumers. It is used by economic policymakers examining the impact of policy changes on economic groups, by businesses and academic researchers studying consumers' spending habits and trends, by other Federal agencies, and, perhaps most importantly, to regularly revise the Consumer Price Index market basket of goods and services and its relative importance.

SCAG uses consumer expenditure survey data, in particular the tabulation showing the share of aggregate expenditures by income quintile, to assess regional expenditures by taxable sales category and adjusted gross income in order to estimate transportation funding contributions or taxes paid by income quintile. The basic assumption of this

application is that results from the national survey can be applied in the SCAG region as a whole as well as any transportation analysis zone (TAZ) or a combination of TAZs if the analysis is done by income quintile. This application could work well for categories showing very stable trends in areas such as taxable sales (i.e., gasoline, grocery, vehicle consumptions, medical expenses, etc.).

The following table presents the SCAG taxable sales and expenditure allocation by income quintile in 2008 from data collected by the California Board of Equalization and Franchise Tax Board. As can be seen in the table, households in the SCAG region spent $25,856 million in 2008 at service (gas) stations. The lowest income quintile household's share of gasoline consumption—90 percent of service station sales are gasoline—was just over 9 percent, while households in the highest income quintile accounted for almost 31 percent of gasoline sales. In terms of expenditures on vehicle purchases, the lowest income quintile household accounted for just 4 percent of all new vehicle sales and just 7.5 percent for used vehicles. This is not surprising because many low income households cannot afford the cost of vehicle ownership including maintenance, insurance and the purchase of gasoline.

The CES indicates that households in the lower income quintiles predominately owned used and older cars. This situation has implications in terms of fuel efficiency—low income households pay proportionally more on gasoline and gasoline taxes than more affluent households who normally own newer vehicles that are more fuel efficient and allow them to travel further on the same amount of gasoline. Thus a VMT-based transportation finance system could correct the equity issue inherent with a funding system based on gasoline consumption, prices, and taxes.

TABLE 11 Taxable Sales in the SCAG Region by Retail Categories in 2008 and Shares by Income Quintile

Retail Stores Category	Taxable Sales	Consumer Expenditures by Household Income Quintile				
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Women's apparel	2,576,958	10.6	12.5	15.2	22.6	39.1
Men's apparel	524,706	8.5	11.9	14.8	23.5	41.4
Family apparel	6,946,135	10.6	11.8	14.4	18.9	44.3
Shoes	1,406,529	13.6	14.2	15.5	24.0	32.7
Apparel stores group	11,454,328	10.7	12.8	15.1	22.6	38.8
General merchandise stores	23,569,661	9.7	13.2	17.7	23.1	36.3
Drug stores	2,914,450	9.7	13.2	17.7	23.1	36.3
General merchandise group	26,484,111	9.7	13.2	17.7	23.1	36.3
Supermarkets	7,434,662	12.6	15.6	18.3	23.2	30.2
All other food stores	2,190,131	12.4	15.0	18.3	23.7	30.6
Food stores group	9,624,793	12.6	15.6	18.3	23.2	30.2
Limited-service restaurants	12,798,587	8.2	12.1	16.1	24.1	39.6
Full-service eating and drinking places	12,880,498	8.2	12.1	16.1	24.1	39.6
Eating and drinking group	25,679,085	8.2	12.1	16.1	24.1	39.6
Household and home furnishings	5,044,103	9.7	13.2	17.7	23.1	36.3
Household appliance dealers	3,453,794	8.0	10.6	16.6	23.3	41.5
Home furnishings and appliances	8,497,897	8.0	10.6	16.6	23.3	41.5
Building materials	12,200,684	8.1	12.2	16.9	23.1	39.7
New motor vehicle dealers	20,558,006	4.0	9.1	14.7	23.4	48.8
Used motor vehicle dealers	2,273,679	7.5	15.4	21.4	25.3	30.4
Automotive supplies and parts	2,603,024	8.6	13.3	17.9	24.9	35.4

Retail Stores Category	Taxable Sales	Consumer Expenditures by Household Income Quintile				
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
RV and all other vehicles	1,579,792	6.1	12.1	18.1	24.0	39.7
Automotive group	27,014,501	8.0	13.1	18.2	24.3	36.3
Service stations	25,856,476	9.1	14.9	19.9	25.2	30.9
Gifts, art goods, and novelties	774,022	11.0	12.8	16.8	21.6	37.7
Sporting goods	1,850,839	7.3	12.3	18.4	21.2	40.9
Florists	374,554	7.1	12.2	18.1	22.7	39.9
Photographic equipment and supplies	249,847	10.3	14.0	18.3	24.4	33.0
Musical instruments	549,264	8.8	13.2	18.4	22.8	37.0
Stationery and books	1,478,487	10.7	13.6	17.6	23.3	35.0
Jewelry	1,246,994	7.3	12.3	18.4	21.2	40.9
Office supplies, computer stores	6,944,118	11.9	14.7	17.7	24.5	31.2
Packaged liquor stores	1,250,294	8.3	12.4	15.8	24.3	39.4
Second-hand merchandise	259,230	7.1	12.2	18.1	22.7	39.9
Farm and garden supply stores	737,871	7.3	12.3	18.4	21.2	40.9
Fuel and ice dealers	193,901	9.1	14.9	19.9	25.2	30.9
Miscellaneous retail	10,115,304	7.1	12.2	18.1	22.7	39.9
Other retail stores	26,024,725	8.7	13.0	18.0	22.9	37.4
Business and Personal Services	10,316,858	6.4	10.5	15.8	23.4	44.0
All Other Outlets	69,618,100	7.1	12.2	18.1	22.7	39.9
SCAG Total in 2008	252,771,557					

Source: SCAG staff process 2008 Consumer Expenditures Survey by Bureau of Labor Statistics 2008 Taxable Sales in California Counties, State Board of Equalization, 2008

Different funding sources (i.e. income taxes, property taxes, sales, fuel, etc.) can impose disproportionate burdens on lower income and minority groups. Sales and gasoline taxes, which are the primary sources of funding for the region's transportation system, were evaluated for the purposes of this analysis. The amount of taxes paid was analyzed to demonstrate how tax burdens fall on various demographic groups. As in previous Environmental Justice Reports, the 2012-2035 RTP/SCS environmental justice analysis examined in detail the incidence or distribution of the burden of taxation.

RESULTS

The environmental justice analysis for the 2012-2035 RTP/SCS performed a comparative examination of the amount of taxes (sales, gasoline, and income) paid by the five respective income groups and by ethnicity. The following figure, **FIGURE 6** entitled "Share of Taxes Paid by Income Quintile," indicates that taxes paid as a percent of each group's disposable income puts the heaviest burden on lower-income groups. This is the so-called "regressive" nature of the excise gasoline tax and retail sales tax levy on primarily consumer durable and non-durables that are necessities of daily living. The lower quintile groups (Quintile 1 and Quintile 2) are anticipated to pay 38.7 percent and 9.9 percent of their adjusted gross income on regional sales and gasoline taxes, respectively. By comparison, the higher quintile groups (Quintile 4 and 5) are anticipated to pay 6.6 percent and 3.0 percent of their income on all regional sales and gasoline taxes, respectively. Although the lower income quintile groups pay a larger percentage of their income on taxes than other quintiles, their contribution of the total share of sales and gasoline taxes is the smallest of the group at 8.4 percent for Quintile 1 and 12.8 percent for Quintile 2. Quintile 4 and Quintile 5, in contrast, pay 23.4 percent and 37.7 percent of the total sales and gasoline taxes in the region. Thus, those with limited financial means will not pay a disproportionate amount of overall taxes under the Plan compared with their usage of the transportation system and their shares of RTP/SCS investments.

FIGURE 6 Share of Taxes Paid by Income Quintile (2008)

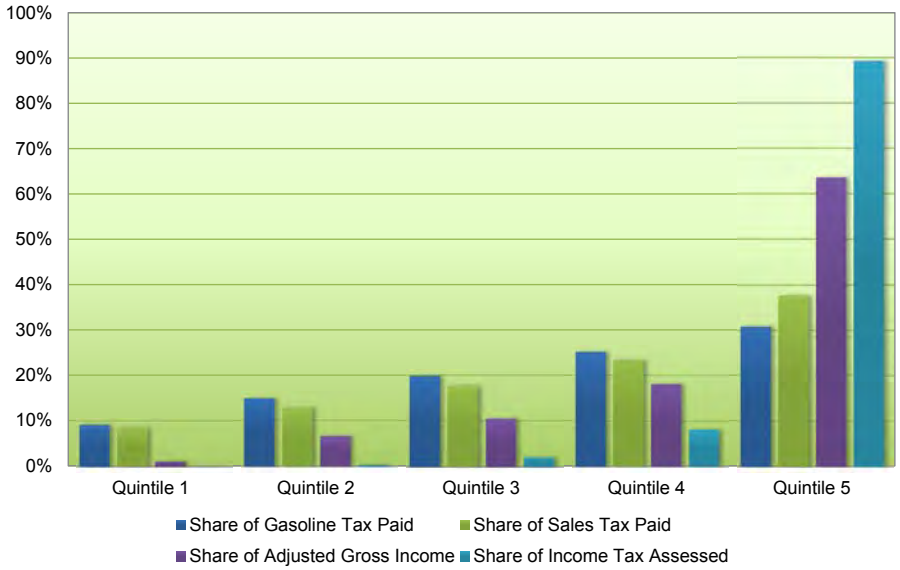


TABLE 12 Tax Burden Analysis for the SCAG Region: Income Tax, Retail Tax, and Gasoline Tax (in $1,000s) (2008)

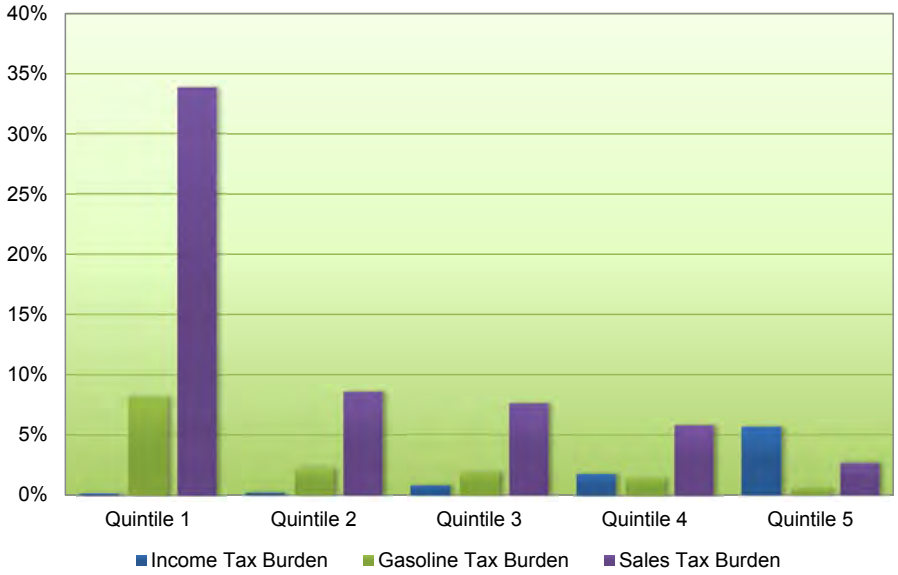
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
Total Adjusted Gross Income	5,090,304	30,630,777	48,035,955	82,919,580	291,153,498	457,830,113
Income Tax Assessed	7,712	67,730	392,622	1,503,377	16,467,164	18,438,605
Share of Adjusted Gross Income	1.1%	6.7%	10.5%	18.1%	63.6%	100.0%
Share of Income Tax Assessed	0.0%	0.4%	2.1%	8.2%	89.3%	100.0%
Income Tax Burden	0.15%	0.22%	0.82%	1.81%	5.66%	4.03%
Estimated Gasoline Tax Paid						
State Excise Tax ($0.18)	121,141	198,352	264,913	335,467	411,347	1,331,220
Federal Excise Tax ($.184)	123,833	202,760	270,800	342,922	420,488	1,360,802
Sales Tax on Gasoline	172,362	282,219	376,923	477,309	585,272	1,894,084
Total Tax Paid on Gasoline	417,336	683,330	912,635	1,155,699	1,417,107	4,586,106
Share of Gasoline Tax Paid	9.1%	14.9%	19.9%	25.2%	30.9%	100.0%
Gasoline Tax Burden	8.2%	2.2%	1.9%	1.4%	0.5%	1.0%
Taxable Sales & Sales Tax						
Estimated Taxable Sales	21,168,775	32,316,650	44,745,968	59,175,050	95,365,115	252,771,557
Estimated Sales Tax Paid	1,723,351	2,630,899	3,642,771	4,817,443	7,763,677	20,578,140
Share of Sales Tax Paid	8.4%	12.8%	17.7%	23.4%	37.7%	100.0%
Sales Tax Burden	33.9%	8.6%	7.6%	5.8%	2.7%	4.5%
Combined Sales & Gasoline Tax						
Estimated Sales & Gasoline Tax Paid	1,968,325	3,032,011	4,178,483	5,495,832	8,595,512	23,270,162
Share of Sales & Gasoline Tax Paid	8.4%	12.8%	17.7%	23.4%	37.7%	100.0%
Sales & Gasoline Tax Burden	38.7%	9.9%	8.7%	6.6%	3.0%	5.1%

Source: 2008 California Taxable Sales, State Board of Equalization Table 24 –Gasoline and Jet Fuel Tax Statistics, 1923-1924 to 2008-09, State Board of Equalization 2008-09 Annual Report California Income Tax Returns Statistic for 2008s, California Franchise Tax Board Consumer Expenditure Survey, 2008, Bureau of Labor Statistics

TABLE 13 Income Tax Return Analysis for the SCAG Region: 2008 Tax Year (in $1,000s)

	All Tax Returns	Adjusted Gross Income Quintile Ranges	Total Adjusted Gross Income	Total CA Income Tax Assessed	% of Total Adjusted Gross Income	% of Total Tax Assessed	Tax Assessed as % of Gross Income
Quintile 1	1,426,294	Up to $9,728	$5,090,304	$7,712	1.11%	0.04%	0.15%
Quintile 2	1,426,294	$9,729–$25,073	$30,630,777	$67,730	6.69%	0.37%	0.22%
Quintile 3	1,426,294	$25,074–$43,383	$48,035,955	$392,622	10.49%	2.13%	0.82%
Quintile 4	1,426,294	$43,384–$78,990	$82,919,580	$1,503,377	18.11%	8.15%	1.81%
Quintile 5	1,426,294	$78,991 & Above	$291,153,498	$16,467,164	63.59%	89.31%	5.66%
	7,131,470		$457,830,113	$18,438,605	100.00%	100.00%	4.03%

FIGURE 7 Tax Burdens by Income Quintile: Income, Sales and Gasoline Tax (2008)

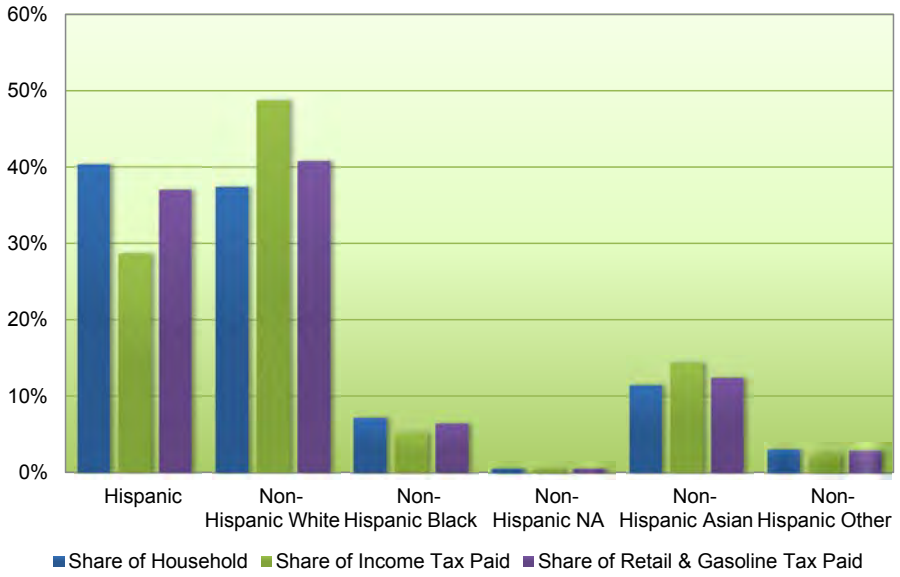


The following table, **TABLE 14** entitled "Projected RTP Funding Share by Ethnicity," indicates that tax burdens are expected to fall more heavily on non-minority groups with Non-Hispanic Whites paying 48.8 percent of the income taxes and 40.8 percent of retail and gasoline taxes.

TABLE 14 Projected RTP Funding Share by Ethnicity (2008–2035 Average)

	Share of Household	Share of Income Tax Paid	Share of Retail & Gasoline Tax Paid
Hispanic	40.3%	28.7%	37.0%
Non-Hispanic White	37.5%	48.8%	40.8%
Non-Hispanic Black	7.2%	5.2%	6.4%
Non-Hispanic NA	0.5%	0.5%	0.5%
Non-Hispanic Asian	11.5%	14.4%	12.4%
Non-Hispanic Other	3.0%	2.5%	2.9%

FIGURE 8 Share of Households and Taxes Paid By Ethnicity (2008)



(2) Share of Transportation System Usage

In order to determine the existing level of system usage, SCAG analyzed the 2010 National Household Travel Survey (NHTS). The NHTS is a household-based travel survey conducted periodically by the Federal Highway Administration (FHWA). The NHTS is the authoritative source of national data on the travel behavior of the American public. The dataset allows analysis of daily travel by all modes, including characteristics of the people traveling, their households, and their vehicles. The 2009 data includes 69,817 households and 160,758 persons, and the travel diary data includes a total of 642,292 trips. It is a disaggregated database that allows aggregation of any variable as well as cross-categorization of the data with other variables. With its fairly large sample size and key variables typically used for travel behavior analysis, the NHTS data is a valuable resource for analyzing travel patterns.

With about 6,700 households and 15,000 individuals sampled in the SCAG region, the 2009 NHTS dataset provides valuable and sufficient observations to analyze both the demographic and travel characteristics of the SCAG region. This dataset along with SCAG's 2001 household travel survey are used as the basis for developing transportation system usage information for different modes and by income quintile and ethnicity. In addition, the NHTS data set is used to provide data for analysis of the household characteristics and travel behavior of residents in high quality transit areas (HQTA), including ¼, and ½ mile buffer zones for Transit Priority Projects (TPP), Transit Oriented Communities (TOC) and rail/bus stations.

Based on 2009 NHTS data, **TABLES 15** and **16** present transportation mode usage in the SCAG region by ethnicity and by income quintile for both work trips and all trips. Highlights in the tables include:

Work Trips: The automobile (drive alone and car pool), which accounts for just under 90 percent of all trips, is the dominant transportation mode for work trips. The next most popular mode is bus (6.1 percent), followed by non-motorized transportation (4 percent).

Most bus and urban rail riders are lower income quintile households—the lowest two income quintile households combined account for 84 percent of bus riders and 93 percent of urban rail riders. However, the data indicates a more balanced usage distribution by income groups for commuter rail, walking, biking and other modes. Furthermore, given the total number of trips, bus is far more important than urban rail for low income households for commuting purposes.

Compared with their share of total households and commuters, transportation system usage for Hispanic commuters is disproportionately high in the following modes: Auto as passenger (67 percent), bus (84 percent), urban rail (93 percent), commuter rail (62 percent), and biking (51 percent).

All Trips: Transportation system usage by mode for all trips is used to allocate the RTP/SCS investment costs, mobility and accessibility benefits. Since only NHTS and SCAG's 2001 household travel survey data provide information about non-work trips, staff applied both data sets to develop the hybrid version of system usage by mode for all trips. It should be noted that the appropriate and accurate statistics on shares of usage by ethnicity and income quintile are important because they directly affect the Environmental Justice analysis outcomes. This area is recommended for further refinement and research.

Highlights about all trips from statistics presented in the tables and figures below include:

Active transportation, in particular walking, becomes much more important for non-work trips. It jumps to over 14 percent from just about 2.5 percent for work trips.

While accounting for 20 percent of total households, households in the lowest income quintile have less than 15 percent of total transportation system usage, and their share of auto mode as driver is less than 10 percent. On the other hand, low income household usage is disproportionately high in all other modes—bus, urban rail, commuter rail, walking and biking.

By ethnicity, Hispanics disproportionately use more bus and urban rail, and walk more often than their share of total households or population, while Non-Hispanic Whites use disproportionately high auto and bike modes similar to their mode usage for work trips.

Final consolidated transportation system usage by modes, by income quintile, and by ethnicity are shown in **TABLES 17** and **18.** Since projected growth by ethnicity in the SCAG region shows a very different ethnic composition in the future than the distribution today, household projections by income quintile by ethnicity as presented earlier are utilized to adjust and derive the appropriate usage shares by modes for different ethnicity groups.

TABLE 15 Transportation Mode Usage in the SCAG Region by Ethnicity

	Auto Mode	Bus	Commuter Rail	Urban Rail	Non-Motorized	Others	Total Usage	Household
Hispanic	39.2%	44.1%	38.2%	43.2%	41.1%	40.1%	**39.6%**	40.3%
Non-Hispanic White	38.7%	33.2%	39.4%	34.6%	36.6%	37.5%	**38.2%**	37.5%
Non-Hispanic Black	6.8%	8.8%	7.1%	7.8%	7.5%	7.4%	**6.9%**	7.2%
Non-Hispanic Native American	0.5%	0.6%	0.5%	0.5%	0.5%	0.5%	**0.5%**	0.5%
Non-Hispanic Asian	11.8%	10.2%	11.9%	10.7%	11.2%	11.5%	**11.7%**	11.5%
Non-Hispanic Others	3.0%	3.2%	2.9%	3.2%	3.1%	3.0%	**3.0%**	3.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	**100.0%**	100.0%

Source: SCAG staff process NHTS dataset, 2001 SCAG travel Survey, and 2012-2035 RTP/SCS EJ data set

TABLE 16 Transportation Mode Usage in the SCAG Region by Income Quintile

	Auto Mode	Bus	Commuter Rail	Urban Rail	Non-Motorized	Others	Total Usage	Household
Quintile 1	12.8%	53.1%	23.3%	28.9%	27.7%	26.1%	**16.6%**	20.0%
Quintile 2	18.4%	28.9%	18.6%	29.4%	23.0%	16.9%	**19.5%**	20.0%
Quintile 3	20.0%	8.6%	9.7%	16.8%	15.2%	19.0%	**18.9%**	20.0%
Quintile 4	22.5%	6.1%	14.1%	19.0%	16.7%	16.7%	**21.0%**	20.0%
Quintile 5	26.2%	3.3%	34.4%	5.9%	17.4%	21.2%	**24.0%**	20.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	**100.0%**	100.0%

Source: SCAG staff process NHTS dataset, 2001 SCAG travel Survey, and 2012-2035 RTP/SCS EJ data set

TABLE 17 Total Person Trips in the SCAG Region by Income Quintile and by Mode

	Auto-Driver	Auto-Passenger	Bus	Commuter Rail	Urban Rail	Walking	Biking	Other	Sum
Quintile 1	1,213,860,638	941,383,693	345,530,302	6,172,223	7,865,823	816,097,258	79,514,356	97,357,020	3,507,781,312
Quintile 2	1,992,498,032	1,117,710,295	187,916,163	6,788,521	8,018,885	684,507,615	57,668,611	63,077,666	4,118,185,787
Quintile 3	2,426,372,093	951,845,958	55,853,919	2,543,000	4,578,629	468,302,572	23,434,623	70,843,070	4,003,773,863
Quintile 4	2,717,725,722	1,082,561,769	39,534,477	1,849,525	5,170,900	483,487,643	56,275,068	62,035,601	4,448,640,706
Quintile 5	3,172,733,590	1,246,335,867	21,741,731	7,224,255	1,605,048	512,114,636	50,265,991	79,024,781	5,091,045,899
Total	11,523,190,075	5,339,837,582	650,576,592	24,577,524	27,239,285	2,964,509,724	267,158,649	372,338,136	21,169,427,567
Quintile 1	34.6%	26.8%	9.9%	0.2%	0.2%	23.3%	2.3%	2.8%	100.0%
Quintile 2	48.4%	27.1%	4.6%	0.2%	0.2%	16.6%	1.4%	1.5%	100.0%
Quintile 3	60.6%	23.8%	1.4%	0.1%	0.1%	11.7%	0.6%	1.8%	100.0%
Quintile 4	61.1%	24.3%	0.9%	0.0%	0.1%	10.9%	1.3%	1.4%	100.0%
Quintile 5	62.3%	24.5%	0.4%	0.1%	0.0%	10.1%	1.0%	1.6%	100.0%
Total	54.4%	25.2%	3.1%	0.1%	0.1%	14.0%	1.3%	1.8%	100.0%
Quintile 1	10.5%	17.6%	53.1%	25.1%	28.9%	27.5%	29.8%	26.1%	16.6%
Quintile 2	17.3%	20.9%	28.9%	27.6%	29.4%	23.1%	21.6%	16.9%	19.5%
Quintile 3	21.1%	17.8%	8.6%	10.3%	16.8%	15.8%	8.8%	19.0%	18.9%
Quintile 4	23.6%	20.3%	6.1%	7.5%	19.0%	16.3%	21.1%	16.7%	21.0%
Quintile 5	27.5%	23.3%	3.3%	29.4%	5.9%	17.3%	18.8%	21.2%	24.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: 2010 NHTS, processed by SCAG Research, Analysis, and Information Service staff

TABLE 18 Total HBW Person Trips in the SCAG Region by Income Quintile and by Mode

	Auto-Driver	Auto-Passenger	Bus	Commuter Rail	Urban Rail	Walking	Biking	Other	Sum
Quintile 1	184,815,703	50,438,540	72,898,196	1,410,037	3,876,826	17,456,022	13,539,008	5,188,810	349,623,141
Quintile 2	282,940,894	45,223,197	51,336,705	2,423,366	4,705,050	10,975,739	5,262,679	4,706,717	407,574,348
Quintile 3	433,953,635	42,976,361	7,127,680	1,950,520	-	6,346,053	1,569,981	9,886,591	503,810,821
Quintile 4	483,984,009	27,675,391	8,227,681	646,731	544,041	20,536,718	10,097,292	10,069,792	561,781,656
Quintile 5	548,103,864	24,898,831	7,743,712	-	105,879	6,125,730	6,849,515	9,979,638	603,807,170
Total	1,933,798,105	191,212,319	147,333,975	6,430,655	9,231,796	61,440,262	37,318,475	39,831,549	2,426,597,137
Quintile 1	52.9%	14.4%	20.9%	0.4%	1.1%	5.0%	3.9%	1.5%	100.0%
Quintile 2	69.4%	11.1%	12.6%	0.6%	1.2%	2.7%	1.3%	1.2%	100.0%
Quintile 3	86.1%	8.5%	1.4%	0.4%	0.0%	1.3%	0.3%	2.0%	100.0%
Quintile 4	86.2%	4.9%	1.5%	0.1%	0.1%	3.7%	1.8%	1.8%	100.0%
Quintile 5	90.8%	4.1%	1.3%	0.0%	0.0%	1.0%	1.1%	1.7%	100.0%
Total	79.7%	7.9%	6.1%	0.3%	0.4%	2.5%	1.5%	1.6%	100.0%
Quintile 1	9.6%	26.4%	49.5%	21.9%	42.0%	28.4%	36.3%	13.0%	14.4%
Quintile 2	14.6%	23.7%	34.8%	37.7%	51.0%	17.9%	14.1%	11.8%	16.8%
Quintile 3	22.4%	22.5%	4.8%	30.3%	0.0%	10.3%	4.2%	24.8%	20.8%
Quintile 4	25.0%	14.5%	5.6%	10.1%	5.9%	33.4%	27.1%	25.3%	23.2%
Quintile 5	28.3%	13.0%	5.3%	0.0%	1.1%	10.0%	18.4%	25.1%	24.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: 2010 NHTS, processed by SCAG Research, Analysis, and Information Service staff

TABLE 19 Total Person Trips in the SCAG Region by Ethnicity and by Mode

	Auto-Driver	Auto-Passenger	Bus	Commuter Rail	Urban Rail	Walking	Biking	Other	Sum
Non-Hispanic White	5,478,481,953	1,794,429,686	64,944,043	8,457,249	3,644,434	950,936,166	113,317,859	140,064,934	8,554,276,325
Non-Hispanic Black	867,675,843	373,957,180	58,418,632	8,588,439	4,379,101	248,619,306	27,986,548	31,152,728	1,620,777,778
Non-Hispanic Asian	1,027,312,023	493,301,915	29,172,958	1,354,675	4,428,393	198,443,794	12,225,587	18,688,375	1,784,927,720
Non-Hispanic NA	93,263,025	18,969,699	14,815,329	-	-	28,175,905	3,164,019	1,215,645	159,603,621
Hispanic	4,145,011,029	2,661,344,063	500,080,424	5,806,403	15,670,846	1,614,104,249	115,776,687	191,834,652	9,249,628,352
Others	309,449,169	161,038,974	16,064,836	370,759	332,666	64,876,976	3,289,856	11,586,178	567,009,416
Total	11,921,193,042	5,503,041,517	683,496,223	24,577,524	28,455,441	3,105,156,397	275,760,556	394,542,513	21,936,223,211
Non-Hispanic White	64.0%	21.0%	0.8%	0.1%	0.0%	11.1%	1.3%	1.6%	100.0%
Non-Hispanic Black	53.5%	23.1%	3.6%	0.5%	0.3%	15.3%	1.7%	1.9%	100.0%
Non-Hispanic Asian	57.6%	27.6%	1.6%	0.1%	0.2%	11.1%	0.7%	1.0%	100.0%
Non-Hispanic NA	58.4%	11.9%	9.3%	0.0%	0.0%	17.7%	2.0%	0.8%	100.0%
Hispanic	44.8%	28.8%	5.4%	0.1%	0.2%	17.5%	1.3%	2.1%	100.0%
Others	54.6%	28.4%	2.8%	0.1%	0.1%	11.4%	0.6%	2.0%	100.0%
Total	54.3%	25.1%	3.1%	0.1%	0.1%	14.2%	1.3%	1.8%	100.0%
Non-Hispanic White	46.0%	32.6%	9.5%	34.4%	12.8%	30.6%	41.1%	35.5%	39.0%
Non-Hispanic Black	7.3%	6.8%	8.5%	34.9%	15.4%	8.0%	10.1%	7.9%	7.4%
Non-Hispanic Asian	8.6%	9.0%	4.3%	5.5%	15.6%	6.4%	4.4%	4.7%	8.1%
Non-Hispanic NA	0.8%	0.3%	2.2%	0.0%	0.0%	0.9%	1.1%	0.3%	0.7%
Hispanic	34.8%	48.4%	73.2%	23.6%	55.1%	52.0%	42.0%	48.6%	42.2%
Others	2.6%	2.9%	2.4%	1.5%	1.2%	2.1%	1.2%	2.9%	2.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: 210 NHTS, processed by SCAG Research, Analysis, and Information Service staff

TABLE 20 Total HBW Person Trips in the SCAG Region by Ethnicity and by Mode

	Auto-Driver	Auto-Passenger	Bus	Commuter Rail	Urban Rail	Walking	Biking	Other	Sum
Non-Hispanic White	880,703,892	40,816,496	16,281,919	1,472,150	649,920	15,539,890	18,483,390	19,111,437	993,059,093
Non-Hispanic Black	114,734,762	7,745,516	2,540,308	-	-	6,274,345	-	547,008	131,841,940
Non-Hispanic Asian	186,528,614	11,786,142	5,004,816	969,470	-	13,385,131	-	472,592	218,146,765
Non-Hispanic NA	13,260,810	-	836,637	-	-	-	-	-	14,097,447
Hispanic	760,567,454	131,269,061	131,978,460	3,989,035	8,581,876	24,003,694	19,132,095	17,595,513	1,097,117,189
Others	47,742,966	4,786,283	1,552,306	-	-	2,470,575	-	2,395,359	58,947,489
Total	2,003,538,498	196,403,499	158,194,445	6,430,655	9,231,796	61,673,635	37,615,485	40,121,909	2,513,209,922
Non-Hispanic White	88.69%	4.11%	1.64%	0.15%	0.07%	1.56%	1.86%	1.92%	100.00%
Non-Hispanic Black	87.02%	5.87%	1.93%	0.00%	0.00%	4.76%	0.00%	0.41%	100.00%
Non-Hispanic Asian	85.51%	5.40%	2.29%	0.44%	0.00%	6.14%	0.00%	0.22%	100.00%
Non-Hispanic NA	94.07%	0.00%	5.93%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Hispanic	69.32%	11.96%	12.03%	0.36%	0.78%	2.19%	1.74%	1.60%	100.00%
Others	80.99%	8.12%	2.63%	0.00%	0.00%	4.19%	0.00%	4.06%	100.00%
Total	79.72%	7.81%	6.29%	0.26%	0.37%	2.45%	1.50%	1.60%	100.00%
Non-Hispanic White	44.0%	20.8%	10.3%	22.9%	7.0%	25.2%	49.1%	47.6%	39.5%
Non-Hispanic Black	5.7%	3.9%	1.6%	0.0%	0.0%	10.2%	0.0%	1.4%	5.2%
Non-Hispanic Asian	9.3%	6.0%	3.2%	15.1%	0.0%	21.7%	0.0%	1.2%	8.7%
Non-Hispanic NA	0.7%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%
Hispanic	38.0%	66.8%	83.4%	62.0%	93.0%	38.9%	50.9%	43.9%	43.7%
Others	2.4%	2.4%	1.0%	0.0%	0.0%	4.0%	0.0%	6.0%	2.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: 210 NHTS, processed by SCAG Research, Analysis, and Information Service staff

FIGURE 9 Transportation Usage by Mode and by Income Quintile: All Trips

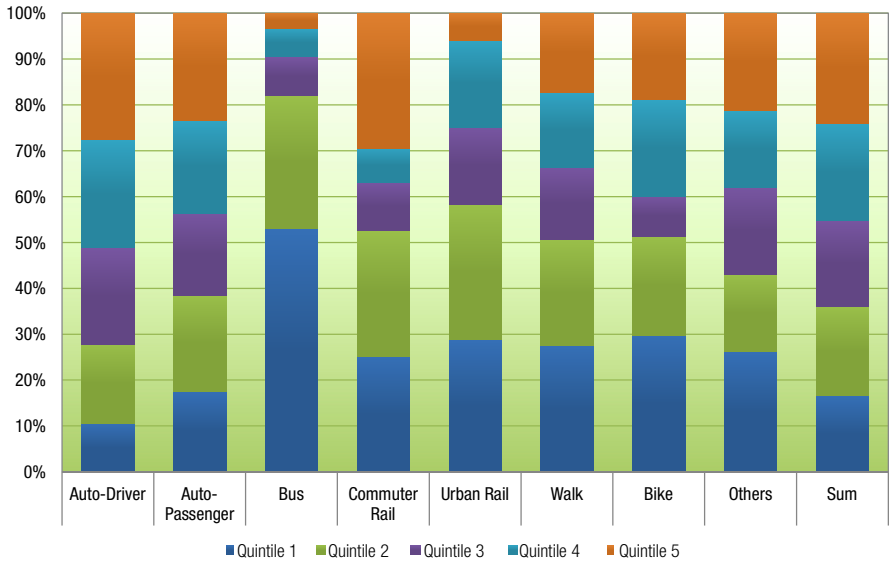
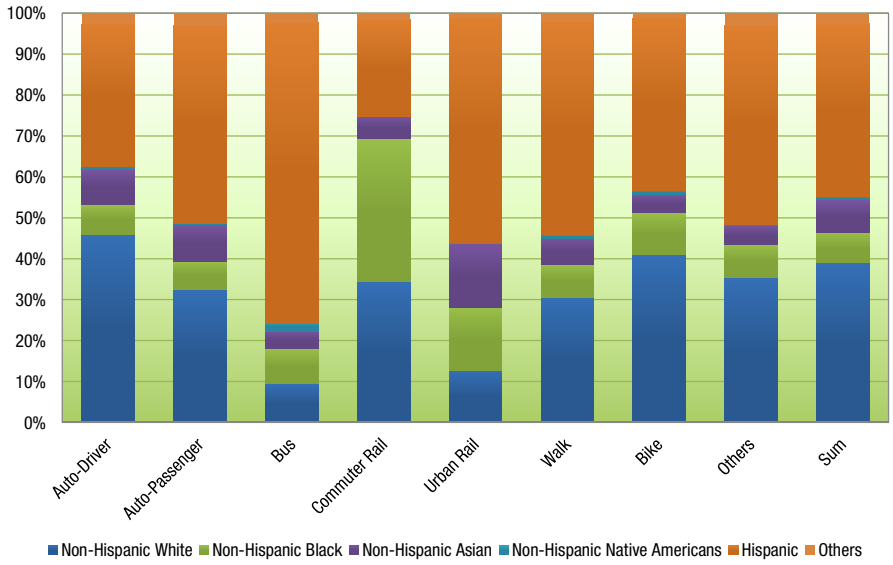


FIGURE 10 Transportation Usage by Mode and by Ethnicity: All Trips



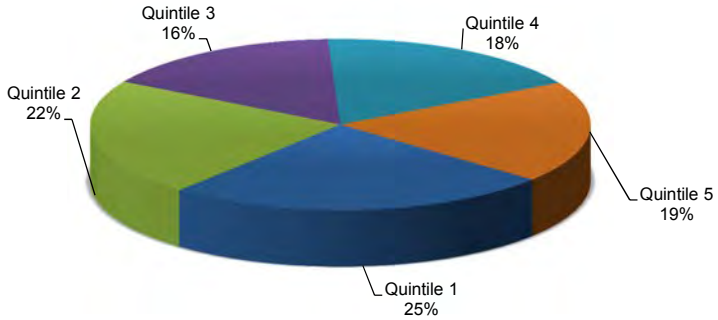
(3) RTP Project Investment Share by Income and Ethnicity

One of the most prominent environmental justice issues is the transportation investment strategy, which can impact the transportation choices of low income and minority communities. A disproportionate allocation of resources for various investments can indicate a pattern of discrimination. Such was the case in the landmark civil rights class action lawsuit *Labor/Community Strategy Center v. Los Angeles County Metropolitan Transportation Authority (MTA)* in October 1996. The lawsuit, which eventually led to a court-ordered Consent Decree, charged that MTA's investment and service priorities disproportionately allocated resources to rail transit over bus ridership, an expenditure pattern discriminatory to low-income and minority communities.

As a regional MPO, SCAG aims to identify and address the Title VI and the environmental justice implications of its planning processes and investment decisions. This analysis intends to determine where the 2012-2035 RTP/SCS is putting its investments and will evaluate whether resources are being allocated equitably. The 2012-2035 RTP/SCS utilized a benefit assessment method that considered to what extent various socioeconomic groups were receiving value from existing and funded transportation investments. SCAG compared the total share of transportation funding borne by low-income households against other income groups. In this analysis, SCAG reported expenditure distribution in several ways. First, SCAG estimated the share of total RTP expenditures allocated to each category of household income. This was done by summing expenditures on each type of mode (bus, HOV lanes, commuter/high speed rail, highways/arterials, and light/heavy rail). These expenditures were then allocated to income categories based on each income group's use-share of these modes.

FIGURE 11, Transportation Investments by Income Quintile, presents the findings for percent of total investments, which looks at the raw dollars and compares the amounts spent on low-income and high-income households. The results in the 2012-2035 RTP/SCS revealed that approximately 25 percent of Plan investments will be allocated to the lowest quintile group (Quintile 1 - as compared with the group system usage of just under 17 percent), while 19 percent will be invested for the highest income category (Quintile 5) with total transportation system usage of almost 25 percent. In other words, transportation investments would go to modes likeliest to be used by lower-income households.

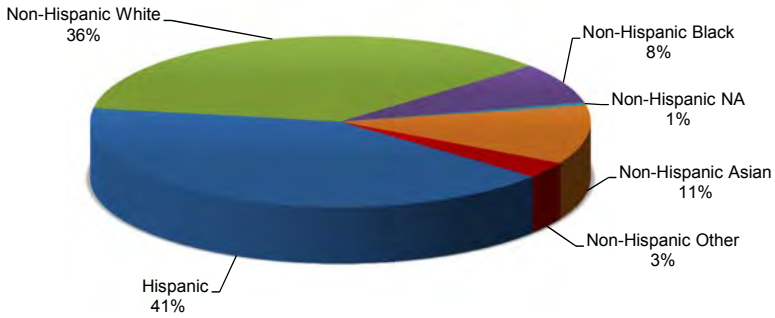
FIGURE 11 2012-2035 RTP/SCS Transportation Investment by Income Quintile



The next figure, Transportation Investments by Ethnicity, evaluates the distribution of transportation investments by various ethnic/racial categories. The current analysis for the 2012-2035 RTP/SCS reveals that Plan investments will be distributed equitably on the basis of system usage by ethnic/racial groups. Transportation investments would go to modes most likely to be used by lower-income households.

For Hispanics, the share of Plan investments (41 percent) is close to this group's share of system usage (39.6 percent); for Whites, the share of Plan investments is at 36 percent, while their system usage is 38.2 percent; for African-Americans, the share of Plan investments (8 percent) also exceeded their share of system usage (6.9 percent).

FIGURE 12 2012-2035 RTP/SCS Transportation Investment by Ethnicity



(4) Impacts from Transportation Funding Based on VMT Fees

METHODOLOGY

This is a new analysis area based on the finance strategy in the 2012-2035 RTP/SCS, which recommends a vehicle mile traveled (VMT) based user fee, which would be assessed beginning in the year 2025. This VMT fee would be implemented to replace the gasoline tax, and is estimated to cost about $0.05 (in 2011 dollars) per mile and indexed to maintain purchasing power starting in 2025. The implementation of this strategy requires actions of both the State Legislature and Congress. The recommended strategy is consistent with recommendations from two national commissions to move towards a mileage-based user fee system. Immediate steps necessary to take include coalescing state and national partners to fund further RD&D (Research Development & Demonstration) in advance of a 2025 broad based implementation.

The following section discusses the environmental justice impacts of a VMT-based user fee and will also assess the measure's likely impact on the distribution of population and employment growth in the future due to the implementation of VMT fees.

Note that potential shifts in growth examined here are not reflected in the Plan's growth forecast and land use assumptions. Rather they are a theoretical analysis of logical changes in land use that may occur with implementation of a mileage based user fee.

In comparing the VMT-based user fees finance system with the traditional gas tax based transportation funding system, the following points arise:

- The gas tax and the VMT-based user fee are similar in nature in that they are both highly regressive—lower income households will pay a disproportionately higher percentage of their income for both a gasoline tax or a VMT-based user fee than is paid by higher income groups.
- The VMT-based user fee is less "regressive" than the gasoline tax because it removes the advantages that higher income households have due to their access to relatively new and more fuel efficient vehicles. In general, new passenger vehicles are normally 15-20 percent more fuel efficient than the general auto fleet. Thus, given the equivalent dollar amount of the gas tax and VMT-based user fees, higher income drivers (who usually own newer and much more fuel efficient vehicles) will now have to pay more through the VMT-based fee system than they have in the existing gasoline tax based transportation funding environment.
- Moreover, as analyzed later in the section on job-housing and workers-job fit, most long distance commuters are high income wage earners who can afford the VMT-based user fees. On the other hand, low income households, minorities, and households without vehicles will be similarly or less impacted under a VMT-based fee system than is the case with the traditional gasoline tax.

SCAG developed an integrated transportation–land use model, based on the PECAS framework, to help analyze the land use impacts from the VMT user fee scenario. For additional detail on the model, please see the Integrated Growth Forecast Technical Appendix. Since the model has not been peer reviewed, and not fully calibrated with the best available regional data, its output shall not be considered to be SCAG's official position on the scenario. Nonetheless, a review would be useful in understanding the impact considered as the market's response to a feasible future.

To parameterize the VMT fee scenario for a model run, the following assumptions were applied:

- The current gasoline tax, which exists at $0.364 per gallon, would gradually increase until 2025 to $0.50 per gallon.
- Subsequently, a $0.05 per mile VMT fee would replace the gasoline tax at year 2026.
- Relative to the PECAS model's base year, 2007, the travel cost would be 10 percent higher in year 2025 than in 2007. Between 2008 and 2024, this cost increase is linear. At year 2026, the travel cost would be 20 percent higher than in 2007, and thereafter stabilized.

RESULTS

With and without a change in travel costs, the PECAS model estimated the total number of households and jobs for 302 CSAs (Community Statistical Areas). The difference in zonal allocation is the impact of increased travel costs. PECAS evaluates the spatial utility for economic activities, such as production, exchange and consumption, such that the regional total of households and jobs are allocated to each zone according to the estimated utility. High travel cost means increases in disutility in the model; therefore, economic actors would try to avoid interactions with longer distances, which would result in 'tighter' concentrations in certain areas.

TABLES 21 and **22** summarize the number of households and jobs over SCAG's 14 subregions, respectively. Note that this allocation is not identical to the socioeconomic data set provided for the RTP process. What the table shows is a set of estimated figures according to the modeled market, while the official socioeconomic data was created from a thorough process that is detailed in the Growth Forecast Technical Appendix.

Comparing the allocation in year 2035, Imperial County gains about 1 percent of households; yet, loses 0.8 percent of jobs under the VMT fee scenario relative to the base case. In Los Angeles County, only North Los Angeles and Las Virgenes-Malibu subregions are estimated to have fewer households due to the VMT fee. Interestingly, the main job centers in Los Angeles County are estimated to have fewer jobs under the scenario, including the City of Los Angeles, Westside Cities Council of Governments and South Bay Cities Council of Governments. San Bernardino County would lose about 0.2 percent of households. Overall, however, the difference is not significant.

TABLE 21 PECAS Estimated Number of Households by Subregion

County	Subregion	2007	2020			2035		
			Base Scenario	VMT Fee Scenario	% Change to Base 2020	Base Scenario	VMT Fee Scenario	% Difference from Base to VMT Fee Scenario
Imperial	Imperial County	48,984	63,895	64,540	1.009	75,188	75,906	0.955
Los Angeles	North Los Angeles	179,481	200,441	200,340	-0.050	227,335	227,207	-0.056
	City of Los Angeles	1,314,418	1,440,083	1,440,529	0.031	1,618,555	1,618,768	0.013
	Arroyo Verdugo	127,848	140,072	140,113	0.029	157,349	157,368	0.012
	San Gabriel Valley	536,191	589,153	589,264	0.019	662,617	662,629	0.002
	Westside Cities	144,804	158,920	159,008	0.055	178,948	179,014	0.037
	South Bay Cities	280,163	308,566	308,686	0.039	348,385	348,453	0.020
	Gateway Cities	599,899	653,939	654,118	0.027	731,196	731,266	0.010
	Las Virgenes-Malibu	31,669	36,126	36,130	0.011	41,858	41,855	-0.007
	County Total	3,214,472	3,527,299	3,528,188	0.025	3,966,243	3,966,558	0.008
Orange	Orange County	982,731	1,080,947	1,081,134	0.017	1,218,957	1,218,971	0.001
Riverside	CVAG	160,451	192,760	192,511	-0.129	225,592	225,395	-0.087
	WRCOG	503,381	602,362	602,718	0.059	693,578	694,598	0.147
	County Total	663,831	795,122	795,229	0.013	919,170	919,993	0.090
San Bernardino	SANBAG	598,350	697,982	696,340	-0.235	805,089	803,532	-0.193
Ventura	VCOG	263,414	296,682	296,497	-0.062	338,225	337,911	-0.093
Region Total		**5,771,783**	**6,461,928**	**6,461,928**	**0.000**	**7,322,871**	**7,322,871**	**0.000**

TABLE 22 PECAS Estimated Number of Jobs by Subregion

County	Subregion	2007	2020			2035		
			Base Scenario	VMT Fee Scenario	% Change to Base 2020	Base Scenario	VMT Fee Scenario	% Difference from Base to VMT Fee Scenario
Imperial	Imperial County	58,053	73,631	72,975	-0.891	84,747	84,105	-0.758
Los Angeles	North Los Angeles	189,775	196,791	196,878	0.044	221,412	221,506	0.042
	City of Los Angeles	1,725,666	1,798,023	1,797,960	-0.004	1,988,714	1,988,679	-0.002
	Arroyo Verdugo	231,146	239,332	239,311	-0.009	261,790	261,773	-0.006
	San Gabriel Valley	734,696	759,945	760,056	0.015	842,372	842,490	0.014
	Westside Cities	328,400	340,409	340,328	-0.024	375,161	375,081	-0.021
	South Bay Cities	435,594	442,938	442,864	-0.017	485,343	485,274	-0.014
	Gateway Cities	846,983	851,471	851,432	-0.005	933,875	933,843	-0.003
	Las Virgenes-Malibu	61,550	66,848	66,842	-0.009	74,172	74,168	-0.005
	County Total	4,553,810	4,695,757	4,695,673	-0.002	5,182,839	5,182,814	0.000
Orange	Orange County	1,648,076	1,711,698	1,711,927	0.013	1,890,340	1,890,615	0.015
Riverside	CVAG	181,897	227,668	227,655	-0.006	268,522	268,521	0.000
	WRCOG	497,027	562,744	563,297	0.098	686,557	687,015	0.067
	County Total	678,923	790,412	790,952	0.068	955,079	955,536	0.048
San Bernardino	SANBAG	685,628	753,656	753,616	-0.005	881,488	881,409	-0.009
Ventura	VCOG	377,817	391,682	391,692	0.003	441,635	441,651	0.004
Region Total		**8,002,308**	**8,416,836**	**8,416,836**	**0.000**	**9,436,129**	**9,436,129**	**0.000**

The shift in activity allocation caused by the additional travel cost can be better captured with maps. **EXHIBIT 15** shows the difference in households between the base case and VMT-based fee scenario. As indicated in the map, households are leaving zones in outlying areas, due to additional travel costs, and are relocating into a few centers, including Downtown Los Angeles, the Beach Cities, and many other cities in Los Angeles County. Similarly, both Western Riverside County and the southern part of San Bernardino County receive additional growth in several centers.

In general, households are moving towards nearby centers in response to the higher cost of travel. In the future, Downtown Los Angeles could be the center of gravity in the region, and it could be the first place to concentrate. However, the additional 10 percent in travel costs is not high enough to push a significant number of households into Downtown Los Angeles. Instead, dramatic growth is seen in three places region-wide, which are portions of the City of Los Angeles, the western portion of Riverside County, the southern portion of San Bernardino County, and the eastern section of Imperial County. **FIGURE 13** depicts the conceptual centers for household shifts under the scenario.

Jobs showed a distinctly different shift pattern. The most noticeable difference from the household shifting pattern is observed in Los Angeles County. Instead of coming into the urban center, jobs are moving away from the Downtown Los Angeles area to either north Los Angeles County or western Riverside County.

In general, the results suggest that with higher travel costs region-wide as reflected in the VMT-based user fees, people and households will tend to move to nearby local centers where accessibility to job opportunities is plentiful, so as to offset the impacts from an increase in travel costs. On the other hand, employers will relocate to key locations to better align themselves with the newly emerging concentration of workers and households.

It is not clear if this change would happen in the estimated magnitude. Yet, in conjunction with a 3.5 percent estimated reduction in travel distance (see the Growth Forecast Technical Appendix for additional detail), these impacts on directional changes seem reasonable.

FIGURE 13 Household Shift

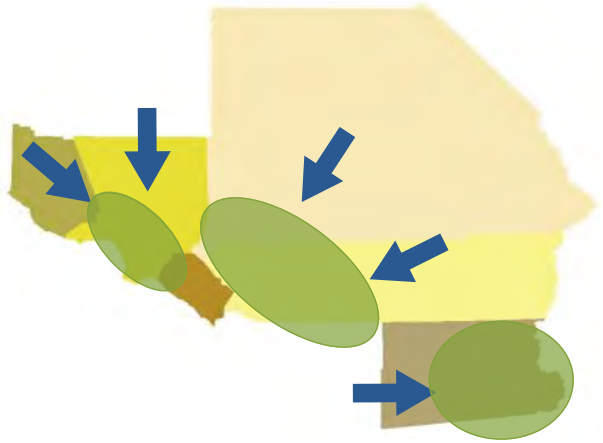


FIGURE 14 Job Shift

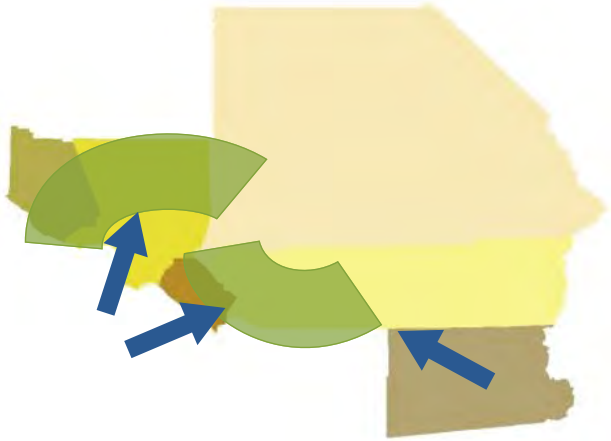


EXHIBIT 15 PECAS Estimated Changes in Households in Year 2035 Due to VMT Fee – Percent Difference

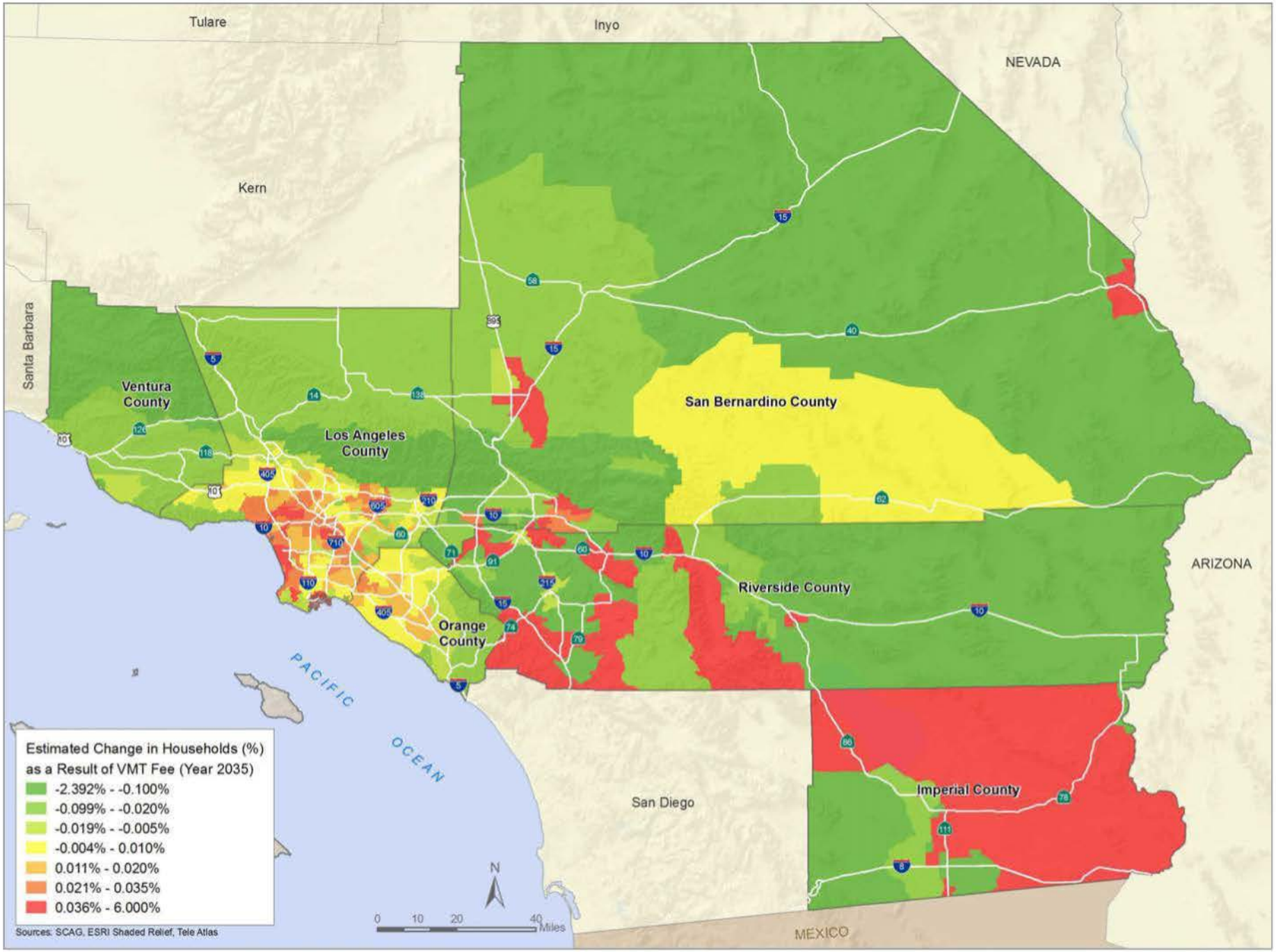
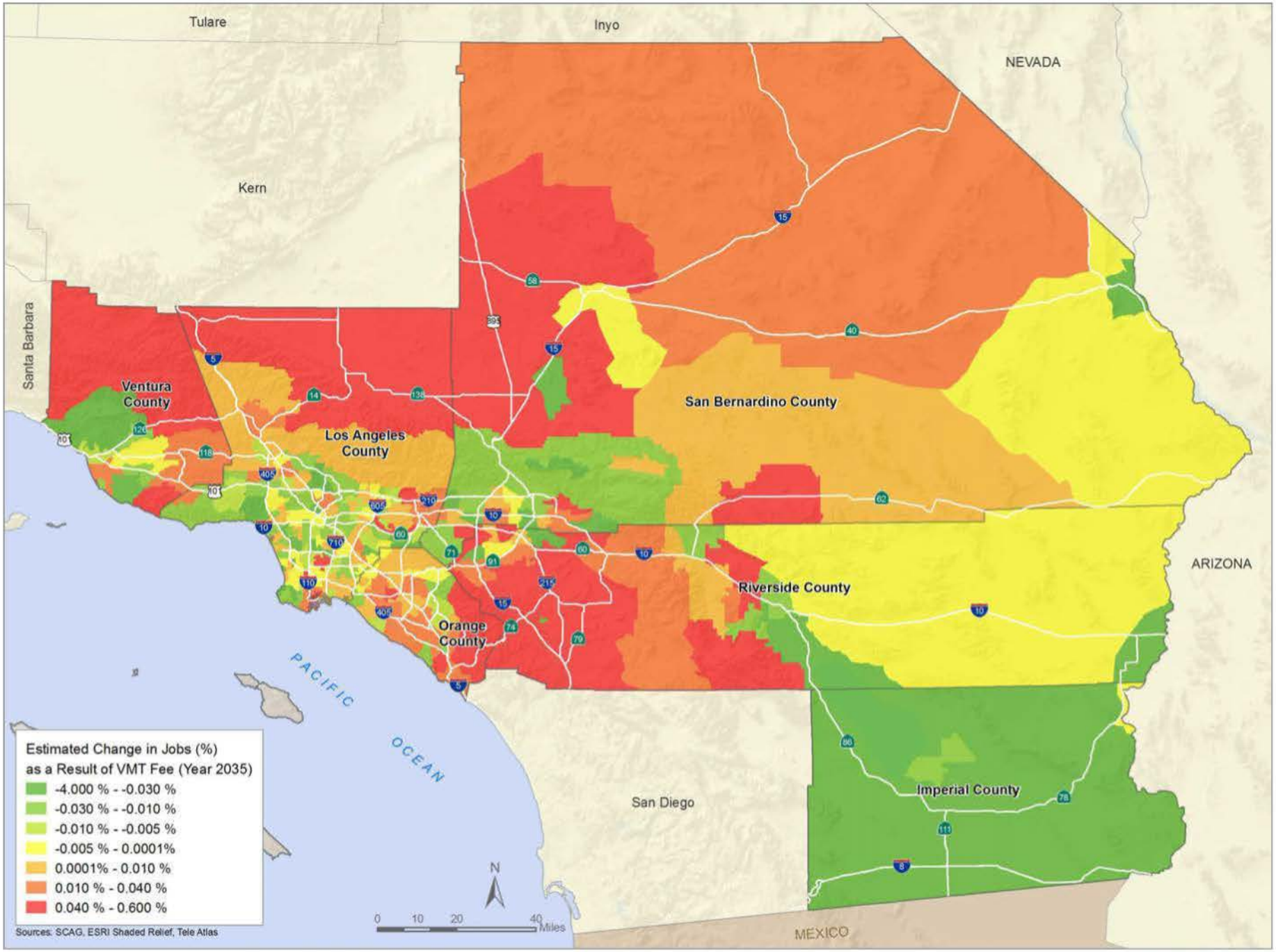


EXHIBIT 16 PECAS Estimated Changes in Jobs in Year 2035 Due to VMT Fee – Percent Difference



(5) Distribution of Travel Time Savings and Travel Distance Savings

METHODOLOGY

This analysis involved measuring the average travel time for both work trips and non-work trips. SCAG assesses the distribution of travel time savings that are expected to result from implementation of the Plan. SCAG conducted this analysis for transit (i.e. bus and light rail) and automobile trips. These travel time savings were reported as a proportion of the total travel time savings for each mode.

Travel time savings is one performance measure that SCAG analyzed to determine the share of benefits and burdens in using the regional transportation system for the region's population groups. For the 2012-2035 RTP/SCS, transportation modeling results were used with data on mode usage by income and ethnicity to determine travel time savings. Results were calculated for trips made by automobile (the most common mode of travel) and for trips using transit (transit by local bus and/or by all transit).

SCAG assessed the distribution of travel time savings that are expected to result from the implementation of the 2012-2035 RTP/SCS by analyzing demographic data and the associated mode usage statistics for each Transportation Analysis Zone (TAZ) in the region. With this input, an estimate for the time savings for each income and ethnic group can be identified for trips involving transit (i.e. local bus and all transit) and automobiles.

Another way of estimating benefits is to calculate savings in terms of person-miles traveled (PMT). These results indicate that the share of driving distance savings, similar to time savings, generally resembles the share of usage. This is another way of estimating the benefits of land-use strategies—locating homes nearer to work places and intensifying land-use—reflected in the Plan. Similar to the methodology used to estimate travel time savings, staff used the differences between the RTP/SCS and baseline scenario in trip distribution and distance to estimate per-mile travel benefits.

There are two ways to examine and to determine whether the RTP/SCS outcomes on travel time and person-mile changes are adequately allocated by various income/ethnicity groups. The first is to compare the distribution of total savings (benefits) by income/ethnicity with each group's usage of the system, share of RTP investment, and their contributions through gasoline and sales taxes to fund the transportation system. The second, is to examine whether relative improvements from proposed RTP/SCS strategies for each income/ethnicity group are generally in line with their usage—i.e., to ensure that every group benefits appropriately from the system investment and improvements in the 2012-2035 RTP/SCS.

RESULTS

FIGURES 15 and **16** present Share of System Usage, Taxes Paid, Travel Time Savings (auto, local bus, all transit), and Person-mile Changes (auto) by income/ethnicity. **FIGURES 17** and **18** present the relative improvements of travel time savings and person-mile reductions from implementation of the 2012-2035 RTP/SCS. Highlights among the figures include the following:

- Share of travel times savings by income groups are generally consistent with each group's mode usage. Higher income quintile groups captured more savings in person hour traveled proportionally to their relative higher usage of autos. However, lower income groups received more benefits from transit related time savings for their higher usage of transit.
- Person-mile travel changes are also in line with usage by income groups of autos.
- Share of travel time savings and person-mile benefits by ethnic groups are also very balanced, and in line with each ethnic group's use of the transportation system.
- Lower income quintile groups received greater improvements in person-mile travel reductions and local bus travel time savings than higher income groups, and about the same level of improvement in person hour savings as higher income households. Alternatively, higher income households enjoyed a moderately better improvement in all transit mode time savings.
- Improvements in mobility and person-mile travel benefits are fairly similar and close for all ethnic groups.

FIGURE 15 Share of Travel Time and Person-Mile Travel Benefits by Income

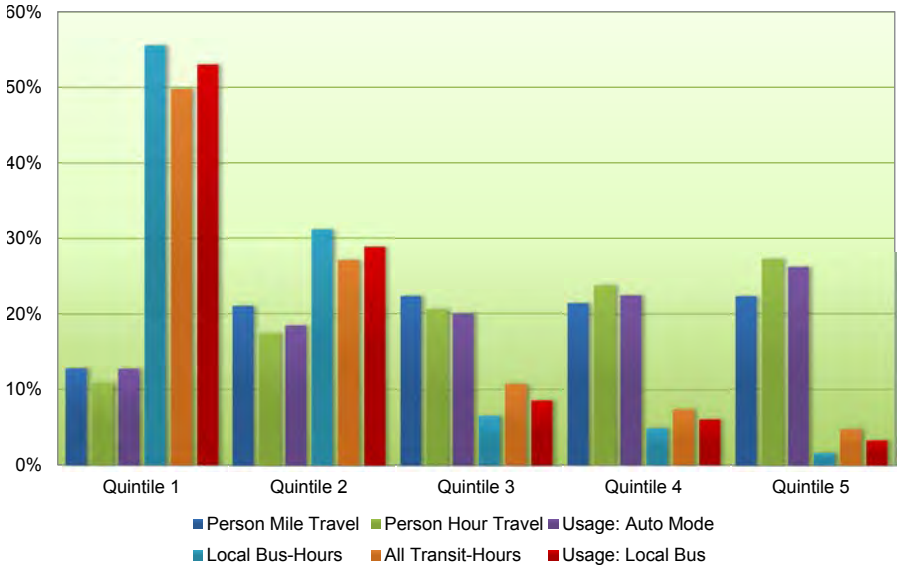


FIGURE 16 Share of Travel Time and Person-Mile Travel Benefits by Ethnicity

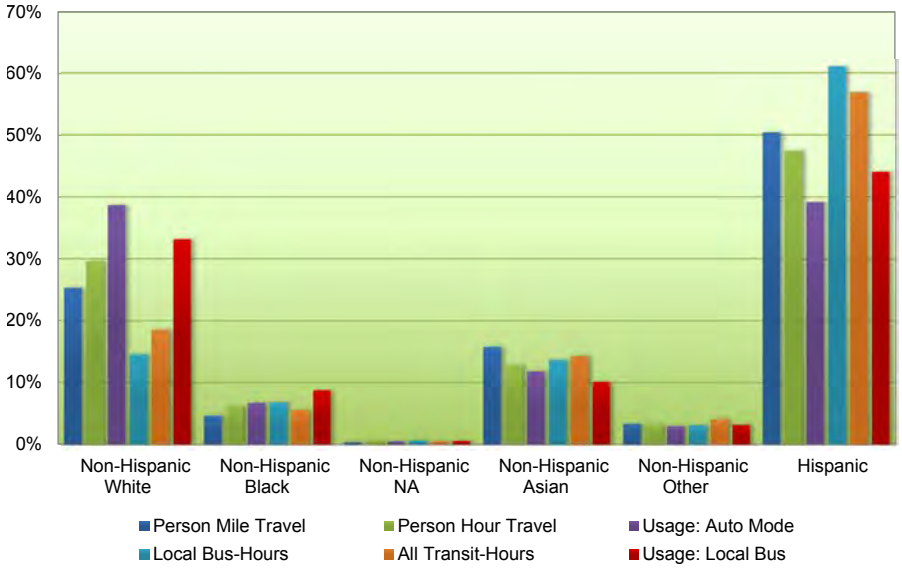


FIGURE 17 2012–2035 RTP/SCS Improvement on Mobility and Person-Mile Travel by Income Quintile

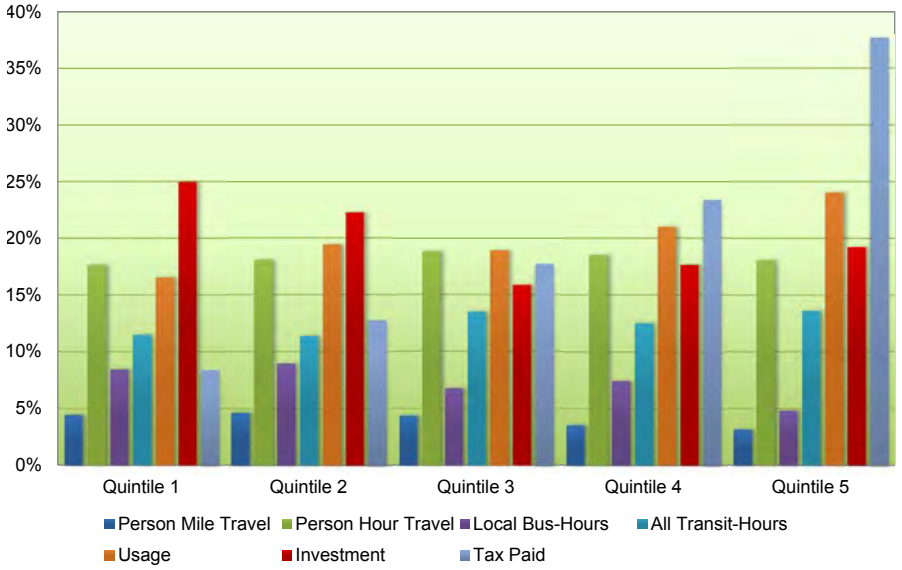
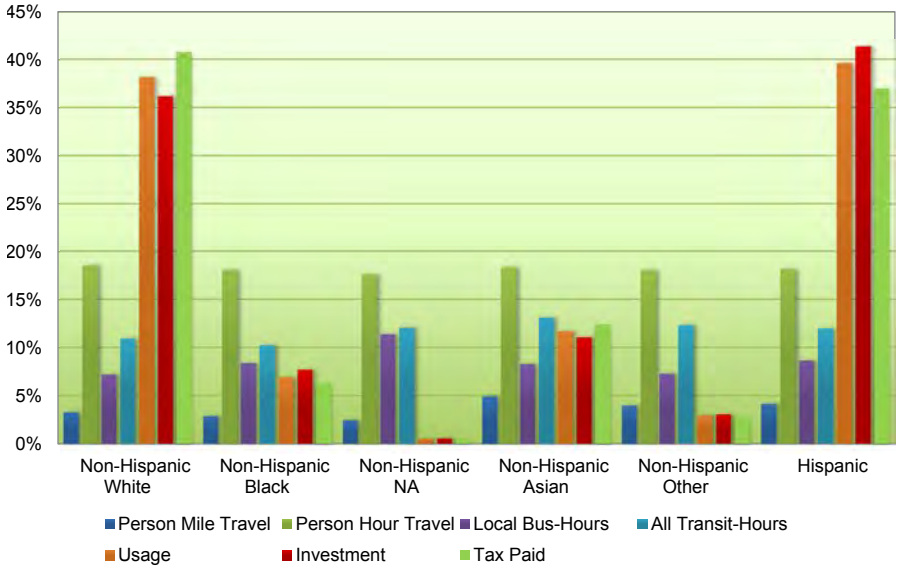


FIGURE 18 2012–2035 RTP/SCS Improvement on Mobility and Person-Mile Travel by Ethnicity



(6) Jobs-Housing Imbalance or Jobs-Housing Mismatch

In the practice of urban and transportation planning, the subject of job-housing imbalance and job-housing mismatch is considered a key contributor to traffic congestion and, some argue, an impediment to environmental justice. Among the arguments:

- Workers are priced out of the job rich areas, which makes long distance travel and congestion inevitable for many
- Coastal counties have not built enough housing, forcing workers to move to inland counties where housing is affordable. This results in long distance commuting and traffic congestion

While this analysis is not expecting to allay all concerns related to jobs-housing imbalance and/or jobs-housing mismatch, however, the statistics are provided to investigate socio-economic profiles of long distance commuters—defined here as "inter-county commuters—such that stakeholders and policy makers can better understand the demographic composition of long distance commuters.

From an economic point of view, transportation and driving are expensive; workers without a car or people with less income who cannot afford a vehicle have to either live close to their jobs where they can have access to transit or can walk or bike. Moreover, since long distance commuting is expensive, people do not partake of it unless subsidies exist to own a dependable vehicle, access is available to relatively fast and cheap transit, or they have a well-paying job.

The following tables identify the median wages for inter-county and intra-county commuters using the 1990 Census, 2000 Census, and the most recent 2008 American Community Survey (ACS).

TABLE 23 Median Wage/Earnings for Workers by Place of Residence and Place of Work, 1990–2008

Residence	2008 Place of Work						
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	San Diego
Imperial	$20,804	$27,581	$28,369	$25,217	$23,641	$30,576	$27,581
Los Angeles	$40,978	$23,641	$26,005	-	$37,826	$40,978	$35,462
Orange	$39,402	$33,097	$19,701	$37,826	$28,369	$47,282	$31,521
Riverside	$22,065	$26,793	$23,641	$16,549	$33,097	-	$27,581
San Bernardino	$31,521	$31,521	$23,641	$86,684	$19,701	$45,706	$23,641
Ventura	$44,918	$56,738	$10,560	-	$60,679	$23,641	$20,489
San Diego	$43,342	$39,402	$37,826	$55,162	$63,043	$17,337	$25,217
Residence	**2000 Place of Work**						
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	San Diego
Imperial	$19,000	$16,000	$6,300	$10,400	$81,000	-	$25,200
Los Angeles	$20,000	$21,000	$27,900	$26,800	$22,400	$28,000	$21,000
Orange	$10,500	$41,000	$24,600	$30,000	$40,000	$35,000	$39,000
Riverside	$44,400	$40,000	$36,500	$18,000	$30,000	$40,000	$36,800
San Bernardino	$27,800	$35,000	$35,000	$27,000	$19,500	$42,000	$26,000
Ventura	-	$43,000	$45,000	$50,000	$40,000	$22,000	$45,000
San Diego	$30,000	$36,000	$40,000	$30,000	$19,000	$35,000	$23,600
Residence	**1990 Place of Work**						
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	San Diego
Imperial	$16,830	$6,991	$32,365	$16,364	$41,427	$7,664	$23,303
Los Angeles	$23,303	$22,008	$27,758	$25,892	$22,008	$29,776	$15,535
Orange	$23,303	$42,722	$23,303	$32,365	$33,660	$38,838	$38,838
Riverside	$12,946	$41,427	$37,543	$17,865	$31,070	$36,249	$31,718
San Bernardino	$51,784	$36,016	$36,249	$27,187	$19,419	$46,606	$32,365
Ventura	-	$44,016	$49,345	$38,191	$25,892	$20,714	$28,481
San Diego	$29,776	$37,543	$36,249	$27,187	$29,776	$33,660	$20,714

Sources: 2008 ACS PUMS (CPI adjusted to $ in 1999), 2000 PUMS 5% ($ in 1999), 1990 PUMS 5% (CPI adjusted to $ in 1999)

The statistics indicate that, almost without exception, all inter-county commuters command much higher wages than those commuters who work and live in the same county. Those commuters also command wages higher than workers who work and reside in their destination work counties. From an environmental justice perspective, this research does not provide definitive results. Rather, it raises additional questions that could be investigated to better understand how jobs, workers, housing, and associated income distribution could impact travel patterns of low income and minority populations.

Policy Implications:

A strong case could be made for imposing future VMT-based charges to the net inter-county commuting VMT (total inter-county commuting VMT—estimated VMT to reach the county line) to address the transportation funding needs and relieve congestion.

Further research is needed to investigate the jobs-housing imbalance and jobs-housing mismatch issues and related policy implications more carefully. One observation, which remains valid today, and was provided in SCAG's Environmental Justice Report for the 1998 RTP, indicated that "for people who cannot afford a car for long distance travel, and have to cluster around certain areas, their mobility and accessibility are severely limited. An example is if growth in entry level jobs is primarily in suburban areas but is not served by public transit in peak hours, or is too far by walking/biking." The 2012-2035 RTP/SCS transportation investment and land use strategies will provide relief for this concern.

(7) Accessibility to Employment and Services

METHODOLOGY

Accessibility is a foundation for social and economic interactions. As an indicator, accessibility is measured by the spatial distribution of potential destinations, the ease of reaching each destination, and the magnitude, quality and character of the activities at the destination sites. Travel costs are central: the lower the costs of travel, in terms of time and money, the more places that can be reached within a certain budget and, thus, the greater the accessibility. Destination choice is equally crucial: more destinations and the more varied the destinations, the higher the level of accessibility.

The analysis of accessibility for the 2012-2035 RTP/SCS Environmental Justice report includes the following:

- Investigate the distance-based accessibility of medical services and grocery/general merchandise stores that are within transportation modes for walking, biking, and using the local bus system for the base year (2008). Staff used both 3-mile and 5-mile radii and compared Environmental Justice groups with the average population in terms of accessibility to medical service facilities and grocery/general merchandise stores.
- Present both the base year job and shopping accessibility improvements through implementation of the 2012-2035 RTP/SCS by three transportation modes—auto, local bus, and all transit, and two travel time intervals—30 and 45 minutes. However, this report only presents results for 45-minutes of travel.
- Apply the same analysis and methodology used for job and shopping accessibility for analyzing park accessibility for Environmental Justice Communities.

Employment and retail accessibility evaluates how well the transportation system is providing access to jobs and shopping for underrepresented populations. In this analysis, both employment and shopping accessibility is defined as the percentage of the population who can travel between work and home or between retail stores and home within 30 or 45 minutes during the morning peak period. The general procedures for these exercises are:

- Obtain Transportation Analysis Zone (TAZ) to TAZ travel time matrix by mode: auto, local bus, and all transit
- Identify medical facilities, grocery stores, and general merchandise stores from SCAG's employment database, and the projected growth of total employment and retail jobs within the study area
- Identify from SCAG's land use database all local, regional, state, and national parks
- For each TAZ, select all of the TAZs accessible with different transportation modes within 45-minutes of travel (30-minute travel time results are available upon request)
- Summarize total jobs, retail jobs, medical facilities, grocery/general merchandise stores, and acreage of parks

RESULTS

DISTANCE-BASED ACCESSIBILITY

The following figures present medical facility/grocery stores accessibility in 3-mile and 5-mile radius by key Environmental Justice interested groups.

As illustrated in both figures, most ethnic groups, lower income quintile households, and people in poverty live in areas with higher than average accessibility to medical facilities, grocery/general merchandise stores. These observations support the statement made earlier that because transportation and long distance travel are expensive, less affluent people will choose residential locations where they can walk, bike, or take transit to access jobs, shopping, or other essential services. The priority policy is to create job opportunities for less affluent people near transit or urban cores. Promoting development in TOD areas is a good policy, but the unintended impacts on displacement and gentrification need to be mitigated.

The analysis also indicates that several population groups—Non-Hispanic Native Americans, Non-Hispanic Black and others, elderly and disabled—have "very slightly" less than average accessibility to either medical services or grocery/general merchandise stores as those observed for Non-Hispanic White and higher-income quintile households. Since there is no mobility element in this analysis, the primary cause could be the residential locations of these population groups relative to the opportunities located in surrounding areas. It is recommended that additional monitoring and study are conducted to better understand the accessibility issues for these four Environmental Justice groups (Non-Hispanic Native Americans, Non-Hispanic Black and others, elderly and disabled).

FIGURE 19 Local Stores and Medical Facilities within 3-Mile Radius Area (2008)

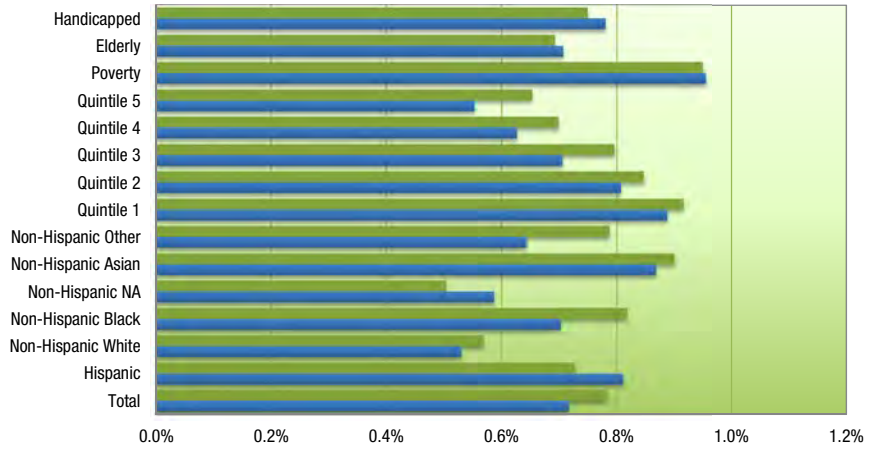
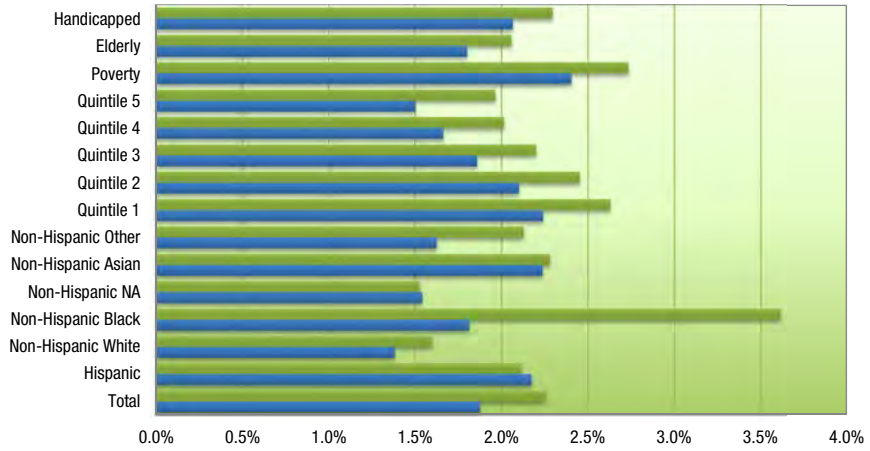


FIGURE 20 Local Stores and Medical Facilities within 5-Mile Radius Area (2008)



JOB AND SHOPPING OPPORTUNITY

Job and shopping accessibility calculations are presented in the following figures. The base year job and shopping accessibility and improvements from the 2012–2035 RTP/SCS are also shown. Summary highlights from the base year job and shopping accessibility analysis include the following:

- Elderly population showed only above average accessibility to job opportunity by auto; all other measures come out slightly below average for both job and shopping accessibility. As mentioned earlier, staff plan to research and study further about residential location and land use in the surrounding areas for this population group, in particular because the region is facing an aging population in the next 20–25 years.
- In general, lower income quintile households and population below poverty all showed higher job and shopping accessibility in base year 2008 under every transportation mode.
- As the case of distance-based accessibility, non-Hispanic Native Americans and non-Hispanic other, similar to non-Hispanic White, have below average accessibility in both job and shopping accessibility.
- Nonetheless, through the implementation of recommended strategies in the 2012–2035 RTP/SCS, the elderly, non-Hispanic Native Americans and non-Hispanic others will experience much better improvements than the average population in both job and shopping opportunities.

FIGURE 21 Total Job and Shopping Accessibility by Mode: Population in Need: 2008

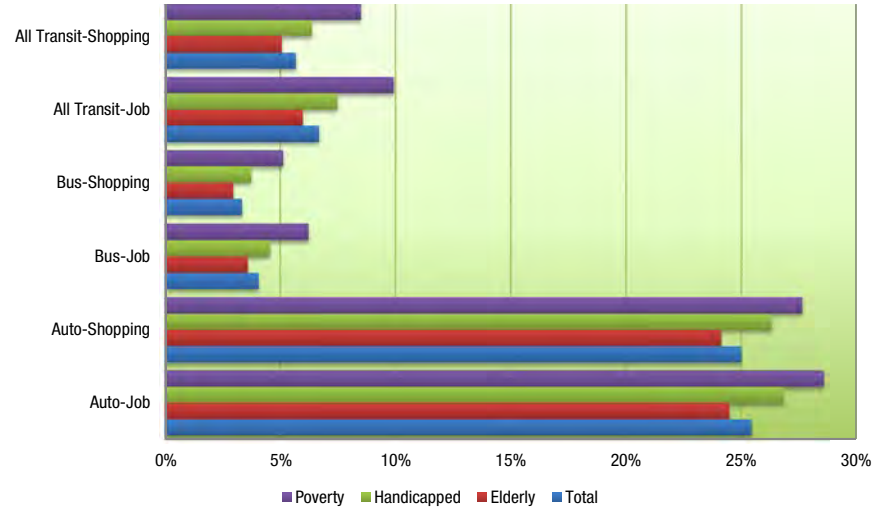


FIGURE 22 Total Job and Shopping Accessibility by Mode and Income: 2008

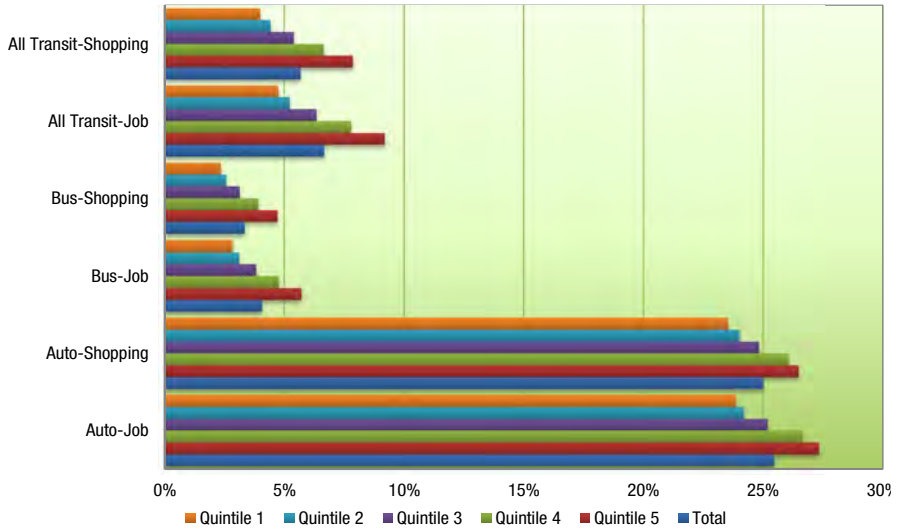


FIGURE 23 Total Job and Shopping Accessibility by Mode and Ethnicity (2008)

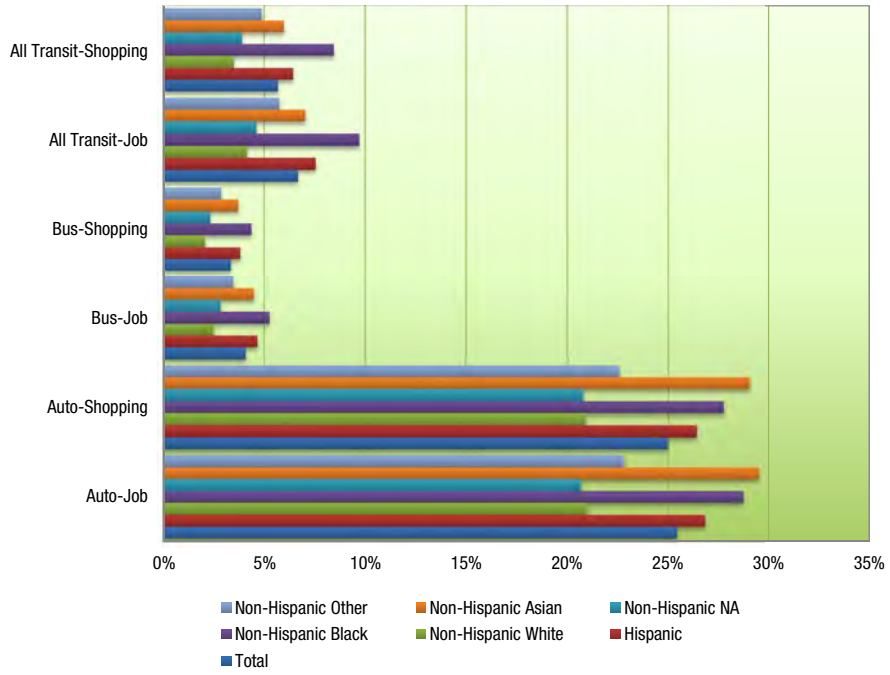


FIGURE 24 2012–2035 RTP/SCS Impacts on Job and Shopping Accessibility: Population in Need

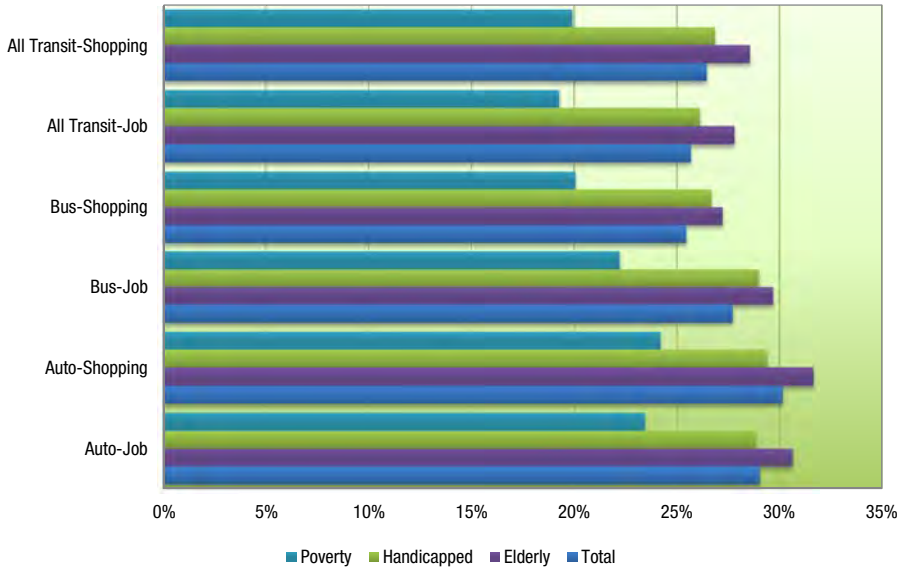


FIGURE 25 2012–2035 RTP/SCS Impacts on Job and Shopping Accessibility by Mode and Income Quintile

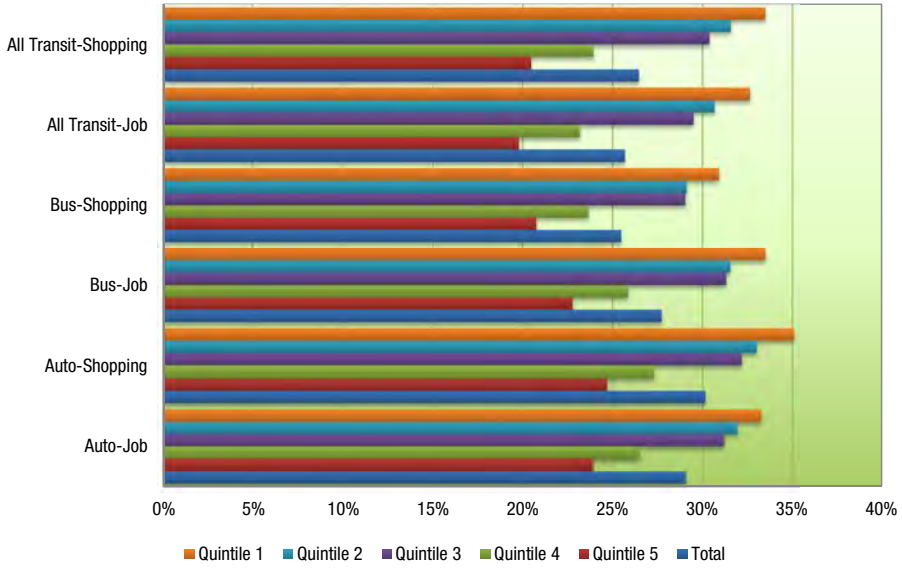


FIGURE 26 2012–2035 RTP/SCS Impacts on Job and Shopping Accessibility by Mode and Ethnicity

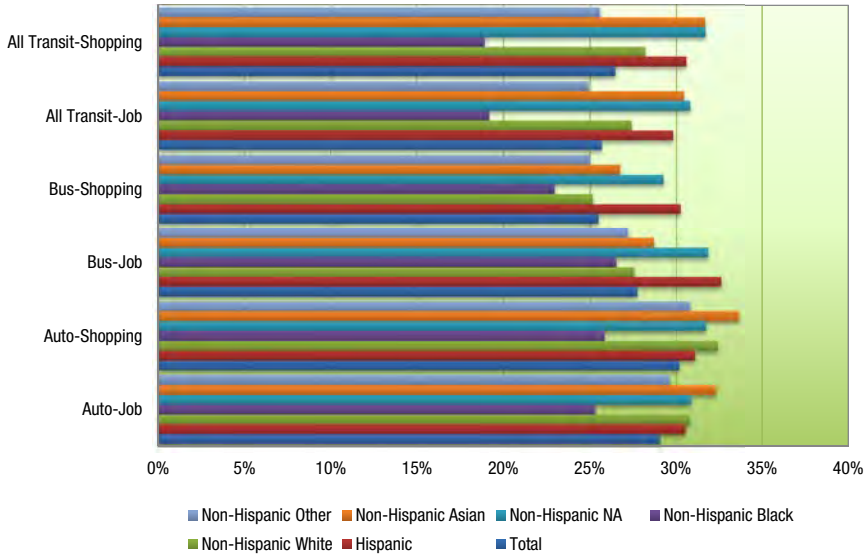


TABLE 24 2012–2035 RTP/SCS Impacts on Job/Shopping Accessibility (45 Minutes of Travel) by Ethnicity

2008	Total	Hispanic	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic NA	Non-Hispanic Asian	Non-Hispanic Other
Auto Mode: 45 minutes							
Total Job	25.44%	26.82%	20.99%	28.72%	20.67%	29.47%	22.78%
Shopping	24.98%	26.41%	20.92%	27.75%	20.78%	29.01%	22.58%
Local Bus: 45 minutes							
Total Job	4.06%	4.66%	2.49%	5.26%	2.83%	4.49%	3.46%
Shopping	3.34%	3.81%	2.06%	4.36%	2.33%	3.71%	2.85%
All Transit: 45 minutes							
Total Job	6.67%	7.55%	4.13%	9.69%	4.60%	7.03%	5.75%
Shopping	5.67%	6.42%	3.48%	8.43%	3.90%	5.95%	4.88%
2035 Baseline	**Total**	**Hispanic**	**Non-Hispanic White**	**Non-Hispanic Black**	**Non-Hispanic NA**	**Non-Hispanic Asian**	**Non-Hispanic Other**
Auto Mode: 45 minutes							
Total Job	20.93%	21.26%	16.98%	21.60%	16.46%	24.03%	18.85%
Shopping	20.61%	21.07%	16.87%	21.27%	16.51%	23.69%	18.66%
Local Bus: 45 minutes							
Total Job	3.57%	3.68%	2.11%	3.82%	2.27%	3.77%	2.96%
Shopping	3.09%	3.19%	1.82%	3.34%	1.96%	3.28%	2.56%
All Transit: 45 minutes							
Total Job	5.85%	6.03%	3.51%	7.11%	3.75%	5.90%	4.93%
Shopping	5.14%	5.32%	3.04%	6.37%	3.28%	5.17%	4.30%
2035 Plan	**Total**	**Hispanic**	**Non-Hispanic White**	**Non-Hispanic Black**	**Non-Hispanic NA**	**Non-Hispanic Asian**	**Non-Hispanic Other**
Auto Mode: 45 minutes							
Total Job	27.01%	27.75%	22.20%	27.05%	21.54%	31.79%	24.43%
Shopping	26.83%	27.62%	22.33%	26.76%	21.75%	31.65%	24.40%
Local Bus: 45 minutes							
Total Job	4.55%	4.88%	2.69%	4.84%	2.99%	4.85%	3.77%
Shopping	3.88%	4.16%	2.28%	4.11%	2.54%	4.15%	3.20%
All Transit: 45 minutes							
Total Job	7.35%	7.82%	4.47%	8.47%	4.90%	7.70%	6.15%
Shopping	6.50%	6.94%	3.90%	7.58%	4.32%	6.81%	5.40%

2035 Plan – 2035 Baseline	Total	Hispanic	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic NA	Non-Hispanic Asian	Non-Hispanic Other
Auto Mode: 45 minutes							
Total Job	6.08%	6.49%	5.22%	5.46%	5.07%	7.76%	5.58%
Shopping	6.21%	6.54%	5.46%	5.49%	5.24%	7.96%	5.74%
Local Bus: 45 minutes							
Total Job	0.99%	1.20%	0.58%	1.01%	0.72%	1.08%	0.81%
Shopping	0.79%	0.97%	0.46%	0.77%	0.57%	0.88%	0.64%
All Transit: 45 minutes							
Total Job	1.50%	1.80%	0.96%	1.36%	1.15%	1.80%	1.23%
Shopping	1.36%	1.62%	0.86%	1.20%	1.04%	1.64%	1.10%
% Change (2035 Plan – Baseline)	**Total**	**Hispanic**	**Non-Hispanic White**	**Non-Hispanic Black**	**Non-Hispanic NA**	**Non-Hispanic Asian**	**Non-Hispanic Other**
Auto Mode: 45 minutes							
Total Job	29.0%	30.5%	30.8%	25.3%	30.8%	32.3%	29.6%
Shopping	30.1%	31.1%	32.4%	25.8%	31.7%	33.6%	30.8%
Local Bus: 45 minutes							
Total Job	27.7%	32.6%	27.5%	26.5%	31.8%	28.7%	27.2%
Shopping	25.5%	30.2%	25.2%	23.0%	29.2%	26.7%	25.0%
All Transit: 45 minutes							
Total Job	25.7%	29.8%	27.4%	19.1%	30.8%	30.4%	24.9%
Shopping	26.5%	30.6%	28.2%	18.9%	31.7%	31.6%	25.6%

TABLE 25 2012–2035 RTP/SCS Impacts on Job/Shopping Accessibility (45 Minutes of Travel) by Income Quintile

2008	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Auto Mode: 45 minutes					
Total Job	27.31%	26.64%	25.17%	24.17%	23.84%
Shopping	26.47%	24.00%	24.82%	24.82%	23.52%
Local Bus: 45 minutes					
Total Job	5.71%	4.76%	3.82%	3.11%	2.83%
Shopping	4.71%	3.91%	3.14%	2.56%	2.33%
All Transit: 45 minutes					
Total Job	9.19%	7.79%	6.34%	5.22%	4.74%
Shopping	7.86%	6.63%	5.39%	4.42%	3.99%
2035 Baseline	**Quintile 1**	**Quintile 2**	**Quintile 3**	**Quintile 4**	**Quintile 5**
Auto Mode: 45 minutes					
Total Job	23.77%	22.03%	20.29%	19.60%	18.94%
Shopping	23.16%	21.67%	20.06%	19.49%	18.69%
Local Bus: 45 minutes					
Total Job	5.47%	4.14%	3.29%	2.62%	2.29%
Shopping	4.76%	3.59%	2.85%	2.27%	1.98%
All Transit: 45 minutes					
Total Job	8.74%	6.80%	5.44%	4.39%	3.85%
Shopping	7.74%	5.99%	4.78%	3.83%	3.35%
2035 Plan	**Quintile 1**	**Quintile 2**	**Quintile 3**	**Quintile 4**	**Quintile 5**
Auto Mode: 45 minutes					
Total Job	29.46%	27.87%	26.62%	25.85%	25.24%
Shopping	28.88%	27.58%	26.52%	25.92%	25.24
Local Bus: 45 minutes					
Total Job	6.72%	5.21%	4.32%	3.45%	3.06%
Shopping	5.75%	4.44%	3.68%	2.93%	2.60%
All Transit: 45 minutes					
Total Job	10.46%	8.38%	7.05%	5.73%	5.11%
Shopping	9.32%	7.43%	6.23%	5.04%	4.47%

2035 Plan – 2035 Baseline	Total	Hispanic	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic NA
Auto Mode: 45 minutes					
Total Job	5.68%	5.84%	6.33%	6.26%	6.30%
Shopping	5.72%	5.91%	6.46%	6.43%	6.55%
Local Bus: 45 minutes					
Total Job	1.25%	1.07%	1.03%	0.83%	0.77%
Shopping	0.99%	0.85%	0.83%	0.66%	0.61%
All Transit: 45 minutes					
Total Job	1.73%	1.58%	1.61%	1.34%	1.26%
Shopping	1.58%	1.43%	1.45%	1.21%	1.12%
% Change (2035 Plan – Baseline)	**Total**	**Hispanic**	**Non-Hispanic White**	**Non-Hispanic Black**	**Non-Hispanic NA**
Auto Mode: 45 minutes					
Total Job	23.9%	26.5%	31.2%	31.9%	33.3%
Shopping	24.7%	27.3%	32.2%	33.0%	35.1%
Local Bus: 45 minutes					
Total Job	22.8%	25.9%	31.3%	31.5%	33.5%
Shopping	20.7%	23.5%	29.0%	29.1%	30.9%
All Transit: 45 minutes					
Total Job	19.8%	23.2%	29.5%	30.7%	32.6%
Shopping	20.5%	23.9%	30.4%	31.6%	33.5%

TABLE 26 2012–2035 RTP/SCS Impacts on Job/Shopping Accessibility (45 Minutes of Travel) by Population in Need

2008	Poverty	Elderly	Handicapped
Auto Mode: 45 minutes			
Total Job	28.57%	24.47%	26.82%
Shopping	27.64%	24.11%	26.30%
Local Bus: 45 minutes			
Total Job	6.21%	3.59%	4.55%
Shopping	5.12%	2.95%	3.73%
All Transit: 45 minutes			
Total Job	9.91%	5.96%	7.47%
Shopping	8.49%	5.07%	6.36%
2035 Baseline	**Poverty**	**Elderly**	**Handicapped**
Auto Mode: 45 minutes			
Total Job	23.93%	20.18%	22.10%
Shopping	23.33%	19.95%	21.81%
Local Bus: 45 minutes			
Total Job	5.57%	3.11%	3.92%
Shopping	4.85%	2.70%	3.40%
All Transit: 45 minutes			
Total Job	8.86%	5.16%	6.48%
Shopping	7.86%	4.53%	5.71%
2035 Plan	**Poverty**	**Elderly**	**Handicapped**
Auto Mode: 45 minutes			
Total Job	29.54%	26.37%	28.47%
Shopping	28.98%	26.27%	28.21%
Local Bus: 45 minutes			
Total Job	6.80%	4.03%	5.06%
Shopping	5.82%	3.43%	4.31%
All Transit: 45 minutes			
Total Job	10.57%	6.59%	8.18%
Shopping	9.43%	5.82%	7.24%

2035 Plan – 2035 Baseline	Poverty	Elderly	Handicapped
Auto Mode: 45 minutes			
Total Job	5.61%	6.18%	6.37%
Shopping	5.65%	6.32%	6.41%
Local Bus: 45 minutes			
Total Job	1.24%	0.92%	1.14%
Shopping	0.97%	0.73%	0.91%
All Transit: 45 minutes			
Total Job	1.71%	1.43%	1.69%
Shopping	1.56%	1.29%	1.53%
% Change (2035 Plan – Baseline)	**Poverty**	**Elderly**	**Handicapped**
Auto Mode: 45 minutes			
Total Job	23.4%	30.6%	28.8%
Shopping	24.2%	31.7%	29.4%
Local Bus: 45 minutes			
Total Job	22.2%	29.7%	29.0%
Shopping	20.1%	27.2%	26.7%
All Transit: 45 minutes			
Total Job	19.3%	27.8%	26.1%
Shopping	19.9%	28.6%	26.8%

(8) Accessibility to Parks

METHODOLOGY

Public parks serve all residents. National parks, state parks, and numerous community parks are all found within the SCAG region. However, not all parks are created equal. Not all neighborhoods and people have equal access to these cherished public resources (see Map 1: Distribution of Parks and Low-income Households). Some neighborhoods have more open space, some parks are better maintained, some are built so that those with disabilities can enjoy them, and some parks are safer. SCAG conducted additional analysis on accessibility to parks for the 2012–2035 RTP/SCS.

Three types of parks were considered for the environmental justice analysis: 1) local parks; 2) state parks; and 3) national parks. The acreage of each park type in all TAZs was identified. The underlying assumption is that the more acreage of parks that can be reached within a certain travel time and cost, the greater the park accessibility within a community.

Similar to the method for measuring job accessibility, park accessibility is defined as the percentage of park acreage reachable within 45 minutes of travel via 1) automobile; 2) local bus; and 3) all transit options. SCAG's existing typical weekday model was utilized for the analysis, as there is currently no weekend transportation model for the region.

RESULTS

The results of this park accessibility analysis by auto, local bus, and all transit modes within 45 minutes of travel are presented in the following tables and figures. General conclusions from the table and figures include:

- Park accessibility statistics indicate that park accessibility by transit is much lower than that by automobile for all groups. This is true for all parks, national, state, or local parks. By transit, there is almost no access to national parks, and very limited access to state parks in all scenarios—base year 2008, baseline, or under the plan. This observation is consistent with the conclusions of the 2008 RTP Environmental Justice report that there is a near complete lack of public transportation services into, in particular, the National Forests.
- Income quintiles 4 and 5 will have moderately higher access to either state and/or local parks in the region via automobile. Population groups showing marginally lower accessibility to national parks by auto include: non-Hispanic black, income Quintile 1 and 5, and population below poverty. As to state park accessibility by auto, all population groups show slightly lower than average accessibility except for non-Hispanic white and the two higher income quintile households. More Environmental Justice population groups, including Hispanics, non-Hispanic Asians, income Quintile 2, and the disabled population show higher than average accessibility to local parks than the average population in the region.
- In addition to elderly, non-Hispanic Native Americans and non-Hispanic other, further analysis should also focus on non-Hispanic blacks where their park accessibility by auto is below the average for all parks. However, the 2012–2035 RTP/SCS provides improvements for these population groups more than accessibility changes for the rest of the region's population groups.

EXHIBIT 17 Low-Income Households in 2008

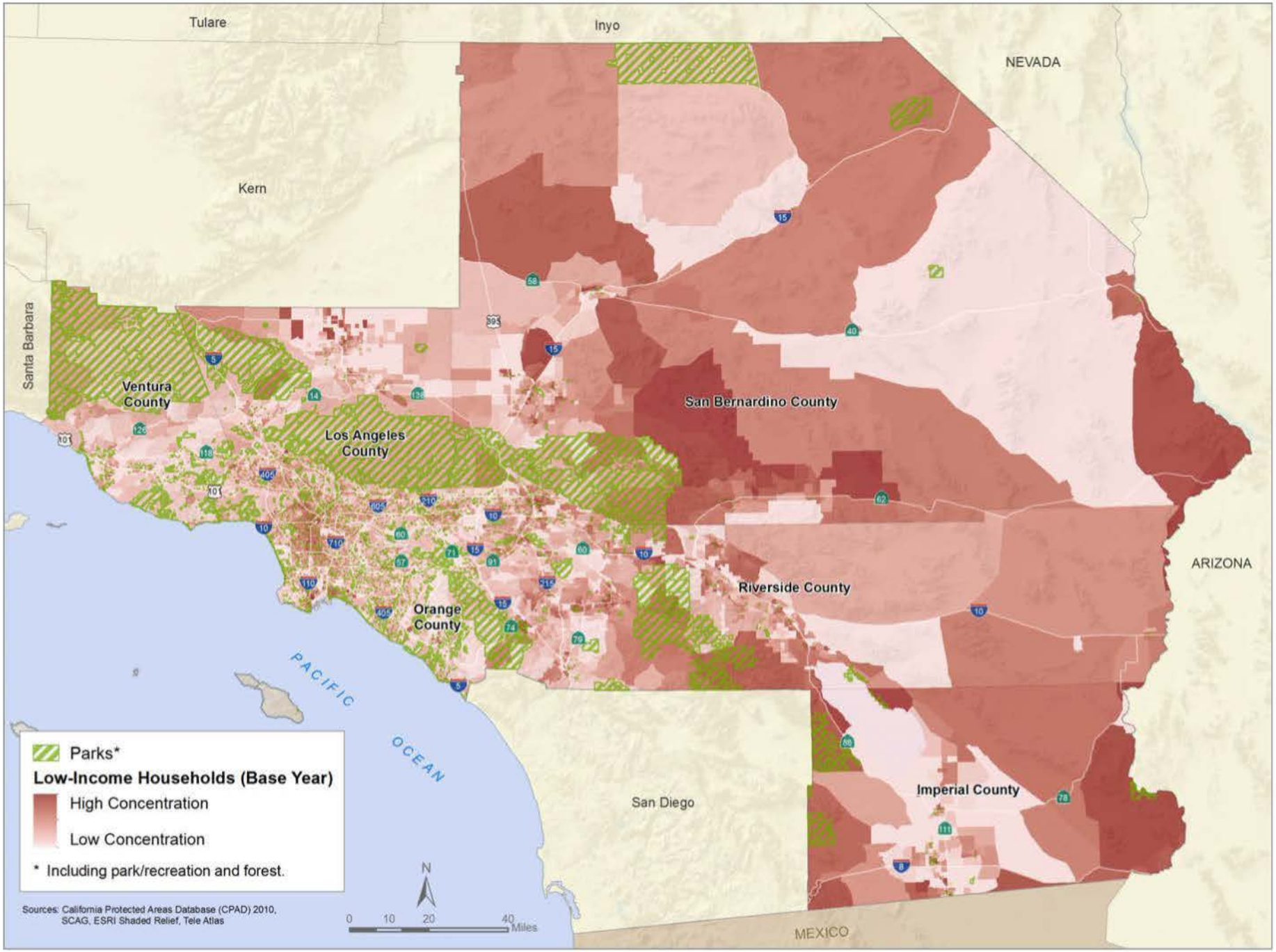


EXHIBIT 18 Minority Population in 2008

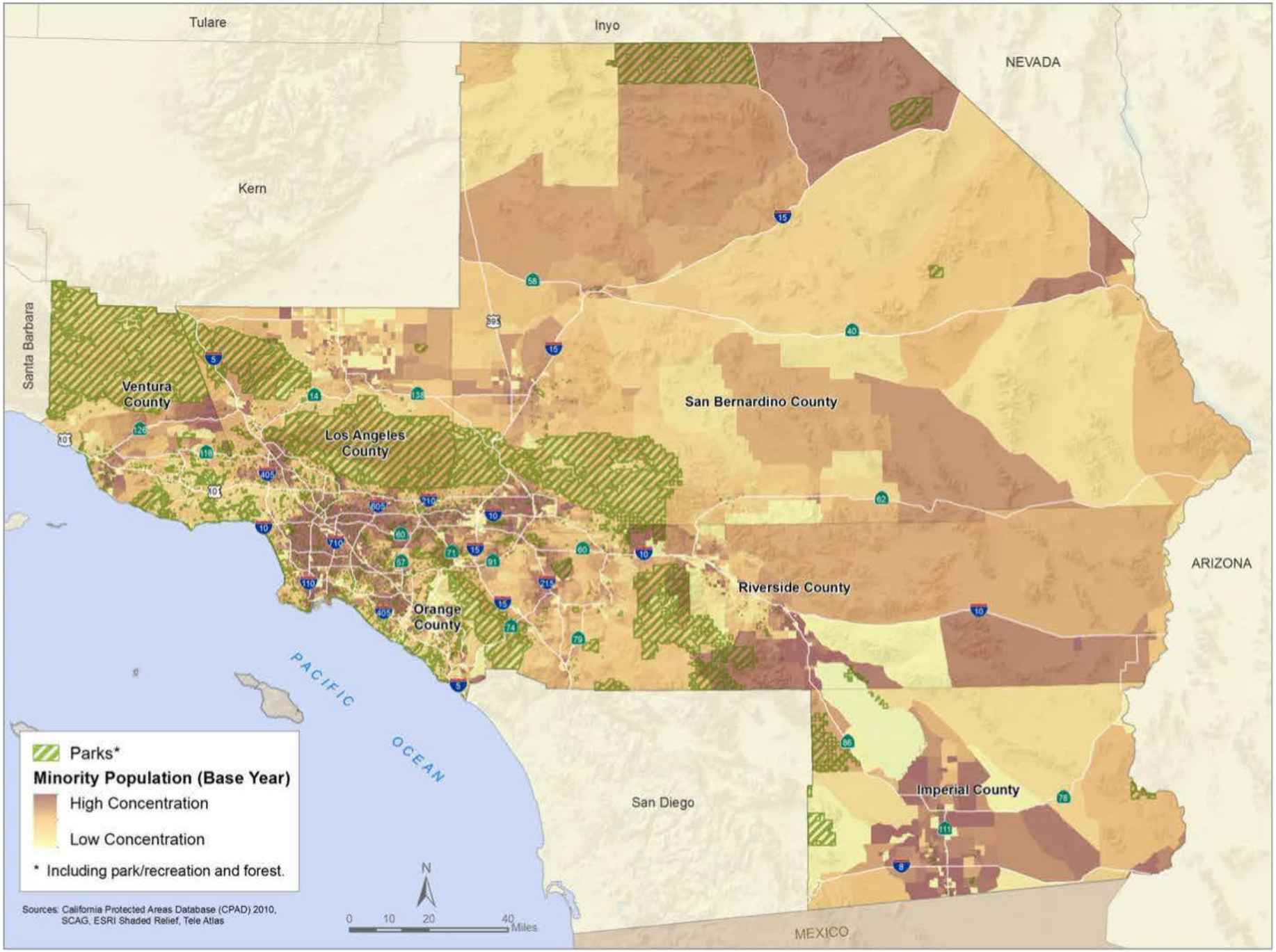


FIGURE 27 Park Accessibility by Automobile within 45 Minutes of Travel (2008)

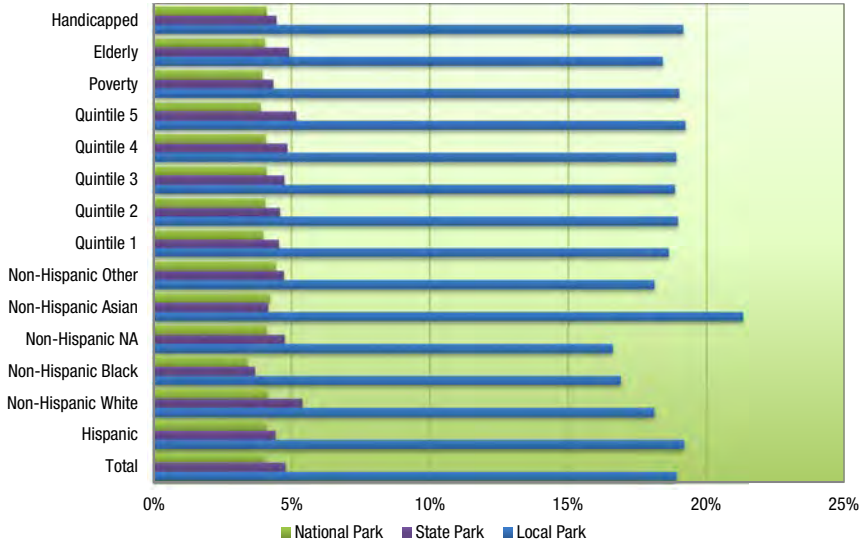


FIGURE 28 Park Accessibility by Bus within 45 Minutes of Travel (2008)

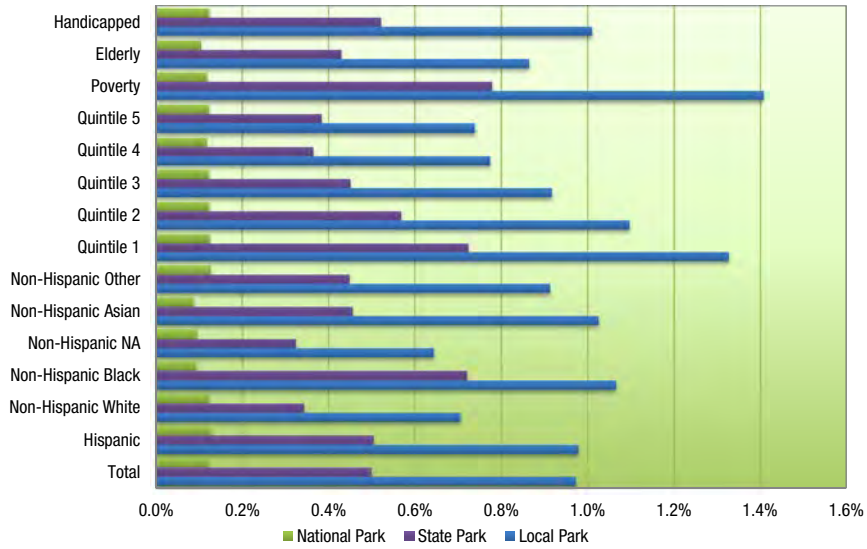


FIGURE 29 Park Accessibility by All Transit Mode within 45 Minutes of Travel (2008)

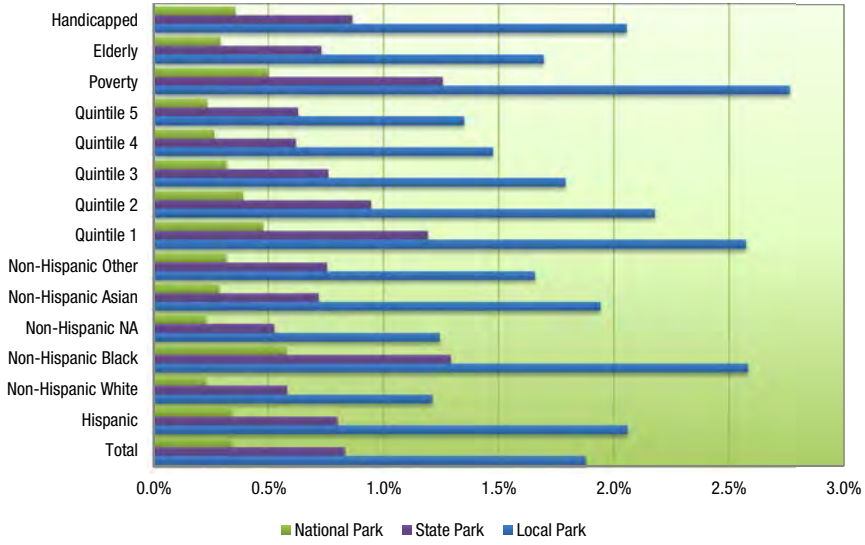


FIGURE 30 Improvements in Park Accessibility by Automobile within 45 Minutes of Travel (2035)

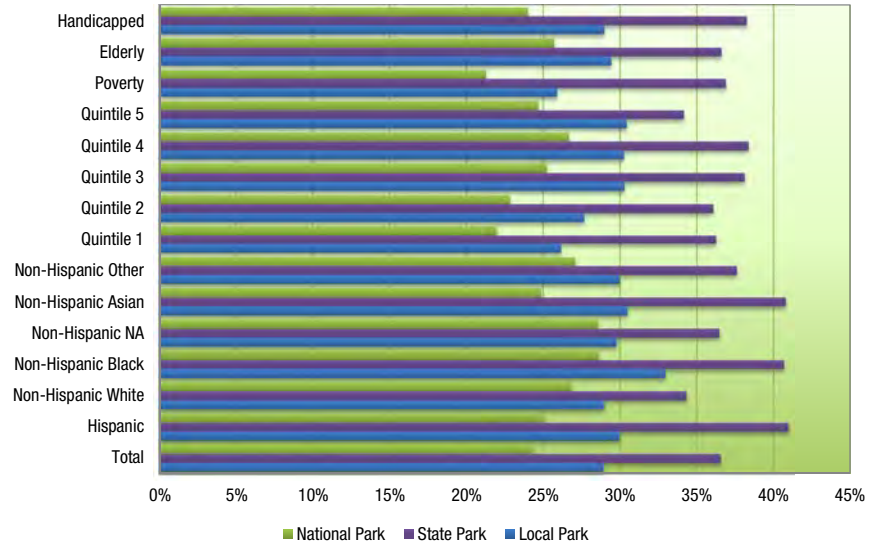


FIGURE 31 Improvements in Park Accessibility by Bus within 45 Minutes of Travel (2035)

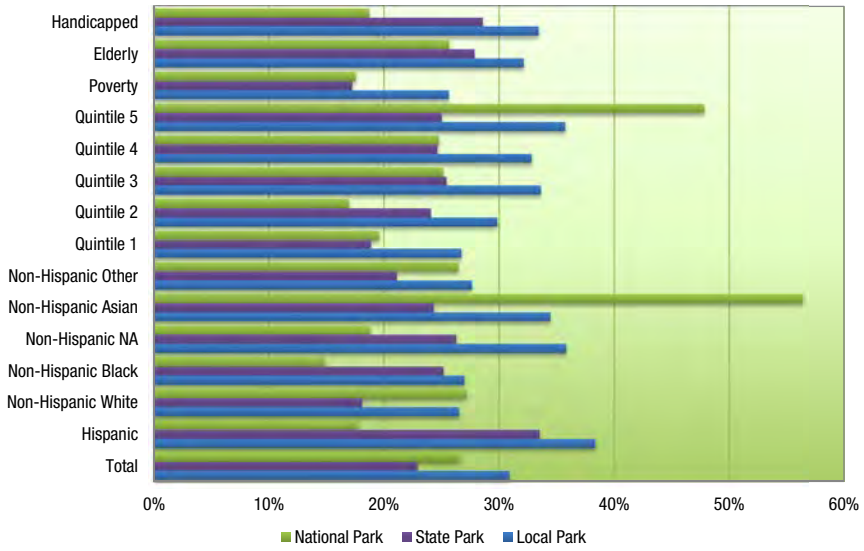


FIGURE 32 Improvements in Park Accessibility by All Transit within 45 Minutes of Travel (2035)

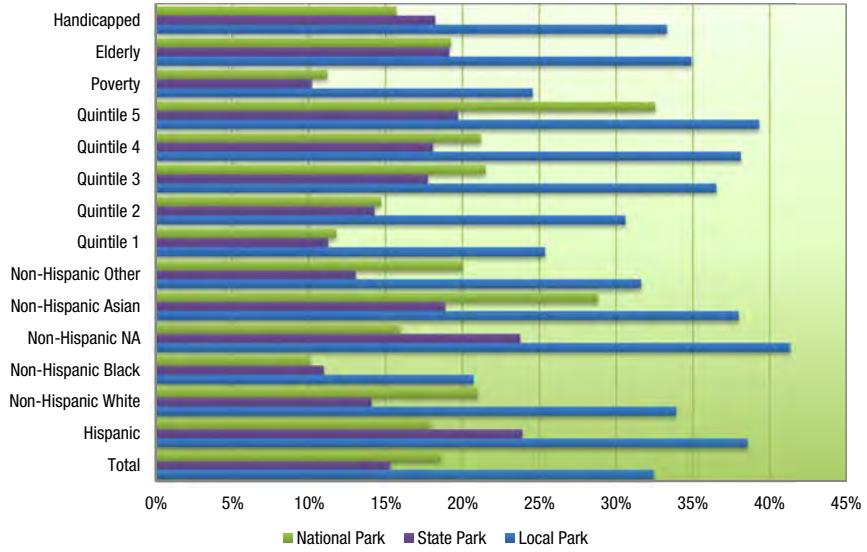


TABLE 27 2012–2035 RTP/SCS Impacts on Park Accessibility (45 Minutes of Travel) by Ethnicity

2008	Total	Hispanic	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic NA	Non-Hispanic Asian	Non-Hispanic Other
Auto Mode: 45 minutes							
Local Park	18.91%	19.17%	18.11%	16.88%	16.60%	21.31%	18.10%
State Park	4.77%	4.41%	5.37%	3.67%	4.74%	4.14%	4.72%
National Park	4.01%	4.06%	4.13%	3.40%	4.09%	4.21%	4.43%
Local Bus: 45 minutes							
Local Park	0.97%	0.98%	0.71%	1.07%	0.64%	1.02%	0.91%
State Park	0.50%	0.50%	0.34%	0.72%	0.32%	0.46%	0.45%
National Park	0.12%	0.13%	0.12%	0.09%	0.09%	0.09%	0.13%
All Transit: 45 minutes							
Local Park	1.88%	2.06%	1.21%	2.58%	1.24%	1.94%	1.66%
State Park	0.83%	0.80%	0.58%	1.29%	0.52%	0.72%	0.75%
National Park	0.34%	0.34%	0.23%	0.58%	0.23%	0.29%	0.32%
2035 Baseline	**Total**	**Hispanic**	**Non-Hispanic White**	**Non-Hispanic Black**	**Non-Hispanic NA**	**Non-Hispanic Asian**	**Non-Hispanic Other**
Auto Mode: 45 minutes							
Local Park	16.35%	16.35%	15.13%	13.98%	13.72%	18.78%	15.39%
State Park	4.16%	3.85%	4.68%	3.47%	4.16%	3.73%	4.20%
National Park	3.54%	3.52%	3.54%	3.22%	3.44%	3.75%	3.65%
Local Bus: 45 minutes							
Local Park	0.93%	0.87%	0.65%	0.88%	0.57%	0.97%	0.87%
State Park	0.47%	0.42%	0.33%	0.53%	0.30%	0.43%	0.43%
National Park	0.11%	0.11%	0.11%	0.08%	0.08%	0.09%	0.12%
All Transit: 45 minutes							
Local Park	1.80%	1.80%	1.14%	2.15%	1.12%	1.79%	1.57%
State Park	0.81%	0.72%	0.57%	0.99%	0.50%	0.69%	0.76%
National Park	0.30%	0.27%	0.20%	0.41%	0.19%	0.26%	0.28%

2035 Plan	Total	Hispanic	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic NA	Non-Hispanic Asian	Non-Hispanic Other
Auto Mode: 45 minutes							
Local Park	21.08%	21.25%	19.52%	18.58%	17.81%	24.50%	20.01%
State Park	5.68%	5.43%	6.28%	4.88%	5.68%	5.25%	5.78%
National Park	4.40%	4.41%	4.49%	4.14%	4.42%	4.68%	4.64%
Local Bus: 45 minutes							
Local Park	1.22%	1.20%	0.83%	1.11%	0.78%	1.31%	1.11%
State Park	0.58%	0.56%	0.39%	0.67%	0.37%	0.54%	0.52%
National Park	0.14%	0.13%	0.14%	0.09%	0.09%	0.14%	0.15%
All Transit: 45 minutes							
Local Park	2.38%	2.49%	1.53%	2.59%	1.58%	2.47%	2.07%
State Park	0.93%	0.89%	0.65%	1.10%	0.61%	0.82%	0.86%
National Park	0.35%	0.32%	0.24%	0.46%	0.22%	0.33%	0.34%
2035 Plan – Baseline: Absolute Change	**Total**	**Hispanic**	**Non-Hispanic White**	**Non-Hispanic Black**	**Non-Hispanic NA**	**Non-Hispanic Asian**	**Non-Hispanic Other**
Auto Mode: 45 minutes							
Local Park	4.73%	4.90%	4.38%	4.61%	4.09%	5.72%	4.61%
State Park	1.52%	1.58%	1.61%	1.41%	1.52%	1.52%	1.58%
National Park	0.86%	0.88%	0.95%	0.92%	0.98%	0.93%	0.99%
Local Bus: 45 minutes							
Local Park	0.29%	0.33%	0.17%	0.24%	0.20%	0.34%	0.24%
State Park	0.11%	0.14%	0.06%	0.13%	0.08%	0.11%	0.09%
National Park	0.03%	0.02%	0.03%	0.01%	0.01%	0.05%	0.03%
All Transit: 45 minutes							
Local Park	0.58%	0.69%	0.39%	0.44%	0.46%	0.68%	0.50%
State Park	0.12%	0.17%	0.08%	0.11%	0.12%	0.13%	0.10%
National Park	0.06%	0.05%	0.04%	0.04%	0.03%	0.07%	0.06%

TABLE 27 *Continued*

2035 Plan – Baseline: % Change	Total	Hispanic	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic NA	Non-Hispanic Asian	Non-Hispanic Other
Auto Mode: 45 minutes							
Local Park	28.9%	30.0%	29.0%	33.0%	29.8%	30.5%	30.0%
State Park	36.6%	41.0%	34.3%	40.7%	36.5%	40.8%	37.6%
National Park	24.3%	25.0%	26.8%	28.6%	28.5%	24.8%	27.1%
Local Bus: 45 minutes							
Local Park	30.9%	38.3%	26.5%	27.0%	35.8%	34.5%	27.6%
State Park	22.9%	33.5%	18.1%	25.2%	26.3%	24.3%	21.1%
National Park	26.6%	17.7%	27.2%	14.9%	18.8%	56.4%	26.5%
All Transit: 45 minutes							
Local Park	32.5%	38.5%	33.9%	20.7%	41.3%	38.0%	31.6%
State Park	15.3%	23.9%	14.1%	11.0%	23.7%	18.9%	13.0%
National Park	18.5%	18.0%	21.0%	10.1%	15.9%	28.8%	20.0%

TABLE 28 2012–2035 RTP/SCS Impacts on Park Accessibility (45 Minutes of Travel) by Income Quintile

2008	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Auto Mode: 45 minutes					
Local Park	18.62%	18.96%	18.85%	18.90%	19.23%
State Park	4.54%	4.57%	4.72%	4.85%	5.16%
National Park	3.97%	4.04%	4.08%	4.07%	3.87%
Local Bus: 45 minutes					
Local Park	1.33%	1.10%	0.92%	0.77%	0.74%
State Park	0.72%	0.57%	0.45%	0.36%	0.38%
National Park	0.12%	0.12%	0.12%	0.12%	0.12%
All Transit: 45 minutes					
Local Park	2.57%	2.18%	1.79%	1.47%	1.35%
State Park	1.19%	0.94%	0.76%	0.62%	0.63%
National Park	0.48%	0.39%	0.32%	0.26%	0.23%
2035 Baseline	**Quintile 1**	**Quintile 2**	**Quintile 3**	**Quintile 4**	**Quintile 5**
Auto Mode: 45 minutes					
Local Park	16.78%	16.53%	16.06%	16.14%	16.26%
State Park	3.94%	4.05%	4.09%	4.20%	4.51%
National Park	3.55%	3.61%	3.58%	3.55%	3.44%
Local Bus: 45 minutes					
Local Park	1.37%	1.05%	0.87%	0.72%	0.66%
State Park	0.73%	0.52%	0.43%	0.34%	0.34%
National Park	0.11%	0.11%	0.11%	0.10%	0.10%
All Transit: 45 minutes					
Local Park	2.65%	2.08%	1.69%	1.36%	1.21%
State Park	1.22%	0.92%	0.75%	0.59%	0.57%
National Park	0.43%	0.34%	0.28%	0.23%	0.20%

TABLE 28 *Continued*

2035 Plan	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Auto Mode: 45 minutes					
Local Park	21.17%	21.10%	20.92%	21.03%	21.20%
State Park	5.36%	5.51%	5.65%	5.81%	6.05%
National Park	4.33%	4.43%	4.48%	4.49%	4.29%
Local Bus: 45 minutes					
Local Park	1.73%	1.36%	1.16%	0.95%	0.89%
State Park	0.86%	0.65%	0.53%	0.42%	0.43%
National Park	0.14%	0.13%	0.14%	0.13%	0.15%
All Transit: 45 minutes					
Local Park	3.32%	2.71%	2.30%	1.88%	1.69%
State Park	1.36%	1.05%	0.88%	0.70%	0.69%
National Park	0.49%	0.39%	0.34%	0.27%	0.27%
2035 Plan – Baseline: Absolute Change	**Quintile 1**	**Quintile 2**	**Quintile 3**	**Quintile 4**	**Quintile 5**
Auto Mode: 45 minutes					
Local Park	4.39%	4.57%	4.86%	4.89%	4.95%
State Park	1.43%	1.46%	1.56%	1.61%	1.54%
National Park	0.78%	0.82%	0.90%	0.95%	0.85%
Local Bus: 45 minutes					
Local Park	0.36%	0.31%	0.29%	0.24%	0.24%
State Park	0.14%	0.13%	0.11%	0.08%	0.09%
National Park	0.02%	0.02%	0.03%	0.03%	0.05%
All Transit: 45 minutes					
Local Park	0.67%	0.63%	0.62%	0.52%	0.48%
State Park	0.14%	0.13%	0.13%	0.11%	0.11%
National Park	0.05%	0.05%	0.06%	0.05%	0.07%

TABLE 28 *Continued*

2035 Plan – Baseline: % Change	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Auto Mode: 45 minutes					
Local Park	26.2%	27.7%	30.3%	30.3%	30.4%
State Park	36.3%	36.1%	38.1%	38.4%	34.2%
National Park	22.0%	22.8%	25.2%	26.7%	24.7%
Local Bus: 45 minutes					
Local Park	26.7%	29.8%	33.6%	32.8%	35.7%
State Park	18.8%	24.1%	25.4%	24.6%	25.0%
National Park	19.6%	17.0%	25.1%	24.8%	47.8%
All Transit: 45 minutes					
Local Park	25.4%	30.6%	36.5%	38.1%	39.3%
State Park	11.2%	14.2%	17.7%	18.1%	19.7%
National Park	11.8%	14.7%	21.5%	21.2%	32.5%

TABLE 29 2012–2035 RTP/SCS Impacts on Park Accessibility (45 Minutes of Travel) by Population in Need

2008	Poverty	Elderly	Handicapped
Auto Mode: 45 minutes			
Local Park	19.01%	18.40%	19.14%
State Park	4.33%	4.90%	4.44%
National Park	3.94%	4.04%	4.10%
Local Bus: 45 minutes			
Local Park	1.41%	0.86%	1.01%
State Park	0.78%	0.43%	0.52%
National Park	0.12%	0.10%	0.12%
All Transit: 45 minutes			
Local Park	2.76%	1.69%	2.06%
State Park	1.26%	0.73%	0.86%
National Park	0.50%	0.29%	0.35%

2035 Baseline	Poverty	Elderly	Handicapped
Auto Mode: 45 minutes			
Local Park	16.80%	16.01%	16.61%
State Park	3.87%	4.16%	3.88%
National Park	3.55%	3.51%	3.59%
Local Bus: 45 minutes			
Local Park	1.39%	0.81%	0.95%
State Park	0.75%	0.39%	0.47%
National Park	0.11%	0.09%	0.11%
All Transit: 45 minutes			
Local Park	2.69%	1.60%	1.94%
State Park	1.24%	0.68%	0.82%
National Park	0.43%	0.25%	0.30%

2035 Plan	Poverty	Elderly	Handicapped
Auto Mode: 45 minutes			
Local Park	21.15%	20.72%	21.43%
State Park	5.30%	5.68%	5.36%
National Park	4.31%	4.42%	4.45%
Local Bus: 45 minutes			
Local Park	1.75%	1.08%	1.27%
State Park	0.88%	0.50%	0.60%
National Park	0.13%	0.12%	0.13%
All Transit: 45 minutes			
Local Park	3.35%	2.15%	2.59%
State Park	1.36%	0.81%	0.97%
National Park	0.48%	0.29%	0.34%

2035 Plan – Baseline: Absolute Change	Poverty	Elderly	Handicapped
Auto Mode: 45 minutes			
Local Park	4.35%	4.71%	4.81%
State Park	1.43%	1.52%	1.48%
National Park	0.75%	0.90%	0.86%
Local Bus: 45 minutes			
Local Park	0.36%	0.26%	0.32%
State Park	0.13%	0.11%	0.13%
National Park	0.02%	0.02%	0.02%
All Transit: 45 minutes			
Local Park	0.66%	0.56%	0.65%
State Park	0.13%	0.13%	0.15%
National Park	0.05%	0.05%	0.05%

2035 Plan – Baseline: % Change	Poverty	Elderly	Handicapped
Auto Mode: 45 minutes			
Local Park	25.9%	29.4%	29.0%
State Park	36.9%	36.6%	38.2%
National Park	21.3%	25.7%	24.0%
Local Bus: 45 minutes			
Local Park	25.6%	32.1%	33.4%
State Park	17.2%	27.8%	28.6%
National Park	17.5%	25.6%	18.7%
All Transit: 45 minutes			
Local Park	24.6%	34.9%	33.3%
State Park	10.2%	19.1%	18.2%
National Park	11.2%	19.2%	15.7%

(9) Gentrification and Displacement

The major land use strategy in the 2012–2035 RTP/SCS is to follow emerging demographic trends and to collaborate with local jurisdictions to redirect future growth to high quality transit areas (HQTA). According to the 2012–2035 RTP/SCS recommended land use scenario, this strategy calls for the placement of over 50 percent of future growth in households, and therefore population (782,000, or 52 percent) and employment (905,000, or 53 percent), in the HQTA.

While the regional population is increasingly using transit and showing interest in living in transit-rich neighborhoods, this trend is tempered by growing gentrification and displacement concerns. Will current neighborhood residents, some of whom are low income and/or people of color, benefit from transit-induced neighborhood revitalization? Or will low-income residents be displaced by more affluent residents because new development is less affordable? Planners and policy makers have to prepare to address these outcomes if transit investment and expansion inevitably lead to gentrification and displacement.

It is important first to analyze whether gentrification and displacement are actually occurring in high quality transit areas. This analysis will follow the methodology and framework from the report, "Maintaining Diversity in America's Transit Rich Neighborhood-Tools for Equitable Neighborhood Change," by Stephanie Pollack, Barry Bluestone, and Chase Billingham, October 2010, a report prepared by the Dukakis Center for Urban and Regional Policy at Northeastern University. In this analysis, SCAG staff processed key indicators related to changes in neighborhood characteristics from the 2000 Census and from the more recent 2005– 09 American Community Survey (ACS) for the HQTA and the rest of the region to test if there exists any indications or concerns for potential or actual displacement or gentrification.

This analysis also looked into the characteristics of the population in the HQTA including by income and ethnicity and their travel behavior. This was accomplished by using data from the National Household Travel Survey (NHTS).

Staff has also developed a statistical tool based primarily on the NHTS data, to quantify potential benefits from the land use strategy recommended in the 2012–2035 RTP/SCS. The statistical tool is designed to complement the regional transportation model so that it can capture land use and the so-called "4D"(design, density, diversity, destination), and accessibility factors for a more refined growth allocation at the parcel level, as well as growth redirected into HQTA, which has been difficult for the regional model to quantify.

There have been concerns raised by environmental groups, the heath community, housing, and air quality regulation agencies about incompatible land uses, including sensitive receptors such as hospitals, senior/day care centers, and housing near freeways and busy roadway. The 2012–2035 RTP/SCS land use strategy calls for redirecting future growth into HQTA. Inevitably, part of this growth will occur in areas where the HQTA overlaps with 500 feet freeway buffer areas. According to land use statistics in the 2012–2035 RTP/SCS, 8.1 percent of new households added to HQTA from 2008 - 2035, fall within these 500 feet freeway buffer areas. Finally, staff has developed statistics to document the recent growth and socioeconomic profile within the 500 feet freeway buffer areas.

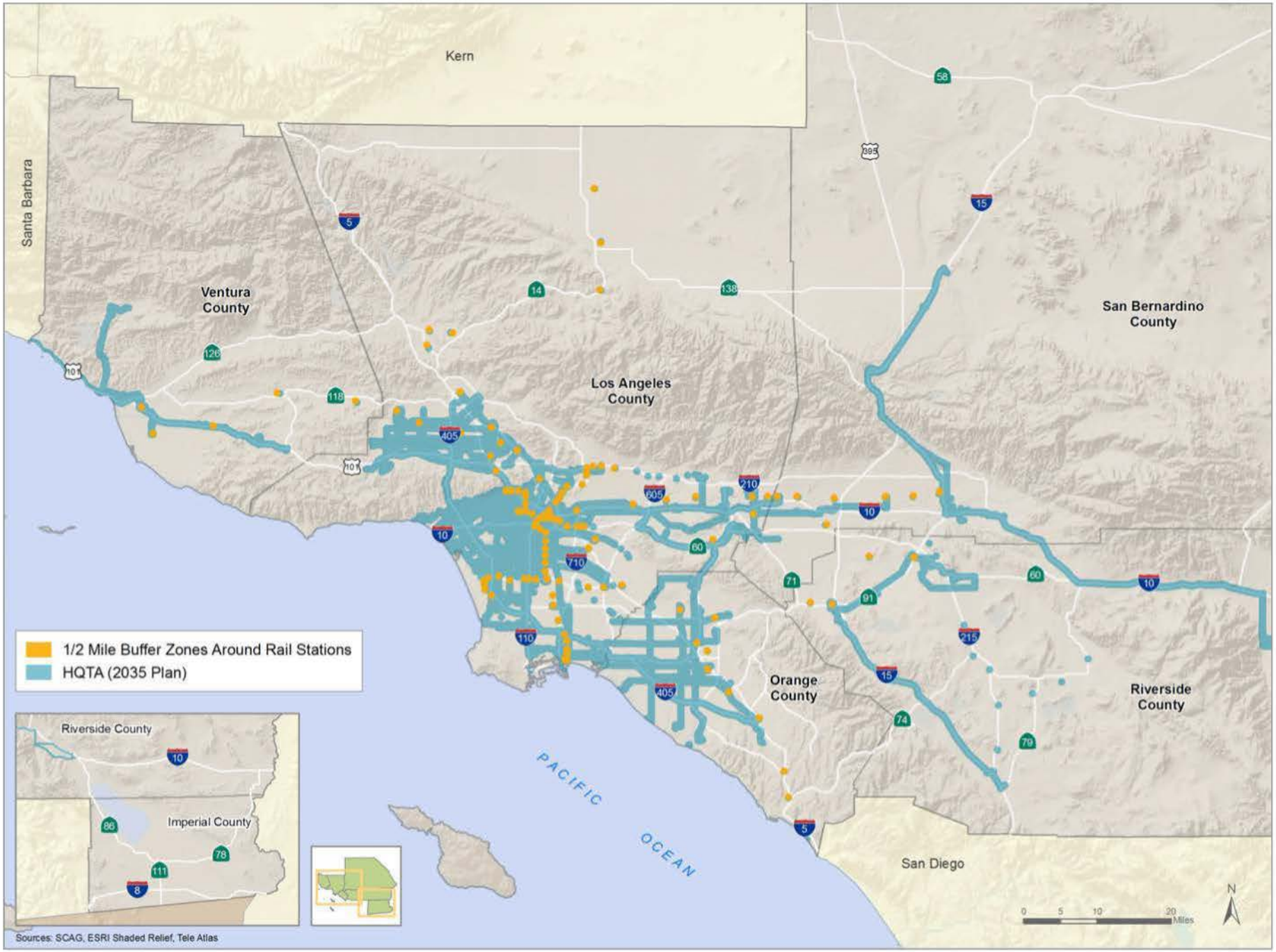
It is logical to expect increases in local traffic and congestion as a result of the additional development in HQTA. In previous RTPs, staff observed from regional modeling increases in local congestion from various compact land use scenarios. However, an initial examination of traffic delays for principal and minor arterials and major and minor collectors shows that there is no increase in net delay at the regional or county levels. Staff will investigate detailed link-based traffic outcomes from the regional 4-step transportation model to investigate local traffic conditions around the HQTA and to assess the impacts on environmental justice. This additional task may be completed before the adoption of final 2012–2035 RTP/SCS in April 2012.

HQTA: RECENT GROWTH AND CHARACTERISTICS— EVIDENCE FROM 2000 CENSUS AND 2005–09 ACS

The following research question was examined: will transit investment change the surrounding neighborhood? While patterns of neighborhood change vary, the predominant pattern is one in which housing becomes more expensive, neighborhood residents become wealthier and vehicle ownership becomes more common. In some of the newly transit rich neighborhoods, the research reveals how a new transit station can set in motion a cycle of unintended consequences in which core transit users—(e.g. renters and low income households)—are priced out in favor of higher-income, car-owning residents who are less likely to use public transit for commuting.

In order to assess whether HQTA are moving toward more transit oriented, sustainable, and livable communities, staff applied block group data processed from the 2000 Census and the 2005– 09 ACS, and calculated a set of performance indicators for both HQTA and other areas for comparison. Staff demonstrated some observed trends between the two time periods to evaluate the changes in HQTA. In addition, staff designed the research to understand impacts from different types of HQTA, specifically areas around urban and commuter rail stations versus other areas such as bus corridors. These transit oriented neighborhoods, shown in **EXHIBIT 19** and referred to in this analysis as "Transit Oriented Communities" (TOC), consist of the 1/2 mile buffer zones that surround rail transit stations. Staff also identified existing HQTA as well as those proposed in the 2012–2035 RTP/SCS. The following performance indicators were developed for five categories: (1) Growth, (2) Economies, (3) Equity, (4) Sustainability, and (5) Transportation collected data for 125 rail stations.

EXHIBIT 19 High Quality Transit Areas (HQTA)



Performance Indicator 1: Growth

TABLE 30 Growth

	Total	Non HQTA	HQTA	TOC	Rest HQTA (HQTA-TOC)
Population from 2000 Census	16,516,006	10,118,314	6,397,692	621,842	5,775,850
Population from 2005–09 ACS	17,737,412	11,227,449	6,509,963	642,379	5,867,584
Growth	7.4%	11.0%	1.8%	3.3%	1.6%
Household					
2000 Census	5,386,491	3,303,532	2,082,959	200,865	1,882,094
2005–09 ACS	5,689,831	3,576,167	2,113,664	210,620	1,903,044
Growth	5.6%	8.3%	1.5%	4.9%	1.1%

Source: SCAG staff process 2000 Census and 2005–09 ACS data

Based on the above research, the following observations can be made:

- The growth rates of population and households in HQTA (1.8 percent) was much lower than the growth rates in the whole region and in the rest of non-HQTA.
- Within HQTA, the growth rate in rail stations was much faster than in the rest of HQTA. Comparing data between 2000 Census and 2005–09 ACS data, population growth in TOC was more than twice as fast as the growth in the rest of the HQTA (3.3 percent versus 1.6 percent) , and more than four times higher than the household growth rate registered in the TOC than recorded in the rest of the non-TOC HQTA.

Comparisons in other performance indicators in sections below will focus on TOC versus the region as a whole or non-TOC areas.

Performance Indicator 2: Economies

TABLE 31 Economies

	Total	Non HQTA	HQTA	TOC	Rest HQTA (HQTA-TOC)
Workers from 2000 Census	6,810,823	4,297,437	2,513,386	227,563	2,285,823
Workers from 2005–09 ACS	8,082,681	5,070,136	3,012,545	286,368	2,726,177
Growth	18.7%	18.0%	19.9%	25.8%	19.3%
Jobs					
2000 Census	6,661,287	3,343,874	3,317,413	1,104,873	2,212,540
2005–09 ACS	7,193,159	3,664,853	3,528,306	1,173,754	2,354,552
Growth	8.0%	9.6%	6.4%	6.2%	6.4%
Median Household Income					
2000 Census	$50,855	$57,046	$41,037	$33,024	$41,892
2005–09 ACS	$49,022	$54,462	$39,818	$33,267	$40,543
Growth	-3.60%	-4.50%	-3.00%	0.70%	-3.20%

Source: SCAG staff process 2000 Census and 2005–09 ACS data

The above table illustrates the following trends:

- Median household income in the TOC areas is less than the income in non-TOC areas, however, the median household income was almost unchanged between 2000 and 2005–09 period. In contrast, all other places experienced declines of between 3 percent to 4.5 percent in median household income.
- The statistics show higher growth in the number of workers in TOC areas, however, slower growth in jobs than those in the non-TOC areas.

Performance Indicator 3: Equity & Ethnicity

- There is no dominant difference in age distribution between TOC areas and the SCAG region, and between the two time periods.
- The share of Hispanic population is about 13 percentage points higher in the TOC areas than in the SCAG region.

TABLE 32 Equity & Ethnicity

SCAG			TOC		
% Age	2000	2005–09	% Age	2000	2005–09
<5	7.8%	7.6%	<5	8.5%	7.6%
5-15	17.8%	16.3%	5-15	17.6%	15.4%
16-64	64.4%	65.8%	16-64	65.0%	67.6%
>65	9.9%	10.4%	>65	8.9%	9.4%
All	100.0%	100.0%	All	100.0%	100.0%
% Hispanic	40.6%	44.2%	% Hispanic	54.0%	56.6%

Performance Indicator 4: Sustainability

Based on an analysis of sustainability, the following observations can be made about households without a vehicle in transit oriented communities versus the rest of the region.

- In 2000, nearly a quarter of households in the TOC areas don't own automobiles compared with about 10 percent zero-vehicle households for the region as a whole.
- The percent of zero-vehicle households declined significantly region-wide between 2000 and 2005–09 ACS. As indicated in the figure households without vehicles dropped by almost 7 percentage points compared with a 3 percentage point decline in the region. As a result, the average number of household vehicles increased by 13 percent in the TOC areas and by just 8 percent for the whole region.

TABLE 33 Sustainability

SCAG			TOC		
# of Vehicles	2000	2005–09	# of Vehicles	2000	2005–09
0	10%	7%	0	25%	18%
1	35%	32%	1	40%	40%
2	37%	37%	2	25%	29%
3+	18%	23%	3+	11%	14%
Vehicle/ Household	1.63	1.76	Vehicle/ Household	1.22	1.38

Performance Indicator 5: Transportation

Transportation indicators for the TOC areas are derived from the NHTS data. With about 6,700 households and 15,000 individual samples, the 2009 NHTA dataset provides valuable and sufficient observations to analyze both demographic and travel characteristics of the SCAG region and the TOC areas. In order to understand the demographic/travel characteristics of the TOC areas in detail, staff analyzed the NHTS household dataset with ¼, ½, and 1 mile buffer zones for the 125 rail stations around the region. The following subsection summarizes the socioeconomics of TOC areas.

1. TOC HOUSEHOLD CHARACTERISTICS

- Smaller household size in TOC areas
- Higher percentage of 1-person households and households without children
- More households with workers than in the region as a whole

TABLE 34 TOC Household Characteristics

	Household Size	% 1 person	% No Kids	% 1 Person HH, Retired	% 2 Person + HH, Retired	% HH with Workers
TOC-¼	2.28	44.6	46.4	19.6	7.1	59%
TOC-½	2.60	35.6	38.3	16.3	13.6	52%
TOC-1	2.80	28.4	34.8	13.4	17.0	49%
SCAG	2.82	22.3	30.2	12.0	24.4	49%

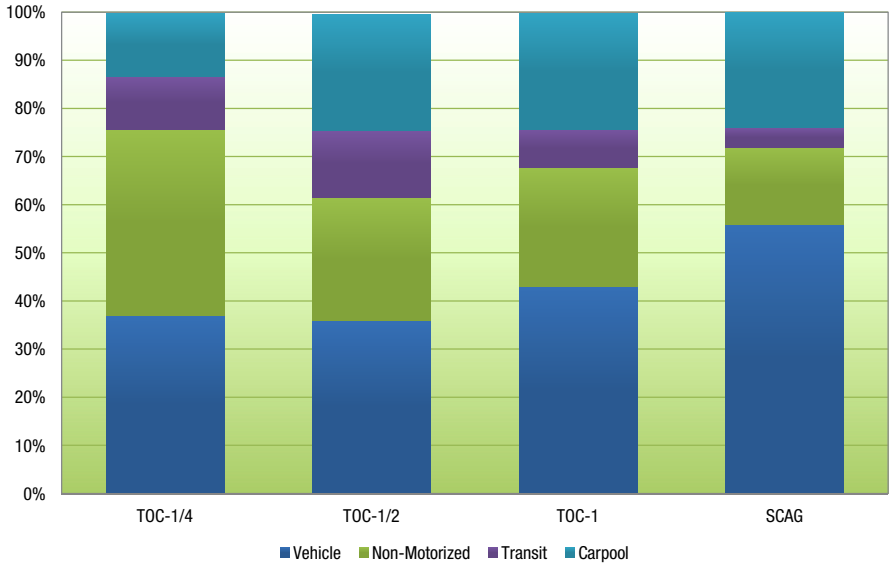
2. TOC TRAVEL CHARACTERISTICS

- Households in TOC areas show less driving than the region as a whole.
- The statistics indicate that the travel behaviors proportionally shift (increase) as distance from the TOC increase.
- People in TOC areas use more non-motorized transportation and transit, and less auto as their transportation mode.

TABLE 35 TOC Travel Characteristics

	Trips	Trip Distance	# of Vehicle Trips	VMT
TOC-¼	5.5	26.0	2.0	16.6
TOC-½	7.3	34.9	2.6	16.8
TOC-1	7.9	42.7	3.4	23.7
SCAG	8.5	57.5	4.7	35.9

FIGURE 33 Mode Shares: TOC vs. SCAG Region



- 3. TOC Travel Characteristics: Hispanic vs. Non-Hispanic Compared with Non-Hispanic households, Hispanic households have larger household size and lower household income
- Compared to the SCAG region, both Hispanic and Non-Hispanic in the TOC areas showed similar travel patterns: fewer total trips, less auto use, and less VMT

TABLE 36 TOC Travel Characteristics: Hispanic vs. Non-Hispanic

	% Household		Household Size		Household Income		Trips		VMT	
	Hispanic	Non-Hispanic	Hispanic	Non-Hispanic	Hispanic	Non-Hispanic	Hispanic	Non-Hispanic	Hispanic	Non-Hispanic
TOC-¼	54%	46%	2.75	1.73	$17,040	$36,370	5.1	5.8	10.7	23.7
TOC-½	58%	42%	3.07	1.95	$18,070	$35,100	6.3	8.0	14.0	20.5
TOC-1	50%	50%	3.42	2.18	$21,400	$39,630	6.9	8.8	19.2	28.2
SCAG	35%	65%	3.59	2.41	$28,880	$49,060	7.9	9.6	30.5	38.8

4. AUTO OWNERSHIP

- Compared with the SCAG region, the households in TOC areas own fewer vehicles. About 20 percent of the TOC households don't own a car, twice that of the SCAG region.

FIGURE 34 Transportation - Auto Ownership - Average Household Vehicles

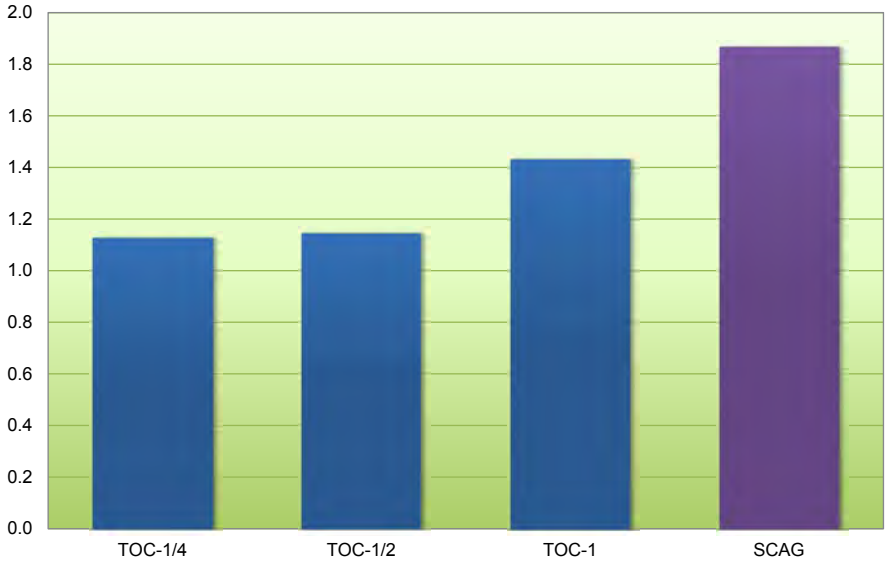
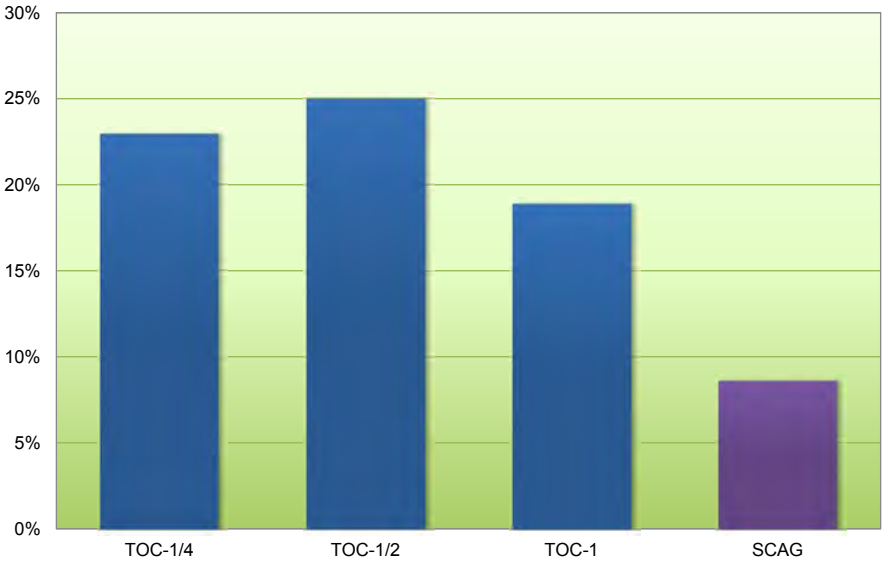


FIGURE 35 Transportation – Auto Ownership – Percent of Households without a Car



5. COMMUTING DISTANCE BY VEHICLE

The analysis of commuting distance by vehicle shows the following:

- Total commuting distance is much shorter for workers in TOC areas than for workers in the rest of the region
- Regionwide, 86 percent of total commuting distance is completed by automobiles, compared with just 30 percent of total commuting distance for workers in TOC areas by autos.

TABLE 37 Transportation – Commuting Distance by Vehicle

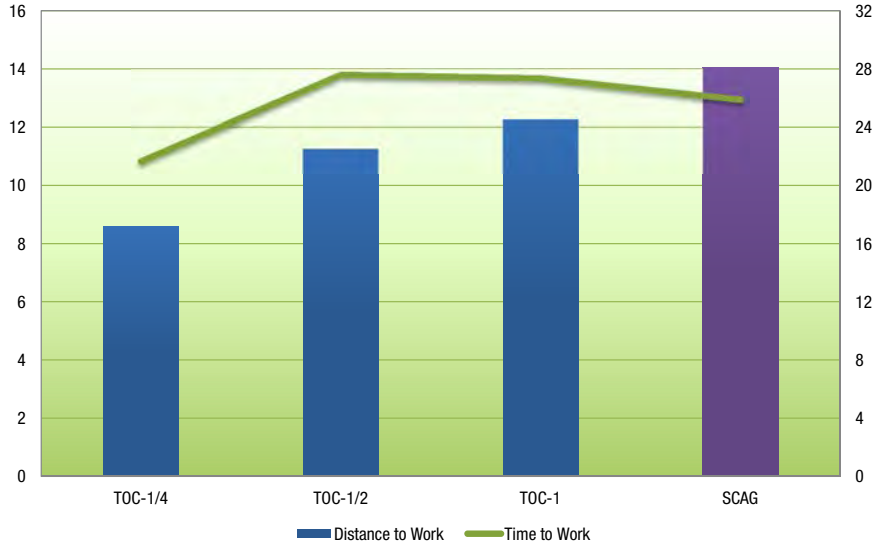
	Vehicles	Total	VMT/Total Distance
TOC-¼	4.1	13.6	30%
TOC-½	9.7	19.2	51%
TOC-1	16.5	21.5	77%
SCAG	19.2	22.4	86%

6. COMMUTING DISTANCE AND TIME

The following observations can be made about commuting distance and time:

- Workers in TOC areas commute a much shorter distance but spend about the same time in commuting.

FIGURE 36 Transportation – Commuting Distance and Time



EVIDENCE OF GENTRIFICATION/DISPLACEMENT IN HQTA/TOC AREAS

Based on a review of relevant literature, seven indicators (see table below) were selected to assess early signs of displacement or gentrification through growth in the HQTA or TOC areas. These indicators include:

- Percent of minority population
- Poverty rate
- Share of 65+ population
- Percent of households without car
- Percent of non-English speaking
- Population without a high school diploma
- Percent of renters

As indicated in the table that follows, directional and magnitude changes in several indicators include:

- Poverty rates decline more in the HQTA/TOC areas than in the rest of the region. This may be the result of low income people moving out of these areas (gentrification/displacements) or higher income people moving in.
- Households without cars decline significantly and more in HQTA/TOC areas than in the rest of the region. This could be due to either low income people moving out, or more affluent people moving in or the combination of the two.
- The Non-English speaking population is normally associated with immigrants, low income households, or transit dependent peoples. Similarly, the percent of the adult population without a high school diploma is also overlapping with the demographic and transportation characteristics observed from the population in HQTA or TOC areas. Thus, the declines in the share of non-English speaking households and/or people without high school diplomas are signals either of the disappearance of that population or a significant increase in more affluent populations.

TABLE 38 Gentrification/Displacement Related Indicators

2000 Census	Total	Non HQTA	Whole HQTA	TOC	Rest HQTA (HQTA-TOC)	p-value
Minorities	61.3%	53.0%	74.5%	77.2%	74.2%	***
Poverty	13.1%	9.8%	18.2%	22.7%	17.8%	***
Seniors (+65)	9.9%	10.5%	9.0%	8.9%	9.0%	***1
Households w/o car	10.1%	6.5%	15.7%	24.6%	14.7%	***
Non-English speaker	4.5%	2.9%	6.9%	8.5%	6.7%	***
Below High School	27.1%	21.7%	36.0%	41.2%	35.5%	***
Rented	42.6%	32.3%	59.3%	65.8%	58.6%	***

p-value is for ANOVA tests among Non-TPP, TOC, and Rest TPP *P-value: * p<0.05; ** p<0.01; *** p<0.001* *1: No difference between TOC and Rest TPP*

2005–09 ACS	Total	Non HQTA	Whole HQTA	TOC	Rest HQTA (HQTA-TOC)	p-value
Minorities	64.8%	58.7%	75.4%	77.6%	75.2%	***
Poverty	12.1%	9.6%	16.4%	20.5%	15.9%	***
Seniors (+65)	10.4%	10.9%	9.5%	9.4%	9.5%	***
Households w/o car	7.4%	4.7%	11.9%	17.9%	11.3%	***
Non-English speaker	4.7%	3.2%	7.3%	8.0%	7.2%	***
Below High School	22.4%	18.5%	29.2%	32.2%	28.9%	***
Rented	40.8%	31.0%	57.7%	64.0%	57.0%	***

p-value is for ANOVA tests among Non-TPP, TOC, and Rest TPP *P-value: * p<0.05; ** p<0.01; *** p<0.001* *1: No difference between TOC and Rest TPP*

Absolute Changes	Total	Non HQTA	Whole HQTA	TOC	Rest HQTA (HQTA-TOC)	p-value
Minorities	3.5%	5.7%	0.9%	0.4%	1.0%	***1
Poverty	-1.0%	-0.2%	-1.9%	-2.2%	-1.9%	***1
Seniors (+65)	0.4%	0.4%	0.5%	0.4%	0.5%	*2
Households w/o car	-2.7%	-1.8%	-3.8%	-6.7%	-3.5%	***
Non-English speaker	0.3%	0.3%	0.4%	-0.5%	0.5%	***1
Below High School	-4.7%	-3.2%	-6.8%	-9.0%	-6.6%	***1
Rented	-1.8%	-1.2%	-1.5%	-1.8%	-1.5%	***2

p-value is for ANOVA tests among Non-TPP, TOC, and Rest TPP *P-value: * p<0.05; ** p<0.01; *** p<0.001* *1: No difference between TOC and Rest TPP* *2: No difference between Non-TOC and Rest TPP*

As shown above, trends observed in key indicators showing evidence of displacement and gentrification from the 2000 Census and 2005-09 ACS in areas of Transit Oriented Development (TODs) are inconclusive. SCAG recognizes the risk that transit investment could stimulate undesirable neighborhood change and is substantial enough that it needs to be managed when transit investments or improvements are being planned. Thus, SCAG will continue to use the methodology and framework in this report to monitor the trends of those indicators in the HQTA and TOC areas. The 2012–2035 RTP/SCS Environmental Justice report also presents a toolkit of policy options for shaping equitable neighborhood change in HQTA and TOC areas. These tools are increasingly available and in use across the country.

DEVELOP AN ENHANCED SCAG LOCAL SUSTAINABILITY PLANNING TOOL[1]

Based on the "4D" principles (density, destination, accessibility, diversity, etc.), SCAG has developed a Local Sustainability Planning Tool (LSPT) which was used for an extensive 2012–2035 RTP/SCS outreach process to help local jurisdictions to explore various land use scenarios. As part of an enhancement to the LSPT, SCAG developed a module from National Household Travel Survey (NHTS) data to analyze land use strategies and capture additional VMT reduction benefits for the 2012–2035 RTP/SCS. The new module provides key inputs to the LSPT such as the VMT and GHG impacts of land use variations. The enhanced LSPT also complements the Regional Travel Demand Model so that it can capture land use and the so-called "4D" factors for a more refined growth allocation at the parcel level, as well as growth redirected into HQTAs. Lastly, the LSPT can help monitor socioeconomic data and travel behavior at the parcel level, addressing some environmental justice concerns.

(10) Environmental Impact Analyses (Air, Health, Noise)

HISTORICAL AIR QUALITY AND HEALTH IMPACTS

Exposure to air pollutants is an environmental justice issue due to the disproportionate share of minority and low-income populations living in close proximity to heavily traveled corridors, particularly near port and logistics activity. This exposure to unhealthy air results in 5,000 premature deaths and 140,000 children with asthma and respiratory symptoms. More than half of Americans exposed to $PM_{2.5}$ pollution, exceeding the national standard, reside in the SCAG region.[2]

New to the Title VI and Environmental Justice analysis for the 2012–2035 RTP/SCS, SCAG has mapped exposure to ozone, concentration of particulate matter emissions, cancer risks, and respiratory hazard risks. In order to assess the impact of emissions on various demographic groups throughout the region, emissions information was summarized and presented to the Environmental Justice communities.

Air pollution comes from many different sources and can be classified into two types: ozone pollution and particulate matter. Ozone pollution takes a gaseous form and is generated as vapor emitted from fuel commonly used in vehicles, industrial processes, etc. Ozone is formed by the reaction between volatile organic compounds (VOC) and oxides of nitrogen (NO_X) in the presence of sunlight. Ozone negatively impacts the respiratory system. Particulate matter (PM_{10} and $PM_{2.5}$) are very fine particles made up of materials such as soot, ash, chemicals, metals, and fuel exhaust that are released into the atmosphere. Particulate pollution has been linked to significant health problems, including aggravated asthma, increases in adverse respiratory problems, chronic bronchitis, decreased lung function, and premature death. **EXHIBIT 20** shows the average daily ozone exposure that is in excess of the national 8 hour standard (0.075 parts per million [ppm]) in the SCAG Region for years 2004–06. Although the region as a whole largely experiences average daily ozone exposure exceeding the federal standard, the highest concentration of ozone exposure can be seen mostly in southwest San Bernardino and northwest Riverside counties, and also in north Los Angeles County. **EXHIBIT 21** shows the same emissions factor for years 2007–09. In comparing these figures, it can be seen that average daily ozone exposure has decreased in most areas across the region between these two study periods. Indeed, the regional average declined from 0.18 ppm to 0.14 ppm (22 percent) during this time. The geographic distribution of ozone exposure, however, largely remained the same with the highest concentrations still prevalent in north Los Angeles County and western San Bernardino and Riverside counties.

[1] For a detailed description and technical report on the development of the NHTS Module, please see the Performance Measure Appendix and its sub-appendix, which includes the full technical report.

[2] California Air Resources Board, South Coast Air Quality Management District, and Southern California Association of Governments. Powering the Future. August 2011.

EXHIBIT 22 displays the number of days that exceeded the federal 8 hour standard of ozone exposure in the SCAG region for the period of 2004–06. The areas with the lowest number of days are in south Los Angeles County, south Ventura County, east San Bernardino County, and east Imperial County. The areas that have the highest number of days that exceed the federal ozone exposure standard are north Ventura County, west San Bernardino County (including the high and low desert areas), west Riverside County (including parts of the Coachella Valley), and west Imperial County. **EXHIBIT 23** shows the same data element for years 2007–09. When these maps are compared side-by-side, it can be seen that the intensification of this factor has decreased over time, but the geographic distribution has remained quite similar.

Along with information on ozone emissions, SCAG was able to obtain data from the California Air Resources Board (ARB) showing particulate matter pollution throughout the region for years 2004–06 and 2007–09. **EXHIBIT 24** shows the average annual exposure to particulate matter smaller than 2.5 micrometers ($PM_{2.5}$) for years 2004–06. South Los Angeles County, northeast Orange County, southwest San Bernardino County, and northwest Riverside County experienced the highest average annual exposure to $PM_{2.5}$, with average rates ranging from 14.6 to 21.4 micrograms of $PM_{2.5}$ per cubic meter of air (ug/m3). Other high exposure areas include north Los Angeles County, east Ventura County (along the US 101 corridor), central Orange County, central Riverside County (Coachella Valley), and central Imperial County (Imperial Valley basin). Also included in this group are the areas in San Bernardino and Riverside County that are directly outside of the highest intensity areas identified previously that fall between the SR 74, I-15, and I-215 corridors. **EXHIBIT 25** shows this same data element for years 2007–09. As is seen in this figure, the average annual concentration of $PM_{2.5}$ decreased in both numbers and geographic intensity from 2004–06 to 2007–09. The communities with the highest intensity of average annual $PM_{2.5}$ are shown to be somewhat constrained within the areas between I-210 and SR-91 in the north and the south and the I-405 and I-215 in the east and the west, whereas before the highest intensity areas went far beyond these markers. Indeed, average annual $PM_{2.5}$ emissions decreased during this period from 14.76 ug/m3 in 2004–06 to 12.91 ug/m3 in 2007–09.

The impact of ozone and particulate emissions on health can be seen in the instances of cancer or poor respiratory health in a designated geographic area. The rate of cancer risk per one million people as a result of emissions in the SCAG region is displayed in **EXHIBIT 26**. This dataset was determined by considering a number of indicators detailing cumulative impacts and vulnerability at the census tract level in the SCAG region. These indicators include: "(a) proximity to air pollution hazards and land uses that are either associated with high levels of air pollution or [areas that are] 'host' [to] sensitive populations...; (b) exposure and health risk measures associated with specific air pollutants and pollutant types; and (c) measures of social and health vulnerability that have been identified from epidemiological literature on social determinants of health as well as EJ literature on the determinants of siting and emissions."[3] As is seen in this exhibit, the highest instance of cancer risk is exhibited in the area in and around Downtown Los Angeles, along the I-10 and SR-60 highways in San Bernardino County, at the SR-91/I-15, SR91/I-215 intersections in Riverside County, and at the SR-57/SR-22 intersection in Orange County. Generally speaking, the other areas that have high instances of cancer risk in the SCAG Region are south Ventura County, south and central Los Angeles County, southwest San Bernardino County, northwest Riverside County, and all of Orange County.

In addition to cancer risk, respiratory risk is also an indicator of emissions impact on public health. **EXHIBIT 27** shows respiratory risk for the year 2005 in the SCAG Region. This dataset was developed by the United States Environmental Protection Agency (EPA) and measures the risk for non-cancer respiratory conditions over a lifetime based on available emissions data. If the hazard index is equal to or less than 1.0, no adverse health effects are anticipated. A hazard index that is greater than 1.0 indicates that there may be a greater risk of respiratory conditions due to exposure from air pollutants. The highest areas of respiratory risk are the segments that closely follow major freeways in the most urbanized portions of the region, with the areas surrounding Downtown Los Angeles showing the highest geographic concentration of respiratory risk in the region. Respiratory risk is also present in the urbanized portions of south Ventura County, south and central Los Angeles County, southeast San Bernardino County, northwest Riverside County, Orange County, and central Imperial County.

[3] Pastor, M., Morello-Frosch, R, Sadd, J. (2010). Air pollution and Environmental Justice: Integrating indicators of cumulative impact and socio-economic vulnerability into regulatory decision- making (Final Report, Contract No.: 04-308). Sacramento: California Air Resources Board. Retrieved from http://www.arb.ca.gov/research/apr/past/04-308.pdf

Existing Air Quality Impacts on Environmental Justice Populations at the Regional Level

In order to assess the impacts of air quality on various demographic groups throughout the region, air quality information was summarized and presented to the Environmental Justice communities. **TABLE 39** and **FIGURES 37–41** show the results of this analysis. For years 2004–06, the average days exceeding federal ozone standards are shown. Most demographic groups fall below the regional average, except for the elderly population which exceeds the regional total at 18.09. This trend holds true for average daily ozone exposure as well, where the elderly population had average daily ozone exposure identical to the regional average. The opposite, however, is true for average annual $PM_{2.5}$ exposure. All groups except for the elderly population are in excess of the regional average, with minority populations having the highest average annual $PM_{2.5}$ exposure at 16.19 ug/m3. This pattern also appears with cancer risk and respiratory risk. All groups except for the elderly population exceed the regional average, with the Foreign Born population having the highest cancer risk at 635.23 per million people and Non-English Speakers having the highest respiratory risk at 5.77. For the years 2007–09 as compared with figures from 2004-06, there are reductions across the board for ozone and particulate emissions at both the regional level and for each demographic group. In terms of ozone emissions, all demographic groups are at or below the regional average for both average day exceeding federal ozone standards and average daily ozone exposure in excess of national standards. This, however, cannot be said for $PM_{2.5}$ emissions, where each demographic group except the elderly population is in excess of the regional average for average annual $PM_{2.5}$ exposure, with Foreign Born and Non-English Speakers each having 13.74 ug/m3. This trend again appears for cancer risk and respiratory risk, with each group exceeding the regional average except for the elderly population. Non-English Speakers have both the highest cancer and respiratory risk, with cancer risk at 612.15 per million people and 5.62 for respiratory risk.

EXHIBIT 20 Average Daily Ozone Exposure in Excess of the National 8 Hour Standard (0.75 ppm) (2004–06)

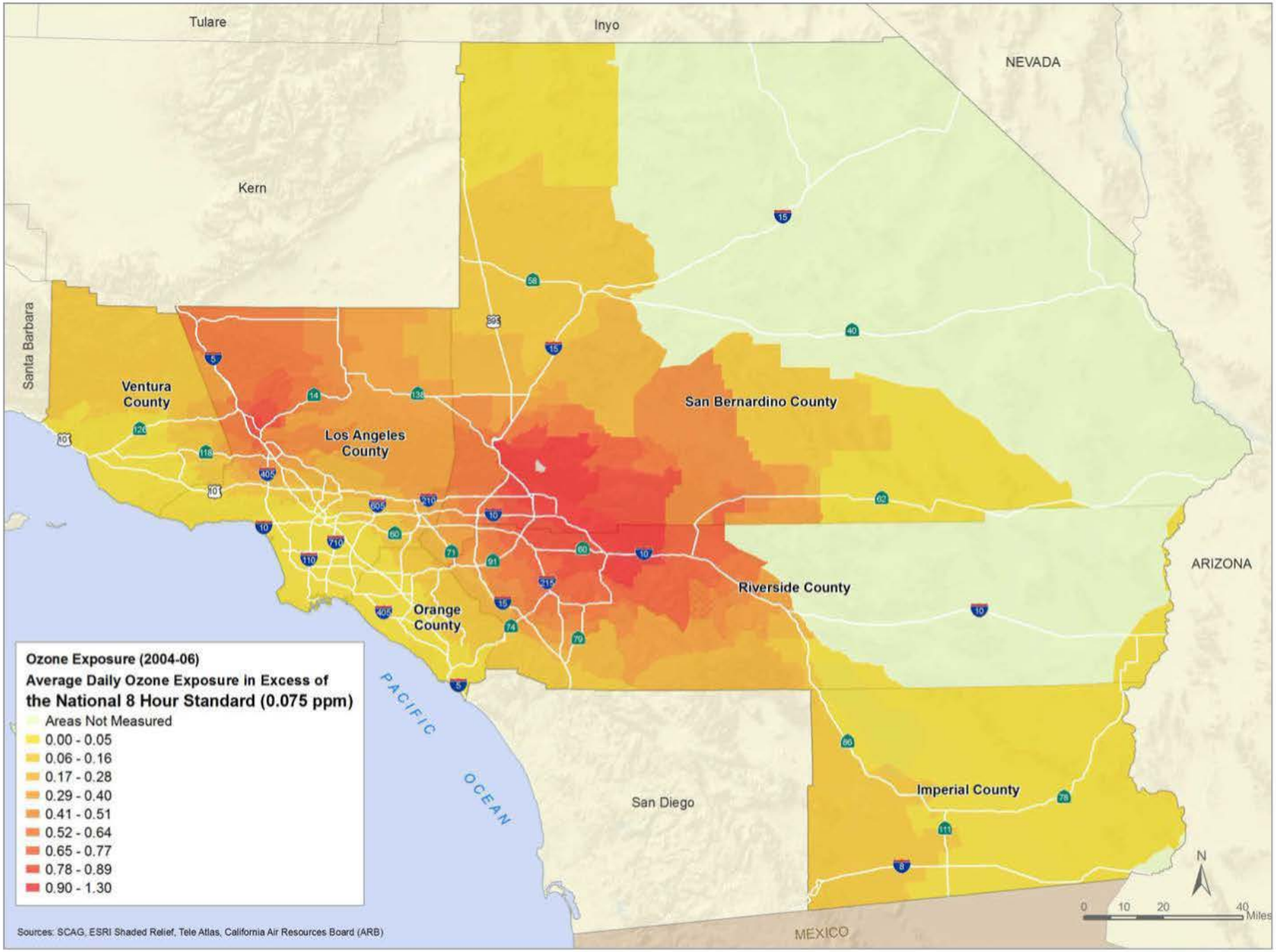


EXHIBIT 21 Average Daily Ozone Exposure in Excess of the National 8 Hour Standard (0.75 ppm) (2007–09)

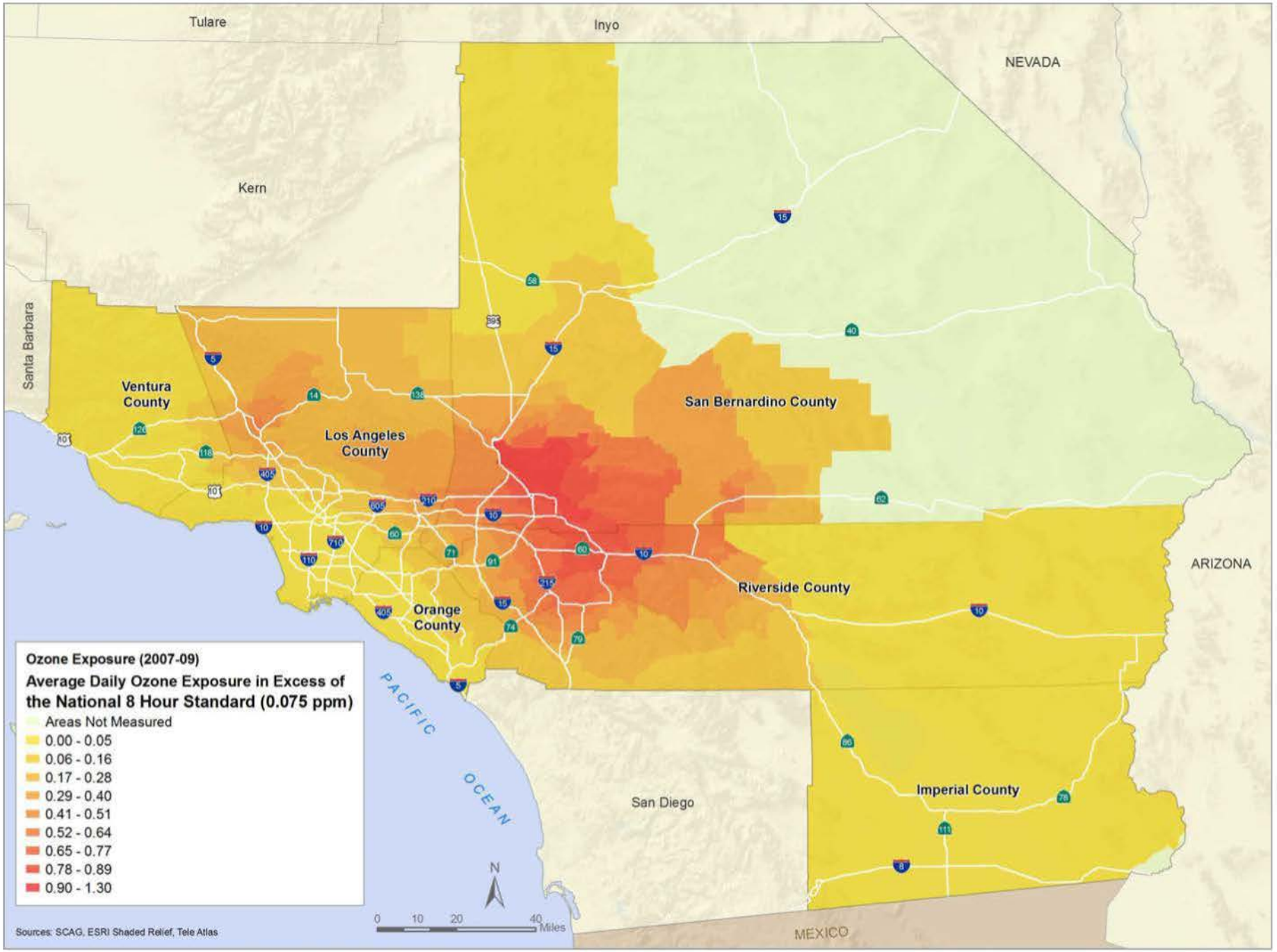


EXHIBIT 22 Ozone Emissions: Number of Days Exceeding the Federal 8 Hour Standard of 0.075 ppm (2004–06)

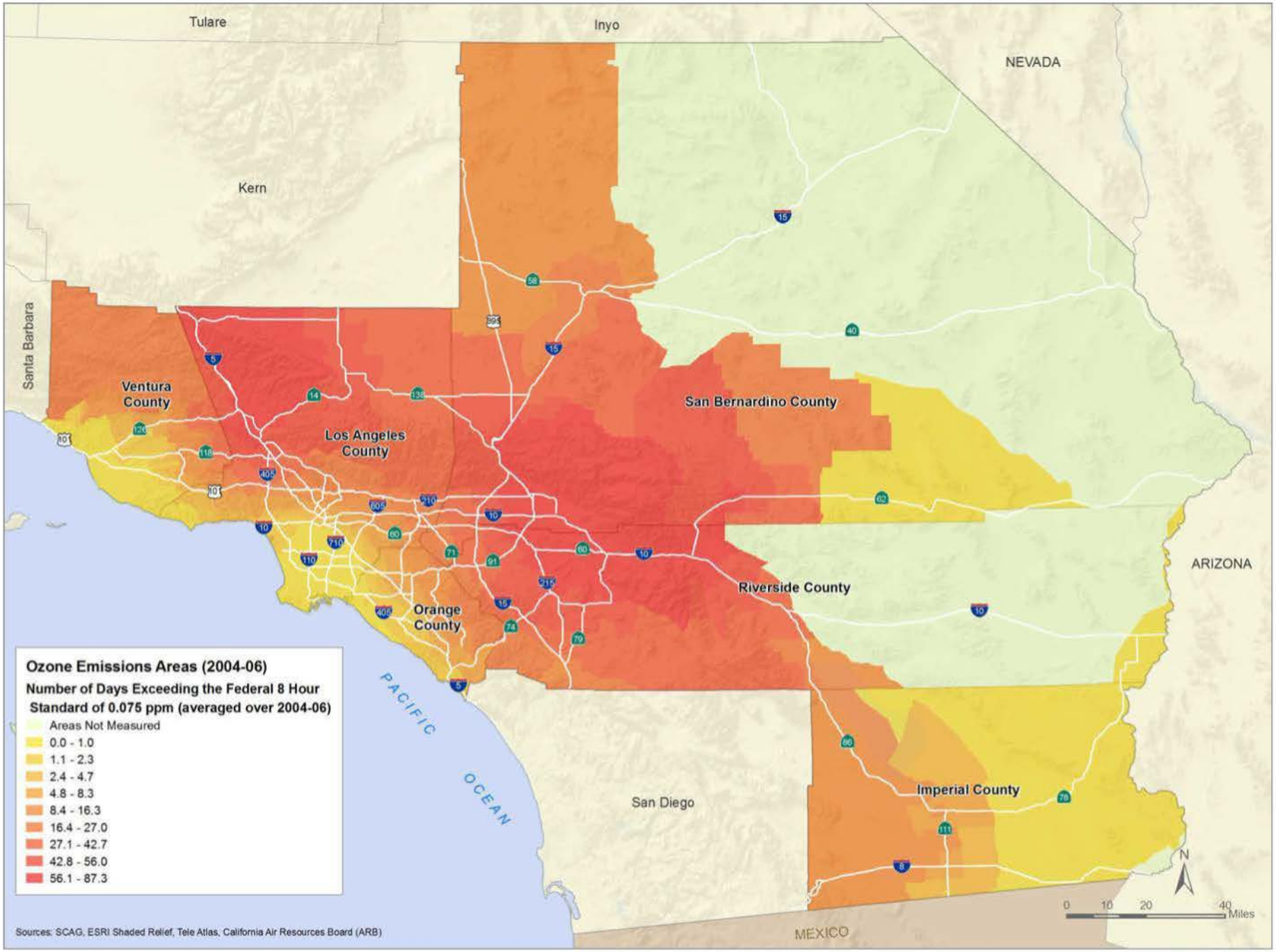


EXHIBIT 23 Ozone Emissions: Number of Days Exceeding the Federal 8 Hour Standard of 0.075 ppm (2007–09)

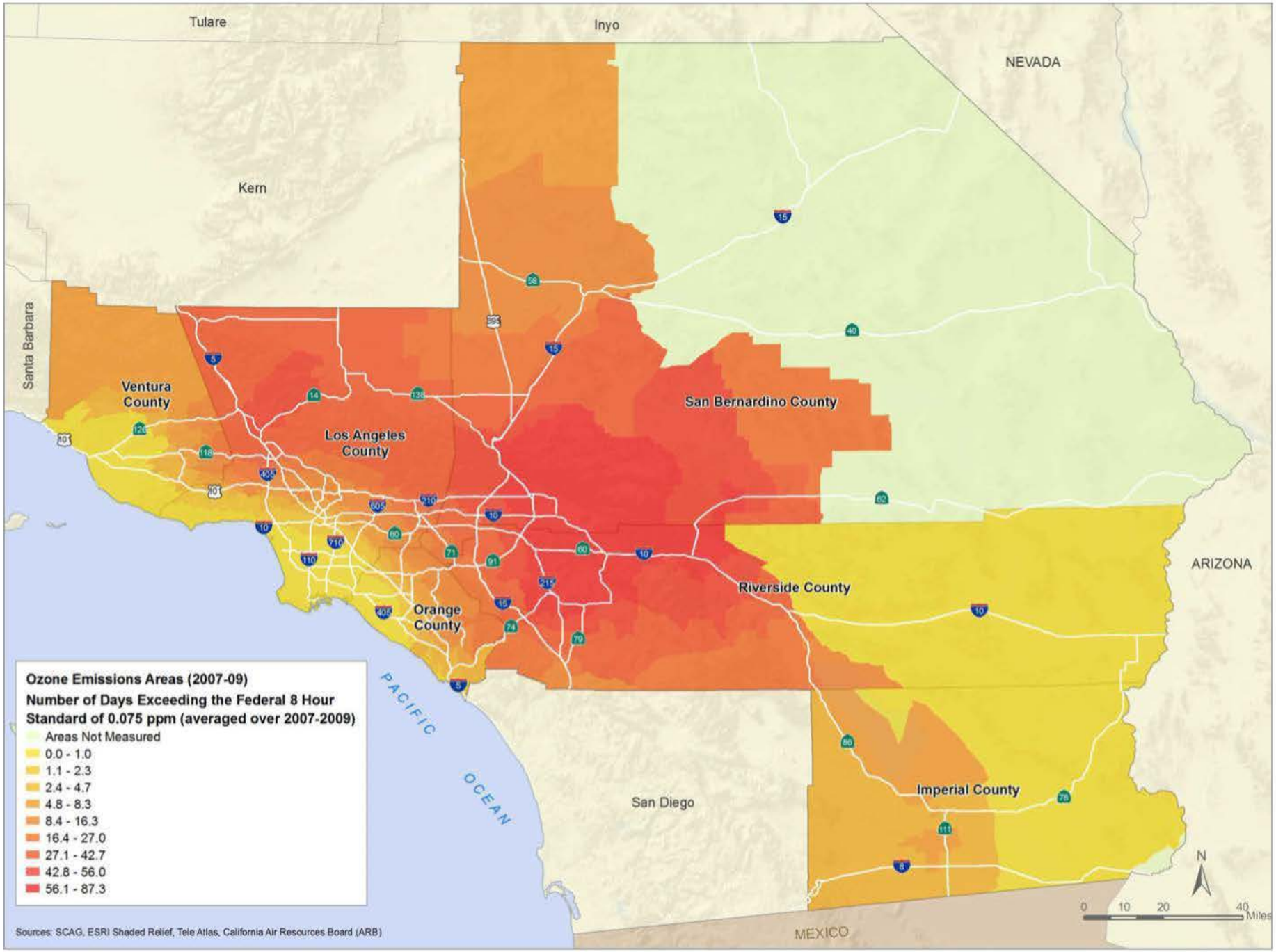


EXHIBIT 24 Annual Average Concentration of $PM_{2.5}$ (2004–06)

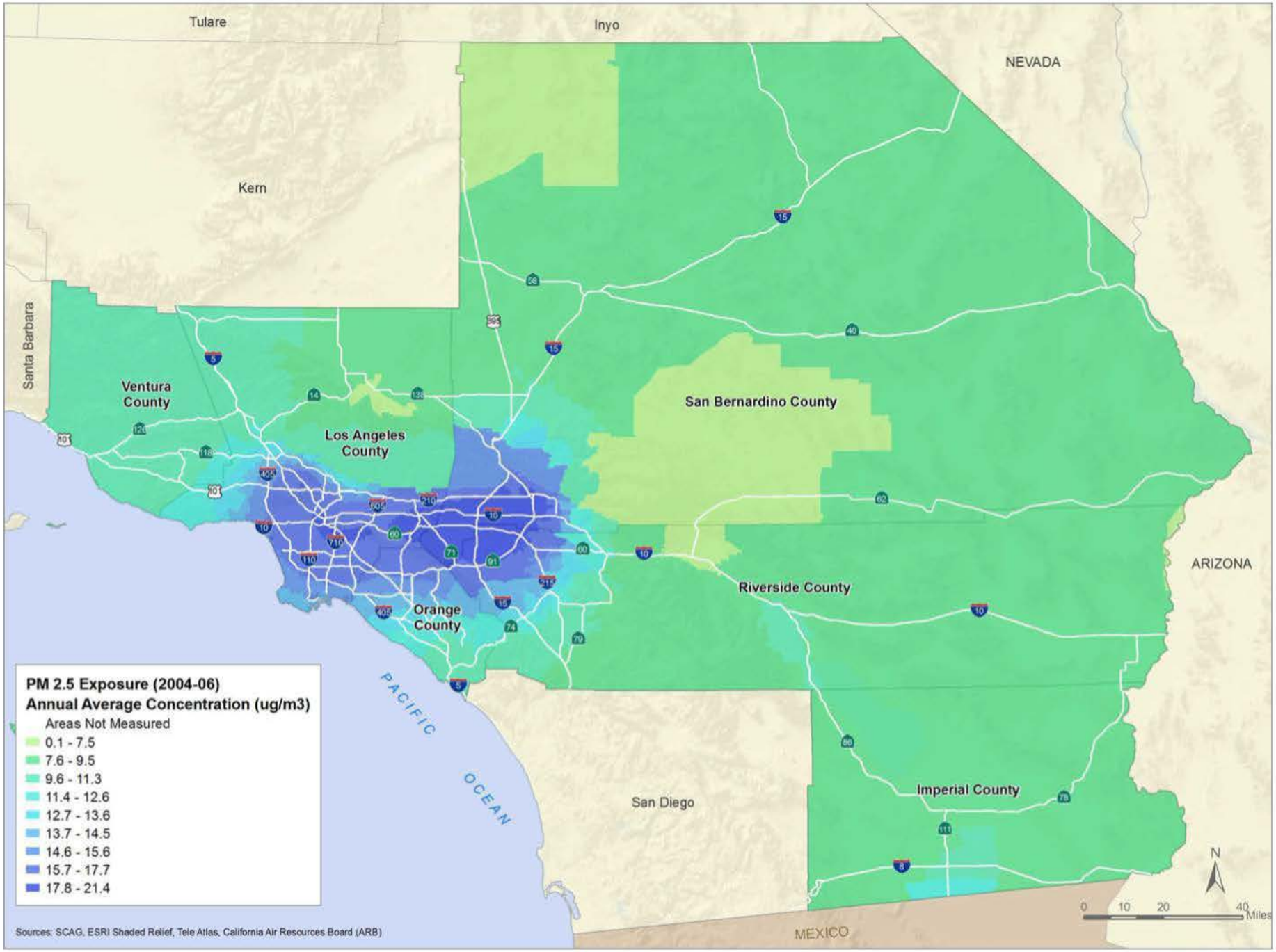


EXHIBIT 25 Annual Average Concentration of $PM_{2.5}$ (2007–09)

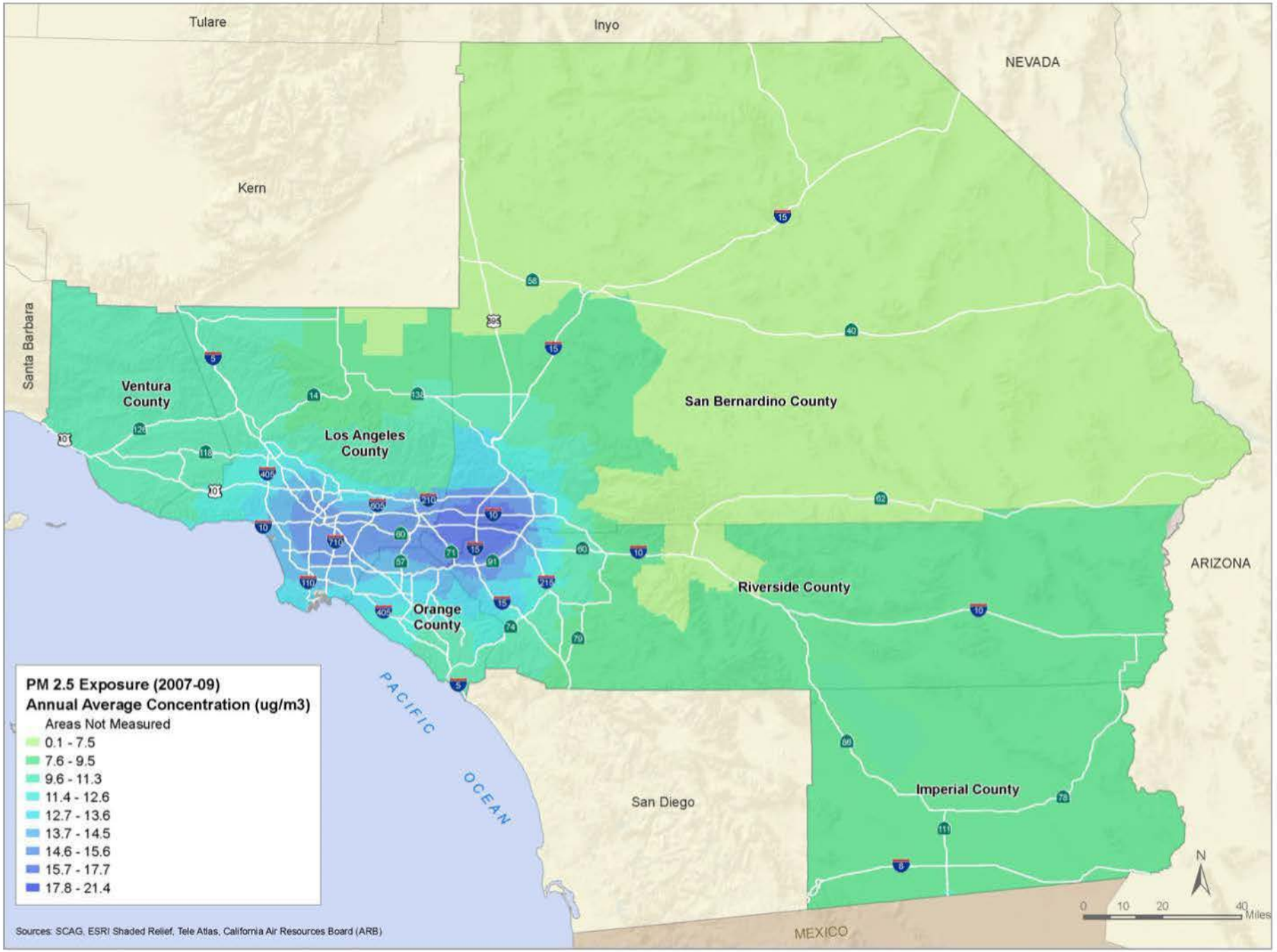


EXHIBIT 26 Cancer Risk Over Lifetime Per Million Persons (2005)

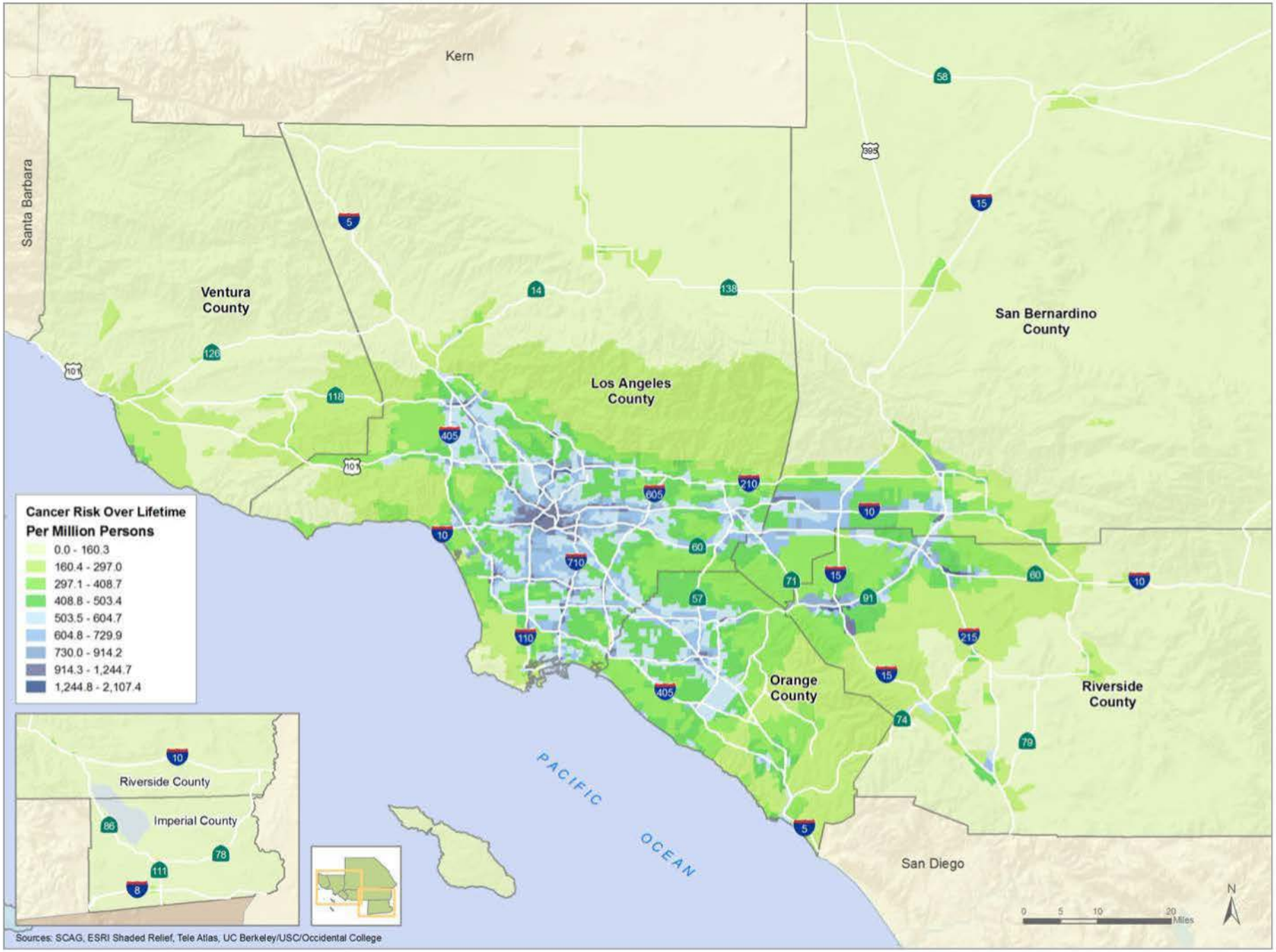


EXHIBIT 27 Respiratory Hazard Risk Per Individual (2005)



TABLE 39 Summary of Air Quality and Health Risks by Environmental Justice Population Group

Environmental Justice Demographic Groups	2004–06 Population	2004–06 Average Days Exceeding Ozone Standards	2004–06 Average Daily Ozone Exposure in Excess of National Standards	2004–06 Average Annual $PM_{2.5}$ Exposure	2004–06 Cancer Risk Per Million	2004–06 Respiratory Hazard Risk Index	2007–09 Population	2007–09 Average Days Exceeding Ozone Standards	2007–09 Average Daily Ozone Exposure in Excess of National Standards	2007–09 Average Annual $PM_{2.5}$ Exposure	2007–09 Cancer Risk Per Million	2007–09 Respiratory Hazard Risk Index
Elderly Population	995,023	18.09	0.18	14.20	402.57	4.62	1,234,527	14.18	0.13	12.66	418.36	4.39
Below Poverty	1,802,317	15.51	0.16	15.75	582.94	5.33	1,647,407	14.40	0.14	13.29	562.03	5.17
Minority	7,321,095	13.05	0.14	16.19	588.13	5.54	8,283,746	12.37	0.12	13.65	574.46	5.42
Foreign Born	3,481,079	10.51	0.10	16.06	607.29	5.69	3,638,816	9.36	0.09	13.74	596.85	5.60
Non-English Speakers	509,760	10.93	0.11	16.16	635.23	5.77	619,622	10.59	0.10	13.74	612.15	5.62
Households Without Vehicles	366,398	12.83	0.13	15.92	604.53	5.46	307,565	11.36	0.11	13.51	576.63	5.28
Education Below High School	2,029,516	14.95	0.16	15.75	571.02	5.35	1,897,248	14.11	0.14	13.40	565.48	5.30
Region Total	16,516,006	17.77	0.18	14.76	467.13	4.62	17,737,412	15.03	0.14	12.91	467.13	4.62

**Population and Household data is representative of the 2000 Decennial Census and the 2005–09 American Community Survey.*
**Emissions data shows averages based upon two data sets, one representing averages from 2004–06 and the other showing averages from 2007–09*
**Cancer risk data represents a single data point from 2005*

Sources: SCAG, 2000 Census, 2005–09 American Community Survey (ACS), California Air Resources Board (ARB), UC Berkeley/University of Southern California (USC)/Occidental College

FIGURE 37 Average Days Exceeding Federal Ozone Standards (2004–06 and 2007–09)

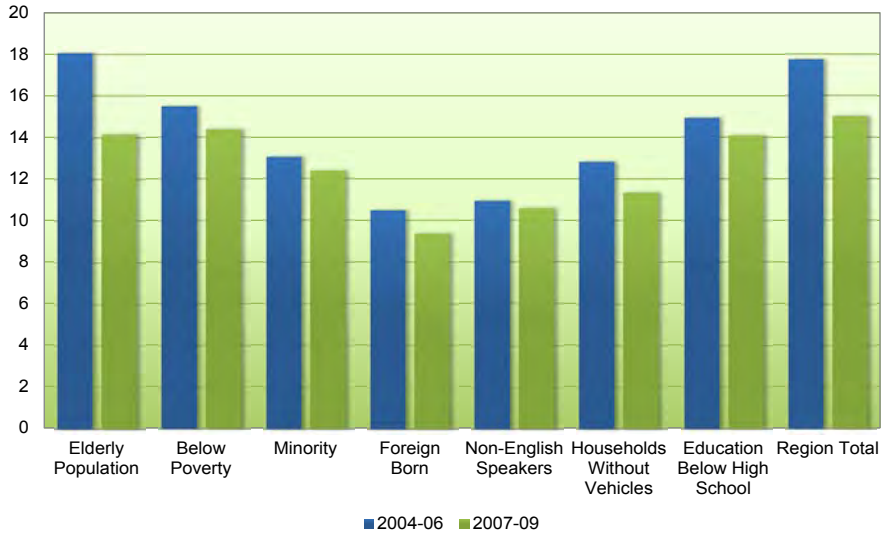


FIGURE 38 Average Daily Ozone Exposure in Excess of Federal Standards (2004–06 and 2007–09)

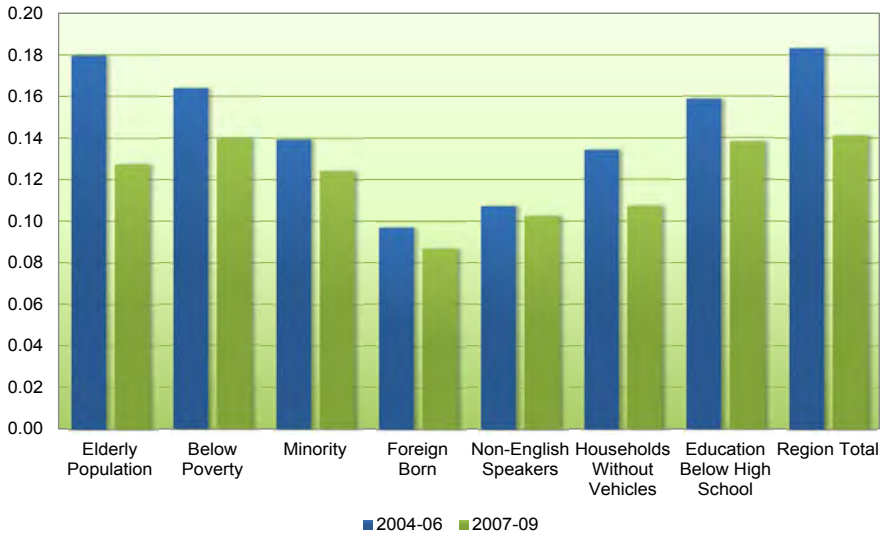


FIGURE 39 Average Annual $PM_{2.5}$ Exposure (2004–06 and 2007–09)

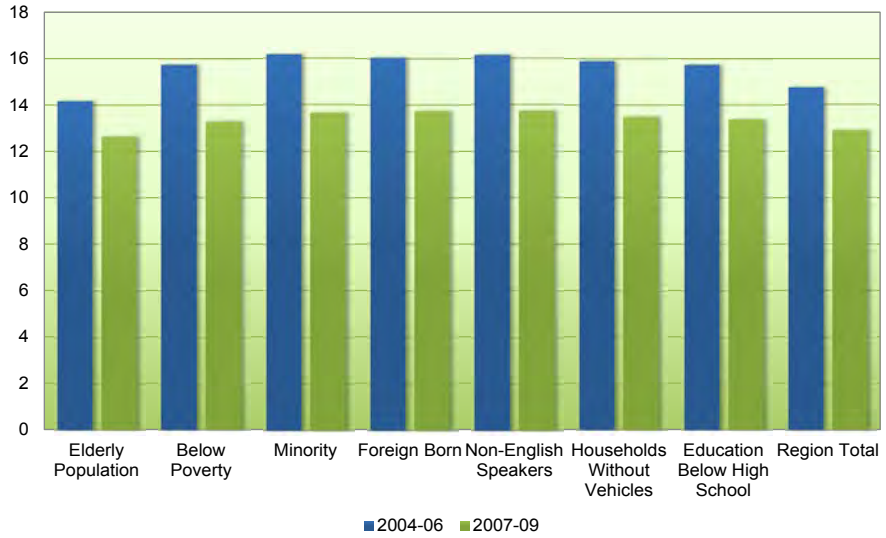


FIGURE 40 Lifetime Cancer Risk per Million Persons (2005)

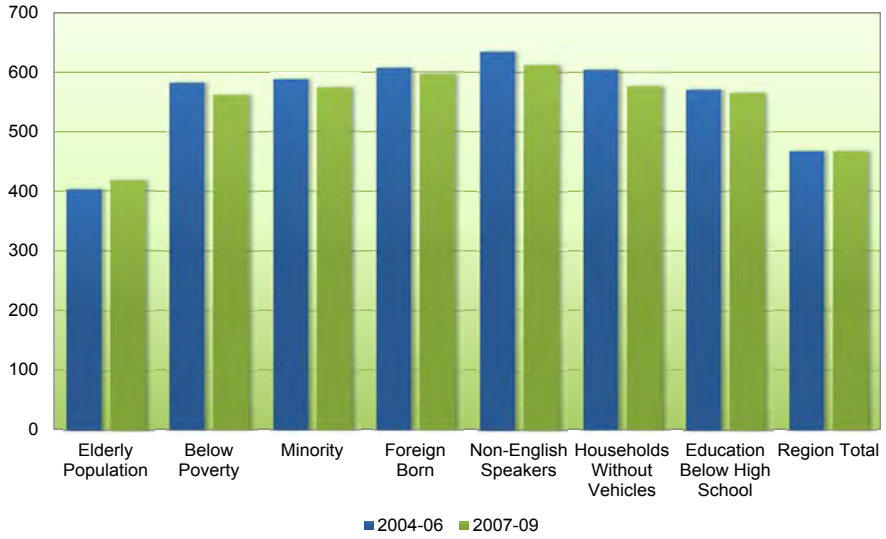
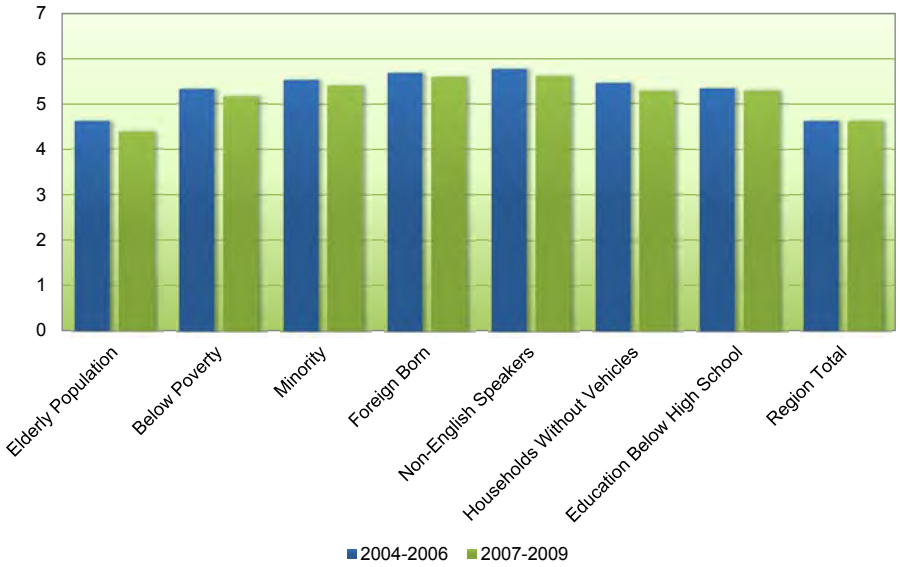


FIGURE 41 Respiratory Hazard Risk Per Individual (2005)



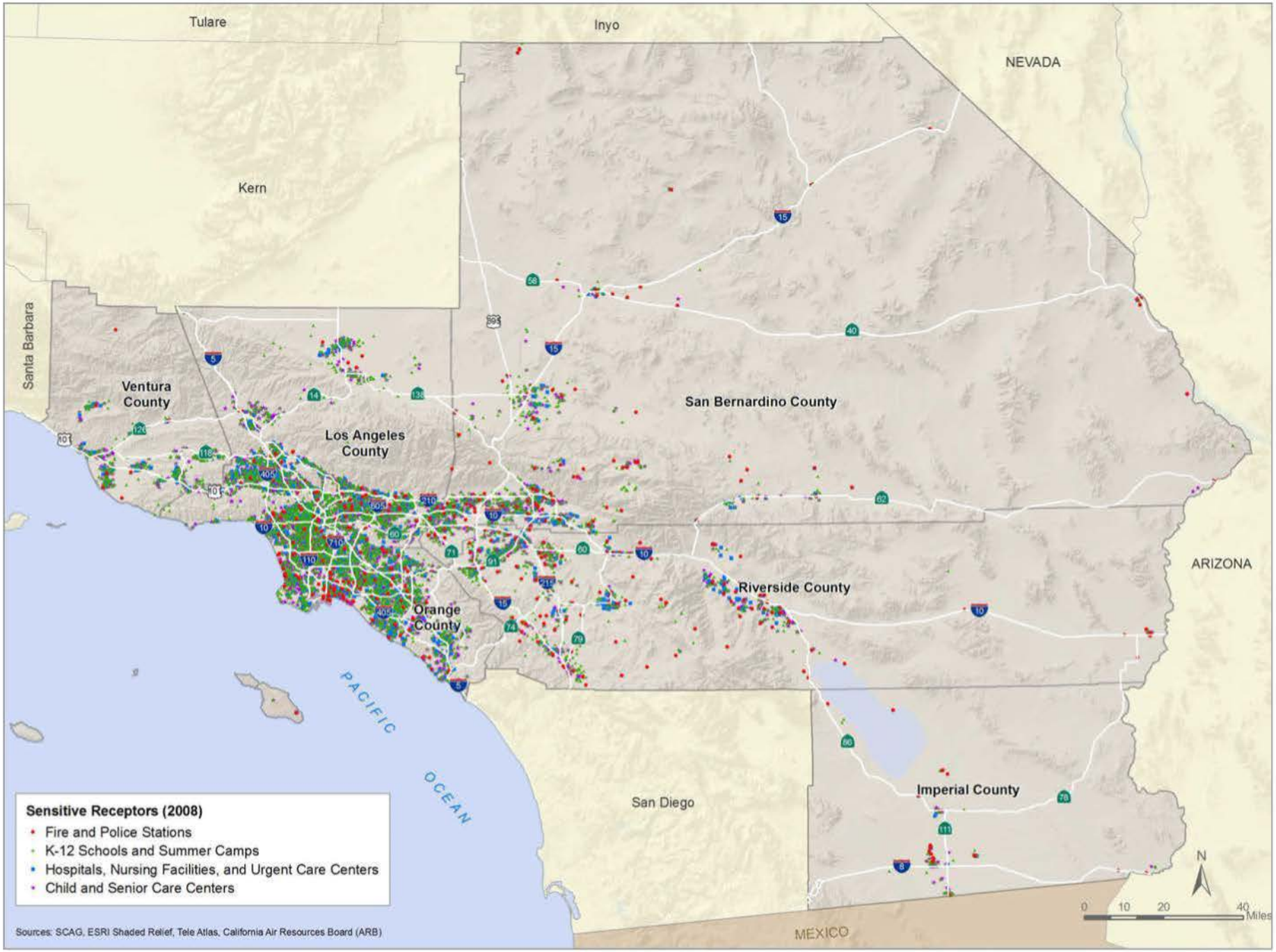
In addition to historical information on regional demographics, it is also important to note the intensity and location of sensitive receptors in the SCAG Region. A sensitive receptor is a person in the population who is particularly susceptible to health effects due to exposure to an air contaminant. The following are land uses (sensitive sites) where sensitive receptors are typically located:[4]

- Schools, playgrounds and childcare centers
- Long-term health care facilities
- Rehabilitation centers
- Convalescent centers
- Hospitals
- Retirement homes
- Residences

EXHIBIT 28 shows fire stations, police stations, k-12 schools, summer camps, hospitals, nursing facilities, urgent care centers, child care centers, and senior care centers in the SCAG region. The concentration of sensitive receptors is highest in south Los Angeles County, north Orange County, southwest San Bernardino County, and northwest Riverside County. The distribution of these facilities highly correlates with $PM_{2.5}$ emissions in the SCAG Region, which suggests that there may be health impacts to these sensitive populations.

[4] South Coast Air Quality Management District. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning, 2005.

EXHIBIT 28 Sensitive Receptors in 2008



Air Quality Impacts along Freeways and Highly Traveled Corridors

METHODOLOGY

The concentration of air pollutants along heavily traveled corridors, particularly PM_{10} and $PM_{2.5}$, is a major concern in Southern California. SCAG identified major corridors defined as urban roads with 100,000 average daily trips and rural roads with 50,000 daily trips. Next, SCAG overlaid the income, race and ethnic composition of those households within 500 feet of the corridor. This analysis allows SCAG to better understand the impacted populations and allow for greater outreach to those communities of concern.

RESULTS

The following table illustrates the population and household growth within the areas adjacent to heavily traveled corridors compared to the entire region. The table is further refined by county and 2000 census and 2005/09 ACS data. The table shows that the total number of residents and households within 500 feet of a heavily traveled corridor increased from approximately 1.08 million people in 2000 to 1.14 million people in 2005–09, an increase of 5.7 percent. Within the SCAG region as a whole, the population increased at a higher rate of 7.4 percent.

TABLE 40 Environmental Impacts along Freeways and Highly Traveled Corridors

Freeway Buffer	2000		2005–09		2000 – 2005–09	
County	Population	Households	Population	Households	Pop %	HH %
Imperial	2,663	793	2,899	895	8.9%	12.9%
Los Angeles	673,278	211,736	690,688	216,760	2.6%	2.4%
Orange	193,860	63,628	204,734	66,862	5.6%	5.1%
Riverside	74,415	26,089	94,625	32,341	27.2%	24.0%
San Bernardino	92,315	27,986	104,014	30,505	12.7%	9.0%
Ventura	40,678	14,426	42,129	14,917	3.6%	3.4%
SCAG Region	1,077,209	344,658	1,139,089	362,280	5.7%	5.1%
SCAG Region	**2000**		**2005–09**		**2000 – 2005–09**	
County	Population	Households	Population	Households	Pop %	HH %
Imperial	142,361	39,384	160,034	46,405	12.4%	17.8%
Los Angeles	9,519,338	3,133,774	9,785,295	3,178,266	2.8%	1.4%
Orange	2,846,289	935,287	2,976,831	974,001	4.6%	4.1%
Riverside	1,545,387	506,218	2,036,304	645,185	31.8%	27.5%
San Bernardino	1,709,434	528,594	1,986,635	588,796	16.2%	11.4%
Ventura	753,197	243,234	792,313	257,178	5.2%	5.7%
SCAG Region	16,516,006	5,386,491	17,737,412	5,689,831	7.4%	5.6%

The following table, **TABLE 41**, shows that 263,323 acres of the SCAG region are within 500 feet of a heavily traveled corridor. This acreage represents 1 percent of the total area within the SCAG region.

TABLE 41 Acreage Within 500 Feet of a Heavily Traveled Corridor by County

County	Total Acres	Acres within 500 Feet of a Heavily Traveled Corridor	Percent
Imperial	2,867,801	14,062	0.5%
Los Angeles	2,616,307	74,953	2.9%
Orange	511,120	26,279	5.1%
Riverside	4,672,082	42,421	0.9%
San Bernardino	12,861,065	66,175	0.5%
Ventura	1,188,842	12,433	1.0%
SCAG Region	**24,717,217**	**236,323**	**1.0%**

The following table, **TABLE 42**, shows the distribution of Environmental Justice communities residing within 500 feet of a heavily traveled corridor. Low-income groups comprise 7 percent of the population living within 500 feet of a heavily traveled corridor, while 7.1 percent of minorities reside in these areas. This is higher than the regional level, which shows that 5.7 percent of the region's population lives within 500 feet of a heavily traveled corridor.

TABLE 42 Distribution of Environmental Justice Demographic Group Within 500-Foot Freeway Buffer

County	Seniors (65+)	Poverty	Minorities	Foreign-Born	Non-English Speaker	Households Without Car	Education Below High School
Year 2000							
Imperial	1.7%	0.8%	1.7%	1.6%	0.9%	1.0%	1.1%
Los Angeles	6.8%	7.6%	7.7%	7.7%	8.3%	7.4%	8.0%
Orange	6.7%	7.6%	7.4%	7.3%	6.8%	7.7%	7.3%
Riverside	5.3%	4.8%	4.6%	4.6%	4.3%	5.1%	4.5%
San Bernardino	4.7%	5.8%	6.1%	5.9%	6.0%	5.8%	5.6%
Ventura	5.6%	5.4%	4.8%	4.9%	3.9%	7.6%	5.0%
SCAG Region	6.3%	7.0%	7.1%	7.2%	7.4%	7.1%	7.2%
Year 2005–09							
Imperial	1.6%	1.3%	1.7%	1.6%	1.1%	1.3%	1.1%
Los Angeles	6.9%	7.6%	7.6%	7.6%	8.0%	7.3%	8.1%
Orange	6.6%	7.5%	7.4%	7.3%	7.4%	7.4%	7.5%
Riverside	5.7%	4.4%	4.3%	4.5%	4.5%	4.9%	4.4%
San Bernardino	4.6%	5.1%	5.8%	5.5%	5.0%	5.7%	5.2%
Ventura	5.3%	5.6%	5.0%	5.0%	4.1%	6.5%	4.8%
SCAG Region	6.3%	6.8%	6.9%	7.0%	7.1%	6.9%	7.1%

FIGURE 42 Percentage of Environmental Justice communities residing within 500 Feet of a Heavily-Traveled Corridor by County (2000 Census)

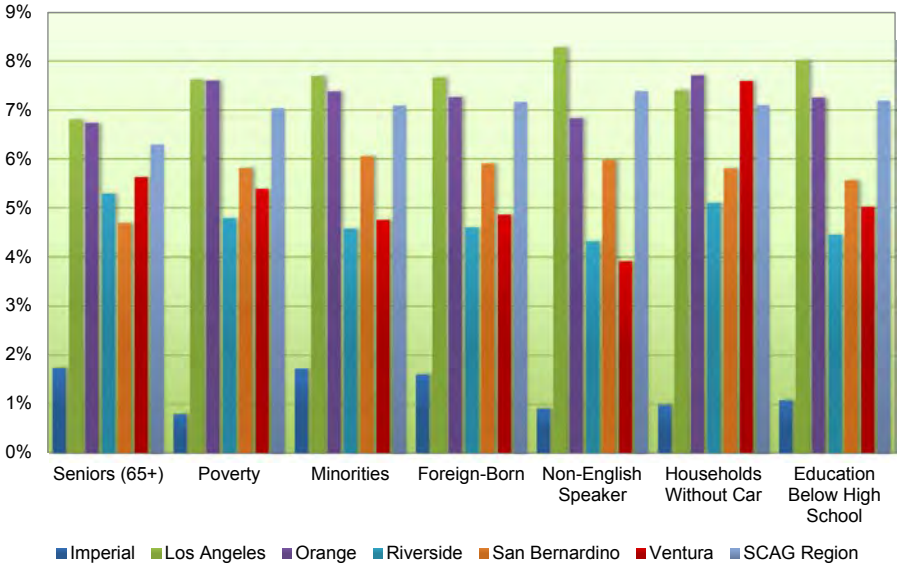
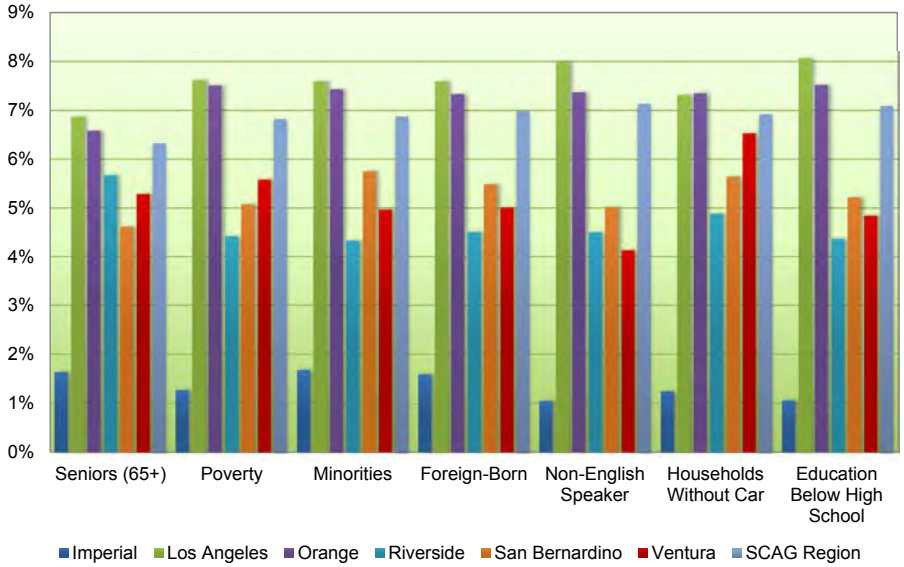


FIGURE 43 Percentage of Environmental Justice communities Residing within 500 Feet of a Heavily-Traveled Corridor by County (2005–09 ACS)



Environmental Impacts of Plan and Baseline Scenarios

Transportation projects can have both positive or negative impacts on the environment. On the one hand, investments can cause travelers to shift to less polluting modes (e.g. bus, train, carpooling, or commuter rail). On the other hand, investments that increase traffic on a particular facility usually degrade air quality in the immediate vicinity of that facility.[5] In order to evaluate the environmental impacts of the 2012–2035 RTP/SCS, the environmental justice analysis addressed air pollutant emissions and noise generated from aviation, highway, and freight rail activities.

SCAG's air pollutant emissions analysis is based on emission estimates for pollutants that have localized health effects: carbon monoxide (CO) and particulate matter (PM). Analysis is also conducted for PM exhaust emissions from heavy-duty vehicles: an indicator of diesel toxic air contaminants. The results are computed based on the average emissions at the TAZ level.

Transportation is a major source of noise. Some typical principal noise generators within the SCAG region are associated with airports, freeways, railroads, and arterial roadways. Intrusive noise can cause stress and degrade the quality of life for people in affected areas. In extreme cases, intrusive noise can pose a threat to hearing. New transportation facilities or other system changes that increase traffic levels will generally increase noise levels near the facility. Investments in sound walls or new pavement can help to mitigate vehicle noise.[6]

Sound is measured on a non-linear scale in units of decibels. An adjusted scale, using A-weighted decibels [dB (A)], emphasizes those sound frequencies that are audible to humans. On this scale, a 10 dB (A) increase is perceived as a doubling of sound. Sound above 65 dB (A) is considered annoying and sound above 125 dB (A) is painful. Noise generated from the transportation system generally falls above the annoyance level, but below that which is painful.[7]

SCAG's analysis of noise for the 2012–2035 RTP/SCS considers three sources: aviation noise (from aircraft at the region's airports), railroad noise, and highway noise. While insufficient data was available to analyze noise from freight and passenger trains, this analysis will attempt to identify rail segments based on train activities and other indicators that may post more significant noise and air pollution impacts than other places. Because of the differences in the data sources, and varying standards used to regulate the different sources, SCAG's analysis takes a different approach for aviation noise than for highway noise and train noise. Given the metrics used for the noise analyses, it is not appropriate to combine the data to estimate aggregate noise impacts of the Plan.[8]

METHODOLOGY

Since ambient pollutant concentration levels are directly linked to localized emissions and can not be easily estimated, the geographic emissions distribution analysis presented here focuses on pollutants that tend to have localized effects which are generally proportionate to emissions—carbon monoxide (CO)and fine particulate matter (PM_{10} and $PM_{2.5}$). The analysis does not cover pollutants that do not have localized effects proportionate to emissions, but are regionally distributed as a result of chemical interactions, photochemical reactions and meteorology (VOC, NO_X, and SO_X).

RESULTS

EXHIBITS 29 and **30** display the difference in CO and PM emissions between the Baseline and Plan scenarios (Baseline minus Plan) in 2035. As mentioned previously, data and analysis included in this Appendix does not account for Plan improvements in vehicle technology particularly for truck only corridors. These corridors in the Plan are exclusively for zero and/or near-zero emission vehicles. Furthermore, the Program Environmental Impact Report (PEIR) accompanying the RTP/SCS includes mitigation measures that would reduce impacts associated with health risk within 500 feet of freeways and high-traffic volume roadways to less than significant. Analysis included in this Appendix also does not account for emissions improvements through the implementation of these mitigation measures. As such, emissions and exposure analysis shown in this Appendix is abundantly conservative and demonstrates worst-case scenario outcomes. If these emissions improvements had been accounted for, we believe the analysis would show little or no areas with worsened emissions ("hot spots") associated with the Plan. Moreover, the currently available data on emissions and on the distribution of households

5 Caltrans. Desktop Guide: Environmental Justice in Transportation Planning Investments. January 2003.
6 Ibid.
7 Ibid
8 Ibid

and population is imprecise such that the overlay with emissions and EJ populations will tend to overstate any potential impacts. Nevertheless, given on-going concerns and evolving information on health impacts, SCAG encourages project sponsors to be cognizant of any potential health risks in project design and delivery. Consistent with the mitigation identified and to be implemented as part of the proposed final PEIR, SCAG will assist in disseminating information and identifying effective strategies to reduce risk at the project level.

EXHIBIT 29 CO Emission Change (2035 Baseline to Plan)

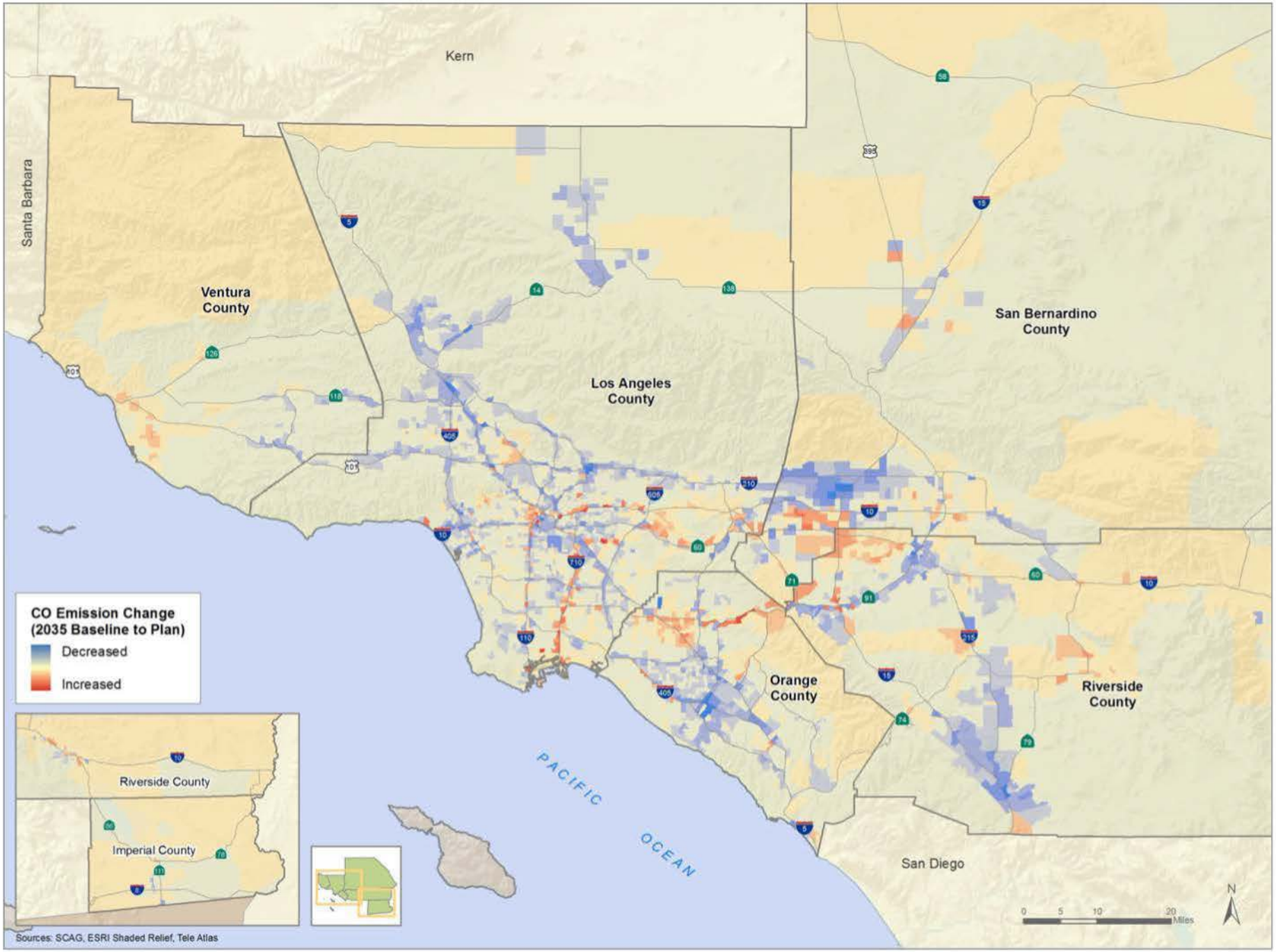


EXHIBIT 30 PM Emission Change (2035 Baseline to Plan)



GROWTH AND SOCIOECONOMIC CHARACTERISTICS IN AREAS ADJACENT TO FREEWAYS

As discussed earlier, recently there have been concerns raised by environmental groups, the health community, housing groups and air quality regulation agencies about incompatible land uses, including sensitive receptors such as hospitals, senior/day care centers, and housing near freeway and busy roadways. The 2012–2035 RTP/SCS land use strategy calls for redirecting future growth into HQTA. As a result, part of this growth will occur in areas where HQTA is overlapping within 500 feet freeway buffer areas. The table below provides statistics of growth allocation among geographic areas of high quality transit areas (HQTA), Freeway 500 feet buffer areas (here called freeway adjacent areas), and overlapping areas of HQTA & FWYB for the 2012–2035 RTP/SCS.

EXHIBIT 31 High Quality Transit Areas (HQTA) and 500 Feet Freeway Buffer

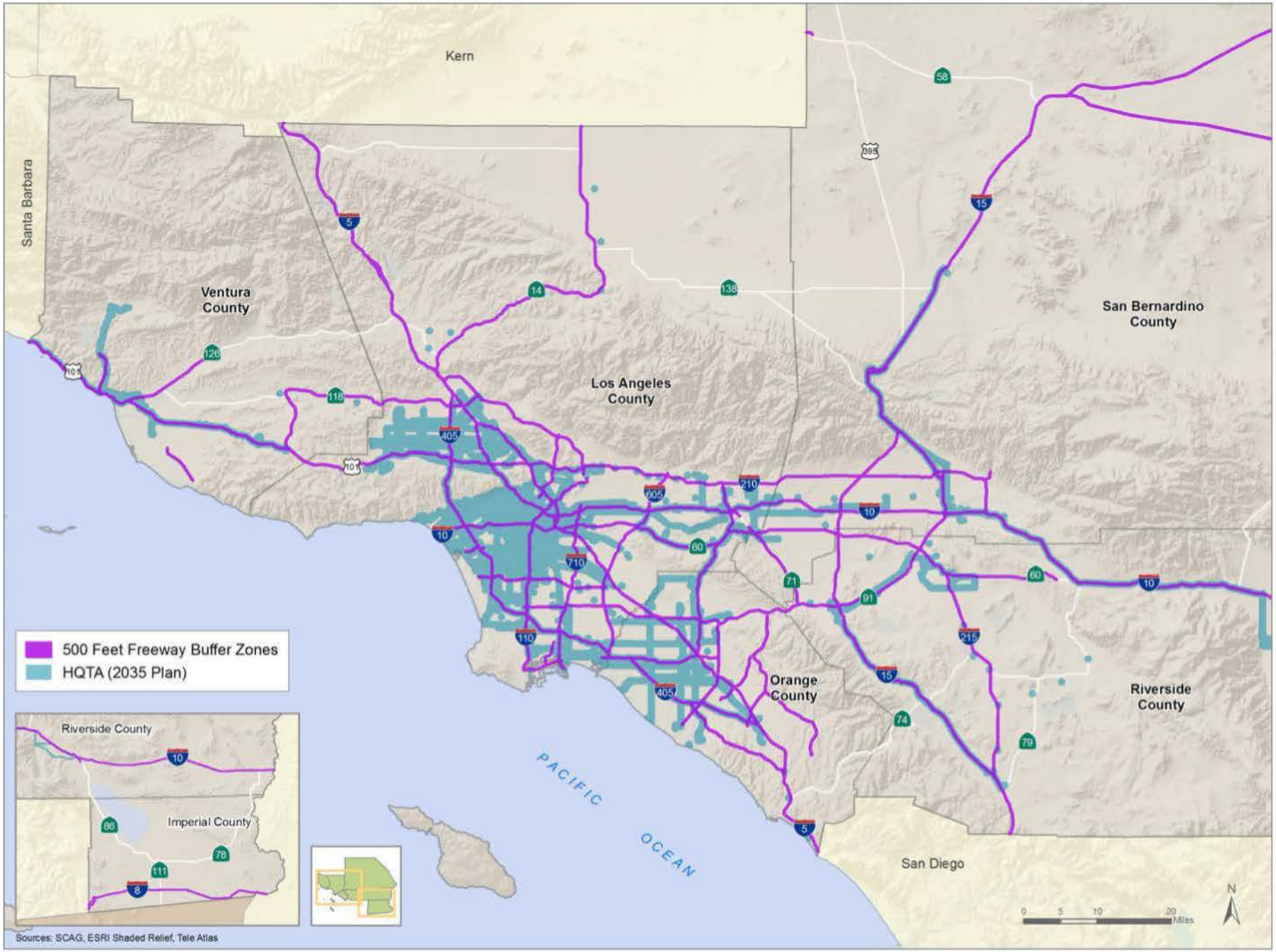


TABLE 43 Summary Statistics of 2012–2035 RTP/SCS Land Use Scenario Allocation by HQTA and 500 Feet Freeway Buffer

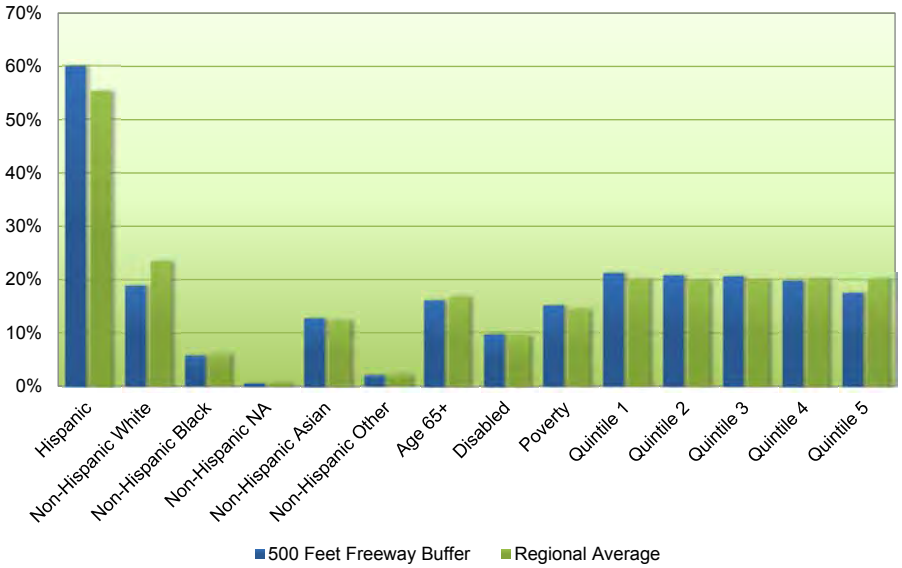
2008 Existing Total			IN HQTA (2008 Network)						IN 500 Feet Freeway Buffer						IN the Overlapped Area of HQTA & 500 Feet Freeway Buffer					
Acres	HH	EMP	Acres	% of Total	HH	% of Total	EMP	% of Total	Acres	% of Total	HH	% of Total	EMP	% of Total	Acres	% of HQTA Added	HH	% of HQTA	EMP	% of HQTA
24,722,909	5,811,979	7,733,570	444,722	1.8%	2,317,636	39.9%	3,786,261	49.0%	236,468	1.0%	336,971	5.8%	747,029	9.7%	47,013	10.6%	160,990	6.9%	383,978	10.1%
2008 Existing Total			**IN HQTA Added Since 2008***						**No 500 Feet Freeway Buffer Added Since 2008**						**IN the Overlapped Area of HQTA Added Since 2008 & 500 Feet Freeway Buffer**					
24,722,909	5,811,979	7,733,570	363,810	1.5%	649,147	11.2%	1,234,702	16.0%							36,783	10.1%	57,465	8.9%	138,291	11.2%
2008-35 Increment Total			**IN HQTA (2035 Plan Network)**						**IN 500 Feet Freeway Buffer**						**IN the Overlapped Area of HQTA & 500 Feet Freeway Buffer**					
24,722,909	1,508,694	1,697,882	701,303	2.8%	782,287	51.9%	904,854	53.3%	236,468	1.0%	81,857	5.4%	148,844	8.8%	83,718	11.9%	63,343	8.1%	96,808	10.7%
2035 Preferred Total			**IN HQTA (2035 Plan Network)**						**IN 500 Feet Freeway Buffer**						**IN the Overlapped Area of HQTA & 500 Feet Freeway Buffer**					
24,722,909	7,320,673	9,431,452	701,303	2.8%	3,737,264	51.1%	5,826,072	61.8%	236,468	1.0%	418,828	5.7%	895,872	9.5%	83,718	11.9%	281,775	7.5%	618,976	10.6%

Socioeconomic Profile in the 500 Feet Freeway Adjacent Areas

As indicated in the table, freeway adjacent areas account for just 1 percent of the SCAG land area but accommodate 5.8 percent of regional households and less than 10 percent of total SCAG region jobs. There are disproportionately higher concentrations of Environmental Justice communities in the freeway adjacent areas both currently and in our 2035 projection. The following figure presents a comparison of the Environmental Justice communities' distribution in the freeway adjacent areas with those in the SCAG region.

All Environmental Justice communities are present in a higher concentration in the freeway adjacent areas than the regional average, except for the following: percent of Non-Hispanic Black, Non-Hispanic Others, Native Americans, and elderly age 65 and above. On the other hand, there is a disproportionately low Non-Hispanic White population and the highest income quintile household presence in the freeway adjacent areas.

FIGURE 44 Environmental Justice Population in the 500 Feet Buffer Area



In the figure shown above, the breakdown of population by Environmental Justice group within impacted areas is compared to each individual group's concentration in the regional population.

Environmental Impacts in the Freeway Adjacent Areas

Exposure levels to PM and CO are often higher in freeway adjacent areas than is seen elsewhere in the region. The average exposures of the population, workers, and other sensitive receptors located in the freeway adjacent areas become much higher than other places in the region if measured by some kind of concentration index (for example, emissions divided by land area).

As mentioned before, data and analysis included in this Appendix does not account for Plan improvements in vehicle technology particularly for truck only corridors. These corridors in the Plan are exclusively for zero and/or near-zero emission vehicles. Furthermore, the Program Environmental Impact Report (PEIR) accompanying the RTP/SCS includes mitigation measures that would reduce impacts associated with health risk within 500 feet of freeways and high-traffic volume roadways to less than significant. Analysis included in this Appendix also does not account for emissions improvements through the implementation of these mitigation measures. As such, emissions and exposure analysis shown in this Appendix is abundantly conservative and demonstrates worst-case scenario outcomes. If these emissions improvements had been accounted for, we believe the analysis would show little or no areas with worsened emissions ("hot spots") associated with the Plan. Moreover, the currently available data on emissions and on the distribution of households and population is imprecise such that the overlay with emissions and EJ populations will tend to overstate any potential impacts. Nevertheless, given on-going concerns and evolving information on health impacts, SCAG encourages project sponsors to be cognizant of any potential health risks in project design and delivery. Consistent with the mitigation identified and to be implemented as part of the proposed final PEIR, SCAG will assist in disseminating information and identifying effective strategies to reduce risk at the project level.

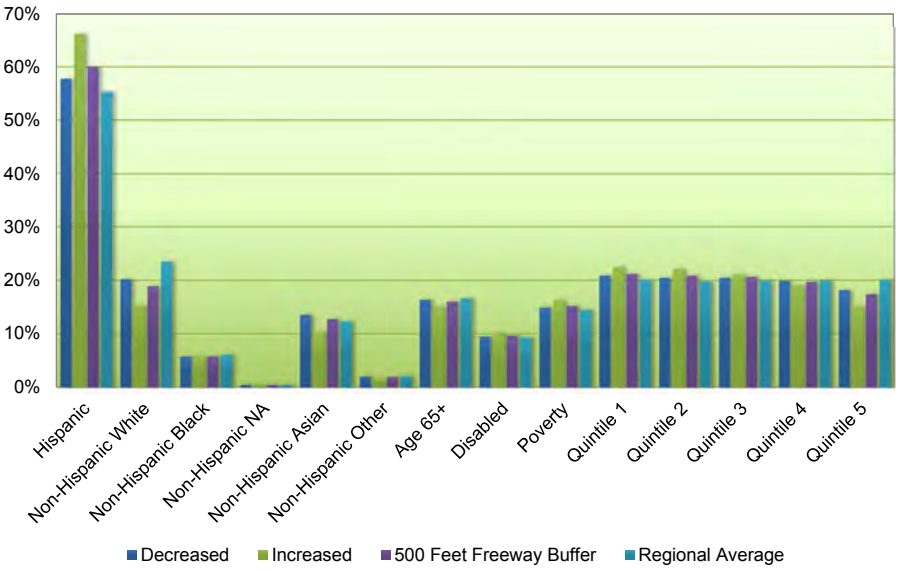
SCAG prepared additional analyses to highlight the emissions exposure in buffer areas within 500 feet of freeways and high volume roads. It should be noted that the 2008 level of emissions near these facilities is higher than in the region as a whole. In 2035, these areas still will have higher emissions than the region as a whole. However, while regional emissions overall decreased between now and 2035, the rate of decrease near freeways and high volume roads is even greater. The RTP/SCS does result in an increase in population in these locations, and as such health risk is higher for these individuals than if they were not in the buffer area. Subsequent project level analysis and mitigation

should be cognizant of on-going health concerns. However, the plan as a whole shows benefits for emissions exposure and decreased levels of risk in areas near freeways. Also, environmental justice information for areas within 1,000 feet of freeways and highly traveled corridors is available in the Additional Analysis/Data section of this Appendix.

TABLE 44 Emissions Along Freeways and Highly-Traveled Corridors

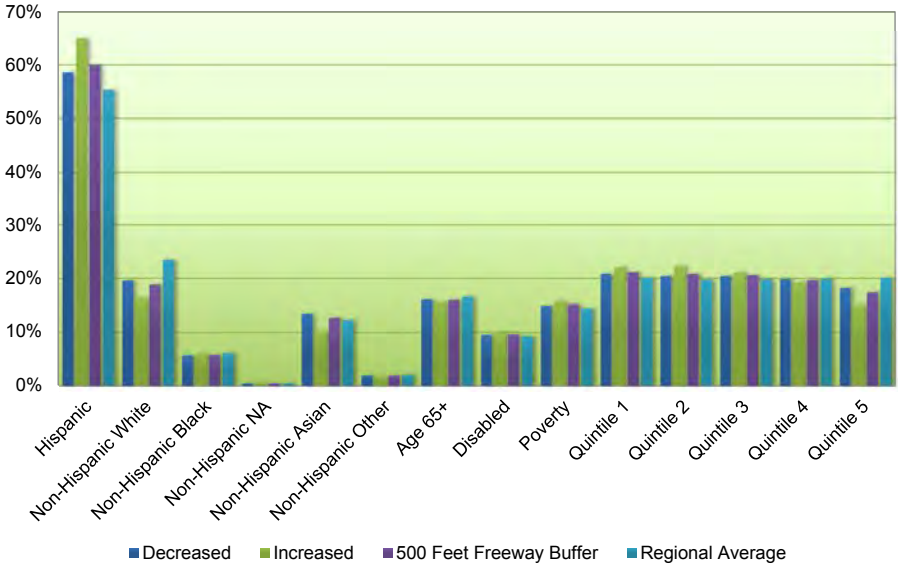
Criteria Pollutant	Emissions in 500 feet Freeway Buffer (gram per day per acre)		Emissions in the Region (gram per day per acre)		Emissions Gap (Buffer - Region) (gram per day per acre)		Narrowing of the Emission Gap from 2008 to 2035
	2008	2035	2008	2035	2008	2035	
ROG	0.219	0.075	0.018	0.007	0.2	0.069	-2/3
NOx	0.565	0.161	0.042	0.013	0.522	0.148	-3/4
CO	2.37	0.581	0.183	0.049	2.145	0.531	-3/4
Total $PM_{2.5}$	0.078	0.034	0.006	0.003	0.072	0.031	-3/5
Total PM_{10}	0.064	0.036	0.005	0.003	0.059	0.033	-2/5

FIGURE 45 Environmental Justice Population in the 500 Feet Buffer Area Impacted by CO Changes



In the figure shown above, the breakdown of population by Environmental Justice group within impacted areas is compared to each individual group's concentration in the regional population.

FIGURE 46 Environmental Justice Population in the 500 Feet Buffer Area Impacted by PM Changes



In the figure shown above, the breakdown of population by Environmental Justice group within impacted areas is compared to each individual group's concentration in the regional population.

NOISE IMPACTS

Roadway Noise Impacts

The SCAG region has an extensive roadway system with nearly 21,000 centerline miles and 65,000 lane miles. It includes one of the country's most extensive High-Occupancy Vehicle lane systems and a growing network of toll lanes, as well as High Occupancy Toll (HOT) lanes. The region also has a vast network of arterials and other minor roadways. Roadway facilities noise may cause significant environmental concerns.

Noise associated with highway traffic depends on a number of factors that include traffic volumes, vehicle speed, vehicle fleet mix (cars, trucks), as well as the location of the highway with respect to sensitive receptors (i.e., schools, daycare facilities, parks, etc.). According to Federal Highway Administration (FHWA) guidance, noise impacts occur when noise levels increase substantially when compared to existing noise levels. For the purposes of this analysis (consistent with FHWA guidance), noise increases of 3 dB along highways where noise levels are currently, or would be in the future, above 66 dB are considered to be significant, regardless of adjacent land use.

Highways that would be expected to have an increase of 3 dB or more include those where any of the following would occur: (1) the total traffic volumes increase by 100 percent compared to existing conditions; (2) the medium/heavy truck traffic volumes increase by 130 percent compared to existing conditions; or (3) the medium/heavy truck traffic volumes increase by 100 percent and there is an increase in other traffic volumes by 50 percent. These highway segments were identified using the results of SCAG's regional transportation model.

On some highways, there is no potential for noise levels to reach 66 dB. To eliminate these from the analysis, the following criteria were applied: (1) arterials where the FHWA's Traffic Noise Model (TNM) indicated that the motor vehicle volume (and the percentage of medium/heavy trucks) would result in traffic noise levels less than 66 dB; (2) arterials where the calculated motor vehicle speed was less than 17 mph; or (3) freeways where the average volume-to-capacity ratio was equal to or greater than 1.0, which would result in vehicle speeds of less than 30 mph. If a highway met any one of these criteria, it was eliminated from further consideration.

For each highway segment where a significant increase in noise would occur, a 150-foot impact zone was identified on either side. Using GIS, the percentage of each affected TAZs land area that fell within this zone was identified, and this percentage was applied to the demographic data forecast for this TAZ. This methodology was utilized in both the 2008 and 2004 RTP.). Maps were created for 2035 Baseline and 2035 Plan alternatives from the 2008 base year (see maps). They show significant noise clusters in the South Bay region near the ports and the Inland Empire, in the vicinity of Ontario, Rancho Cucamonga, and San Bernardino. Other areas of noise significance include the Antelope Valley and Apple Valley. For both scenarios, truck traffic volumes 130 percent or greater (from existing conditions) had the largest impact, as depicted by the green color in the maps.

The demographic characteristics of each impacted TAZ were aggregated and compared with the regional demographics to determine if there would be any disproportionate impacts to any of the demographic groups identified in Section I of this Appendix.

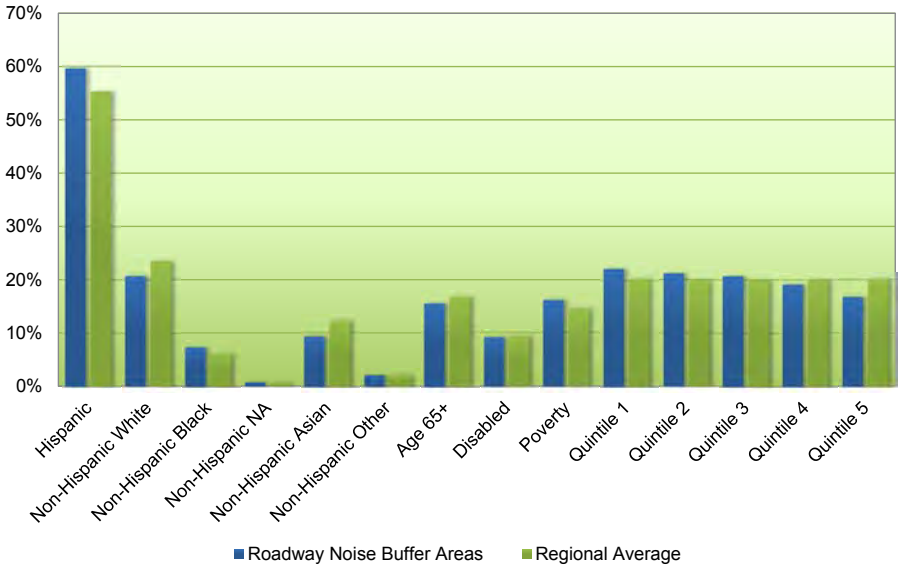
FIGURE 47 compares the share of people within an Environmental Justice Community of interest with the rest of the region residing within roadway noise areas. The lowest income group (Quintile 1) will account for 22 percent of the affected population in 2035. In contrast, the highest income group in the region (Quintile 5) will account for 17 percent of the population in Highway Noise Areas. **FIGURE 47** also illustrates that there is a marginal disproportionate impact on households below the poverty line. Within the region as a whole, 14 percent of households are below the poverty line. Within the Highway Noise Areas, this percentage rises to 16 percent.

In addition, the distribution of the disabled population established that there is no significant concentration of that Environmental Justice population in these areas. Similarly, distribution of age 65+ revealed that the elderly were not disproportionately impacted by the large changes in dB associated with Highway Noise Areas. Within the region, this group represents 17 percent of all households. In contrast, households age 65 and over only represented 15 percent of the households in Highway Noise Areas.

The 2012–2035 RTP/SCS also found that minority populations were primarily affected by highway noise impacts. As indicated by the distribution of households in Highway Noise Areas by Ethnic/Racial Category, minority populations, specifically Hispanics, would be disproportionately impacted by highway noise. Approximately, 60 percent of Hispanics would be residing in highway noise areas by 2035.

The identification of these disparate highway noise impacts at the regional level can be attributed to a the issue of incompatible land use, where high polluting transportation projects, such as freeway construction, airport expansions, or rail extension projects, are located in minority populated neighborhoods. The Mitigation Toolbox provided below includes potential mitigation measures to address noise impacts including corridor-level analyses for proposed projects in areas where impacts are concentrated. In addition, the 2012–2035 RTP/SCS further proposes mitigating these impacts to the extent possible, for example, by requiring new sound walls where freeway expansions are proposed. Furthermore, the RTP also proposes grade crossings, new technologies, and other clean technologies for goods movement corridors.

FIGURE 47 Environmental Justice Population Impacted Along Roadway Noise Areas (2035)

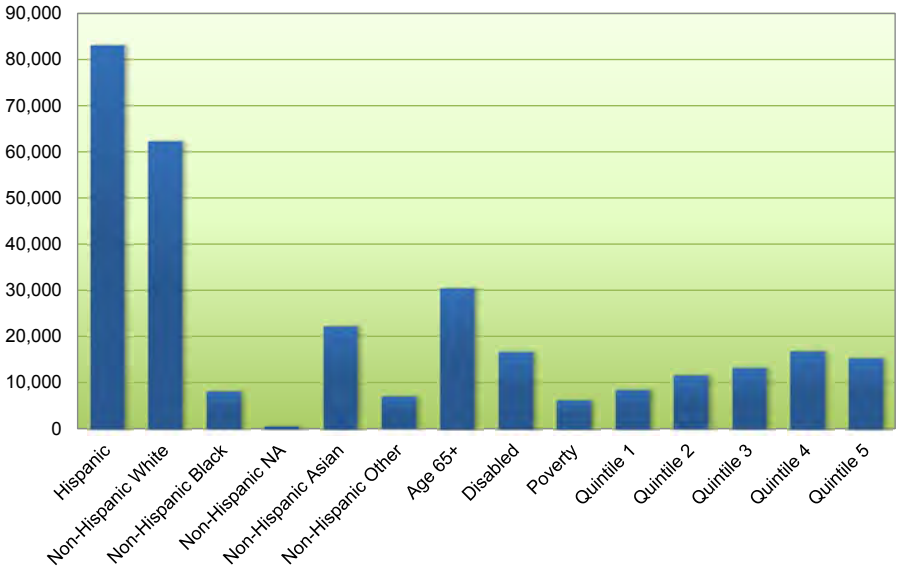


In the figure shown above, the breakdown of population by Environmental Justice group within impacted areas is compared to each individual group's concentration in the regional population.

Staff further investigated the impacts on areas and the number of people affected by improvement of roadway noise from the proposed 2012–2035 RTP/SCS as it compared with the baseline condition. As illustrated in the roadway segment maps where noise impacts are identified for both baseline and for proposed plan, areas or number of segments under proposed plan are much smaller/less than those under the baseline condition. Thus it is projected that will be 183,000 fewer people (13.9 percent reduction) and 63,000 less households (15.3 percent reduction) affected by roadway noise than those under baseline condition (1,321,600 people/426,700 households).

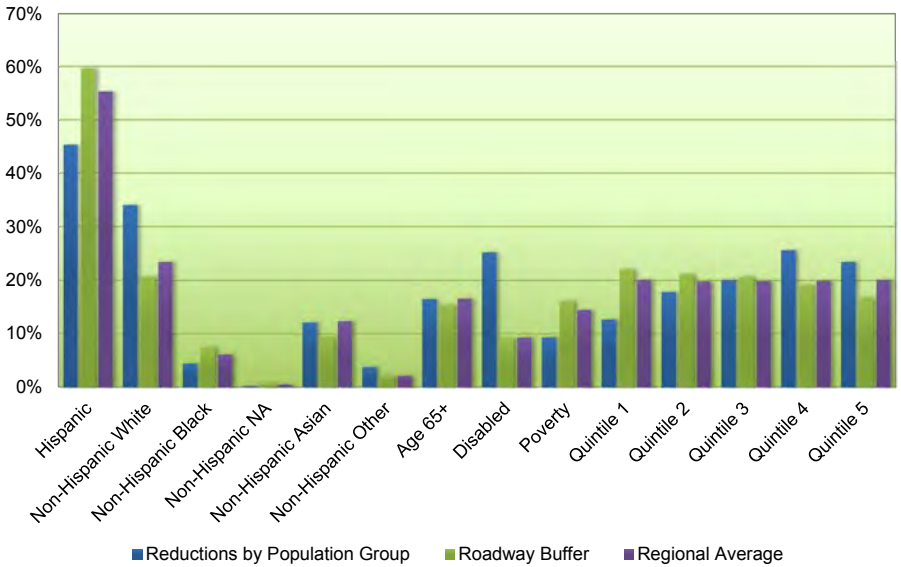
FIGURE 48 provides allocation by Environmental justice Communities for those affected population and household where their roadway noise conditions are improved from proposed 2012–2035 RTP/SCS.

FIGURE 48 Environmental Justice Population Impacted (Reduced) by Roadway Noise Improvement between Baseline and Plan (2035)



While the proposed 2012–2035 RTP/SCS improves the roadway noise conditions by reducing the areas, roadway segments, and the number of people affected by roadway noise, the benefits are not proportionally shared by each Environmental Justice category as observed in the roadway noise impacted areas or in the region as whole. SCAG's analysis found that the roadway noise reductions will disproportionately benefit Non-Hispanic Whites and the two highest income quintile groups. Several other Environmental Justice communities also receive greater benefits from roadway noise improvements including Non-Hispanic Asian, Non-Hispanic others, elderly, and disabled (See **FIGURE 49**).

FIGURE 49 Environmental Justice Population Distribution of Roadway Noise Improvement between Baseline and Plan (2035)



In the figure shown above, the breakdown of population by Environmental Justice group within impacted areas is compared to each individual group's concentration in the regional population.

EXHIBIT 32 SCAG Region Roadway Noise (2035 Baseline from Existing Conditions)

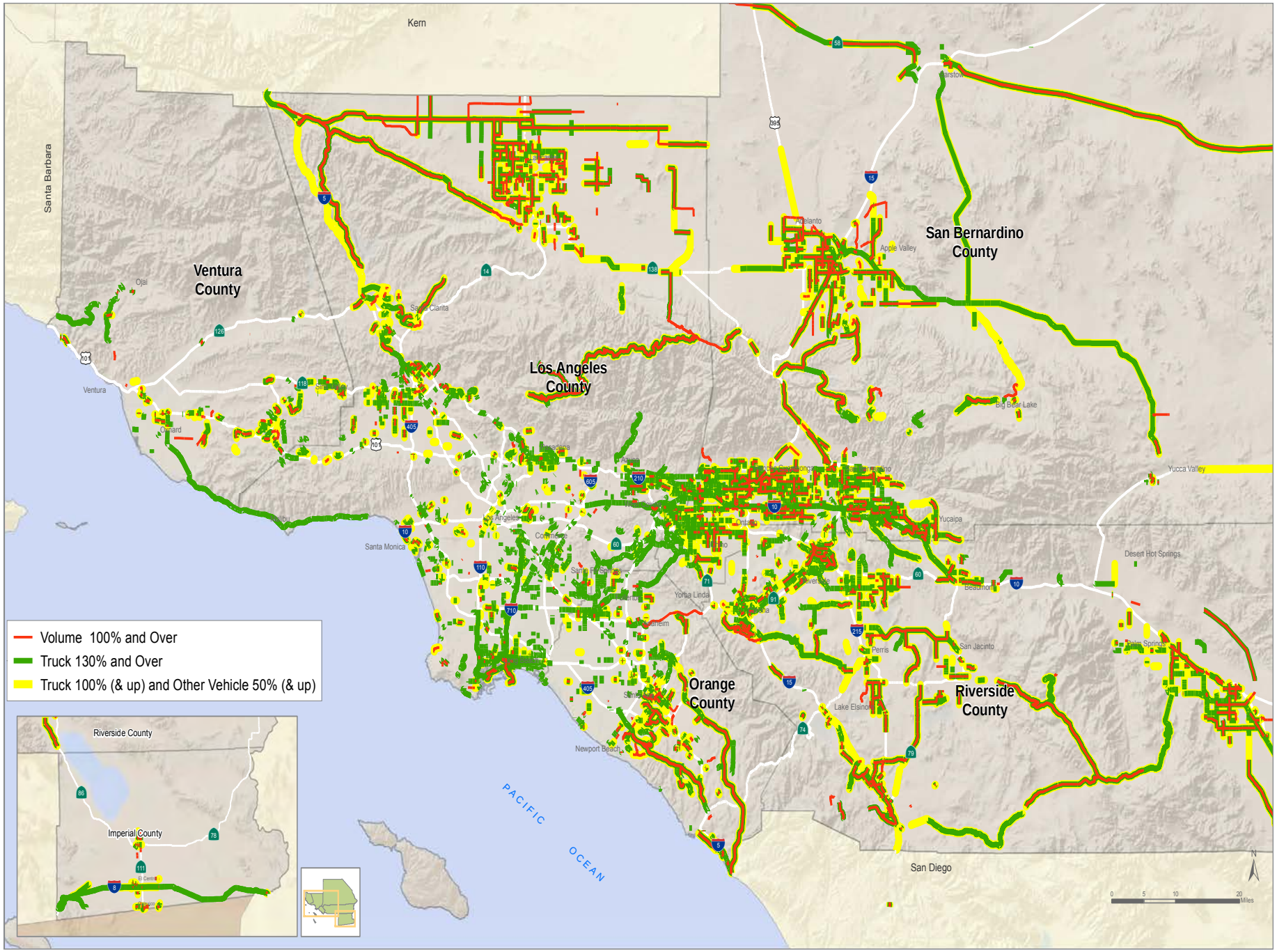
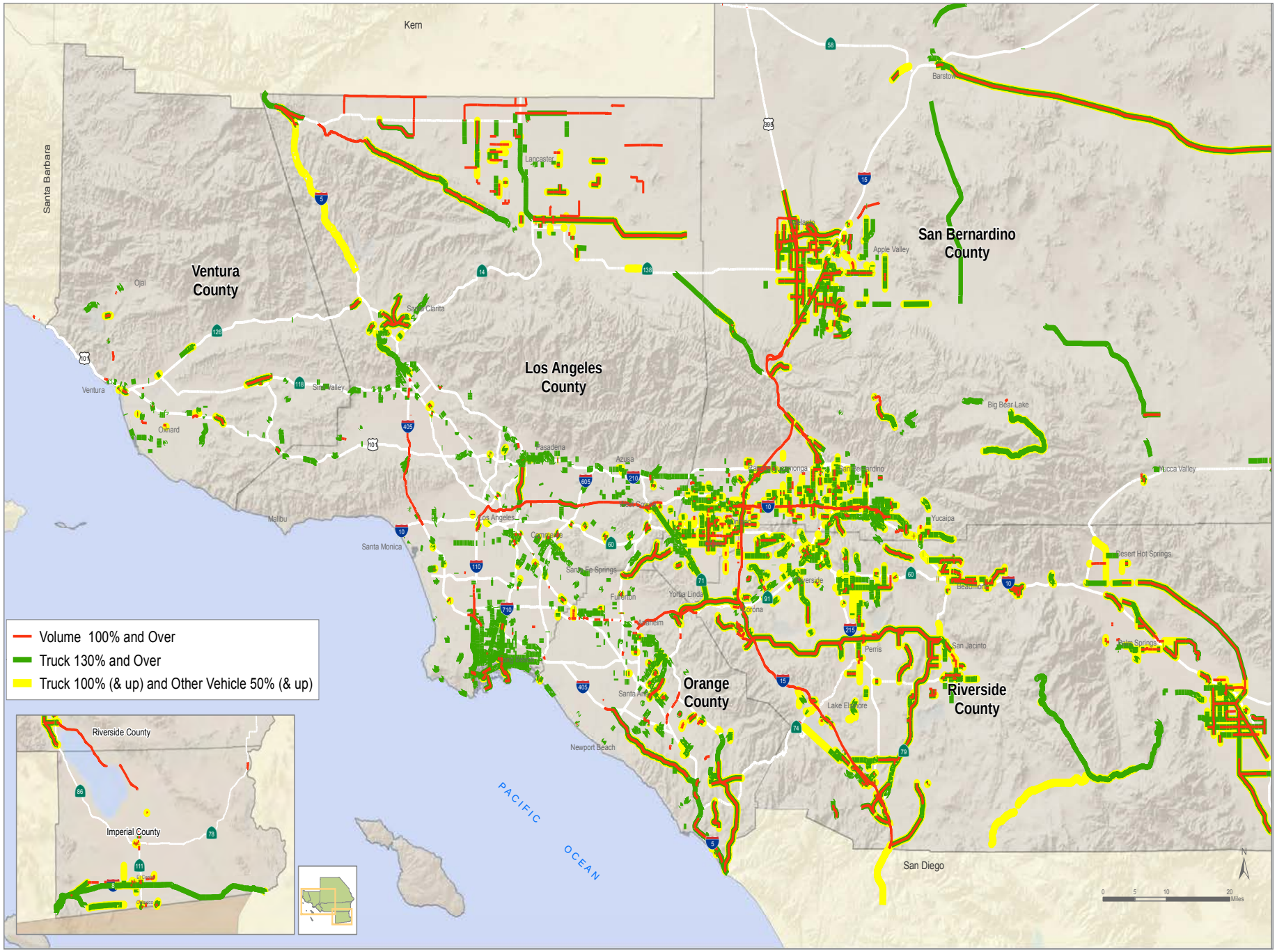


EXHIBIT 33 SCAG Region Roadway Noise (2035 Plan from Existing Conditions)



Airport Noise Impacts

The SCAG Region supports the nation's largest regional airport system in terms of number of airports and aircraft operations. It operates in a very complex airspace environment. The system has six established air carrier airports including Los Angeles International (LAX), Bob Hope (formerly Burbank), John Wayne, Long Beach, Ontario and Palm Springs. There are also four emerging air carrier airports in the Inland Empire and North Los Angeles County. These include San Bernardino International Airport (formerly Norton AFB), March Inland Port (joint use with March Air Reserve Base), Southern California Logistics Airport (formerly George AFB) and Palmdale Airport (joint use with Air Force Plant 42). The regional system also includes 45 general aviation airports and two commuter airports, for a total of 57 public use airports. Although the projected demand for airport capacity has decreased compared to the 2008 RTP, there is still moderate growth planned for the future. The challenge is striking a balance between the aviation capacity needs of Southern California with the local quality of life for the affected populations.

Projected noise impacts from aircraft operations at the region's airports in 2035 were modeled for inclusion in the Programmatic Environmental Impact Report for the RTP. For each airport, modeling produced a contour or isoline for the 65 dB Community Noise Equivalent Level (CNEL), a measure of noise that takes into account both the number and the timing of flights, as well as the mix of aircraft types. The Federal Aviation Administration (FAA) considers residences to be an "incompatible land use" with noise at or above 65dB. To identify potentially impacted populations, the anticipated population within the 65 dB CNEL contour was calculated using the following steps:

1. Calculate the percentage of TAZs that would lie within a 65 dB CNEL contour.
2. Assign the SCAG projected population to the TAZ.
3. Apply the demographic breakdown of the TAZ as a whole to the population within the 65 dB CNEL contour.

It should be noted that after 9-11 and "Great Recession" experienced since 2008, the global aviation industry remains in a depressed state. SCAG region air passenger demand and cargo forecasts have been revised downward repeatedly in 2004 RTP and 2008 RTP from the aviation scenario and forecasts adopted in the 2001 RTP. Currently for the 2012 RTP, projections of aviation demand and air cargo remained significantly less than those projected and adopted in 2001 RTP. Thus the downward revisions in projected demand at airports resulted in the reduction of Airport Noise Areas and the corresponding communities that will be studied.

For the purposes of this study, Aviation Noise Areas are defined as areas that are adversely affected by aircraft and airport noise. As part of the Environmental Justice Analysis, special attention will be paid to income, disability, age, and race/ethnicity of affected populations.

FIGURE 50 presents distribution of all environmental justice variables within the aviation noise impacted areas, and their comparisons with regional average. The analysis indicates that the 2012–2035 RTP/SCS results in a disproportionate aviation noise impact to low income and minority populations. Under the 2012 RTP, the lowest income group (Quintile 1) will represent 27 percent of the households impacted by noise above the 65 dB CNEL, while the highest income group (Quintile 5) will only represent 13 percent of the households impacted by noise above the 65 dB CNEL.

Similarly as indicated in the figure, a disproportionate number of households below the poverty threshold will be affected by airport noise levels above the 65 dB CNEL. While 14 percent of the SCAG region households are projected to be living below the poverty level, 19 percent of those that live within the Noise Contour Areas will be below the poverty line.

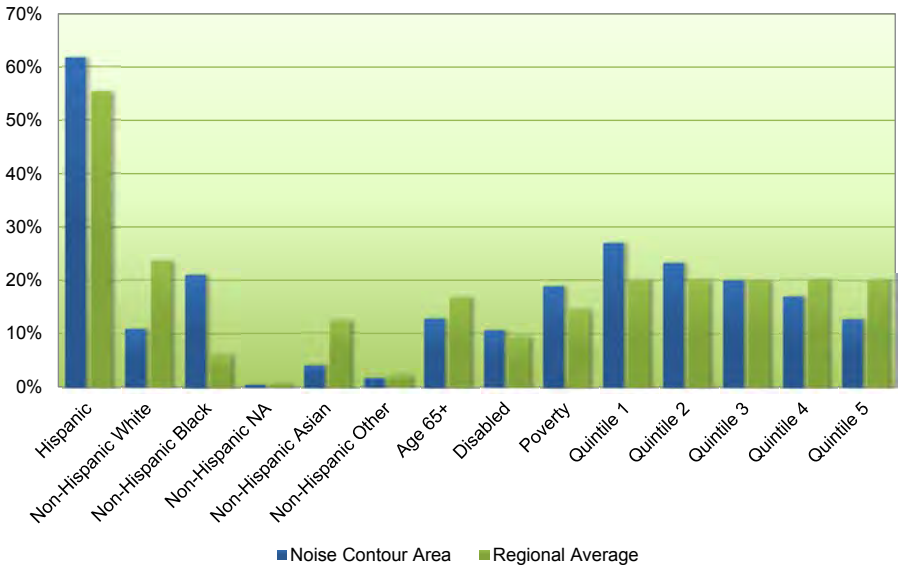
In terms of race/ethnicity, the aviation plan of the 2012–2035 RTP/SCS is projected to have a disproportionate aviation noise impact on minority groups who make up 89 percent of population within the noise contours compared with a regional average of 76 percent of minority population in 2035. Specifically, Hispanic and African-American populations are disproportionately affected. These two groups will make up 55 percent and 6 percent of the regional population in 2035 respectively, but represent 62 percent and 21 percent of those that will live within the impacted Noise Contour Area.

Distribution of the disabled in aviation noise areas shows that there will be a slightly higher concentration of disabled people compared to the region. It is projected that 11 percent of the households in aviation noise areas will be disabled, while the average is 9 percent for the region. On the other hand, elderly households age 65 and above are less concentrated in aviation noise areas in 2035 (13 percent), than the regional average of 17 percent.

SCAG has adopted the Aviation Decentralization Strategy, which calls for relieving the pressure at LAX and Ontario airports. Coupled with the ground access strategy which would relieve surface congestion in the surrounding areas, some of the negative effects of airports could be addressed. The Aviation Decentralization Strategy explores available airport capacity in the Inland Empire and North Los Angeles County. However, as a result of the Great Recession, projected demand for all airports in the region is down. This new reality has had the effect of reducing the number of communities that fall within Aviation Noise Areas, though the problem will still exist. A decentralized airport system will relieve pressure on constrained airports, minimize environmental impacts such as noise, traffic, and encroachment on adjacent neighborhoods, and reduce stress on the region's surface transportation infrastructure. The challenges facing the Aviation Decentralization Strategy, relate to the fact that the core of aviation demand will continue to reside in the urban areas of Los Angeles and Orange counties.

The environmental justice analysis results demonstrate that lower income, minority and disabled residents bear a disproportionate burden from aviation noise pollution with the 2012 RTP. It is therefore critical to continue addressing this issue. SCAG has included potential mitigation measures in the Environmental Justice Mitigation Toolbox at the end of this Appendix.

FIGURE 50 Environmental Justice Population Within the Aviation Noise Impacted Area (2035)



In the figure shown above, the breakdown of population by Environmental Justice group within impacted areas is compared to each individual group's concentration in the regional population.

(11) Rail-Related Impacts

METHODOLOGY

As described in the Goods Movement Technical Appendix (page 32), freight rail emissions are 5 percent and 4 percent of regional goods movement related NO_X and PM emissions, respectively. When compared to all regional PM and NO_X sources, the contribution of freight rail emissions is even lower. However, environmental pollution from locomotives, rail yards and other rail facilities must be considered as concentrations of rail activities can cause localized rail pollution. In response to input from our federal partners, SCAG developed a summary analysis to address potential environmental justice impacts in areas adjacent to railroads and rail facilities, although further discussion and analysis is recommended. This section includes an analysis of Environmental Justice communities adjacent to railroads and rail facilities, rail impacts to sensitive receptors, and a summary examination of potential environmental justice concerns that are alleviated by grade separation projects. The train traffic index and related analysis provided in the Environmental Justice Appendix includes data from both passenger and freight rail traffic.

SHARE OF KEY ENVIRONMENTAL JUSTICE POPULATION IN AREAS ADJACENT TO RAILROADS: FROM 2000 CENSUS AND 2005–09 ACS

The following figures present the socioeconomic indicators from the 2000 Census and 2005–09 American Community Survey in areas within 500 and 1,000 feet from railroads, by key Environmental Justice communities including the elderly population (age 65 and over), population below poverty, minority, foreign born population, non-English speaking population, households without a vehicle and population without a high school diploma. As shown in the figures below, the share of most Environmental Justice communities residing in close proximity to railroads is higher than regional average both in 2000 and in 2005–09. The only exception is elderly population. These observations suggest that rail-related environmental burdens, such as air pollution and noise from locomotives, rail yard and other rail facility, are higher for low-income and minority communities than the regional average. However, SCAG recommends further analysis with our partner agencies to verify this observation.

TABLE 45 Distribution of Environmental Justice Population Groups in Areas Adjacent to Railroads

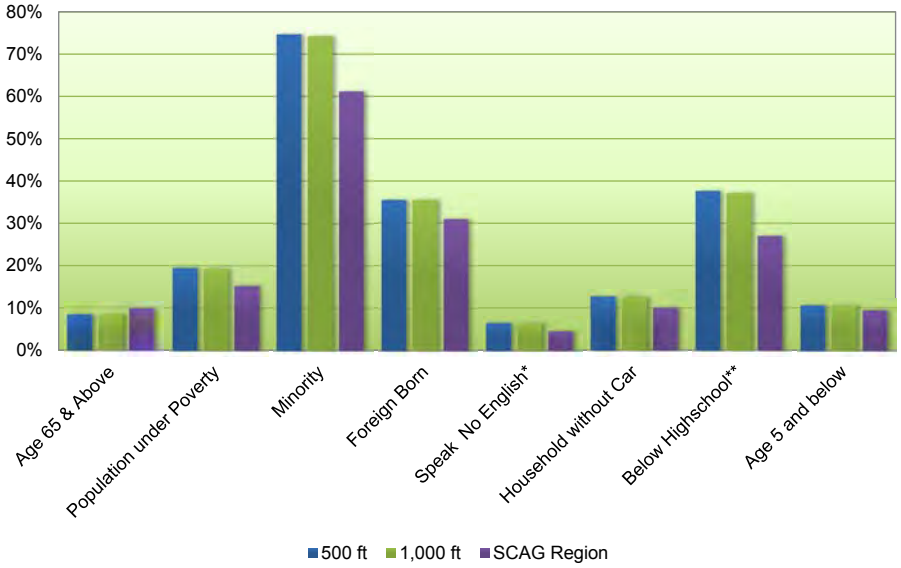
Distance from Railroads	Age 65 & Above	Population under Poverty	Non-Hispanic White	Foreign Born	Speak No English	Household without Car	Below High School	Age 5 and Below
2000 Census								
500 ft	85,918	200,368	258,889	364,752	60,383	38,869	223,797	108,763
1,000 ft	167,688	385,976	510,679	706,794	115,706	75,071	428,735	210,840
2000 Census (Percent)								
500 ft	8.4%	19.5%	74.8%	35.5%	6.4%*	12.8%	37.7%**	10.6%
1,000 ft	8.4%	19.4%	74.3%	35.5%	6.4%*	12.6%	37.2%**	10.6%
SCAG Region	9.9%	15.4%	61.3%	31.0%	4.5%*	10.1%	27.1%**	9.5%
2005–09 American Community Survey								
500 ft	92,789	181,396	236,015	371,508	65,278	28,542	200,569	104,177
1,000 ft	181,821	349,101	465,819	720,132	125,510	55,246	384,270	201,931
2005–09 American Community Survey (Percent)								
500 ft	8.7%	17.1%	77.8%	38.2%	6.7%*	9.1%	31.4%**	9.8%
1,000 ft	8.8%	17.0%	77.4%	38.1%	6.6%*	9.0%	30.9%**	9.8%
SCAG Region	10.4%	13.5%	64.8%	30.8%	4.8%*	7.4%	22.4%**	9.0%

*Share of Population 5 & Over **Share of Population 25 & Over

Source: 2000 Census and 2005–09 ACS, processed by SCAG Research, Analysis, and Information Service staff

For further information contact: Ying Zhou, at 213-236-1943, zhou @scag.ca.gov, or Javier Minjares, at 213-236-1893, minjares@scag.ca.gov

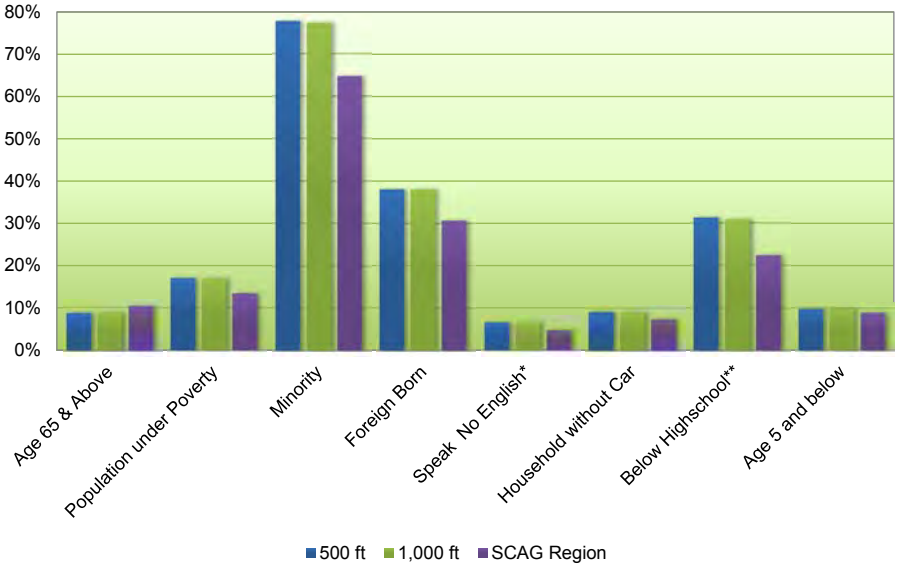
FIGURE 51 Key Environmental Justice Population Groups in the Areas Adjacent to Railroads (2000 Census)



** Share of Population 5 & Over* *** Share of Population 25 & Over*

In the figure shown above, the breakdown of population by Environmental Justice group within impacted areas is compared to each individual group's concentration in the regional population.

FIGURE 52 Key Environmental Justice Population Groups in the Areas Adjacent to Railroads (2005–09 American Community Survey)



** Share of Population 5 & Over* *** Share of Population 25 & Over*

In the figure shown above, the breakdown of population by Environmental Justice group within impacted areas is compared to each individual group's concentration in the regional population.

TABLE 46 Projected Environmental Justice Variables and Demographic Changes in the Areas Adjacent to Railroads

	500 ft				1,000 ft				SCAG Region	
Distance from Railroads	**2008**	**2035**	**2008**	**2035**	**2008**	**2035**	**2008**	**2035**	**2008**	**2035**
Population	**939,718**	**1,159,693**			**1,890,758**	**2,336,113**				
Male	472,359	582,565	50.3%	50.2%	948,371	1,171,274	50.2%	50.1%	49.9%	49.9%
Female	467,359	577,128	49.7%	49.8%	942,387	1,164,840	49.8%	49.9%	50.1%	50.1%
Age 65 & over	82,038	169,016	8.7%	14.6%	167,033	343,413	8.8%	14.7%	10.4%	16.7%
Age 5 & below	91,395	106,274	9.7%	9.2%	183,965	214,083	9.7%	9.2%	8.7%	8.2%
Disabled	87,077	116,337	9.3%	10.0%	175,263	234,309	9.3%	10.0%	8.6%	9.3%
Hispanic	550,851	787,402	58.6%	67.9%	1,104,573	1,581,180	58.4%	67.7%	44.8%	55.4%
NH White	211,430	169,978	22.5%	14.7%	428,799	345,990	22.7%	14.8%	34.4%	23.5%
NH Black	70,293	68,939	7.5%	5.9%	140,467	138,989	7.4%	5.9%	6.9%	6.1%
NH NA	4,217	5,697	0.4%	0.5%	8,380	11,309	0.4%	0.5%	0.4%	0.5%
NH Asian	88,637	109,076	9.4%	9.4%	179,580	221,003	9.5%	9.5%	11.6%	12.3%
NH Others	14,290	18,601	1.5%	1.6%	28,960	37,643	1.5%	1.6%	1.9%	2.1%
Poverty 1*	47,843	61,243	17.0%	17.3%	96,804	124,133	17.0%	17.4%	13.8%	14.5%
Poverty 2*	30,014	38,363	10.7%	10.9%	60,527	77,505	10.6%	10.8%	8.7%	9.0%
Poverty 3*	27,550	34,668	9.8%	9.8%	55,528	70,000	9.8%	9.8%	8.3%	8.5%
Household by Income Quintile and Ethnicity										
Household	**281,517**	**353,545**			**568,754**	**715,162**				
Quintile 1	65,627	84,478	23.3%	23.9%	133,141	170,984	23.4%	23.9%	21%	20%
Hispanic	28,242	55,927	10.0%	15.8%	56,652	112,395	10.0%	15.7%	6.4%	10.8%
NH White	22,014	11,129	7.8%	3.1%	45,215	22,948	7.9%	3.2%	9.4%	4.2%
NH Black	9,070	7,317	3.2%	2.1%	18,488	15,114	3.3%	2.1%	2.4%	1.8%
NH NA	352	524	0.1%	0.1%	683	1,029	0.1%	0.1%	0.1%	0.1%
NH Asian	4,605	7,410	1.6%	2.1%	9,361	15,061	1.6%	2.1%	1.7%	2.4%
NH Others	1,344	2,170	0.5%	0.6%	2,741	4,438	0.5%	0.6%	0.5%	0.7%
Quintile 2	66,513	82,131	23.6%	23.2%	133,983	165,774	23.6%	23.2%	20%	20%
Hispanic	37,224	56,975	13.2%	16.1%	74,711	114,534	13.1%	16.0%	8.5%	11.5%
NH White	16,898	11,404	6.0%	3.2%	34,315	23,312	6.0%	3.3%	7.3%	4.3%

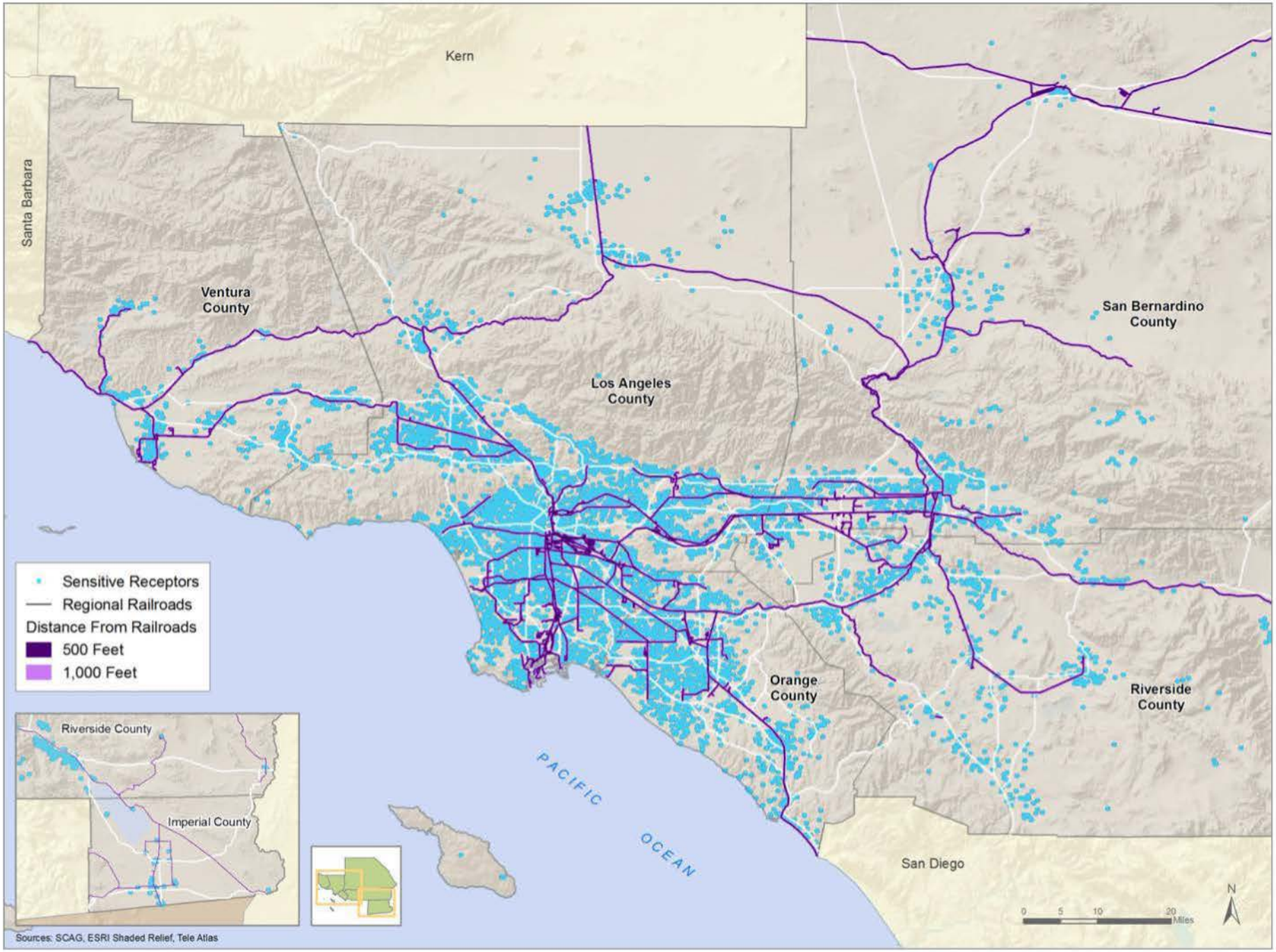
	500 ft				1,000 ft				SCAG Region	
Distance from Railroads	2008	2035	2008	2035	2008	2035	2008	2035	2008	2035
NH Black	5,812	4,926	2.1%	1.4%	11,555	9,917	2.0%	1.4%	1.6%	1.3%
NH NA	344	493	0.1%	0.1%	686	1,004	0.1%	0.1%	0.1%	0.1%
NH Asian	4,559	6,096	1.6%	1.7%	9,296	12,419	1.6%	1.7%	1.7%	1.9%
NH Others	1,677	2,237	0.6%	0.6%	3,421	4,587	0.6%	0.6%	0.6%	0.8%
Quintile 3	59,613	73,591	21.2%	20.8%	120,375	149,065	21.2%	20.8%	20%	20%
Hispanic	30,425	47,352	10.8%	13.4%	61,105	95,548	10.7%	13.4%	7.4%	10.4%
NH White	18,181	12,992	6.5%	3.7%	36,887	26,532	6.5%	3.7%	8.4%	5.1%
NH Black	4,354	3,914	1.5%	1.1%	8,905	8,047	1.6%	1.1%	1.4%	1.2%
NH NA	248	366	0.1%	0.1%	499	746	0.1%	0.1%	0.1%	0.1%
NH Asian	4,959	6,879	1.8%	1.9%	10,051	13,958	1.8%	2.0%	1.9%	2.3%
NH Others	1,446	2,088	0.5%	0.6%	2,929	4,233	0.5%	0.6%	0.6%	0.7%
Quintile 4	51,602	64,064	18.3%	18.1%	104,018	129,539	18.3%	18.1%	20%	20%
Hispanic	22,078	36,283	7.8%	10.3%	44,302	73,066	7.8%	10.2%	5.8%	8.8%
NH White	18,848	14,087	6.7%	4.0%	38,201	28,691	6.7%	4.0%	9.9%	6.4%
NH Black	3,594	3,499	1.3%	1.0%	7,251	7,134	1.3%	1.0%	1.3%	1.2%
NH NA	198	306	0.1%	0.1%	380	600	0.1%	0.1%	0.1%	0.1%
NH Asian	5,715	8,227	2.0%	2.3%	11,519	16,643	2.0%	2.3%	2.3%	2.9%
NH Others	1,169	1,662	0.4%	0.5%	2,366	3,405	0.4%	0.5%	0.5%	0.6%
Quintile 5	38,162	49,281	13.6%	13.9%	77,236	99,801	13.6%	14.0%	20%	20%
Hispanic	11,907	23,114	4.2%	6.5%	23,958	46,758	4.2%	6.5%	3.9%	7.1%
NH White	17,357	13,308	6.2%	3.8%	35,275	27,161	6.2%	3.8%	12.1%	7.9%
NH Black	2,535	2,948	0.9%	0.8%	5,142	5,953	0.9%	0.8%	1.0%	1.0%
NH NA	219	424	0.1%	0.1%	436	855	0.1%	0.1%	0.1%	0.1%
NH Asian	5,109	7,697	1.8%	2.2%	10,367	15,536	1.8%	2.2%	2.5%	3.4%
NH Others	1,035	1,789	0.4%	0.5%	2,059	3,538	0.4%	0.5%	0.4%	0.6%

*Poverty 1 = # of household below poverty; Poverty 2 = # of household between poverty and 1.5xP); Poverty 3 = # of household between 1.5xP and 2.0xP)
Source: Based on 2000 Census and 2005–09 ACS, processed and projected by SCAG Research, Analysis, and Information Service staff
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SENSITIVE RECEPTORS AND REGIONAL RAILROADS

EXHIBIT 35 depicts areas adjacent to railroads overlaid with sensitive receptor areas. Sensitive receptors include, but are not limited to, hospitals, schools, daycare facilities, elderly housing facilities where there are populations susceptible to greater impacts from air pollution and toxic chemicals. As shown in the map below, a significant number of sensitive receptors are located in close proximity to railroads. Further analysis is needed to better understand rail-related pollutants and contaminants in areas adjacent to railroads.

EXHIBIT 35 Sensitive Receptors and Regional Railroads



IMPACTS RELATED TO KEY GRADE CROSSING AREAS

The following tables and figures present the socioeconomic indicators from 2000 Census and 2005–09 American Community Survey in areas within a ½-mile, 1-mile and 2-mile distance from grade separation projects, by key Environmental Justice population groups—elderly population (age 65 and over), population below poverty, minority, foreign born population, non-English speaking population, households without a vehicle and population without a high school diploma. As shown in the figures below, the share of most key Environmental Justice communities residing close to railroads is higher than regional average both in 2000 and in 2005–09. The exceptions are the elderly population and households without a vehicle. These observations suggest that many Environmental Justice communities are more likely to be affected by impacts from grade crossings, such as traffic delays, idling emissions and grade-crossing related accidents than other demographic groups.

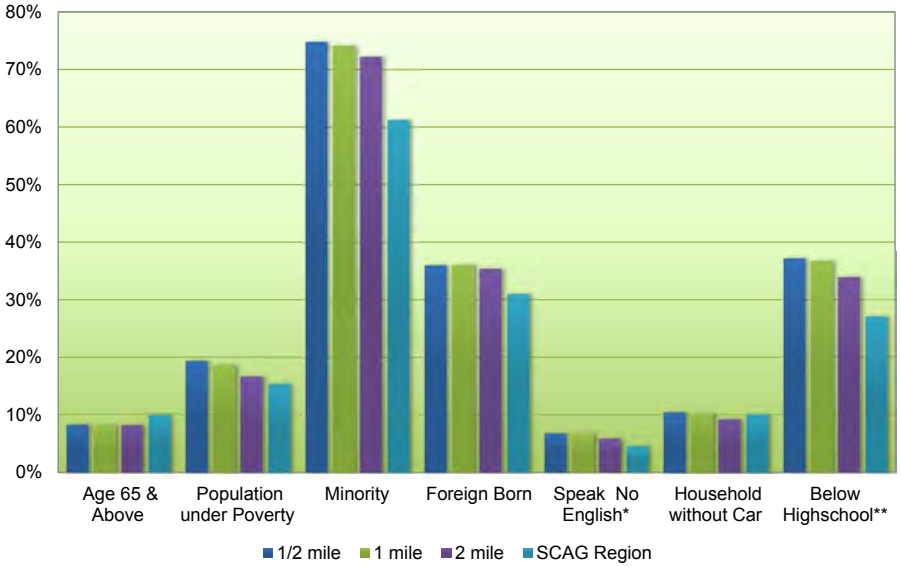
TABLE 47 Share of Key Environmental Justice Population in Areas Adjacent to Grade Separation Projects: From 2000 Census and 2005–09 American Community Survey

Distance from Railroads	Age 65 & Above	Population under Poverty	Non-Hispanic White	Foreign Born	Speak No English	Household Without Car	Below High School
2000 Census							
½ mile	16,530	38,664	50,186	71,886	12,316	6,034	42,697
1 mile	56,732	130,719	181,357	253,134	43,313	20,609	147,472
2 mile	171,371	348,322	578,490	738,508	111,952	55,850	410,660
2000 Census (Percent)							
½ mile	8.3%	19.4%	74.9%	36.0%	6.8%*	10.5%	37.2%**
1 mile	8.1%	18.6%	74.2%	36.1%	6.8%*	10.3%	36.8%**
2 mile	8.2%	16.7%	72.3%	35.4%	5.9%*	9.3%	34.0%**
SCAG Region	9.9%	15.4%	61.3%	31.0%	4.5%*	10.1%	27.1%**
2005–09 American Community Survey							
½ mile	18,680	33,708	42,765	76,860	12,815	3,976	38,911
1 mile	63,811	113,833	154,195	269,194	46,967	13,861	136,463
2 mile	196,164	304,852	500,737	787,933	128,707	38,930	382,858
2005–09 American Community Survey (Percent)							
½ mile	9.0%	16.2%	79.4%	37.0%	6.7%*	6.7%	31.2%**
1 mile	8.7%	15.5%	79.0%	36.7%	7.0%*	6.7%	31.2%**
2 mile	8.9%	13.9%	77.2%	35.9%	6.4%*	6.2%	28.9%**
SCAG Region	10.4%	13.5%	64.8%	30.8%	4.8%*	7.4%	22.4%**

*Share of Population 5 & Over **Share of Population 25 & Over

Source: 2000 Census and 2005–09 ACS, processed by SCAG Research, Analysis, and Information Service staff

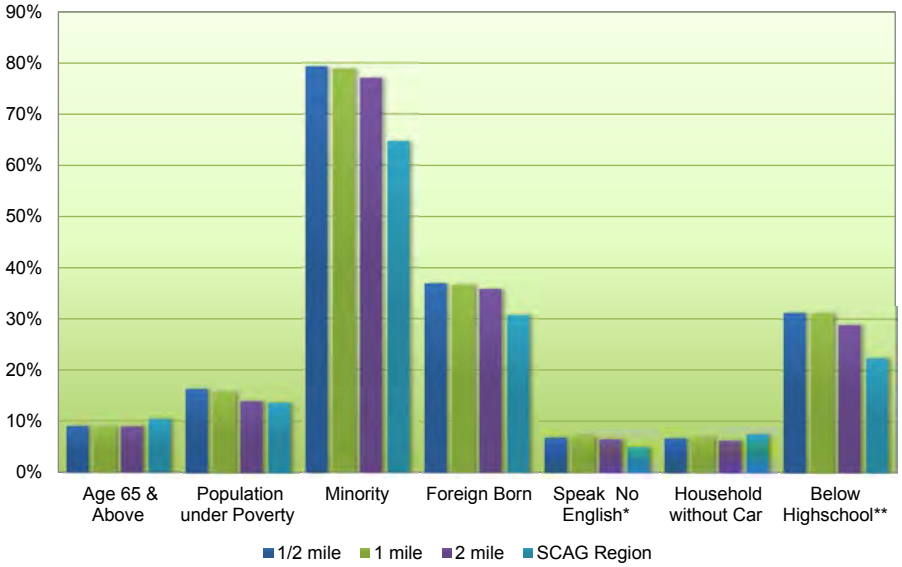
FIGURE 53 Key Environmental Justice Population Groups in the Areas Adjacent to Grade Separation Projects (2000 Census)



*Share of Population 5 & Over **Share of Population 25 & Over
Source: 2000 Census and 2005–09 ACS, processed by SCAG Research, Analysis, and Information Service staff

In the figure shown above, the breakdown of population by Environmental Justice group within impacted areas is compared to each individual group's concentration in the regional population.

FIGURE 54 Key Environmental Justice Population Groups in the Areas Adjacent to Grade Separation Projects (2005–09 ACS)



*Share of Population 5 & Over **Share of Population 25 & Over
Source: 2000 Census and 2005–09 ACS, processed by SCAG Research, Analysis, and Information Service staff

In the figure shown above, the breakdown of population by Environmental Justice group within impacted areas is compared to each individual group's concentration in the regional population.

TABLE 48 Projected Environmental Justice Variables and Demographic Changes in the Areas Adjacent to Grade Separation Projects

Distance from the Projects:	½ mile				1 mile				2 miles				SCAG Region	
	2008	2035	2008	2035	2008	2035	2008	2035	2008	2035	2008	2035	2008	2035
Population	**198,052**	**270,405**			**719,686**	**959,669**			**2,189,256**	**2,856,556**				
Male	99,672	136,346	50.3%	50.4%	360,892	481,528	50.1%	50.2%	1,095,958	1,427,471	50.1%	50.0%	49.9%	49.9%
Female	98,380	134,059	49.7%	49.6%	358,794	478,141	49.9%	49.8%	1,093,299	1,429,085	49.9%	50.0%	50.1%	50.1%
Age 65 & over	16,744	38,612	8.5%	14.3%	60,866	136,329	8.5%	14.2%	192,480	420,519	8.8%	14.7%	10.4%	16.7%
Disabled	18,110	26,610	9.1%	9.8%	65,843	94,735	9.1%	9.9%	195,943	277,398	9.0%	9.7%	8.6%	9.3%
Hispanic	116,603	180,856	58.9%	66.9%	416,520	633,470	57.9%	66.0%	1,200,649	1,822,219	54.8%	63.8%	44.8%	55.4%
Non-Hispanic White	43,707	40,028	22.1%	14.8%	162,843	142,680	22.6%	14.9%	526,955	443,658	24.1%	15.5%	34.4%	23.5%
Non-Hispanic Black	9,700	14,318	4.9%	5.3%	35,939	51,396	5.0%	5.4%	112,117	153,422	5.1%	5.4%	6.9%	6.1%
Non-Hispanic NA	1,016	1,426	0.5%	0.5%	3,398	4,817	0.5%	0.5%	9,504	13,163	0.4%	0.5%	0.4%	0.5%
Non-Hispanic Asian	24,076	29,269	12.2%	10.8%	90,012	111,458	12.5%	11.6%	305,254	376,203	13.9%	13.2%	11.6%	12.3%
Non-Hispanic Other	2,950	4,509	1.5%	1.7%	10,973	15,848	1.5%	1.7%	34,777	47,891	1.6%	1.7%	1.9%	2.1%
Poverty 1*	8,882	12,122	15.7%	15.8%	32,353	43,764	15.7%	15.9%	89,737	122,244	14.1%	14.6%	13.8%	14.5%
Poverty 2*	6,354	8,608	11.3%	11.2%	22,074	29,771	10.7%	10.8%	61,778	83,445	9.7%	10.0%	8.7%	9.0%
Poverty 3*	6,141	8,122	10.9%	10.6%	21,317	28,076	10.4%	10.2%	59,963	79,190	9.4%	9.4%	8.3%	8.5%
Household	**56,443**	**76,815**			**205,859**	**274,905**			**634,602**	**838,430**				
Quintile 1	12,085	16,750	21.4%	21.8%	44,296	59,844	21.5%	21.8%	124,417	169,370	19.6%	20.2%	21%	20%
Hispanic	5,892	11,224	10.4%	14.6%	19,781	38,435	9.6%	14.0%	50,263	103,320	7.9%	12.3%	6.4%	10.8%
Non-Hispanic White	3,994	2,354	7.1%	3.1%	15,609	8,042	7.6%	2.9%	46,551	23,746	7.3%	2.8%	9.4%	4.2%
Non-Hispanic Black	874	1,230	1.5%	1.6%	3,512	5,069	1.7%	1.8%	9,663	14,691	1.5%	1.8%	2.4%	1.8%
Non-Hispanic NA	74	107	0.1%	0.1%	294	462	0.1%	0.2%	639	1,010	0.1%	0.1%	0.1%	0.1%
Non-Hispanic Asian	1,075	1,553	1.9%	2.0%	4,355	6,729	2.1%	2.4%	14,800	22,814	2.3%	2.7%	1.7%	2.4%
Non-Hispanic Other	176	282	0.3%	0.4%	746	1,108	0.4%	0.4%	2,501	3,789	0.4%	0.5%	0.5%	0.7%
Quintile 2	14,345	19,141	25.4%	24.9%	50,051	65,773	24.3%	23.9%	143,272	187,502	22.6%	22.4%	20%	20%
Hispanic	8,123	12,814	14.4%	16.7%	27,833	43,662	13.5%	15.9%	75,365	121,025	11.9%	14.4%	8.5%	11.5%
Non-Hispanic White	3,693	2,966	6.5%	3.9%	13,202	9,869	6.4%	3.6%	40,604	29,511	6.4%	3.5%	7.3%	4.3%

Distance from the Projects:	½ mile				1 mile				2 miles				SCAG Region	
	2008	2035	2008	2035	2008	2035	2008	2035	2008	2035	2008	2035	2008	2035
Non-Hispanic Black	802	1,159	1.4%	1.5%	2,827	4,146	1.4%	1.5%	8,023	11,563	1.3%	1.4%	1.6%	1.3%
Non-Hispanic NA	92	151	0.2%	0.2%	260	421	0.1%	0.2%	677	986	0.1%	0.1%	0.1%	0.1%
Non-Hispanic Asian	1,332	1,667	2.4%	2.2%	4,812	6,156	2.3%	2.2%	15,046	19,373	2.4%	2.3%	1.7%	1.9%
Non-Hispanic Other	303	384	0.5%	0.5%	1,117	1,519	0.5%	0.6%	3,557	5,045	0.6%	0.6%	0.6%	0.8%
Quintile 3	12,494	16,876	22.1%	22.0%	44,747	59,134	21.7%	21.5%	139,248	181,965	21.9%	21.7%	20%	20%
Hispanic	6,454	10,492	11.4%	13.7%	22,481	36,275	10.9%	13.2%	66,806	109,608	10.5%	13.1%	7.4%	10.4%
Non-Hispanic White	3,736	3,208	6.6%	4.2%	13,378	10,766	6.5%	3.9%	44,049	33,663	6.9%	4.0%	8.4%	5.1%
Non-Hispanic Black	556	892	1.0%	1.2%	2,210	3,321	1.1%	1.2%	7,203	10,487	1.1%	1.3%	1.4%	1.2%
Non-Hispanic NA	47	72	0.1%	0.1%	216	320	0.1%	0.1%	632	955	0.1%	0.1%	0.1%	0.1%
Non-Hispanic Asian	1,431	1,779	2.5%	2.3%	5,392	6,864	2.6%	2.5%	17,225	22,281	2.7%	2.7%	1.9%	2.3%
Non-Hispanic Other	269	432	0.5%	0.6%	1,070	1,589	0.5%	0.6%	3,333	4,972	0.5%	0.6%	0.6%	0.7%
Quintile 4	10,531	14,392	18.7%	18.7%	39,759	53,039	19.3%	19.3%	131,333	171,295	20.7%	20.4%	20%	20%
Hispanic	4,580	7,885	8.1%	10.3%	16,887	28,771	8.2%	10.5%	52,776	90,369	8.3%	10.8%	5.8%	8.8%
Non-Hispanic White	3,724	3,342	6.6%	4.4%	14,435	12,043	7.0%	4.4%	49,224	39,240	7.8%	4.7%	9.9%	6.4%
Non-Hispanic Black	438	742	0.8%	1.0%	1,734	2,811	0.8%	1.0%	6,393	9,552	1.0%	1.1%	1.3%	1.2%
Non-Hispanic NA	52	89	0.1%	0.1%	179	321	0.1%	0.1%	584	972	0.1%	0.1%	0.1%	0.1%
Non-Hispanic Asian	1,520	2,000	2.7%	2.6%	5,698	7,818	2.8%	2.8%	19,744	27,235	3.1%	3.2%	2.3%	2.9%
Non-Hispanic Other	216	334	0.4%	0.4%	826	1,274	0.4%	0.5%	2,613	3,926	0.4%	0.5%	0.5%	0.6%
Quintile 5	6,988	9,656	12.4%	12.6%	27,007	37,116	13.1%	13.5%	96,331	128,298	15.2%	15.3%	20%	20%
Hispanic	2,203	4,411	3.9%	5.7%	8,572	17,236	4.2%	6.3%	27,955	57,206	4.4%	6.8%	3.9%	7.1%
Non-Hispanic White	2,884	2,596	5.1%	3.4%	11,528	9,946	5.6%	3.6%	43,144	35,032	6.8%	4.2%	12.1%	7.9%
Non-Hispanic Black	413	609	0.7%	0.8%	1,446	2,224	0.7%	0.8%	4,954	7,254	0.8%	0.9%	1.0%	1.0%
Non-Hispanic NA	47	97	0.1%	0.1%	132	300	0.1%	0.1%	355	891	0.1%	0.1%	0.1%	0.1%
Non-Hispanic Asian	1,251	1,617	2.2%	2.1%	4,696	6,275	2.3%	2.3%	17,744	24,243	2.8%	2.9%	2.5%	3.4%
Non-Hispanic Other	190	326	0.3%	0.4%	631	1,135	0.3%	0.4%	2,179	3,672	0.3%	0.4%	0.4%	0.6%

*Poverty 1 = # of household below poverty; Poverty 2 = # of household between poverty and 1.5xP); Poverty 3 = # of household between 1.5xP and 2.0xP)

Source: Based on 2000 Census and 2005–09 ACS, processed and projected by SCAG Research, Analysis, and Information Service staff

TABLE 49 Existing and Projected Impacts on Grade Separation Project Areas (2035 Projections Based on the Assumption of No Grade Separation Projects)

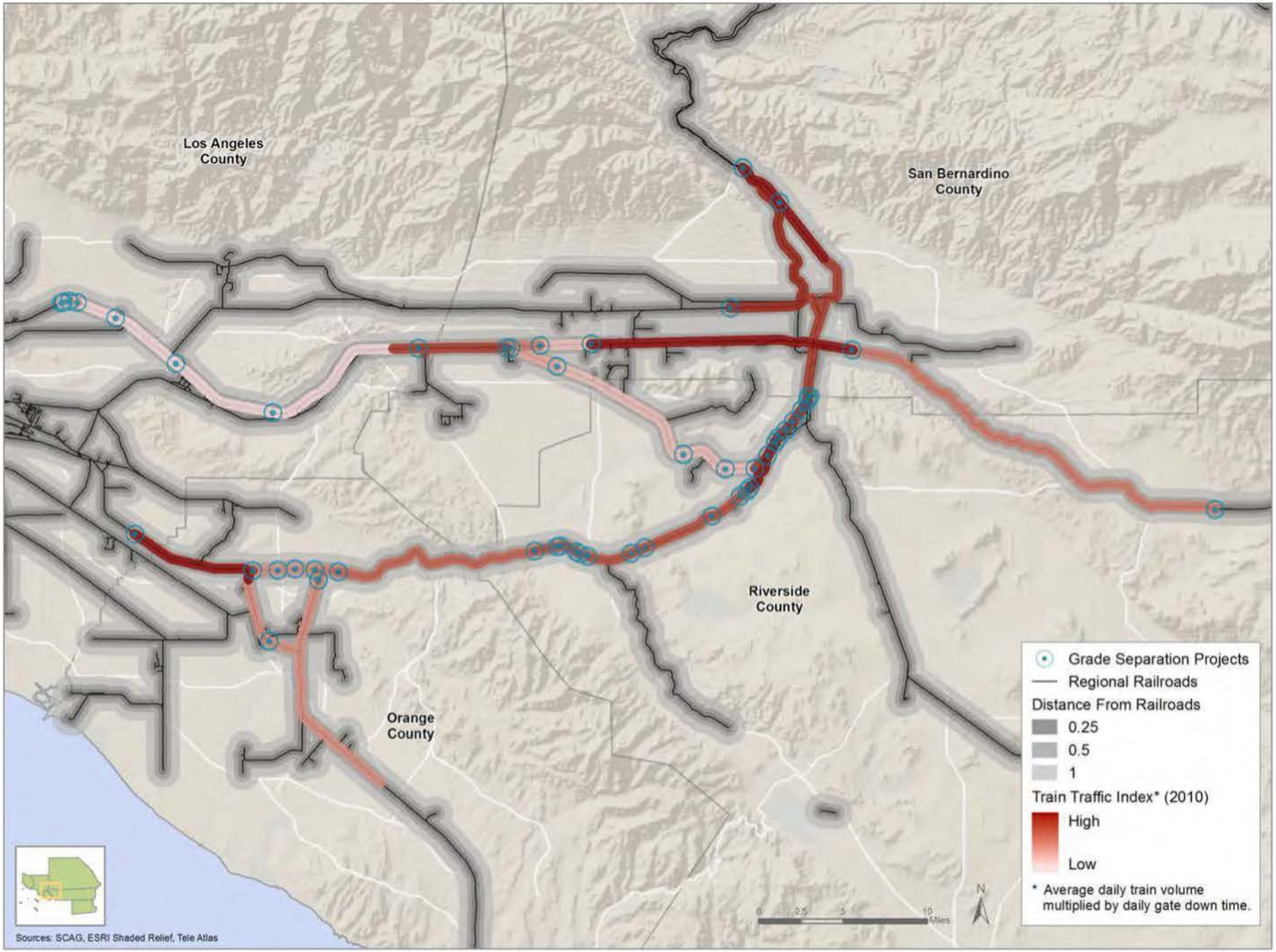
	Average Daily Traffic (vehicles/day)	Average Daily Train Volume (trains/day)	Daily Total Gate Down Time (minutes/day)	Daily Total Vehicle Hours of Delay (veh-hrs/day)	PM Peak Average Delay per Vehicle (seconds/vehicle)
2010	765,560	2,717	5,202	1,253	370
2035*	988,730	5,988	13,010	5,133	1,211
% Change	29%	120%	150%	310%	227%
	Daily NO_X Emissions** (g/day)	Daily $PM_{2.5}$ Emissions** (g/day)	Daily CO_2 Emissions** (g/day)	Daily NO_X, $PM_{2.5}$, and CO_2 Emissions** (g/day)	Daily Emissions Related Damages*** ($/year)
2010	10,510	289	2,185,239	2,196,039	98,748
2035*	47,407	657	9,121,986	9,170,050	276,091
% Change	351%	127%	317%	318%	180%
	5-Year Average Number of Crashes Per Year	5-Year Average Number Killed Per Year	5-Year Average Number Injured Per Year	5-Year Average Damage Per Year ($)	
2006–2010	6.4	1.0	2.4	37,440	

*Assuming no grade separation projects.
**Emissions isolates idling emissions (autos and trucks) at the crossing.
***Damage Costs derived as follows: (veh-hrs of delay per day) x (grams/hr) x (1/tons per gram) x (tons per short tons) x (dollars per short ton) x 365 days per year = dollars per year for all vehicles
Source: SCAG, 2011

BENEFITS FROM GRADE SEPARATION PROJECTS

Table 49 presents the existing and projected impacts from grade crossings where the grade separation projects are planned to be constructed in the future. It shows grade crossing-related impacts, such as traffic delay, idling emission and relevant accidents in 2010 and 2035. For 2035 projections, the statistics are projected based on the assumption of no grade separation project construction. For example, without the grade separation projects, the daily total vehicle hours of delay will increase from 1,253 vehicle-hours per day to 5,133 vehicle-hours per day, and the daily NO_X, $PM_{2.5}$, CO_2 emissions from 2,196 kg per day to 9,170 kg per day. However, with the grade separation projects constructed, traffic delay at crossing, idling emissions and grade-crossing related accidents could be reduced by redirecting vehicles and pedestrians above or below railroad tracks.

EXHIBIT 38 Train Traffic Index



TRAIN TRAFFIC INDEX

The train traffic index is one measure that SCAG used to determine the usage of railroad segments and concentration of rail activities in the region. This tool informs the degree of environmental impacts on areas adjacent to railroads and grade separation projects.

The train traffic index of each railroad segment is calculated by multiplying its average daily train volume of passenger and freight rail traffic by the daily total gate down time of key grade crossings located at both ends of an individual segment. Exhibit 38 illustrates the train traffic index of railroad segments adjacent to grade separation projects in 2010. As shown in the map provided, San Bernardino County and Riverside County have higher train traffic index values than other counties. As railroad emissions and noise increase where there is a large amount of train traffic volume, these observations suggest that the rail-related environmental impacts could be greater in San Bernardino County and Riverside County than other counties. Based upon the analysis of Environmental Justice categories described previously, the low-income and minority communities adjacent to railroads and grade-crossings in San Bernardino County and Riverside County may be more affected by rail-related impacts than population groups located in other places of the region. Further study and demonstrations are needed to develop and design effective measures to address rail related environmental impacts, if any. Please refer to the Goods Movement Technical Appendix to review the 2012 RTP Goods Movement Environmental Strategy and Action Plan for Technology Advancement.

Additional SCAG Strategies: Environmental Justice Mitigation Toolbox

New to the 2012–2035 RTP/SCS, SCAG has developed a toolbox of potential mitigation measures to address potential impacts to Environmental Justice communities. The toolbox presents optional mitigation recommendations that may be effective in addressing project-specific environmental justice impacts after a comprehensive review of impacts and consultation with all stakeholders. These measures were identified through a review of the literature, the PEIR, and recent planning activities.[9] Measures incorporating or referring to compliance with existing regulations are for informational purposes only, and do not supersede existing regulations.

Potential Mitigation for Noise Impacts

Project sponsors may voluntarily, to the extent feasible and applicable, and where their jurisdictional authority permits:

- As part of the appropriate environmental review of each project, conduct a project specific noise evaluation and identify and implement applicable mitigation.
- Employ land use planning measures, such as zoning, restrictions on development, site design, and use of buffers to ensure that future development is compatible with adjacent transportation facilities.
- Maximize the distance between noise-sensitive land uses and new roadway lanes, roadways, rail lines, transit centers, park-and-ride lots, and other new noise-generating facilities.
- Construct sound reducing barriers where feasible and applicable, between noise sources and noise-sensitive land uses. Sound barriers can be in the form of earth-berms or soundwalls. Constructing roadways so as appropriate and feasible that they are depressed below-grade of the existing sensitive land uses also creates an effective barrier between the roadway and sensitive receptors.
- Maximize distance of new route alignments from Environmental Justice communities. For example, if a transit project were constructed along the center of a freeway (as opposed to a new route or along side the freeway), operational noise impacts would be reduced by the increase in distance to the noise sensitive sites and the masking effects of the freeway traffic noise.

Potential Mitigation for Air Quality Impacts Along Freeways and Heavily Traveled Corridors

Local air districts, local jurisdictions and project sponsors may voluntarily implement measures adopted by ARB designed to attain federal air quality standards for PM2.5 and 8-hour ozone. ARB's strategy includes the following elements:

- Set technology forcing new engine standards;
- Require clean fuels, and reduce petroleum dependency;
- Work with US EPA to reduce emissions from federal and state sources; and
- Pursue near-term advanced technology demonstration and deployment such as:
  - Zero emissions heavy-duty trucks (2013 and beyond)[10]
  - Tier 4 marine engine repowers and replacements (2014 and beyond)
  - Tier 4 and zero emissions railyard equipment (2015 and beyond)[11]
- Pursue long-term advanced technology measures
- Consider proposed new transportation-related SIP measures including:
  - Improvements and Enhancements to California's Smog Check Program
  - Expanded Passenger Vehicle Retirement
  - Modifications to Reformulated Gasoline Program
  - Cleaner In-Use Heavy-Duty Trucks
  - Ship Auxiliary Engine Cold Ironing and Other Clean Technology
  - Cleaner Ship Main Engines and Fuel

[9] The Environmental Justice Mitigation Toolbox draws from, among other sources, mitigation measures included in the Draft 2012–2035 RTP/SCS Program Environmental Impact Report (PEIR), particularly for air quality and noise impacts. As captured here, Environmental Justice mitigation is geared toward reducing impacts for Environmental Justice communities as defined in this appendix, whereas PEIR measures are more broadly geared to sensitive receptors as defined in the PEIR. Mitigation activities cited here (e.g. performing corridor specific analysis) are consistent between this toolbox and the Final PEIR Appendix G.

[10] Please see Chapter 2, Transportation Investments for more information regarding a heavy-duty truck demonstration project in partnership with SCAQMD

[11] For more information see http://www.dieselnet.com/standards/us/marine.php and http://www.dieselnet.com/standards/us/loco.php

- Port Truck Modernization
- Clean Up Existing Commercial Harbor Craft

Conduct corridor-level analysis for proposed projects in areas where roadway air quality impacts may be concentrated among Environmental Justice communities.

Project sponsors may consider identifying the environmental justice impacts of each project. In consultation with the affected community, mitigation measures can be identified to best address the project's impacts.

Potential Mitigation for Rail Related Impacts

- Construct sound reducing barriers, where feasible and applicable, between noise sources and noise-sensitive land uses

Potential Mitigation for Road Pricing Mechanisms

- Transit, vanpools, or other options as alternatives in locations not served by transit
- Upper limits on road pricing
- Exemptions or discounts for persons who are disadvantaged people such as those whose earnings are below a certain income level and people with disabilities
- Limits on the number of priced crossings in a period for cordon charges
- Allowances for unlimited use of priced facilities in certain periods, typically off-peak hours and holidays[12]
- Develop detailed program design including billing and collection technology, rate structure, enforcement, spillover guards, revenues and gas tax replacement strategy, and mitigation for perceived geographic inequity before communicating with public[13]
- Develop an explicit benefit plan for increased revenues dovetailing with goals and mitigation concerns (e.g., enhanced transit, spillover protections and better enforcement)[14]
- Include environmental justice mitigation actions as part of the NEPA review[15]

Potential Mitigation for Environmental Justice Impacts

- Fund proactive measures to improve air quality in neighboring homes, schools, and other sensitive receptors
- Provide public education programs about environmental health impacts to better enable residents to make informed decisions about their health and community
- Engage in proactive measures to train and hire local residents for construction or operation of the project to improve their economic status and access to health care

Potential Resources Related to Gentrification and Displacement

Trends related to gentrification and displacement observed in areas with transit oriented developments (TODs) are inconclusive. However, the following resources are provided for informational purposes only. Local agencies may consider them at their discretion.

- California Department of Housing and Community Development, Inclusionary Housing Publications[16]
- PolicyLink, Equitable Development Toolkit[17]
- National Association of Realtors, Field Guide to Inclusionary Zoning[18]
- The Partnership for Working Families, Community Benefits Agreements[19]
- Los Angeles Alliance for a New Economy, LAX Community Benefit Agreement[20]

12 Department of Transportation, Federal Highway Administration. Environmental Justice Emerging Trends and Best Practices Guidebook, Document Number: FHWA-HEP-11-024. August 2011.

13 National Cooperative Highway Research Program Report 686. Road Pricing: Public Perceptions and Program Development (2011).

14 Ibid.

15 Ibid.

16 Please see http://www.hcd.ca.gov/hpd/inclusionary.pdf

17 Please see http://www.policylink.org/site/c.lkIXLbMNJrE/b.5136575/k.39A1/Equitable_Development_Toolkit.htm

18 Please http://www.realtor.org/library/library/fg806

19 Please see http://www.communitybenefits.org/section.php?id=155

20 Please see http://laane.org/lax-community-benefits-agreement/

Areas of Future Research

Given the anticipated growth and dynamic nature of the SCAG region, there are many policy areas that may present future challenges and are of interest for further research:

- Currently there is no racial/ethnic majority in the SCAG region, but the sum of all minority groups comprises over 50 percent of the total population in the region. Around 2025, the Hispanic population is projected to obtain a population majority in SCAG region
- Future research is necessary to monitor and analyze population trends related to gentrification and displacement. As such, the development of new indicators and data are needed at increasingly refined geographic levels
- Additional research is needed to evaluate the implications of general job wages/worker earnings mismatch and jobs-housing imbalance at the regional, county, and community levels
- Continued work is necessary to increase understanding of the linkages and interactions between emissions, air quality, and health outcomes, and their overall relationship with the region's socioeconomic cohorts related to income, education, race/ethnicity, among many other characteristics
- Further research is needed to understand the residential choices, surrounding communities, and the built environment for Native Americans, and population identified as Non-Hispanic Other
- The implications of VMT-based transportation fees on population growth and distribution will also require additional attention in the coming years
- Additional data and analysis is needed to understand the future environmental justice impacts of rail related freight traffic in the region
- Continual engagement and outreach with regional stakeholders is needed to address future environmental justice concerns

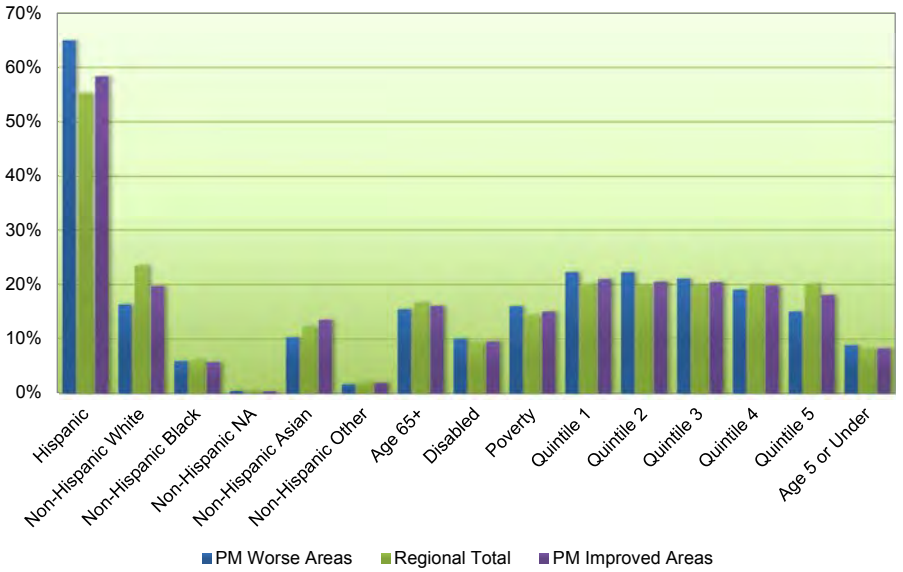
Additional Analysis/Data

Data and analysis included in this Appendix does not account for Plan improvements in vehicle technology particularly for truck only corridors. These corridors in the Plan are exclusively for zero and/or near-zero emission vehicles. Furthermore, the Program Environmental Impact Report (PEIR) accompanying the RTP/SCS includes mitigation measures that would reduce potential impacts associated with health risk within 500 feet of freeways and high-traffic volume roadways to less than significant. Analysis included in this Appendix also does not account for emissions improvements through the implementation of these mitigation measures. As such, emissions and exposure analysis shown in this Appendix is abundantly conservative and demonstrates worst-case scenario outcomes. If these emissions improvements had been accounted for, we believe the analysis would show little or no areas with worsened emissions ("hot spots") associated with the Plan. Moreover, the currently available data on emissions and on the distribution of households and population is imprecise such that the overlay with emissions and EJ populations will tend to overstate any potential impacts. Nevertheless, given on-going concerns and evolving information on health impacts, SCAG encourages project sponsors to be cognizant of any potential health risks in project design and delivery. Consistent with the mitigation identified and to be implemented as part of the proposed final PEIR, SCAG will assist in disseminating information and identifying effective strategies to reduce risk at the project level.

The following section provides additional information on the potential environmental justice impacts for population living within 1,000 feet of freeways and highly traveled corridors, as well as for young children age 5 or under.

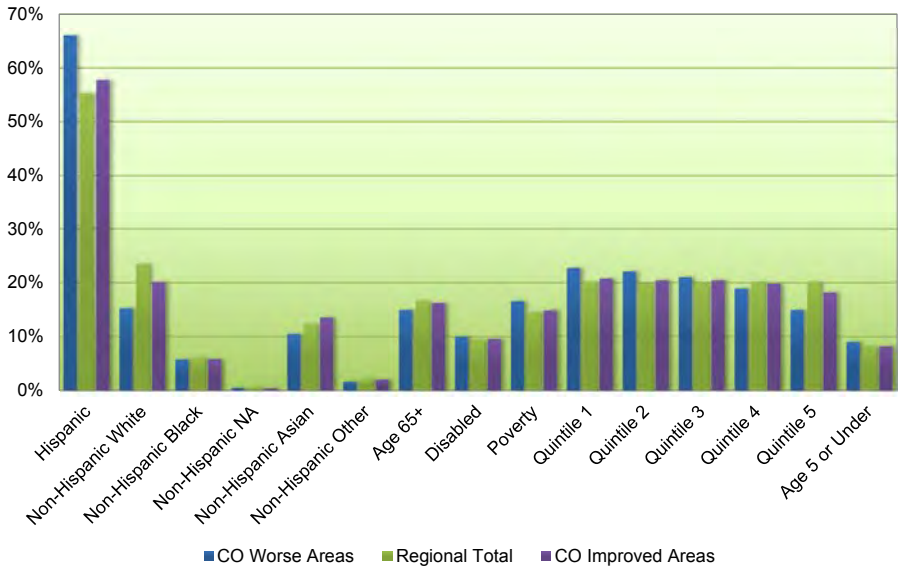
FIGURES A1 and **A2** show the breakdown of population for areas that are worse off or improved in terms of CO and PM emissions as a result of implementing the Plan. In order to evaluate if there is a disproportionate impact, the percent of population for worse off and improved areas is compared to each individual group's percentage in the regional population. As is seen in the graphs below for CO and PM emissions, there is a higher concentration of the Hispanic population in areas that are worse off and are within 1,000 feet of freeways than is seen at the regional level. This holds true for the disabled population, households in poverty, income quintiles 1, 2, and 3, as well as for young children age 5 and younger. Conversely, some of these same groups have a higher concentration of population in areas that are better off than is seen at the regional level, namely, Hispanics, Non-Hispanic Asians, and income quintiles 1, 2, and 3.

FIGURE A1 Distribution of Environmental Justice Groups for Areas Affected by PM Emissions that are within 1,000 Feet of Freeways and Highly Traveled Corridors - Plan vs. Baseline (2035)



In the figure shown above, the breakdown of population by Environmental Justice group within impacted areas is compared to each individual group's concentration in the regional population.

FIGURE A2 Distribution of Environmental Justice Groups for Areas Affected by CO Emissions that are within 1,000 Feet of Freeways and Highly Traveled Corridors - Plan vs. Baseline (2035)



In the figure shown above, the breakdown of population by Environmental Justice group within impacted areas is compared to each individual group's concentration in the regional population.

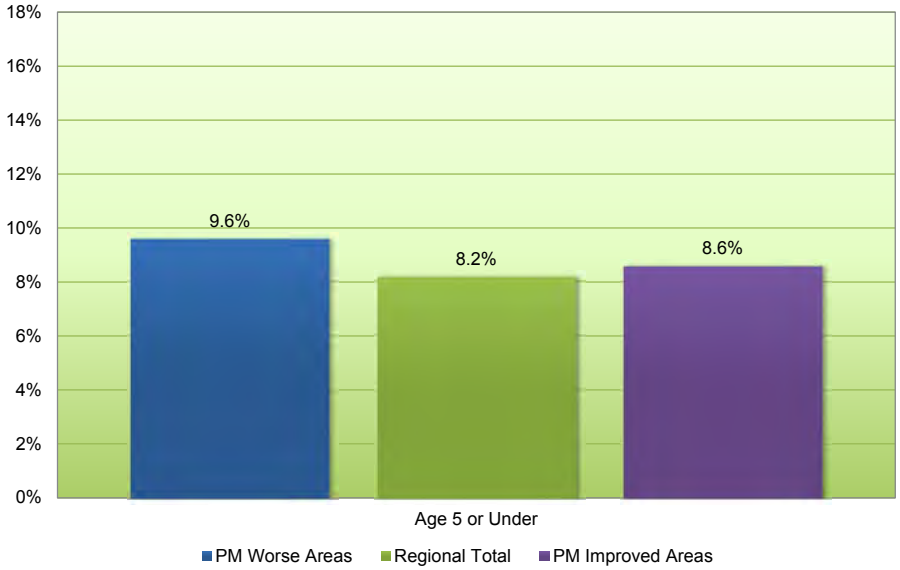
Potential Environmental Justice impacts for young children age 5 or under are presented in the following graphs. The analysis included compares the performance of the Plan scenario with the Baseline scenario:

- PM and CO emissions within 500 feet of freeways and highly traveled corridors
- Roadway noise
- Aviation noise
- Concentration of young children near rail lines

As indicated from the information presented here, the presence of children age 5 or under is somewhat higher than the regional average in environmentally sensitive areas, including near roadways, within aviation noise contours, and near rail corridors. However, as is the case for other groups, it should be noted that regionwide both air quality and associated health outcomes are improving with the plan compared to current and baseline conditions. Also, while regional emissions overall will decrease between now and 2035, the rate of decrease near freeways and highly traveled corridors is even greater.

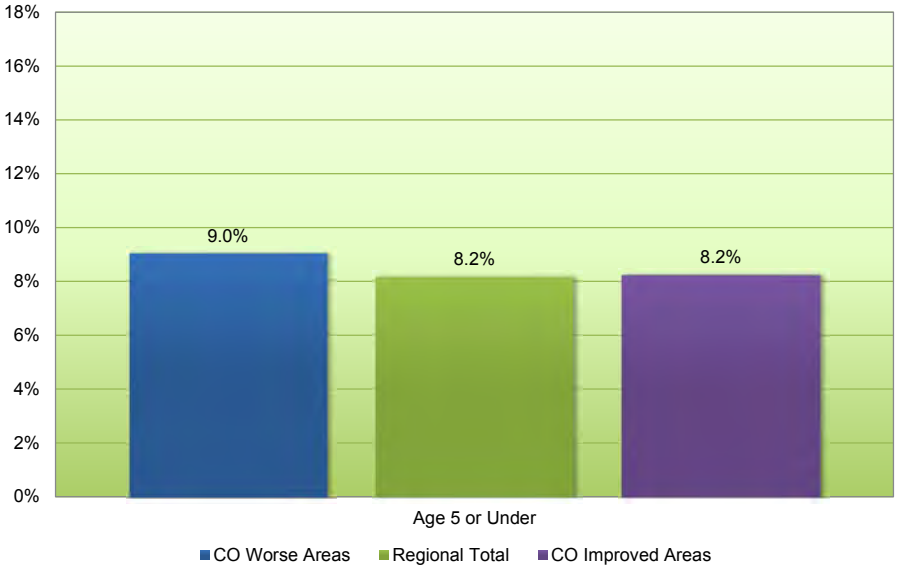
For areas that are within 500 feet of freeways and highly traveled corridors, young children represent a slightly higher percentage of the population in areas that are adversely impacted from the plan than is seen for the region. Young children are slightly more prevalent in areas that show improvement in terms of PM emissions, but are concentrated at the same level that is seen in the larger region for areas that are improved in terms of CO emissions as a result of the plan.

FIGURE A3 Percentage of Young Children for Areas Affected by PM Emissions that are within 500 Feet of Freeways and Highly Traveled Corridors – Plan vs. Baseline (2035)



In the figure shown above, the breakdown of population by Environmental Justice group within impacted areas is compared to each individual group's concentration in the regional population.

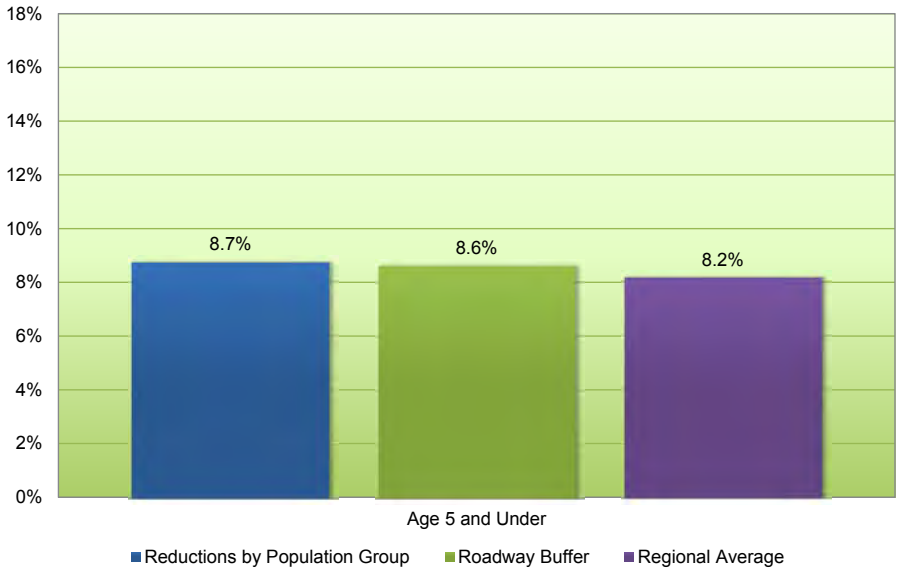
FIGURE A4 Percentage of Young Children for Areas Affected by CO Emissions that are within 500 Feet of Freeways and Highly Traveled Corridors – Plan vs. Baseline (2035)



In the figure shown above, the breakdown of population by Environmental Justice group within impacted areas is compared to each individual group's concentration in the regional population.

The Plan scenario results in a reduction in the number of people affected by roadway noise as compared to the Baseline scenario. Of the 450,000 people across the region who are no longer affected by roadway noise as a result of the Plan, young children represent 9 percent of the total. Looking at the Plan scenario in more detail, young children comprise 9 percent of the population in areas impacted by roadway noise, whereas this group represents 8 percent of the region's population.

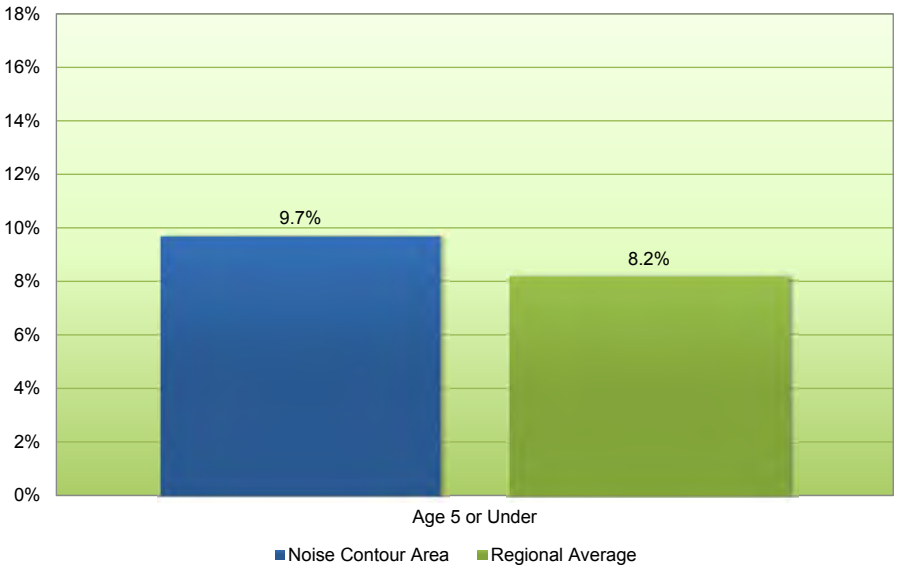
FIGURE A5 Percentage of Young Children within Areas Affected by Roadway Noise – Plan vs. Baseline (2035)



In the figure shown above, the breakdown of population by Environmental Justice group within impacted areas is compared to each individual group's concentration in the regional population.

The same can be said for areas that are impacted by aviation noise, where young children comprise 10 percent of the population, which is slightly higher than is seen for this population at the regional level.

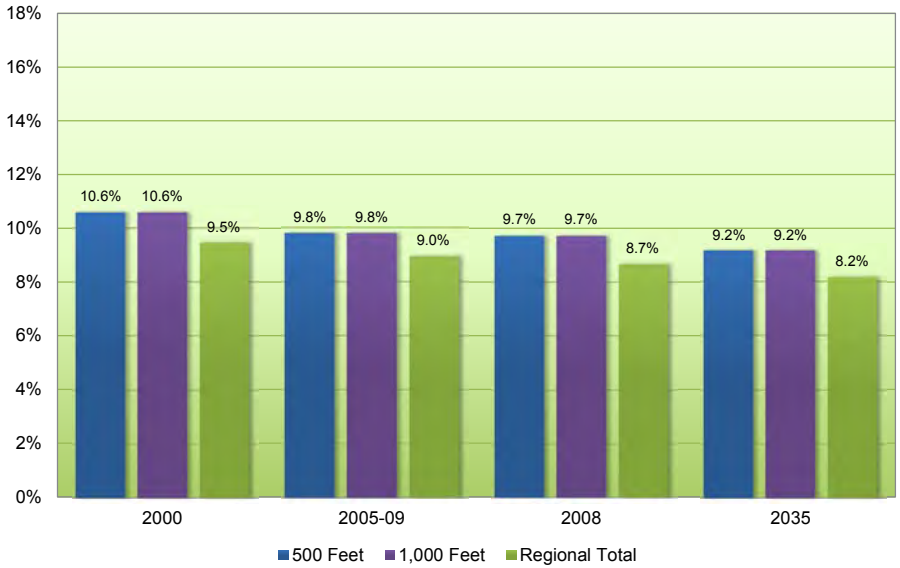
FIGURE A6 Percentage of Young Children within Areas Affected by Aviation Noise – Plan (2035)



In the figure shown above, the breakdown of population by Environmental Justice group within impacted areas is compared to each individual group's concentration in the regional population.

Children age 5 and under are more concentrated in areas that are within 500 and 1,000 feet of regional rail lines for years 2000 and 2005–09. In terms of projected population, this level of concentration is anticipated to go down in 2035, but is in line with the reduction for this group as a percent of the regional population during this time.

FIGURE A7 Concentration of Young Children Near Rail Lines



In the figure shown above, the breakdown of population by Environmental Justice group within impacted areas is compared to each individual group's concentration in the regional population.

In addition, historical air quality and health factors are presented for areas that have a concentration of young children that is higher than seen in the region at large. **TABLE A1** displays the following factors for young children:

- Average days exceeding federal ozone standards
- Average daily ozone exposure in excess of national standards
- Average annual $PM_{2.5}$ exposure
- Cancer risk per million persons
- Respiratory risk

As is seen from the data provided, many air quality indicators have improved across the region in 2007–2009 as compared to 2004–2006. Reductions were experienced for average number of days exceeding ozone standards, average daily ozone exposure in excess of national standards, and in average annual $PM_{2.5}$ exposure. These reductions produced benefits to young children during this period as well. Although this improvement is promising, it is important to note that these same air quality and health factors are higher for young children in both 2004-06 and 2007-09 than is seen in the region. Also, due to the geographic changes for young children during this time, cancer risk and respiratory risk decreased from 2004-06 to 2007-09.

TABLE A1 Summary of Air Quality and Health Risks for Young Children (2004–06 and 2007–09)

Summary of Air Quality and Health Risks by Environmental Justice Population Group												
	2004–2006						2007–2009					
Environmental Justice Demographic Groups	Population[1]	Average Days Exceeding Ozone Standards[2]	Average Daily Ozone Exposure in Excess of National Standards[2]	Average Annual $PM_{2.5}$ Exposure[2]	Cancer Risk Per Million[3]	Respiratory Risk	Population[1]	Average Days Exceeding Ozone Standards[2]	Average Daily Ozone Exposure in Excess of National Standards[2]	Average Annual $PM_{2.5}$ Exposure[2]	Cancer Risk Per Million[3]	Respiratory Risk
Age 5 or Under	1,562,913	18.67	0.20	15.45	529.65	5.03	1,588,986	15.48	0.15	13.04	504.38	4.87
Region Total	16,516,006	17.77	0.18	14.76	467.13	4.62	17,737,412	15.03	0.14	12.91	467.13	4.62

1. Population and Household data is representative of the 2000 Decennial Census and the 2005–09 American Community Survey.
2. Emissions data shows averages based upon two data sets, one representing averages from 2004–06 and the other showing averages from 2007–09.
3. Cancer risk data represents a single data point from 2005.
Sources: SCAG, 2000 Census, 2005–09 American Community Survey (ACS), California Air Resources Board (ARB), UC Berkeley/University of Southern California (USC)/Occidental College

REGIONAL TRANSPORTATION PLAN
2012–2035 RTP
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future

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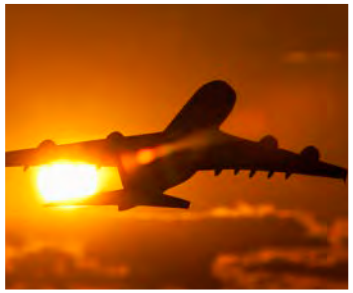
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EXECUTIVE SUMMARY









REGIONAL TRANSPORTATION PLAN
2012–2035
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future
RTP











Southern California Association of Governments

ADOPTED APRIL 2012

EXECUTIVE SUMMARY



Image courtesy of Metro © 2012 LACMTA

Our Vision

Towards a Sustainable Future

For the past three decades, the Southern California Association of Governments (SCAG) has prepared Regional Transportation Plans (RTPs) with the primary goal of increasing mobility for the region's residents and visitors. While mobility is a vital component of the quality of life that this region deserves, it is by no means the only component. SCAG has placed a greater emphasis than ever before on sustainability and integrated planning in the 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), whose vision encompasses three principles that collectively work as the key to our region's future: mobility, economy, and sustainability.

The 2012–2035 RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with SB 375, improve public health, and meet the National Ambient Air Quality Standards as set forth by the federal Clean Air Act. As such, the 2012–2035 RTP/SCS contains a regional commitment for the broad deployment of zero- and near-zero emission transportation technologies in the 2023–2035 time frame and clear steps to move toward this objective. This is especially critical for our goods movement system. The development of a world-class zero- or near-zero emission freight transportation system is necessary to maintain economic growth in the region, to sustain quality of life, and to meet federal air quality requirements. The 2012–2035 RTP/SCS puts forth an aggressive strategy for technology development and deployment to achieve this objective. This strategy will have many co-benefits, including energy security, cost certainty, increased public support for infrastructure, GHG reduction, and economic development.

Never before have the crucial linkages and interrelationships between the economy, the regional transportation system, and land use been as important as now. For the first time, the 2012–2035 RTP/SCS includes a significant consideration of the economic impacts and opportunities provided by the transportation infrastructure plan set forth in the 2012–2035 RTP/SCS, considering not only the economic and job creation impacts of the direct investment in transportation infrastructure, but also the efficiency gains in terms of worker and business economic productivity and goods movement. The 2012–2035 RTP/SCS outlines a transportation infrastructure investment strategy that will benefit Southern California, the state, and the nation in terms of economic development, competitive advantage, and overall competitiveness in the global economy in terms of attracting and retaining employers in the Southern California region.

The 2012–2035 RTP/SCS provides a blueprint for improving quality of life for our residents by providing more choices for where they will live, work, and play, and how they will move around. Its safe, secure, and efficient transportation systems will provide improved access to opportunities, such as jobs, education, and healthcare. Its emphasis on transit and active transportation will allow our residents to lead a healthier, more active lifestyle. It will create jobs, ensure our region's economic competitiveness through strategic investments in our goods movement system, and improve environmental and health outcomes for its 22 million residents by 2035. More importantly, the RTP/SCS will also preserve what makes the region special, including our stable and successful neighborhoods and our array of open spaces for future generations to enjoy.

The Setting

In order to successfully overcome the challenges that lie before us, this RTP/SCS first recognizes the impacts that recent events and long-term trends will have on how people choose to live and move around.

ECONOMIC RECESSION

[800,000] jobs have been lost in the region due to the Great Recession

The economic turmoil faced by many of the region's residents is likely to impact their housing choices and travel behavior, including their transportation mode choice and day-to-day travel patterns. This will potentially require different types of transportation solutions.

POPULATION GROWTH

The region will add **[4 million]** people by 2035

This growth in population will only exacerbate our region's existing mobility challenges. The SCAG region is already home to 18 million people, or 49 percent of California's population. If it were its own state, the SCAG region would be the fifth most populous in the nation. Furthermore, this expected growth will occur mainly in the suburban inland counties of Riverside and San Bernardino, adding to the existing imbalance of jobs and housing in the region, and requiring people to travel, which contributes to transportation and air quality challenges. In addition, with the aging of the Baby Boomer generation (the share of the population 65 years or older will increase from 11 percent in 2010 to 18 percent in 2035), the region will have a greater need for more efficient modes of transportation for those who can no longer drive as their main form of transportation.



Image courtesy of Metro © 2012 LACMTA

MULTIMODAL TRANSPORTATION SYSTEM

Over the past few decades, the region has invested heavily in a multimodal transportation system that serves as the backbone of the region's economic well-being.

THE SYSTEM AT A GLANCE

[21,690] miles of highways and arterials

[470] miles of passenger rail

[6] air carrier airports

Nine out of ten trips in the region utilize our extensive highway and arterial network, which supports a host of modes, including the automobile, transit, and active transportation. The region is also home to a growing number of passenger rail lines, none of which existed 20 years ago. Our regional aviation system is the nation's largest and most complex in terms of number of airports and aircraft, and our goods movement industry plays a critical role in sustaining the economy of our region. The importance of this system to our region cannot be overstated.

THE REGION IN MOTION

[446 million] miles driven each day

[81 million] air passengers each year

[45%] more urban rail riders between 2000 and 2006

[34%] of our jobs depend on the goods movement industry

Challenges

The challenges facing the region are daunting. When combined, our mobility, air quality, and funding challenges present an imposing threat to the quality of life for both current and future residents.

MOBILITY CHALLENGES

The region wastes over **[3 million]** hours each year sitting in traffic

The region's roadways are the most congested in the nation, and traffic relief is critical, even more so in our current economic situation. By failing to address our congestion, we have foregone jobs—every 10 percent decrease in congestion can bring an employment increase of about 132,000 jobs.

SAFETY CHALLENGES

On the brighter side, our roadways are among the nation's safest, with rate of fatal and injury collisions declining dramatically since the 1930s. But as we continue to successfully improve safety for our motorists, we cannot neglect the alarming fatality rates of those traveling on other modes of transportation.

[21%] of all traffic-related fatalities involve pedestrians

This fatality rate is unacceptable, and if we plan to successfully move toward a more sustainable future that includes plenty of active transportation, we must address the safety deficiencies in all modes of transportation.

AIR QUALITY CHALLENGES

In addition, while Southern California is a leader in reducing emissions, and ambient levels of air pollutants are improving, the SCAG region continues to have the worst air quality in the nation, and air pollution still causes thousands of premature deaths every year, as well as other serious adverse health effects. The South Coast Air Quality Management District (AQMD) estimates the monetary cost of air pollution in Southern California to be at least $14.6 billion annually.

Even with ongoing aggressive control strategies, ever more stringent national ozone standards require further oxide of nitrogen (NOx) emission reductions in the SCAG region. In the South Coast Air Basin, for example, it is estimated that NOx emissions will need to be reduced by approximately two-thirds in 2023 and three-quarters in 2030. This is a daunting challenge. The level of emission reduction required is so significant that 2030 emissions forecasted from just three sources—ships, trains, and aircraft—would lead to ozone levels near the federal standard. Because most sources, including cars and factories, are already controlled by over 90 percent, attainment of ozone standards will require broad deployment of zero- and near-zero emission technologies in the 2023–2035 time frame.

Senate Bill 375

New to this RTP, California's Sustainable Communities and Climate Protection Act, or Senate Bill (SB) 375, calls for this RTP to include an SCS that reduces greenhouse gas (GHG) emissions from passenger vehicles by 8 percent per capita by 2020 and 13 percent per capita by 2035 compared to 2005, as set by the California Air Resources Board (ARB). SB 375 enhances the State's goals of Assembly Bill 32, the Global Warming Solutions Act of 2006. Meeting the required targets will not be easy, but it must be done for the health and quality of life of current and future generations. Meeting these targets will point the region toward overall sustainability and will provide benefits beyond reducing carbon emissions.

FINANCIAL CHALLENGES

Of all the challenges facing us today, there is perhaps none more critical than funding. With the projected growth in population, employment, and demand for travel, the costs of our multimodal transportation needs surpass projected revenues available from our historic transportation funding source—the gas tax.

State and federal gas taxes have not changed in nearly **[20]** years

Yet, highway construction costs have grown by **[82%]**

As a result of years of underinvestment, a significant number of our roadways and bridges have fallen into a state of disrepair. It is imperative that this situation be addressed. The rate of deterioration will only accelerate with continued deferral, significantly increasing the cost of bringing our transportation assets back into a state of good repair. Furthermore, with recent declines in transit funding, the region's transit operators continue to face major obstacles to providing frequent and convenient transit service.

Rail operating costs have increased by over **[40%]** in the past decade

Intercity transit operators have been forced to cut service by up to **[20%]**

The region must consider ways to stabilize existing revenue sources and supplement them with reasonably available new sources. This region needs a long-term, sustainable funding plan that ensures the region receives its fair share of funding, supports an efficient and effective transportation system that grows the economy, provides mobility choices, and improves our quality of life.

Our Approach

To address these challenges, SCAG performed a careful analysis of our transportation system, the future growth of our region, and potential new sources of revenue, and embarked on a massive outreach undertaking to hear what the region had to say. While SCAG continued to work closely through hundreds of meetings with stakeholder agencies with which it has always collaborated, it also conducted a series of planning sessions throughout the region to find out what Southern Californians want to see in their future. The result of this multi-year effort is the 2012–2035 RTP/SCS, a shared vision for the region's sustainable future.

Transportation Investments

The RTP/SCS contains a host of improvements to our multimodal transportation system. These improvements include closures of critical gaps in the network that hinder access to certain parts of the region, as well as the strategic expansion of our transportation system where there is room to grow in order to provide the region with the mobility it needs. These improvements are outlined in **TABLE 1**.

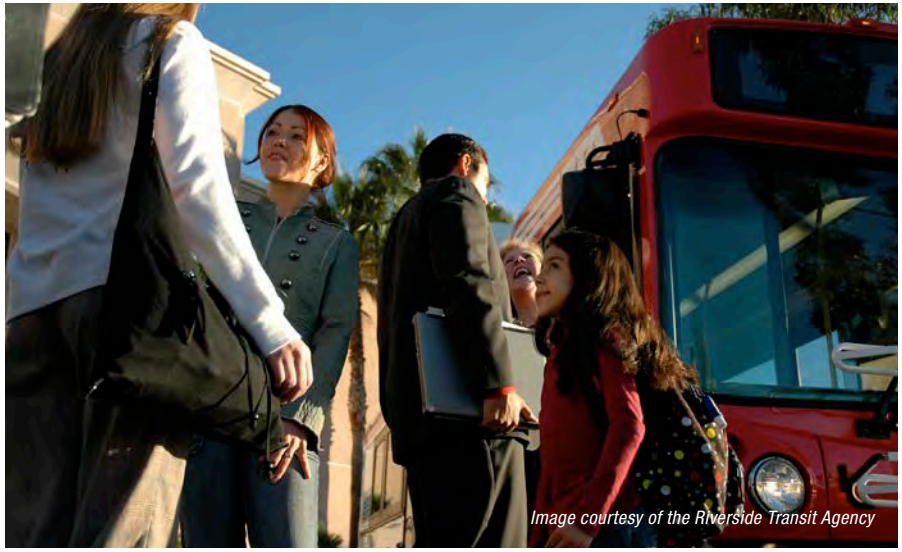


Image courtesy of the Riverside Transit Agency

TABLE 1 Transportation Investments (Nominal Dollars, Billions)

Component	Description	Cost
Transit		$55.0 billion
Bus Rapid Transit (BRT)	New BRT routes, extensions, and/or service enhancements in Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties	$4.6 billion
Light Rail Transit (LRT)	New Light Rail routes/extensions in Los Angeles and San Bernardino Counties	$16.9 billion
Heavy Rail Transit (HRT)	Heavy Rail extension in Los Angeles County	$11.8 billion
Bus	New and expanded bus service in Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties	$21.7 billion
Passenger and High-Speed Rail		$51.8 billion
Commuter Rail	Metrolink extensions in Riverside County and Metrolink systemwide improvements to provide higher speeds	$4.1 billion
High-Speed Rail	Improvements to the Los Angeles to San Diego (LOSSAN) Rail Corridor with an ultimate goal of providing San Diego-Los Angeles express service in under two hours Phase I of the California High-Speed Train (HST) project that would provide high-speed service from Los Angeles to the Antelope Valley	$47.7 billion
Active Transportation		$6.7 billion
Various Active Transportation Strategies	Increase our bikeways from 4,315 miles to 10,122 miles, bring significant amount of sidewalks into compliance with the Americans with Disabilities Act (ADA), safety improvements, and various other strategies	$6.7 billion
Transportation Demand Management (TDM)		$4.5 billion
Various TDM Strategies	Strategies to incentivize drivers to reduce solo driving: ▪ Increase carpooling and vanpooling ▪ Increase the use of transit, bicycling, and walking ▪ Redistribute vehicle trips from peak periods to non-peak periods by shifting work times/days/locations ▪ Encourage greater use of telecommuting ▪ Other “first mile/last mile” strategies to allow travelers to easily connect to and from transit service at their origin and destination. These strategies include the development of mobility hubs around major transit stations, the integration of bicycling and transit through folding-bikes-on-buses programs, triple bike racks on buses, and dedicated racks on light and heavy rail vehicles	$4.5 billion

Component	Description	Cost
Transportation Systems Management (TSM) (includes Intelligent Transportation Systems (ITS))		$7.6 billion
Various TSM Strategies	Enhanced incident management, advanced ramp metering, traffic signal synchronization, advanced traveler information, improved data collection, universal transit fare cards (Smart Cards), and Transit Automatic Vehicle Location (AVL) to increase traffic flow and reduce congestion	$7.6 billion
Highways		$64.2 billion
Mixed Flow	Interchange improvements to and closures of critical gaps in the highway network to provide access to all parts of the region	$16.0 billion
High-Occupancy Vehicle (HOV)/ High-Occupancy Toll (HOT)	Closure of gaps in the high-occupancy vehicle (HOV) lane network and the addition of freeway-to-freeway direct HOV connectors to complete Southern California's HOV network A connected network of Express/HOT lanes	$20.9 billion
Toll Facilities	Closure of critical gaps in the highway network to provide access to all parts of the region	$27.3 billion
Arterials		$22.1 billion
Various Arterial Improvements	Spot widenings, signal prioritization, driveway consolidations and relocations, grade separations at high-volume intersections, new bicycle lanes, and other design features such as lighting, landscaping, and modified roadway, parking, and sidewalk widths	$22.1 billion
Goods Movement (includes Grade Separations)		$48.4 billion
Various Goods Movement Strategies	Port access improvements, freight rail enhancements, grade separations, truck mobility improvements, intermodal facilities, and emission-reduction strategies	$48.4 billion
Aviation and Airport Ground Access		Included in modal investments
Various Airport Ground Access Improvements	Rail extensions and improvements to provide easier access to airports, and new express bus service from remote terminals to airports	Included in modal investments
Operations and Maintenance		$216.9 billion
Transit		$139.3 billion
Highways	Operations and maintenance to preserve our multimodal system in a good state of repair	$56.7 billion
Arterials		$20.9 billion

Financial Plan

The 2012–2035 RTP/SCS financial plan identifies how much money is available to support the region's transportation investments. The plan includes a core revenue forecast of existing local, state, and federal sources along with funding sources that are reasonably available over the time horizon of the RTP/SCS. These new sources include adjustments to state and federal gas tax rates based on historical trends and recommendations from two national commissions (National Surface Transportation Policy and Revenue Study Commission and National Surface Transportation Infrastructure Financing Commission) created by Congress, further leveraging of existing local sales tax measures, value capture strategies, potential national freight program/freight fees, as well as passenger and commercial vehicle tolls for specific facilities. Reasonably available revenues also include innovative financing strategies, such as private equity participation. In accordance with federal guidelines, the plan includes strategies for ensuring the availability of these sources.

TABLE 2 presents ten categories of new revenue sources and innovative financing techniques that are considered to be reasonably available and are included in the financially constrained plan. For each funding source, SCAG has examined the policy and legal context of implementation, prepared an estimate of the revenue potential, and identified action steps to ensure the funds are available to implement the region's transportation vision.

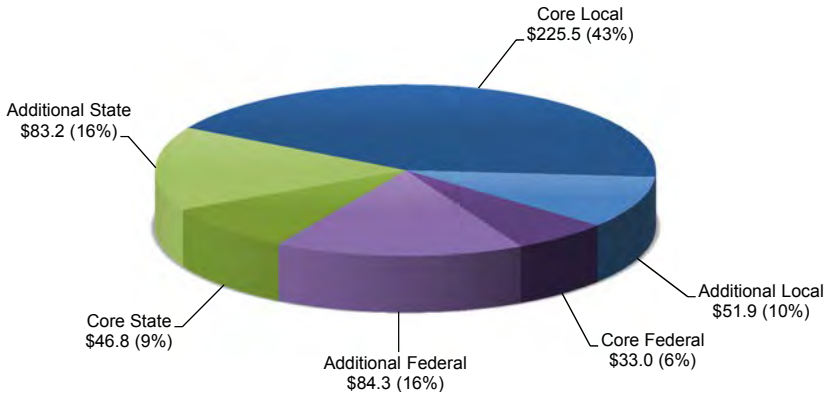
Revenue Sources and Expenditures

FIGURES 1 and **2** provide a summary of the plan's forecasted revenues and expenditures. As shown in these figures, the region's budget over the next 25 years totals an estimated $524.7 billion.

TABLE 2 New Revenue Sources and Innovative Financing Strategies (Nominal Dollars, Billions)

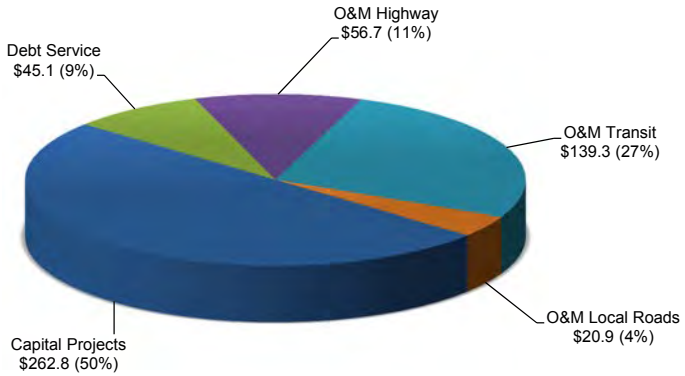
Revenue Source	Description	Amount
Bond Proceeds from Local Sales Tax Measures	Issuance of debt against existing sales tax revenues: Los Angeles, Orange, Riverside, and San Bernardino Counties.	$25.6 bil
State and Federal Gas Excise Tax Adjustment to Maintain Historical Purchasing Power	Additional $0.15 per gallon gasoline tax imposed at the state and federal levels starting in 2017 to 2024—to maintain purchasing power.	$16.9 bil
Mileage-Based User Fee (or equivalent fuel tax adjustment)	Mileage-based user fees would be implemented to replace gas taxes—estimated at about $0.05 (in 2011 dollars) per mile starting in 2025 and indexed to maintain purchasing power.	$110.3 bil (est. increment only)
Highway Tolls (includes toll revenue bond proceeds)	Toll revenues generated from SR-710 North Extension, I-710 South Freight Corridor, East-West Freight Corridor, segment of the High Desert Corridor, and Regional Express/HOT Lane Network.	$22.3 bil
Private Equity Participation	Private equity share as may be applicable for key initiatives: e.g., toll facilities; also, freight rail package assumes railroads' share of costs for main line capacity and intermodal facilities.	$2.7 bil
Freight Fee/National Freight Program	A national freight program is anticipated with the next federal reauthorization of the surface transportation act. The U.S. Senate's proposal would establish federal formula funding for the national freight network.	$4.2 bil
E-Commerce Tax	Although these are existing revenue sources, they generally have not been collected. Potentially, the revenue could be used for transportation purposes, given the relationship between e-commerce and the delivery of goods to California purchasers.	$3.1 bil
Interest Earnings	Interest earnings from toll bond proceeds.	$0.2 bil
State Bond Proceeds, Federal Grants & Other for California High-Speed Rail Program	State general obligation bonds authorized under the Bond Act approved by California voters as Proposition 1A in 2008; federal grants authorized under American Recovery and Reinvestment Act and High-Speed Intercity Passenger Rail Program; potential use of qualified tax credit bonds; and private sources.	$33.0 bil
Value Capture Strategies	Assumes formation of special districts including use of tax increment financing for specific initiatives.	$1.2 bil

FIGURE 1 Revenue Summary
$524.7 Billion (Nominal Dollars) FY2011–FY2035



Source: SCAG Revenue Model 2011
Note: Numbers may not sum to total due to rounding

FIGURE 2 Expenditure Summary
$524.7 Billion (Nominal Dollars) FY2011–FY2035



Source: SCAG Revenue Model 2011
Note: Numbers may not sum to total due to rounding

Sustainable Communities Strategy

Within the RTP, the SCS demonstrates the region's ability to attain and exceed the GHG emission-reduction targets set forth by the ARB. The SCS outlines our plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. The regional vision of the SCS maximizes current voluntary local efforts that support the goals of SB 375, as evidenced by several Compass Blueprint Demonstration Projects and various county transportation improvements. The SCS focuses the majority of new housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development. This overall land use development pattern supports and complements the proposed transportation network that emphasizes system preservation, active transportation, and transportation demand management measures. Finally, the RTP/SCS fully integrates the two subregional SCSs prepared by the Gateway Cities and Orange County Council of Governments.



Photo by Alan Thompson

Measuring Up

The investments in this RTP/SCS are expected to result in significant benefits to the region with respect to transportation and mobility, as well as air quality, economic activity and job creation, sustainability, and environmental justice. They will result in better placemaking, lower overall costs, improvements in public health and the environment, responsiveness to a changing housing market, and improved accessibility and mobility.

Air Quality and GHG Targets

We will reduce greenhouse gas emissions by [**9%**] by 2020, and by [**16%**] by 2035

This RTP/SCS successfully achieves and exceeds our greenhouse gas emission-reduction targets set by ARB by achieving a 9 percent reduction by 2020 and 16 percent reduction by 2035 compared to the 2005 level on a per capita basis. This RTP/SCS also meets criteria pollutant emission budgets set by the EPA. With each passing year, Southern Californians should expect to breathe cleaner air and live healthier lives.

This air quality benefit is made possible largely by more sustainable planning, integrating transportation and land use decisions to allow Southern Californians to live closer to where they work and play, and to high-quality transit service. As a result, more residents will be able to use transit and active transportation as a safe and attractive means of travel.

Location Efficiency

Over [**twice**] as many households will live near high-quality transit

Share of households living in the High-Quality Transit Area will more than double over the plan period, signaling a more efficient overall development pattern in the future.

Mobility

Delay on our roadway system will improve over today's condition

Our roadways will be less congested, allowing our region's residents to spend less time in traffic onboard a bus or behind the wheel, and more time with their families.

Safety

Not only will residents be more mobile, they will also be safer. This RTP/SCS's emphasis on safety will result in significantly lower accident rates, giving our residents the peace of mind to travel freely throughout the day and come home to their loved ones every night.

Economy

We will generate [**500,000**] jobs per year

Not only will the region be more mobile, it will also be more prosperous. An annual average of 174,500 new jobs will be generated by the construction and operations expenditures in the RTP/SCS, and an additional 354,000 annual jobs will be created in a broad cross-section of industries by the region's increased competitiveness and improved economic performance as a result of the improved transportation system.

Investment Effectiveness

We will get [**$2.90**] back for every $1 spent

The RTP/SCS makes dollar sense. While overall expenditures by 2035 are a significant investment, the region will recover $2.90 for every $1 this RTP/SCS commits, which will only help propel the region to more prosperous days ahead.

Public Participation

The development of the Draft 2012–2035 RTP/SCS involved implementation of one of the most comprehensive and coordinated public participation plans ever undertaken by SCAG. The public and stakeholder involvement program went above and beyond meeting the requirements of SB 375 and the SAFETEA-LU. SCAG engaged the widest range of stakeholder groups, elected officials, special interest groups, and the general public through a series of workshops and public meetings, as well as SCAG's policy committees, task forces, and subcommittee structure. The input received through this process has truly shaped the Draft 2012–2035 RTP/SCS in a meaningful way. Furthermore, SCAG continued to involve and engage the stakeholders and the public in the process of refining and finalizing the 2012–2035 RTP/SCS through the close of the formal comment period in February 2012. SCAG developed a state-of-the-art video and the iRTP, an interactive RTP/SCS website, that enhanced our capability to engage and involve the stakeholders and the public in shaping the 2012–2035 RTP/SCS in an unprecedented way.



Strategic Plan—Looking Ahead—Beyond the Horizon

The 2012–2035 RTP/SCS proposes investing over $524 billion over the next 25 years to improve the quality of life of the region's residents by enhancing our transportation system. However, additional strategies and projects are needed. The Strategic Plan identifies additional long-term initiatives such as zero- and/or near zero emission transportation strategies, new operational improvements, expanded transit investments and high-speed rail system, as well as increased commitment to active transportation. Although elements of these strategies are included in the financially constrained plan, further work is needed to ensure there is regional consensus and commitment to fund the balance in subsequent RTPs.

REGIONAL TRANSPORTATION PLAN
2012–2035 RTP
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future

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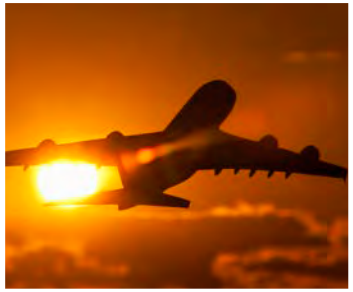
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GOODS MOVEMENT APPENDIX









REGIONAL TRANSPORTATION PLAN
2012–2035
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future
RTP











Southern California Association of Governments

ADOPTED APRIL 2012

GOODS MOVEMENT

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System Vision

Goods movement and freight transportation are essential to support the SCAG regional economy and quality of life. The goods movement system in the SCAG region is a multimodal, coordinated network that includes deep-water marine ports, international border crossings, Class I rail lines, interstate highways, state routes and local roads, air cargo facilities, intermodal facilities, and regional distribution and warehousing clusters. In 2010, over 1.15 billion tons of cargo valued at almost $2 trillion[1] moved across the region's transportation system. Whether carrying imported goods from the San Pedro Bay Ports to regional distribution centers, supplying materials for local manufacturers, or delivering consumer goods to SCAG residents, the movement of freight provides the goods needed to sustain regional industries and consumers on a daily basis.

Working with its public and private partners, SCAG has established a vision for a comprehensive regional goods movement system that is reflected in the 2012–2035 RTP/SCS.

RTP/SCS Goods Movement Vision Statement

A world-class, coordinated Southern California goods movement system that accommodates growth in the throughput of freight to the region and nation in ways that support the region's economic vitality, attainment of clean air standards, and the quality of life for our communities

This vision promotes the improvement of the goods movement system by:

- Maintaining the long-term economic competitiveness of the region
- Promoting local and regional job creation and retention
- Increasing freight and passenger mobility
- Improving the safety of goods movement activities
- Mitigating environmental impacts of goods movement operations

In support of this vision, the 2012–2035 RTP/SCS describes a goods movement system with regional initiatives and projects totaling nearly $50 billion through 2035. Key regional initiatives include a comprehensive system of zero- and/or near-zero-emission freight corridors, alleviation of major bottlenecks, a rail package totaling approximately $12 billion, and an environmental strategy to address emissions through both near term initiatives and a long term action plan for technology advancement. The comprehensive system of zero- and/or near-zero-emission freight corridors includes I-710, which is currently undergoing environmental review, and an east west corridor extending to an initial segment of I-15. The rail package includes main line capacity enhancements, on-dock and near-dock rail facility improvements, and 71 grade separations. In addition, critical projects to facilitate access to the San Pedro Bay Ports (e.g., improvements to the Gerald Desmond Bridge) and the Port of Hueneme, and to alleviate congestion at critical border crossings, are underway.

This plan was developed as part of the SCAG multi-year Comprehensive Regional Goods Movement Plan and Implementation Strategy. Through this effort, SCAG has worked with diverse regional stakeholders to develop a multimodal regional freight plan. A final version of the Comprehensive Regional Goods Movement Plan and Implementation Strategy, documenting the full breadth of study findings, will be released in coordination with adoption of the 2012–2035 RTP/SCS.

This appendix includes an overview of regional goods movement activities and specific initiatives to facilitate a world-class goods movement system. The first section provides an introduction to the regional goods movement system, describing key components and how they work together to support the regional economy. The following section describes critical markets served by the regional goods movement system and how these markets depend on transportation infrastructure. The final section identifies regional strategies and initiatives, including an action plan to support the development and commercialization of technologies necessary for a zero- and near-zero emissions goods movement system.

[1] FHWA Freight Analysis Framework: http://faf.ornl.gov/fafweb/Extraction0.aspx.

The Regional Goods Movement System

The goods movement system in the SCAG region is a complex series of interconnected infrastructure components designed to serve commercial activities spurred by regional and national demand. This goods movement system provides the backbone for the movement of goods between businesses and consumers. Numerous demand factors (e.g., types of products, destinations, urgency, costs, etc.) create unique markets that must be accommodated by varying types of goods movement activities. Markets in the SCAG region range from those that move goods directly from manufacturing centers to local consumers, to those traveling from the San Pedro Bay Ports, to distant destinations across the U.S. These markets depend heavily upon an extensive regional transportation network that provides the mobility necessary to ensure economic growth. These mobility needs, coupled with the accompanying air quality, environmental, and community challenges posed by regional goods movement activities, serve as the driving force for developing a comprehensive plan to enhance the regional freight system.

Components of the Regional Goods Movement System

Both international and domestic trade thrive in Southern California in large part due to the extensive existing transportation and goods movement infrastructure in the SCAG region (**EXHIBIT 1**). This system is comprised of the following major elements:

- **Seaports:** The ports in the SCAG region (Los Angeles, Long Beach, and Hueneme) handled just under 120 million metric tons of cargo imports and exports, valued at $336 billion in 2010.[2] The Ports of Los Angeles and Long Beach represent the largest container port complex in the U.S., and the sixth largest in the world. In 2010 the San Pedro Bay Ports handled 14.1 million twenty-foot equivalent units (TEUs) of containerized cargo. The Port of Hueneme, in Ventura County, specializes in the import and export of automobiles, fresh fruit, and produce, and serves as the primary support facility for the offshore oil industry.
- **Land Ports:** The international border crossings in Imperial County (Calexico West-Mexicali I, Calexico East-Mexicali II and Andrade-Los Algodones) are busy commercial land ports responsible for over $10.4 billion in trade in 2010 despite the recent economic downturn.[3] Driven by the maquiladora trade and movement of agricultural products, the volume of goods passing through these international ports of entry is expected to increase over the time horizon of the RTP.
- **Air Cargo Facilities:** The SCAG region is home to numerous air cargo facilities, including Los Angeles International Airport (LAX) and Ontario International Airport (ONT), which combined handled over 96 percent of the region's air cargo in 2010.
- **Interstate, Highways, and Local Roads:** The region has about 53,400 road miles, 1,630 miles of which are interstate and freeway type.[4] Sections of I-710, I-605, SR-60, and SR-91 carry the highest volumes of truck traffic in the region, averaging over 25,000 trucks per day in 2008.[5] Other major components of the regional highway network also serve significant numbers of trucks, including I-5, I-10, I-15, and I-210, with some sections carrying over 20,000 trucks per day.[6] These roads carry a mix of local, domestic trade, and international cargoes. The arterial roadway system also plays a critical role, providing "last mile" connections to the ports, manufacturing facilities, intermodal terminals, warehouses, and distribution centers.
- **Railroads:** Two Class I railroads, the Burlington Northern Santa Fe Railway (BNSF) and Union Pacific (UP), carry international and domestic cargo to and from distant parts of the country. The BNSF operates on the Transcontinental Line (Cajon and San Bernardino Subdivisions) as well as the Orange and Olive Subdivisions. The UP operates on the Coast, Santa Clarita, Alhambra, Los Angeles, Mojave, and Yuma Subdivisions. Both railroads operate on the Alameda Corridor that connects directly to the San Pedro Bay Ports. The railroads are served by six major intermodal terminals in the region as well as multiple on-dock railyards at the Ports of Los Angeles and Long Beach. The SCAG region also has Class III railroads (Pacific Harbor Line, Los Angeles Junction Railway, and the Ventura County Railway).

2 U.S. Census Bureau, Exhibit 1: U.S. Exports – Domestic and Foreign Merchandise by Customs District and Method of Transportation and Exhibit 6a – U.S. General Imports by Customs District and Method of Transportation, Vessel data only, for calendar year 2010.

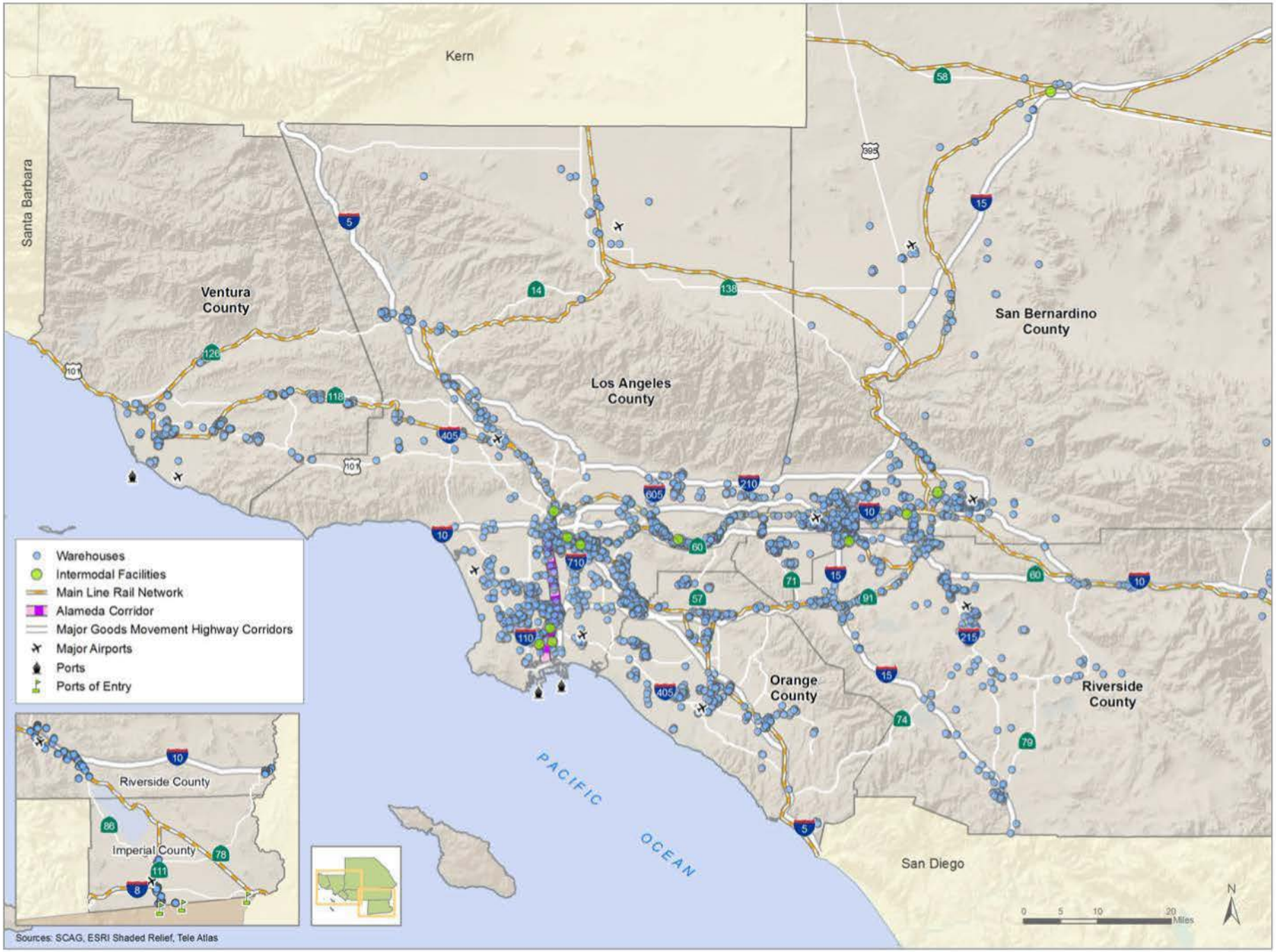
3 Source: U.S. Department of Transportation, Bureau of Transportation Statistics, Transborder Surface Freight Data.

4 http://www.dot.ca.gov/hq/tsip/hpms/hpmslibrary/hpmspdf/2009PRD.pdf (last accessed on December 10, 2010).

5 2008 Annual Average Daily Truck Traffic on the California State Highway System, Traffic and Vehicle Data Systems, California Department of Transportation, September 2009.

6 2008 Annual Average Daily Truck Traffic on the California State Highway System, Traffic and Vehicle Data Systems, California Department of Transportation, September 2009.

EXHIBIT 1 Existing SCAG Regional Goods Movement System



- **Warehousing and Distribution Centers:** As of 2008, the region had about 837 million square feet of warehousing space. Another 185 million square feet[7] could be developed on vacant land that is zoned for warehousing. In 2008, an estimated 15 percent of the occupied warehouse space[8] served port-related uses while the remaining 85 percent supported a mix of domestic and international cargo.[9] Many of these warehouses are clustered along key goods movement corridors. Port-related warehousing tends to be concentrated near the Ports, while distribution facilities for domestic cargo tend to be located in areas farther away from the Ports including the Inland Empire.

The Supply Chain System and Southern California

As previously mentioned, regional transportation infrastructure supports the movement of goods to discrete markets dependent upon diverse business and consumer needs. The goods movement system in Southern California provides critical network connections between freight origins and destinations. Transportation infrastructure in the SCAG region facilitates multiple types of supply chains (also called logistics or supply networks). These supply chains are coordinated systems of organizations, people, activities, information, and resources involved in moving products from suppliers to customers.

All industries depend on reliable and efficient transportation services to meet their business objectives. Understanding the impacts and linkages between improvements in the transportation system and typical supply chains for key goods movement-dependent businesses in Southern California is critical for making decisions to support the regional economy. Supply chains are dependent on many variables, including the weight, size, and perishability of raw materials or finished product, as well as the availability and cost of different transportation modes. However, it is possible to summarize some general supply chain characteristics for key goods movement industries in the SCAG region:[10]

1. **Extraction Industries:** This sector includes industries that ship forest products, grain, and coal. In general, raw materials and products associated with these industries are heavy and not as time-sensitive as other products. Therefore, they generally prefer supply chains structures with low unit transportation costs and high asset utilization.
2. **Manufacturing Industries:** These industries – and their inputs / outputs – vary widely. In the SCAG region, top manufacturing subsectors include computer and electronic product manufacturing, fabricated metal products, apparel, food, and transportation equipment manufacturing. Each of these industry subsectors has different supply chain needs, depending on the weight, size, and time-sensitive nature of their raw inputs or products. However, in general, manufacturing industries are characterized by companies that run continuous processing facilities. They typically have few sites and highly specialized equipment, such as chemical and plastic companies. These industries generally prefer supply chain structures with low unit transportation costs and a high degree of service reliability.
3. **Make-to-Stock Industries:** These industries typically have multiple sites and a complex set of inbound and outbound product flows, and use roughly equal parts of labor and machinery. Industry examples include lumber and paper shippers, auto assembly plants, and heavy machinery manufacturers. These industries generally prefer supply chain structures with consistent and reliable service.
4. **Make-to-Order Industries:** Supply chains for this technologically advanced industry group are typified by few sites with limited flows of inbound and outbound materials. Examples include airplane manufacturers or the defense industry. These industries generally prefer supply chain structures with reliable service and fast delivery.
5. **Distribution Industries:** Industries in this group have many locations, numerous transactions, and product flows in various quantities. Many shipments are small and rely on the use of a number of vehicles. Examples might include small-package carriers and specialty electronics and aftermarket parts distributors. These industries generally prefer supply chain structures with predictability and reliable service.
6. **Retail Industries:** This includes all retail sales products. These supply chains tend to be the longest and most far reaching, usually requiring transportation flexibility, agility, and the ability to respond to forecast changes quickly. Examples include computer makers, discount retailers, and grocery stores. These industries generally

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7 Potentially developable warehouse space estimates are based upon suitable land that is zoned for warehouse development.

8 SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy.

9 Some domestic warehouse space may include international goods as well.

10 There are many approaches to categorizing supply chain types. This particular approach is based on an approach developed by Boston Logistics Group, Inc. and is referenced in "Guide to Quantifying the Economic Impacts of Federal Investments in Large-Scale Freight Transportation Projects," prepared by Cambridge Systematics, Economic Development Research Group, and Boston Logistics Group for the Office of the Secretary, U.S. Department of Transportation, August 2006.

prefer supply chain structures with the ability to handle high velocities and provide flexible service.

These goods movement industries contribute substantial public benefits to the region. As shown in **TABLE 1**, manufacturing and retail trade, alone, are responsible for approximately $142 billion in overall regional GDP (over 18 percent) and almost 1.7 million jobs (nearly 20 percent of all regional jobs).[11] In fact, despite the recent economic downturn, SCAG's manufacturing sector remains one of the largest in the nation. In 2009, Los Angeles County was ranked as the top manufacturing center in the country in terms of manufacturing shipment volume, with Orange County and Riverside-San Bernardino also ranked in the top 15 manufacturing centers nationally.[12] Understanding the supply chain characteristics of key industries helps to target transportation system investments into projects that support key job and GDP-producing industries. This is particularly critical as goods movement-dependent industries are projected to grow. Between 2009-2035, manufacturing is projected to grow at 3.4 percent annually, retail trade at 2.9 percent annually, and transportation and warehousing at 2.7 percent. The transportation system demands of these industries will also grow steadily throughout this time period.

TABLE 1 Regional GDP and Employment Contribution of Key Goods Movement-Dependent Industries (2010)

Key Industries	Regional Contribution	
	Jobs (in Thousands)	GDP (Billions)
Manufacturing	744	$88
Retail Trade	950	$54
Wholesale Trade	429	$51
Construction	431	$21
Transportation and Warehousing	330	$20
Other Goods Producing	70	$12

Source: SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy

11 SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy.

12 Source: Bureau of Labor Statistics, QCEW Data as found in *Manufacturing: Still a Force in Southern California* completed by the Los Angeles County Economic Development Corporation, Kyser Center for Economic Research, 2011.

MANUFACTURING AND RETAIL TRADE SUPPLY CHAINS

Trade splits for manufacturing output in the SCAG region suggest that the region develops products that are in demand by local, national, and international markets. In 2010, 35 percent of sales from SCAG's manufacturing industries was destined for international markets, compared to 38 percent of sales with other regions in the U.S. and 27 percent of sales within the SCAG region itself.[13] The geographic distribution of sales for manufacturing industries means that they will benefit from investments into the local and regional transportation systems, including their connections to national and international markets.

As a whole, higher-value manufacturing industries (such as computer and electronics manufacturing–the top subsector in the SCAG region) have increasingly adopted "just-in-time" inventory strategies that are focused on delivering goods as needed, with very little inventory requirements. Though this strategy lowers the costs of carrying inventory, it requires a high level of flexibility from suppliers and responsiveness in the supply chain. Goods that are part of "just-in-time" supply chains are extremely time-sensitive, as missing parts may cause disruptions in the manufacturing process. These products are increasingly dependent on an efficient, reliable, and safe freight movement and transportation infrastructure. Expenditures on transportation industries by the manufacturing sector in the SCAG region totaled over $17.5 million in 2010 (**TABLE 2**).

13 SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy.

TABLE 2 Expenditures on Transportation by Manufacturing Industries (2010)

Transportation Mode	Spending on Different Transportation Modes (Insourced and Outsourced)	
	Millions of Dollars	Percent of Total
Truck	$3,711	21%
Rail	$3,261	19%
Air	$5,116	29%
Water	$2,471	14%
Courier	$2,101	12%
Warehousing and Storage	$876	5%
Total	**$17,536**	**100%**

Source: SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy

Retail industries also include a wide variety of subsectors (including clothing and household goods). In general, retail industries are heavily dependent on international trade to receive materials and products, usually through containerized cargo imported through the San Pedro Bay Ports. The output sales of retail industries in the SCAG region are dominated by local markets. In 2010, roughly 86 percent of sales was to local markets, compared to 14 percent of sales to other domestic U.S. locations and less than 1 percent to international locations. Retail industries in the SCAG region therefore depend heavily on the region's transportation system to move goods to market, and will benefit from investments into local connector facilities, access roads, and other facilities providing interregional mobility. Expenditures on transportation by the retail sector in the SCAG region totaled nearly $11 billion in 2010 (**TABLE 3**).

TABLE 3 Expenditures on Transportation by Retail Industries (2010)

Transportation Mode	Spending on Different Transportation Modes (Insourced and Outsourced)	
	Millions of Dollars	Percent of Total
Truck	$7,136	65%
Rail	$542	5%
Air	$1,619	15%
Water	$709	6%
Courier	$506	5%
Warehousing and Storage	$416	4%
Total	**$10,929**	**100%**

Source: SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy

Though individual shippers utilize different types of supply chains, lowering transportation costs and improving reliability across logistics networks are a critical and constant focus. While significant investments in processes, technologies, and assets have made supply chains increasingly productive and cost-efficient, shippers regularly evaluate transportation costs to drive business decisions. Given the impact of transportation infrastructure on efficiencies, and thereby operating costs of supply chains, a world-class goods movement system is crucial to attract and retain businesses in Southern California. Through ongoing dialogue with regional transportation interests, the 2012–2035 RTP/SCS offers a portfolio of initiatives and projects to ensure that the SCAG region continues to benefit from goods movement activities.

Key Functions and Markets

The goods movement system has developed in the SCAG region to serve a wide range of user markets. Each of these markets has unique performance needs that dictate the components of the system that they will use. A brief summary of international, domestic, and local trade, follows.

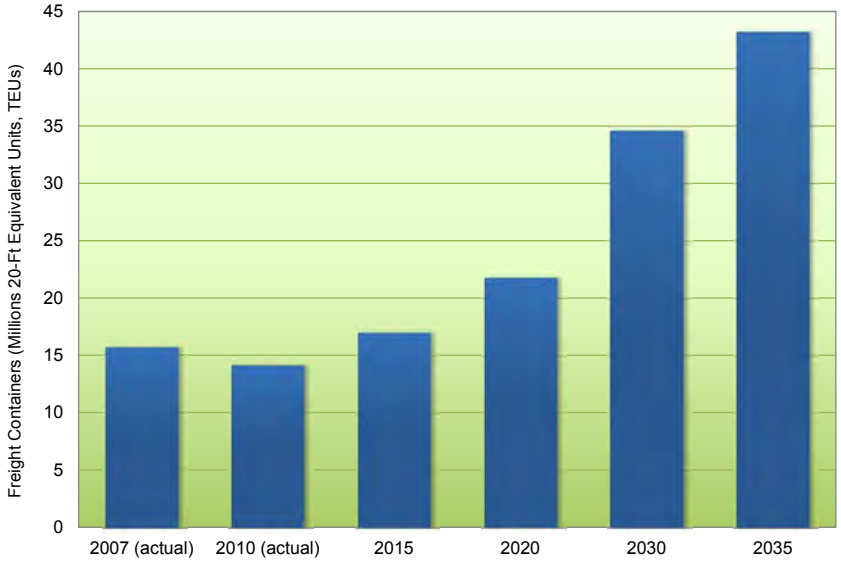
INTERNATIONAL TRADE

The SCAG region is the largest international trade gateway in the U.S. International trade moving through the San Pedro Bay Ports, international border crossings with Mexico, and regional airports is supported by an extensive transportation system that includes a highly developed network of roadways and railroads, air cargo facilities, intermodal facilities, and an abundance of regional distribution and warehousing clusters. While the SCAG region has made great strides in building infrastructure and planning for the future, significant investment is needed to support the expected growth in the nation's largest and most important integrated freight system.

San Pedro Bay Ports

Containerized trade between the U.S. and Asia comprises the majority of international cargo entering the SCAG region, with over 31 percent of all containers in the U.S. moving through the San Pedro Bay Ports.[14] While there has been a modest shift recently in container volumes to other U.S., Canadian, and Mexican ports, total container volume for the San Pedro Bay Ports is still expected to grow to 43 million by 2035, more than three times current volumes (**FIGURE 1**). This projected increase in freight moving through the region will place greater strain on an already congested transportation system, directly affecting residents and businesses alike.

FIGURE 1 San Pedro Bay Ports Containerized Cargo Forecasts



Imports, which constitute most of the containers that move through the San Pedro Bay Ports, may be categorized as local or discretionary. Local containerized traffic is that which is ultimately consumed in a geographical area local to the San Pedro Bay Ports (Southern California, Southern Nevada, Arizona and New Mexico, and southern portions of Utah and Colorado). Discretionary containerized traffic is that which terminates outside this region. Recent analysis indicates that local traffic accounts for approximately 23 percent of San Pedro Bay Ports' total traffic. The other 77 percent is assumed to be discretionary traffic, routed through the San Pedro Bay Ports for economic reasons.[15]

Imports can be further categorized as Local, Direct Shipping or Transloaded. When containers arrive at the San Pedro Bay Ports, the way they move are determined by the economics of inventory and transportation costs (see **TABLE 4**).

[14] Source: American Association of Port Authorities (AAPA), North American Container Traffic (1990-2010), http://aapa.files.cms-plus.com/PDFs/CONTAINER%20TRAFFIC%20NORTH%20AMERICA%201990%20-%202010%20for%20the%20web.pdf.

[15] SCAG Port and Modal Elasticity Study, Phase II.

TABLE 4 Modal Strategies for Imported Cargo

Import Cargo Type	Modal Strategy
Local: Imports consumed within the greater region (i.e., imports consumed within Southern California, Southern Nevada, Arizona, New Mexico and southern portions of Utah and Colorado) for which San Pedro Bay serves as the closest container port with the lowest land-side transportation costs.	1. Movement of marine containers to destinations within the greater SCAG region using local trucks.
Direct-shipping: Imports moving to destinations outside the SCAG region that simply pass through Southern California while remaining intact in the original marine container.[1]	1. Direct movement of marine containers to destinations outside the greater SCAG region (e.g., Chicago, Kansas City, etc.) using on-dock rail facilities found at the San Pedro Bay Ports. These containers are then moved to their final destinations by local dray trucks upon arrival via rail. 2. Direct movement of marine containers to destinations outside the greater SCAG region using near-dock or off-dock rail facilities at locations in the SCAG region (usually close to the San Pedro Bay Ports). The container requires movement from the port terminal to the origin rail terminal using a local dray truck. These containers are then moved to their final destinations via rail plus a local dray at the destination end.
Transloaded:[2] Imports that are unloaded from the original marine container in Southern California and moved to local warehouses where the contents are reloaded into larger domestic containers or trailers for reshipment. A portion of transloaded imports are reloaded immediately using a cross-dock facility, but most are warehoused in Southern California for some time before reshipment.	1. Movement of marine containers to an import warehouse/transloading facility within the SCAG region using local dray trucks. This is followed by the final movement of the newly transloaded domestic container to destinations both within and outside the greater SCAG region using trucks. 2. Movement of marine containers to an import warehouse/transloading facility within the SCAG region using local dray trucks. This is followed by the movement of the newly transloaded domestic container to a local rail terminal using local dray trucks where it is transported using an intermodal train.

[1] This type of import movement is also known as inland point intermodal (IPI) movement.

[2] In the 2012 RTP, transloading is broadly defined as activities that involve the deconsolidation of the contents of marine containers, which are usually forty-foot equivalent units (FEUs), and reloading of their contents into 53-foot domestic trailers that can be transported by trucks. Transloading allows for the movement of increased amounts of goods while utilizing less equipment, resulting in significant cost savings through economies of scale and other transportation-related savings. Transloading sometimes provides value-added services as well. Existing infrastructure, equipment, and trade flows in the SCAG region provide a substantial competitive advantage and serve as a major economic incentive for importers to move freight requiring transloading through Southern California.

Drivers of Modal Decisions

The SCAG region consists of broad modal segments. Transportation mode choice is often a complicated process that reflects the type of industry being served.[16] Considerations include:

- **Product Characteristics (including the size, weight, value, and perishability of the commodity):** Commodities that are perishable, high value, or small tend to be carried by air cargo or truck modes, but will likely not make sense as a rail commodity. Similarly, heavy, low-value, or bulky materials will likely be carried by rail or truck, but are highly unlikely to be an air cargo commodity. Construction materials—including sand, gravel, and wood—are generally best moved by trucks because of their flexibility and ability to carry heavy loads. High-tech manufacturing components normally favor truck or air cargo modes to provide safe shipment for high-value, lightweight materials.
- **Trip Characteristics (including the length of the trip being made and product demand):** According to the 2007 Commodity Flow Survey, the average length haul of U.S freight shipments was over 600 miles. However, the average rail shipment was over 850 miles in length, air-truck combination was almost 1,100 miles in length, and truck trips were about 200 miles.

Supply Chain Characteristics: Many companies now operate using a "just-in-time" logistics strategy where on-site inventory is limited and a constant supply of goods serves to replenish raw materials. A product that is part of a "just-in-time" supply chain process will select a transportation mode that is fairly fast, such as truck or air. Inventory-rich industries requiring materials that are not as time-sensitive may use a transportation mode such as rail.

[16] Source: The Center for Urban Transportation Research at the University of South Florida, 2002. Analysis of Freight Movement Mode Choice Factors. Florida Department of Transportation.

International Border Crossings

International border crossings between the U.S. and Mexico are critical components of the freight transportation system in Southern California. Mexico is the third-largest trading partner of the U.S. behind Canada and China, with a $367.5 billion trade volume in 2008, accounting for 11 percent of total U.S. foreign trade. It is also the largest market for exports of goods made in California, accounting for approximately $20.5 billion (14.1 percent) of California's overall goods exports in 2008. Most of the merchandise flows in the California-Baja California region are made by truck, often to support the export-oriented manufacturing and maquiladora industries that lie on the Mexican side of the international border.

Increased trade across the border has been bolstered by the existence of multiple free trade zones (FTZs). As a result of the associated tax savings and lower wages in Mexico, FTZs have been used by U.S. companies to export raw materials into Mexican manufacturing firms (maquiladoras), where goods are processed or assembled, and then exported back in their finished state to the U.S.[17] The ability to transfer goods from one FTZ to another within Mexican territory without losing any of the fiscal incentives (tax savings) is slowly creating a logistic and manufacturing network of FTZs that is expected to boost Mexican foreign trade with the U.S. (Intermodal México, 2010).

The future economic performance of Mexico faces strong competition as low-wage manufacturing jobs from Asia have eroded the maquiladoras' once-traditional competitive advantage. However, studies show that some maquiladoras have evolved from primarily labor-intensive factories to organizations with greater complexity, technology utilization, and research and skill specialization. As such, the future of the maquiladora industry in the Baja California region is likely to have a positive future.[18]

Accommodating expected growth in cross-border trade will require close coordination and partnership among federal, state, regional, and local agencies on both sides of the

[17] Originally these FTZs were located primarily along the border, but recent changes to the Mexican Customs Law now allow them to operate anywhere in the Mexican territory, and several FTZs have opened in mainland Mexico, creating logistic hubs such as San Luis Potosí and Guanajuato.

[18] Carrillo, Jorge and Arturo Lara (2005). "Mexican Maquiladoras: New Capabilities of Coordination and the Emergence of a New Generation of Companies." *Innovation: Management, Policy & Practice*, vol. 7/2 - April 2005.

border. This coordination must consider investment in transportation infrastructure to maintain the regional economic benefits provided by these international border crossings.

International Air Cargo

Los Angeles International Airport (LAX) handled over 1.8 million tons of cargo in 2010, making it the fifth-busiest cargo airport in the United States and the 13th busiest in the world.[19] Most often used for time-sensitive and higher-value goods, international air cargo plays a significant role in the regional economy, with $78 billion in trade.[20] Over 82 percent of the international air cargo at LAX is handled by scheduled passenger airlines or their cargo divisions that operate freighter aircraft. According to the recent air cargo forecast completed for SCAG, air cargo activity has been steadily declining over the past decade. However, this decline has been entirely confined to domestic air cargo. International air cargo reached a peak in 2007, declined in 2008 and 2009 with the recession, then recovered in 2010. It seems likely that international air cargo will continue to grow in the future.

DOMESTIC AND LOCAL GOODS MOVEMENT

While the region is a major gateway for international container movements, local and domestic freight is dominant. An overwhelming majority of goods movement activity in the SCAG region is generated by local businesses moving goods to local customers and serving national domestic trade systems. These local goods movement-dependent industries rely on transportation as a key part of their business model and generally utilize a more geographically dispersed transportation network than the international container market. Over 85 percent of truck trips are associated with intra-regional goods movement. Domestic manufacturers, wholesalers, and retailers also use the rail system and the air cargo system, though to a much more limited extent than international shippers.

The regional transportation system provides the infrastructure to allow these businesses to ship and receive the materials necessary to perform daily operations. Examples include shipments of raw supplies to support manufacturing processes and the delivery of refined or finished products to market. Major goods movement-dependent industries include those related to the manufacturing, wholesale trade, construction, transportation and warehousing, and mining sectors.

In 2010, local goods movement-dependent industries employed over 2.9 million people throughout the region (**FIGURE 2**), and contributed $253 billion to the regional GDP (**FIGURE 3**). These industries are anticipated to grow substantially by 2035 (**FIGURE 4**).

[19] Almost all international air cargo moves through LAX. Ontario International Airport (ONT) handles a very small proportion (about 3 percent in 2010) and the other regional airports handle the remainder.

[20] International Trade Trends and Impacts, The Southern California Region, Los Angeles Economic Development Corporation Kyser Center for Economic Research and World Trade Center Association, Los Angeles, Long Beach.

FIGURE 2 2010 Employment Contribution of Goods Movement-Dependent Industries (in Billions)

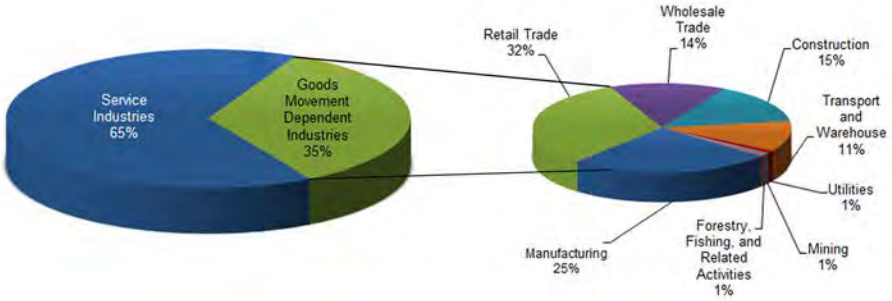
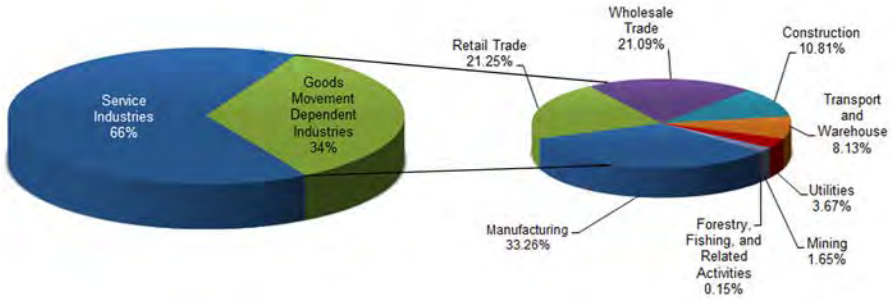


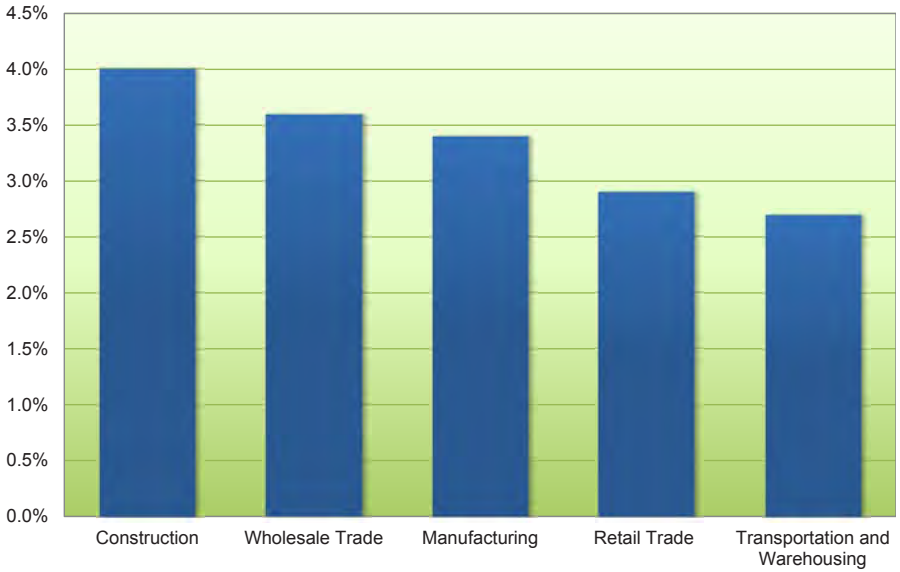
FIGURE 3 2010 Economic Contribution of Goods Movement-Dependent Industries (in Billions)



Regional GDP is a broad indicator of the level and strength of economic activity in a region. In the long term, the region's GDP is projected to grow steadily through 2035 at a rate slightly faster than the U.S. economy as a whole. The region's total GDP was $792 billion in 2009 and is projected to top $1.59 trillion by 2035, growing by over 100 percent at an average rate of 3.9 percent between these years. In comparison, the U.S. economy (U.S. GDP) is expected to grow about 99 percent from 2009 to 2035 (about 3.8 percent annually).[21]

Mirroring national trends, this GDP growth is anticipated to be accompanied by an increasing transition toward a higher value-added manufacturing and service economy. The highest-growth industry sectors from 2009 to 2035 include the manufacturing, wholesale trade, and construction sectors, all of which are highly dependent on the regional goods movement system. All three of these sectors will more than double in size in the next two decades and will contribute a combined $380 billion to regional GDP by 2035 (**FIGURE 4**).

FIGURE 4 2010–2035 Average Real Annual Growth Rates by Major Goods Movement-Dependent Sectors



[21] Bureau of Economic Analysis (www.bea.gov) for 2009 and 2010 data; REMI PI+v1.2.4 forecasts for future year projections. Growth in U.S. GDP was based on REMI data in percentage terms pivoting base year (2009) and future year (2035).

Goods Movement Trends and Drivers

There are a number of key trends that are anticipated to have major impacts on the goods movement system over the RTP horizon. These trends include:

- **Population and Economic Growth:** As previously referenced, regional population and employment in the SCAG region, key indicators of economic health, are both projected to grow rapidly in the next two decades. The 2010 Census revealed that the SCAG region is home to just over 18 million people, or about 48 percent of the entire population of the state of California.[22] Despite the current economic downturn brought on by challenging global conditions, population and employment in the SCAG region are expected to grow by 24 percent and 22 percent by 2035, respectively. This growing population will be accompanied, after an initially slow period of growth, by healthy job creation.[23] However, employment in California has suffered recently, declining by 1.3 percent in 2008 and 6 percent in 2009.[24] Though unemployment rates in the state, as a whole, will remain high in the foreseeable future, employment in the SCAG region is projected to climb steadily.[25] This growth will create increased consumer demand for products and the goods movement services that provide them. The increased demand will drive stronger growth in freight traffic on shared highway and rail facilities.
- **Recovery and Expansion of International Trade:** Within the RTP time horizon, international trade is anticipated to recover with renewed demand for both import and export capabilities. Despite competition with other North American ports and the expansion of the Panama Canal, the San Pedro Bay Ports anticipate cargo volumes to grow to 43 million containers annually by 2035 – more than tripling from today's levels. This will create the need to expand marine terminal facilities, improve highway connections (particularly those connecting directly to the San Pedro Bay Ports, like I-710 and SR-47), and address on-dock and off-dock intermodal terminal capacities. If port-related rail traffic and commuter demand are to be satisfied, additional main line capacity improvements will be required. Mitigating the impacts of increased train traffic on communities will continue to be a considerable challenge.
- **Continued Expansion of Warehouse and Logistics Activity:** Southern California is an ideal place for expanded distribution and logistics activity and will continue to be a significant source of well-paying jobs in the region through 2035.[26] Demand for port-related warehouse space is projected to grow at a faster pace than demand for domestic warehousing. As space near the San Pedro Bay Ports reaches capacity, port warehousing will push out to the Inland Empire and other parts of the region. Expansion in national and regional distribution facilities is also likely to occur in the Inland Empire, resulting in substantial congestion problems due to the increased truck volumes on regional highways. By 2035, the region may experience a shortfall of more than 228 million square feet in warehouse space relative to demand.[27]
- **Air Quality Issues:** Much of the SCAG region does not meet federal ozone and fine particulate matter ($PM_{2.5}$) air quality standards. Goods movement is a major source of emissions that contribute to these regional air pollution problems (NO_X and $PM_{2.5}$). While emissions from goods movement are being decreased through efforts such as the San Pedro Bay Ports Clean Air Action Plan, these reductions are unlikely to be sufficient to meet regional air quality goals.

22 http://factfinder2.census.gov (last accessed on July 3, 2011).
23 SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy.
24 California Regional Progress Report, November 2010. http://www.scag.ca.gov/publications/pdf/2010/CARegionalProgress2010.pdf.
25 SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy.
26 SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy.
27 SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy.

2012–2035 RTP/SCS Goods Movement Strategies

Infrastructure in the SCAG region must serve a variety of markets and be able to support diverse supply chains, each having distinct operational needs to continue to ensure continued economic growth. In addition, various policy strategies must be developed to address many of the impacts of regional goods movement including air quality, environmental, and communities concerns. To realize the benefits of efficient and sustainable goods movement, it is critical to identify strategies and projects that address expected growth trends.

2012–2035 RTP/SCS Background

In May 2004, SCAG, the six county transportation commissions in the SCAG region, San Diego County, and Caltrans began development of a plan to deal with regional goods movement challenges. This plan, also known as the Multi-County Goods Movement Action Plan (MCGMAP), identified freight movement constraints and included strategies that would lessen community and environmental impacts. Using the MCGMAP as a foundation, SCAG completed additional analyses to develop policies reflected in the 2008 RTP. The goods movement portion of the 2008 RTP identified a number of strategies aimed at facilitating regional freight movement in an economically viable and responsible manner.

Following the completion of the 2008 RTP, SCAG began the multi-year Comprehensive Regional Goods Movement Plan and Implementation Strategy to develop a refined regional goods movement plan along with an accompanying implementation strategy. Through this effort, SCAG has worked with diverse regional stakeholders to conduct in-depth evaluation of the region's goods movement system and associated regional freight patterns. A final version of the Comprehensive Regional Goods Movement Plan and Implementation Strategy documenting the full breadth of study findings will be released in coordination with adoption of the 2012–2035 RTP/SCS. The study integrates existing strategies and projects with newly developed regional initiatives advanced through recent analyses. The following sections highlight key regional initiatives evaluated for the 2012–2035 RTP/SCS.

Highway Strategies

EXISTING AND PROJECTED HIGHWAY CONDITIONS

Due to continued growth in freight and market demands, regional truck-related activities are expected to increase over the RTP time horizon. Trucks must be able to efficiently carry freight between businesses and consumers throughout the SCAG region to ensure that Southern California continues to capture the economic benefits of goods movement.

As part of the SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy, considerable enhancements were made to SCAG's existing heavy-duty truck (HDT) model to support the region's goods movement policy decisions. The HDT model is the primary analysis tool to evaluate the impacts of truck traffic and highway goods movement strategies on the regional transportation network. Major sources of truck traffic are grouped into the following categories in SCAG's HDT model:

- **Internal Truck Trips:** These are truck trips that have both an origin and a destination within the SCAG region and are generated by local industries, construction sites, domestic warehouses and truck terminals, and residences.
- **External Truck Trips:** These are interregional truck trips that reflect trade between the SCAG region and the rest of the U.S.
- **Port Truck Trips:** These are truck trips with an origin or destination at the San Pedro Bay Ports.
- **Secondary Port Truck Trips:** These are truck trips with an initial origin or destination at the San Pedro Bay Ports that are moved a second time after the first trip to or from the San Pedro Bay Ports. Transloading trips are in this category.
- **Intermodal (IMX) Truck Trips:** These are domestic intermodal truck trips that have origins or destinations at regional intermodal rail terminals. These truck trips do not include those that have either an origin or destination at the San Pedro Bay Ports.

TABLE 5 shows the number of regional truck trips in 2008 by category and county.

TABLE 5 Daily Regional Truck Trips by Category by County

	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Total	Percent
Internal	10,271	562,841	186,547	94,469	111,621	46,244	**1,011,993**	**87.3%**
External	4,816	38,794	6,815	11,183	18,140	1,271	**81,019**	**7.0%**
Port	25	37,060	2,499	855	2,752	165	**43,356**	**3.7%**
Intermodal (IMX)	17	3,376	306	271	3,143	57	**7,170**	**0.6%**
Secondary	37	11,944	1,102	714	2,224	268	**16,289**	**1.4%**
Total	**15,166**	**654,015**	**197,269**	**107,492**	**137,880**	**48,005**	**1,159,827**	
Percent	**1.3%**	**56.4%**	**17.0%**	**9.3%**	**11.9%**	**4.1%**		

In 2008, the San Pedro Bay Ports were responsible for approximately 50,000 direct daily regional truck trips.[28] As shown in **TABLE 5**, this consitutes only 3.7 percent of regional truck trips. That number is expected to grow to approximately 120,000 daily regional truck trips, an increase of nearly 150 percent, by 2035. Recent data indicates that the vast majority of trips leaving the San Pedro Bay Ports are destined for locations in the southern Gateway Cities, off-dock railyards near downtown Los Angeles, and other locations along the I-710 corridor (**EXHIBIT 2**). Although most truck trips originating at the San Pedro Bay Ports remain in the port vicinity, some still move to destinations throughout the SCAG region, contributing to local challenges on area transportation networks.

However, this pattern is expected to shift in the future with an increase in the number of daily trucks traveling to warehouses in the San Gabriel Valley and the Inland Empire. For example, in 2008, 0.5 percent and 2.3 percent of all truck trips from the San Pedro Bay Ports moved to eastern San Bernardino Valley and western San Bernardino Valley, respectively. By 2035, it is anticipated that 8.8 percent and 7 percent of those truck trips will move to eastern San Bernardino Valley and western San Bernardino Valley, respectively.

Although some areas may show a decline in the percentage of daily truck trips from the San Pedro Bay Ports, all areas will experience higher truck volumes in absolute terms.

All key regional highway corridors used to move goods are expected to see an increase in overall truck volumes by 2035 (**EXHIBIT 3** reflects 2035 baseline conditions). At the corridor level, the highest growth in truck traffic is expected on I-710 as a result of significant growth in port-related traffic. While considerable growth in truck traffic is anticipated on I-10 and I-210, overall growth on SR-60 is forecast to be the highest of all of the east-west corridors. **EXHIBIT 4** illustrates expected speeds on the regional highway network during the PM Peak period in 2035 if no action is taken.

[28] This figure includes inter-terminal truck trips that do not move on the regional highway system, while the figure provided in the table includes only trips on the regional highway system.

EXHIBIT 2 San Pedro Bay Ports Truck Distribution

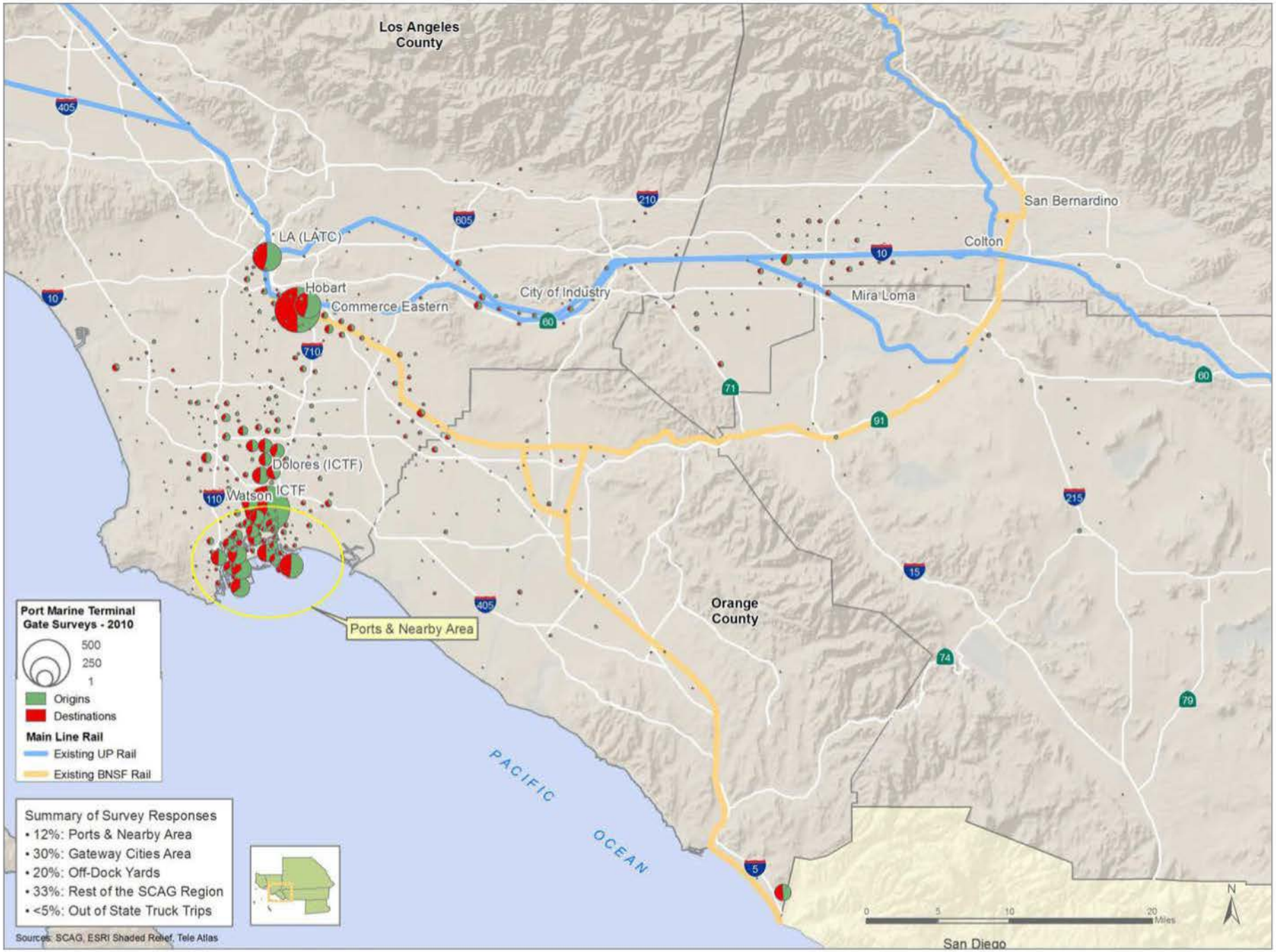


EXHIBIT 3 Rising Truck Volumes on Key Truck Corridors (2008 and 2035 Baseline)



EXHIBIT 4 Baseline 2035 Highway Speeds – PM Peak



REGIONAL HIGHWAY STRATEGIES

As truck volumes continue to increase, especially eastward beyond the traditional service areas surrounding I-710, it is critical that regional infrastructure accommodate and mitigate the impacts of this growth. As part of the 2012–2035 RTP/SCS, SCAG has identified strategies to relieve congestion, reduce delay and harmful emissions, and improve safety on major truck corridors.

Regional Clean Freight Corridor System

In past RTPs, SCAG has envisioned a system of truck-only lanes extending from the San Pedro Bay Ports to downtown Los Angeles along I-710, connecting to an east-west segment, and finally reaching I-15 in San Bernardino County. Such a system would address the growing truck traffic on core highways throughout the region and serve key goods movement industries in a manner that mitigates impacts on communities and the environment. Physically separated from mixed-flow traffic and with fewer ingress/egress points than typical urban freeways, truck-only freight corridors effectively add capacity in congested corridors, improve truck operations, increase safety by separating trucks and autos, and provide a platform for the introduction and adoption of zero- and/or near-zero emission technologies

SCAG recognizes I-710 as the first segment of a comprehensive regional system of truck-only freight corridors. In the 2008 RTP, SCAG recommended the inclusion of dedicated lanes for zero-emission trucks on I-710. Since that time, significant progress has been made on I-710 as evidenced by recent work on an environmental impact report (EIR) that is expected to be completed in 2013. In the 2012–2035 RTP/SCS, SCAG identifies a refined east-west corridor concept and connections to an initial segment of I-15.

EAST-WEST FREIGHT CORRIDOR

The 2012–2035 RTP/SCS identifies a corridor concept that would connect to the north end of the I-710 freight corridor and roughly parallel the Union Pacific Railroad Los Angeles Subdivision before finally following a route adjacent to SR-60 just east of SR-57 (**EXHIBIT 5**). While numerous east-west freight corridor options were examined, the RTP/SCS identifies a corridor concept to be explored further. The potential use of two non-roadway routes provides an opportunity to move the facility away from neighborhoods and closer to the industrial activities that it would serve. Utilizing a right-of-way of approximately 100 feet, the bi-directional corridor would be restricted to truck traffic and have limited ingress/egress points. The East-West Freight Corridor would be a catalyst for the use of zero-and/or near-emission truck technologies, improving air quality for communities near the corridor and throughout the region.

EXHIBIT 5 Potential East-West Freight Corridor

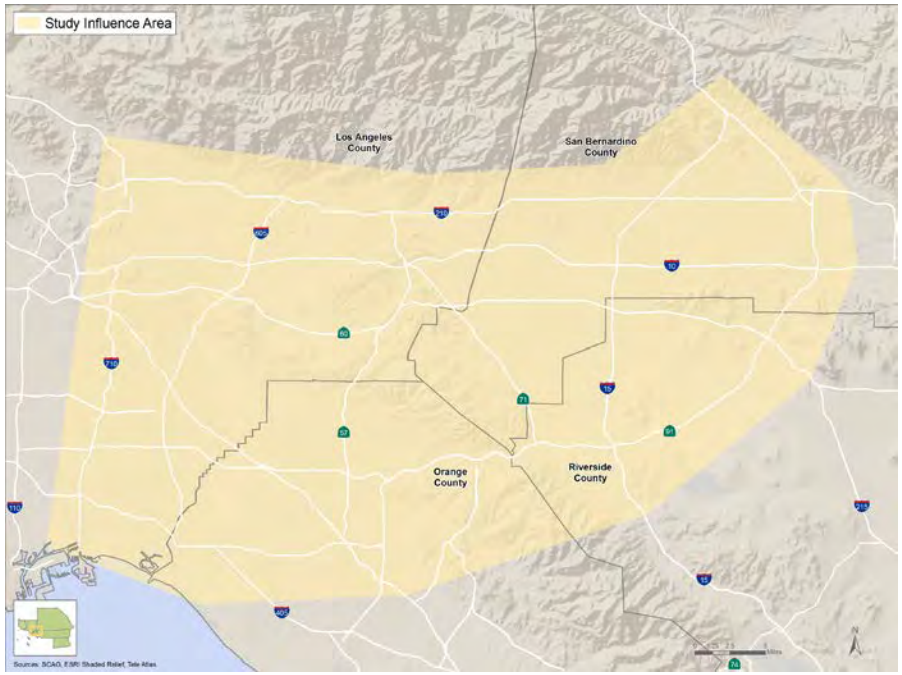


Following adoption of the 2012–2035 RTP/SCS, additional study of this alignment concept, will be conducted. Additional work for the East-West Freight Corridor would be explored through a full environmental impact report. This would provide substantial opportunity for further community input.

IDENTIFICATION OF THE EAST-WEST FREIGHT CORRIDOR

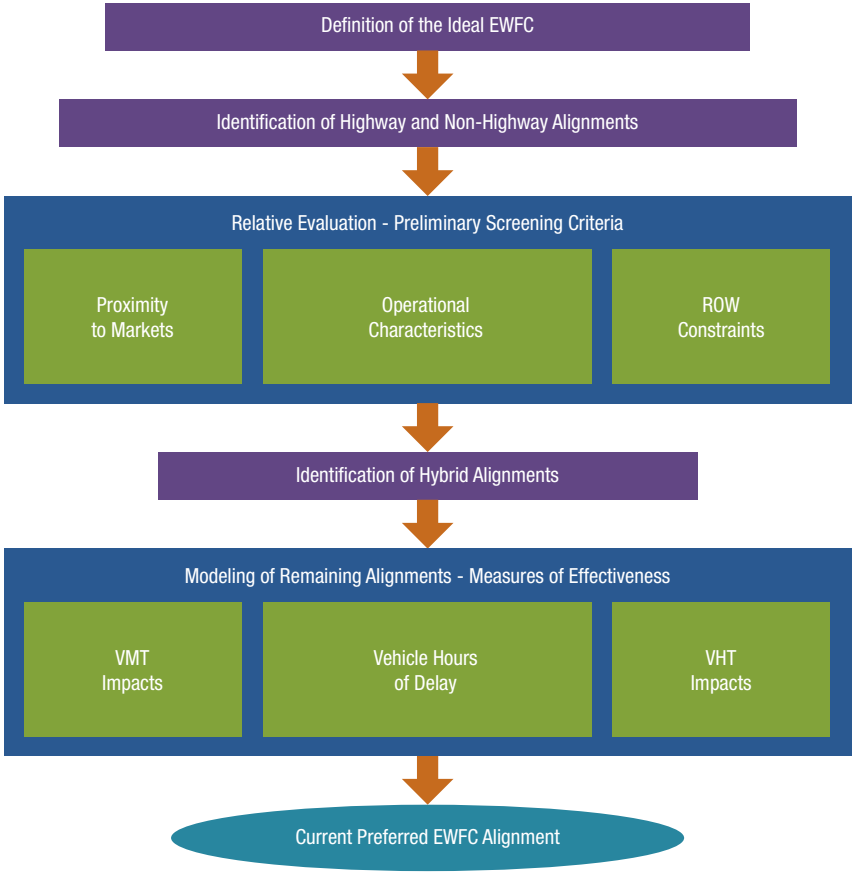
The preferred East-West Freight Corridor concept included in the 2012–2035 RTP/SCS is the culmination of extensive analysis and stakeholder feedback. **EXHIBIT 6** shows the area most likely to be influenced by the development of the East-West Freight Corridor.

EXHIBIT 6 East-West Corridor Analysis Influence Area



Steps to identify the East-West Freight Corridor are summarized in **FIGURE 5** and explained further below.

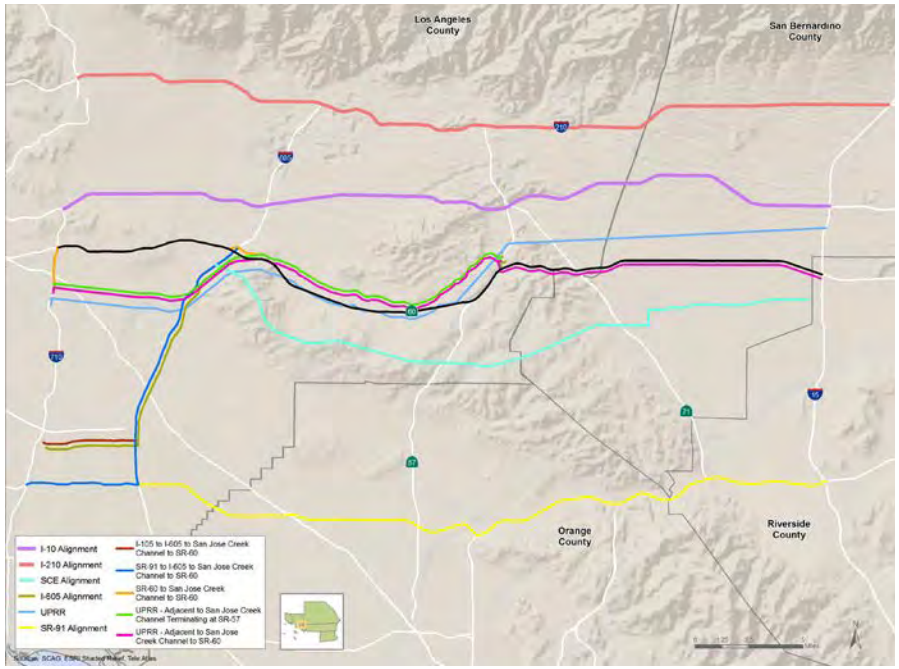
FIGURE 5 Process for Idenfication of the East-West Freight Corridor



Step 1: Definition of the ideal characteristics for the East-West Freight Corridor. An ideal East-West Freight Corridor would support mobility for key industries; serve goods movement markets efficiently; be acceptable to neighboring communities; satisfy regional environmental goals; contribute to regional congestion mitigation; and not conflict with other regional projects under consideration. Satisfying all of these criteria may be a significant challenge, but any East-West Freight Corridor should satisfy as many as possible.

Step 2: Identification of the highway and non-highway alignments that could serve as the East-West Freight Corridor. This included highway corridors such as I-210, I-10, SR-60, and SR-91. It also included an SCE utility Right-of-Way (ROW) and a UPRR-adjacent facility, including the San Jose Creek Alignment. These facilities are identified in **EXHIBIT 7**.

EXHIBIT 7 Initial East-West Freight Corridor Alignments



Step 3: Relative comparison of corridors against initial screening criteria. The potential corridors were evaluated for their proximity to current and future markets, their ROW feasibility and constraints, and corridor operational characteristics including the volume of trucks carried and the incidence rate of truck-involved accidents.

Step 4: Creation of new "hybrid" alignments that minimized community impacts. Following initial screening, the facilities identified below were further analyzed:

- UPRR-adjacent to San Jose Creek to SR-60
- UPRR-adjacent to San Jose Creek terminating at SR-57
- SR-60 to San Jose Creek to SR-60
- SR-91 to I-605 to San Jose Creek to SR-60
- I-105 to I-605 to San Jose Creek to SR-60

Step 5: Modeling of five remaining corridor alignments with the SCAG HDT model, including their impacts on Measures of Effectiveness (MOEs): VMT, VHT, and VHD. MOEs were calculated for the influence area. Results of the modeling analysis are summarized in **TABLE 6**.

Based on this analysis, Alternative 1 (UPRR-adjacent to San Jose Creek Channel to SR-60) was identified as the preferred corridor for further analysis and refinement. It is anticipated that this corridor concept could fall within a five-mile span of Alternative 1 (route illustrated in **EXHIBIT 5**.)

TABLE 6 Modeling/Summary Comparison of Six Potential East-West Freight Corridor Alignments

ID	Alignment	Summary/Key Points
1	UPRR-Adjacent to San Jose Creek Channel to SR-60	Carries the second-highest truck volumes – within 5% of Alt. 5
		Reduces truck traffic on SR-60 by 65%–85%
		Shows greatest reduction in total delay for all traffic (-4.3%) in influence area, as well as highest reduction (-10%) for heavy-duty truck delay
2	UPRR-Adjacent to San Jose Creek Channel Terminating at SR-57	Results in negative traffic impacts – 18% more traffic on SR-60 east of SR-57
		Shows increase in total delay for all traffic (1%) in influence area, as well as the medium reduction for heavy-duty truck delay
3	SR-60 to San Jose Creek Channel to SR-60	Carries the same truck volume as Alt. 1 – within 5% of Alt. 5
		Reduces truck traffic on SR-60 by 70%–85%
		Shows high reduction in total delay for all traffic (-3.7%) in influence area, as well as high reduction (-9%) for heavy-duty truck delay
4a	SR-91 to I-605 to San Jose Creek Channel to SR-60	Carries lower truck volumes than Alt. 1, 3, 4b, and 5
		Shows greatest heavy-duty truck delay reduction (-10.9%) but fairly low (-1.3%) overall total delay for traffic
4b	I-105 to I-605 to San Jose Creek Channel to SR-60	Shows high heavy-duty truck delay reduction (-10.7%) but fairly low (-1%) overall total delay for traffic
5	SR-91	Carries the most trucks of all screenlines – up to 57,780 (two-way volumes)
		Has little impact on parallel freeways east of SR-57
		Shows high heavy-duty truck delay reduction (-10.5%) but fairly low (-1%) overall total delay for traffic

BENEFITS OF THE EAST-WEST FREIGHT CORRIDOR

Continuing to move freight efficiently is critical to retain Southern California's trade competitiveness. The East-West Freight Corridor (Alternative 1) offers the opportunity to address many of the goods movement challenges, including congestion, air quality, and safety concerns. The East-West Freight Corridor will support mobility for key industries, serve goods movement markets in an efficient manner, promote the region's environmental goals, and contribute to alleviating the region's congestion. In addition, it will not conflict with other major regional projects under consideration. Analysis completed as part of the SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy for the 2012–2035 RTP/SCS indicates that major benefits of the potential East-West Freight Corridor include:

- **Mitigation of Future Truck Traffic:** Truck traffic is projected to grow significantly on all existing key east-west freeway segments. These dramatic increases in truck traffic on east-west corridors will cause increased congestion and longer delays to both trucks and general traffic on existing routes. The construction of the East-West Freight Corridor would increase capacity to accommodate the projected growth in truck activity. The corridor's traffic mitigation impacts would be significant, especially considering that some segments of the East-West Freight Corridor are forecast to carry between 58,000 and 78,000 trucks per day in 2035.
- **Reduction in Regional Delay:** The East-West Freight Corridor is projected to result in substantial delay reduction for both trucks and autos. Within the identified influence area, all traffic is expected to experience a reduction of approximately 4.3 percent, with heavy-duty trucks seeing a nearly 10 percent decrease. This reduced delay would provide demonstrable travel time savings as well as reduce emissions from idling vehicles on congested roadways.
- **Impact on Parallel Routes:** The East-West Freight Corridor is projected to draw significant volumes of truck traffic away from parallel routes, easing congestion and creating capacity for other vehicles on general purpose lanes. Estimates indicate that the East-West Freight Corridor could reduce daily traffic on portions of SR-60 (between 42–82 percent), I-10 (up to 33 percent), SR-91 (up to 19 percent), I-210 (up to 17 percent), and major regional arterials (up to 21 percent).

- **Mobility Benefits for Critical Markets:** The East-West Freight Corridor would offer considerable benefits to regional businesses and industries served by the numerous clusters of warehousing and manufacturing facilities near the route. Portions of the recommended potential East-West Freight Corridor lie within a five-mile radius of 52 percent of the region's warehousing square footage and 27 percent of regional manufacturing employment. Supplemental **EXHIBITS A1–A6** show the proximity of major truck corridors to regional warehousing and manufacturing.
- **Reduction of Truck-Involved Accidents:** The East-West Freight Corridor offers the potential to reduce truck-involved crashes as a result of the separation between trucks and other vehicles. Safety analysis revealed that several existing east-west corridors have high rates of truck-involved crashes, including segments of SR-60, SR-91, and I-10. Over a five-year period, the average of truck-involved crashes on key east-west corridors showed that SR-60 between I-605 and SR-57 has the highest average number of truck accidents—10 to 15 truck crashes per mile on an annual basis. A short segment near the intersection of SR-60 and SR-57 had an average of 20 to 30 crashes per mile annually. The East-West freight corridor designed specifically for use by heavy duty trucks has the potential to improve safety and decrease the number of accidents for trucks and autos on parallel routes.
- **Preservation of Jobs and Income:** Increasing congestion is making Southern California a less attractive place to do business, threatening jobs and the positive economic impacts of the goods movement sector. The East-West Freight Corridor delivers a transportation system with greater capacity and less congestion in support of industries that depend on efficient freight movement throughout the SCAG region.
- **Reduction of Harmful Emissions:** The East-West Freight Corridor provides an opportunity to reduce harmful pollutants through the use of zero- and/or near-zero -emission technologies for freight transportation. Although the technology to be used will be determined as the market evolves, the East-West Freight Corridor offers a significant opportunity to catalyze development, deployment, and commercialization of zero- and/or nearemission technologies for freight transportation.

TABLE 7 Benefits of an East-West Corridor Strategy

Mobility	▪ Truck delay reduction of approximately 11% ▪ All traffic delay reduction of approximately 4.3% ▪ Reduces truck volumes on general purpose lanes—42–82% reduction on SR-60
Safety	▪ Reduced truck/automobile accidents (up to 20–30 per year on some segments)
Environment	▪ 100% zero-emission truck utilization removes: 4.7 tons NO_X, 0.16 tons $PM_{2.5}$, and 2,401 tons CO_2 daily
Community	▪ Preferred alignment has least impact on communities ▪ Removes traffic from other freeways ▪ Zero-emission technology (ZET)—reduces localized health impacts
Economic	▪ Supports mobility for goods movement industries, which comprise 34% of SCAG regional economy and jobs

Bottleneck Strategy

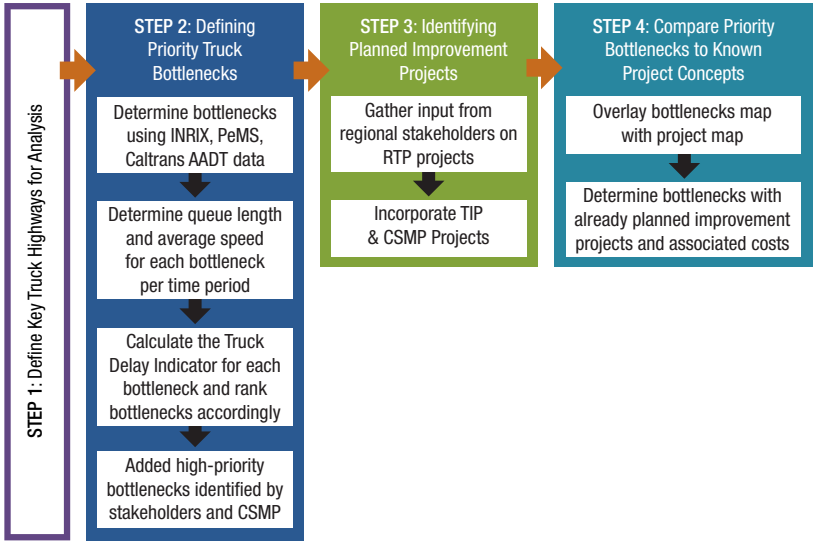
In a recent analysis of critical issues affecting the trucking industry conducted by the American Transportation Research Institute (ATRI), traffic congestion ranked near the top in 2011 after being less of a concern in 2009–2010 as a result of the economic downturn.[29] Besides causing delays to other highway users, heavy truck congestion results in wasted labor hours and fuel. In 2010, it was estimated that the cost of truck congestion in 439 major urban areas was approximately $23 billion.[30] Truck congestion in urban areas within the SCAG region resulted in approximately $2.6 billion in costs.[31] Given that driver wages and fuel costs represent over 50 percent of total motor carrier costs, truck congestion has major impacts on the bottom line of the trucking industry. Truck bottlenecks are also emission "hot spots" and generally have significantly degraded localized air quality caused by increased idling from passenger vehicles and trucks.

A coordinated strategy to address the top-priority truck bottlenecks may be a cost-effective way to improve the efficiency of goods movement in the SCAG region. Additionally, the East-West Freight Corridor concept, alone, will not address congestion on all the major truck corridors; the bottleneck strategy reduces congestion in areas outside of the East-West Freight Corridor. Though some bottleneck projects (such as auxiliary lanes) are large, capital-intensive, projects, others (such as ramp metering) are less complex and would therefore be relatively easier to implement. Regardless of their complexity, bottleneck alleviation projects positively contribute to the region's environmental goals (by reducing emissions "hotspots"), and result in substantial, tangible benefits to commuters and goods movement industries alike.

SCAG recently studied regional truck bottlenecks through a four-step process (**FIGURE 6**) that utilized Caltrans truck data, INRIX and PeMS truck traffic data, feedback from key regional stakeholders, and information from the completed Corridor System Management Plans (CSMPs).

This analysis resulted in a list of the top 44 regional priority bottlenecks (**EXHIBIT 8**). Top priority bottlenecks include those that had the highest truck-related annual delay according to the bottleneck assessment performed with INRIX and PeMS data. [32] Also included on this list are high-priority bottlenecks identified through the CSMP process and stakeholder involvement process.

FIGURE 6 Key Steps in the Bottleneck Analysis



The 2012–2035 RTP/SCS allocates an estimated $5 billion toward goods movement bottleneck relief strategies. Examples of bottleneck relief strategies include ramp metering, extension of merging lanes, ramp and interchange improvements, capacity improvements, and auxiliary lane additions. Some bottleneck relief concepts have been identified through the CSMP process and others are currently programmed for implementation. Additional project concepts will continue to be refined through SCAG's Comprehensive Regional Goods Movement Plan and Implementation Strategy.

The top 44 congested areas and bottlenecks in the SCAG region, combined, contribute over 1 million hours of truck delay annually to SCAG regional roadways in congested time periods. Addressing these congested areas and bottlenecks could contribute to a reduction in this delay, as well as associated emissions and air pollution benefits.

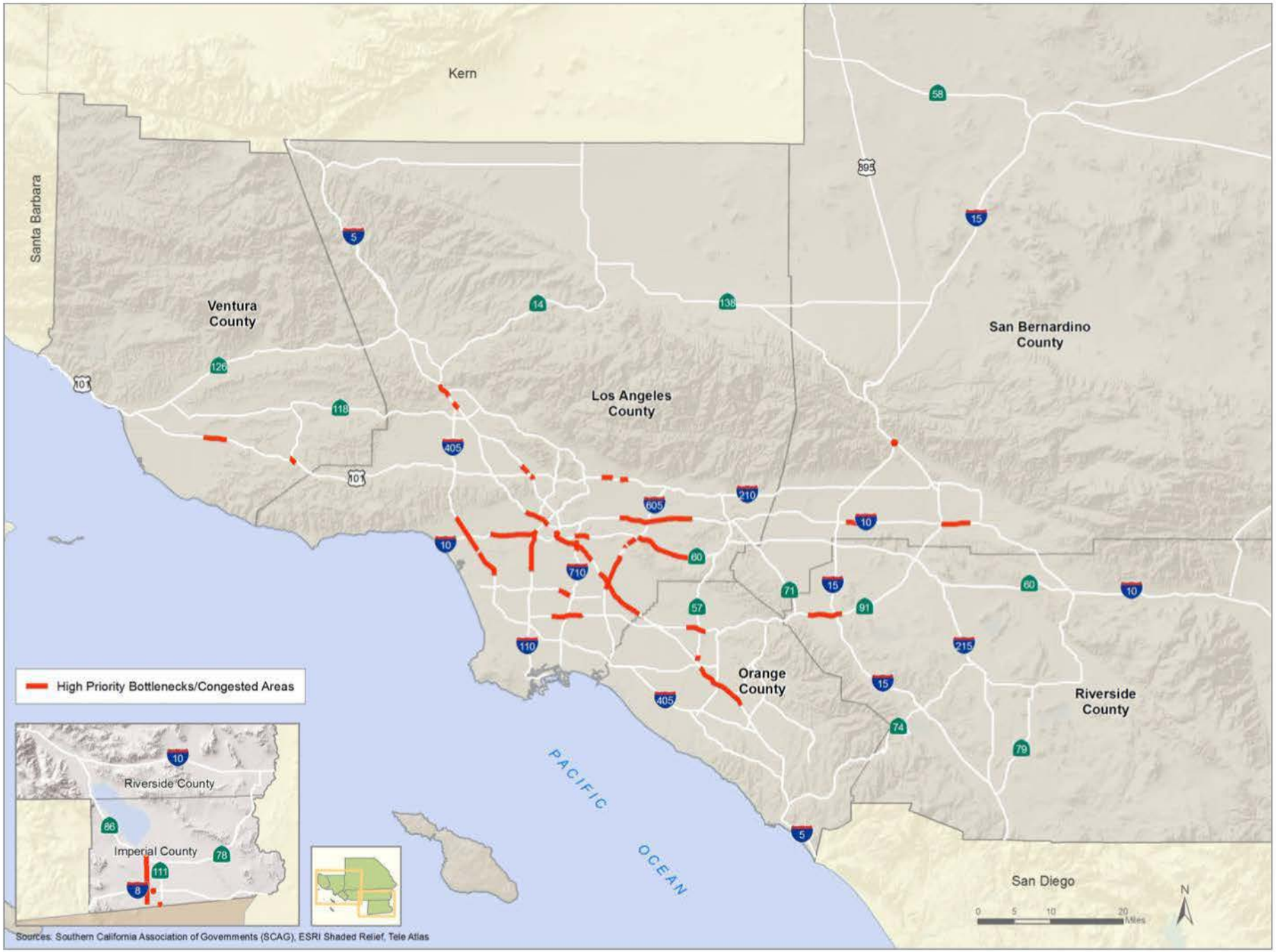
29 http://www.atri-online.org/2011_top_industry_issues.pdf.

30 Texas Transportation Institute 2011 Urban Mobility Report.

31 Texas Transportation Institute 2011 Urban Mobility Report. Urban areas as defined in the report include Los Angeles-Long Beach-Santa Ana, Riverside-San Bernardino, Lancaster-Palmdale, Bakersfield, Indio-Cathedral City-Palm Springs, and Oxnard-Ventura.

32 "Highest annual delay" is defined as all bottlenecks that exhibited 20,000 or more hours of truck-related delay on an annual basis.

EXHIBIT 8 Priority Truck Bottlenecks in the SCAG Region



Rail Strategies

The health of the Southern California economy depends on an efficient rail system with the capacity to accommodate projected growth in international and domestic freight. The rail system in the SCAG region provides a critical connection between the largest port complex in the country and producers and consumers throughout the U.S. Over half of the international cargo arriving at the San Pedro Bay Ports utilizes rail, including on-, near-, and off-dock rail. Regional rail also serves domestic industries, predominantly for long-haul freight leaving the region. The extensive rail network in the SCAG region is a critical link in the regional supply chain that offers shippers the ability to move large volumes of goods over long distances at lower costs versus other transportation options. As part of the 2012–2035 RTP/SCS, SCAG has highlighted a comprehensive package of improvements to the regional rail system. The rail package includes goals such as long-term economic competitiveness, job creation and retention, increased freight and passenger rail mobility, improved safety of at-grade crossings, and mitigation of environmental impacts of rail operations. By presenting these goals as a complete rail package, SCAG aims to promote collaboration and coalition building and to develop a unified message to attract leadership support for the program.

EXISTING AND PROJECTED RAIL CONDITIONS

Southern California is served by two Class I railroads:[33] Union Pacific Railroad (UP) and the Burlington Northern Santa Fe Railway (BNSF). Pacific Harbor Line, Inc. (PHL), a Class III railroad, provides rail transportation, maintenance, and dispatching services within the San Pedro Bay Ports area. The Port of Hueneme is served by the Ventura County Railway (VCR), a Class III railroad, which connects to the UP Coast main line in Oxnard. Another Class III line, the Los Angeles Junction Railway (LAJ), provides industrial switching services in the Cities of Vernon, Maywood, Bell, and Commerce. The LAJ provides connections to both UP and BNSF. **EXHIBIT 9** shows key segments of the rail system described in more detail below.

[33] For purposes of accounting and reporting, the Surface Transportation Board designates three classes of freight railroads based upon their operating revenues for three consecutive years using the following scale: Class I–$250 million or more; Class II–less than $250 million but more than $20 million; and Class III–$20 million or less. These operating revenue thresholds are stated in 1991 dollars and are adjusted annually for inflation using a Railroad Freight Price Index developed by the Bureau of Labor Statistics (BLS).

North of the Ports of Los Angeles and Long Beach, UP and BNSF trains operate on the Alameda Corridor, which was completed in 2002. All harbor-related trains of the UP and BNSF use the Alameda Corridor to access the rail main lines that originate near downtown Los Angeles. East of downtown Los Angeles, freight trains operate on the BNSF San Bernardino Subdivision, the UP Los Angeles Subdivision, or the UP Alhambra Subdivision. North and west of Los Angeles, freight trains operate on the UP Coast line toward Santa Barbara, the Antelope Valley line from the San Fernando Valley to Palmdale, or the UP Mojave Subdivision from West Colton to Palmdale.

To transition from the Alameda Corridor to the Alhambra Subdivision, the UP utilizes trackage rights over Metrolink's East Bank Line, which runs parallel to the Los Angeles River on the east side of downtown Los Angeles. The UP Los Angeles Subdivision terminates at West Riverside Junction where it joins the BNSF San Bernardino Subdivision. The BNSF San Bernardino Subdivision continues north of Colton Crossing and transitions to the BNSF Cajon Subdivision. The Cajon line continues north to Barstow and Daggett, and then east toward Needles, CA, and beyond. UP trains exercise trackage rights over the BNSF San Bernardino Subdivision from West Riverside Junction to San Bernardino and over the Cajon Subdivision from San Bernardino to Daggett, which is a short distance east of Barstow. UP trains continue north of Daggett on the UP Cima Subdivision to Las Vegas.

The UP Alhambra Subdivision and the BNSF San Bernardino Subdivision cross at Colton Crossing in San Bernardino County. East of Colton Crossing, the UP operates its transcontinental Sunset Route main line, also known as the UP Yuma Subdivision. The Yuma Subdivision passes through the Palm Springs area, Indio, and continues to Arizona and beyond.

The UP Yuma Subdivision has two main tracks from Colton to Indio. East of Indio, the Sunset Route still has stretches of single track, but construction of a second main track is underway.

The BNSF San Bernardino Subdivision has at least two main tracks with segments of triple track between Hobart and Fullerton. On the Cajon Subdivision, the BNSF recently completed a third main track from San Bernardino to the summit of Cajon Pass.

The UP Alhambra Subdivision is mostly single track, while the UP Los Angeles Subdivision has two main tracks west of Pomona and a mixture of one and two tracks east of Pomona.

North from West Colton, the single-track UP Mojave Subdivision closely parallels the BNSF Cajon Subdivision as the two lines climb the south slope of Cajon Pass. There are connections at Keenbrook and Silverwood to enable UP trains to enter/exit the main tracks of the BNSF Cajon Subdivision. Beyond Silverwood to Palmdale, the UP Mojave Subdivision has very little train traffic. UP uses this line to reach points in Northern California and the Pacific Northwest.

The BNSF operates intermodal terminals for containers and trailers at Hobart Yard (in the City of Commerce) and at San Bernardino. UP operates intermodal terminals at:

- East Los Angeles Yard at the west end of the UP Los Angeles Subdivision
- Los Angeles Transportation Center (LATC) at the west end of the UP Alhambra Subdivision
- City of Industry on the UP Alhambra Subdivision, and the
- Intermodal Container Transfer Facility (ICTF) near the south end of the Alameda Corridor

In addition, both UP and BNSF operate trains hauling marine containers that originate or terminate at on-dock terminals within the Ports of Los Angeles and Long Beach.

UP also has a large carload freight classification yard at West Colton (at the east end of the Alhambra Subdivision). A large automobile unloading terminal is located at Mira Loma (mid-way between Pomona and West Riverside on the Los Angeles Subdivision).

CURRENT AND FUTURE VOLUMES AND POTENTIAL CAPACITY CONSTRAINTS

Rail is expected to continue to play a key role in goods movement transportation in the SCAG region. Significant growth in passenger and freight rail traffic is expected on most segments of the SCAG regional rail system by 2035. This anticipated growth is highlighted in **TABLE 8**, which shows 2010, and the projected 2035 peak day train volumes on key segments. Freight train volumes include container trains, also called intermodal trains (marine and domestic), and non-intermodal trains (unit automobile trains, unit oil trains, unit bulk, and carload trains). Passenger trains include Amtrak and Metrolink service. Increases in railroad traffic will require ongoing infrastructure investment to maintain current levels of service. Increased rail traffic also has an impact on highway traffic and congestion, as more trains will result in increased wait times for vehicles at at-grade crossings.

TABLE 8 Peak Day Train Volumes 2010, 2035 (Metrolink Volumes in Parenthesis)

Line Segments	Type	2010	2035
BNSF San Bernardino Subdivision *Hobart–Fullerton*	Passenger	54(28)	77(51)
	Freight	45	90
BNSF San Bernardino Subdivision *Atwood–W. Riverside*	Passenger	26(24)	42(40)
	Freight	49	99
BNSF San Bernardino Subdivision *W. Riverside–Colton*	Passenger	10(8)	42(40)
	Freight	67	147
BNSF Cajon Subdivision *San Bernardino–Silverwood PLUS* UP Mojave Subdivision *W. Colton–Silverwood*	Passenger	2(0)	2(0)
	Freight	93	147
UP Los Angeles Subdivision *East LA–Pomona PLUS* UP Alhambra Subdivision *Yuma Jct.–Pomona*	Passenger	13(12)	21(20)
	Freight	52	98
UP Los Angeles Subdivision *Pomona–W. Riverside PLUS* UP Alhambra Subdivision *Pomona–West Colton*	Passenger	13(12)	21(20)
	Freight	51	109
UP Yuma Subdivision *Colton–Indio*	Passenger	1(0)	1(0)
	Freight	45	93

Note: A "peak day" experiences the 90th percentile of the distribution of daily train movements.
Source: 2011 Regional Rail Simulation Study, SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy. Forecasts performed through rail simulation conducted by Dr. Robert Leachman, Leachman and Associates, LLC. These numbers do not represent forecasts made by BNSF Railway or UP Railroad. Passenger volume totals include Amtrak and Metrolink.

REGIONAL RAIL STRATEGIES

The proposed regional rail package has several components. These include main line rail improvements (rail-to-rail grade separations, double or triple tracking, new signal systems, universal crossovers, new sidings, etc.) that would benefit both freight rail and passenger rail service depending on their location; rail yard improvements (upgrades to existing yards as well as construction of new yards); rail operation safety improvements such as Positive Train Control (PTC) that could greatly reduce the risk of rail collisions and increase capacity; grade separations; and emissions reduction strategies.

Main Line Capacity Enhancements

The 2011 SCAG Regional Rail Simulation Study updates the 2005 Inland Empire Main Line Rail Study. The effort evaluates the main line capacity requirements for projected levels of train traffic on the BNSF and UP lines by considering routing alternatives to meet the following goals:

- Reduce capital costs
- Reduce safety risks and impacts
- Reduce train volumes through the worst bottleneck (Riverside–Colton)
- Avoid the most costly line expansion (UP Pomona–Riverside line)
- Separate Metrolink from heavy UP traffic
- Route freight lines where most environmentally friendly (but sustain service to all rail terminals)

Currently, the UP Alhambra and Los Angeles Subdivisions are used to some extent as a paired double track, with eastbound trains operating via the Los Angeles Subdivision from Redondo Junction or East Los Angeles to West Riverside, via trackage rights over the BNSF line through Riverside to Colton (**FIGURE 7**). Because of the locations of certain rail terminals, approximately one-fourth of the UP trains must move against the current of traffic. **FIGURE 7** shows the existing routing of the UP Alhambra and Los Angeles Subdivisions. As an example, trains carrying automobiles that terminate at Mira Loma must use trackage rights over BNSF Colton–West Riverside and then operate westbound over the Los Angeles Subdivision to Mira Loma.

EXHIBIT 9 Regional Rail Segments

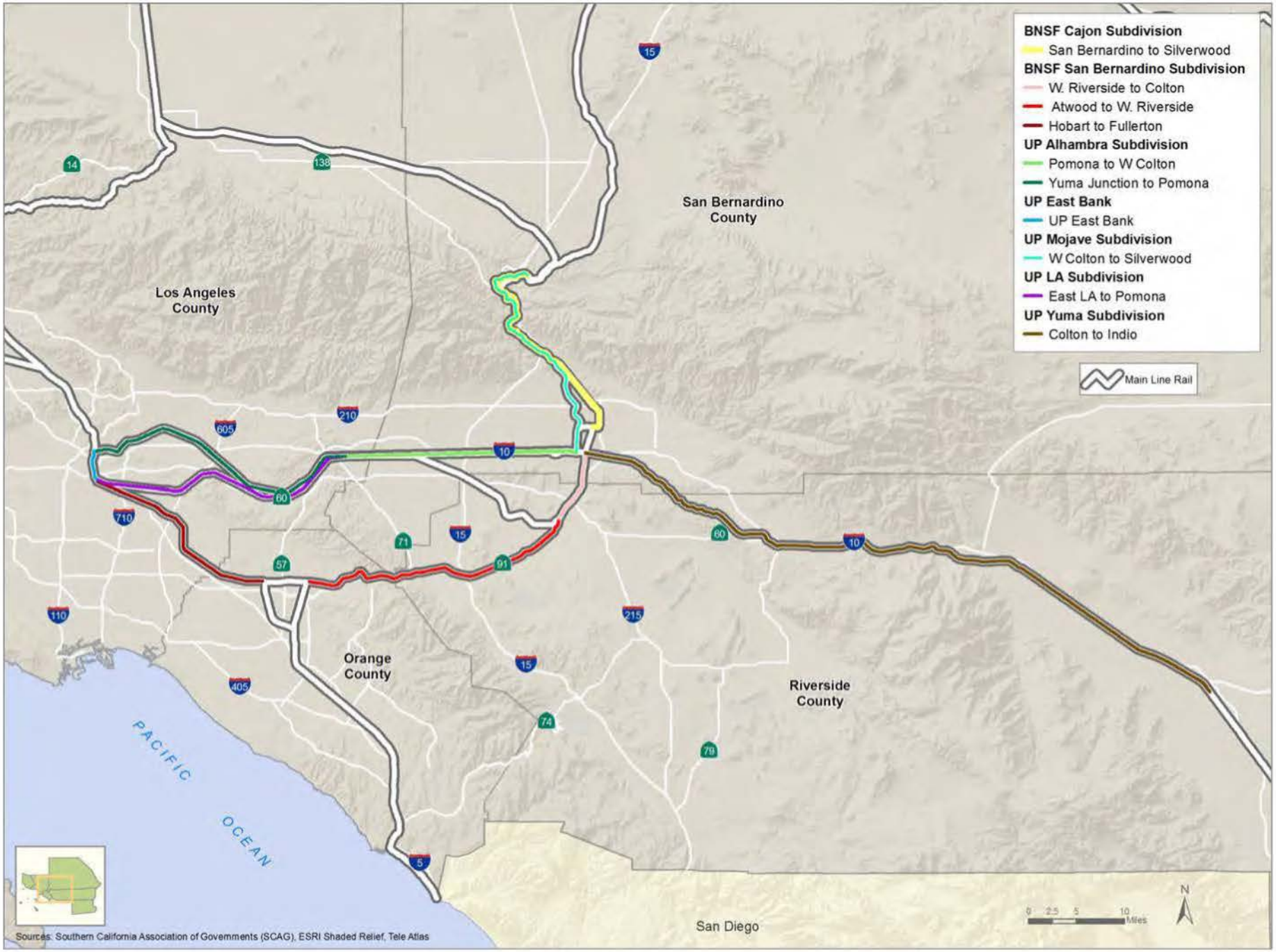
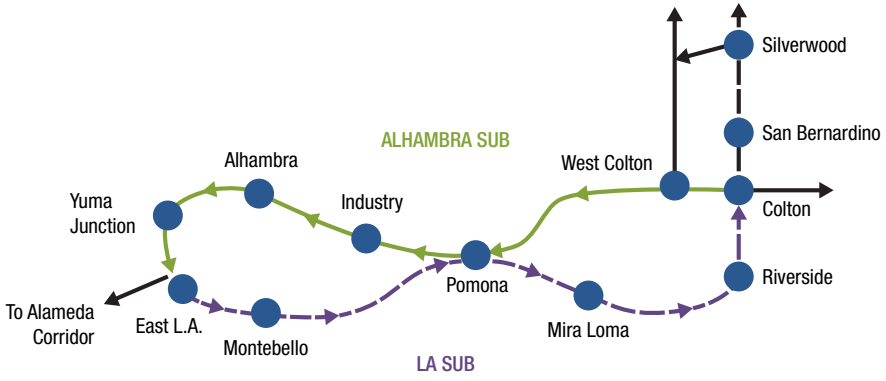
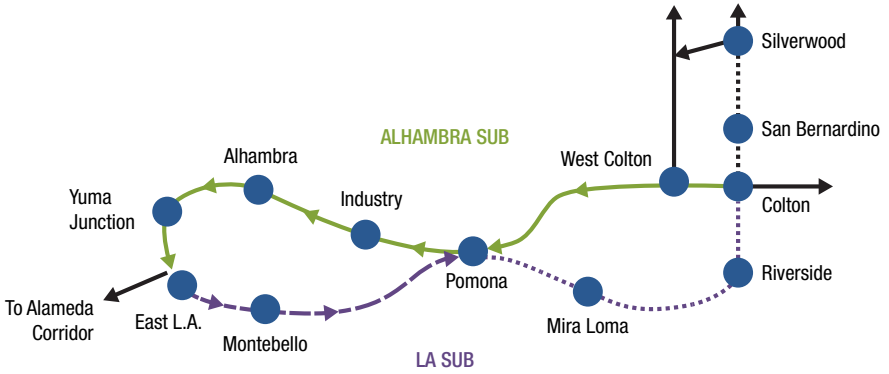


FIGURE 7 Schematic of Status Quo Routing of Union Pacific Trains



Source: 2011 Regional Rail Study completed by Dr. Robert Leachman, Leachman and Associates, LLC for SCAG

FIGURE 8 Schematic of Modified Status Quo Routing of Union Pacific Trains



Source: 2011 Regional Rail Study completed by Dr. Robert Leachman, Leachman and Associates, LLC for SCAG

A complete description of the various routing alternatives considered can be found in the 2011 Regional Rail Simulation Study. One option studied was the Modified Status Quo (**FIGURE 8**). Operations west of Pomona are the same as in the Status Quo (i.e., most UP trains follow a one-way loop westbound on the Alhambra Subdivision and eastbound on the Los Angeles Subdivision). East of Pomona, however, trains that do not have to use the Los Angeles Subdivision are routed via the Alhambra Subdivision from Pomona to West Colton. The Modified Status Quo alternative reduces the total through-train counts in 2035 through downtown Riverside and downtown San Bernardino by 41 and 10 trains, respectively. This alternative concentrates about 92 percent of UP through-train movements via West Colton versus only 8 percent via the UP Los Angeles Subdivision through Riverside.

There are a number of key advantages to the Modified Status Quo routing scenario:

- Routing trains via the UP Los Angeles Subdivision involves use of trackage rights over the BNSF San Bernardino Subdivision between Colton Crossing and West Riverside. This is the most heavily utilized line segment in the Los Angeles Basin. Expansion of the capacity of this segment to accommodate 2035 traffic levels is relatively difficult and expensive under the Status Quo alternative, requiring a fourth main track plus flying junctions to enter and exit BNSF tracks. Moreover, double tracking the remaining portions of the UP Los Angeles Subdivision would be very costly, involving duplication of the lengthy Santa Ana River Bridge and significant property-taking and earth removal in Riverside.
- The cost of main line rail improvements under Modified Status Quo routing is $670 million less costly than the improvements needed under Status Quo routing. Expansion of capacity along the UP Alhambra Subdivision between West Colton and Pomona is much less costly and is consistent with UP's stated capital investment plans.

- Shifting UP trains operating between Cajon Pass and Pomona off the BNSF line and the UP Los Angeles Subdivision and onto the UP Mojave and UP Alhambra Subdivisions reduces conflicts between Metrolink commuter trains and UP freight operations.

For these reasons, the main line track improvements in the 2012–2035 RTP/SCS update are associated with the Modified Status Quo alternative. It is recognized, however, that only UP controls the actual routing of UP trains. While neither BNSF nor UP have committed to route trains as assumed in the study, UP investments to date suggest that the Modified Status Quo represents their plans.

Estimated costs of the recommended main line track improvements are shown in **TABLE 9**. The Colton Crossing rail-to-rail grade separation (already programmed with state, federal, and private funds) involves elevating the east-west Union Pacific tracks over the north-south BNSF line. This project is funded by a $33.8 million TIGER[34] I grant, $91 million from Prop 1B TCIF,[35] and railroad funds.

Improvements to the BNSF Cajon Subdivision include installing a third main track and a fourth main track on specific segments, exceptional earthmoving, crossovers, and bridges across multiple culverts.

Improvements to the BNSF San Bernardino Subdivision include a third main track, as well as a fourth main track along the Hobart to Fullerton segment. Caltrans has provided $121.8 million for the triple tracking from Serapis (MP 151.1) to Valley View (MP 158.7).

Improvements to the UP Mojave Subdivision include a second main track over a key segment and a "flying junction" at Rancho (West Colton).

Improvements to the UP Alhambra Subdivision include double tracking key segments and route connections in Pomona.

34 Transportation Investment Generating Economic Recovery.
35 Trade Corridor Improvement Fund.

TABLE 9 Estimated Cost of Main Line Rail Improvements (Millions of Nominal Dollars)

Main Line Rail Improvements	Estimated Costs
Colton rail-to-rail grade separation–BNSF Cajon Subdivision	$243.60
Barstow to Keenbrook–BNSF San Bernardino Subdivision	$762.10
Colton Crossing to Redondo Junction–UP Mojave Subdivision	$1,188.70
Devore Road to West Colton (inc. Rancho Flying Junction)–UP Alhambra Subdivision	$522.00
West Colton to City of Industry–UP Los Angeles Subdivision	$376.10
UP Yuma Subdivision	$0
Total Main Line Rail Improvements	**$3,092.40**

Note: Estimates consistent with Modified Status Quo Alternative. Colton Crossing grade separation cost updated. Estimates have been escalated to nominal dollars using 3.2 percent annual inflation rate. Source: 2011 Regional Rail Simulation Study, SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy.

On-Dock/Near-Dock Rail Capacity Enhancements

In 2010, approximately 35 percent of the Ports' containers were shipped by rail "intact," meaning the cargo was moved by rail in marine containers without being transloaded or deconsolidated first (**TABLE 10**). An additional market segment is transloaded into 53-foot domestic containers or trailers at deconsolidation facilities in the region. The larger containers are then trucked to off-dock rail yards for loading onto trains and transported out of the region. The 53-foot wheeled trailers are also typically transported out of the region. Containers that are neither shipped by rail intact nor transloaded are trucked directly to/from local warehouses or distribution facilities.

TABLE 10 shows the percentage of direct intermodal cargo handled at on-dock and near-dock rail yards. In 2010, 23.5 percent of direct intermodal cargo was handled using on-dock rail. Containers moved using on-dock rail do not have to be trucked to/from more distant rail yards. In 2010, 11.7 percent of port containers were handled at off-dock yards (e.g., Hobart, East Los Angeles) or existing near-dock yards (i.e., ICTF). These containers must be trucked to/from these yards.

TABLE 10 San Pedro Bay Ports Direct Intermodal Volumes as a Percentage of Total Port Container Throughput (2003–2010)

	2003	2004	2005	2006	2007	2008	2009	2010
% On-Dock	15.9%	18.1%	20.7%	24.1%	23.0%	23.7%	24.6%	23.5%
% Near-/ Off-Dock	23.4%	21.2%	19.5%	18.7%	18.4%	18.5%	15.3%	11.7%
Total % Direct Intermodal	**39.3%**	**39.3%**	**40.2%**	**42.8%**	**41.4%**	**42.2%**	**39.9%**	**35.2%**
Total Throughput (POLA + POLB) Millions of TEUs	**11.8**	**13.1**	**14.2**	**15.8**	**15.7**	**14.3**	**11.8**	**14.1**

Source: Ports of Los Angeles and Long Beach

PORT AREA RAIL INFRASTRUCTURE IMPROVEMENTS

The Ports of Los Angeles and Long Beach have proposed almost $2.7 billion in rail improvements within the harbor area (**TABLE 11**). These projects are designed to facilitate an increase in on-dock rail service, to reduce railroad delay associated with train meets and passes, and to reduce conflicts with highway traffic. By allowing more on-dock rail, truck traffic between the San Pedro Bay Ports and distant rail yards can be reduced. Use of on-dock rail eliminates truck vehicle miles of travel (VMT) and associated emissions by allowing trains to be loaded and unloaded inside marine terminals.

Assuming the proposed improvements to on-dock infrastructure are made, on-dock rail is estimated to account for the movement of approximately 30 percent of all port TEUs by 2035. On-dock rail is not expected to be able to accommodate 100 percent of direct intermodal moves. It is limited by factors such as shipper/steamship line logistics (trans-loading, transportation costs, etc.), railroad operations (equipment availability, the need to generate destination-specific unit trains, train schedules, and steamship line contracts/ arrangements), and terminal operation and congestion.

TABLE 11 Estimated Cost of Port-Area Rail Improvement (Millions of Nominal Dollars)

Port Area Rail Improvements (excluding SCIG and ICTF)	Estimated Costs
Port of Long Beach	
On-Dock Railyards	$765.30
Rail Infrastructure Outside Marine Terminals	$1,321.80
Subtotal Port of Long Beach	$2,087.10
Port of Los Angeles	
On-Dock Railyards	$232.80
Rail Infrastructure Outside Marine Terminals	$216.10
Subtotal Port of Los Angeles	$448.90
Alameda Corridor Transportation Authority (ACTA)	$152.40
Total Port Area	**$2,688.50**

Source: Ports of Los Angeles and Long Beach. Cost estimates in 2011 dollars were escalated for five years at 3.2 percent per year

The "Rail Infrastructure Outside Marine Terminals" category in **TABLE 11** includes the following key projects.

- On-dock Rail Support Facility on Pier B (POLB)
- Cerritos Channel Bridge (triple tracking)
- Third Track at Thenard Junction
- Reconfiguration of Control Point (CP) Mole on Terminal Island
- Reeves Avenue Grade Separation
- Wilmington Avenue Grade Separation
- Pier F Support Yard
- Terminal Island Wye
- Track Realignment at Ocean Boulevard
- Pier 400 Second Lead
- West Basin Rail Improvements

EXHIBIT 10 Regional Mainline Rail Enhancements



EXPANSION OF NEAR-DOCK RAIL

Additional lift capacity at near-dock yards is needed to accommodate projected demand and to reduce the number of truck trips to off-dock yards. Near-dock rail terminals provide rail accessibility to import and export cargo, using drayage trucks for the connection to and from port terminals. Expansion of near-dock rail will reduce truck VMT and emissions by eliminating the need to access more distant off-dock rail facilities. Two near-dock rail projects are currently undergoing environmental review: BNSF's Southern California International Gateway (SCIG) and modernization of UP's Intermodal Container Transfer Facility (ICTF). Potential benefits of these railyards include a reduction in regional VMT and therefore emissions. Without the SCIG and ICTF expansion, it is estimated that the growth in Marine IPI container volumes would require that at least 1.5 million container lifts would have to be handled at different yards throughout the SCAG region. While the number of truck trips would not be significantly changed, VMT would be reduced due to the shorter distance from the ports to the SCIG terminal (3–4 miles), versus the distance to Hobart and East Los Angeles yards terminal (20 miles). The Alameda Corridor has sufficient capacity to handle the projected increase in railroad traffic from the ICTF and SCIG. Although regionally beneficial, local congestion and emission impacts may affect the communities near the railyards. However, the ongoing environmental review process will identify these impacts and require that they be mitigated to the extent possible.

Intermodal Transfer Container Facility (ICTF)

The UP has proposed to invest $500 million in a modernization project that will increase container throughput at the ICTF even as it reduces the size of the existing facility from 277 to 233 acres. The project will include the replacement of diesel cranes and yard hostlers with electric ones as well as the addition of six new railroad tracks totaling 50,000 ft. Clean technologies will be utilized to cut facility emissions by 74 percent. An EIR is currently being prepared for this project.

Southern California International Gateway (SCIG)

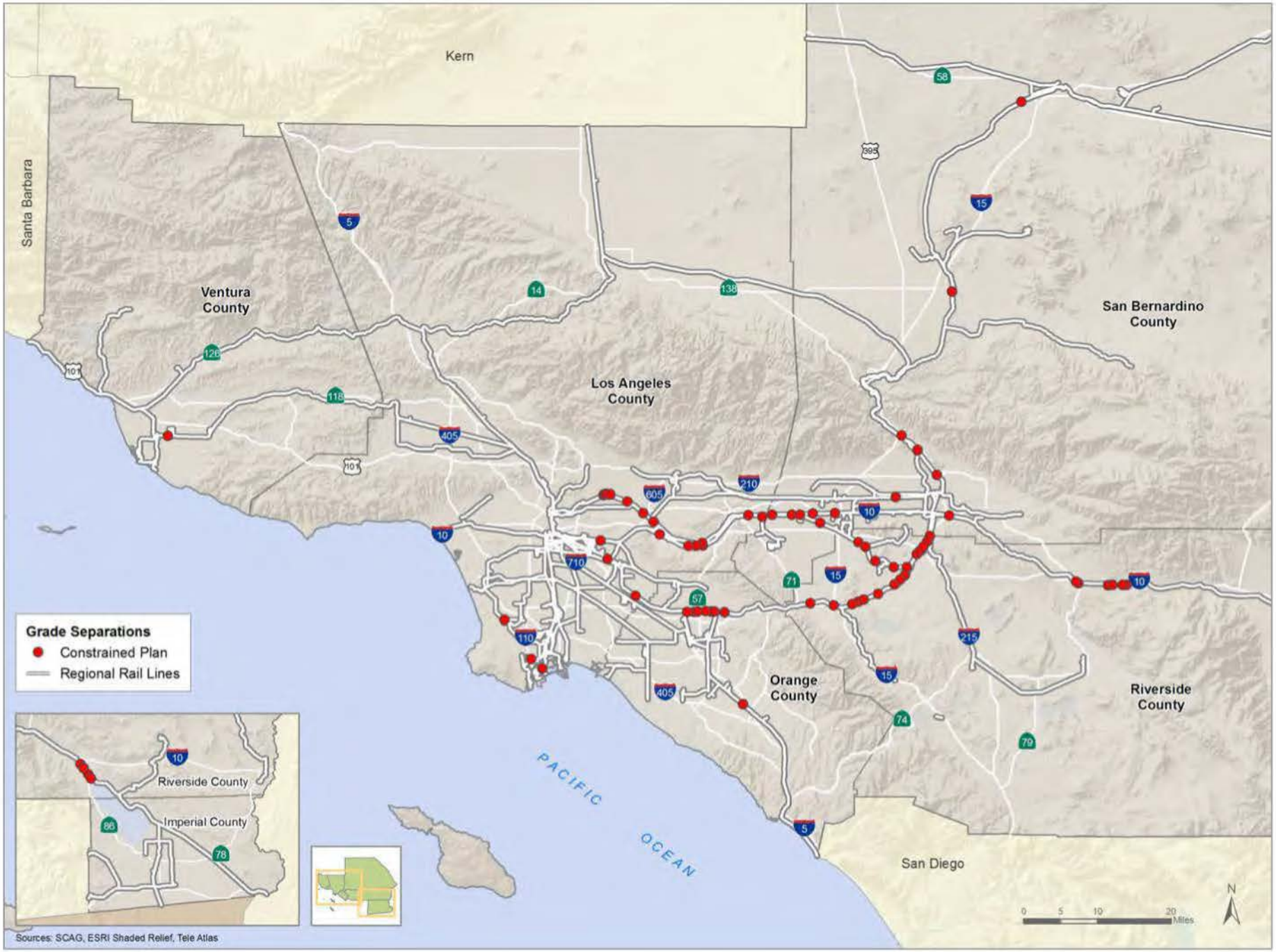
SCIG is a $500 million project that will create a new near-dock facility for the BNSF adjacent to the San Pedro Bay Ports with direct access to the Alameda Corridor. BNSF forecasts the new facility will take millions of truck-miles off regional freeways, easing congestion and reducing air pollution. Although on-dock rail capacity is expected to increase, on-dock rail expansion alone will not be sufficient to keep up with projected growth in demand. The SCIG will include the use of electric and low-emission equipment and requirements that only lower emission trucks serve the facility. The draft EIR for this project was released in September 2011.

Rail Grade Separations

Due to increasing railroad and highway traffic, vehicle delays at grade crossings are expected to increase substantially from 2010 to 2035. Allowing two intersecting axes of traffic to move concurrently, grade crossings eliminate vehicle delay and decrease associated emissions by reducing vehicle idling times. Grade separations reduce traffic congestion and delays, as well as emissions from idling vehicles, and address other critical rail crossing–related concerns such as noise and safety.

Seventy-one grade crossings throughout the SCAG region were identified for inclusion in the financially constrained 2012–2035 RTP/SCS as shown in **EXIBIT 11**. Constrained and strategic grade separation projects are included at the end of this Technical Appendix, along with constrained grade separation maps by county (**EXHIBITS B1–B6**). Another 56 projects were identified for inclusion in the Strategic Plan. The estimated costs of the grade separations in the financially constrained plan total approximately $5.6 billion.

EXHIBIT 11 Regional Grade Separations – Constrained



RAIL PACKAGE SUMMARY

As shown in **TABLE 12**, the combined rail package has been estimated to cost approximately $12.3 billion, including main line rail improvements, port area rail improvements, near-dock railyard improvements, and rail-highway grade separations.

TABLE 12 Estimated Cost of the Proposed Package of Rail Projects, by Major Category (Millions of Nominal Dollars)

Category	Estimated Costs
Main Line Rail Improvements	$3,092.40
Port Area Rail Improvements	$2,688.50
Near-Dock Railyard Improvements	$1,000.00
Rail-Highway Grade Separations	$5,568.90
Total	**$12,349.80**

BENEFITS OF THE REGIONAL RAIL STRATEGIES

The benefits of the rail strategies to the region are considerable, and include mobility, safety, and environmental gains. As shown in **TABLE 13**, these strategies could eliminate almost 6,000 hours of vehicle delay per day at grade crossings, decrease emissions (NO_X, CO_2, and $PM_{2.5}$) by almost 23,000 lb. per day, and reduce overall train delay to 2000 levels.

The capacity enhancements in the rail package would reduce delay so that it does not exceed 2000 levels and provides enough capacity to handle projected tripling of intermodal cargo at the San Pedro Bay Ports. The delay per train is reduced depending on the train type and railroad line. For instance, trains on UP lines would experience almost 50 percent less delay per train, as compared to trains on UP lines in 2000. The rail package therefore allows more cargo to move with less delay than in previous years even with expected rail volume increases.

TABLE 13 Benefits of the SCAG Regional Rail Strategy

Mobility	▪ Reduces train delay to 2000 levels ▪ Provides main line capacity to handle projected demand in 2035 (includes 43.2 million twenty foot equivalent units, or TEUs, port throughput) ▪ Eliminates 5,782 vehicle hours of delay per day at grade crossings in 2035
Safety	▪ Eliminates 71 at-grade railroad crossings
Environment	▪ Reduces 22,789 lb. of emissions per day (CO_2, NO_X, and $PM_{2.5}$ combined) from idling vehicles at grade crossings ▪ Facilitates on-dock rail ▪ Reduces truck trips to downtown railyards and associated emissions

Other Strategies

San Pedro Bay Ports Access Projects

Landside access to the San Pedro Bay Ports is provided by highway facilities, including I-110 and I-710, and the Vincent Thomas (SR-47), Commodore Schuyler Heim (SR-103), and the Gerald Desmond Bridges. The San Pedro Bay Ports have long worked with regional and state transportation planning organizations to identify and promote projects that will alleviate congestion to and from port areas and improve air quality in the region.

Some key projects to improve direct access to the San Pedro Bay Ports are already underway, including:

- The Gerald Desmond Bridge replacement – The bridge, which has been designated as a National Highway System Intermodal Connector Route and part of the Strategic Highway Network, carries nearly 15 percent of the nation's waterborne cargo and is a critical access route for the Port of Long Beach, the Port of Los Angeles, downtown Long Beach, and surrounding communities. A final EIR for the bridge replacement was recently certified by the POLB Board of Harbor Commissioners and the California Department of Transportation (CALTRANS). They have identified the North-side Alignment Alternative as the preferred alternative linking Terminal Island to I-710. This project is important, as it improves the safety of the bridge, which was previously deemed to be seismically deficient. In addition, the new bridge will be able to accommodate increased vehicular and vessel traffic. Moreover, the new bridge will provide additional vertical clearance for vessels passing through the Back Channel to the Inner Harbor.
- The I-110/SR-47 Connectors Improvement Program is composed of three major projects that will improve freeway access to port facilities and surrounding neighborhoods, reduce congestion and conflicts between truck and rail traffic, and improve safety. The port has already begun collecting public comments on this project.
- The Schuyler Heim Bridge Replacement and SR-47 Expressway Project includes replacement of the seismically deficient bridge and development of a truck expressway that will transport port truck traffic on an elevated structure from the new bridge 1.7 miles northwest to Alameda Street. This project is already in the design phase. This project will improve safety (by bypassing three signalized intersections and five rail at-grade crossings) and reduce congestion and delay at many of the Port of Los Angeles' terminals.
- South Wilmington Grade Separation. This project will eliminate the conflict between vehicular traffic and two existing at-grade railroad crossings and provide unimpeded grade-separated vehicular access to the South Wilmington area (including for emergency vehicles), eliminate truck queues on surrounding streets, reduce accidents, and improve safety in the area.
- C Street/I-110 Access Ramp Improvements. This will consolidate two closely spaced intersections and improve connectivity to Figueroa Street and Harry Bridges Boulevard and access to several shipping terminals.
- I-110/SR-47 Interchange & John S. Gibson Intersection/NB I-110 Ramp Access. This project will provide an additional lane from the SR-47 connector to NB I-110 and extend the existing off-ramp at John S. Gibson Boulevard. It will eliminate weaving between the slow-moving, on-ramp traffic from San Pedro and the fast-moving bridge traffic from Long Beach to improve the connection between SR-47 and the I-110 Freeway.

Port of Hueneme Access Projects

In addition to the Ports of Los Angeles and Long Beach, the SCAG region is also home to the Port of Hueneme in Ventura County. Although smaller, the Port of Hueneme supports important economic activities in the region, generating over $650 million for Ventura County's economy every year and supporting 4,500 jobs. The Port of Hueneme Harbor District estimates that $7 billion in trade moves through the port annually. Unlike the San Pedro Bay Ports, the Port of Hueneme does not focus on containerized cargo. Instead, its primary imports and exports are refrigerated goods and produce, automobiles, bulk cargo, and fuels.

Data collected in 2008 indicated that the Port of Hueneme generated approximately 25 percent of truck trips in areas close to the Port. Many of these trucks use the interchanges close to U.S. 101. Average daily traffic counts of heavy-duty trucks on local routes range between 400 and 2,600 trucks per day. In a 2008 study, six out of 25

intersections evaluated had a level of service (LOS) grade of D or F in the AM and PM peak periods.

As residential areas expand into previously agricultural areas in Ventura County, a greater number of people will be exposed to noise, vibration, and pollution impacts of truck traffic along key routes. Encouraging trucks to remain on truck routes through additional signage or restrictions and strategic design of proposed developments can reduce these impacts.

The following projects and strategies are among those anticipated to reduce truck congestion and other impacts:

- Hueneme Road widening between Ventura Road and Rice Avenue
- Reconfiguring the interchange at Rice Avenue and U.S. 101
- Rice Avenue UP Grade Separation
- Rose Avenue UP Grade Separation
- SR-118/Coast Line Grade Separation Maintain Port Hueneme Road/Hueneme Road and Rice Avenue as the primary truck access corridors to the Port of Hueneme and encourage trucks to use this route through additional signage

Imperial County International Ports of Entry

As discussed previously, international border crossings between the U.S. and Mexico in Imperial County are critical components of the freight transportation system in Southern California. Within Imperial County, the three ports of entry (POEs)–Calexico West-Mexicali I, Calexico East-Mexicali II, and Andrade-Los Algodones–accounted for over $10 billion in international trade in 2010.[36]

While most goods in Imperial County move by truck, the border areas also are served by the UP and Carrizo Gorge Railway (CGR). The Calexico East border crossing is the only international rail crossing in the SCAG region and provides the only rail connection from California into Central Mexico.

According to the Overall Economic Development Commission (OEDC), there are a number of challenges in Imperial County that could constrain future economic development.[37] A significant concern is the lack of adequate transportation infrastructure, especially at the U.S.-Mexico border. Some of the most noticeable gaps in the county's truck network include:[38]

- The lack of direct freeway connections to railyards and intermodal facilities;
- The lack of dedicated truck lanes, passing lanes, and truck bypass routes;
- High truck traffic through urban areas including Brawley and Westmorland; and
- Empty trucks returning to Mexico after unloading their cargo in Calexico.

Key transportation strategies identified to date to improve the flow of goods in the area include:

- Improving interchanges and developing bypasses to the "main streets" in the region
- The Brawley Bypass (SR-78/SR-111) (an eight-mile, four-lane divided expressway connecting SR-86 north of Brawley to 1.5 miles south of the eastern junction of SR-111 and SR-78)–expected completion in 2013.
- The I-8/Imperial Avenue Interchange reconstruction and Imperial Avenue Extension projects in the City of El Centro and expansion of the Calexico East POE

High Desert Corridor

Some trucks in the region traverse SR-138, linking the Antelope and Victor Valleys. However, SR-138 currently lacks adequate infrastructure to handle heavy truck volumes. The proposed High Desert Corridor between I-15 and I-5 is anticipated to accommodate an expected three- to six-fold increase in traffic, providing a new level of accessibility, carrying trucks and other through traffic.

Truck Climbing Lanes

Additional highway projects that would facilitate goods movement activities in the region include truck climbing lanes. Examples of corridors identified suitable for truck climbing

[36] The vast majority of goods traded between the U.S. and Mexico through Imperial County are transported through the Calexico East-Mexicali II port of entry, including nearly all Mexican imports to the U.S. amongst these POEs. The Calexico West-Mexicali I and Andrade-Los Algodones POEs serve significantly less commercial traffic, handling only exports from the U.S. to Mexico.

[37] Imperial County (2009), Planning and Development Services Department, Comprehensive Economic Development Strategy 2008–2009, September 2009.

[38] Imperial Valley Association of Governments (2008), Imperial County 2007 Transportation Plan Highway Element. Prepared by KOA Corporation, March 2008.

lanes and currently programmed with funding and/or under construction include I-15, SR-57, and SR-60. Truck climbing lanes are additional lanes located outside mixed-flow lanes, which permit slower-moving trucks to operate at their own pace. This enables other vehicles to move at a faster pace, thereby reducing congestion. These lanes are typically placed where slow-moving trucks would cause an obstruction to other vehicles, such as hillsides or other areas with significant grade increases.

Goods Movement Environmental Strategy

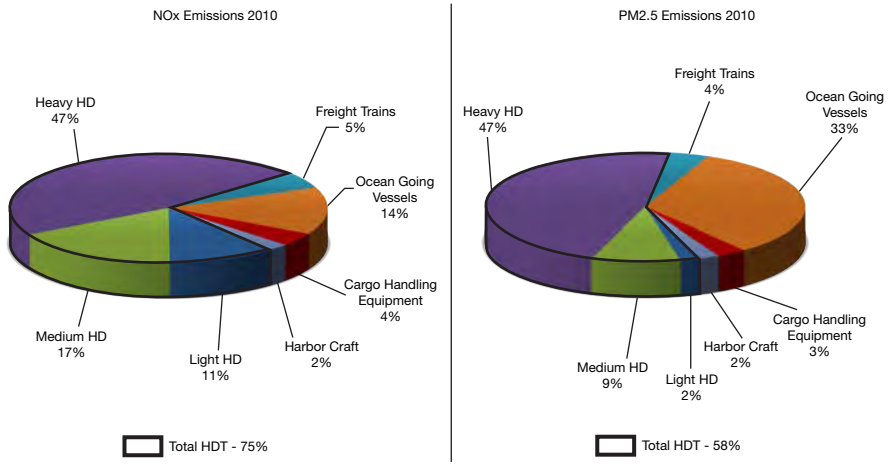
EXISTING AND PROJECTED ENVIRONMENTAL CONDITIONS

It is a regional priority to reduce and mitigate the environmental impacts of moving goods through our region. Ships, trucks, trains and other goods movement equipment are among the largest contributors to regional air pollution, which must be reduced to comply with federal law. Freight emissions contribute to local health risks, which have raised community concerns and opposition, challenging some freight infrastructure projects. Criteria pollutants such as as NO_X, $PM_{2.5}$, SO_X, and CO can have significant public health impacts, including asthma and other respiratory ailments, increased stress, and increased cancer risk. In addition, noise, safety issues, aesthetic changes, vibrations, and natural resource depletion impact quality of life and may have health implications. Freight transport is also a major producer of greenhouse gas emissions and a user of energy in the form of diesel fuel; cleaner sources of secure, reliable energy must be part of the solution.

Much of the SCAG region does not meet federal ozone and fine particulate air quality standards as mandated by the federal Clean Air Act. NO_X released from goods movement activities combines with volatile organic compounds (VOCs) in the atmosphere to form ozone pollution. In the South Coast Air Basin,[39] there is a strict deadline to reduce ozone concentrations to 80 parts per billion (ppb) by 2023 with a future deadline of 75 ppb by approximately 2031.[40] Failure to adopt sufficient measures to attain these standards in a timely manner will trigger federal sanctions such as curtailment of transportation funds. To attain the federal ozone standards, the region will need broad deployment of zero-and near-zero-emission technologies in the 2023 to 2035 timeframe.

Goods movement sources include trucks, locomotives, cargo handling equipment, marine vessels, and aircraft. These sources, combined with all mobile sources in the region, emit approximately 90 percent of regional NO_X.[41] Currently, heavy-duty trucks contribute 58 and 75 percent of $PM_{2.5}$ and NO_X emissions, respectively, and locomotives contribute 4 and 5 percent, respectively, from goods movement related sources. **FIGURE 9** shows the distribution of emissions from various goods movement sources.

FIGURE 9 Goods Movement NO_X and $PM_{2.5}$ Emissions in SCAB by Source



Source: ICF analysis based on EMFAC 2007 (modified for recession effects), ARB regulatory documents for marine fuel requirements, ARB emission inventory, ARB Goods Movement Plan, ARB and U.S. EPA locomotive analyses. Work completed for SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy.

Goods movement activities are also a source of GHG emissions. Although a reduction in goods movement related GHG emissions is not required under SB 375, which focuses solely on light-duty vehicle emissions, the State has established GHG reduction goals under AB 32 as have a number of local governments. Several measures have been passed by the EPA and the California Air Resource Board (CARB) to reduce GHG from heavy-duty

39 Los Angeles, Orange, and non-desert portions of Riverside and San Bernardino Counties.

40 The attainment deadline for the 75 ppb standard (adopted in 2008) has not yet been established by U.S. EPA, but is expected to be by approximately 2031.

41 South Coast Air Quality Management District, The Need for Zero-Emission Technologies, presentation for Zero-Emission Transportation and Roundtable Discussion, April 20, 2011.

trucks and rail. Despite reductions attributable to these measures, GHG from heavy-duty trucks in the SCAG region are expected to increase by 30 percent from current levels by 2023 and 60 percent from current levels by 2035. GHG emissions from rail in the South Coast Air Basin (SCAB) are expected to increase by 50 percent from 2010 levels by 2023 and by 123 percent from 2010 levels by 2035.[42]

Heavy-duty trucks are usually powered by diesel, which contributes to regional NO_X and PM emissions. As shown in **TABLE 14**, federal and state regulations will contribute to a decrease in NO_X and $PM_{2.5}$, but as VMT increases, these gains become relatively smaller over time. In addition, these regulations do not lead to reductions in CO_2 emissions. In the 2008 RTP, recommendations for truck emissions strategies included truck replacement, engine repowering, exhaust treatment device retrofits, and alternative fuels. CARB's truck and bus regulation, as well as state and local incentive programs, were put into place to accelerate the introduction of cleaner technology.[43] By 2023, nearly all HDVs will be model year 2010 or newer. But further reductions in truck emissions are critical to the region's air quality and must come from the introduction of advanced technology HDVs.

TABLE 14 Percent Change in Truck Emissions from 2010 Measurements (Tons per Day)

	2010 (Tons per Day)	2023	2035
NO_X	352.59	-67%	-58%
$PM_{2.5}$	12.00	-65%	-53%
CO_2	64,319	30%+	60%+

Source: SCAG Regional Comprehensive Goods Movement Study

It is a regional priority to reduce rail pollutants and work toward the objective of a zero-emission freight rail system as well. Reduction of emissions from rail would help eliminate pollution hotspots and would improve associated health impacts in neighboring communities. At the federal level, regulations are in place that will contribute to future reductions in rail emissions, including the U.S. EPA Locomotive Engine Standards, the 2008 EPA rulemaking to reduce locomotive idling, and the EPA non-road locomotive and marine (NRLM) fuel sulfur rule. At the state level, the CARB has passed an intrastate locomotive fuel use regulation and has several agreements with the railroads such as a 1998 MOU between CARB and the railroads to accelerate Tier 2 locomotive use and a 2005 agreement to reduce railyard emissions. In addition, the CARB is finalizing a series of 2010 commitments that will further reduce diesel $PM_{2.5}$ at four high-priority railyards. These regulations will lead to a reduction in $PM_{2.5}$ emissions and a smaller reduction in NO_X emissions, as shown in **TABLE 15**. These regulations, however, do not address reductions in CO_2 emissions.

TABLE 15 Percent Change in Rail Emissions from 2010 Measurements (Tons per Day)

	2010	2023	2035
NO_X	16	-3%	-18%
$PM_{2.5}$	0.62	-47%	-61%
CO_2	1,313	50%+	123%+

Source: SCAG Regional Comprehensive Goods Movement Study

42 SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy.

43 Regulations such as the California truck and bus rule that requires all trucks to have a 2010 or cleaner engine by 2023; HHDT GHG regulation; truck idling limit; low carbon fuel standard, and the EPA's HDV fuel economy and GHG standards will contribute to a decrease in truck emissions over time.

In the South Coast Air Basin, attaining the national ozone standards will require reductions in emissions of nitrogen oxides (NO_X) well beyond reductions resulting from current rules, programs, and commercially-available technologies.[44] Because most significant sources are already controlled by over 90 percent, attainment of the ozone standards will require broad deployment of zero- and near-zero-emission[45] technologies in the 2023 to 2031 timeframe. With the projected changes in both truck and rail emissions, greater advancements in technology are needed to meet regional attainment objectives. As such, the 2012–2035 RTP/SCS includes an action plan to facilitate technology development and reduce emissions.

This RTP Goods Movement Environmental Strategy was developed to address community health concerns, federal attainment requirements, and climate change issues, while contributing to our economic and energy security goals. Accordingly, the strategy emphasizes coordinated solutions for mobility, economy, energy, and environment so that investments can provide multiple benefits. A two-pronged approach for achieving such a strategy is identified. For the near term, the regional strategy supports the deployment of commercially available lower-emission trucks and locomotives while centering on continued investments in improved system efficiencies. In the longer term, the strategy focuses on taking critical steps now toward phased implementation of a zero- and near-zero emission freight system. This includes planning for new infrastructure to incorporate evolving technologies—to fuel vehicles as well as to charge batteries and provide power.

GOODS MOVEMENT ENVIRONMENTAL STRATEGY AND ACTION PLAN

In order to implement this strategy with both near-and long-term objectives, the 2012–2035 RTP/SCS includes a four-phased action plan with key milestones. This plan calls for collaborative decision-making about how to advance research, development, and deployment of new technologies and expands on the use of existing technologies. Where needed, evaluation will be conducted to better understand costs and operational impacts to guide decision-making. The timeline for this action plan is shown in **FIGURE 10**. The four phases of the action plan are:

Phase 1 – **Project Scoping and Evaluation of Existing Work**

Phase 2 – **Evaluation, Development, and Prototype Demonstrations**

Phase 3 – **Initial Deployment and Operational Demonstration**

Phase 4 – **Full-Scale Demonstrations and Commercial Deployment**

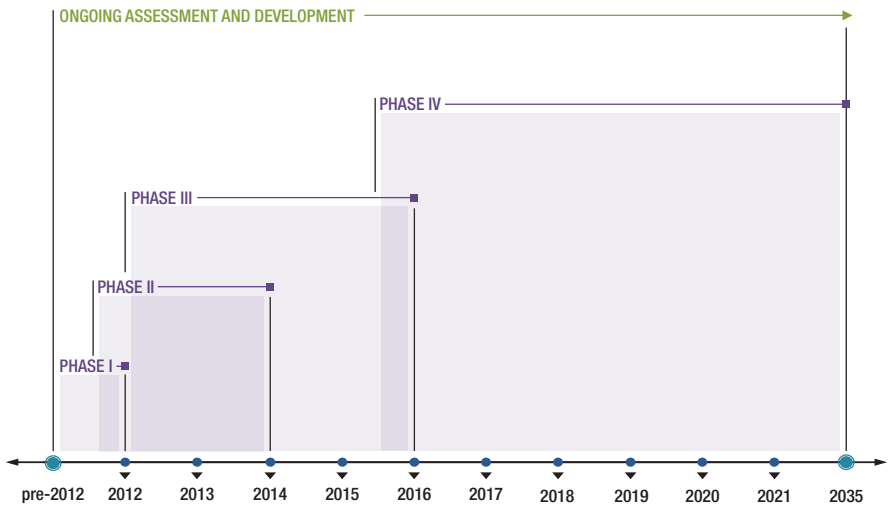
The phases above provide a structured means to further develop, evaluate and deploy the technologies that will help the region to meet the objective of a zero-emissions goods movement system. The timeframe represents an estimation of when various technologies may be available for full deployment. However, the development and evaluation process may vary depending on the technology. As this plan is technology neutral, this proposed timeline serves as a general framework for making the decisions necessary to advance technology in the region. It is acknowledged that the timeframe may be subject to further revisions as additional information about specific technologies becomes available with further research and development as well as stakeholder input. The ability to create partnerships and procure funding for research and development efforts may help to accelerate the timeline for specific technologies. As explained below, this plan of technology development, evaluation and eventual deployment will be undertaken in close cooperation with all goods movement stakeholders.

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44 Preliminary SCAQMD projections indicate a need to reduce regional NO_X emissions by about two-thirds by 2023 and three quarters by approximately 2030. South Coast Air Quality Management District, The Need for Zero-Emission Technologies, presentation for Zero-Emission Transportation and Roundtable Discussion, April 20, 2011.

45 The term “near zero-emissions” refers to emissions approaching zero and will be delineated for individual source categories through the process of developing the Air Quality Management Plan/State Implementation Plan. Based on current analyses, on-land transportation sources will need to achieve zero-emissions where possible, and otherwise will need to be substantially below adopted emission standards-including standards with future effective dates. Near-zero-emissions technologies can help meet this need, particularly if they support a path toward zero emissions (e.g., electric/fossil fuel hybrids with all-electric range).

FIGURE 10 Timeline to Implement a Zero-and Near-Zero-Emission Freight System



- 2012 – Identify potential funding to support truck, wayside power, and rail evaluation and prototype demonstration efforts; incorporate into financially constrained RTP
- 2012 – Implement plan of advocacy to secure action by federal or other governments
- 2012–2013 – Continue to evaluate truck technology implementation and funding mechanisms; initiate testing of zero-emission container movement system along the Terminal Island Freeway and connecting routes to the Ports (or alternative routes serving the same locations)
- 2012-2013 – Continue to evaluate practicability of applying electrified rail or other zero-/near-zero-emission technologies, and evaluate funding and implementation mechanisms
- 2015–2016 – Resolve need for wayside power for trucks (in 2015) and incorporate decisions on wayside power and technology direction, including strategy, funding, and timeframe into 2016 RTP update and SIP revisions; if existing rail technologies are practicable for freight, identify technologies, infrastructure, and implementation mechanisms in RTP update and SIP
- 2015–2020 – Begin deployment of appropriate zero- and near-zero-emission trucks and continue operational demonstration
- 2018–2020 – If existing rail applications were determined not practicable for freight, resolve need for wayside power for new rail technologies (in 2018) and incorporate planning into the 2020 RTP and next major SIP
- 2017–2035 – Full deployment of appropriate zero-and near-zero-emission trucks for substantially all regional transport; if existing electrified rail technologies can be practicably applied to the region, fully deploy such technologies

ACTION PLAN FOR ADVANCEMENT OF ZERO-EMISSION TECHNOLOGY

Phase 1: Project Scoping and Evaluation of Existing Work

Key Action Step:

- Continue to research goods movement user-markets and associated infrastructure needs while exploring a range of technologies as appropriate with equipment manufacturers

The first phase of this environmental strategy has already been initiated through the cooperative efforts of regional stakeholders. Our long-term objective of an economically viable zero-emission freight transport system requires continued coordinated efforts and funding from multiple stakeholders. In addition to the work SCAG has recently undertaken with the Comprehensive Regional Goods Movement Plan and Implementation Strategy, other organizations such as the Ports of Long Beach and Los Angeles, CALSTART, and Los Angeles County Metro are working toward the objective of zero-emission freight transport.[46] [47]

Over the last several years, numerous studies have evaluated our regional transportation corridors that carry high volumes of freight truck traffic. Recent assessment of the I-710 corridor identifies key freight segments as high priority for the introduction of zero-emission technology.[48] Selection of an east-west freight corridor and evaluation of the potential regional penetration of zero-and/or near-zero-emission technology are ongoing additional priorities.

Additionally, significant effort has gone into analyzing the options for a zero- and/or near-zero emission rail system in the Basin. These include recent efforts by the Ports of Los Angeles and Long Beach in their Roadmap study[49] and by SCAG in the freight rail electrification report.[50] Each of these efforts highlights the technical opportunities and the need to pursue a zero-emission freight transportation system for the future. However, they also highlight the difficult challenges associated with this sector, especially with regard to operational needs, integration of the technologies into the national rail system, federal safety requirements, and costs. These challenges will be addressed through various phases of the environmental strategy. Further discussion of potential technologies for locomotives and trucks are addressed in later sections of this appendix.

Phase 1 requires the continued effort of various stakeholders to work through the technical, operational, practical and financial issues to define a long-term zero-emission freight system for the SCAG region. This scoping work will be done by the conclusion of 2012, however communication among stakeholders about various regional efforts will continue throughout the technology development process.

Phase 2: Evaluation, Development, and Prototype Demonstrations

Key Action Steps:

- Convene logistics working groups
- Determine a set of market criteria to move truck vehicles forward to successful commercialization.
- Secure funding commitments for the development of vehicle prototypes and infrastructure demonstrations
- Advance pathway technologies through regulatory, financial, and marketing mechanisms
- Develop and demonstrate truck and truck wayside power prototypes

46 Port of Long Beach and Port of Los Angeles, *Roadmap for Moving Forward with Zero-Emissiona Technologies at the Ports of Long Beach and Los Angeles*, Technical Report, August 2011.

47 California Hybrid, Efficient and Advanced Truck Research Center (CalHEAT), *Vehicle and Technologies Characterization and Baseline*. Draft Report. January 31, 2011.

48 Los Angeles County Metropolitan Transportation Authority, *Alternative Goods Movement Technology Analysis-Initial Feasibility Study Report. Final Report. I-710 Corridor Project EIR/EIS*. Prepared by URS. January 6, 2009.

49 Port of Long Beach and Port of Los Angeles, *Roadmap for Moving forward with Zero-Emission Technologies at the Ports of Long Beach and Los Angeles*, Technical Report, August 2011.

50 Southern California Association of Governments. *Task 8.2 Analysis of Freight Rail Electrification in the SCAG Region*, Technical Memorandum. Draft Version, Prepared by Cambridge Systematics, August 26, 2011.

- Further study operational impacts of zero-emission rail technologies
- Evaluate practicability of applying existing electrified rail technologies
- Select truck technologies for continued fleet evaluation under Phase 3
- Identify vehicle technologies and wayside power applications to be tested under operational demonstrations in Phase 3

Phase 2 involves the development, design validation, and initial demonstration of several types of advanced prototype vehicles (trucks). Phase 2, and Phase 3 if necessary, also includes initial proof of concept and testing of several types of zero-emission locomotive technologies and supporting infrastructure.

To foster regional collaboration during this phase, a logistics working group will be convened to assess logistics decisions and efficiencies as they relate to changes with a long-term freight system. Two additional groups will be formed, one to focus on trucking, the other on rail. One responsibility of these groups will be to collaborate with public and private partners to secure funding commitments for the development of vehicle prototypes and infrastructure demonstrations. These groups may overlap with or draw upon membership from existing regional forums. For instance, the Southern California National Freight Gateway Collaboration provides a forum composed of leaders from regional transportation as well as state and federal resource agencies. One mission of this group is to advocate for a first-class goods movement system and the funding necessary to support such a system.

Phase 2 includes performance assessment of new technologies, including addressing market risks/uncertainties. As prototypes are developed and demonstrated, significant evaluation will also occur. For instance, a truck corridor market mechanism study will assess effective models for financial and regulatory structures to support and enable zero- and/or near-zero-emission truck commercialization and widespread deployment. Models may include incentives, buy-down rebates, preferred or exclusive access to port service, exclusive or preferred access to corridors, regulatory inducements, etc. Truck manufacturers and technology developers will be included to determine a set of market criteria–minimum market size and volumes of vehicles needed to move forward to successful commercialization.

For rail, uncertainties associated with new technologies would be addressed through a rail operational assessment study that evaluates the potential operational impacts of a zero- and/or near-zero rail system both within the Basin and on the larger national freight railroad system. This study would build on the work of SCAG's 2011 Rail Electrification Study, but would further clarify total capital and operating costs for such a system. Because overhead catenary systems have already been proven for passenger and some freight applications, this study would also evaluate the practicability of utilizing existing technologies for rail service.

For rail technologies, initial demonstration would include technology optimization along prescribed routes under conditions applicable to goods movement activities. An initial step in Phase 2 or Phase 3 if necessary, would entail creating a test track to allow for the demonstration of various technologies to move containers. For rail prototypes, basic performance requirements include, but are not limited to, sufficient tractive power to haul a double-stacked railcar, adequate braking capability and other parameters to support safe operation, and the ability to operate in zero-emission mode.

For trucks, certain pathway technologies are currently available but have had limited applications to date. For example, plug-in hybrid technologies are being demonstrated in parcel delivery and utility bucket truck applications; these systems could be scaled to larger vehicles for drayage and local service.

Additionally, the 2012–2035 RTP/SCS includes demonstration and initial deployment for zero-emission truck technologies along the Terminal Island Freeway and connecting routes to the Ports, (or alternative routes serving the same locations.) The shorter distance (approximately 5 miles) reduces technological and cost obstacles and is an important part of the initial effort to develop a regional zero- and/or near-zero freight transportation system. Please see the text box for more information on this important near-term project.

At the conclusion of Phase 2, efforts would be evaluated and technologies selected to continue into Phase 3.

Phase 3: Initial Deployment and Operational Demonstration

Key Action Steps:

- For trucks, scale up efforts to develop, deploy, and evaluate full truck fleets
- Demonstrate wayside power and ability for multiple trucks to enter, exit, and be powered on a corridor
- Conduct advanced technology locomotive demonstrations on test tracks that have sufficient length, switches, and grades to validate operational feasibility within the Basin
- Move the most promising technologies to initial demonstration of operational service
- Select advanced locomotive technologies for Phase 4 initial deployment
- Select truck technologies and infrastructure for Phase 4 deployment and incorporate needed infrastructure into financially constrained RTP for high-priority corridors

In Phase 3, technologies that have been advanced by the Logistics Working Group will be further tested in an operational demonstration. This phase entails initial deployment of multiple vehicles or test tracks as appropriate, with on-going data collection and analysis for rapid iterative design improvement.

Phase 4: Full Scale Demonstrations, Commercial Deployment, and Infrastructure Construction (if wayside power is needed)

Key Action Steps:

- Continue to launch and expand commercialization of zero-emission trucks using regulatory and market mechanisms identified in prior phases
- Continue expanding plans for any needed wayside power infrastructure along high-priority corridors (e.g., the East-West Freight Corridor)
- Foster integration of advanced technologies into regional transportation networks
- Advance rail technologies from small-scale demonstration to full-scale demonstration in operational service, as locomotive technologies will likely require additional field demonstrations prior to full commercialization
- Coordinate locomotive technology deployment with any needed infrastructure improvements

The prior stages of technology testing and demonstrations will have prepared the region for Phase 4 deployment using the commercialization, regulatory, and market steps determined in prior phases. Any new technology deployment must be coordinated with infrastructure planning, and key decisions will be incorporated into RTP updates and future SIP revisions. During Phase 4, technologies will be deployed as they meet the criteria for deployment established by regional stakeholders. As various technologies are currently in different stages of readiness, it is assumed that their deployment will be staggered throughout Phase 4.

Near-Term Zero-Emission Technology Demonstration and Initial Deployment

Description: This project is for near-term demonstration and, if successful, initial operational deployment of zero-emission trucks receiving wayside electric power.

Location: The project will be located in Los Angeles County along the Terminal Island Freeway and connecting routes to the Ports, (or alternative routes serving the same locations).

Schedule:

- By 2013 – Demonstration: Develop and build trucks and wayside power infrastructure sufficient for demonstration within the transport corridor consisting of the Terminal Island Freeway and connecting routes to the Ports (or alternative routes serving the same locations); commence demonstration upon completion of trucks and infrastructure.
- By 2015 – Initial Operational Deployment: Build wayside power infrastructure sufficient for operation on the Terminal Island Freeway and connecting routes to the Ports (or alternative routes serving the same locations), and build maximum number of trucks for initial operational deployment allowed by available funding (with all feasible leveraging of private resources), unless a zero-emission technology not utilizing wayside power is determined to be superior and can be implemented in a similar or earlier timeframe. In the latter case, remaining funds allocated to this project will be applied to demonstration and deployment of zero-emission trucks not utilizing wayside power.

Cost: Project cost is $35 million, for both demonstration and initial operational deployment phases. This includes construction of infrastructure, design and build of demonstration trucks, and acquisition of a small fleet for initial operational deployment.

Funding: AQMD will actively partner in supporting this effort by providing available funding for vehicle technology or infrastructure (staff will make a proposal to the AQMD Board in 2012), seeking funding partners, and developing other support. Additionally, SCAG will work with local transportation agencies, the Ports, and other private and public stakeholders in 2012 to identify funding for this project. Other potential co-funding sources include:

- California Energy Commission AB 118 program
- California Air Resources Board
- California greenhouse gas cap and trade auction revenues
- Federal grants
- In-kind contributions and public private partnerships with technology developers, drayage companies, etc.
- Funds available for project mitigation

Project Rationale: The Ports, vehicle manufacturers, and other entities are currently demonstrating new zero-emission truck technologies, including battery-electric, fuel-cell, and hybrid-electric trucks with all electric range (AER). The purpose of this project is to demonstrate and initially deploy wayside power technology to provide power to these and other types of vehicles along certain high-volume corridors, thus allowing extended zero-emission range. Wayside technology has been used for many decades to power electric buses, mining trucks, and rail systems. It is thus a particularly proven and promising technological approach to achieving zero-emission transport. If coupled with hybrid AER technologies currently in use for passenger cars and now being demonstrated for heavy trucks, wayside power could provide flexibility, range, and compatibility with current port, railyard, and warehouse operations. Hybrid AER trucks could produce zero-emissions along key high-volume corridors (e.g. Terminal Island Freeway, I-710, east-west freight corridor), but could operate off the electrified corridor powered by conventional natural gas or diesel fuels, by fuel cells, or—within certain range—by batteries. Such vehicles thus could provide zero emissions where most needed, and would have range to travel long distances in other modes. The Terminal Island Freeway corridor, as a short, high-volume transport corridor with substantial air pollution impacts to local communities, is an important and ideal venue to initially deploy such technology. Deployment of wayside power technology is compatible with, and builds upon, the current Port efforts to develop and demonstrate electric and hybrid-electric trucks.

AGENCY ROLES AND RESPONSIBILITIES FOR ACTION

TABLES 16 and **17** describe the actions needed by SCAG and its air quality partner agencies to develop plan revisions and implementation mechanisms (e.g. funding and regulatory mechanisms) to deploy zero and near-zero-emission truck and rail technologies as part of a long-term freight system that meets the performance objectives described earlier. These actions will be made through an open process with the collaboration of our stakeholders.

TABLE 16 Trucks: Agency Major Implementation Actions

Year(s)	Agency	Agency Action
2012	SCAG	▪ Incorporate "footprint" for regional truck lanes to accommodate potential use of wayside power in financially constrained 2012 RTP ▪ Include funding to support truck and wayside power evaluation and demonstration efforts into financially constrained RTP See text box for more information. ▪ Implement plan of advocacy to secure action by federal or other governments where required to implement any related elements of the SIP or RTP; include evaluation of impacts of zero- and/or near-zero-emission technologies on national priorities, (e.g. energy security, energy cost certainty, interstate transportation, climate protection).
2012–2014	SCAG, with AQMD/ARB on SIP, other transportation agencies and private sector partners on demonstration and funding efforts	▪ Evaluate potential truck technology implementation and funding mechanisms, including: regulatory requirements; incentives (local, state, federal, interstate cooperative); differential tolls; and public-private partnerships ▪ Evaluate potential funding mechanisms for truck infrastructure (e.g. wayside power), including federal, state, local government funding; tolling; public-private partnerships; and electric utility funding of corridor construction ▪ Demonstrate trucks and wayside power infrastructure sufficient along the Terminal Island Freeway and connecting routes to the Ports, (or alternative routes serving the same locations)

2015	SCAG, with AQMD/ARB on SIP, other transportation agencies and private sector partners on demonstration and funding efforts	▪ Resolve need for wayside power infrastructure for trucks on I-710 and other corridors beyond near-dock rail yards, including East-West Freight Corridor; decision would be based upon whether zero-and near-zero-emission technologies would have sufficient range without wayside power; if wayside power is needed, incorporate such technology description into RTP constrained plan and next major SIP
		▪ Build wayside power infrastructure sufficient for operation along the Terminal Island Freeway and connecting routes to the Ports, (or alternative routes serving the same locations), and build maximum number of trucks for initial operational deployment allowed by available funding (with all feasible leveraging of private resources), unless a zero-emission technology not utilizing wayside power is determined to be superior and can be implemented in a similar or earlier timeframe
		▪ Develop and incorporate recommendations regarding type of funding and implementation mechanisms (including infrastructure needed) into RTP constrained plan and next major SIP, including:
		  ▪ Strategy description and timeframe for any rules
		  ▪ Strategy description, potential funding sources and timeframe for any incentives

TABLE 17 Locomotive/Rail: Agency Major Implementation Actions

Year(s)	Agency	Agency Action
2012	SCAG, with AQMD/ARB on SIP, other transportation agencies and private sector partners (UP/BNSF) on demonstration and funding efforts	▪ Identify funding to support rail evaluation and demonstration efforts ▪ Implement plan of advocacy to secure action by federal or other governments where required to implement any related elements of the SIP or RTP; include evaluation of impacts of zero and near-zero-emission technologies on national priorities, (e.g. energy security, energy cost certainty, interstate transportation, climate protection)
2012–2014	SCAG, with AQMD/ARB on SIP, other transportation agencies and private sector partners (UP/BNSF) on demonstration and funding efforts	▪ Evaluate and determine practicability of applying existing electrified rail technologies to region (by 2013) ▪ Evaluate potential funding and implementation mechanisms for zero-and/or near-zero-emission locomotives, and wayside power, including: Private (railroads); federal, state, local governments; public-private partnerships; electric utilities
2015–2016	SCAG, with AQMD/ARB on SIP, other transportation agencies and private sector partners (UP/BNSF) on demonstration and funding efforts	▪ If existing electrified rail technologies are determined practicable for the region, identify technologies, infrastructure, and implementation mechanisms in RTP amendment and next major SIP

2018–2020	SCAG, with AQMD/ARB on SIP, other transportation agencies and private sector partners (UP/BNSF) on demonstration and funding efforts	▪ If existing electrified rail technologies were determined to not be practicable for the region, resolve need for wayside power for new rail technologies; decision would be based upon whether new technologies can achieve sufficient zero-or near-zero-emission range without wayside power
		▪ If wayside power is needed, include planning for wayside power for rail lines into 2018 constrained RTP
		▪ Include recommendations regarding type of funding and implementation mechanisms into constrained RTP and next major SIP, including:
		  ▪ Strategy description and timeframe for any rules
		  ▪ Strategy description, potential funding sources. and timeframe for any incentives.

Near-Term and Long-Term Technologies for Commercial Deployment

The 2012–2035 RTP/SCS recommends a two-pronged environmental strategy to be implemented in the four phases outlined in the previous section. SCAG recognizes that not all technologies have advanced to the stage where they can be implemented immediately. As the region works to advance and deploy current prototype technologies, focus should be placed on commercializing and implementing existing solutions as well. For trucks, an aggressive program to bring more currently available clean-fuel and hybrid trucks into service represents the best near-term strategy. In the longer term, our infrastructure can serve as a catalyst for the development of longer-range hybrid, dual-mode or battery-operated trucks. For rail, near-term technologies for switcher locomotives can reduce emissions at railyards. A longer-term objective of a zero-emission rail system can be reached through further technology development. This section will briefly describe both near- and long-term technologies that have the potential to reduce emissions and help the region meet attainment deadlines. The technologies identified in this section serve as examples of potential near- and long-term options for further study and do not constitute specific technologies under the financially constrained RTP/SCS.

NEAR-TERM TRUCK TECHNOLOGIES

Natural gas trucks use compressed natural gas (CNG) or liquefied natural gas (LNG) to power an internal combustion engine. Natural gas trucks have already been deployed at the Ports, and have the potential for greater deployment based on provision of fueling infrastructure. Range can be a concern due to limited on board fuel storage; however, adequate fueling infrastructure and/or the use of LNG could address the range issue. Several efforts are underway to expand use of natural gas trucks in the region as a near-term solution. Southern California Clean Cities Coalition is currently assisting with the marketing and education outreach for three projects funded through U.S. Department of Energy (DOE) Clean Cities ARRA 2009 Petroleum Reduction Technology Projects solicitation. These projects include the UPS Ontario–Las Vegas LNG Corridor Expansion Project and the Heavy-Duty Natural Gas Drayage Truck Replacement Initiative, both with the South Coast Air Quality Management District (SCAQMD). A third project is being implemented in partnership with the San Bernardino Associated Governments (SANBAG) and Ryder Truck Rental, Inc. to deploy 202 heavy-duty natural gas trucks and construct two liquefied natural gas fueling stations.

Hybrid-electric trucks contain an internal combustion engine as well as an electric motor, generator, and energy storage device (e.g., a battery). The electric motor and generator absorb energy via regenerative braking and store that energy to offset acceleration and power demands of the vehicle. Several hundred hybrid-electric trucks are on the road due to the ARB's Hybrid Truck and Bus Voucher Incentive Project (HVIP). The incremental cost of this truck is its largest barrier to market penetration; some of this has the potential to be offset through incentive programs or reduced fuel costs for operators.

NEAR-TERM TRUCK OPERATIONAL STRATEGIES

In addition to deployment of new technologies, several programs that address truck operations have the potential to reduce emissions, including increased enforcement of anti-idling regulations, truck inspection and maintenance programs, and use of conditional use permits for warehouses. These are operational changes that do not require new technologies, but may require changes in business practice and enforcement of these changes. Many of these strategies may also reduce noise and vibration impacts.

LONG-TERM TRUCK TECHNOLOGIES

Plug-in hybrid-electric trucks and battery-electric trucks are examples of technologies that may be used in the future. Plug-in hybrid-electric trucks differ from hybrid-electric trucks in that they have a larger battery and can draw energy from the electric grid. This enables the truck to travel under all-electric power when on electrified corridors. These trucks are currently in the development and demonstration stage. The cost and weight of the battery is the most significant barrier to further developing this truck type. Currently, plug-in hybrid technologies are being demonstrated in parcel delivery and utility bucket truck applications; as previously discussed, these systems could be scaled to larger vehicles for drayage and local service. Arvin Meritor is currently developing a dual-mode hybrid, and Vision Motor Corporation has a contract with the Port of Los Angeles to test units made specifically for drayage, using a combination of lithium-ion batteries and fuel cells.

Battery-electric trucks replace the entire engine and drive train of a conventional vehicle with an electric motor and generator. Battery-electric trucks could run entirely on battery packs that are charged when the vehicle is plugged into the grid and via regenerative braking or possibly using an on-board hydrogen fuel cell. Alternatively, these trucks could receive power from an external power source in the roadway, such as an overhead catenary system or through electromagnetic induction from a contact-less power system embedded in the roadway. Zero- and near-zero-emission truck prototype testing is underway with funding from the Port of Los Angeles, the Port of Long Beach, and AQMD. For instance, a demonstration of the Balqon lead-acid battery-electric truck was initiated in 2007. The battery was upgraded to a lithium-ion battery, and testing of the upgraded system is underway. Balqon has a contract at the Port of Los Angeles to test five on-road drayage trucks.

TRUCK TECHNOLOGIES FOR ZERO-EMISSION FREIGHT CORRIDORS

Development of both the proposed I-710 freight corridor and East-West Freight Corridor provide opportunities to commercialize technologies and create incentives for development. Recent studies, such as the I-710 EIR/EIS, research completed by the San Pedro Bay Ports, and the SCAG Comprehensive Goods Movement Study, suggest that fixed guideway systems are less practical to serve the region's needs, as they lack the flexibility to serve the various markets. Zero-emission trucks, however, that either charge

through wayside power infrastructure, at charging stations off the system, or through fuel cell systems, show promise for goods movement corridors.

Wayside power offers a potential advantage to trucks that move on key freight corridors as it offers the potential to extend the range of the vehicle while operating in a zero-or near-zero-emissions mode. There is always a tradeoff between the weight of battery systems (which reduce payload carrying capacity) and the range of the vehicle. Current battery technologies have range limitations of approximately 40 miles in common truck duty cycles. A wayside power system on a freight corridor (truck lanes), for example, could charge batteries so that the truck can continue to operate with a 40-mile range when it leaves the freight corridor. This could provide a more extended range system than would charge stations located at truck stops and fuel stations similar to the current fueling infrastructure. Ongoing efforts are underway to evaluate the costs and operational parameters associated with either method.

Wayside power technologies include overhead catenary, in-road power such as third rail or linear synchronous motor (LSM), and fast charging. All three technologies must be integrated closely with the zero and/or near-zero-emission trucks, and all have the potential to significantly increase the functionality and range of trucks utilizing batteries, including dual-mode hybrids. (It is unlikely that fuel cell trucks would need wayside power, due to their range and relatively quick refueling capability.) In overhead catenary systems, power is delivered from the electrical grid through the overhead wire to a pantograph on the vehicle itself. Catenary systems are well-established and efficient in light-rail applications, trolley cars and buses, and even mining trucks. For in-road power, the roadway itself provides power to the vehicles, which must be equipped with pick-up devices. Alternatively, fast charging is a high-power charging system used to quickly recharge the batteries in an electric vehicle at destination points, e.g., rail yards or distribution centers. While technically not "wayside" power, fast charging is similarly grouped with other approaches that require infrastructure to be designed and built into the freight facilities and corridors. These systems have different operational requirements. Ideally, the system would allow for trucks to enter and exit the system seamlessly, change lanes and could be shared with standard trucks.

NEAR-TERM RAIL EMISSION REDUCTION STRATEGIES

Switcher locomotives contribute only a small share of total locomotive emissions; however, their activity is concentrated in railyards and greatly impacts surrounding communities. Nevertheless, low-emission technologies are available, or soon to be available, and have relatively low costs. To reduce emissions from switcher locomotives, one option is to replace remaining Tier 0+ switchers with cleaner engines, such as Tier 4 switchers when they become available. NO_X and $PM_{2.5}$ emission rates from a Tier 4 switcher would be approximately 10–15 times lower than a Tier 0+ engine. Another option is to rebuild existing Genset switchers with engines that meet the U.S. EPA Tier 4 non-road emission standards, which could cut NO_X and $PM_{2.5}$ emissions by a factor of 10. The emission reductions of these strategies could reduce emissions for switcher engines between 27 and 53 percent. However, since switchers are a small part of the overall fleet, these two switcher strategies would reduce total freight locomotive NO_X and $PM_{2.5}$ emissions by only 1 to 3 percent. Tier 4 engines are not currently available, but are required by the EPA for all new purchases after 2015. **TABLES 18** and **19** show emissions reductions associated with upgrading all engines to Tier 4 after 2015. Such a strategy can be implemented on a voluntary basis, subject to funding availability. This strategy is presented for illustrative purposes and is not part of the financially constrained RTP/SCS.

TABLE 18 Emission Reductions from Replacing Tier 0 with Tier 4 Switchers (Tons per Day)

	NO_X			$PM_{2.5}$			CO_2		
Year	Switcher baseline	With Strategy	% Change	Switcher baseline	With Strategy	% Change	Switcher baseline	With Strategy	% Change
2010	1.37	1.37	0%	0.041	0.041	0%	94	94	0%
2023	0.68	0.35	-49%	0.017	0.001	-45%	123	123	0%
2035	0.37	0.37	0%	0.010	0.010	0%	153	153	0%

Source: SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy

TABLE 19 Emission Reductions from Repowering Gensets with Tier 4 Non-Road Engines (Tons per Day)

	NO_X			$PM_{2.5}$			CO_2		
Year	Switcher baseline	With Strategy	% Change	Switcher baseline	With Strategy	% Change	Switcher baseline	With Strategy	% Change
2010	1.37	1.37	0%	0.041	0.041	0%	94	94	0%
2023	0.68	0.50	-27%	0.017	0.011	-36%	123	123	0%
2035	0.37	0.18	-50%	0.010	0.004	-62%	153	153	0%

Source: SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy

LONG TERM EMISSION REDUCTIONS STRATEGIES FOR RAIL

Electrification

Several U.S. commuter rail systems use overhead lines to power electric trains, and electrified systems for both passenger and freight trains are common throughout Europe and Asia. There are no major electrified freight rail systems in North America. Electrification technologies require further evaluation to more precisely address questions about cost, funding, and how to best implement such systems with minimal operational impacts. Because of the cost and potential operational challenges associated with main line electrification, such a strategy should be considered a longer-term initiative, requiring further studies as well as proof of concept and prototype testing of zero-emission locomotive technologies which have the potential to minimize cost and operational impacts, as discussed under the phased implementation section of this Appendix.

Three electrification options were analyzed for consideration in SCAG's recent rail electrification study, each with varying costs and levels of technological readiness. Electric catenary rail systems are perhaps the most technologically ready. Dual-mode locomotives are in use for passenger service and, if they could be adapted for freight, could reduce the operational difficulties of removing and switching locomotives, as they can operate both on a catenary or with traditional diesel power. A third option would use linear synchronous motors in the railway to generate a propulsive force by creating an electromagnetic field, thereby avoiding the need to acquire or switch electric locomotives. Construction of any electrified rail system in Southern California would be a large investment, and would need the participation of the BNSF and UP railways.

Electrification of the railroad main lines would reduce line-haul NO_X and $PM_{2.5}$ emissions produced in the SCAG region by introducing cleaner, more efficient electric-powered locomotives and also by shifting the location of emissions to power plants. Although some emissions would still be produced in electricity generation, power plants are highly regulated and release fewer emissions. Furthermore, all power plants in the SCAB region are natural gas powered and also release fewer emissions. Most power plants are located outside the SCAB region and therefore emissions from these sources would be further from population centers.

Battery Hybrid And Fuel Cell Rail Technologies

In future analyses, other additional viable technologies would be considered outside of electrification options. Two promising technologies that are under development include hybrid diesel-electric locomotives and battery-electric tender cars. Each requires additional development and a more thorough understanding of operational considerations. Hybrid diesel-electric locomotives (utilizing advanced batteries) are under development by General Electric (GE). The prototype is based on GE's Tier 2 Evolution locomotive platform (4,400 hp) that will capture energy dissipated during braking and store it in a series of sodium-nickel chloride batteries housed in the locomotive frame. Fuel savings would allow for a small fuel storage tank and provide space for storage of the necessary batteries on individual locomotives. The locomotives would therefore switch between Tier-4 diesel-electric and battery modes. The batteries would recharge as the locomotive is operating in diesel-electric mode.

Also, battery-electric tender car technology could be used with current locomotives. Battery tender cars would be placed behind diesel-electric locomotives and would carry batteries that could power locomotives through environmentally sensitive areas. Such a system could have many of the same advantages as the hybrid diesel-electric locomotives, including zero-emission operation, but would also have the added benefit of being compatible with current locomotives and reducing or eliminating the need for wayside power such as from overhead catenary wires.

IMPLEMENTING THE ENVIRONMENTAL STRATEGY

Broad deployment of zero-and near-zero-emission transportation technologies in the 2023 to 2035 timeframe is a critical and significant undertaking with technological, cost, and operational challenges. As outlined above, the 2012–2035 RTP/SCS delineates a path forward–a series of steps and decision points to move the region to that objective. Industry stakeholder participation will be necessary, including the efforts of numerous state and federal resources agencies, transportation agencies, along with commercial technology developers/manufacturers, and logistics experts. The 2012–2035 RTP/SCS, developed in coordination with many of these stakeholders, reaffirms zero- and near-zero-emission technologies as a priority and establishes the regional path forward to such a goods movement system.

EXHIBIT A.1 Manufacturing and Warehousing Concentrations Along I-210 (5-Mile Radius)

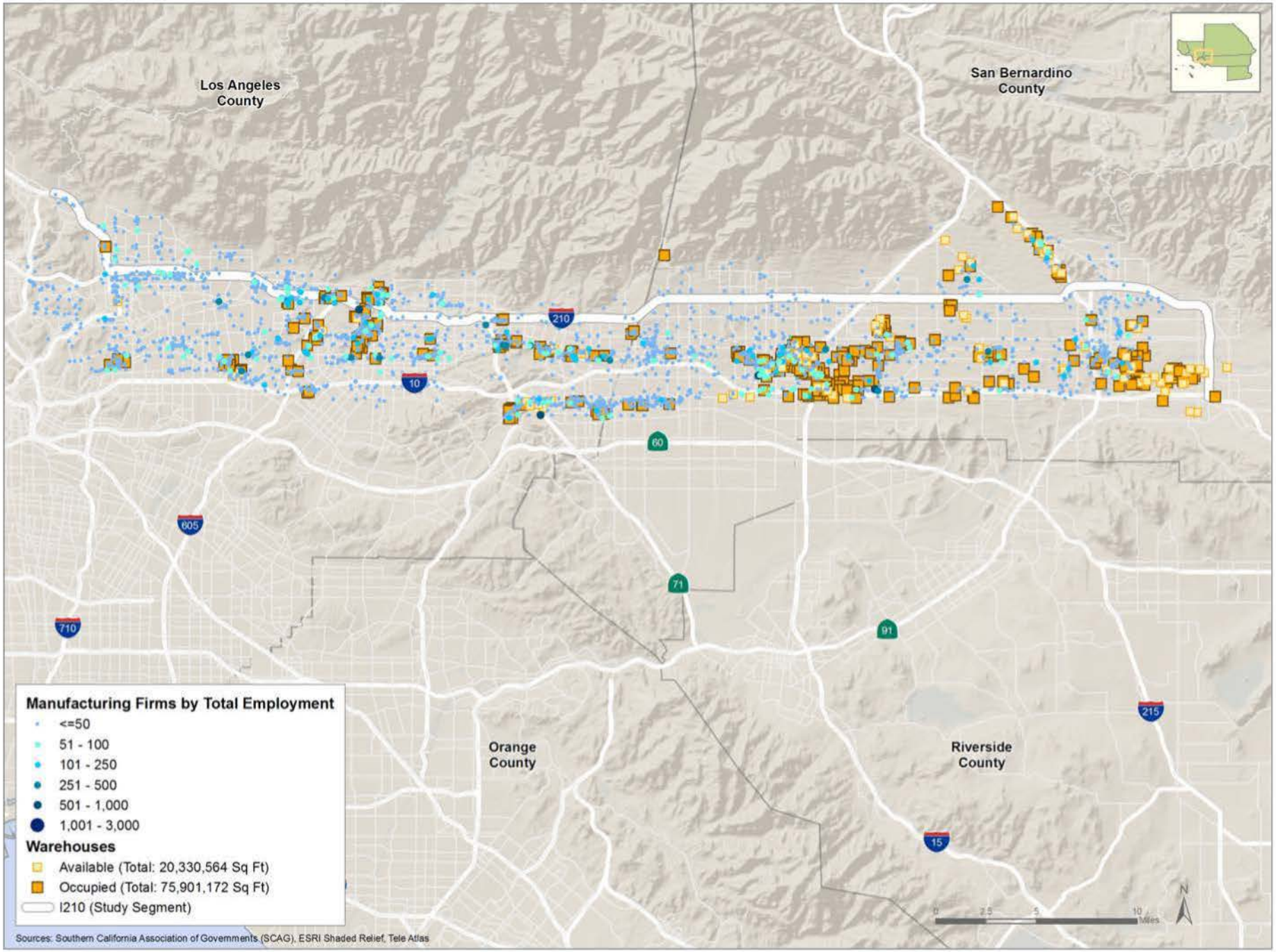


EXHIBIT A.2 Manufacturing and Warehousing Concentrations Along I-10 (5-Mile Radius)

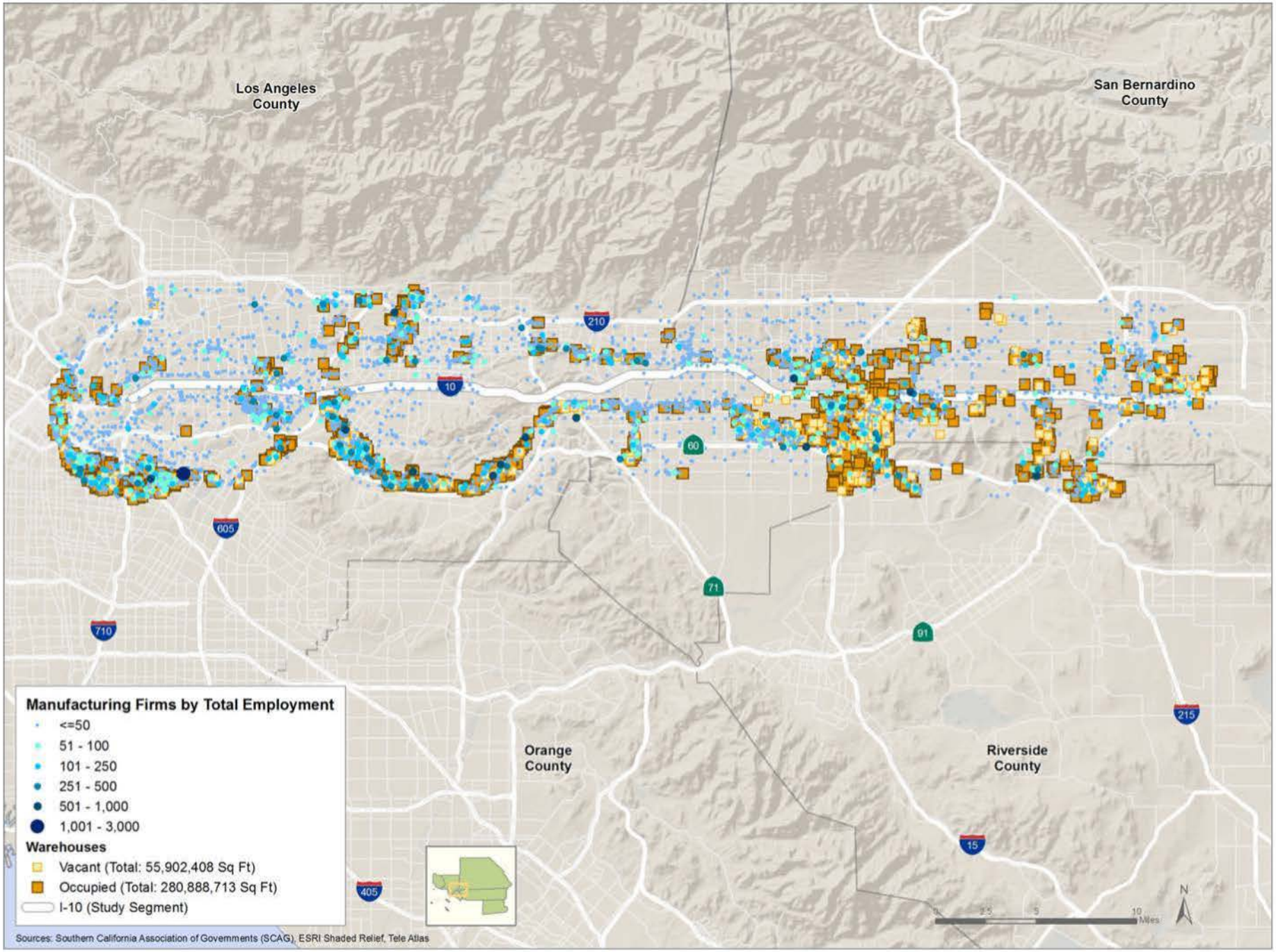


EXHIBIT A.3 Manufacturing and Warehousing Concentrations Along SR-60 (5-Mile Radius)

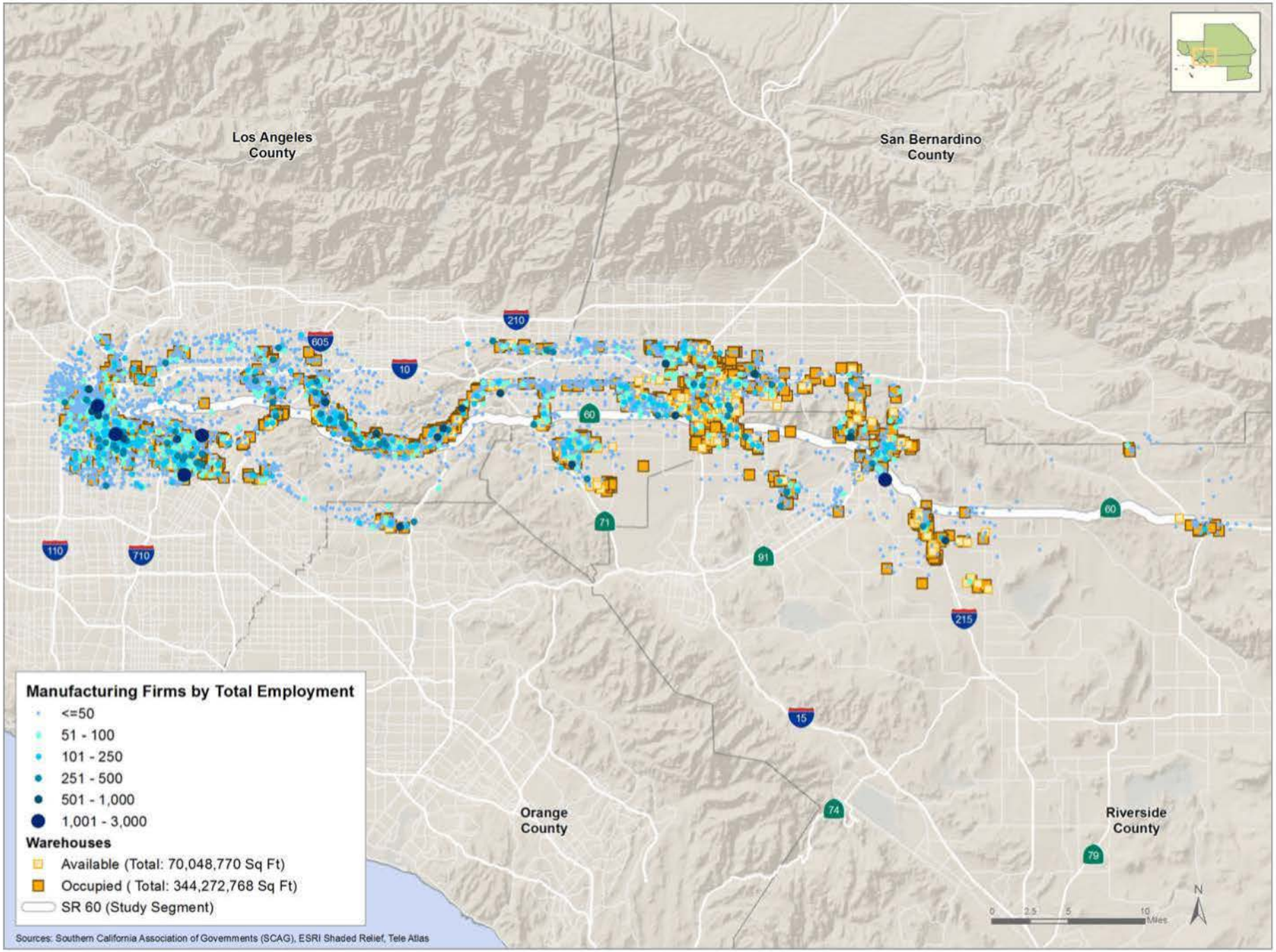


EXHIBIT A.4 Manufacturing and Warehousing Concentrations Along SR-91 (5-Mile Radius)

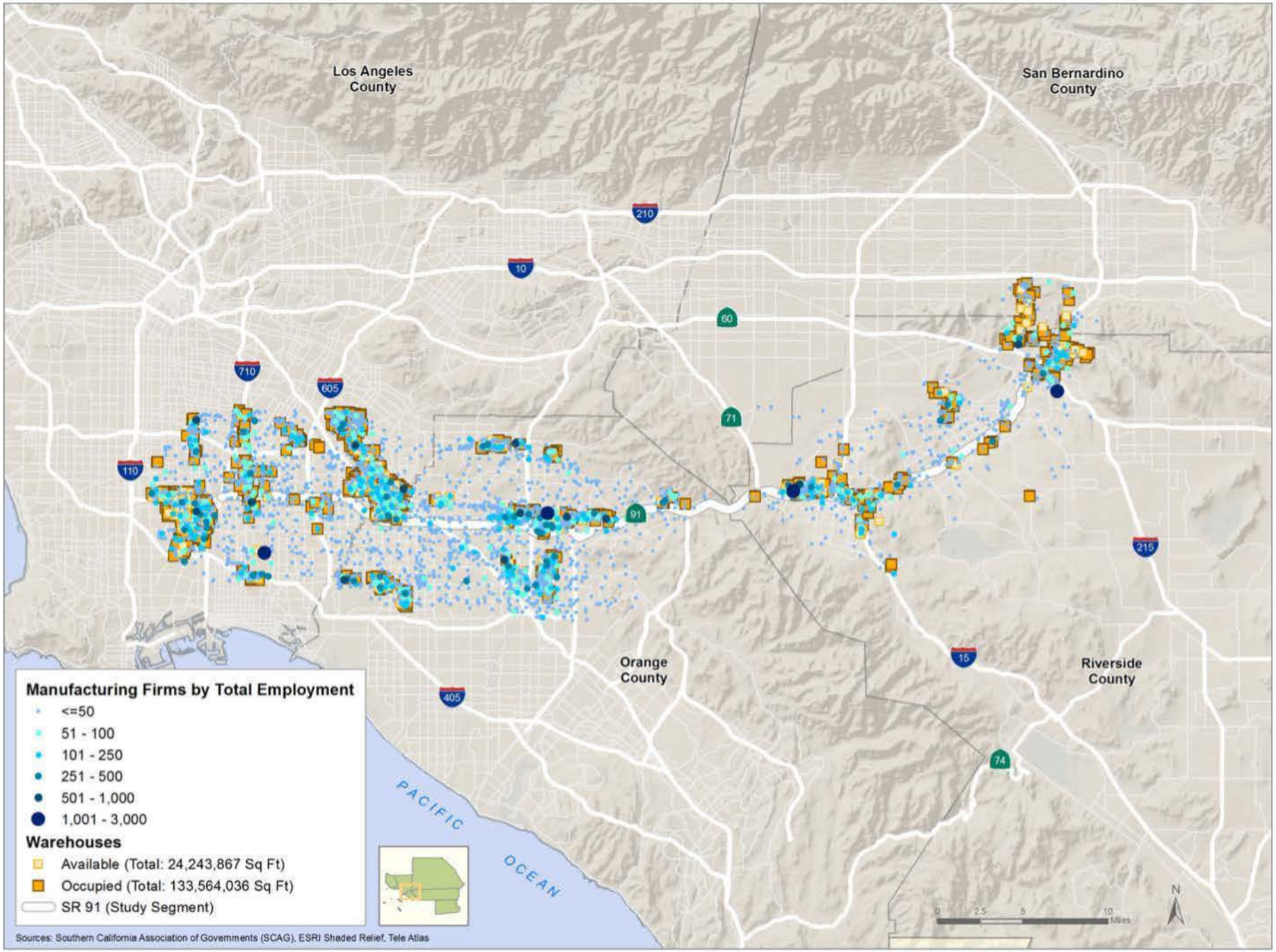


EXHIBIT A.5 Manufacturing and Warehousing Concentrations Along Union Pacific Railroad Adjacent Alignment (5-Mile Radius)

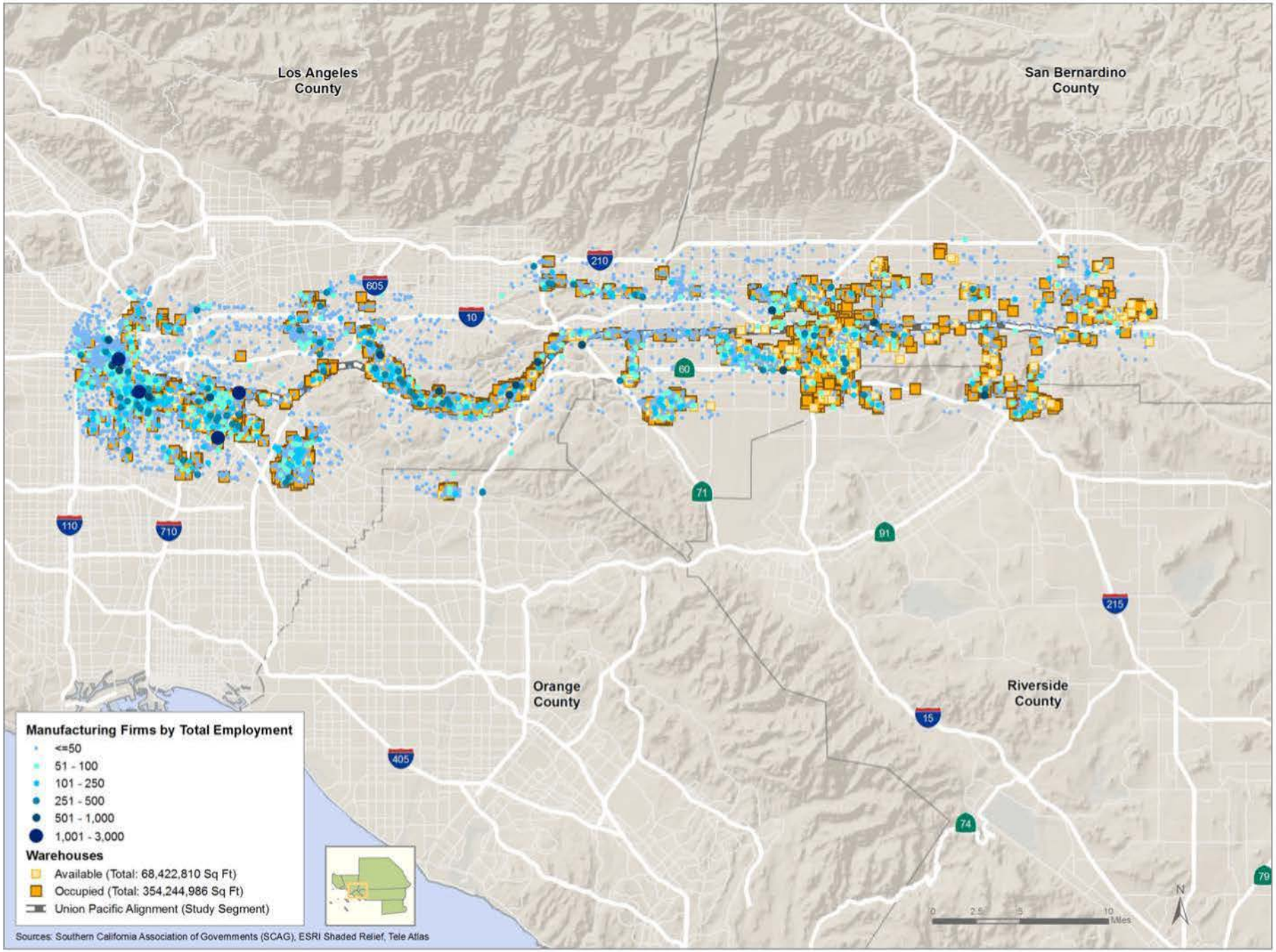


EXHIBIT B.1 Regional Grade Separations – Constrained and Strategic Plan

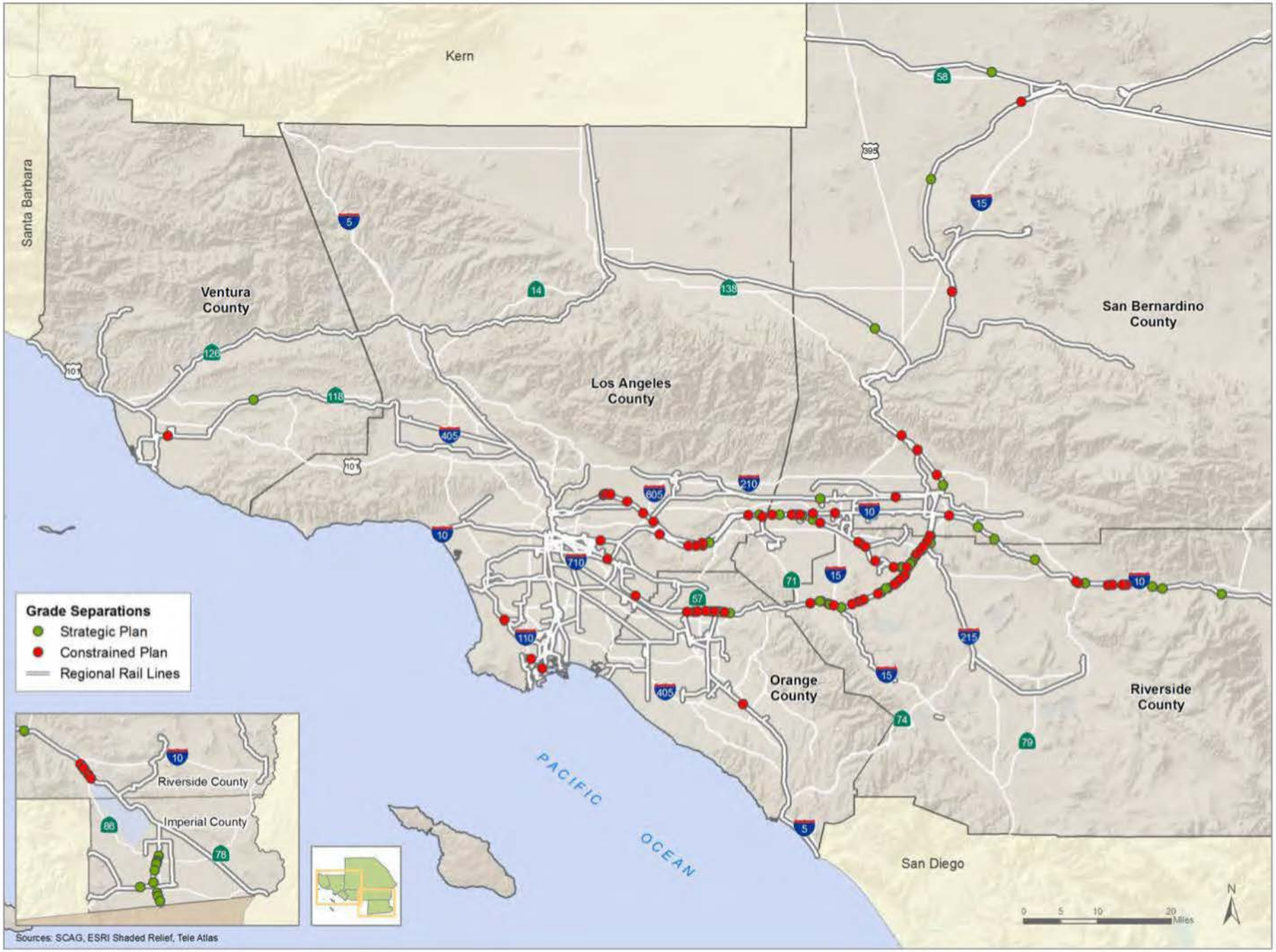


TABLE B.1 Constrained Grade Separations (Not Listed in Priority Order)

County	Grade Separation
ORANGE	RAYMOND AVE
ORANGE	STATE COLLEGE BLVD
ORANGE	PLACENTIA AVE UNDER CROSSING
ORANGE	KRAEMER BLVD
ORANGE	ORANGETHORPE AVE
ORANGE	TUSTIN AVE / ROSE DR
ORANGE	LAKEVIEW AVE
ORANGE	JEFFERY RD
SAN BERNARDINO	LENWOOD RD
SAN BERNARDINO	GREEN TREE BLVD
SAN BERNARDINO	GLEN HELEN PARKWAY
SAN BERNARDINO	PALM AVE
SAN BERNARDINO	MT. VERNON AVE
SAN BERNARDINO	RAMONA AV
SAN BERNARDINO	SAN ANTONIO AVE
SAN BERNARDINO	CAMPUS AVE
SAN BERNARDINO	NORTH VINEYARD AVE
SAN BERNARDINO	SOUTH ARCHIBALD AVE
SAN BERNARDINO	S. MILLIKEN AVE
SAN BERNARDINO	LAUREL ST
SAN BERNARDINO	MAIN ST
SAN BERNARDINO	HUNTS LN
VENTURA	RICE AVE
RIVERSIDE	AUTO CENTER DRIVE
RIVERSIDE	JOY ST
RIVERSIDE	MCKINLEY ST
RIVERSIDE	MAGNOLIA AVE
RIVERSIDE	PIERCE ST
RIVERSIDE	BELLGRAVE AV
RIVERSIDE	JURUPA RD
RIVERSIDE	CLAY ST
RIVERSIDE	TYLER ST
RIVERSIDE	ADAMS ST
RIVERSIDE	STREETER AVE
RIVERSIDE	MADISON ST
RIVERSIDE	MARY ST
RIVERSIDE	RIVERSIDE AVE
RIVERSIDE	3RD STREET
RIVERSIDE	SPRUCE ST
RIVERSIDE	CHICAGO AVE
RIVERSIDE	IOWA AVE
RIVERSIDE	VIELE AVE
RIVERSIDE	CALIFORNIA AVE
RIVERSIDE	SUNSET AVE
RIVERSIDE	22ND ST
RIVERSIDE	SAN GORGONIO AV
RIVERSIDE	HARGRAVE ST
RIVERSIDE	AVENUE 52
RIVERSIDE	AVENUE 56
RIVERSIDE	AVENUE 62
RIVERSIDE	AVENUE 66
LOS ANGELES	DEL AMO BLVD
LOS ANGELES	SOUTH WILMINGTON AVE
LOS ANGELES	REEVES AVE
LOS ANGELES	VALLEY VIEW AVE
LOS ANGELES	PASSONS BLVD
LOS ANGELES	GREENWOOD AVE (MONTEBELLO)
LOS ANGELES	RAMONA ST (SAN GABRIEL)
LOS ANGELES	MISSION RD (SAN GABRIEL)
LOS ANGELES	DEL MAR AVE (SAN GABRIEL)
LOS ANGELES	SAN GABRIEL BLVD (SAN GABRIEL)
LOS ANGELES	BALDWIN AVENUE (EL MONTE)
LOS ANGELES	DURFEE AVE (PICO RIVERA)
LOS ANGELES	PUENTE AVENUE (INDUSTRY/LA COUNTY)
LOS ANGELES	TURNBULL CYN RD (INDUSTRY/LA COUNTY)
LOS ANGELES	FULLERTON RD (INDUSTY/LA COUNTY)
LOS ANGELES	NOGALES ST (INDUSTRY/LA COUNTY)
LOS ANGELES	FAIRWAY DRIVE (INDUSTRY/ WALNUT)
LOS ANGELES	FAIRWAY DRIVE (INDUSTRY/LA COUNTY)
LOS ANGELES	HAMILTON BLVD (POMONA)
LOS ANGELES	MISSION BLVD (POMONA)

TABLE B.2 Strategic Grade Separations (Not Listed in Priority Order)

County	Grade Separation
IMPERIAL	WARD ROAD (IMPERIAL COUNTY)
IMPERIAL	SR-78/SR-111 (BRAWLEY)
IMPERIAL	MALAN STREET (BRAWLEY)
IMPERIAL	MEAD ROAD (BRAWLEY)
IMPERIAL	KEYSTONE ROAD (IMPERIAL COUNTY)
IMPERIAL	ATEN ROAD (IMPERIAL)
IMPERIAL	EVAN HEWES HIGHWAY (IMPERIAL COUNTY)
IMPERIAL	DOGWOOD ROAD (IMPERIAL COUNTY)
IMPERIAL	HEBER AVENUE (IMPERIAL COUNTY)
IMPERIAL	WEST COLE ROAD (CALEXICO)
LOS ANGELES	SAN ANTONIO AVE (POMONA)
LOS ANGELES	LEMON AVE (LA SUBDIVISION)
ORANGE	JEFFERSON ST (ANAHEIM)
ORANGE	VAN BUREN AVE (PLACENTIA)
ORANGE	RICHFIELD RD (PLACENTIA)
ORANGE	KELLOGG DRIVE UNDERCROSSING (ANAHEIM)
SAN BERNARDINO	HINCKLEY AVE (SAN BERNARDINO COUNTY)
SAN BERNARDINO	SHADOW MOUNTAIN RD (SAN BERNARDINO COUNTY)
SAN BERNARDINO	PHELAN RD (SAN BERNARDINO COUNTY)
SAN BERNARDINO	ARCHIBALD AVE (RANCHO CUCAMONGA)
SAN BERNARDINO	CENTRAL AVE (MONTCLAIR)
SAN BERNARDINO	VINE AVE (ONTARIO)
SAN BERNARDINO	SULTANA AVE (ONTARIO)
SAN BERNARDINO	BON VIEW AVE (ONTARIO)
SAN BERNARDINO	VINEYARD AVE (ONTARIO)
SAN BERNARDINO	OLIVE ST (SAN BERNARDINO)
SAN BERNARDINO	BEAUMONT AVE (SAN BERNARDINO COUNTY)
SAN BERNARDINO	ALESSANDRO RD (REDLANDS)
VENTURA	ROUTE 118 (VENTURA COUNTY)
RIVERSIDE	SMITH AVE (CORONA)
RIVERSIDE	RAILROAD ST (CORONA)
RIVERSIDE	COTA STREET (CORONA)
RIVERSIDE	RADIO ROAD (CORONA)
RIVERSIDE	BUCHANAN ST (RIVERSIDE)
RIVERSIDE	RUTILE STREET (JURUPA VALLEY)
RIVERSIDE	HARRISON STREET (RIVERSIDE)
RIVERSIDE	GIBSON STREET (RIVERSIDE)
RIVERSIDE	JACKSON STREET (RIVERSIDE)
RIVERSIDE	JEFFERSON STREET (RIVERSIDE)
RIVERSIDE	PALM AVE (RIVERSIDE)
RIVERSIDE	WASHINGTON STREET (RIVERSIDE)
RIVERSIDE	BROCKTON AVE (RIVERSIDE)
RIVERSIDE	APACHE TRAIL (RIVERSIDE COUNTY)
RIVERSIDE	PANORAMA ROAD (RIVERSIDE)
RIVERSIDE	CRIDGE STREET (RIVERSIDE)
RIVERSIDE	PALMYRITA AVE (RIVERSIDE)
RIVERSIDE	CENTER ST (RIVERSIDE COUNTY)
RIVERSIDE	MAIN STREET (RIVERSIDE COUNTY)
RIVERSIDE	SAN TIMOTEO CANYON (CALIMESA)
RIVERSIDE	SHERIDAN ST (CORONA)
RIVERSIDE	PENNSYLVANIA AVENUE (BEAUMONT)
RIVERSIDE	7TH ST (RIVERSIDE)
RIVERSIDE	BROADWAY (RIVERSIDE COUNTY)
RIVERSIDE	TIPTON ROAD (PALM SPRINGS)
RIVERSIDE	AVENUE 54 (COACHELLA)
RIVERSIDE	AVENUE 58 (RIVERSIDE COUNTY)

EXHIBIT B.2 Los Angeles County Grade Separations – Constrained Plan (Not Listed in Priority Order)

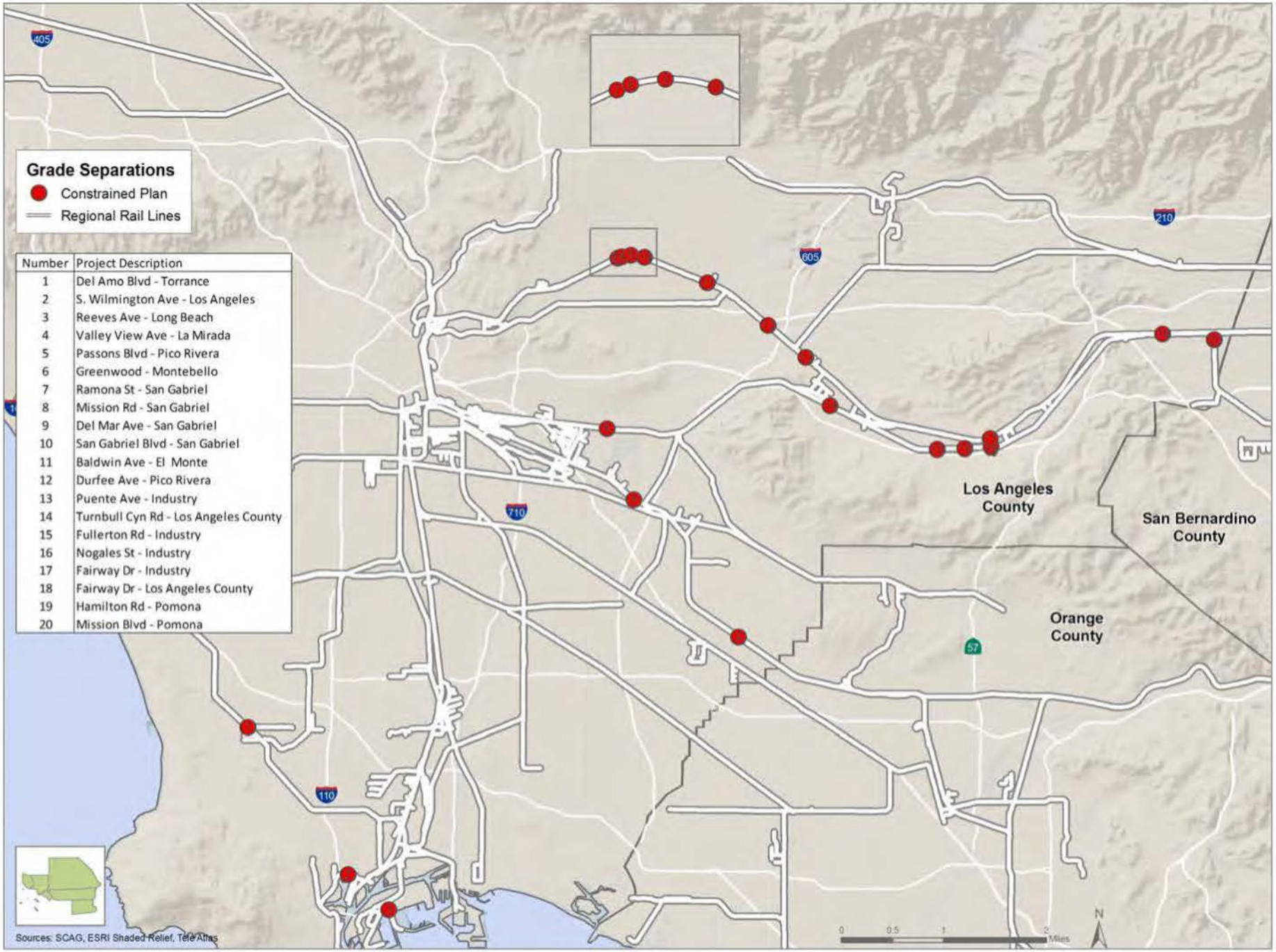
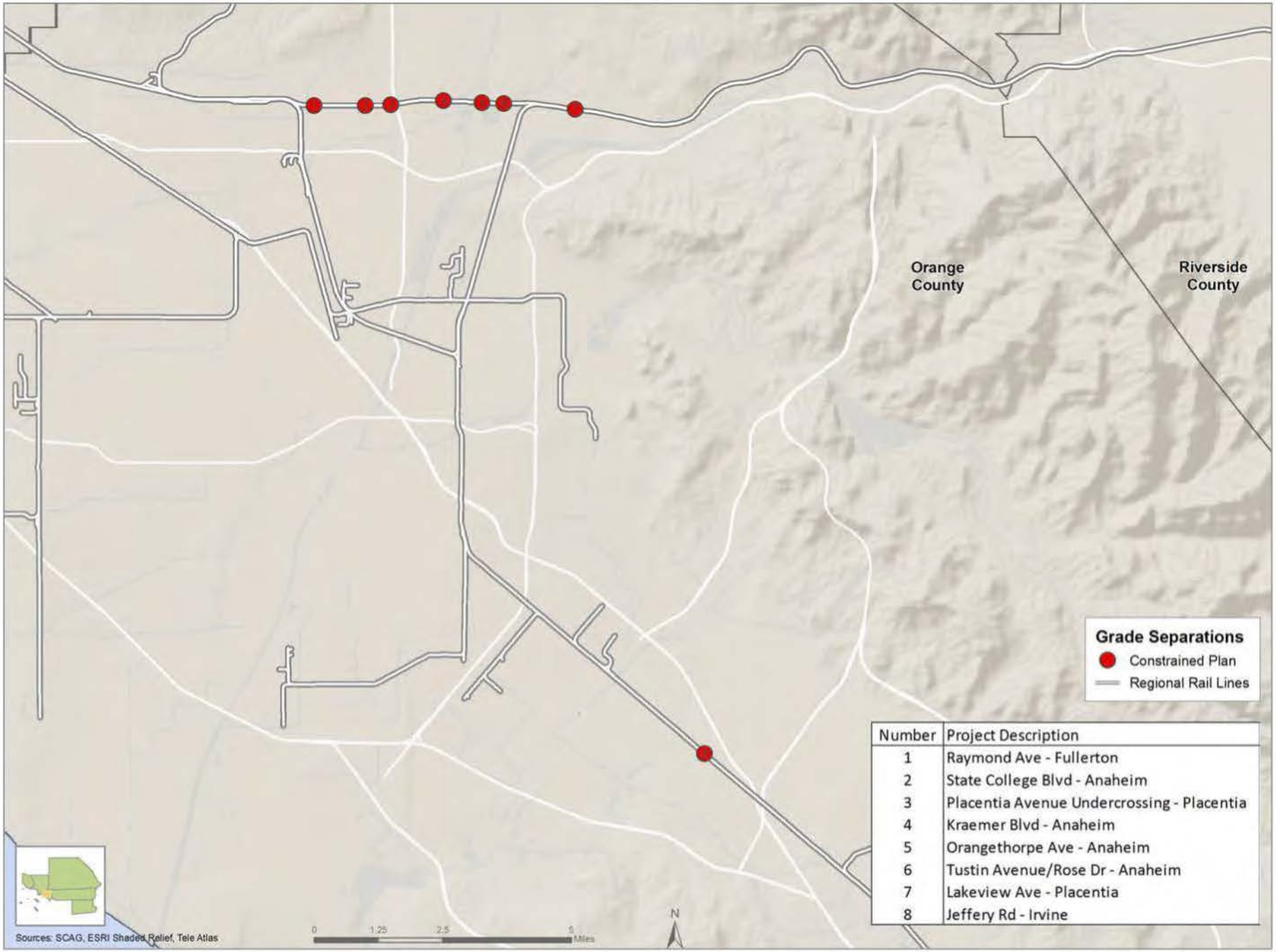
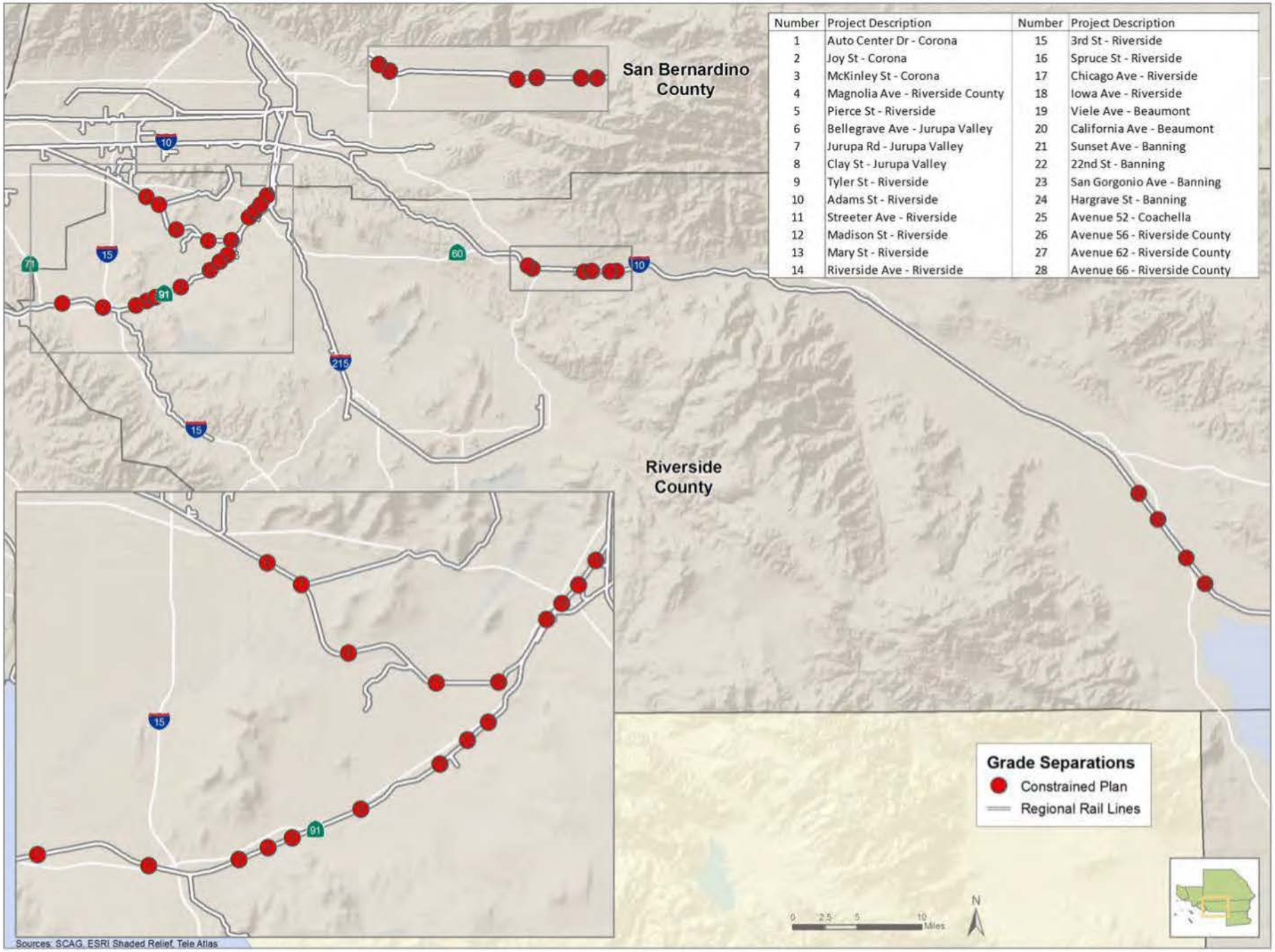


EXHIBIT B.3 Orange County Grade Separations – Constrained Plan (Not Listed in Priority Order)



Number	Project Description
1	Raymond Ave - Fullerton
2	State College Blvd - Anaheim
3	Placentia Avenue Undercrossing - Placentia
4	Kraemer Blvd - Anaheim
5	Orangethorpe Ave - Anaheim
6	Tustin Avenue/Rose Dr - Anaheim
7	Lakeview Ave - Placentia
8	Jeffery Rd - Irvine

EXHIBIT B.4 Riverside County Grade Separations – Constrained Plan (Not Listed in Priority Order)



Number	Project Description	Number	Project Description
1	Auto Center Dr - Corona	15	3rd St - Riverside
2	Joy St - Corona	16	Spruce St - Riverside
3	McKinley St - Corona	17	Chicago Ave - Riverside
4	Magnolia Ave - Riverside County	18	Iowa Ave - Riverside
5	Pierce St - Riverside	19	Viele Ave - Beaumont
6	Bellegrave Ave - Jurupa Valley	20	California Ave - Beaumont
7	Jurupa Rd - Jurupa Valley	21	Sunset Ave - Banning
8	Clay St - Jurupa Valley	22	22nd St - Banning
9	Tyler St - Riverside	23	San Gorgonio Ave - Banning
10	Adams St - Riverside	24	Hargrave St - Banning
11	Streeter Ave - Riverside	25	Avenue 52 - Coachella
12	Madison St - Riverside	26	Avenue 56 - Riverside County
13	Mary St - Riverside	27	Avenue 62 - Riverside County
14	Riverside Ave - Riverside	28	Avenue 66 - Riverside County

EXHIBIT B.5 San Bernardino County Grade Separations – Constrained Plan (Not Listed in Priority Order)

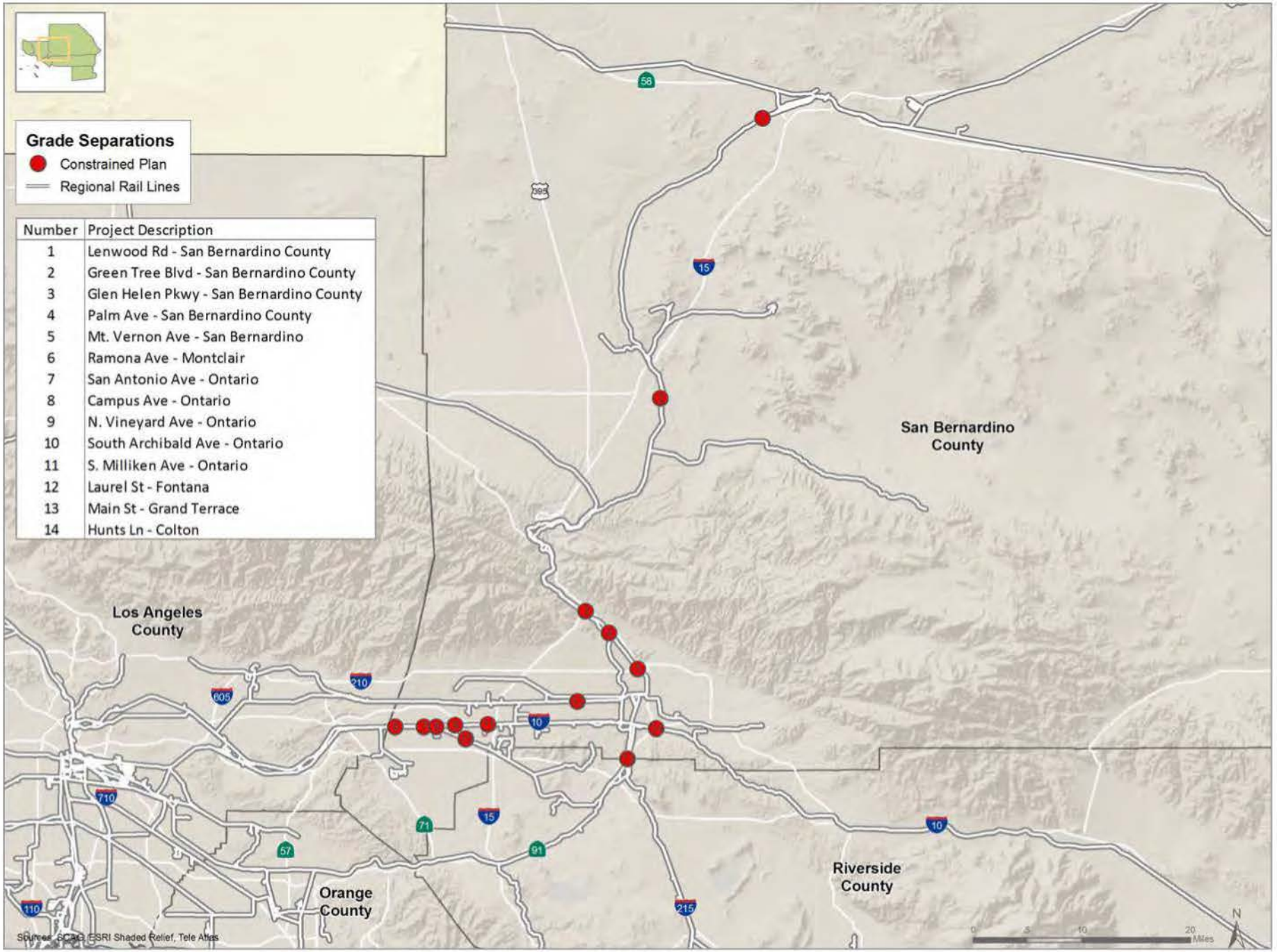
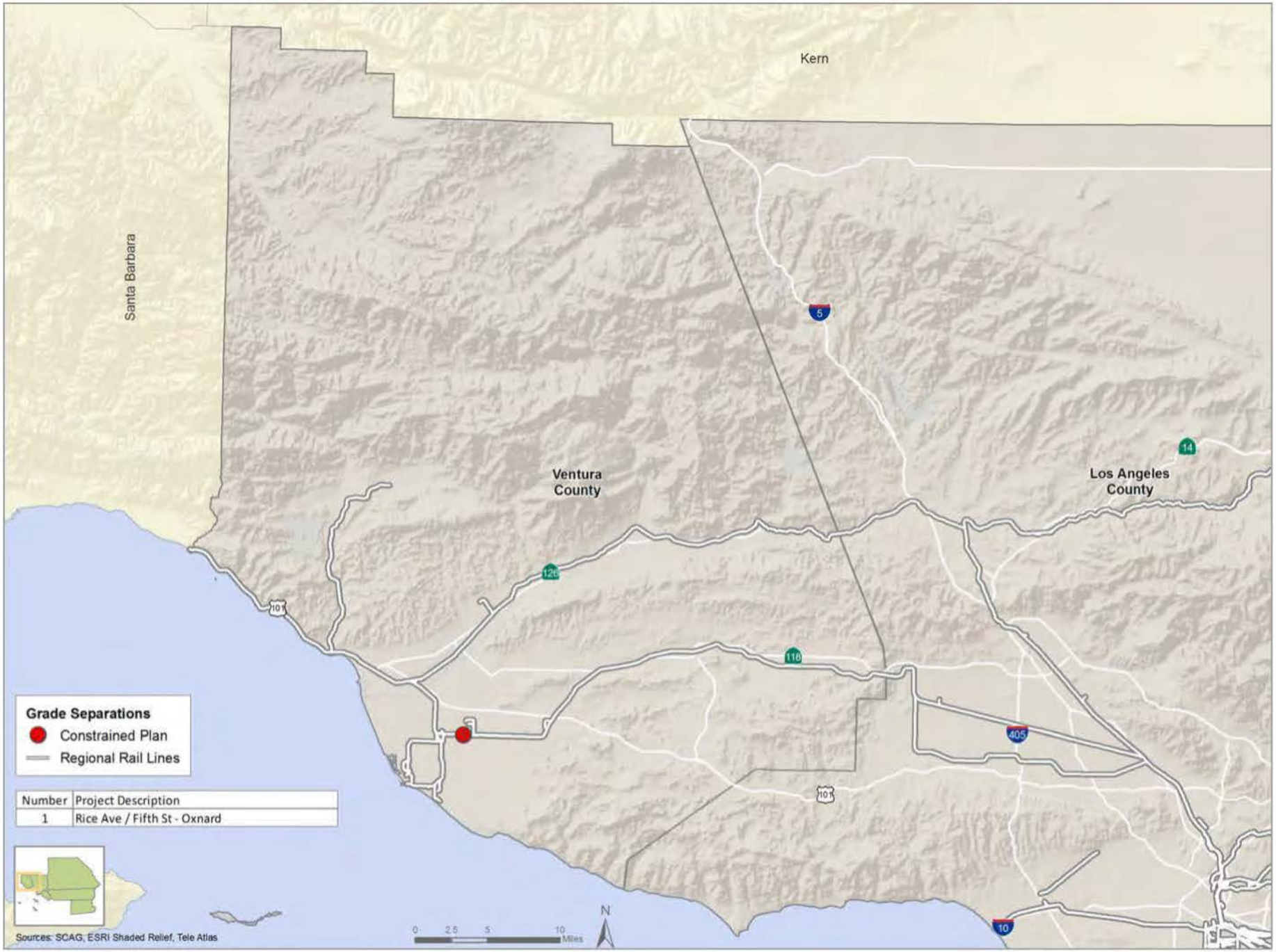


EXHIBIT B.6 Ventura County Grade Separations – Constrained Plan



REGIONAL TRANSPORTATION PLAN
2012–2035 RTP
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future

SOUTHERN CALIFORNIA
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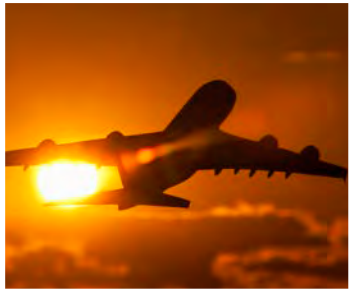
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GROWTH FORECAST APPENDIX









REGIONAL TRANSPORTATION PLAN
2012–2035
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future
RTP











Southern California Association of Governments

ADOPTED APRIL 2012

GROWTH FORECAST

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Introduction

The regional growth forecast represents the most likely growth scenario for the Southern California region in the future, taking into account a combination of recent and past trends, reasonable key technical assumptions, and local or regional growth policies. The Integrated Growth Forecast at the regional and small geographic area level is the basis for developing the Regional Transportation Plan (RTP), Sustainable Communities Strategy (SCS), Program Environmental Impact Report (PEIR), and the Regional Housing Needs Assessment (RHNA). The development of the Integrated Growth Forecast is driven by a principle of collaboration between SCAG and local jurisdictions who are major contributors to the process. The integration of the regional and local forecasts is achieved through the joint efforts and collaboration among the various contributors. SCAG's Community, Economic and Human Development (CEHD) Committee provided direction to the growth forecast update process for the 2012–2035 RTP/SCS/PEIR/RHNA. SCAG's Plans & Programs Technical Advisory Committee (P&P TAC) assisted in the forecasting process by providing valuable technical input.

The Growth Forecast Appendix is comprised of four major sections. Section I introduces the major source of challenges in producing the 2012–2035 RTP/SCS growth forecast, and summarizes the nineteen forecasting milestones of forecasting development. Section II describes the past growth trends and describes the size and characteristics of the projected population, households and employment. Section III discusses the forecasting framework, methodology and assumptions. Section IV introduces the SCAG PECAS land use model, including its structure, specifications, calibration, and an example scenario.

Section I: Challenges, Forecasting Timeline and Milestones

Challenges

The new state law requirement (i.e., SB 375) and the Great Recession (2007–2009) posed new challenges in the development of the 2012–2035 RTP/SCS growth forecast. With the introduction of SB 375 in California, federal program/requirement (RTP and conformity analysis) and two state programs (RHNA and Blueprint) as well as local general plans have become more strongly interlinked. Furthermore, as the foundation for developing these plans and programs, the 2012–2035 RTP/SCS growth forecast is required to be consistent.

SCAG began developing the long term growth forecasts for the 2012–2035 RTP/SCS in the middle of the Great Recession (2007–2009). The traditional long term perspective, which might not reflect on-going economic trends and frequently updated short term economic forecasts, had the potential to result in a serious bias in the short term population projections. The most important source of potential projection errors was the unstable/uncertain nature of the key economic-demographic assumptions. Two of the key assumptions were short-term unemployment and migration rates.

Due to the current economic climate and the uncertain nature of the short term economic future in the region, the accuracy and the reasonableness of population projections (and assumptions) by the US Census Bureau and the California Department of Finance (DOF) were questioned by regional demographers and economists. In addition, relevant statistical data has not always been made available to regional planners in a timely manner.

There was also a significant gap between the US Census Bureau and the DOF population estimates during the intercensal period. Both agencies have used their own methods in generating population estimates for this period. The gap in population estimates in the late 2000s was very high. In the SCAG region, the difference was 4.2 percent in 2009. SCAG generally uses the CA DOF population estimates for planning and forecasting purposes. The gap issue was resolved as DOF benchmarked its estimates to the 2010 Census count. Nevertheless, the adjustment process of the preliminary growth forecast was quite challenging, due to the limited time available to produce the revised growth forecast for the 2012–2035 RTP/SCS.

Forecasting Timeline and Milestones

TABLE 1 lists the forecasting timeline and milestones for the development of the regional growth forecast for the 2012–2035 RTP/SCS. SCAG began its forecast update process by conducting subregional workshops throughout the region in September 2008. When necessary, one-on-one meetings were arranged for local jurisdictions or subregions in the SCAG region. Through these workshops and one-on-one meetings, SCAG confirmed the accuracy of the small area socioeconomic data (SED), existing land use as of 2008, and local general plan information. As a result of the workshops and one-on-one meetings, SCAG revised and updated the 2008 regional growth forecast methodology and its key

assumptions, and developed the framework for future dialogue between SCAG planners and local and subregional planners.

During the first quarter of 2009, SCAG developed an initial range of the regional growth forecasts for the 2012–2035 RTP/SCS, which was released in April 2009. Since the Great Recession was in full force at that time, the region had experienced an enormous job reduction accompanied by high unemployment rates. With a high degree of uncertainty on the short term job growth and its potential impact on domestic and international migration, SCAG adjusted its forecasting framework for both the short term and long term perspectives. The direction of the short term economic perspective was considered important in the uncertain forecasting context. Three scenarios of job growth, high, mid, and low were used as a major driver of the region's population growth, which eventually influences household growth.

In May 2009, a first panel of experts meeting was held to review an initial range of regional growth forecasts and related assumptions. The panel of experts was composed of fifteen experts in the field of regional and national economics and demography. Experts were provided with a list of questions regarding assumptions with background information (e.g., historical data and a preliminary range of forecast by the moderator) before the panel of experts meeting. SCAG incorporated the recommendations of the panel of experts into the refined range of regional growth forecasts, and developed a recommended preliminary set of regional growth forecasts in June 2009. The preliminary county and sub-county sets of growth forecasts, reflecting recent trends, were released in July 2009.

Between July 2009 and February 2010, SCAG conducted a second round of local/subregional review through workshops and one-on-one meetings with local jurisdictions and subregions. First, SCAG provided local jurisdictions with the preliminary set of growth forecasts at the city and 2000 census tract, and transportation analysis zone levels. Second, SCAG held a workshop to explain the methods and assumptions of how the growth forecasts at jurisdictional/census tract/transportation analysis zone level were developed. Third, the local jurisdictions or subregions provided SCAG with their input on those growth forecasts along with proper documentation. In February 2010, SCAG released a local input/general plan growth forecast for 2012–2035 RTP/SCS. In fact, this SED data was used for developing the SCAG suggested emission reduction targets for the years 2020 and 2035.

The local input SED data resulted in an imbalance of regional population and employment for the year 2035. As usually occurs, the local input SED data tends to have less regional population (labor force or workers) than required to meet the projected employment in 2035. In April 2010, SCAG began analyzing the sensitivity of the labor force participation level, given population and employment. In May 2010, the second panel of experts meeting was held to evaluate local input, and new Bureau of Labor Statistics (BLS) and US Census projections. The expert panel recommended SCAG reduce employment to maintain a reasonable relationship between population and employment. The relationship between the two regional forecasts is usually assessed using the double jobbing rate, the implied unemployment rate, and labor force participation rates. These factors were assumed to remain unchanged from historical levels. SCAG focused on the uncertainty of the labor force participation rate due to (1) the increasing share of female workers, (2) a higher survival rate, and (3) the sensitivity to extra job opportunities and supply of a skilled workforce. SCAG found that the aging population would effectively respond to the shortage of workforce in the region by increasing their labor force participation rate.

SCAG adjusted the local input regional growth forecast with a 2035 employment reduction between December 2010 and January 2011. This SED data was used for the preliminary regional transportation model calibration and validation for the 2012–2035 RTP/SCS. Between January 2011 and March 2011, SCAG conducted further data gathering workshops and, as necessary, made revisions to the local input growth forecast.

In May 2011, SCAG conducted the third and final panel of experts survey to evaluate new 2010 Census data and existing demographic and economic assumptions. The third expert panel consisted of the same panel members, who had participated in the first and second panel of experts meeting. They provided SCAG with updated perspectives of the short term economic future of the region and its implication for population and household forecasts. SCAG continued collecting and updating the local growth forecasts and revised them as necessary between June 2011 and July 2011. During the same time period, SCAG consulted HCD/DOF for SCAG region growth forecasts and RHNA determination, and held RTP/SCS workshops across the region and conducted public outreach for review of the socioeconomic data.

After developing the draft 2012–2035 RTP/SCS between July 2011 and November 2011, SCAG released the draft plan in December 2011. SCAG distributed the draft RHNA allocation plan in February 2012. The Regional Council will be adopting the 2012–2035 RTP/

SCS in April 2012. The regional growth forecast is adopted as part of the 2012–2035 RTP/SCS and RHNA process.

TABLE 1 Forecasting Timeline and Milestones

	Milestone	Date/Period
1	Adopted 2008 RTP growth forecasts.	May 2008
2	Conducted subregional workshops across the region in anticipation of 2012–2035 RTP/SCS growth forecast, data and tool requirements under the SB 375.	September 2008–January 2009
3	Developed an initial range of preliminary 2012–2035 RTP/SCS regional growth forecasts with major demographic and economic assumptions.	April 2009
4	Held the first panel of experts meeting to assess BLS, Census, and DOF projections and to discuss demographic and economic trends and assumptions.	May 2009
5	Developed a recommended preliminary set of regional growth forecasts.	June 2009
6	Developed a preliminary set of growth forecasts at the county and sub-county level, reflecting the recent trends.	July 2009
7	Held subregional workshops across the region and conducted outreach for local review.	July 2009 – February 2010
8	Released local input/general plan growth forecast for 2012–2035 RTP/SCS. This dataset was used for target setting recommendation.	February 2010
9	Observed the imbalance of 2035 regional population and employment from local input.	April 2010
10	Held the second panel of experts meeting to evaluate local input, and evaluate new BLS and Census projections.	May 2010
11	Local input regional growth forecast with 2035 employment reduction.	December 2010–January 2011
12	Conducted data gathering workshops & made revisions.	January 2011–March 2011
13	Conducted the third panel of experts survey to evaluate new 2010 Census data and existing demographic and economic assumptions.	May 2011
14	Collected local input and revised forecasting data as necessary.	May 2011–August 2011
15	HCD/DOF consultation for SCAG region growth forecasts and RHNA determination.	June 2011–August 2011
16	Held RTP/SCS workshops across the region and conducted public outreach for review.	June 2011–August 2011
17	Developed the draft 2012–2035 RTP/SCS. The dataset was used for regional transportation model calibration and validation.	July 2011–November 2011
18	Released the draft 2012–2035 RTP/SCS.	December 2011
19	Distributed the draft RHNA allocation plan.	February 2012
20	Will adopt the 2012–2035 RTP/SCS.	April 2012

Section II: Regional Growth: Past and Future

Growth Trends

POPULATION

The United States Census of 1850 counted the population of the Southern California Region to be 3,530. At that time, the population of the United States was 23,191,876. The regional share of the nation's population was close to zero. According to the 2010 Census, the population of the Southern California Region was 18,051,534, which represents over 5.8 percent of the US population of 308,745,538, and nearly 49 percent of California's population of 37,253,956. With the region's land area of 38,000 square miles, the region's population density is now 475 persons per square mile. The Southern California region is the 5th highest in population among states in the nation, behind Florida, and the second largest combined statistical area (CSA) in the nation behind the New York CSA.

The region's population growth over the last 160 years can be categorized into four major periods using statewide growth as a reference: very rapid growth (1850–1910), rapid growth (1910–1960), average growth (1960–1990), and slow growth (1990–2010) (see **TABLE 2**). The very rapid growth (1850–1910) represents the early stage of urbanization in the region. The railroad lines were first introduced into this agrarian region, and they played an important role in the region's growth and urbanization. The annual average growth rate of population in the region in this period was 311 percent, which is 60 times higher than the national rate, and 8 times higher than the California rate.

The rapid growth (1910–1960) period represents the beginning and rapid stages of regional growth and urbanization. The region reached one million people in 1920 for the first time, and grew to five million people by 1950. It took only three decades for the region to add four million people. The annual average growth rate of population in the region was 22 percent, which is 10 times more than that of the nation, and twice that of California.

The average growth (1960–1990) period represents regional growth and urbanization comparable to that of the state. In 1970, the SCAG region's population reached 10 million and exceeded 50 percent of the California population. By adding 4.6 million people to the region between 1970 and 1990, the region has evolved into one of the largest metropolitan regions in the nation. There was an accelerated suburbanization during this period. Four of six counties in the region exceeded one million people in 1990. The annual average growth rate of population in the region was 2.9 percent, which is 2 times more than that of the nation, and similar to that of California.

The slow growth (1990–2010) period represents the mature stage of population growth and urbanization. During this period, the region added 3.4 million people, which was a much slower growth pattern than in the previous decades. Although the regional growth stabilized during this period, urbanization and suburbanization continued. Orange County exceeded three million people, and Riverside and San Bernardino Counties exceeded two million people each in 2010. The annual average growth rate of population in the region was 1.2 percent, similar to that of California and the nation. Both the region and California became average growth areas from the perspective of the national growth.

TABLE 2 Annual Average Growth Rate of Population, 1850–2010

Periods	1850–1910	1910–1960	1960–1990	1990–2010
SCAG Region	311.0%	21.6%	2.9%	1.2%
California	41.1%	11.2%	3.0%	1.3%
US	5.0%	1.9%	1.3%	1.2%

Source: US Census Bureau.

Two factors account for population change: natural increase and net migration. Natural increase is the balance between births and deaths in a period and net migration is the sum total of people coming to and leaving the region in the same period. Net migration is of two types: domestic and international. Domestic migration is the movement in and out of the region from other parts of the country, and immigration is the flow of people from other countries. Net migration greatly influenced the region's past and recent population growth.

The region's economic growth is usually a major factor behind net migration and the consequent population growth. The availability of jobs attracts people to the region, whereas in times of recession, the reverse is true. Major economic recessions in the 1930s (1929–1933, 1937–38), 1970s (1973–1975), 1990s (1990–1993), and 2000s (2007–2009) have had a negative impact on the region's population growth. As a result, the annual average growth rate of population in the region during those periods was 2.5 percent, 1.5 percent, 1.3 percent, and 0.9 percent, respectively. The growth of the motion picture, petroleum, and aircraft industries and the region's reputation as the land of opportunity explain the tremendous growth in the region during the 1980s. It should be noted that the recession in the 1990s was the result of major cuts in the national defense budget which affected the region much more severely than the rest of the nation. The regional population over the last couple of decades has become increasingly home-grown Californians (Myers et al, 2010) as the major component of change has been natural increase.

The region currently faces serious challenges caused by the recent economic recession that began in December 2007. The region lost approximately 800,000 jobs from 2007 to 2010. Although the economic recession officially ended in 2009, the region is still struggling to bring its economy back to the pre-recession level. The future growth will depend on how the region addresses its economic challenges.

EMPLOYMENT

Both the economic recession and globalization have heavily affected the restructuring of the industrial sectors from manufacturing to more service oriented industries (see **TABLE 3**). In particular, both the construction and manufacturing sectors declined due to the recessions and globalization, respectively. The construction sector plays an important role in economic growth through diverse development activities. There is usually little development activity during the recession period. The overall share of the construction industry decreased from 5 percent in 1990 to 4 percent in 2010. At one point in 2005, its share reached 6 percent of all industry sectors and immediately declined to 4 percent in 2010 due to the economic recession. The manufacturing sector has consistently decreased its share from 17 percent in 1990 to 9 percent by 2000 and 8 percent in 2010. The manufacturing sector generally provides workers with higher pay than other sectors. With such a rapid decline in the manufacturing sector jobs, the economic quality of the region has declined. In contrast, services sectors including education, health services, and the leisure and hospitality sector showed an increase in their share of jobs in the region. Education and health service jobs increased its share from 17 percent in 1990 to 22 percent in 2010, and leisure and hospitality sector jobs increased its share from 8 percent in 1990 to 11 percent in 2010.

TABLE 3 Regional Employment Trends, 1990–2010

	1990	2000	2010	Difference (1990–10)	% Change (1990–10)
Jobs ('000)	6,906	7,482	7,225	319	4.6
Jobs by NAICS					
Agriculture & Mining (%)	1.4	1.1	1.0	-0.4	-24.3
Construction (%)	5.0	4.9	4.0	-0.9	-15.2
Manufacturing (%)	17.1	13.7	9.2	-8.0	-44.0
Wholesale Trade (%)	5.0	5.0	5.1	0.0	5.4
Retail Trade (%)	10.5	10.3	10.8	0.4	8.2
Transportation and Warehousing, and Utility (%)	4.4	4.7	4.8	0.3	12.2
Information (%)	3.6	4.3	3.5	-0.1	0.8
Financial Activity (%)	6.7	5.6	5.8	-0.9	-9.6
Professional and Business Services (%)	13.7	15.6	15.3	1.7	17.6
Education and Health Services (%)	17.0	19.1	22.0	5.0	35.3
Leisure and Hospitality (%)	8.3	8.9	10.6	2.3	33.2
Other Services (%)	3.8	3.9	4.0	0.2	10.5
Public Administration (%)	3.5	2.9	4.0	0.5	18.3
Total (%)	100.0	100.0	100.0	0.0	

Note: (1) education and health; and (2) local ground transportation/USPS and utility sectors in Public Administration from CA EDD database were reassigned to (1) education and health services and (2) transportation and utility sector, respectively. *Source: CA EDD and SCAG.*

URBANIZATION AND SUBURBANIZATION PATTERNS

Although the regional growth rate stabilized in the last 20 years, the urbanization and suburbanization of the region has continued (see **TABLE 4**). In 2010, Orange County exceeded three million people, and Riverside and San Bernardino Counties exceeded two million people each. Riverside County is now the third largest county in the region. The Counties of Riverside and San Bernardino increased their share of the population from 17.7 percent in 1990 to 23.4 percent in 2010, while Los Angeles County decreased its share from 60.5 percent in 1990 to 54.4 percent in 2010. The fast growth of population, relative to employment, in Riverside and San Bernardino Counties has led to an imbalance of jobs and housing in the SCAG region, and poses serious transportation and air quality challenges.

TABLE 4 The County Share of the Regional Population, 1990–2010

County	1990 Number	1990 %	2000 Number	2000 %	2010 Number	2010 %
Imperial	109,303	0.7%	142,361	0.9%	174,528	1.0%
Los Angeles	8,863,164	60.5%	9,519,338	57.6%	9,818,605	54.4%
Orange	2,410,556	16.5%	2,846,289	17.2%	3,010,232	16.7%
Riverside	1,170,413	8.0%	1,545,387	9.4%	2,189,641	12.1%
San Bernardino	1,418,380	9.7%	1,709,434	10.4%	2,035,210	11.3%
Ventura	669,016	4.6%	753,197	4.6%	823,318	4.6%
SCAG	14,640,832	100.0%	16,516,006	100.0%	18,051,534	100.0%

Source: US Census Bureau

ECONOMIC RECESSIONS AND GROWTH TRENDS

The period between 1990–2010 is characterized as a slow growth period. The population growth (3.4 million) and job growth (308,000) during the 1990–2010 period was seriously affected by two major economic recessions.

The first recession started in 1990 and ended in 1993. This recession was caused primarily by federal defense budget cuts. Many defense workers in the region lost their jobs during the 1990–1993 period. The job losses in the region reached 500,000 during the period and the region's unemployment rate ranged from 5.6 percent in 1990 to 9.7 percent in 1993 (see **FIGURES 1–3**). This economic recession primarily affected domestic migration into and out of the region. During the 1990–1996 period, net outmigration reached nearly 1.1 million people as a result of net domestic out-migration, while net immigration was not affected (see **FIGURES 7–8**). As a result of the change in the components of population change, the percent change of population gradually declined from 2 percent in 1990–1991 to 0.5 percent in 1994–1995 (see **FIGURES 5–6**).

The second recession started in 2007 and ended in 2009. During the 2007–2010 period, the region lost 800,000 jobs. The region's unemployment rate reached 12.3 percent in 2010 (see **FIGURE 1**). The impact of this economic recession on migration was different from the recession in 1990–1993. This recession affected both net domestic and net immigration (see **FIGURES 7–8**). During the 2007–2010 period, nearly 420,000 people left the region as a result of net domestic migration. The level of net domestic migration in the recession of 2007–2010 was much smaller than in 1990–1993. The net immigrants in the recession of 2007–2009 are estimated at 250,000 (annual estimate of 83,000), which is much smaller than 767,000 (annual estimate of 128,000) during the 1990–1996. The second recession resulted in the lowest percent change (0.4 percent) in annual population during the past 20 year span.

The number of births declined from 328,000 in 1990–1991 to 258,000 in 2009–2010 (see **FIGURE 9**). Although there was a sign of increasing births from 2001–2002 to 2007–2008, both recessions must have negatively affected the decision to have children.

With two recessions in 20 years, the region's job estimates have moved up and down (see **FIGURE 2**). The region's 6.9 million jobs in 1990 decreased to 6.4 million jobs in 1993. The region had an increase in jobs from 6.9 million in 1990 to 8 million in 2007. As a result of the second recession, the number of jobs was reduced from 8 million jobs in 2007 to 7.2 million jobs in 2010. The percent change of jobs between 1990 and 2000 is only 4.5 percent, which is much lower than the 23.4 percent population increase. Therefore, the population to employment ratio rapidly increased from 2.12 in 1990 to 2.51 in 2010 (see **FIGURE 10**).

FIGURE 1 Unemployment Rate, SCAG Region, 1990–2010



FIGURE 2 Job Growth, SCAG Region, 1990–2010

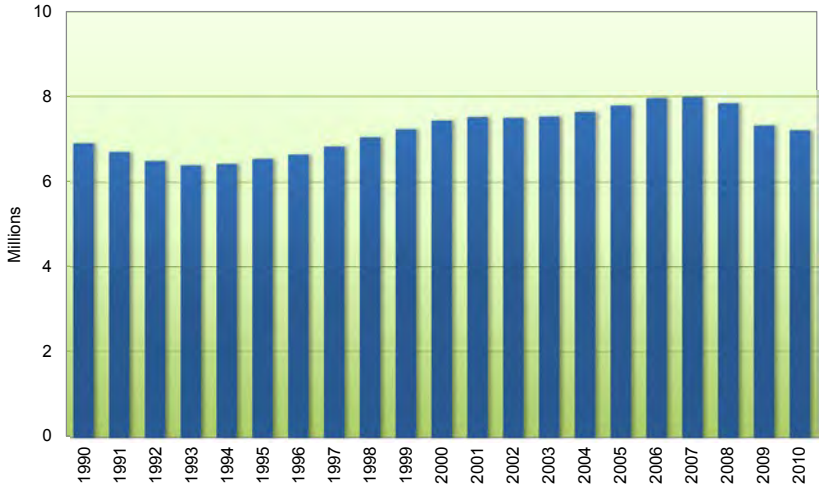


FIGURE 3 Percent Change of Jobs, SCAG Region, 1990–2010

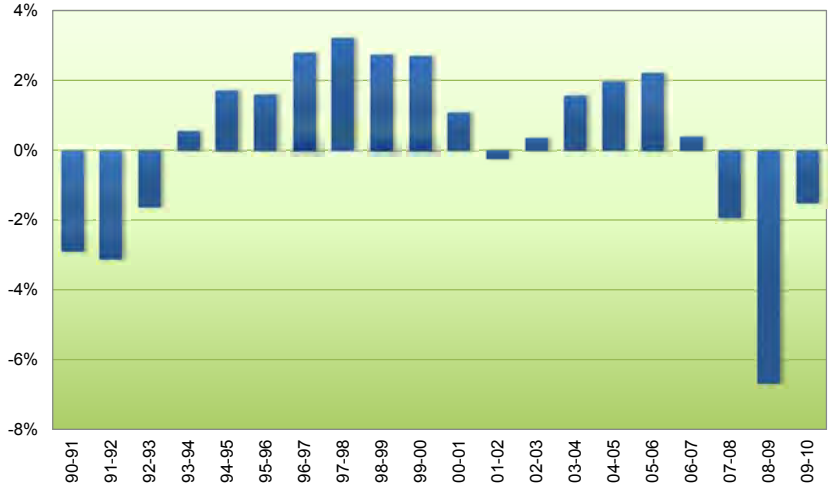


FIGURE 4 Population Growth, SCAG Region, 1990–2010

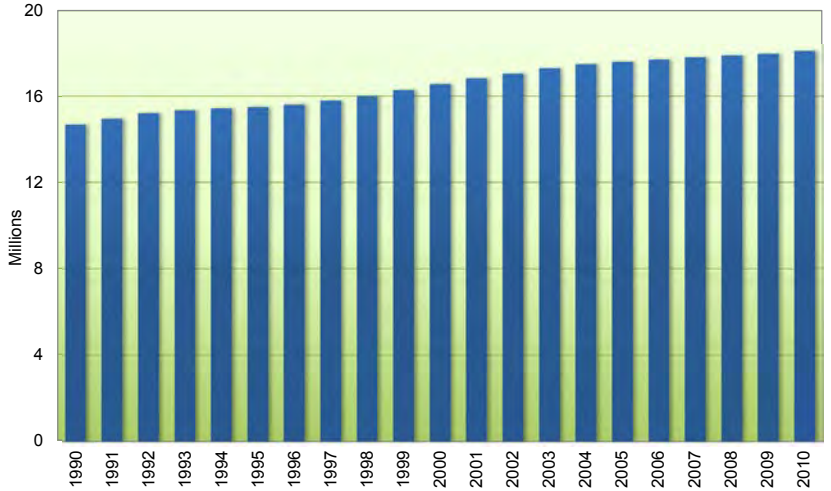


FIGURE 5 Percent Change of Population, SCAG Region, 1990–2010

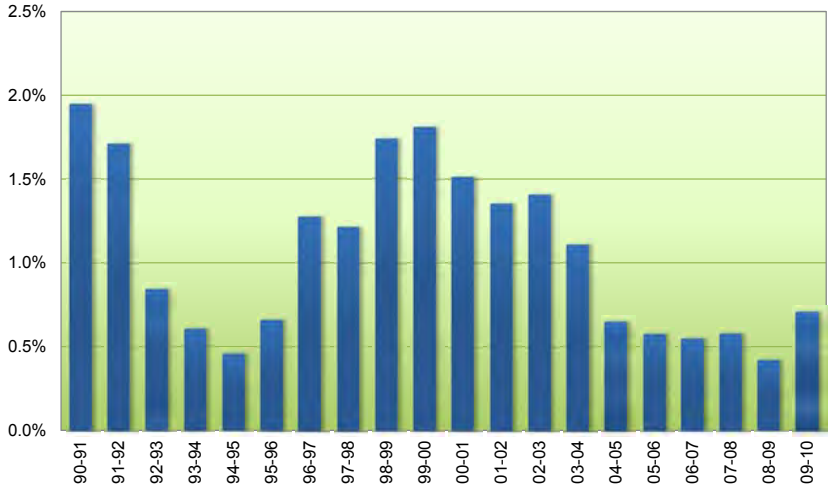


FIGURE 6 Components of Population Change, SCAG Region, 1990–2010

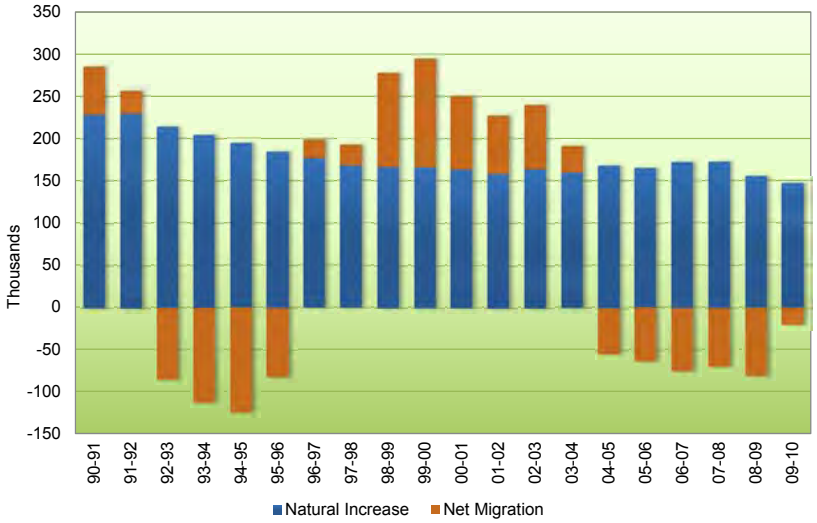


FIGURE 7 Net Domestic Migration, SCAG Region, 1990–2010

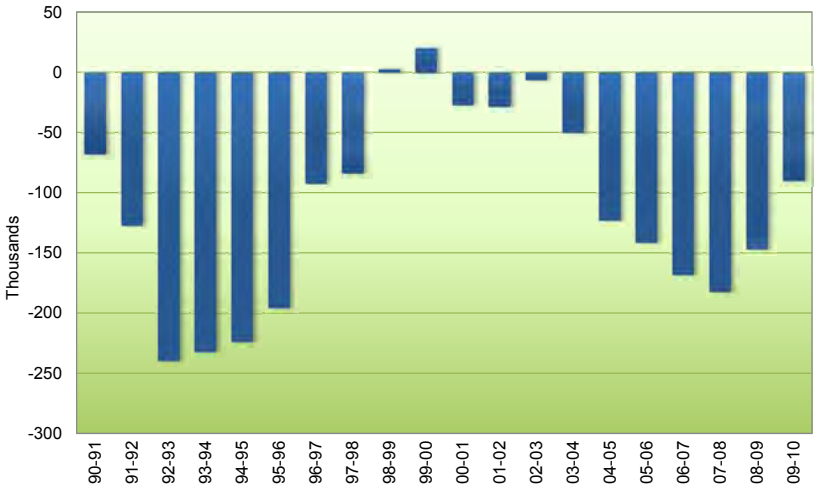


FIGURE 8 Net Immigration, SCAG Region, 1990–2010

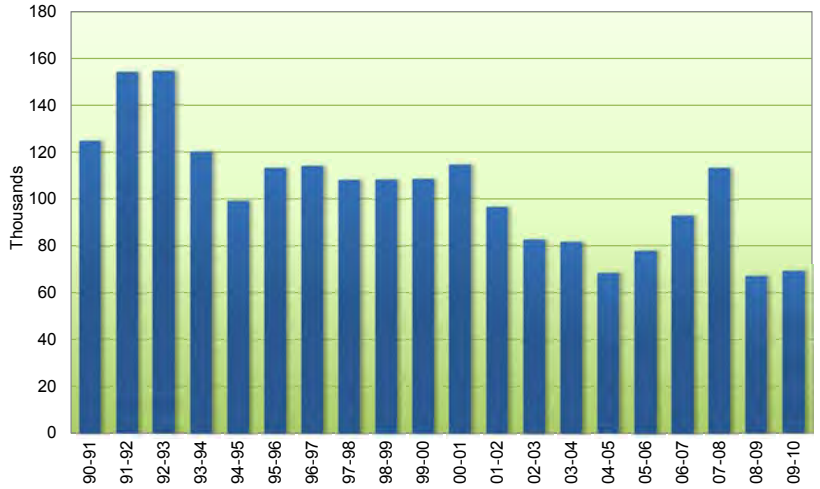


FIGURE 9 Births, SCAG Region, 1990–2010

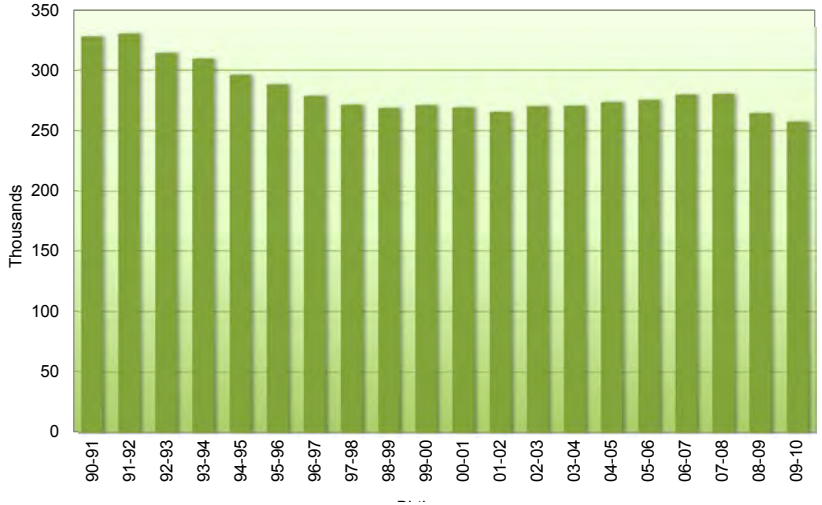
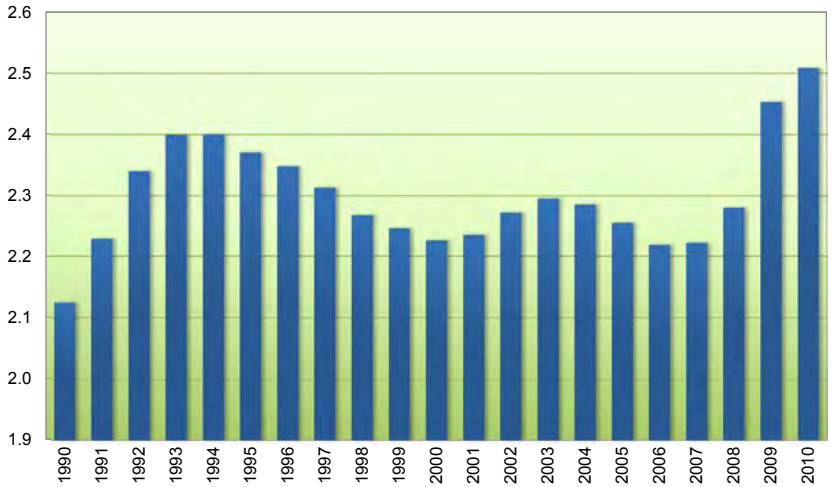


FIGURE 10 Population to Employment Ratio, SCAG Region, 1990–2010



Growth Forecast

The regional growth forecast is used as a key guide for future transportation investments in the SCAG region. The 2012–2035 RTP/SCS growth forecast was developed reflecting both the short term and long term perspectives. The latest 2010 Census data and 2011 EDD data indicate lower population, households and employment for year 2010 than forecasted in the 2008 RTP. The region is still expected to grow over the RTP planning period (2008–2035)—adding 4.2 million new residents, 1.5 million new households, and 1.7 million new jobs by 2035 (see **FIGURES 11** and **12**).

FIGURE 11 Population, Employment, and Households, SCAG Region, 2008 and 2035

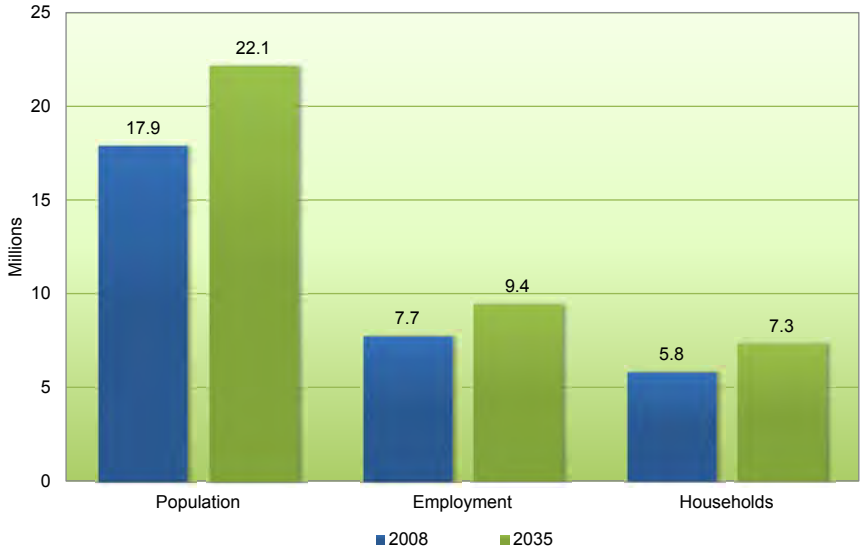


FIGURE 12 Population, Employment, and Household Growth, SCAG Region, 1970–2035

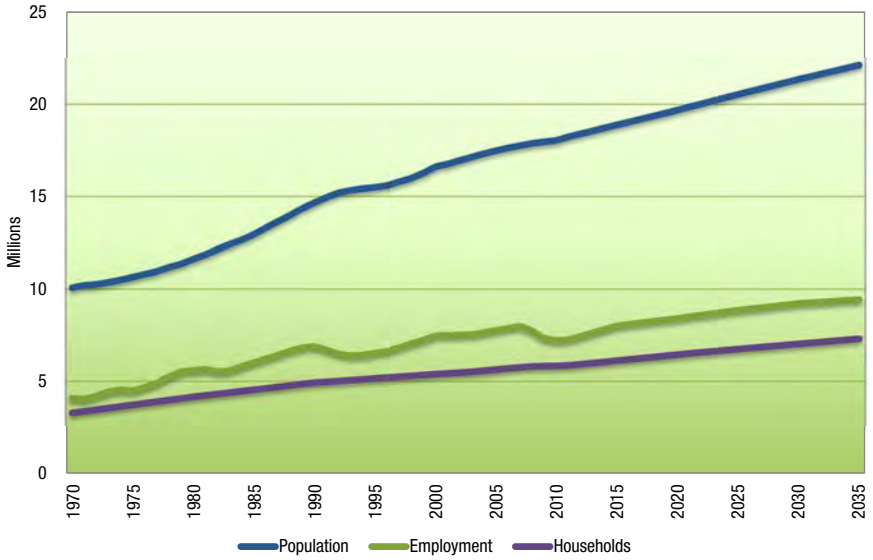
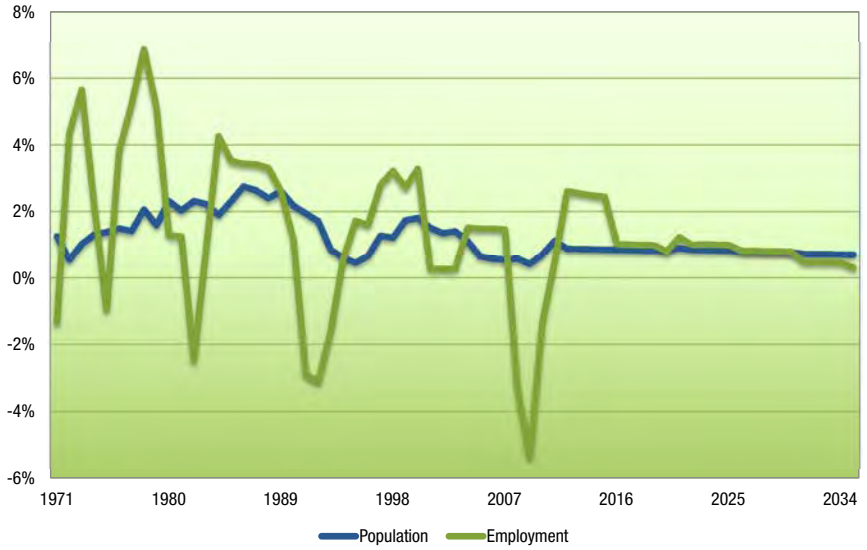


FIGURE 13 Percent Change of Population and Employment, SCAG Region, 1970–2035



POPULATION

The slower population growth pattern experienced in the last decade is expected to continue into the future. Between 2010 and 2035, the annual population growth rate will be only 0.9 percent, which is lower than the growth rate for the past 20 years. The region will grow mainly through natural increase (see **FIGURES 16–18**).

The most salient demographic characteristics of the projected population in the region will be the aging of population and shifts in ethnic distribution (see **TABLE 5** and **FIGURES 14–15**). With the aging of the baby boomer generation (born between 1946 and 1964), the median age of the population is projected to increase from 34.2 in 2010 to 36.7 in 2035. The share of the population 65 years old and over is projected to increase from 11 percent in 2010 to 18 percent in 2035, while the share of the population less than 65 years old decreases from 89 percent in 2010 to 82 percent in 2035. In particular, the share of the population of the working age 16–64 has its share sharply decline from 65 percent to 60 percent during the projection period. This implies a future shortage of workers. With the increasing share of the older population and the decreasing share of the working age population, the aged dependency ratio (i.e., the number of aged people per hundred people of working age) is projected to increase from 17 percent in 2010 to 30 percent in 2035 (an increase of 13 percent during the period).

The other characteristic of the projected population is the racial/ethnic diversity (see **TABLE 5**). The region already has a high level of racial/ethnic diversity in 2010 with a Hispanic population of 45 percent, a non-Hispanic White population of 34 percent, a non-Hispanic Asian population and others of 14 percent, and a non-Hispanic Black population of 7 percent. The region's racial/ethnic composition is projected to exhibit a rapid change toward a majority Hispanic population of 56 percent in 2035, while the share of the non-Hispanic White population is projected to drop sharply to 22 percent.

TABLE 5 Demographic Characteristics of Regional Population, 2010, 2020, and 2035

	2010	2020	2035	Difference (2010–2035)	% Change (2010–2035)
Total population ('000)	18,104	19,663	22,091	3,987	22.0
Births per 1,000 population (05–10, 15–20, 30–35)	15.4	15.3	14.5	-0.9	
Total fertility rate (per woman) (05–10, 15–20, 30–35)	2.2	2.2	2.2	0.0	
Deaths per 1,000 population (05–10, 15–20, 30–35)	6.2	6.4	7.6	1.4	
Natural increase (%) (05–10, 15–20, 30–35)	143.9	111.0	95.4		
Net migration (%) (05–10, 15–20, 30–35)	-43.9	-11.0	4.6		
Age composition of population					
Persons under 16 years old (%)	23.2	22.6	21.9	-1.3	15.2
Persons 16–64 years old (%)	65.9	63.6	60.1	-5.8	11.7
Persons 65 years old and over (%)	10.9	13.8	18.0	7.1	101.5
Total	100.0	100.0	100.0		
Median age	34.2	35.2	36.7	2.4	
Dependency ratio*					
Child dependency ratio**	35.2	35.5	36.5	1.3	
Aged dependency ratio***	16.6	21.6	29.9	13.3	
Total	51.8	57.2	66.4	14.6	
Ethnic composition of population					
Non-Hispanic White persons (%)	33.8	28.8	22.3	-11.5	-19.0
Non-Hispanic Black persons (%)	7.0	6.7	6.2	-0.8	8.5
Non-Hispanic Asian & Other persons (%)	14.0	14.5	15.1	1.2	32.6
Hispanic persons (%)	45.3	49.9	56.3	11.0	52.2
Total	100.0	100.0	100.0		

Note: *The number of children (age 0-15) and aged persons (age 65 and over) per hundred people of working age (age 16–64). ** The number of children per hundred people of working age. *** The number of aged people per hundred people of working age. *Source: SCAG*

FIGURE 14 Population Pyramids, SCAG Region, 2010 and 2020

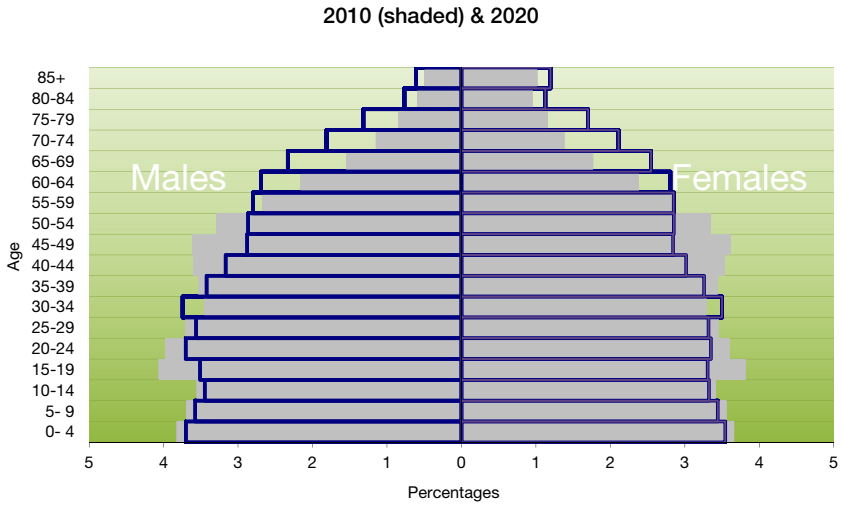


FIGURE 15 Population Pyramids, SCAG Region, 2010 and 2035

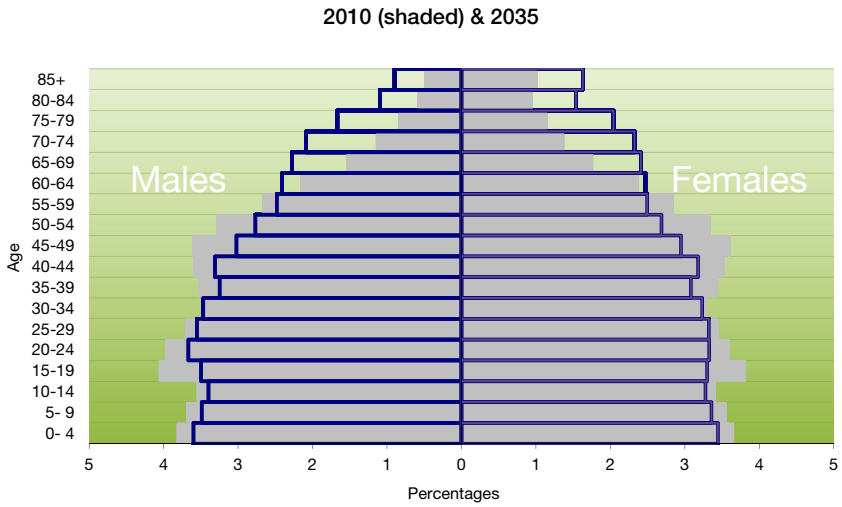


FIGURE 16 Components of Population Change, SCAG Region, 1970–2035

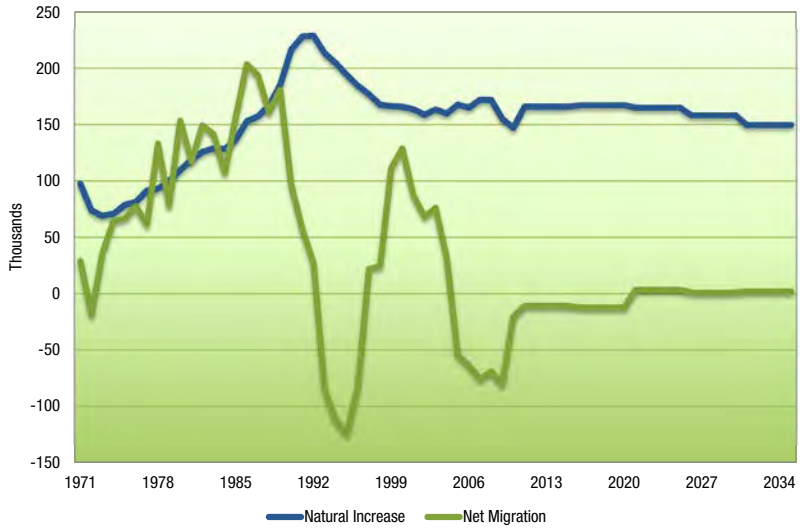


FIGURE 17 Births and Deaths, SCAG Region, 1970–2035

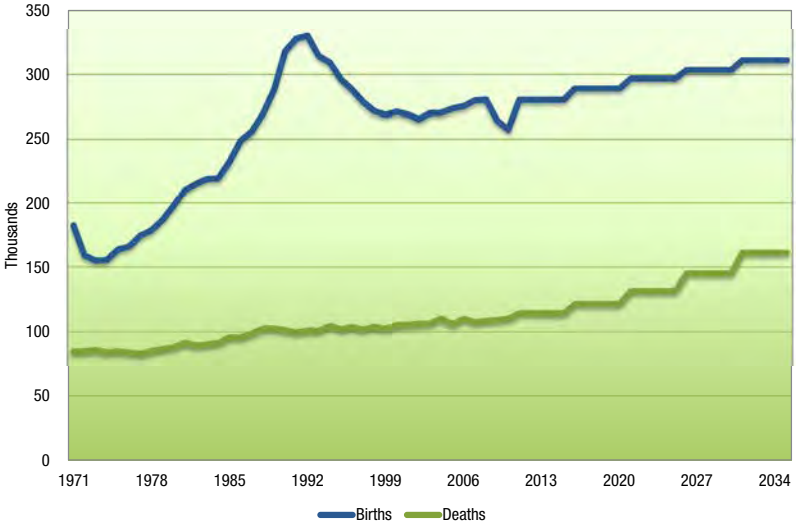
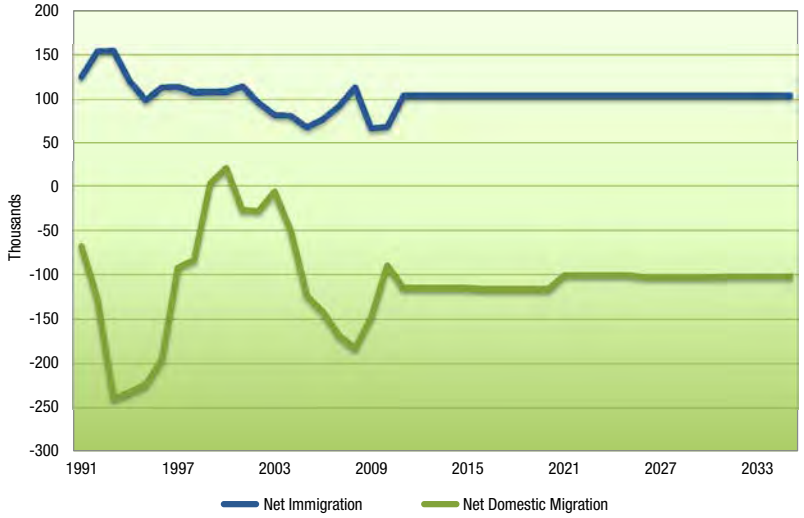


FIGURE 18 Net Immigration and Net Domestic Migration, SCAG Region, 1990–2035



HOUSEHOLDS

As the population ages and diversifies in the region during the projection period, householders follow the same path (see **TABLE 6**). The number of householders 65 years or older will reach more than 2 million in 2035 with the addition of one million households in the next 25 years. The growth of the senior householders will represent more than 70 percent of the projected household growth in the region. However, the share of householders in the younger age groups will decline. In particular, householders 45–54 years old will show an absolute decline.

The racial/ethnic distribution of householders will also change. The non-Hispanic White householders will decrease from 44 percent in 2010 to 29 percent in 2035, while Hispanic householders will increase from 35 percent in 2010 to 47 percent in 2035. The household size will also decline from 3.04 in 2010 to 2.97 in 2035 as a result of the dynamics of the changing age and racial/ethnic composition of the projected population and declining birth rates.

TABLE 6 Characteristics of Regional Households, 2010, 2020, and 2035

	2010	2020	2035	Difference (2010–35)	% Change (2010–35)
Total households ('000)	5,853	6,458	7,325	1,472	25.1
Age composition of householders					
15–24 (%)	3.9	3.4	3.4	-0.5	7.8
25–34 (%)	16.4	16.9	15.4	-1.0	17.8
35–44 (%)	21.3	18.5	18.4	-2.8	8.4
45–54 (%)	22.7	19.4	17.7	-5.0	-2.3
55–64 (%)	17.0	18.8	15.6	-1.4	14.8
65–74 (%)	10.1	13.4	14.9	4.8	84.7
75+ (%)	8.7	9.5	14.6	5.9	110.1
Total	100.0	100.0	100.0		
Ethnic composition of householders					
Non-Hispanic White householders (%)	43.7	37.3	28.8	-14.9	-17.6
Non-Hispanic Black householders (%)	8.0	7.9	7.5	-0.6	16.0
Non-Hispanic Asian & Other householders (%)	13.7	14.9	16.3	2.6	48.7
Hispanic householders (%)	34.5	39.9	47.4	12.9	72.0
Total	100.0	100.0	100.0		
Average household size					
Non-Hispanic White households	2.3	2.3	2.2	-0.1	
Non-Hispanic Black households	2.6	2.5	2.4	-0.2	
Non-Hispanic Asian & Other households	3.1	2.9	2.7	-0.4	
Hispanic households	4.0	3.8	3.5	-0.5	
Total	3.0	3.0	2.9	-0.1	

Source: SCAG

EMPLOYMENT

Two economic recessions and globalization were the major factors behind the slow growth in the region over the past 20 years. Although recessions and further globalization are expected, the region is still expected to add 2.2 million jobs, from 7.2 million in 2010 to 9.4 million in 2035. The annual average growth rate in jobs will be over 1 percent. The region will be recovered from the recent economic recession in the near future. In the long run, the regional economy will get back to normal with reasonable labor force participation rates and unemployment levels.

The region's industrial mix, however, will experience continuous change over time due to globalization (see **TABLE 7**). The region will transform its industrial structure from manufacturing oriented industries to the service oriented industries. The construction sector will regain its normal share by increasing from 4 percent in 2010 to 6.5 percent in 2035. Selected service sectors including professional and business services, education and health services will grow by more than one million and their share will increase from 37 percent in 2010 to 40 percent in 2035. The share of employment in the manufacturing sector will continue to decrease from 9 percent in 2010 to 8 percent in 2035 as a result of continued globalization.

There has been a concern about the economic performance of the region in recent years. SCAG initiated a discussion of an economic growth strategy among local and diverse stakeholders in the region. The economic growth strategy intends to improve the economic quality of life by maintaining the manufacturing sector and other traditional high income job sectors.

TABLE 7 Regional Employment Projections by Industry Sectors, 2010, 2020, and 2035

	2010	2020	2035	Difference (2010–35)	% Change (2010–35)
Total jobs ('000)	7,225	8,414	9,441	2,216	30.7
Jobs by NAICS					
Agriculture & Mining (%)	1.0	0.9	0.8	-0.2	5.5
Construction (%)	4.0	6.0	6.5	2.4	108.6
Manufacturing (%)	9.2	8.6	7.6	-1.6	8.0
Wholesale Trade (%)	5.1	4.9	4.8	-0.3	23.3
Retail Trade (%)	10.8	10.5	10.2	-0.6	23.1
Transportation and Warehousing, and Utilities (%)	4.8	4.6	4.6	-0.2	26.5
Information (%)	3.5	3.3	3.1	-0.4	16.2
Financial Activity (%)	5.8	5.7	5.5	-0.2	25.1
Professional and Business Services (%)	15.3	16.3	16.8	1.5	43.1
Education and Health Services (%)	22.0	22.0	23.1	1.1	37.2
Leisure and Hospitality (%)	10.6	9.7	9.6	-1.0	18.4
Other Services (%)	4.0	4.1	4.1	0.2	36.2
Public Administration (%)	4.0	3.3	3.3	-0.7	8.3
Total (%)	100.0	100.0	100.0	0.0	

Source: CA EDD and SCAG

COUNTY DISTRIBUTION OF POPULATION AND EMPLOYMENT

According to the SCAG growth forecast, Riverside and San Bernardino Counties will grow faster and increase their share of regional jobs while Los Angeles and Orange Counties decrease their share, between 2010 and 2035 (see **TABLE 8**). During the same period, in both Riverside and San Bernardino Counties the population to employment ratio will decline as relatively more jobs than population are added. Overall the population to employment ratio in each of the six counties will converge toward the regional average ratio.

TABLE 8 Regional Population and Employment Shares by County, 2010, 2020, and 2035

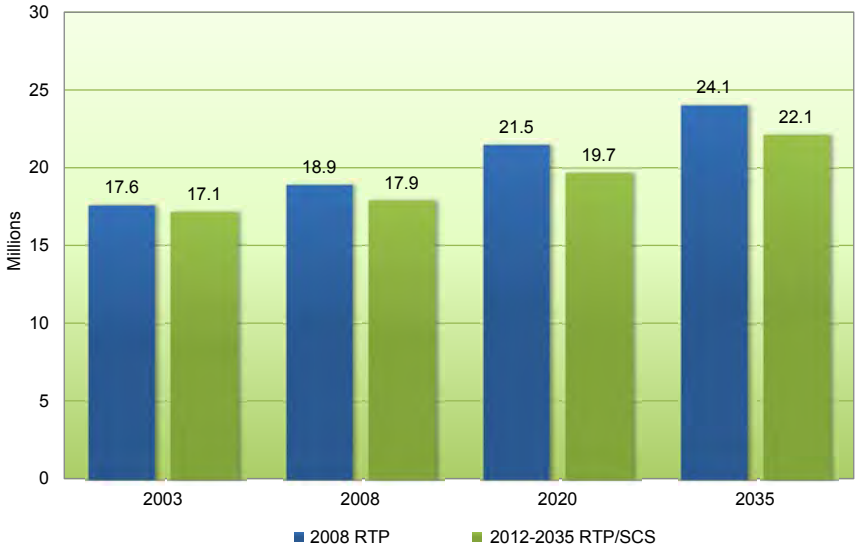
County	Share of Regional Population			Share of Regional Employment		
	2010	2020	2035	2010	2020	2035
Imperial	1%	1%	1%	1%	1%	1%
Los Angeles	54%	53%	51%	57%	54%	51%
Orange	17%	17%	15%	21%	19%	19%
Riverside	12%	13%	15%	8%	11%	13%
San Bernardino	11%	12%	12%	9%	10%	11%
Ventura	5%	5%	4%	5%	5%	4%
SCAG	100%	100%	100%	100%	100%	100%

Source: US Census Bureau and SCAG

COMPARISON OF 2008 RTP GROWTH FORECAST AND 2012–2035 RTP/SCS GROWTH FORECAST

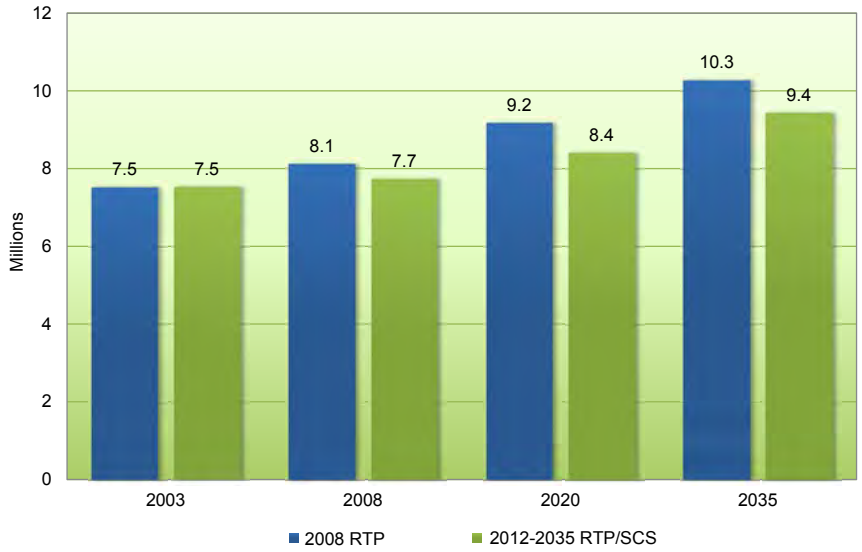
The growth forecast for the 2012–2035 RTP/SCS reflects the recent trends in components (e.g., births, deaths, domestic migration, international migration) of population growth and in job growth by sectors. The 2012–2035 RTP/SCS growth forecast for 2035 is lower than that of the 2008 RTP growth forecast (See **FIGURES 19–20**).

FIGURE 19 Population Growth, SCAG Region, 2003–2035: 2008 RTP vs. 2012–2035 RTP/SCS



Source: CA DOF and SCAG

FIGURE 20 Employment Growth, SCAG Region, 2003–2035: 2008 RTP vs. 2012–2035 RTP/SCS



Source: CA EDD and SCAG

Section III: Forecasting Framework, Methodology and Assumptions

Forecasting Framework

SCAG began developing the long term growth forecasts for the 2012–2035 RTP/SCS in the middle of the Great Recession (2007–2009). The traditional long term perspective, which might not reflect the on-going economic trends and the frequently updated short term economic forecast, might result in a serious bias in the short term population projections. The major sources of potential projection errors include: (1) the unstable/uncertain nature of the key economic-demographic assumptions, in particular, unemployment rate and migration in the short term framework; (2) the timing and reasonableness of population projections (and assumptions) by the US Census Bureau and CA DOF; (3) the lack of relevant statistical data in a timely manner; and 4) the significant gap in population estimates between the US Census Bureau and CA DOF.

SCAG uses the BULA (Balance, Uncertainty, Latest, and Adaptive) approach toward developing the regional growth forecasts. First, the regional forecasts should maintain the *Balance* between employment, population, and households due to their interrelationship, assuming that employment growth is a driving force of regional population and household growth. The employment-population-household (EPH) forecast framework has been the basis for developing the growth forecast for the SCAG region.

Second, the regional forecasts embrace the forecast *Uncertainty* as the recent population projections of US Census Bureau (2008) and California Department of Finance (2007) are quickly outdated in their consideration of the actual and projected international immigration. A range of regional growth forecasts are derived to reflect the different paths of national population growth with different immigration assumptions and their impact on national growth.

Third, SCAG makes an effort to use the *Latest* demographic and economic assumptions to ensure that the growth forecasts are current. The normative assumptions are also introduced into the forecast process as needed. For example, household formation behavior, measured in headship rates, is used to measure the housing needs of the projected population. The headship rates of minority ethnic populations did not show a convergence toward the headship rates of the White population. SCAG introduces the socially acceptable assimilation pattern into the assumption of the convergence of headship rates toward the White headship rates.

Finally, SCAG approaches development of growth forecasts in an *Adaptive* and flexible way. Many demographic and economic statistics are unstable and quickly outdated as the recession continued. SCAG collected those information materials and regularly went through the expert panel review (2009, 2010, 2011). Through the BULA approach, SCAG developed more realistic and accurate regional growth forecasts. SCAG annually updated the short term forecasts with the quickly changing demographic and economic conditions between 2009 and 2011 before adopting the growth forecast in April 2012.

UNCERTAINTY IN A REGIONAL GROWTH FORECAST AND EXPERT OPINION

In a rapidly changing and volatile economic environment, the usual economic and population projection models do not produce accurate projections. This is particularly true of the short term projections due to the unstable nature of the economic and demographic assumptions. The average approach (e.g., average of the newly available economic or demographic projections) might be a preferred approach for updating the new short term economic and demographic projections (Smith et al, 2001). Timely developed private sources of the near term or long term economic and demographic projections are available with a cost, although the demographic projections tend to rely on the most recent series of projections by the U.S. Census Bureau or the state statistical agency. The collective expert opinion could be a useful reference to reduce the short term and long term projection errors. The following is a brief summary of the expert opinion on critical factors and key economic and demographic assumptions collected through three panels of experts meetings between 2009 and 2011.

The Panel of Experts Meeting (2009)

A first panel of experts meeting was held on May 15, 2009. The panel was composed of fifteen experts in the field of regional and national economics and demography. These experts have developed economic or demographic forecasts for a long time or the agencies that they work for might have produced economic or demographic forecasts. They came from a variety of public or private organizations. Nearly 50 percent of the panel members come from universities in California (e.g., University of Southern California, University of California Los Angeles, University of California, Riverside, University of California, Santa Barbara, California State University, Long Beach, California State University, Fullerton). Other panel members come from state or local government agencies (e.g., Los Angeles Economic Development Corporation, South Coast Air Quality Management District, California Department of Finance), private consulting firms (e.g., Regional Economic Models, Inc., Beacon Economics, DB Consulting). Experts were provided with a list of questions regarding assumptions with background information (e.g., historical data and a preliminary range of forecasts by the moderator) a few days before the panel of experts meeting.

The survey questions focused on three major aspects of job and population projections: 1) short term economic outlook; 2) long term economic assumptions (e.g., regional share of the national job projections, retirement age of workers, labor force participation rate); and 3) long term demographic assumptions (e.g., fertility rate, life expectancy, and net international immigration). The survey questions included, but were not limited to: 1. How deep and long will the recession be? How will the recession affect the economy and prospects for housing in 2020?; 2. After the recession ends, will national job growth be equal to, greater than, or less than the U.S. job growth rate from the current U.S. BLS projection?; 3. Will workers retire at an older age in 2020/2035 than now?; 4. How will California's share of U.S. jobs change in the future?; 5. How will the SCAG region's share of California jobs change in the future?; 6. How does the panel evaluate the new Census Bureau U.S. population projections and related assumptions of fertility rates, life expectancy, and international immigration?; 7. Will labor force participation rates continue to increase for older workers?

First, the short term economic outlook is focused on understanding the timing of the bottom of the national and regional economic recession. According to the responses of the experts, the economic recession measured in job losses in the SCAG Region would most likely end in 2010 (2 respondents), 2011 (7 respondents), or 2012 (3 respondents). Once the economy is recovered from the recession, it might take several years for the unemployment rates to return to a normal range (5–8 percent). Five of seven responded that, after the recession ends, regional job growth would be equal to the annual average U.S. job growth rate (1.04 percent between 2006 and 2016) from the current 2007 US BLS job projection. Two respondents said that the regional job growth would be greater than the U.S. job growth rate from the current 2007 US BLS job projection.

Second, the regional share of the national job projections was surveyed through two different but related questions about 1) California's share of U.S. jobs for 2020 and 2035 and 2) the SCAG Region's share of California jobs for 2020 and 2035. Twelve experts responded to both questions above. The survey results imply that the regional share of the national job projection ranges from 4.3 percent (minimum) to 5.3 percent (maximum) in 2020 and 3.8 percent (minimum) to 5.5 percent (maximum) in 2035 (see **TABLE 2**). The gap between the minimum and maximum is much bigger in 2035 than in 2020. The median regional share remains constant at 5 percent for both 2020 and 2035, which is 0.2 percent lower than the most current regional share (5.2 percent). The overall survey

responses are not optimistic about the SCAG region's relative economic competitiveness in the national economy, although the survey questions did not directly touch on "the regional share of the national job growth". The labor force participation rate (retirement) trends in the SCAG region will be consistent with the national projection, and will support the assumption that workers in the region will tend to retire at an older age in the future.

Third, there is no or little concern about the national and regional assumptions of the future fertility rates and life expectancy. The current regional average total fertility rate of 2.1 is assumed to decline slightly to 2.0 and 1.9 in 2020 and 2035, respectively, during the projection period. The regional life expectancy will increase consistent with the national life expectancy's increase during the projection period. The national immigration assumptions are major concerns of the panel members. The US Census Bureau released one set of long-term population projections for the nation in August 2008. These baseline projections included higher immigration projections, which resulted in an increase in the projected population growth to 2050. The key question is whether SCAG will adjust the current international immigration upward in light of the higher Census Bureau projections. Ten of the thirteen panel members said No to the upward adjustment of the international immigration assumption.

The Panel of Experts Meeting (2010)

Two major projections from the US Census Bureau and US Bureau of Labor Statistics (BLS) were released since the previous year's panel of the expert meeting. In December 2009, the US Census Bureau released alternative sets of population projections with different immigration assumptions. The 2009 national population projections are a supplemental series to the 2008 national population projections released on August 14, 2008, and provide results for differing assumptions of net international migration (http://www.census.gov/population/www/projections/2009projections.html). All other methodology and assumptions of mortality and fertility rates, are the same as those used in the 2008 national population projections. The lower immigration assumption, which looks reasonable in light of the recent trends, results in lower national population. When compared with the baseline projections released in August 2008, the gap between the low migration alternative and the baseline is 4.5 million (1.3 percent of the baseline population) in 2020, 9.7 million (2.5 percent of the baseline population) in 2035. In December 2009, BLS released new job projections to 2018. These projections were based on the national population projections released by the US Census Bureau in August 2008. Since there is only 1.3 percent difference in 2020 population between the low migration alternative and the baseline, the potential impact of the new low immigration alternative on job projections would be negligible. International immigration, in particular, unauthorized immigrants show a rapid decline from 11.8 million in 2007 to 11.6 million in 2008, and to 10.8 million in 2009. The decline in just one year between 2008 and 2009 reaches 800,000, which would be the likely impact of the recent economic recession.

A second panel of experts meeting was held on May 28, 2010, just one year after the first meeting held in 2009. Panel members, who participated in the first panel of experts meeting, were invited to the second panel of experts meeting. Eleven members attended the meeting to: 1) revisit the potential impact of economic recession and recovery in the national economy on the regional economy; 2) provide input on the recent trends in immigration and U.S. population growth; and 3) review the recent trends in the region's share of the national jobs.

With those newly available data in mind, the panel members participating in the second panel of experts meeting provided input to SCAG staff. First, the panel thought that job losses in the region would end in 2010 or 2011 in the 2009 meeting. While panel members differed on the size and timing of the recovery, the panel did not think the recession would affect the size of the region in 2020 and 2035. Some panel members thought there could be a lingering impact on unemployment rates, income growth and housing markets.

Second, U.S. population growth affects the pool of people and jobs in the nation. For any given SCAG share of future growth, higher U.S. immigration and population growth will push the SCAG region growth higher and vice versa. U.S. immigration and population growth is likely to be maintained at the lower level for the next 5 to 10 years.

Third, job shares dropped in 2008 and 2009, and state and regional job losses were larger than in the U.S. The majority of panel members supported the downward revisions of the regional shares of the national jobs. We are not sure if these declines in the regional job shares are temporary, based on the sharp decline in construction. There is a possibility that these declines might be a permanent shift because of the result of the long term demographic trends toward the aging of population, or because of the lack of the timely development and implementation of economic growth policy and strategy

The Panel of Experts Meeting (2011)

A third panel of experts survey was conducted through email on May 2011. Most of the panel members, who participated in the first and second panel of expert meeting, were requested to answer survey questions on the demographic and economic trends and assumptions. Thirteen members responded to questions on: 1) economic recovery of the nation; 2) immigration assumptions at the national level; 3) the projected region's share of the national jobs; 3) household projections. There was an overall consensus on the following few issues: 1) panelists expect the nation to be fully recovered by 2020 from the recession; 2) panelists expect U.S. unemployment to be between 4.5 percent and 6.5 percent; 3) panelists see no need to change the immigration assumptions from last year; 4) while not all panelists gave clear answers, no panelist said the relationship between projected jobs, population and households was not reasonable. On whether the SCAG region would see job growth faster than the nation, six of ten respondents said yes, while only two said no. The housing questions are particularly hard for short email answers. The question on whether household projections should be based purely on demographics was not clear to panelists. Some panelists wanted to comment on changing demographics and the implications for housing. Most panelists think demographics are the major determinant in the long run but had some concerns about 2020. Seven of 10 respondents agreed that market conditions would prevent "enough" housing from being built by 2020.

A RANGE OF REGIONAL GROWTH FORECASTS AND LOCAL INPUT

SCAG assumes that any set of growth forecasts (population, employment, and households) within a range of growth forecasts might be a plausible choice set. The scenario was developed in the following way: First, international immigration, one of the major demographic assumptions in US population projections by the US Census Bureau (2008), is not consistent with the recent trends, and is adjusted downward to reflect the recent trends. This downward adjustment of international immigration and the resulting population reduces the baseline US job projections due to the reduced labor supply. A mid national employment forecast is developed as a result of expert panel review (2009), is used as a key guide to develop a range of regional growth forecasts.

Second, a range of the regional employment forecasts (low, mid, high) is derived using a range of the regional shares of the national jobs from the expert panel review. A range of regional employment forecasts is translated into a range of the regional population forecasts (low, mid, high) using a set of demographic assumptions. All related economic and demographic assumptions (e.g., unemployment rates, labor force participation rates, immigration level, fertility rates, and survival rates, etc) for three different employment levels remain unchanged during the conversion process.

Third, a range of the regional population forecasts are translated into a range of the regional household forecasts using six different methods (e.g., cohort method, assimilation method, 2008 headship rate method, trend method, mid-trend method, mid-assimilation). A trend method produces the fewest households, while the assimilation method produces the highest number of households, given the same population level. SCAG uses a mid-trend assumption as a baseline method to convert population into households. It is based on a combination of the extrapolation of headship rates by race/ethnicity and gender and assimilation assumptions of the Hispanic and Asian headship rates. The mid term household projection is used with the population and employment scenarios to generate three scenarios of regional growth. **TABLE 9** presents the three growth scenarios for population, households, and employment as well as the local input scenario. The local based scenario is consistent with the low scenario, and reflects the recent trends. All of these scenarios were derived before the 2010 Census redistricting data was available.

TABLE 9 Regional Growth Forecasts (in Thousands): Three Scenarios and Local Input

Scenario	EPH	7/1/2010	7/1/2020	7/1/2035	2010–2020
Low	EMP	7,458	8,526	9,423	1,068
	POP	19,020	20,692	23,039	1,673
	HHLD	5,925	6,569	7,341	644
Mid	EMP	7,458	8,735	9,783	1,277
	POP	19,020	21,111	23,790	2,091
	HHLD	5,925	6,692	7,581	767
High	EMP	7,458	9,172	10,426	1,714
	POP	19,020	22,000	25,128	2,981
	HHLD	5,925	6,969	8,020	1,044
Local Input (12/2010)	EMP	7,352	8,559	9,579	1,101
	POP	18,997	20,600	22,930	1,580
	HHLD	5,933	6,545	7,365	620

Source: SCAG

2010 DECENNIAL CENSUS AND RE-BENCHMARK OF REGIONAL GROWTH FORECASTS

City and County level demographic data (Redistricting Data [P.L. 94-171]) for the State of California was released by the US Census Bureau on March 8, 2011. **TABLES 10** and **11** show population and household counts from the 2000 and the 2010 Census (April 1st figures) for each county in the SCAG region. The tables also present SCAG's preliminary projections of population and households by county for July 2010. Highlights from the table include: (1) Redistricting data from the 2010 Census showed that the population in the SCAG region was 18.05 million as of April 1, 2010, which is 1.5 million higher (9.3 percent) than the regional population count for the 2000 Census (16.5 million). The 2010 Census population figure for the SCAG region was almost 1 million lower (4.9 percent) than SCAG's preliminary population projections for 2010, which were provided before the publication of 2010 Census and primarily resulted from population estimates from the California Department of Finance (DOF); and (2) The 2010 Census redistricting data also counts the number of households in the SCAG region at 5.8 million, which is 461,000 higher (8.6 percent) than the regional household count for the 2000 Census (5.4 million). The 2010 Census household figure for the SCAG region was about 85,000 lower (1.4 percent) than SCAG's preliminary household projections for 2010, which are based on household estimates from the CA DOF.

On March 4, 2011, EDD released state and county estimates of wage and salary jobs for 2010 and adjustments to its previously released 2008 and 2009 job estimates (see **TABLE 12**). Highlights from the table include: (1) The new job data indicates that employment in the region totaled 7.22 million in 2010, about 128,000 (1.7 percent) less than SCAG's preliminary employment projections of 7.35 million; (2) Among counties in the SCAG region, job losses were much more severe in Los Angeles, Orange and Ventura Counties than previously projected; and (3) The region lost almost 800,000 jobs (7.9 percent) from 2007 to 2010. During this period, for every 100 jobs lost in the United States, 17 were in California, and of those, 9 were lost in the SCAG region.

TABLE 10 Regional and County-Level Population Change, 2000-2010

County	Population		
	4/1/2000 Census	4/1/2010 Census	7/1/2010 SCAG*
Imperial	142,361	174,528	191,215
Los Angeles	9,519,338	9,818,605	10,451,374
Orange	2,846,289	3,010,232	3,181,814
Riverside	1,545,387	2,189,641	2,203,587
San Bernardino	1,709,434	2,035,210	2,123,624
Ventura	753,197	823,318	845,314
SCAG	16,516,006	18,051,534	18,996,928

Note: *Projected based on Local Input and California Department of Finance (DOF), and produced before the publication of 2010 Census. *Source: US Census Bureau and SCAG*

TABLE 11 Regional and County-Level Households, 2000 and 2010

County	Households		
	4/1/2000 Census	4/1/2010 Census	7/1/2010 SCAG*
Imperial	39,384	49,126	53,550
Los Angeles	3,133,774	3,241,204	3,270,353
Orange	935,287	992,781	1,012,627
Riverside	506,218	686,260	705,645
San Bernardino	528,594	611,618	621,772
Ventura	243,234	266,920	269,170
SCAG	5,386,491	5,847,909	5,933,117

Note: *Projected based on Local Input and California DOF, and produced before the publication of 2010 Census. *Source: US Census Bureau and SCAG*

TABLE 12 Regional and County-Level Employment Estimates, 2008–2010

County	Employment					
	SCAG Preliminary Projection*			EDD Revised		
	2008	2009	2010	2008	2009	2010
Imperial	61,504	56,033	50,561	62,449	58,668	58,687
Los Angeles	4,340,344	4,284,475	4,228,607	4,460,171	4,184,002	4,123,262
Orange	1,624,061	1,620,241	1,510,928	1,621,910	1,499,723	1,490,318
Riverside	663,950	618,986	574,023	651,662	600,250	586,234
San Bernardino	700,603	677,794	654,985	702,424	652,840	640,497
Ventura	347,720	340,492	333,264	348,380	329,159	325,672
SCAG	7,738,182	7,598,021	7,352,368	7,846,995	7,324,642	7,224,670

Note: * Projected based on Local Input and CA EDD. *Source: CA EDD and SCAG*

SCAG incorporated the 2010 Census (Redistricting Data [P.L. 94-171]) and 2011 Employment Development Department data into the 2012–2035 RTP/SCS and RHNA process. Local jurisdictions within the SCAG region participated in the 20-month review and input process for developing the growth forecast dataset. SCAG updated the base year 2008 estimates by backcasting new 2010 Census data and updated 2020 and 2035 growth forecast by using the growth increments for 2008–2020 and 2020–2035 from the most recent database (December 2010).

TABLE 13 Regional Growth Forecasts (in Thousands): Before and After Incorporation of 2010 Census and 2011 EDD Database

	RTP	2000	2010	2020	2035	2010–2020
EMP	Before Census	7,440	7,352	8,559	9,579	1,207
	After Census		7,225	8,431	9,451	
POP	Before Census	16,517	18,970	20,600	22,930	1,630
	After Census		18,052	19,681	22,012	
HHLD	Before Census	5,386	5,918	6,545	7,365	628
	After Census		5,848	6,476	7,296	
POP/ HHLD	Before Census	3.07	3.21	3.15	3.11	2.6
	After Census		3.09	3.04	3.02	
POP/ EMP	Before Census	2.22	2.58	2.41	2.39	1.35
	After Census		2.5	2.33	2.33	

Note: Population and household estimates for 2000 and 2010 are based on the Decennial Census and benchmarked to April 1st for both Census years. Employment estimates and projections are based on the annual average. *Source: US Census Bureau and SCAG*

Forecasting Methodology and Assumptions

The regional growth forecast for the 2012–2035 RTP/SCS was developed using the regional forecast methodology used in the development of the 2008 RTP growth forecast (see SCAG's growth forecast report for 2008 RTP: http://www.scag.ca.gov/rtp2008/pdfs/finalrtp/reports/fGrowthForecast.pdf). The following is an overall approach toward developing the regional growth forecast for the 2012–2035 RTP/SCS.

FORECASTING METHODOLOGY

SCAG projects regional population using the cohort-component model. The model computes population at a future point in time by adding to the existing population the number of group quarters population, births, and persons moving into the region during a projection period, and by subtracting the number of deaths and the number of persons moving out of the region. The patterns of migration into and out of the region are influenced by the availability of jobs. The preliminary regional and county growth forecast of population

and households for the 2012–2035 RTP/SCS was derived using the updated economic and demographic trends and perspectives.

The preliminary city population and household forecast was derived by multiplying the 2008 RTP jurisdiction's share of the county growth delta during the forecast horizon by the updated county household growth delta during the same period. The jurisdictions's relative growth pattern in the 2008 RTP growth forecast remained constant. The jurisdiction level household size and the group quarters population from the recent DOF estimates were incorporated into the new database.

Regional employment is projected using a shift-share model. The shift-share model computes employment at a future point in time using a regional share of the nation's employment. The preliminary regional and county growth forecast of employment for the 2012–2035 RTP/SCS was derived using updated economic and demographic trends and perspectives. The preliminary jurisdiction employment forecast was derived by using a constant-share method. The jurisdiction's share of county jobs for each sector for the base year is assumed to remain constant during the forecast years. By using the constant share method, the jurisdiction's job growth by sector will be determined by the different growth of the specific sector by county. If a city in Los Angeles County is specialized in a specific industry (e.g., manufacturing), its future job growth will be severely affected by a declining pattern of manufacturing sector in Los Angeles County. The initial job forecasts became a basis for the future local input process.

KEY REGIONAL ASSUMPTIONS

Demographic and economic assumptions play a decisive role in determining the size of population, households, and employment in the future. Population size is projected by identifying the demographic rates (e.g., fertility rate, survival rate, migration rate) of the population cohort. The region's total fertility rate remains at 2.2, which is slightly higher than the replacement level of 2.1, during the projection period. The total fertility rate of Hispanic women gradually declines from 2.64 in 2010 to 2.49 in 2035, while other racial/ethnic groups' rates tend to remain constant during the projection period. The total fertility rate of recent Asian and Hispanic immigrants is assumed to be at a higher level than the long-term residents of the same ethnic origin.

The region's life expectancy at birth improves at the same rate as that of the nation's life expectancy improvement as determined by the US Census Bureau's 2008 Projection during the projection horizon.

Domestic migration is fluctuating and is directly influenced by labor demand derived from regional employment projections. International net immigration is kept constant at 104,000, which is an annual average of international net immigration of the region during the 1990–2010 period. The share of racial/ethnic domestic (from within the nation) migrants changes along with the changing population size of the racial/ethnic group. For example, the share of Hispanic migrants increases while that of the non-Hispanic Whites decreases. In addition to demographic assumptions, three additional translation factors are needed to link employment projections to population projections. They are labor force participation rates, the implied unemployment rates, and double jobbing rates. First, labor force participation rates play an important role in translating the labor force demand into labor force supply or vice versa. The labor force participation rates projected in the latest U.S. Bureau of Labor Statistics (BLS) projections for 2016 were used as the starting point for projecting labor force participation rates for 2020 and 2035. The projected labor force participation rates for the population over 55 are especially important as a large share of labor force growth will be in this age group. SCAG kept the projected 2016 labor force participation rates for the population under 55 for the years 2020 and 2035. SCAG increased the projected labor force participation rates for population groups age 55 and above for 2020 and 2035. These increases reflect a continuation of the large increases seen in recent years and projected by BLS to 2016. They reflect the better health and life expectancy of the workforce and the tendency for people to work longer for financial reasons. As a result of the projected increases in age-related labor force participation rates, the overall labor force participation rate is projected to slightly decline from 60.4 percent in 2010 to 59.4 percent in 2035. Second, some workers might keep two or more jobs. The double jobbing rate is assumed to be around 4.5 percent, and remain constant during the projection period. Third, the implied unemployment rate is derived by matching labor supply estimated from population projections with workers estimated from job projections. The panel of experts suggested that the acceptable implied unemployment rate ranges from 5 percent to 8 percent. The current projection assumes a 5 percent unemployment rate during the projection period (2015–2035). Finally, the most important consideration is the reasonable regional share of national jobs. Currently the SCAG

region's share of the national jobs is assumed to be 5.2 percent, and remains constant during the projection period.

TABLE 14 Key Regional Assumptions

Race/Ethnicity	2005–10	2015–20	2030–35
Fertility Rate			
White (NH**)	1.7	1.7	1.7
Black (NH)	2.05	2.05	2.05
Asian & Other (NH)	1.50 (2.06*)	1.51 (2.06*)	1.51 (2.06*)
Hispanic	2.64 (2.88*)	2.58 (2.82*)	2.49 (2.72*)
Total	2.18	2.2	2.2
Crude Death Rate			
White (NH)	11.4	11.9	14
Black (NH)	9.1	9.4	10.4
Asian & Other (NH)	2.6	4	6.8
Hispanic	2.8	3.5	4.8
Total	6.2	6,4	7.5
Domestic In-Migration			
White (NH)	55%	46%	33%
Black (NH)	8%	8%	8%
Asian & Other (NH)	16%	18%	22%
Hispanic	21%	28%	38%
Total	100%	100%	100%
Domestic Out-Migration			
White (NH)	48%	46%	35%
Black (NH)	7%	7%	7%
Asian & Other (NH)	13%	14%	16%
Hispanic	31%	36%	43%
Total	100%	100%	100%
International Migration (annual average)	104,000	104,000	104,000
Labor Force Participation Rate			
White (NH)	62.4%	61.1%	60.9%
Black (NH)	57.8%	57.7%	57.1%
Asian & Other (NH)	59.1%	58.3%	56.4%
Hispanic	59.6%	61.3%	60.0%
Total	60.4%	60.5%	59.4%

Note: *Total Fertility Rates of Asian And Hispanic Immigrants. **NH refers to Non-Hispanic. *Source: CA DOF and SCAG*

The region's households are projected by using projected headship rate. The projected households at a future point in time are computed by multiplying the projected residential population by projected headship rates. Headship rate is the proportion of a population cohort that forms the household. Age-gender-racial/ethnic specific household formation level was applied to the projected population to estimate households. It is specified by age, gender, and race/ethnicity. Headship rate is projected in 5 year intervals for seven age groups (e.g., 15–24, 25–34, 35–44, 45–54, 55–64, 65–74, 75+), both genders (male and female), and four racial/ethnic groups.

The draft headship rate projections were developed using the extrapolation of the recent trends between 2005 and 2010 with different assumptions about the assimilation of Hispanic and Asian headship rates. The two plausible sets of headship rate assumptions were (1) age-sex-racial/ethnic specific household formation trends without assimilation and (2) age-sex-racial/ethnic specific household formation trends with assimilation.

In fact, there has been a gradual decline in the overall headship rates of the SCAG region from 43.7 percent in 1990 to 42.2 percent in 2010, with a sharp decrease by 3 percent from 46.7 percent in 1980 to 43.7 percent in 1990. The region's Hispanic headship rates generally did not converge toward the White headship rates between 1980 and 2000, but the gap of the White and Hispanic headship rates was growing over time and across generations, after controlling for socioeconomic factors. Although Hispanic immigrants

experience a linear assimilation toward the Non-Hispanic White headship rates over time, U.S. born Hispanic residents do not show a linear assimilation toward the Non-Hispanic White headship rates (Choi, 2008). There was generally a stronger effect of the economic recession on headship rates of the minorities or immigrants than that of the native-born White. As a result, the gap in headship rates between minorities or immigrants and the White group is larger (Min & Choi, 2011).

Since there is a potential overestimate of the projected households due to assimilation assumption, SCAG produces an acceptable range of the projected households by using headship rates with/without assimilation assumption. The final projected households will be within the acceptable range. **TABLE 15** shows the projected headship rates of the racial/ethnic groups between 2010 and 2035, which are the basis for deriving the household forecast.

TABLE 15 Headship Rates by Race/Ethnicity

	2010*	2020**	2035**
White (NH)	50.7%	51.6%	52.1%
Black (NH)	49.3%	51.6%	52.1%
Asian & Other (NH)	39.1%	39.6%–40.8%	39.4%–42.6%
Hispanic	34.8%	35.9%–36.5%	36.4%–37.8%
Total	42.2%	42.4%–42.8%	41.6%–42.9%

Note: *The base year (2010) headship rates were derived using ACS 05-07 3 year average and controlled for 2010 Census household estimates. **The 2020 and 2035 Asian and Hispanic headship rates include two assumptions of with/without assimilation. A headship rate assumption with assimilation is developed in the following way, Asian headship rates are reduced by 50 percent of the difference from 2010 White headship rates by 2050; Hispanic headship rates are reduced by 25 percent of the difference from 2010 White headship rates by 2050. *Source: SCAG*

SMALL AREA FORECAST AND ALLOCATION

The socioeconomic input data for the transportation model are processed at the transportation analysis zone (TAZ) level in two different formats: (1) the marginal total of person and household attributes and (2) the joint distributions of person and household attributes. TAZ is often referred to as TIER 2, are generally equivalent to Census block groups, and there are 11,267 TAZs in the region.

A marginal total of 54 independent socioeconomic attributes and 7 joint distributions of two or more attributes are developed as input for the transportation demand model (see **TABLES 16** and **17**). Those variables include population, households, school enrollment, household income, workers, employment, etc. Joint distributions of two or more attributes are now needed as required by the enhanced transportation demand model. One of those joint distributions is the number of households by household income, household size, the number of workers, and the type of dwelling units, at the TAZ level.

SCAG develops the marginal and joint distributions of socioeconomic attributes at the TAZ level using diverse public and private sources of data and advanced estimation methods. The major data sources include 2000 and 2010 Census, 2000 Census Transportation Planning Package (CTPP), American Community Survey (ACS), California Department of Finance (DOF), California Employment Development Department (EDD), InfoUSA, 2008 Existing Land Use, and 2008 County Assessor's Parcel Database.

The socioeconomic input data at the TAZ level is estimated using three major processes: 1) development of three major variables (population, households, employment; 2) development of secondary variables (socioeconomic attributes of persons and households, employment sectors); 3) development of joint distributions of selected attributes.

Development of Major Variables

The household estimates at the TAZ level are initially derived by summing the Minimum Planning Unit (MPU) level household estimates within the TAZ. The MPUs are generally equivalent to parcels. The MPU level household estimates are derived using the following process: (1) add the new residential construction between 2000 and 2008 to 2000 MPU level housing estimates from 2000 Census; and (2) convert housing units into households using the 2000 vacancy rate. The MPU level household estimates are controlled to the 2008 city level household estimates. The employment estimates at the MPU level are initially derived by using 2008 InfoUSA database. The MPU level employment estimates are controlled to the 2008 county level employment estimates from CA EDD. TAZ level household and employment estimates are derived by aggregating the MPU level estimates.

TAZ population and household forecasts are derived using the housing unit (HU) method, as used in the city forecasts. The first step of the housing unit method is to project housing units at the TAZ level. Since SCAG focuses on the household forecast, SCAG derives the initial TAZ household forecasts by reflecting growth patterns incorporated in the 2008 RTP forecasts, recent estimates and trends, and updated city household forecasts. The TAZ household forecast is converted into population by using the group quarters population plus the product of households and average persons per household (PPH). The average number of persons per household is projected using the recent estimates and trends, and is constrained by the updated city PPH. Group quarters population is projected using the TAZ's share of the city population from the 2000 Census and 2008 DOF, which is assumed to remain constant during the projection horizon.

TAZ jobs are initially projected using a constant-share method. The current TAZ's share to city jobs for each sector will remain constant during the forecast years. By using the constant share method, the TAZ's job growth by sector will be simply determined by the different growth of the specific sector by city. The initial TAZ population, household, and employment forecasts become a basis for the local review process.

Development of Secondary Variables

Three major variables are further disaggregated into necessary attributes (e.g., age, persons per households, industry sectors, etc), as required in the transportation demand model development process. The additional attribute variables are called secondary variables. These secondary variables at the TAZ level are estimated using the Large Area Secondary Variables Allocation Model (LASVAM) and Small Area Secondary Variables Allocation Model (SASVAM) (Cho, 2006; Choi & Ryu, 2011). SCAG uses LASVAM to develop the county level secondary variables using the trend extrapolation or the statistical method. SCAG uses SASVAM to develop the TAZ level secondary variables using the probabilistic choice model, which reflects the temporal change of the individual attribute and the changing relationship of the related attributes.

Development of Joint Distributions of Selected Secondary Variables

The marginal distribution of secondary variables at the TAZ level processed by SASVAM is developed into joint distribution of selected secondary variables using the Population Generator (PopGen) 1.1, developed by Arizona State University. PopGen 1.1 generates synthetic populations and households with attribute distributions, which become the basis for computing the joint distributions. SCAG uses the 2000 Census SF3 driven aggregate data at TAZ level and 2000 Census PUMS based individual data at the PUMA level as seed data to produce 2008 synthetic populations and households at the TAZ level.

INCORPORATION OF MAJOR DEVELOPMENT PROJECTS

SCAG incorporates major long range major development projects with regional significance into the TAZ population, household, and employment forecast to accurately assess their impacts on the long term regional transportation system. These projects are often collected through the Intergovernmental Review (IGR) program.

As required by the California Environmental Quality Act (CEQA), SCAG should review projects throughout its jurisdiction to monitor regional development as part of the IGR. Through the IGR, SCAG confirms that the regionally significant projects are consistent

with a range of adopted regional plans and policies. This IGR process allows SCAG to identify the regionally significant major development projects.

Once the small areas are identified as a major development project area through the IGR process, a set of preliminary population, household, and employment forecasts are processed using the information of proposed major development projects. The major development projects and related growth estimates generally do not influence the overall growth forecast of the local jurisdiction, but may influence the growth distribution within the local jurisdictional boundary.

TABLE 16 Description of Socioeconomic Variables

Variables	Description of Variables
Population (8 variables)	Total Population (1 variable): total number of people living within a zone. Total population is composed of residential population and group quarters population.
	Group Quarters (Non-Institutional) Population (1 variable): is primarily comprised of students residing in dormitories, military personnel living in barracks, and individuals staying in homeless shelters. Group quarters (non-institutional) population does NOT include persons residing in institutions.
	Residential Population (1 variable): the number of residents NOT living in "group quarters."
Population (8 variables)	Group Quarters Population living in student dormitories (1 variable): Population living in college dormitories (includes college quarters off campus).
	Population by Age (4 variables): the number of population for different age groups: 5–17, 18–24, 16–64, and 65+.
Households (26 variables)	Total Households (1 variable): Household refers to all of the people who occupy a housing unit. By definition there is only one household in an occupied housing unit.
	Households by Household Size (4 variables): the number of one-person households, two-person households, three-person households, and four or more person households.
	Households by Age of Householder (4 variables): the number of households with age of householder between 18 and 24 years old, 25 and 44, 45 and 64, and 65 or older.
Households (26 variables)	Households by Number of Workers (4 variables): the number of households with no worker, with one worker, with two workers, and with three workers or more.
	Households by Household Income (4 variables): the number of households with annual household income (in 1999 dollars) of less than $24,999, $25,000–$49,999, $50,000–$99,999, and $100,000 or more.
	Households by Type of Dwelling Unit (2 variables): the number of households living in single-family detached housing, and living in other housing.
	Households by Number of College Students (3 variables): the number of households with no college student, with one college student, with two college students or more.
	Households by Number of Children age 5–17 (4 variables): the number of households with no child, with one child, with two children, and three children or more.

Variables	Description of Variables
School Enrollment (2 variables)	K-12 School Enrollment (1 variable): the total number of K-12 (kindergarten through 12th grade) students enrolled in all public and private schools located within a zone. All elementary, middle (junior high), and high school students are included. This variable represents "students by place of attendance".
	College/University Enrollment (1 variable): the total number of students enrolled in any public or private post-secondary school (college or university) that grant an associate degree or higher, located within a zone. This variable also represents "students by place of attendance".
Workers (4 variables):	Total Workers (1 variable): total number of civilian workers residing in a zone. Workers are estimated by the place of residence.
	Workers by earning level (3 variables): the number of workers with earnings of less than $24,999, $25,000–$49,999, $50,000 or more.
Median Household Income (5 variables):	Median Household Income (1 variable): median household income is the median value of household income for all households within a zone. Household Income includes the income, from all sources, for all persons aged 15 years or older within a household.
	Median Household Income by Income Categories (4 variables): the median income is estimated for each of four different income categories: less than $24,999, $25,000–$49,999, $50,000–$99,999, and $100,000 or more.

Variables	Description of Variables
Employment (17 variables)	Total Employment (1 variable): total number of jobs within a zone. The employment variables represent all jobs located within a zone (i.e., employment by place of work). Jobs are composed of wage and salary jobs and self-employed jobs. Jobs are categorized into 13 sectors based on the North American Industry Classification System (NAICS) code definition.
	Employment by 13 Industries (13 variables): the number of total jobs for 1) agriculture & mining, 2) construction, 3) manufacturing, 4) wholesale trade, 5) retail trade, 6) transportation, warehousing, and utilities, 7) information, 8) financial activities, 9) professional and business services, 10) education and health services, 11) leisure and hospitality services, 12) other services, and 13) public administration.
	Employment by wage level (3 variables): total number of jobs by three wage levels: of less than $24,999, $25,000–$49,999, $50,000 or more.

TABLE 17 Joint Distributions of Population, Households, and Workers by Selected Demographic Attributes.

Major Variables	Demographic Attributes
Households	Household income (less than $24,999, $25,000 to $49,999, $50,000 to $99,999, $100,000+)
	Household size (1,2,3,4+ persons in household)
	Number of workers (0,1,2,3+ workers in household)
	Type of dwelling unit (single-family detached, other)
Households	Household income (less than $24,999, $25,000 to $49,999, $50,000 to $99,999, $100,000+)
	Number of workers (0,1,2,3+ workers in household)
	Age of head of household (18–24, 25–44, 45–66, 65+ years old).
Households	Household income (less than $24,999, $25,000 to $49,999, $50,000 to $99,999, $100,000+)
	Household size (1,2,3,4+ persons in household)
Households	Number of college students (0, 1, 2+)
	Household income (less than $24,999, $25,000 to $49,999, $50,000 to $99,999, $100,000+)
Households	Number of children age 5–17 (0,1,2,3+)
	Household income (less than $24,999, $25,000 to $49,999, $50,000 to $99,999, $100,000+)
Population	Age (0–4, 5–17, 18–24, 25+)
	Household income (less than $24,999, $25,000 to $49,999, $50,000 to $99,999, $100,000+)
Workers	Worker's earnings (less than $24,999, $25,000–$49,999, $50,000+)
	Household income (less than $24,999, $25,000 to $49,999, $50,000 to $99,999, $100,000+)

LOCAL INPUT

Local input plays an important role in developing an accurate growth forecast for 2012–2035 RTP/SCS. Although the local input is an on-going process, SCAG sought local input from local jurisdictions for at least three times during the development of the growth forecast. The first and preliminary local input process was conducted between September 2008 and January 2009 in anticipation of 2012–2035 RTP/SCS growth forecast, data and tool requirements under SB 375. SCAG collected the 2008 existing land use, 2008 zoning, and the current general plan land use through the local input process.

The second and major local input process was conducted between July 2009 and February 2010 to collect and update land use information and the preliminary growth forecast. The preliminary projection of population, household and employment growth at the jurisdictional and TAZ level was provided to all local jurisdictions for comments and inputs. SCAG conducted a series of one-on-one meetings with local jurisdictions. Over 90 percent of 195 local jurisdictions provided SCAG with input on growth forecast, existing land use, zoning, and general plan land use. The local input result presented an imbalance of population and employment for the year 2035. The number of jobs in 2035 is larger than that of available labor supply. SCAG eventually adjusted the 2035 employment downward to achieve a balance of population and employment.

The third and final local input process was conducted at the jurisdictional level between May 2011 and August 2011. With the availability of demographic data from the 2010 Census (Redistricting Data [(P.L. 94-171]) and employment data from CA EDD in March 2011, SCAG rebenchmarked the growth forecast's base year demographic and employment figures. SCAG updated the base year (2008) data with the growth delta of the preliminary forecast unchanged. SCAG made an appropriate adjustment of growth forecast as needed.

TABLE 18 presents a proposed growth forecast of population, households, and employment for years 2008, 2020, and 2035 at the local jurisdictional level in the SCAG region. The proposed local growth forecast was primarily derived using the bottom-up local input process.

TABLE 18 Proposed 2012–2035 RTP/SCS Growth Forecast

County	City	Population			Households			Employment		
		2008	2020	2035	2008	2020	2035	2008	2020	2035
Imperial	Brawley	24,200	36,200	46,800	7,500	11,500	15,800	7,500	12,300	14,600
Imperial	Calexico	37,800	50,800	62,800	10,100	14,100	18,800	9,000	15,300	18,500
Imperial	Calipatria	7,400	9,000	9,900	1,000	1,200	1,500	2,300	4,000	5,000
Imperial	El Centro	41,300	50,300	61,300	12,900	15,700	19,300	18,600	31,400	38,000
Imperial	Holtville	5,800	6,600	7,300	1,800	2,100	2,400	1,600	2,600	3,000
Imperial	Imperial	14,200	19,900	22,900	4,300	6,200	7,600	2,800	4,800	5,800
Imperial	Westmorland	2,200	3,000	3,800	600	900	1,200	600	1,000	1,200
Imperial	Unincorporated	36,900	67,900	73,400	10,400	19,900	24,000	18,900	30,300	35,100
	County Total	**170,000**	**244,000**	**288,000**	**49,000**	**72,000**	**91,000**	**62,000**	**102,000**	**121,000**
Los Angeles	Agoura Hills	20,300	20,400	21,400	7,300	7,500	7,900	11,600	12,100	12,700
Los Angeles	Alhambra	83,000	87,000	92,400	29,200	31,300	33,300	29,600	31,000	32,500
Los Angeles	Arcadia	56,200	59,600	64,300	19,500	21,000	22,700	26,700	28,100	29,500
Los Angeles	Artesia	16,500	16,700	17,000	4,500	4,700	4,800	5,900	6,200	6,500
Los Angeles	Avalon	3,600	4,300	5,100	1,400	1,700	1,900	4,400	4,600	4,800
Los Angeles	Azusa	46,300	49,500	53,800	12,700	13,800	14,800	18,200	18,500	19,200
Los Angeles	Baldwin Park	75,400	78,200	82,200	17,200	17,900	18,600	17,600	18,300	19,200
Los Angeles	Bell	35,500	35,900	36,400	8,900	8,900	9,000	9,000	9,300	9,700
Los Angeles	Bellflower	76,600	76,600	81,300	23,600	23,700	25,100	16,000	16,900	17,900
Los Angeles	Bell Gardens	41,900	43,000	44,500	9,600	9,700	9,700	8,000	8,400	8,800
Los Angeles	Beverly Hills	34,100	35,000	36,300	14,900	15,200	15,600	58,000	61,400	64,800
Los Angeles	Bradbury	1,000	1,100	1,100	300	400	400	200	300	300
Los Angeles	Burbank	103,300	112,400	115,300	41,900	46,000	47,000	90,300	102,300	114,700
Los Angeles	Calabasas	23,000	23,800	24,400	8,500	9,000	9,200	14,800	15,400	16,200
Los Angeles	Carson	91,700	97,500	106,000	25,500	27,400	29,600	51,900	52,500	54,000
Los Angeles	Cerritos	49,000	49,400	49,800	15,500	15,600	15,800	35,900	37,100	38,600
Los Angeles	Claremont	34,800	36,100	37,900	11,600	12,100	12,600	18,100	19,400	20,600

County	City	Population			Households			Employment		
		2008	2020	2035	2008	2020	2035	2008	2020	2035
Los Angeles	Commerce	12,800	12,900	13,000	3,400	3,400	3,500	48,100	47,800	48,600
Los Angeles	Compton	95,900	96,900	97,600	22,900	23,100	23,100	30,600	31,200	32,200
Los Angeles	Covina	47,800	48,700	50,200	15,900	16,200	16,700	12,900	13,100	13,600
Los Angeles	Cudahy	23,600	25,200	27,200	5,600	6,000	6,400	3,400	3,500	3,700
Los Angeles	Culver City	38,900	39,300	40,000	16,800	17,000	17,300	45,400	47,900	50,400
Los Angeles	Diamond Bar	55,300	58,700	63,300	17,800	19,300	20,800	15,500	16,200	17,000
Los Angeles	Downey	111,800	116,200	122,700	33,900	35,000	36,200	40,200	42,200	44,200
Los Angeles	Duarte	21,200	22,100	23,400	7,000	7,400	7,900	6,700	7,000	7,300
Los Angeles	El Monte	113,400	124,300	140,100	27,800	30,400	33,300	36,300	37,100	38,400
Los Angeles	El Segundo	16,700	16,900	17,000	7,100	7,200	7,200	53,800	54,000	55,400
Los Angeles	Gardena	58,800	59,700	66,200	20,500	21,000	23,200	30,500	28,900	30,700
Los Angeles	Glendale	191,600	198,900	209,300	72,200	75,200	78,600	93,600	98,200	103,000
Los Angeles	Glendora	49,700	52,900	56,700	17,000	18,000	18,400	12,300	12,900	13,500
Los Angeles	Hawaiian Gardens	14,300	14,800	15,600	3,600	3,700	3,900	2,900	3,000	3,200
Los Angeles	Hawthorne	84,300	89,600	96,300	28,500	29,500	30,600	20,600	21,100	21,800
Los Angeles	Hermosa Beach	19,400	19,600	19,700	9,500	9,600	9,600	7,000	7,300	7,700
Los Angeles	Hidden Hills	1,800	1,900	1,900	600	600	600	30	30	30
Los Angeles	Huntington Park	58,100	62,000	67,700	15,000	15,700	16,900	16,400	16,800	17,400
Los Angeles	Industry	200	200	200	100	100	100	84,100	83,900	85,600
Los Angeles	Inglewood	109,700	111,900	113,500	36,400	37,900	38,800	33,400	35,000	36,700
Los Angeles	Irwindale	1,400	1,600	2,000	400	400	500	13,400	11,500	12,300
Los Angeles	La Cañada Flintridge	20,200	20,400	20,600	6,800	7,000	7,100	9,500	10,200	10,300
Los Angeles	La Habra Heights	5,300	5,700	6,500	1,800	1,900	2,200	800	800	900
Los Angeles	Lakewood	80,000	80,500	80,600	26,600	27,100	27,400	15,700	16,800	17,800
Los Angeles	La Mirada	48,500	50,300	52,800	14,700	15,000	15,300	19,400	19,100	19,300
Los Angeles	Lancaster	154,500	174,800	201,300	46,300	52,200	58,800	49,700	51,900	54,200
Los Angeles	La Puente	39,800	45,000	52,500	9,500	10,700	11,900	8,000	8,400	8,800
Los Angeles	La Verne	31,100	33,000	35,600	11,300	12,000	12,900	9,400	10,100	10,800

County	City	Population			Households			Employment		
		2008	2020	2035	2008	2020	2035	2008	2020	2035
Los Angeles	Lawndale	32,700	34,600	37,400	9,700	10,100	10,700	5,700	6,000	6,300
Los Angeles	Lomita	20,300	21,000	21,900	8,100	8,100	8,200	4,700	5,000	5,200
Los Angeles	Long Beach	462,200	491,000	534,100	163,500	175,600	188,900	168,100	176,000	184,800
Los Angeles	Los Angeles	3,770,500	3,991,700	4,320,600	1,309,900	1,455,700	1,626,600	1,735,200	1,817,700	1,906,800
Los Angeles	Lynwood	69,300	72,300	74,300	14,600	15,300	15,700	13,200	13,800	14,500
Los Angeles	Malibu	12,600	13,800	14,800	5,300	5,400	6,100	8,900	8,900	9,900
Los Angeles	Manhattan Beach	35,100	35,500	36,000	14,100	14,100	14,100	15,100	16,100	17,200
Los Angeles	Maywood	27,400	27,600	28,000	6,600	6,600	6,700	3,700	3,900	4,000
Los Angeles	Monrovia	36,300	37,700	39,400	13,600	14,300	14,800	17,700	18,300	19,100
Los Angeles	Montebello	62,500	66,400	66,400	19,000	20,500	20,500	25,700	26,400	27,400
Los Angeles	Monterey Park	60,100	67,900	77,700	19,900	20,900	21,700	30,400	32,000	33,700
Los Angeles	Norwalk	105,500	109,100	114,200	27,100	27,400	27,700	24,600	25,700	27,000
Los Angeles	Palmdale	149,200	179,300	206,100	41,900	51,300	58,800	32,700	38,900	47,200
Los Angeles	Palos Verdes Estates	13,400	13,500	13,500	5,100	5,100	5,100	3,500	3,400	3,400
Los Angeles	Paramount	54,100	57,100	62,600	13,900	14,100	14,400	18,300	18,500	19,100
Los Angeles	Pasadena	135,300	143,400	152,500	54,500	58,400	61,400	117,300	124,400	131,300
Los Angeles	Pico Rivera	62,900	65,900	70,100	16,600	17,600	18,700	16,100	16,400	16,900
Los Angeles	Pomona	149,100	168,500	197,400	38,500	43,400	48,900	54,700	57,000	59,600
Los Angeles	Rancho Palos Verdes	41,600	41,700	41,700	15,500	15,600	15,600	6,300	6,700	7,100
Los Angeles	Redondo Beach	66,500	69,700	73,000	28,900	30,700	32,000	30,100	30,600	31,600
Los Angeles	Rolling Hills	1,900	1,900	1,900	700	700	700	40	40	40
Los Angeles	Rolling Hills Estates	8,100	8,100	8,200	3,000	3,000	3,000	3,800	4,000	4,200
Los Angeles	Rosemead	53,600	55,500	58,100	14,200	15,000	15,800	16,400	16,900	17,600
Los Angeles	San Dimas	33,400	35,000	35,600	12,000	12,600	12,900	13,100	13,600	14,100
Los Angeles	San Fernando	23,600	24,400	25,500	5,900	6,200	6,600	15,000	15,300	15,900
Los Angeles	San Gabriel	39,700	42,800	46,100	12,500	13,800	14,800	14,200	15,000	15,700
Los Angeles	San Marino	13,100	13,200	13,300	4,300	4,300	4,300	4,800	5,000	5,300
Los Angeles	Santa Clarita	175,900	201,100	237,100	59,300	70,100	81,900	92,900	108,700	122,600

County	City	Population			Households			Employment		
		2008	2020	2035	2008	2020	2035	2008	2020	2035
Los Angeles	Santa Fe Springs	16,200	17,900	20,300	4,800	5,200	5,800	49,600	49,600	50,500
Los Angeles	Santa Monica	89,100	92,400	94,700	46,600	49,200	51,400	99,500	101,600	104,200
Los Angeles	Sierra Madre	10,900	10,900	11,000	4,800	4,900	5,000	3,400	3,400	3,400
Los Angeles	Signal Hill	11,000	11,800	12,900	4,100	4,400	4,700	11,700	12,300	12,700
Los Angeles	South El Monte	20,100	20,800	21,800	4,600	4,800	5,000	15,700	15,300	15,400
Los Angeles	South Gate	94,400	101,200	110,000	23,400	24,800	26,100	19,700	20,000	20,600
Los Angeles	South Pasadena	25,600	25,900	26,300	10,500	10,600	10,800	9,000	9,500	10,000
Los Angeles	Temple City	35,400	36,900	39,000	11,600	12,300	13,000	6,700	7,000	7,300
Los Angeles	Torrance	145,000	150,800	158,500	55,800	57,800	59,800	105,800	109,100	113,300
Los Angeles	Vernon	100	100	100	30	30	30	44,600	45,700	47,300
Los Angeles	Walnut	29,000	32,600	33,200	8,500	9,800	10,000	9,000	9,500	10,000
Los Angeles	West Covina	106,100	112,200	120,200	31,600	32,600	33,900	27,700	29,300	30,900
Los Angeles	West Hollywood	34,400	35,100	36,100	22,700	23,100	23,800	32,300	34,500	36,600
Los Angeles	Westlake Village	8,300	8,600	9,000	3,300	3,300	3,400	9,300	9,600	10,000
Los Angeles	Whittier	85,300	87,600	90,500	28,300	29,400	30,500	31,300	33,000	34,800
Los Angeles	Unincorporated	1,052,800	1,159,100	1,399,500	298,100	336,100	405,500	237,000	266,100	318,100
	County Total	**9,778,000**	**10,404,000**	**11,353,000**	**3,228,000**	**3,513,000**	**3,852,000**	**4,340,000**	**4,558,000**	**4,827,000**
Orange	Aliso Viejo	47,200	51,500	51,000	18,000	19,000	19,000	17,200	19,600	19,700
Orange	Anaheim	333,900	369,100	405,800	97,700	107,600	124,700	192,200	193,700	224,200
Orange	Brea	39,200	48,300	49,800	14,300	17,000	17,800	48,900	49,100	49,500
Orange	Buena Park	80,000	83,500	83,200	23,600	24,200	24,500	33,900	35,500	35,700
Orange	Costa Mesa	109,100	113,700	114,000	39,700	40,100	40,900	94,200	88,300	88,800
Orange	Cypress	47,800	50,300	51,400	15,700	16,000	16,500	26,900	27,500	28,200
Orange	Dana Point	33,400	35,900	36,200	14,200	14,800	15,200	13,600	13,500	13,700
Orange	Fountain Valley	54,900	58,300	59,500	18,500	19,100	19,700	34,400	32,900	33,000
Orange	Fullerton	134,700	145,500	164,500	45,300	47,400	54,800	65,300	63,400	91,600
Orange	Garden Grove	170,400	179,400	180,300	46,000	47,000	47,800	50,900	49,700	49,800
Orange	Huntington Beach	189,700	199,800	205,500	74,300	75,800	79,200	82,900	80,100	80,600

County	City	Population			Households			Employment		
		2008	2020	2035	2008	2020	2035	2008	2020	2035
Orange	Irvine	203,600	265,600	304,200	75,800	98,000	114,700	223,500	242,000	291,800
Orange	Laguna Beach	22,700	23,500	23,400	10,900	10,900	10,900	14,000	14,000	14,100
Orange	Laguna Hills	30,300	32,100	32,000	10,500	10,600	10,700	19,900	20,400	20,500
Orange	Laguna Niguel	62,700	65,700	65,200	24,100	24,500	24,600	20,000	20,100	21,000
Orange	Laguna Woods	16,200	17,000	16,900	11,300	11,500	11,600	5,500	6,200	6,700
Orange	La Habra	60,100	62,800	62,300	19,000	19,200	19,300	17,700	17,500	17,600
Orange	Lake Forest	77,200	88,100	87,400	26,200	30,000	30,100	44,500	40,600	45,800
Orange	La Palma	15,500	15,600	15,600	5,100	5,100	5,100	7,800	7,300	7,400
Orange	Los Alamitos	11,400	12,000	12,000	4,200	4,300	4,300	15,300	14,300	14,300
Orange	Mission Viejo	93,200	96,600	97,000	33,200	33,400	33,900	37,200	38,000	38,800
Orange	Newport Beach	84,200	88,700	90,300	38,400	39,500	40,700	82,500	77,000	77,700
Orange	Orange	135,500	141,500	156,300	43,100	43,700	49,400	99,900	104,900	108,600
Orange	Placentia	50,200	53,600	57,000	16,300	16,900	18,700	19,200	21,200	21,200
Orange	Rancho Santa Margarita	47,800	49,500	49,000	16,700	16,700	16,700	17,700	16,300	16,600
Orange	San Clemente	63,200	68,100	68,300	23,800	24,800	25,200	25,600	26,300	26,600
Orange	San Juan Capistrano	34,400	38,100	37,800	11,300	12,300	12,300	15,700	15,700	15,800
Orange	Santa Ana	323,900	337,600	336,700	73,100	73,900	74,800	168,400	146,000	149,400
Orange	Seal Beach	24,100	25,000	24,800	13,000	13,100	13,100	10,600	11,500	11,800
Orange	Stanton	38,100	40,800	43,400	10,800	11,200	11,900	8,400	8,100	8,300
Orange	Tustin	74,700	81,300	82,900	24,900	26,600	27,800	42,100	51,900	66,800
Orange	Villa Park	5,800	6,000	6,100	2,000	2,000	2,000	1,900	1,800	1,800
Orange	Westminster	89,700	92,900	92,600	26,200	26,300	26,500	23,800	24,800	24,900
Orange	Yorba Linda	63,500	69,700	69,400	21,400	22,600	22,800	19,000	17,200	17,300
Orange	Unincorporated	121,200	159,100	189,300	38,500	44,000	57,600	23,800	29,700	39,500
	County Total	**2,989,000**	**3,266,000**	**3,421,000**	**987,000**	**1,049,000**	**1,125,000**	**1,624,000**	**1,626,000**	**1,779,000**
Riverside	Banning	28,900	42,200	61,900	10,800	15,600	22,900	7,800	11,300	15,900
Riverside	Beaumont	33,600	56,500	79,400	11,000	18,800	26,200	5,100	8,600	13,400
Riverside	Blythe	20,300	22,700	24,300	4,500	5,200	5,800	5,500	7,800	10,400

County	City	Population			Households			Employment		
		2008	2020	2035	2008	2020	2035	2008	2020	2035
Riverside	Calimesa	7,700	14,800	25,800	3,300	6,300	11,000	1,900	2,800	4,300
Riverside	Canyon Lake	10,300	11,000	11,700	3,900	4,100	4,300	1,200	1,300	1,400
Riverside	Cathedral	50,200	57,000	64,600	17,100	19,600	23,900	13,800	18,900	23,900
Riverside	Coachella	38,200	70,200	128,700	8,600	17,300	34,000	6,400	12,800	27,900
Riverside	Corona	148,000	155,800	164,600	44,600	46,100	48,800	71,200	88,300	105,000
Riverside	Desert Hot Springs	25,200	43,500	58,100	8,600	15,400	20,900	3,500	5,100	6,900
Riverside	Eastvale	53,200	61,500	68,300	13,500	15,700	17,700	3,700	5,400	10,100
Riverside	Hemet	76,400	83,400	110,300	29,900	33,700	45,900	26,200	39,800	52,500
Riverside	Indian Wells	4,800	5,500	5,800	2,700	3,100	3,600	3,900	4,900	6,000
Riverside	Indio	73,300	91,500	111,800	23,000	28,600	34,600	21,000	30,100	40,000
Riverside	Jurupa Valley	94,400	103,700	126,000	24,500	27,100	33,300	28,100	34,400	53,500
Riverside	Lake Elsinore	50,200	70,500	93,800	14,600	21,000	28,700	10,300	15,000	20,100
Riverside	La Quinta	36,100	41,600	46,300	14,600	16,600	17,900	9,200	10,600	11,900
Riverside	Menifee	74,800	93,100	119,400	27,100	35,900	45,900	8,800	10,500	12,600
Riverside	Moreno Valley	187,400	213,700	255,200	51,100	60,000	72,800	32,300	48,000	64,400
Riverside	Murrieta	101,200	109,300	121,100	32,700	35,100	39,200	17,400	50,100	86,500
Riverside	Norco	26,500	30,300	32,700	7,000	8,000	8,700	12,400	17,000	21,600
Riverside	Palm Desert	47,100	52,100	56,800	23,000	25,800	28,000	37,700	41,600	44,500
Riverside	Palm Springs	43,400	48,900	56,100	22,700	25,700	30,400	36,300	44,400	52,300
Riverside	Perris	65,900	82,000	114,000	16,100	22,000	30,900	14,400	21,700	26,700
Riverside	Rancho Mirage	16,900	18,800	22,900	8,900	9,600	11,800	10,800	12,700	17,400
Riverside	Riverside	295,500	339,000	382,700	91,400	104,000	117,800	151,500	198,300	217,800
Riverside	San Jacinto	42,600	50,300	99,100	13,000	15,900	33,200	5,700	8,100	10,900
Riverside	Temecula	95,100	109,800	118,900	30,900	34,300	37,200	46,600	59,800	72,800
Riverside	Wildomar	31,500	42,100	53,700	10,000	13,100	16,800	3,400	5,900	9,300
Riverside	Unincorporated	349,100	471,500	710,600	109,600	150,800	240,000	68,000	123,700	203,200
	County Total	**2,128,000**	**2,592,000**	**3,324,000**	**679,000**	**834,000**	**1,092,000**	**664,000**	**939,000**	**1,243,000**
San Bernardino	Adelanto	31,200	46,100	68,400	7,700	11,900	17,700	5,400	7,300	10,600

County	City	Population			Households			Employment		
		2008	2020	2035	2008	2020	2035	2008	2020	2035
San Bernardino	Apple Valley	69,000	82,900	109,000	23,500	28,500	37,100	15,500	17,000	22,500
San Bernardino	Barstow	22,500	27,300	36,200	8,000	9,900	13,000	13,300	14,900	19,100
San Bernardino	Big Bear Lake	5,000	5,600	7,000	2,200	2,400	3,000	6,200	6,400	7,400
San Bernardino	Chino	75,600	88,800	107,200	20,100	24,600	29,200	48,500	53,500	67,700
San Bernardino	Chino Hills	74,600	76,600	78,400	22,900	24,000	25,600	9,300	10,500	12,900
San Bernardino	Colton	52,100	60,700	71,700	15,000	17,800	21,100	24,000	25,500	29,600
San Bernardino	Fontana	193,900	222,700	259,100	48,600	57,500	66,700	47,600	53,700	69,000
San Bernardino	Grand Terrace	11,800	11,600	13,000	4,300	4,600	5,400	3,000	3,200	4,000
San Bernardino	Hesperia	89,600	98,200	132,500	26,300	28,900	39,300	15,500	20,400	28,700
San Bernardino	Highland	53,000	58,600	67,300	15,400	17,700	20,300	6,000	7,800	9,100
San Bernardino	Loma Linda	23,000	26,700	31,700	8,700	10,500	12,600	17,600	23,300	32,600
San Bernardino	Montclair	36,000	39,700	43,900	9,300	10,400	11,600	16,500	17,000	18,400
San Bernardino	Needles	4,800	6,000	8,000	1,900	2,400	3,100	3,300	3,800	4,700
San Bernardino	Ontario	162,900	203,800	307,600	44,600	57,700	87,300	114,300	142,900	214,400
San Bernardino	Rancho Cucamonga	162,800	167,100	167,100	53,600	56,300	57,600	62,500	63,900	68,300
San Bernardino	Redlands	68,600	75,500	87,900	24,700	28,300	32,500	41,400	46,700	60,100
San Bernardino	Rialto	98,900	110,000	125,200	25,100	29,400	34,700	22,900	26,400	32,800
San Bernardino	San Bernardino	209,900	231,200	261,400	59,300	66,900	76,800	101,300	113,400	145,300
San Bernardino	Twentynine Palms	24,900	26,300	36,300	8,000	8,600	11,800	3,200	3,200	4,500
San Bernardino	Upland	72,600	76,700	80,200	25,400	28,300	31,300	27,900	29,700	33,400
San Bernardino	Victorville	111,900	145,300	190,100	31,400	43,700	56,900	33,700	45,900	66,400
San Bernardino	Yucaipa	51,200	55,800	61,900	18,200	20,700	23,600	9,800	10,900	14,000
San Bernardino	Yucca Valley	20,700	23,000	26,200	8,300	9,900	11,800	4,600	5,100	6,000
San Bernardino	Unincorporated	289,400	301,600	372,600	93,300	97,700	117,500	47,200	58,300	77,700
	County Total	**2,016,000**	**2,268,000**	**2,750,000**	**606,000**	**698,000**	**847,000**	**701,000**	**810,000**	**1,059,000**
Ventura	Camarillo	64,500	72,200	76,700	24,400	27,500	29,700	32,200	37,800	40,600
Ventura	Fillmore	14,900	18,000	20,800	4,100	5,100	5,900	3,200	3,500	3,900
Ventura	Moorpark	33,900	39,300	41,500	10,400	12,000	12,700	12,000	14,200	15,700

County	City	Population			Households			Employment		
		2008	2020	2035	2008	2020	2035	2008	2020	2035
Ventura	Ojai	7,400	8,400	9,400	3,100	3,600	4,100	6,300	7,100	7,800
Ventura	Oxnard	193,900	216,700	244,500	49,100	58,800	70,600	59,000	64,000	69,800
Ventura	Port Hueneme	21,600	22,100	22,500	7,100	7,200	7,400	10,900	10,500	10,800
Ventura	San Buenaventura (Ventura)	105,300	116,900	128,800	40,300	45,200	50,100	63,100	70,500	77,400
Ventura	Santa Paula	29,000	35,400	38,800	8,300	10,000	11,100	8,800	9,700	10,500
Ventura	Simi Valley	123,200	129,700	133,200	41,200	42,800	44,000	41,400	46,200	50,700
Ventura	Thousand Oaks	125,200	129,700	130,900	45,600	46,100	46,600	67,600	72,700	78,700
Ventura	Unincorporated	94,200	100,500	107,200	31,900	33,700	35,300	43,400	42,800	44,900
	County Total	**813,000**	**889,000**	**954,000**	**266,000**	**292,000**	**318,000**	**348,000**	**379,000**	**411,000**
	Region Total	**17,895,000**	**19,663,000**	**22,091,000**	**5,814,000**	**6,458,000**	**7,325,000**	**7,738,000**	**8,414,000**	**9,441,000**

Note: * The City numbers may not sum to the County total due to rounding. City numbers were rounded to the nearest 10 for jurisdictions with small numbers or to the nearest 100 for all others, while county numbers were rounded to the nearest 1,000. ** The proposed growth forecasts of Eastvale and Jurupa Valley are subject to further revisions due to the recent incorporation, pending final approval from cities/county. Source: SCAG.

Section IV: SCAG PECAS Land Use Model

Introduction

SCAG made its initial step in developing an integrated, comprehensive transportation and land use model in early 2009. The model is based on the PECAS (Production –Exchange – Consumption Allocation System) framework. The model has not been officially peer-reviewed and is not fully operational. The model is used only as an internal scenario testing tool for the 2012–2035 RTP/SCS. However, the model will be the main tool to design and develop RTP scenarios in the near future when it is ready. This chapter introduces the related effort and summarizes a selected scenario test.

The following section briefly summarizes the status of consulting project for development of the model. Then the model is introduced in terms of its structure, SCAG specifications, and calibration. An analysis of the impact of the implementation of a 5 cents VMT fee is provided as an example scenario. A brief conclusion remark is provided at the end of the section.

Consulting Projects

The model was commissioned by SCAG and built by SCAG staff together with the Urban Land Use and Transportation (ULTRANS) Center at the University of California, Davis, and HBA Specto Incorporated in Calgary, Alberta. Over the 25 month contract period from February 2009 to March 2011, the staff tried to achieve two purposes. The first was to develop a working draft model and its related data within the given period of time. To achieve this objective, the development started with the statewide PECAS model, which was developed by ULTRANS and HBA for CalTrans to demonstrate the model. Once the model and the data was delivered, it was modified to make it more specific to the SCAG region through an iterative development approach. The draft model developed from this process represented the SCAG region in geographic sense, but its behavioral parameters and economic data represented the state of California. The second was to acquire knowledge to develop an integrated land use model. This involved staff work in processing raw data, development of the database, model setup and adjustment (calibration) and operation. After twenty-three 2 or 4 day workshops held at SCAG or UC Davis, model has been scrutinized down to the individual source code lines.

Another portion of the consulting project was to establish the economic data and parameters for the SCAG region with MJ Consulting. Based on the transferred knowledge, regional economic data was processed to set up the AA (Activity Allocation) module of the PECAS model. The work was performed from September 2009 to May 2010. As a result of this project, staff was able to develop a more streamlined process to prepare regional economic data, and a calibrated set of the AA module for the region. In addition, this project allowed staff to have time and resource to produce the first SCAG parcel-level land use database.

PECAS Overview

PECAS is a generalized approach for simulating spatial economic systems. It is designed to provide a simulation of the land use component of land use transport interactive modeling systems.

PECAS uses an aggregate, equilibrium structure with separate flows of exchanges (including goods, services, labor and space) going from the production site to the consumption location, based on variable technical coefficients and a market clearing mechanism with exchange prices. It provides an integrated representation of spatially distinct markets for the full range of exchanges, with the transport system and the development of space represented in more detail with specific treatments.

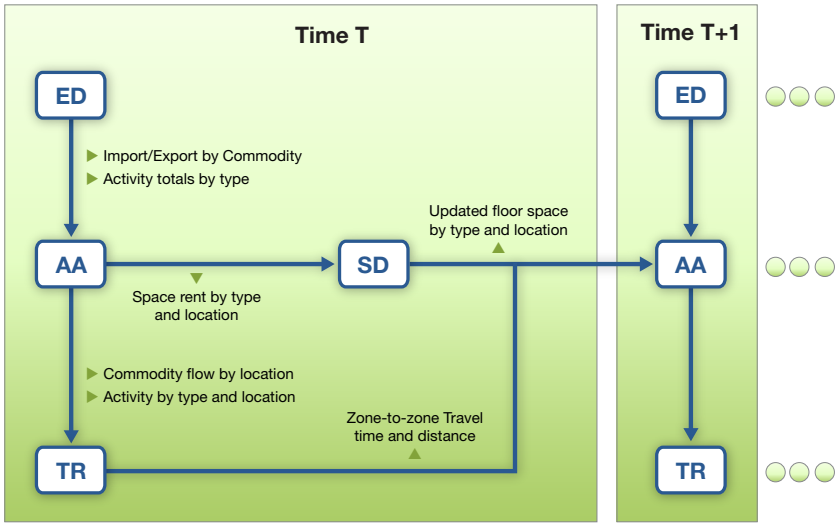
Flows of exchanges from production to exchange zones and from exchange zones to consumption are allocated using the nested logit models, according to exchange prices and transport generalized costs (expressed as transport utilities with negative signs). These flows are converted to transport demands that are loaded to networks in order to determine congested travel utilities. Exchange prices determined for space inform the calculation of changes in space thereby simulating developer actions. Developer actions are represented at the level of land use zones using an aggregate flow treatment. The system is run for each year being simulated, with the travel utilities and changes in space for one year influencing the flows of exchanges in the next year.

PECAS includes two basic modules that are linked together with two other modules to provide a representation of the complete spatial economic system. **FIGURE 21** shows the relationship between modules.

The set of four basic modules includes:

- **Activity Allocation Module (AA Module):** This is one of the two PECAS modules. It represents how the production, exchange and consumption activities locate within the space provided by developers and how these activities interact with each other at a given point in time. For SCAG application, economic activities from 42 industrial sectors and 14 types of households consist of individual markets in each of 302 CSA (Community Statistical Area) zones.
- **Space Development Module (SD Module):** This is another of the two PECAS modules. It represents the actions of developers in the provision of different types of developed space where activities can locate, including the new development, demolition and re-development that occurs from one point in time to the next. This developed space is typically floor space of various types and is called 'space' in the PECAS framework. 9 residential types and 14 non-vacant land use types are represented in the SCAG SD module.
- **Transport Model (TR Module):** This is one of the 'non-PECAS' modules. It represents the transport system connecting locations, including at a minimum a transport network, the transport demands that load onto this network (as a result of the economic interactions represented in the AA Module) and the congested times and costs for interactions between locations arising with the loading of these demands. For SCAG application, two sub-modules are employed to simulate the traditional 4-step model. The first sub-module of trip generation converts the activity flow estimated by AA Module into Origin-Destination matrices between the CSA zones, and another sub-module performs a Frank-Wolfe style traffic assignment to estimate link traffic volume, zone-to-zone travel time, and VMT.
- **Economic Demographic Aggregate Forecasting Model (ED Module):** This is the other of the 'non-PECAS' modules: It is a form of model or approach used to develop aggregate economic forecasts for the study area being modeled. In the SCAG application, this is a regional control total of households by 14 types and employment by 42 industrial sectors.

FIGURE 21 Pecas Module Structure



Scenario Test

As stated above, the PECAS land use model produced as-is based, preliminary impact analysis results for various what-if scenarios. Therefore any measurements presented in this section are not necessarily intended to support any implementation of the plan. The purpose of this section is to demonstrate the functionality of the developing land use model based on the PECAS framework.

As depicted in **FIGURE 21**, each module in PECAS produces intermediate outputs, which are input to the subsequent processes. The AA module primarily estimates the spatial price of commodities, and allocates activities, which consists of households by types and employment by sector. The AA module also estimates commodity flows, between the sectors and locations of production and consumption, in dollars. The main output from the SD module is changes in land use and amount of floor space at parcel level. The presentation of this detail output would prevent finding regionally meaningful implications. It could also cause unnecessary misunderstanding as if that market-driven forecast was

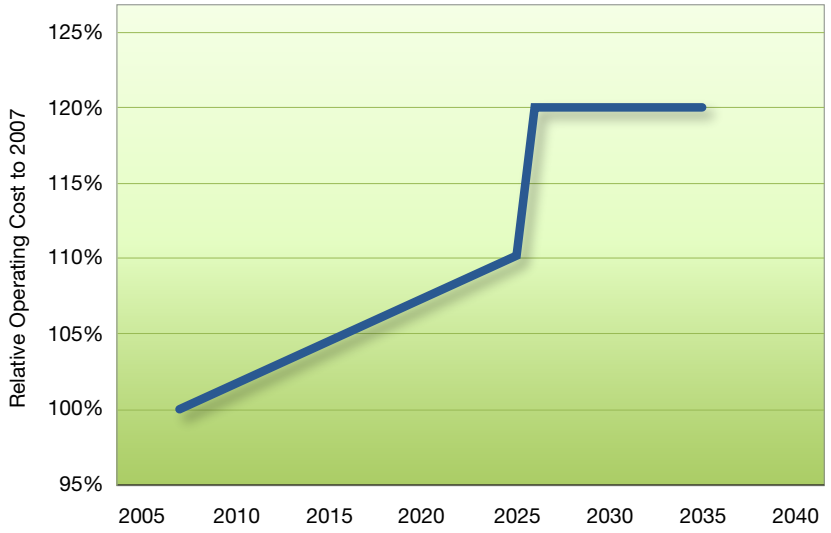
intended for the local land use plan. For SCAG's planning purpose, microscopic outputs are aggregated over sectors and statistical zones.

A what-if scenario was selected to present the comprehensiveness of PECAS. Note that this scenario is independent of and does not reflect the assumptions underlying the financial plan as documented in the Transportation Finance Appendix and Chapter 3 of the 2012–2035 RTC/SCS. Under the test, the following assumptions are applied.

- The current gasoline tax, 36.4 cents per gallon, would gradually increase until 2025 to 50 cents per gallon due to nominal inflation.
- After that, a 5 cents per mile VMT fee would replace the gasoline tax in year 2026.
- The auto operating cost would be 50 cents per mile, and 10 percent is fuel cost.
- The increase of the gasoline tax up to year 2026 would be the equivalent of about a 10 percent increase in operating costs, and the new VMT fee would result in an additional 10 percent surcharge.

FIGURE 22 shows the scenario of auto operating costs over the planning horizon. When evaluating (dis-)utility of locations, importance of travel cost is high with the increase in auto operating costs. In responding to the relatively increased travel cost, economic actors (households and firms) would change their behavior, including relocating the operation location, or job site according to their preference. Such a change would cause shorter travel distance on average, at a given transportation network capacity.

FIGURE 22 Scenario of Auto Operating Cost



Average travel distances are calculated by three categories; Worker Compensation Distance (WCD) is the distance between a worker's residence to work place, which is equivalent to Home-to-Work trip distance. In PECAS flow is reported with the value of the commodity, times the distance between where it originated (produced) to where it is destined (consumed). To calculate the average for WCD, the estimated wage at the place of work is used. Intermediate Goods movement Distance (IGD) is the delivery distance of commodity to the other industries for their production activities. Consumer Goods movement Distance (CGD) is the distance of the same commodities but its destination is to households, and it is equivalent to the distance of Home-to-Shop trips. For IGD and CGD, commodity price at production site is used to calculate average distance.

PECAS estimates the flow of commodities including goods, services, and labor by using the value of commodities multiplied by the movement distance of commodities from where they are produced to where they are consumed. The total transported commodities in the SCAG region were estimated to be 41.98 trillion dollar•miles in year 2007, and 53.19 trillion dollar•miles in year 2035, if no additional auto operating cost is charged.

This 26.7 percent increase is caused by regional economic growth and continuing sprawl. With the VMT fee replacing the current gasoline tax, the estimation is 3.55 percent less than the base case at year 2035. Given that economic growth remains constant in both cases, this reduction is due to the additional travel cost and subsequent reallocation of activity. **FIGURE 23** shows the variation over time that is caused by the changed travel cost.

FIGURE 23 Scenario Test Result: Travel Distance of Commodities in Value * Mile Transported

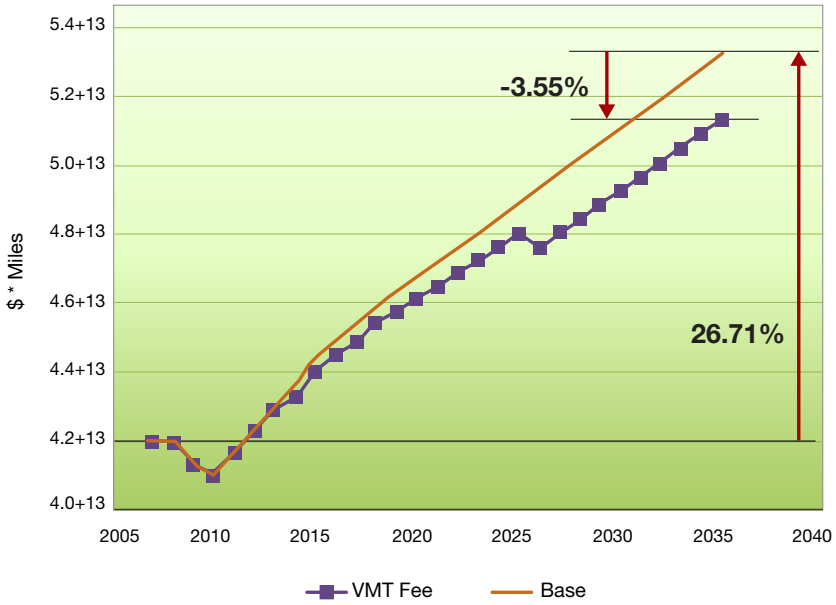


TABLE 19 summarizes the average travel distance by category. In the base case, the average travel distance of working trip (WCD) would increase 10.3 percent in year 2035, while intermediate goods delivery (IGD) and shopping trips (CGD) would increase 7.5 percent and 3.2 percent, respectively. The overall increase is 5 percent. With the new 5 cents per mile VMT fee, overall travel distance would increase 1.3 percent from year 2007.

TABLE 19 Scenario Test Result: Average Travel Distance In Miles

Scenario	Type	2007 (A)	2020 (B)	2020 (B)/(A)	2035 (C)	2035 (C)/(A)
Base	WCD	12.858	13.543	1.053	14.176	1.103
	IGD	42.784	44.284	1.035	46.006	1.075
	CGD	25.515	25.846	1.013	26.341	1.032
	Sum	32.517	33.257	1.023	34.157	1.050
VMT Fee	WCD	12.858	12.948	1.007	12.668	0.985
	IGD	42.784	43.819	1.024	44.815	1.047
	CGD	25.515	25.390	0.995	25.182	0.987
	Sum	32.517	32.776	1.008	32.928	1.013

Coda

This section introduces the SCAG PECAS land use model, as an available tool to be used in the future RTP. After a 2-year development consulting project, SCAG commissioned a draft version of the PECAS model, and applied it to cursory test of various scenarios internally. At the current stage, the model produced reasonable sensitivity to the what-if scenario with increased auto operating cost.

With refined modeling parameters and input data, the model will be involved more actively in the scenario development process, by supporting region-wide impact measures. Also, with a mature model, its activity reallocation estimation could be the basis of scenario-sensitivity socioeconomic data development.

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REGIONAL TRANSPORTATION PLAN
2012–2035 RTP
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future

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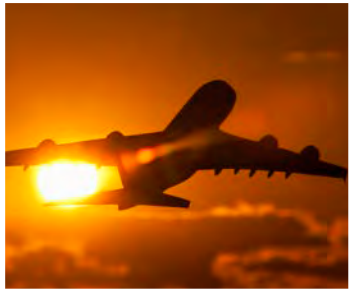
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HIGHWAYS AND ARTERIALS APPENDIX









REGIONAL TRANSPORTATION PLAN
2012–2035
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future
RTP











Southern California Association of Governments

ADOPTED APRIL 2012

HIGHWAYS AND ARTERIALS

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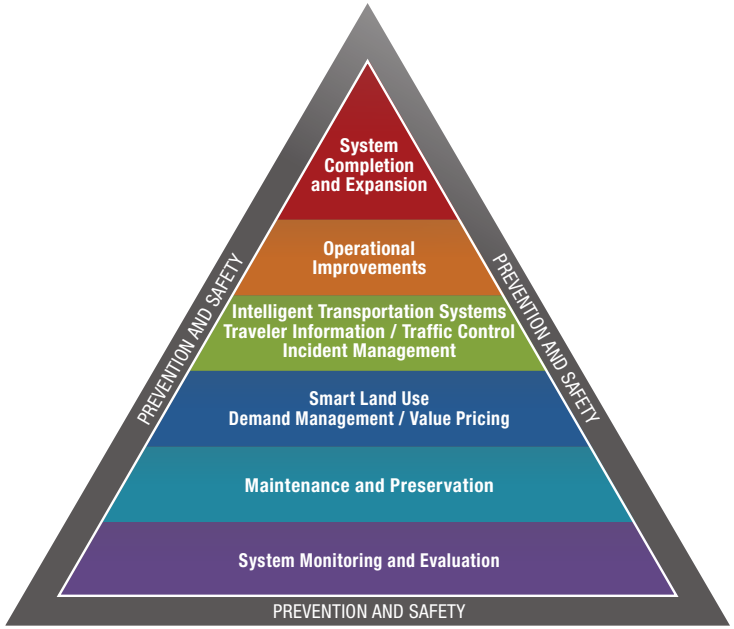
Southern California's highway and arterial system extends for 12,630 miles and serves 62 million trips each day. This roadway system is the backbone of the region's economic well-being, and facilitates the movement of people and goods via multiple modes of transportation, including public transit, and active transportation. According to the Southern California Association of Governments' (SCAG) Regional Travel Demand Model (RTDM), nine out of every ten trips relies either entirely or in part on the highway and arterial system.

Despite the importance of the system, improvements have not kept pace with the region's increasing population and transportation demand. As a result, the region's traffic congestion has increased dramatically, leading to a less productive transportation system with negative consequences such as wasted time and fuel and poor air quality.

The highway and arterial investments included in the 2012 Regional Transportation Plan (RTP) attempt to address these challenges by following the integrated approach depicted in **FIGURE 1**, which calls for the region to first take care of and optimize the existing system before investing in costlier capital expansion projects. The successful preservation and management of the highway and arterial system are crucial to maintaining the region's economic vitality and quality of life. At the same time, there are critical gaps in the network that hinder access to certain parts of the region. The Plan proposes the closure of these gaps to complete the system, allowing the region's residents to enjoy improved access to opportunities, such as jobs, education, healthcare, and recreation.

This technical appendix consolidates and summarizes highway and arterial related RTP investments, including project commitments identified by the local implementing agencies, as well as system preservation and operations investments. Additionally, this appendix consolidates and summarizes the highway and arterial related performance results from SCAG's regional travel demand model.

FIGURE 1 Mobility Pyramid



Programmed Commitments

As the short-range element of the Plan, SCAG's Federal Transportation Improvement Program (FTIP) contains a significant number of highway and arterial improvement projects that local transportation agencies will implement in the near- and mid-term. These projects close critical gaps in the system, relieve significant bottlenecks, and address inter-county travel needs, and include High-Occupancy Vehicle (HOV) lanes and connectors, mixed-flow (or general purpose) lanes, High-Occupancy Toll (HOT) lanes, and strategic arterial improvements.

A sample of major projects in the FTIP is shown in **TABLE 1**. A complete project list can be found in the RTP's Project List Appendix.

TABLE 1 Sample Major Highway Projects in the FTIP

County	Route	Description	Completion Year*	Cost (millions)
HOV Lanes				
LA	I-5	Add HOV lanes from the LA/OC County Line to I-605	2018	$1,242
LA	I-5	Add 1 HOV lane in each direction from SR-134 to SR-170	2014	$712
LA	I-10	Add 1 HOV lane in each direction from I-605 to Puente	2014	$200
LA	I-10	Add 1 HOV lane in each direction from Puente to Citrus	2018	$185
LA	I-10	Add HOV lanes in each direction from Citrus to 57/210	2018	$193
LA	I-405	Add northbound HOV lane from I-10 to US-101	2018	$1,034
LA	I-405	Add 1 HOV lane in each direction from SR-90 to I-10	2012	$190
LA	SR-71	Add 1 HOV lane in each direction from I-10 to SR-60	2023	$250
OR	I-5	Add 1 HOV lane in each direction from South of Avenida Pico to South of Avenida Vista	2020	$106
RV	SR-91	Add 1 HOV lane in each direction from Adams to 60/215	2018	$278
SB	I-10	Add 1 HOV lane in each direction from Haven to Ford	2020	$1,090
Toll Lanes				
LA	I-10/ I-110	HOT Lanes on I-10 and I-110	2013	$123
LA/SB	TBD	Construct new High Desert Corridor connecting Los Angeles and San Bernardino Counties	2020	$5,156
RV	SR-91	Convert HOV lanes to tolled express lanes and add direct connectors	2018	$1,104
Mixed-Flow Lanes				
IM	SR-78	Brawley Bypass Corridor	2012	$228
OR	SR-91	Add 1 eastbound mixed-flow lane from 91/55 connector to SR-241 and 1 westbound mixed-flow lane from SR-241 to Imperial Highway	2018	$86
OR	I-405	Add 1 mixed-flow lane in each direction from SR-73 to I-605	2023	$1,694
RV	SR-91	Add 1 mixed-flow lane in each direction at various locations from SR-241 to Pierce St	2018	$1,490
RV	I-215	Add 1 southbound mixed-flow lane from Murrieta Hot Springs Rd to I-215/I-15 junction	2018	$13
RV	I-215	Add 1 mixed-flow lane in each direction from Scott Rd to Nuevo Rd	2018	$191
SB	US-395	New alignment from High Desert Corridor to Farmington Rd	2018	$14
VE	US-101	Add 1 mixed-flow lane in each direction at various locations from LA/VE County Line to Moorpark Rd	2018	$60

*Represents the Plan network year for which the project was analyzed for the RTP modeling and regional emissions analysis

Additional County Commitments

Beyond the projects included in FTIP, the county transportation commissions (CTCs) have committed to pursue a number of additional projects through the year 2035 as identified in voter-approved sales tax measures and other countywide transportation plans. A sample of major projects is shown in **TABLE 2**. A complete project list can be found in the RTP's Project List Appendix.

TABLE 2 Sample Major Highway Projects Committed by the Counties

County	Route	Description	Completion Year*	Cost (millions)
HOV Lanes				
LA	SR-71	Convert expressway to freeway–add 1 HOV lane and 1 mixed-flow lane	2030	$330
LA	SR-14	Add 1 HOV lane in each direction from Ave P-8 to Ave L	2030	$120
OR	I-5	Add 1 HOV lane in each direction from Avenida Pico to San Juan Creek Rd and reconfigure Avenida Pico interchange	2018	$270
OR	SR-73	Add 1 HOV lane in each direction from MacArthur to I-405	2035	$249
OR	Various	Complete continuous access conversion of the Orange County HOV system where feasible	2014	$12
SB	I-15	Add 1 HOV lane in each direction from RV/SB County Line to I-215	2020	$480
SB	I-15	Add 1 HOV lane in each direction from US-395 to SR-18/Mojave River	2020	$398
SB	I-15	Add 1 HOV lane in each direction from I-215 to US-395	2020	$800
SB	I-215	Add 1 HOV lane in each direction from SR-210 to I-15	2030	$179
SB	I-210	Add 1 mixed-flow lane and 1 HOV lane in each direction from I-215 to I-10	2020	$138
Toll Lanes				
LA	SR-710	SR-710 North Extension (tunnel) (alignment TBD)	2030	$5,636
OR	SR-91/ SR-241	Construct HOV/HOT connector from SR-241 N/B to SR-91 E/B, and SR-91 W/B to SR-241 S/B	2018	$473

County	Route	Description	Completion Year*	Cost (millions)
Mixed-Flow Lanes				
IM	TBD	Widen and improve SR-98 or Jasper Rd to 4/6 lanes	2035	$1,170
IM	SR-111	Widen and improve to a 6-lane freeway with interchanges at Heber, McCabe, and Jasper, and overpass at Chick Rd	2030	$997
LA	SR-57/ SR-60	Improve the SR-57/SR-60 interchange	2030	$475
OR	SR-55	Add 1 mixed-flow lane in each direction and fix chokepoints from I-405 to SR-22 and add 1 auxiliary lane in each direction between select on/off ramps and operational improvements through project limits	2023	$343
OR	SR-91	Add 1 mixed-flow lane on SR-91 eastbound from SR-57 to SR-55 and improve interchange at SR-91/SR-55 and Lakeview Ave	2023	$356
OR	I-405	Add 1 mixed-flow lane in each direction from I-5 to SR-55 and improve merging	2023	$375
RV	I-10/ SR-60	Construct new interchange	2030	$184
RV	I-10	Add 1 mixed-flow lane in each direction from Monterey Ave to Dillon Rd	2030	$127
VE	SR-118	Add one lane in each direction from Route 23 (New LA Ave) to Tapo Cyn Rd	2018	$506

*Represents the Plan network year for which the project was analyzed for the RTP modeling and regional emissions analysis

In total, the RTP commits over $64 billion to highway investments (**TABLE 3**).

TABLE 3 Highway Investments

County	Investment ($, billions)*
Imperial	$1.4
Los Angeles	$11.7
Orange	$19.7
Riverside	$8.6
San Bernardino	$5.5
Ventura	$0.8
Various	$16.4
Regional Total	**$64.2**

*Also see Goods Movement Supplemental Report for additional related improvements.

Numbers may not sum to total due to rounding

EXHIBITS 1–4 depict major highway projects proposed by the CTCs in the RTP.

EXHIBIT 1 Major HOV Projects Proposed By Counties

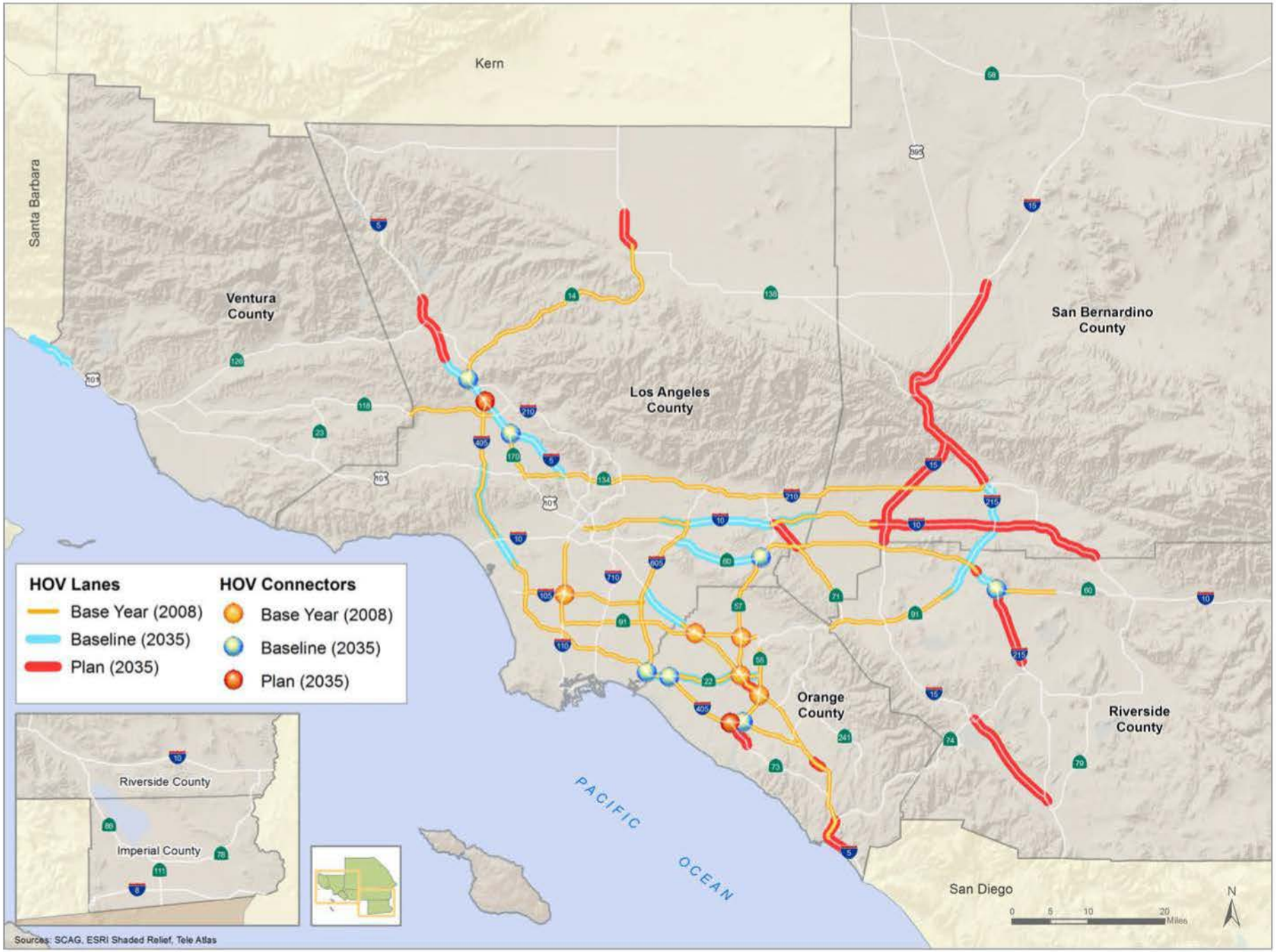


EXHIBIT 2 Major Toll Projects Proposed By Counties

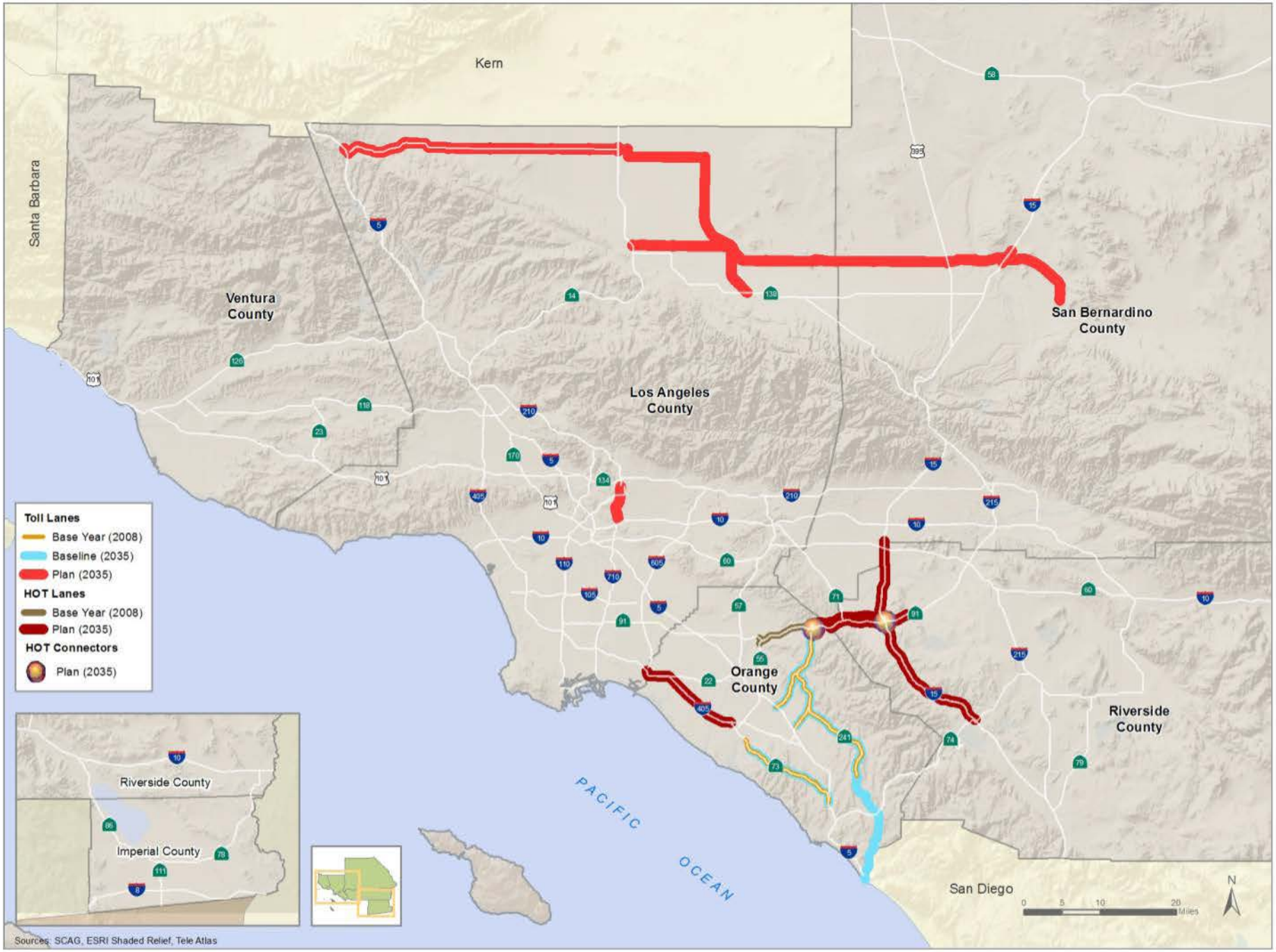


EXHIBIT 3 Major Mixed-Flow Projects Proposed By Counties

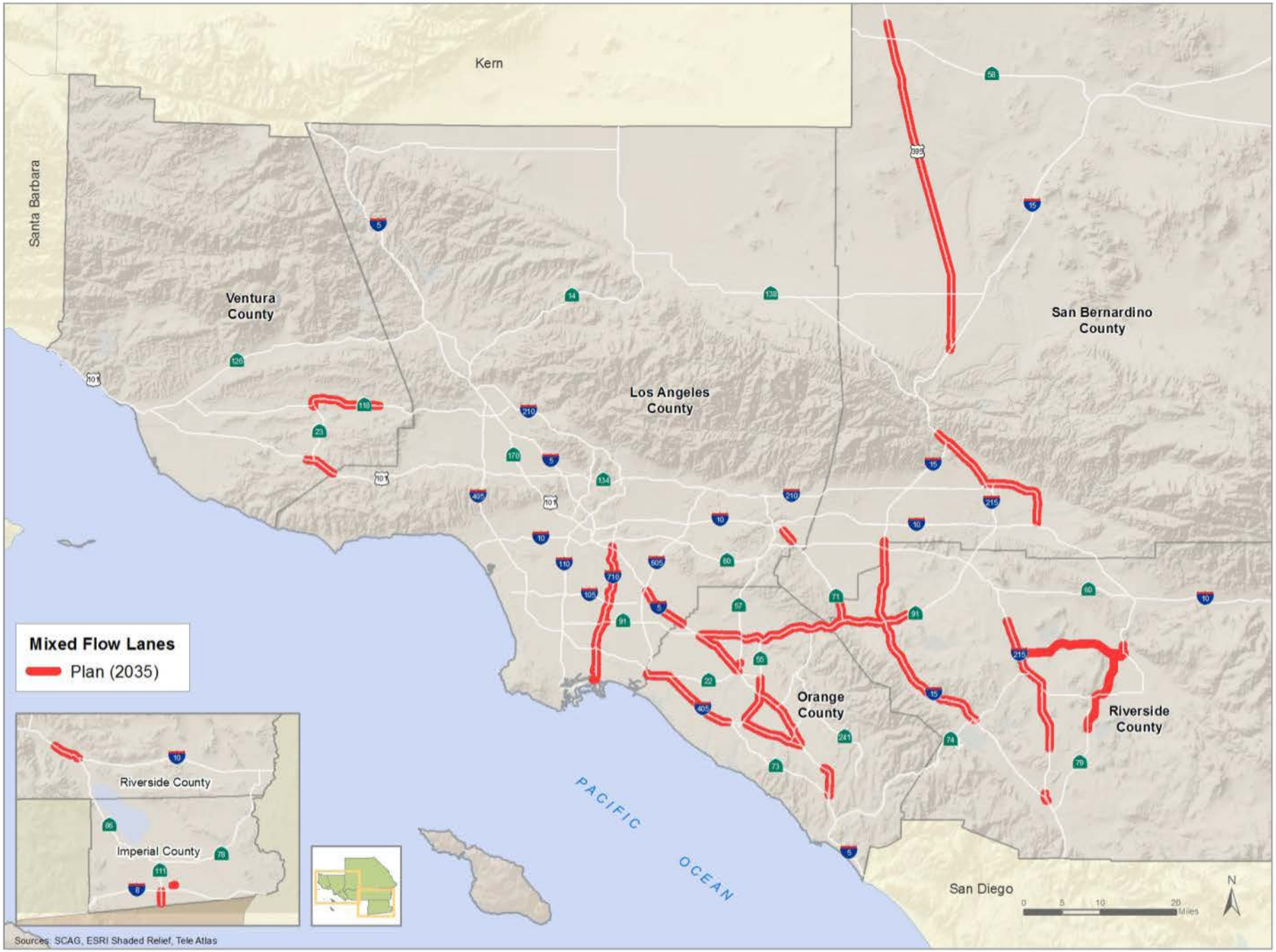


EXHIBIT 4 Major Highway Projects Proposed By Counties



System Preservation

Aging Infrastructure

Over the decades, the region has invested hundreds of billions of dollars in developing and expanding a multi-modal transportation system. As shown in **FIGURES 2, 3,** and **4**, a significant amount of roadways and bridges have fallen into an unacceptable state of disrepair.

FIGURE 2 Total Distressed Lane Miles (2007)

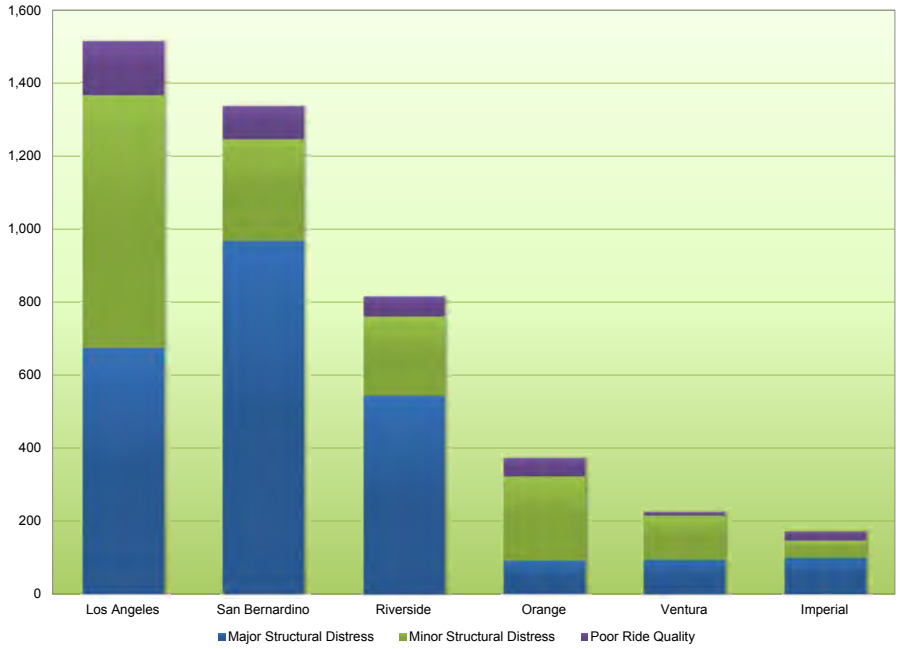
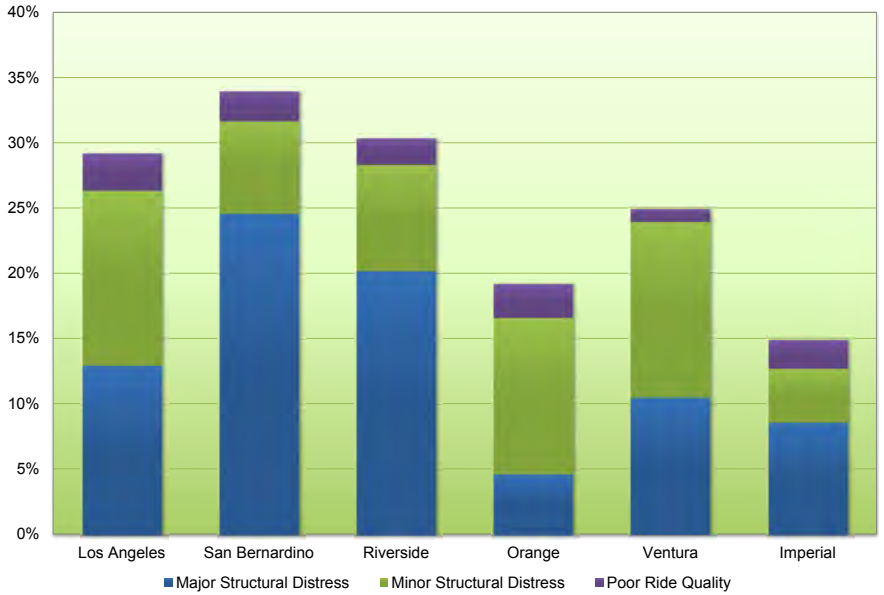
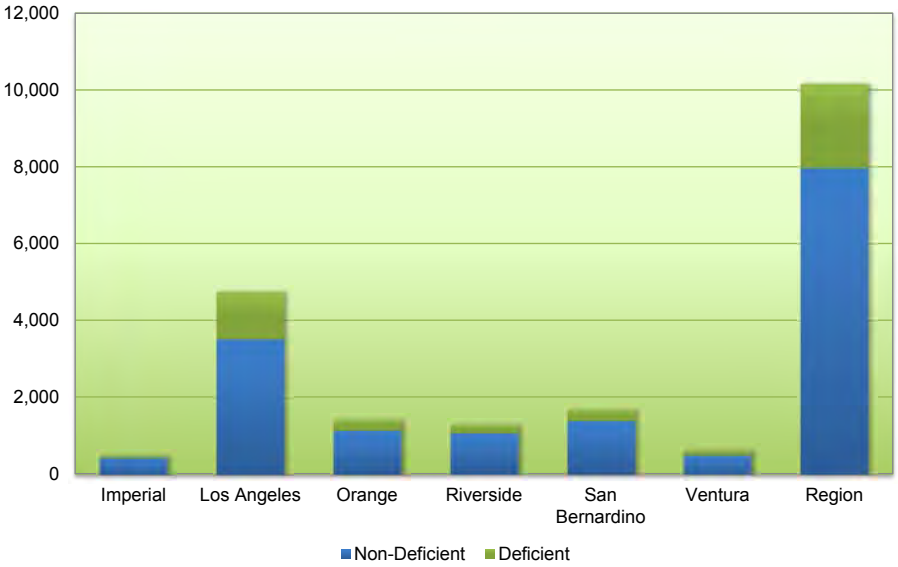


FIGURE 3 Percent Distressed Lane Miles (2007)



Source: 2007 Caltrans Pavement Survey

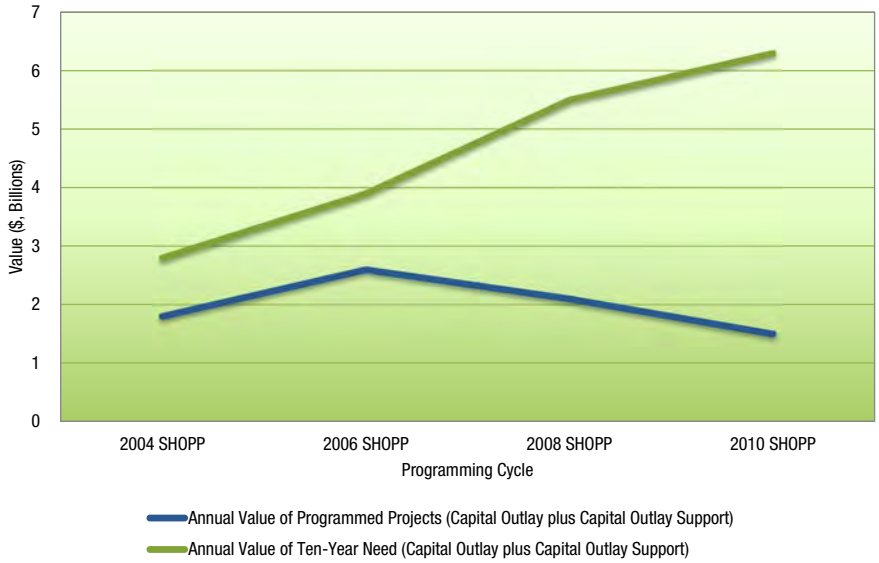
FIGURE 4 State Highway Bridge Conditions in the Region



Source: FHWA National Bridge Inventory (NIB), 4/06/2011 update

This is a result of years of underfunding statewide preservation needs. As seen in **FIGURE 5**, these preservation needs have continued to grow over much of the past decade while funding has declined.

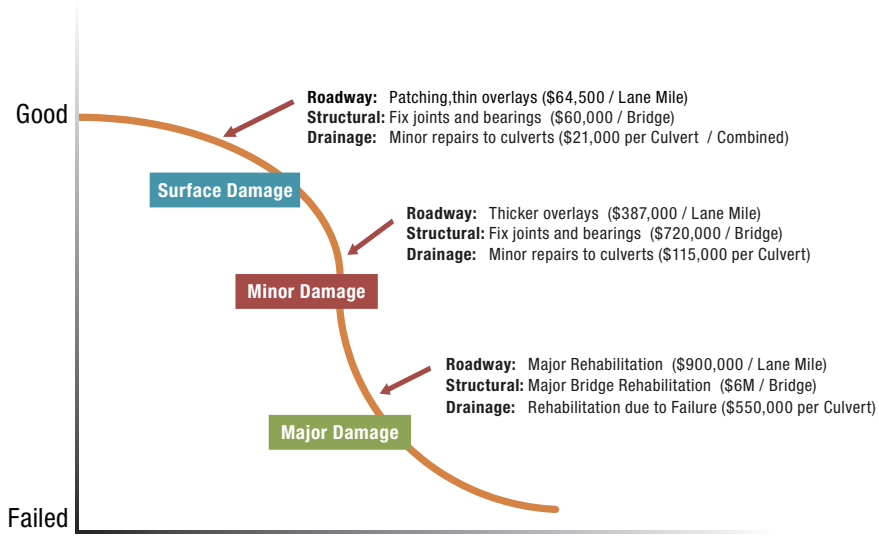
FIGURE 5 Programmed Project Expenditures versus Need



Source: California Transportation Commission 2009 SHOPP Plan

As shown in **FIGURE 6**, deferred maintenance leads to much costlier repairs in the future. While minor repairs to keep roadways in a state of good repair cost between $21,000 and $64,500 per lane mile, the major rehabilitation of a lane mile can cost anywhere from $550,000 to $6 million.

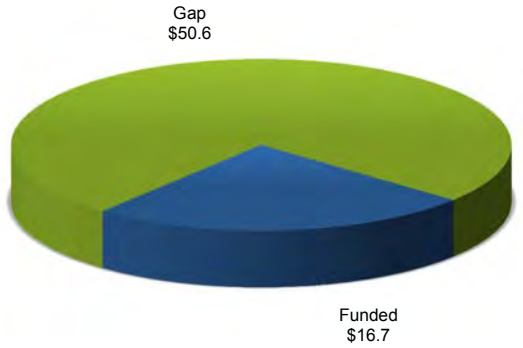
FIGURE 6 Cost Effectiveness of Pavement Treatment



Source: Caltrans 2007 State of the Pavement Report

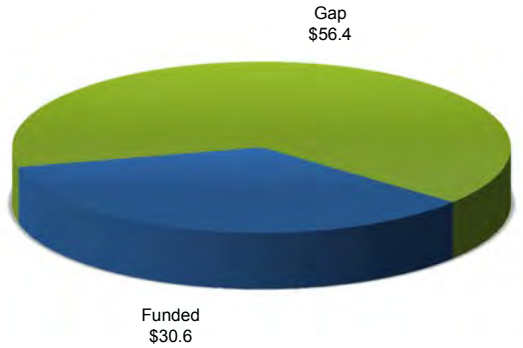
As shown in **FIGURES 7–9**, current commitments only address a quarter of total regional highway operation and protection needs, and no more than a third of total regional local streets and roads preservation needs.

FIGURE 7 Regional State Highway Operations and Protection
Total Needs: $67.3 Billion



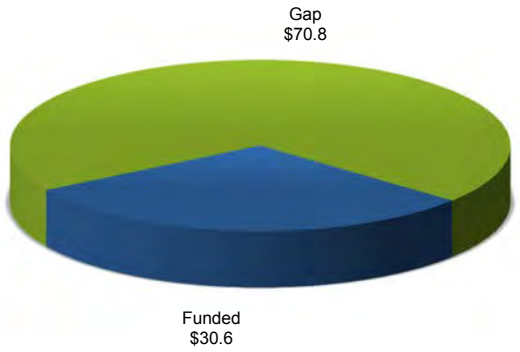
Estimated from the gap between goal-constrained and fiscally-constrained needs in the Caltrans 2011 Ten-Year SHOPP Plan

FIGURE 8 Regional Local Streets and Roads
Total Needs to Maintain Current Conditions: $87.0 Billion



Estimated from 10-year needs or cost-to-maintain estimate

FIGURE 9 Regional Local Streets and Roads
Total Needs to Bring the System to a State of Good Repair: $101.4 Billion



Estimated from 10-year needs or cost-to-maintain estimate

As deferring maintenance will only increase this shortfall over time, preserving the region's assets now is a critical priority of the 2012 RTP. The RTP commits $216.9 billion (including $70 billion of new, reasonably available revenue) to system preservation to help achieve a state of good repair. As more funding becomes available, additional commitments may be made. These additional investments will ensure that over the next 25 years, the region's transportation infrastructure will be in a better condition than it is today. This will also lower user costs in the future, such as vehicle maintenance costs.

SCAG will continue to work with its stakeholders, particularly the CTCs and Caltrans, to prioritize funding for preservation and maintenance.

Corridor System Management Plans

As discussed in the preceding section, the RTP identifies a comprehensive set of strategies that work in concert to optimize the performance of the transportation system. This set of strategies does not focus solely on expanding the system, but also considers how we operate the system; how we coordinate land use planning with transportation planning; how we deal with incidents such as accidents or special events; how we provide information to the traveling public so they can make informed decisions about how, where, and when to travel; and how we maintain the system. All of these strategies are based on a foundation of comprehensive system monitoring so that we can understand how the transportation system is performing and where we need improvement. This approach is based in part on work that Caltrans has done for many years to optimize the performance of the state highway system.

With the passage of Proposition 1B by California voters in November 2006, a program of funding called the Corridor Mobility Improvement Account (CMIA) was created to improve the state highway system. The California Transportation Commission adopted guidelines for the CMIA program that required the development of Corridor System Management Plans (CSMPs) for those projects receiving CMIA funding, to ensure that mobility improvements would be maintained over time. The CSMPs developed in the SCAG region are identified in **TABLE 4** and **EXHIBIT 5**. SCAG contributed funding towards the I-405 CSMP in Los Angeles County, as well as towards the I-210 CSMP undertaken as part of the Governor's Go California initiative.

The intention of the CSMP effort is to continually monitor system performance and identify system improvements that are lower-cost, relatively quick to implement, and less capital-intensive than major corridor widening and expansion projects. In this manner, the CSMPs provide a framework for long-term corridor management, with a focus on operational improvements.

TABLE 4 Corridor System Management Plans in the SCAG Region

County	Route	Corridor Limits
Los Angeles	I-5 North	I-10 to I-210
	I-5 South	I-710 to Orange County Line
	I-405	I-5 to I-110
	I-210	I-5 to SR-57
Orange	SR-22/I-405/I-605	SR-22: I-405 to SR-55 I-405: Los Angeles County Line to I-5 I-605: Los Angeles County Line to I-405
	SR-57	Los Angeles County line to SR-22
	SR-91	I-5 to Riverside County Line
Riverside & San Bernardino	I-10	I-15 to SR-60
	I-215	I-15 in San Bernardino County to I-15 in Riverside County
	SR-91	Orange County Line to I-215/SR-60
Ventura	US-101	Santa Barbara County to Rice Ave/Oxnard

Notes: The I-210 CSMP was developed as part of the Go California initiative, not as part of the CMIA requirements. The US-101 CSMP was a joint effort between Caltrans District 5 in Santa Barbara County and District 7 which includes Los Angeles and Ventura Counties.

The CSMP development efforts began with a comprehensive assessment of corridor performance and the identification of congestion points called bottlenecks. This information was shared and verified with the stakeholders along the corridors. To address the bottlenecks, operational and minor capacity improvement projects were developed with input from stakeholders. These proposed improvements were analyzed using microsimulation models that were created specifically for the corridors. The potential improvements include ramp metering, auxiliary lanes, ramp and interchange improvements, and incident management.

The results from these analyses, including recommended projects and assessment of project costs and benefits, are included in the corridor-level final reports provided at Caltrans' web page: www.dot.ca.gov/hq/tpp/corridor-mobility/ index.html. The CSMP recommendations for new investments (above and beyond any current commitments identified in the FTIP or countywide long range plans) total approximately $840 million and are proposed for inclusion in the 2012 RTP.

In addition to the improvements proposed in the CSMPs, the RTP includes $7.6 billion for Transportation System Management improvements, including extensive advanced ramp metering, enhanced incident management, bottleneck removal to improve flow (e.g. auxiliary lanes), the expansion of the integration of our traffic signal synchronization network, and data collection to monitor system performance. The efficiencies generated by these improvements are expected to increase available freeway capacity by 5 percent.

EXHIBIT 5 Corridor System Management Plans in the SCAG Region



Express/High-Occupancy Toll (HOT) Lane Network

Despite concerted effort to reduce traffic congestion through years of infrastructure investment, the region's system demands continue to exceed available capacity during peak periods. Consistent with the regional emphasis on the mobility pyramid (**FIGURE 1)**, recent planning efforts have focused on enhanced system management including integration of pricing to better utilize existing capacity and to offer users greater travel time reliability and more travel choices. Express Lanes that are appropriately priced to reflect demand can outperform non-priced lanes in terms of throughput, especially during congested periods. Moreover, revenue generated from priced lanes can be used to deliver Express Lanes sooner and to support complementary transit investments.

Based on recent analysis of critical corridors performed for the CSMPs, inter-county trips comprise more than 50 percent—suggesting the value of a regional network of Express Lanes that would seamlessly connect multiple counties. As such, the 2012 RTP includes a regional Express Lane network that would build upon the success of the 91 Express Lanes in Orange County and two demonstration projects in Los Angeles County planned for operation in late 2012.

Additional efforts underway include the extension of the 91 Express Lanes to I-15 in Riverside County along with planned Express Lanes on the I-15. Also, traffic and revenue studies are proceeding for I-10 and I-15 in San Bernardino County.

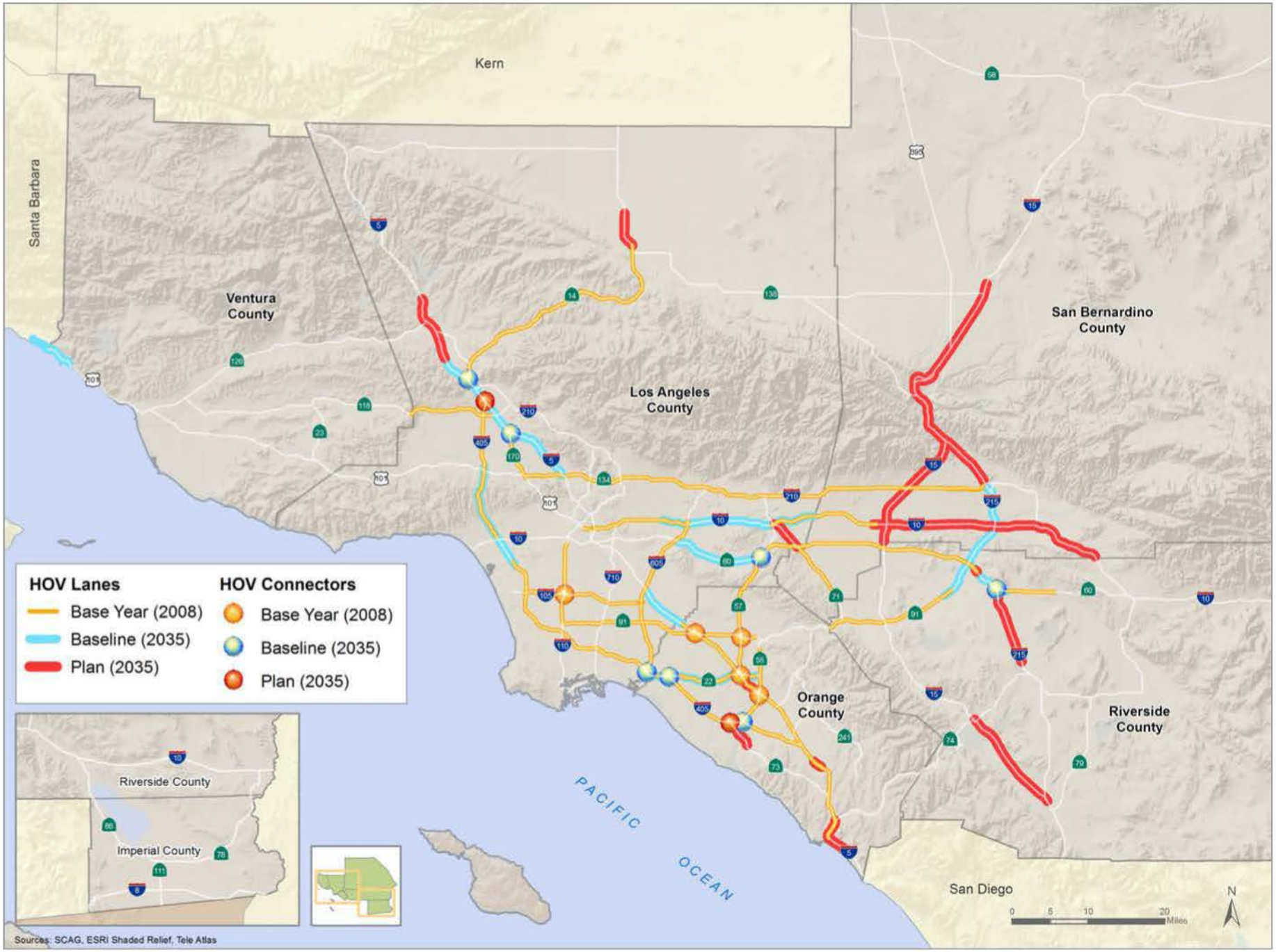
TABLE 5 and **EXHIBIT 6** display the segments in the proposed Express Lane network.

TABLE 5 Express/HOT Lane Network

County	Route	From	To
Los Angeles	I-405	I-5 (North SF Valley)	LA/OC County Line
Los Angeles	I-110	Adams Blvd (s/o I-10)	I-405
Los Angeles	I and SR-110/	Adams Blvd	US-101
Los Angeles	US-101	SR-110	I-10
Los Angeles	I-10	US-101	I-710
Los Angeles	I-10	I-710	I-605
LA, Orange	SR-91	I-110	SR-55
LA, SB	I-10	I-605	I-15
Orange	I-405	LA/OC Line	SR-55
Orange	I-5	SR-73	OC/SD County Line
Orange	SR-73	I-405	MacArthur
Riverside	SR-91	OC/RV County Line	I-15
Riverside	I-15	Riv/SB County Line	SR-74
Riverside	I-15	SR-74	Riv/SD County Line
San Bernardino	I-10	I-15	SR-210
San Bernardino	I-10	SR-210	Ford St
San Bernardino	I-15	SR-395	Sierra Ave
San Bernardino	I-15	Sierra Ave	6th St
San Bernardino	I-15	6th St	Riv/SB County Line

The Express/HOT Lane Network is assumed to be operational by 2035. Implementation plans, including corridor limits, will be refined through the Express Travel Choices Phase II Study.

EXHIBIT 6 Express/HOT Lane Network



Arterials

The region's local streets and roads (**EXHIBIT 7**) account for over 80 percent of the total road network and carry nearly half of all total traffic. They serve different purposes in different parts of the region, often in different parts of the same city. Many streets serve as major thoroughfares or as alternate parallel routes to congested freeways. At the same time, an urban street right-of-way can account for as much as 40 percent of the total land area; streets shape the neighborhoods they pass through and often support different modes of transportation besides the automobile, including bicycles, pedestrians, and transit. **TABLE 6** shows the amounts invested by this RTP in each county.

TABLE 6 Arterial Investments

County	Investment ($, billions)
Imperial	$1.6
Los Angeles	$6.7
Orange	$4.4
Riverside	$6.1
San Bernardino	$2.6
Ventura	$0.7
Regional Total	**$22.1**

Numbers may not sum to total due to rounding.

The RTP contains a host of arterial projects and improvements to achieve different purposes in different areas. In fast-growing suburban and exurban parts of the region, the RTP includes roadway capacity improvements to keep pace with new developments. In all parts of the region, the RTP includes operational and technological improvements to maximize system productivity in a more cost-effective way than simply adding capacity. Such strategic improvements include spot widening, signal prioritization, driveway consolidation and relocation, and grade separations at high-volume intersections. Finally, in a quickly growing number of areas, street improvement projects include new bicycle lanes and other design features such as lighting, landscaping, and modified roadway, parking, and sidewalk widths that work in concert to achieve both functional mobility for multiple modes of transportation, and a great sense of place.

EXHIBIT 7 Base Year 2008 Regionally Significant Arterial System

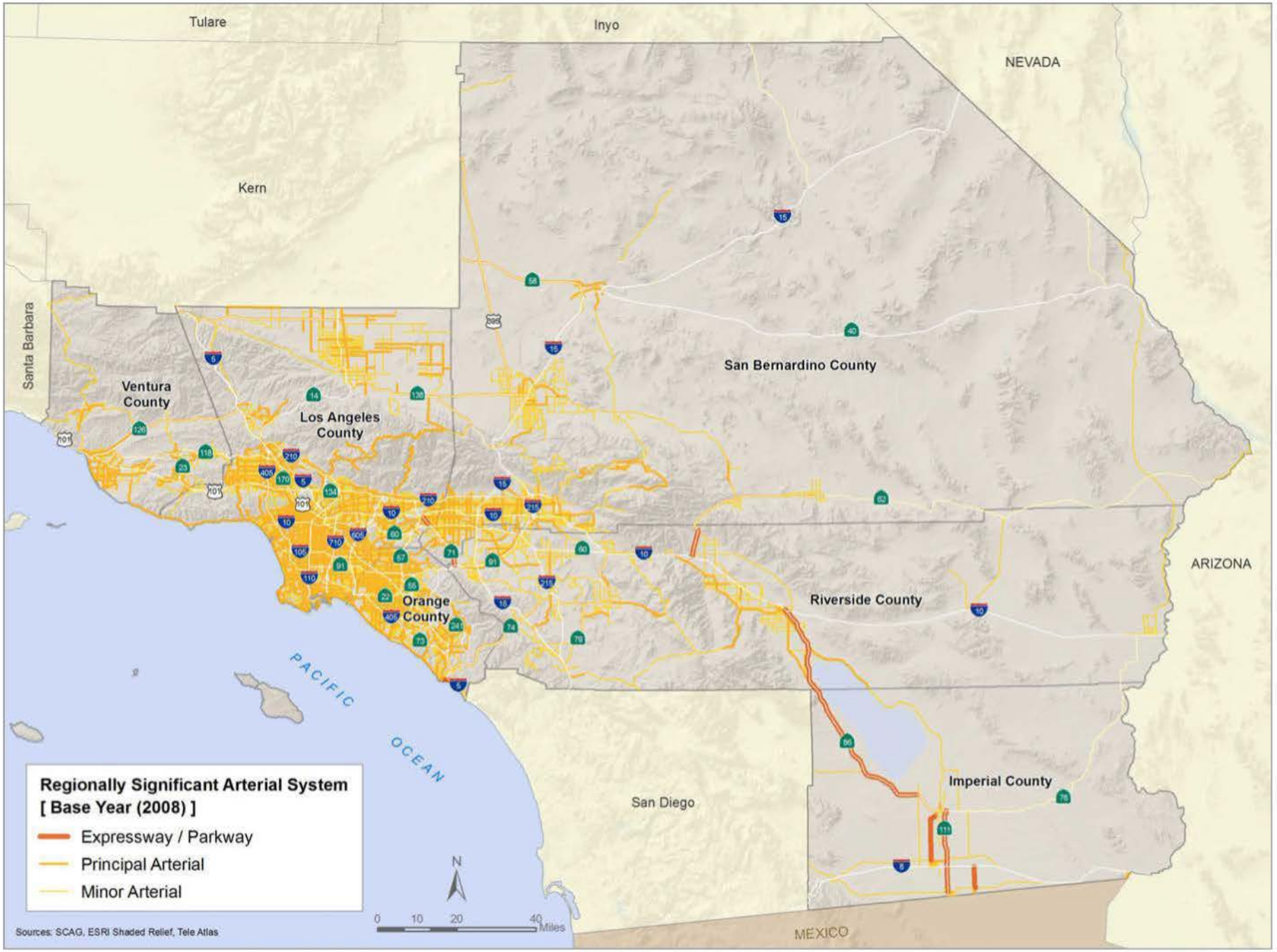


EXHIBIT 8 Baseline 2035 Regionally Significant Arterial System

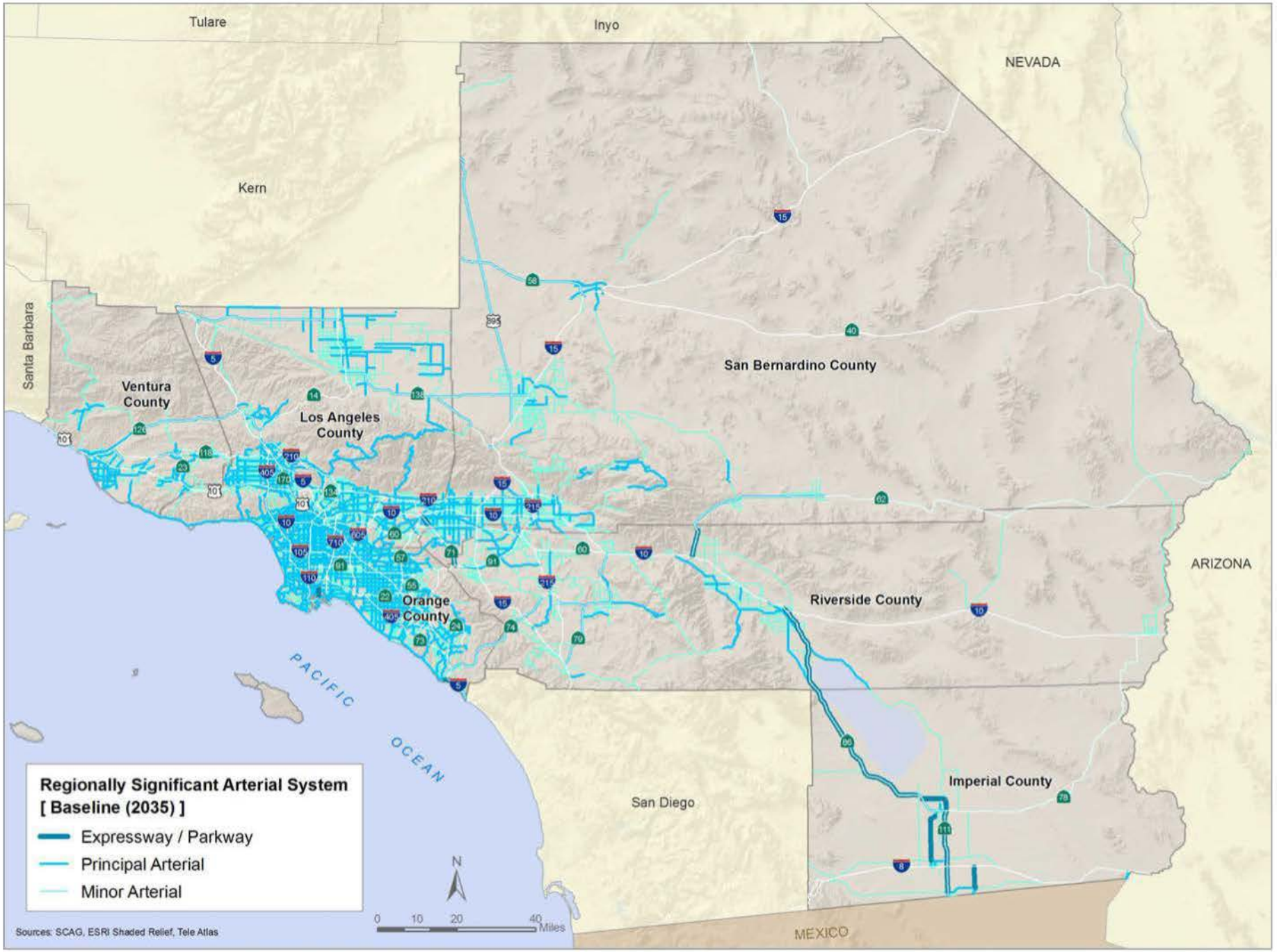
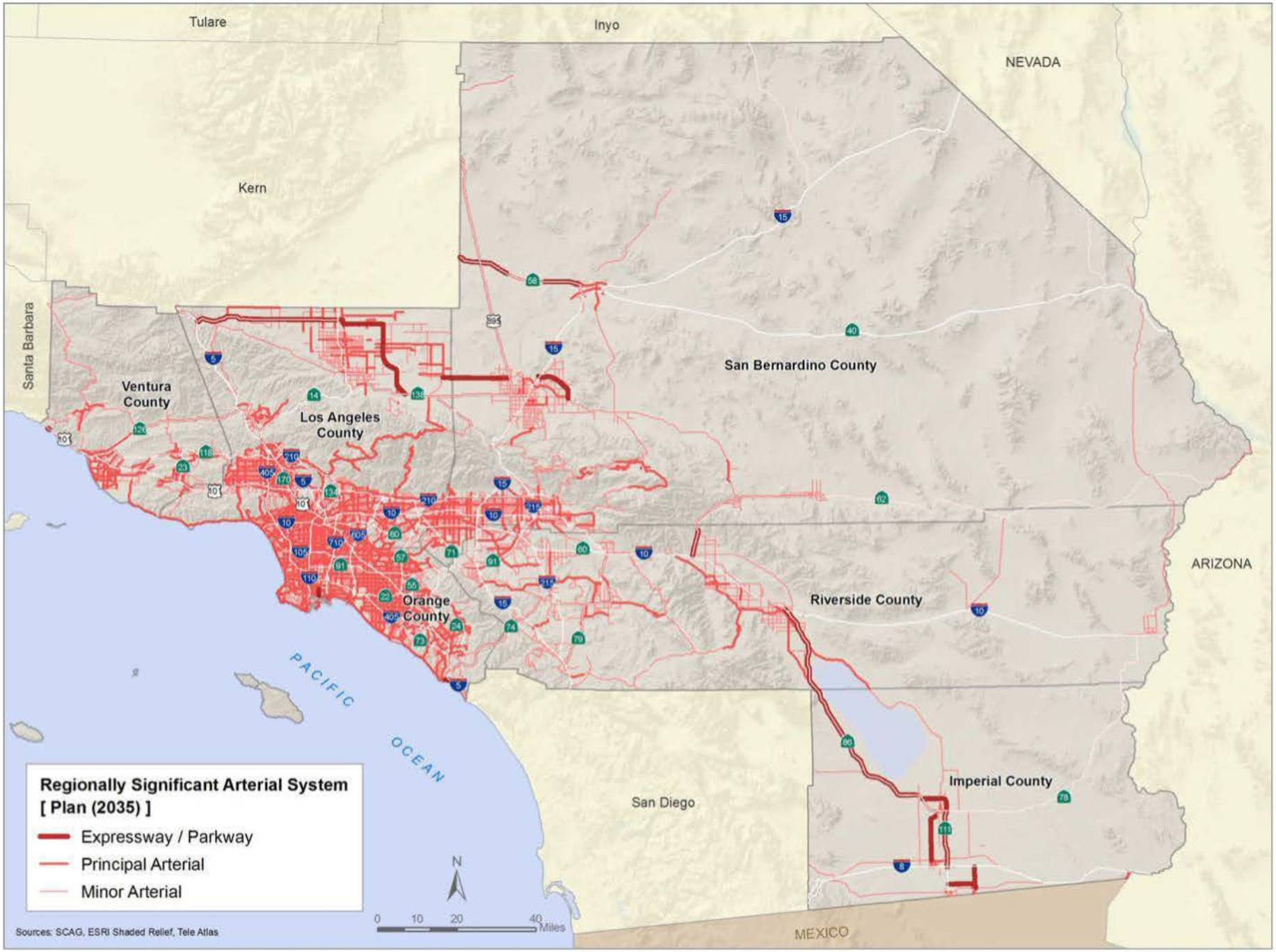


EXHIBIT 9 Plan 2035 Regionally Significant Arterial System



Performance Results

The RTP/SCS performance results for mobility are included in this report. A more complete discussion of all performance results for the RTP/SCS is contained in Chapter 5 of the main document and in the Performance Measures technical appendix.

The mobility performance measure relies on the commonly used measure of delay. Delay is the difference between the actual travel time and the travel time at some pre-defined reference or "optimal" speed for each mode alternative under analysis. It is measured in vehicle-hours of delay (VHD), which can then be used to derive person hours of delay.

The mobility measures used for this outcome are:

- Person Movement Delay by Facility Type (Mixed Flow, HOV, Arterials),
- Person Delay per Capita, and
- Truck delay by facility (Highway, Arterial).

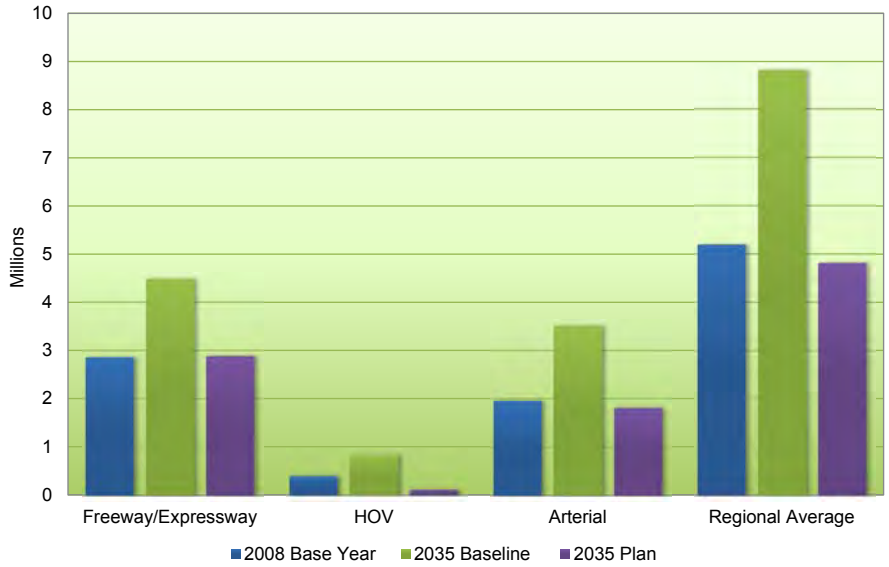
One additional measure for delay that is readily available for on-going monitoring, but that cannot be readily forecast, is non-recurrent delay. Recurrent congestion is the day-to-day congestion that occurs because too many vehicles are on the road at the same time. Non-recurrent congestion is the congestion that is caused by accidents, weather, special events, or other atypical incidents.

Non-recurrent congestion can be mitigated or reduced by improving incident management strategies. Other smart uses of technologies such as traffic signal coordination and the provision of real-time information about unexpected delays allows travelers to make better decisions about available transit or other alternatives.

Person Delay by Facility Type (Mixed Flow Freeways, HOV, Arterials)

For the 2012–2035 RTP/SCS, this measure has been expanded to differentiate between single-occupancy vehicle (SOV) and high occupancy vehicle (HOV) delay. As shown in **FIGURE 10**, person-hours of delay is expected to increase from Base Year to Baseline, but overall the Plan will improve on Baseline conditions by 45 percent, to conditions that are better than what is experienced today.

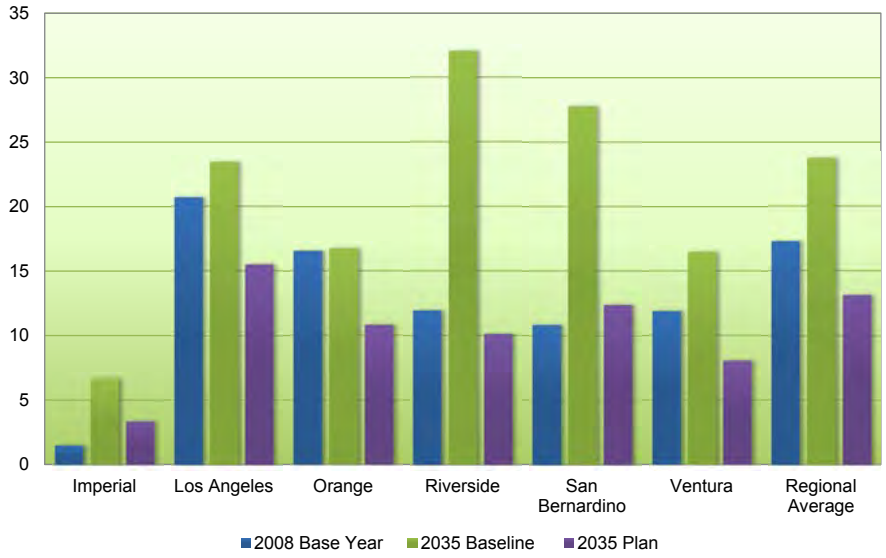
FIGURE 10 Daily Person-Hours of Delay by Facility Type



Person Delay per Capita

FIGURE 11 shows the person-hours of delay per capita for each of the six counties in the region and for the SCAG region as a whole. Normalizing delay by the number of people living in an area provides insight as to how well the region is mitigating traffic congestion in light of increasing population growth. Delay per capita is expected to grow considerably, particularly in the Inland Empire counties of Riverside and San Bernardino, under the Baseline conditions. However, implementation of the Plan is expected to reduce delay substantially, to below 2008 levels. The regional average delay per capita is expected to improve from over 20 minutes under the Baseline, to over 10 minutes under the Plan. Not only does this represent a 45 percent improvement over Baseline, but a 24 percent improvement over Base Year as well.

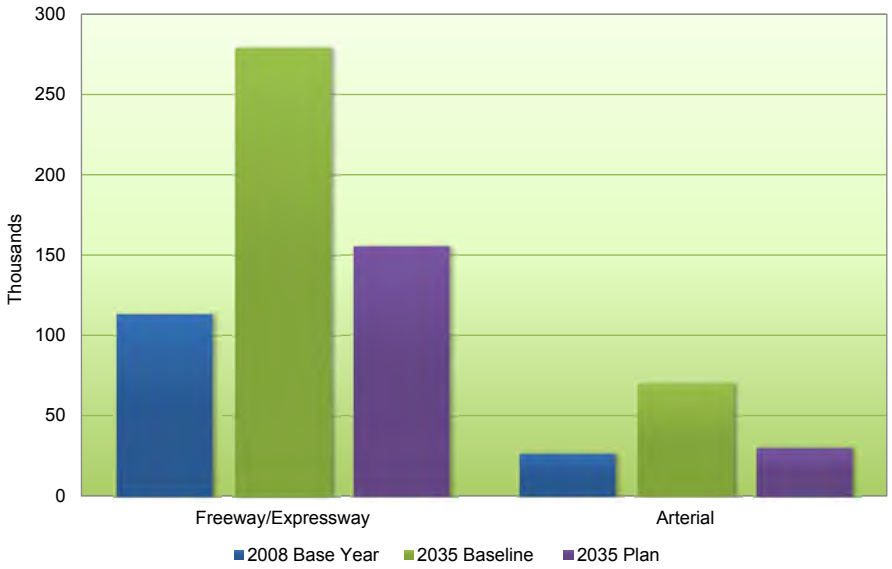
FIGURE 11 Daily Person Delay per Capita by County (Minutes)



Truck Delay by Facility Type (Highway, Arterials)

This measure estimates the average daily truck delay by facility type for freeways and arterials (**FIGURE 12**). The Plan is estimated to reduce truck delay by approximately 40 percent over Baseline on the freeway system, and by approximately 55 percent on the arterial system.

FIGURE 12 Daily Heavy-Duty Truck Hours of Delay



Non-Recurrent Delay

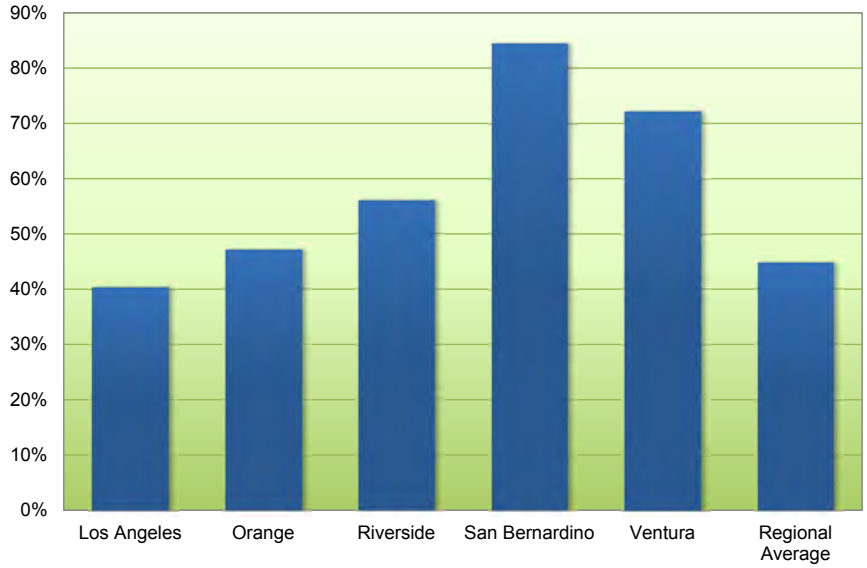
Data from the Caltrans Performance Measurement System (PeMS) was used to assess the level of non-recurrent delay on regional freeways using the "congestion pie" feature of PeMS. This module breaks down congestion into recurrent and non-recurrent congestion, with recurrent congestion being that day-to-day delay that occurs when there are simply too many vehicles on the road at the same time. Non-recurrent congestion is congestion due to other causes such as accidents, special events, or weather.

The PeMS congestion pie module reports two types of recurrent congestion—"Excess Demand" and "Potential Reduction". Excess demand is the congestion attributed to additional vehicles on the road. Potential reduction also accounts for the "too many vehicles" type of congestion, but this congestion can potentially be mitigated by applying optimal operational strategies such as ramp metering.

For the 2012–2035 RTP/SCS, the mobility performance measure is non-recurrent congestion. This type of congestion also has two major components—"Accidents" and "Miscellaneous". Accident-related congestion is estimated by using the Caltrans Traffic Accident Surveillance and Analysis System (TASAS) accident locations and comparing that to congestion levels reported by roadway sensors. If excess congestion beyond normal is reported at a location where TASAS reports that an accident occurred, then that extra congestion is put in the accident-related congestion bucket. If congestion being reported by a sensor is above normal and there was no accident report, then that congestion falls into the miscellaneous bucket.

The most recent PeMS congestion classification data is for the year 2009. **FIGURE 13** shows the percentage of freeway congestion during a typical day (5:00 AM through 8:00 PM) for the year 2009. The data is reported for each county and for the region as a whole. In 2009, the estimated average percentage of congestion that was due to accidents or other incidents was around 45 percent. In San Bernardino County—with less congestion overall and more susceptible to incident-causing congestion—the data suggested that a majority of congestion was non-recurrent. (The actual percentage is likely exaggerated due to the manner in which PeMS handles some data; more research is needed to verify this assessment.) In the more urbanized Los Angeles County, the data reported that 40 percent of countywide congestion was non-recurrent.

FIGURE 13 Percent Non-Recurrent Congestion by County (2009)



The following maps show the projected improvement in speed between the Baseline 2035 and Plan 2035 scenarios on our highway and arterial system in the PM peak. Additional speed maps can be found in the appendix of this document

EXHIBIT 10 Baseline 2035 to Plan 2035 Freeway Speed Changes | PM Peak



EXHIBIT 11 Baseline 2035 vs. Plan 2035 Arterial Speed – PM Peak



Appendix

EXHIBIT A1 Base Year 2008 Number of Freeway Lanes (mixed-flow and toll)

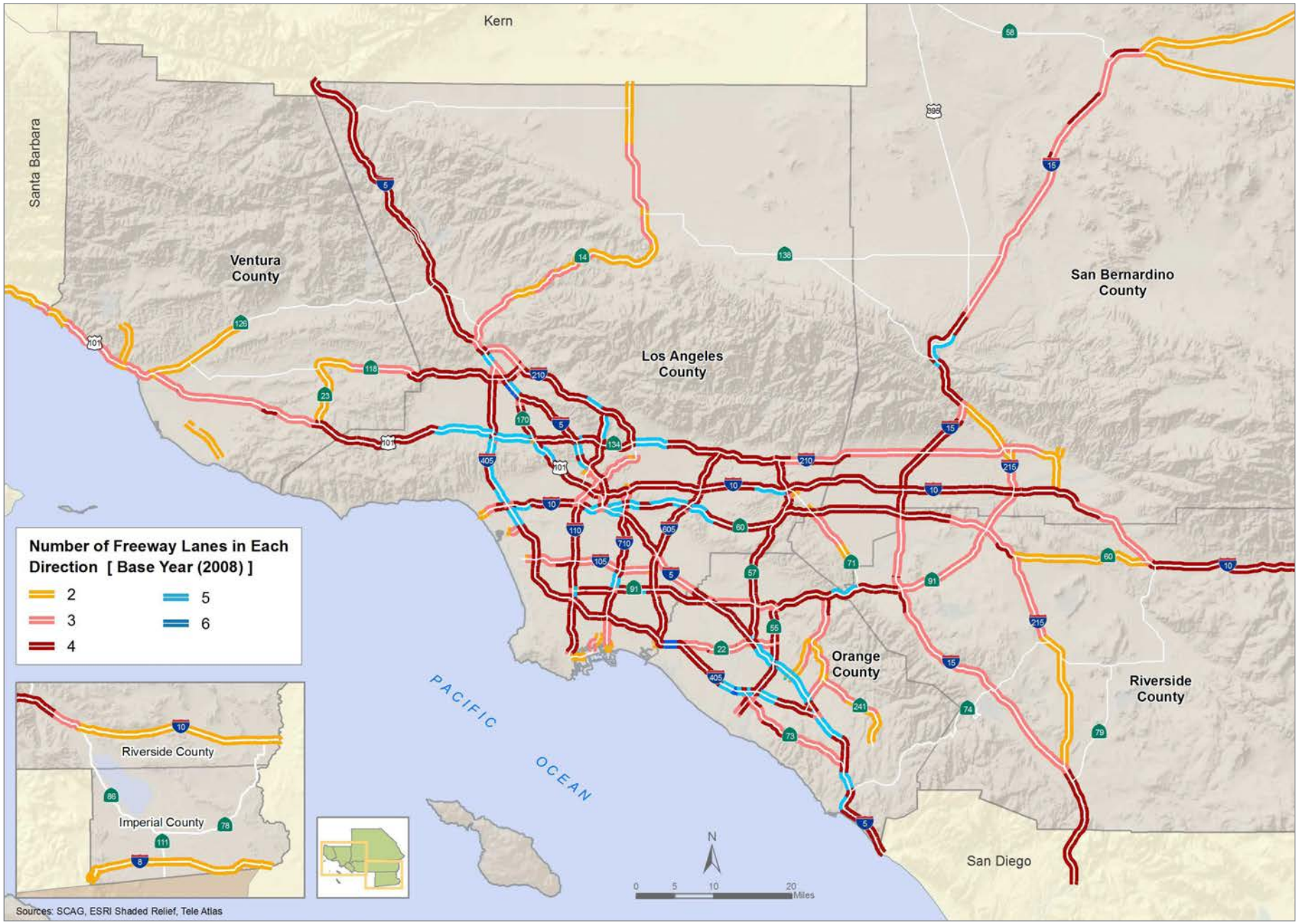


EXHIBIT A2 Baseline 2035 Number of Freeway Lanes (mixed-flow and toll)



EXHIBIT A3 Plan 2035 Number of Freeway Lanes (mixed-flow and toll)



EXHIBIT A4 Base Year 2008 Freeway Speed – AM Peak



EXHIBIT A5 Baseline 2035 Freeway Speed – AM Peak



EXHIBIT A6 Plan 2035 Freeway Speed – AM Peak



EXHIBIT A7 Base Year 2008 to Baseline 2035 Freeway Speed Changes – AM Peak



EXHIBIT A8 Baseline 2035 to Plan 2035 Freeway Speed Changes – AM Peak



EXHIBIT A9 Base Year 2008 Freeway Speed – PM Peak



EXHIBIT A10 Baseline 2035 Freeway Speed – PM Peak



EXHIBIT A11 Plan 2035 Freeway Speed – PM Peak



EXHIBIT A12 Base Year 2008 to Baseline 2035 Freeway Speed Changes – PM Peak



EXHIBIT A13 Baseline 2035 to Plan 2035 Freeway Speed Changes – PM Peak



EXHIBIT A14 Base Year 2008 Arterial Speed – AM Peak

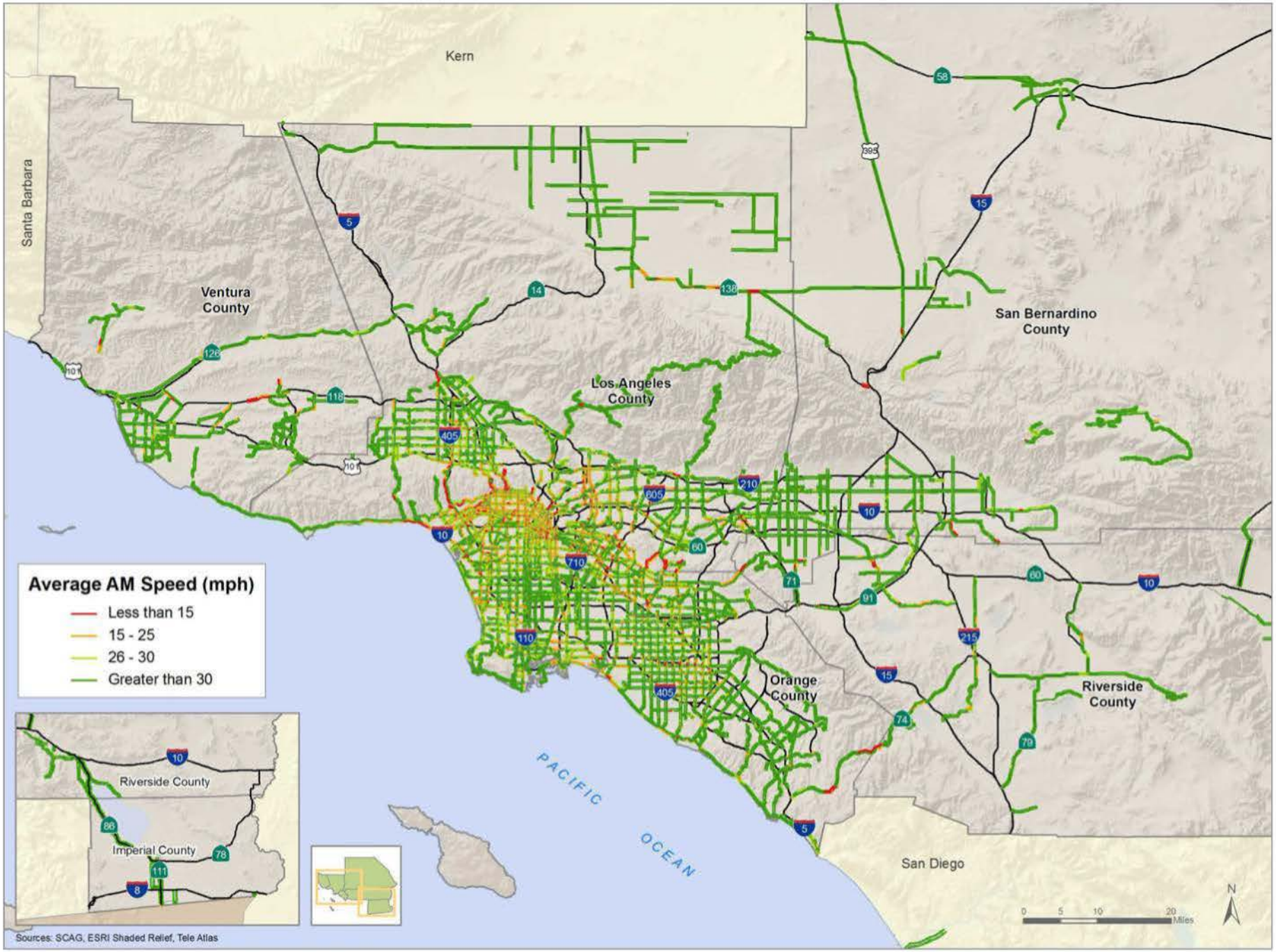


EXHIBIT A15 Baseline 2035 Arterial Speed – AM Peak

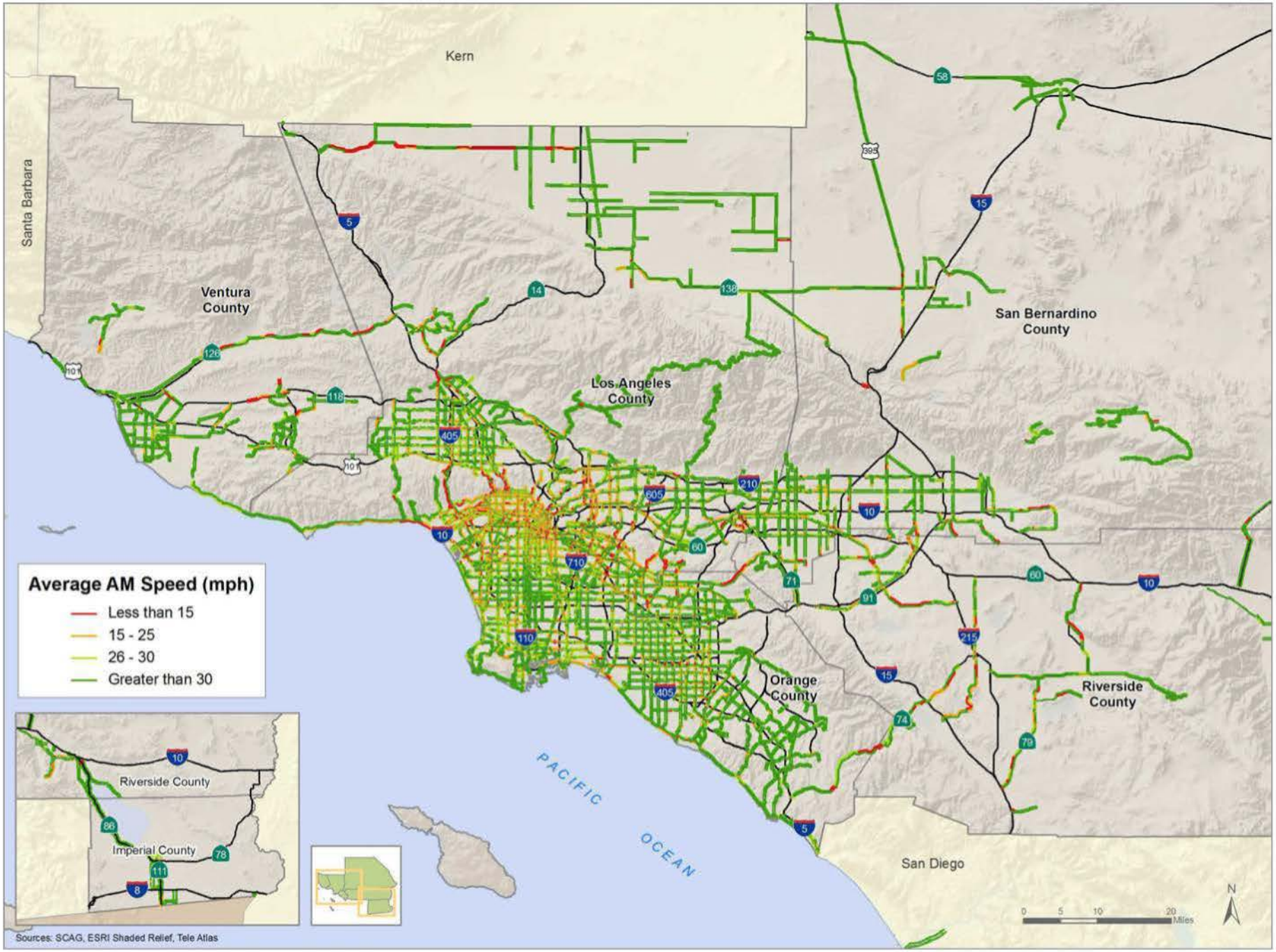


EXHIBIT A16 Plan 2035 Arterial Speed – AM Peak

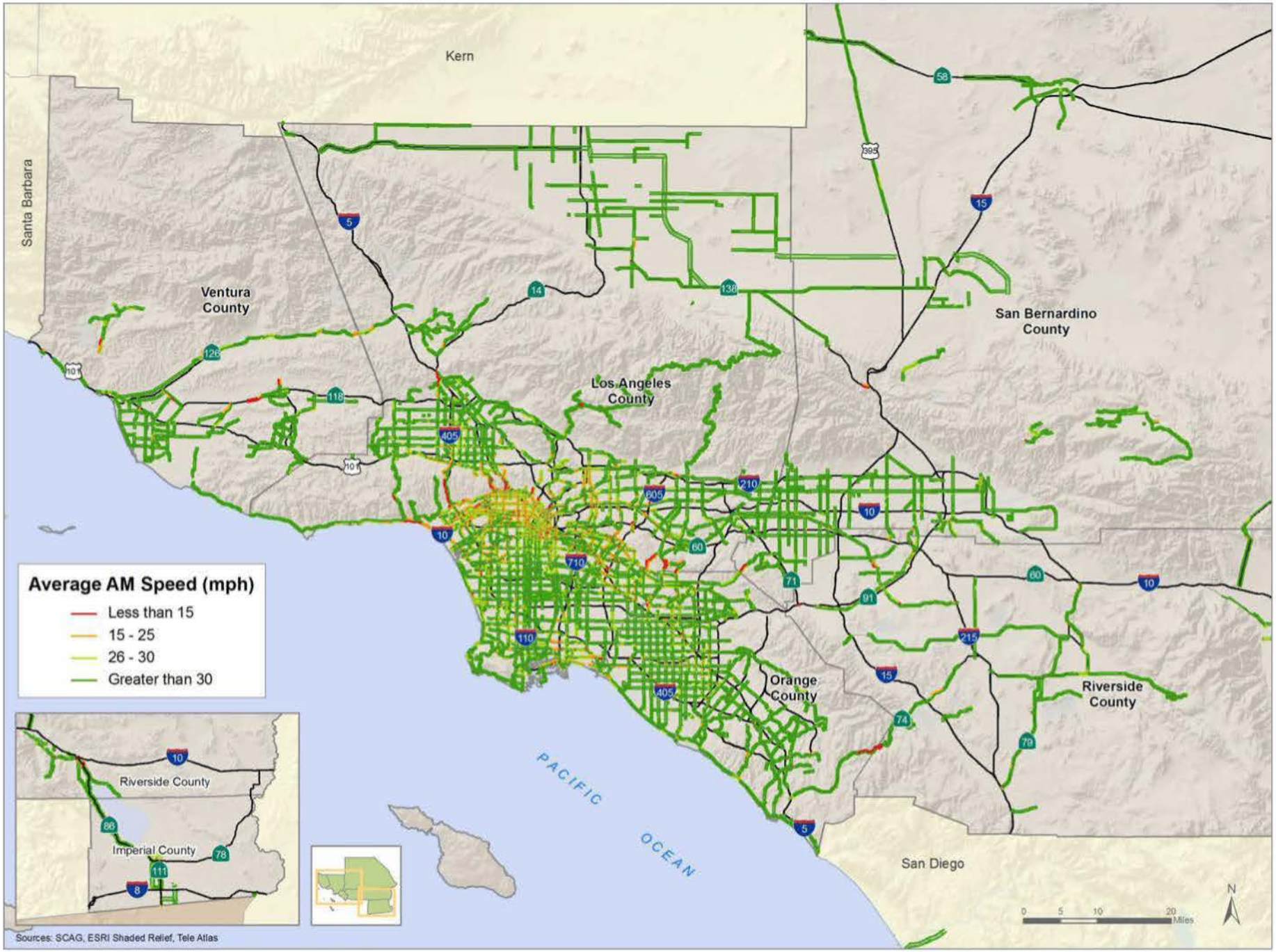


EXHIBIT A17 Base Year 2008 Arterial Speed – PM Peak

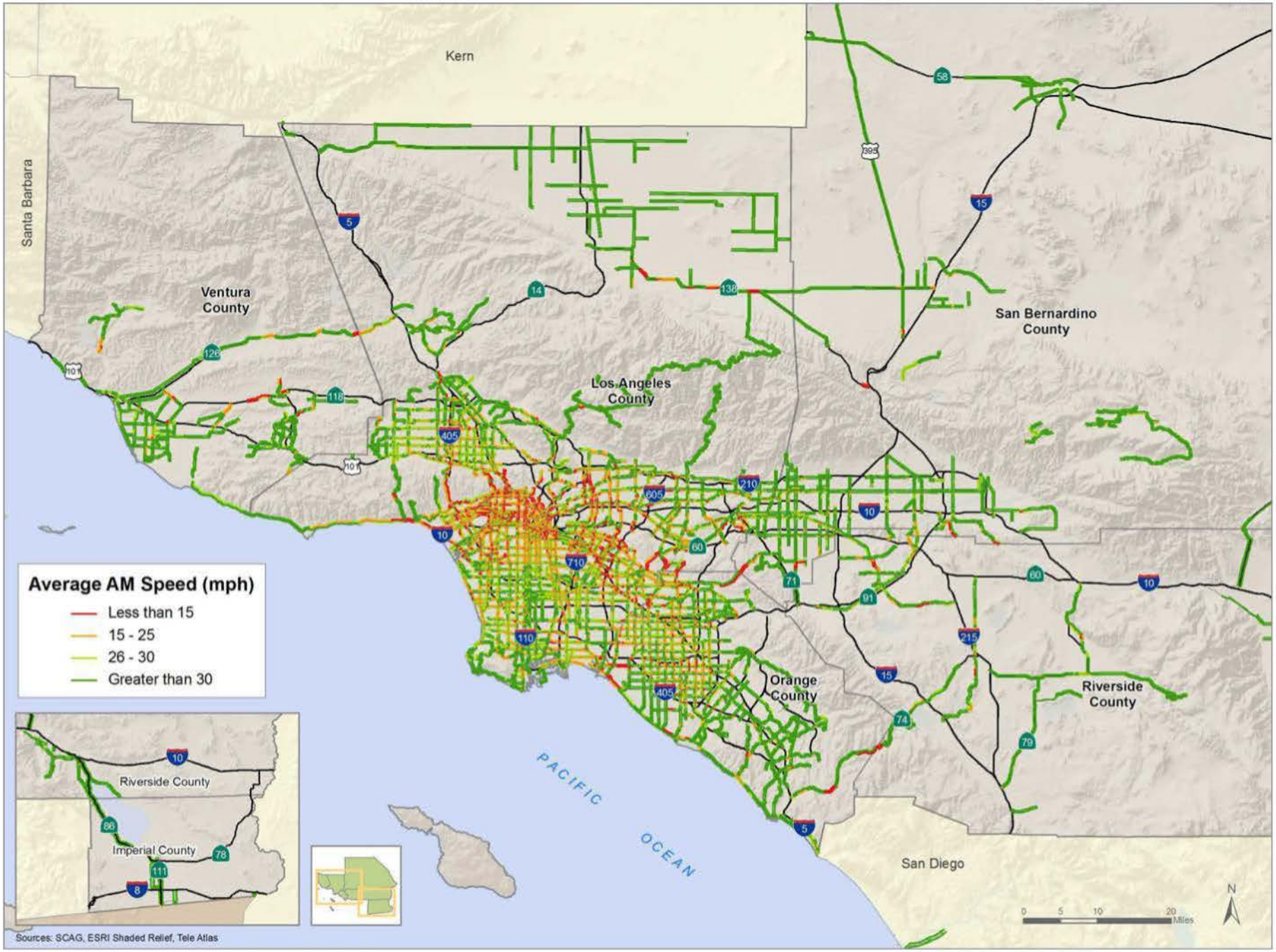


EXHIBIT A18 Baseline 2035 Arterial Speed – PM Peak

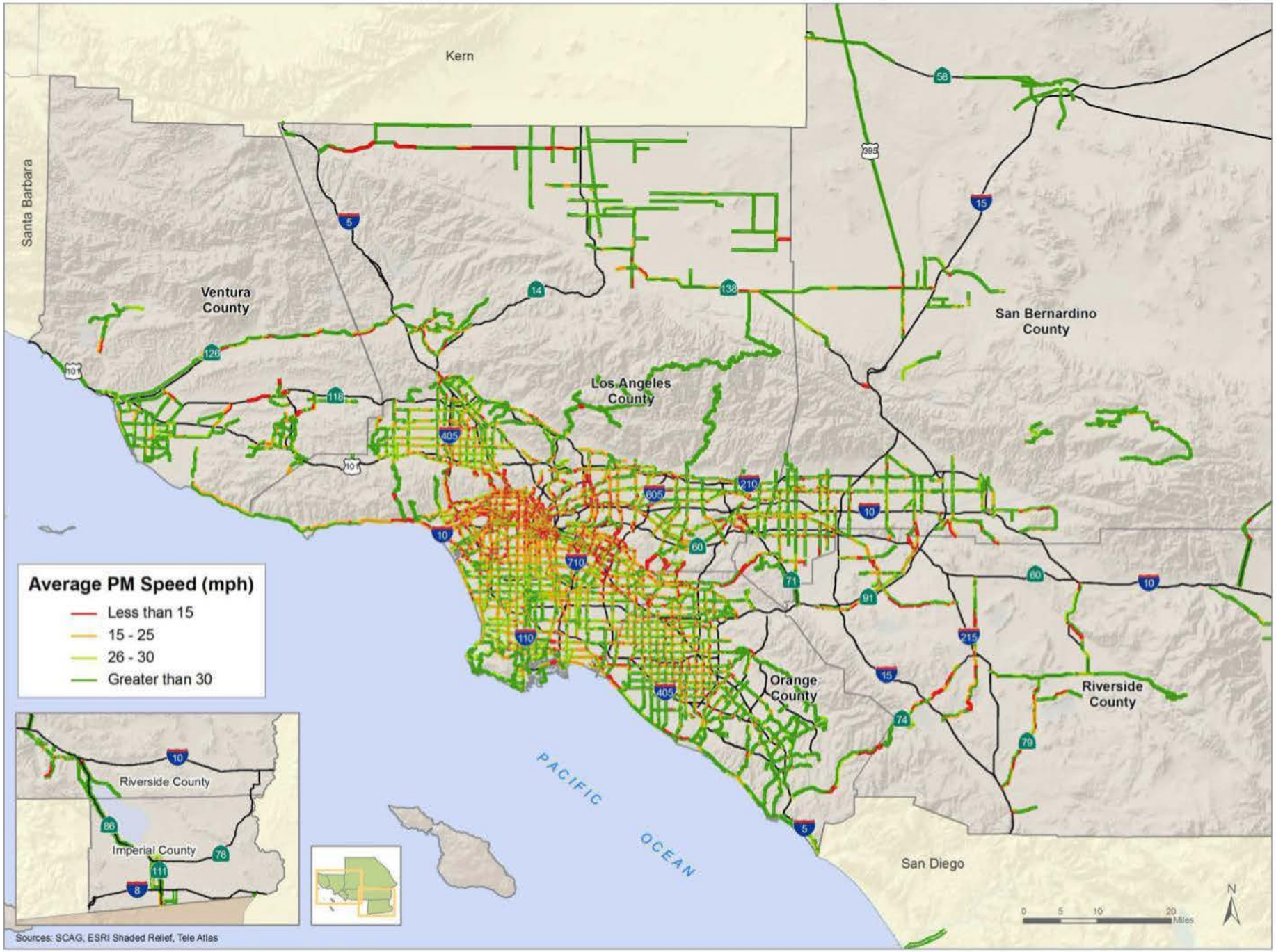


EXHIBIT A19 Plan 2035 Arterial Speed – PM Peak

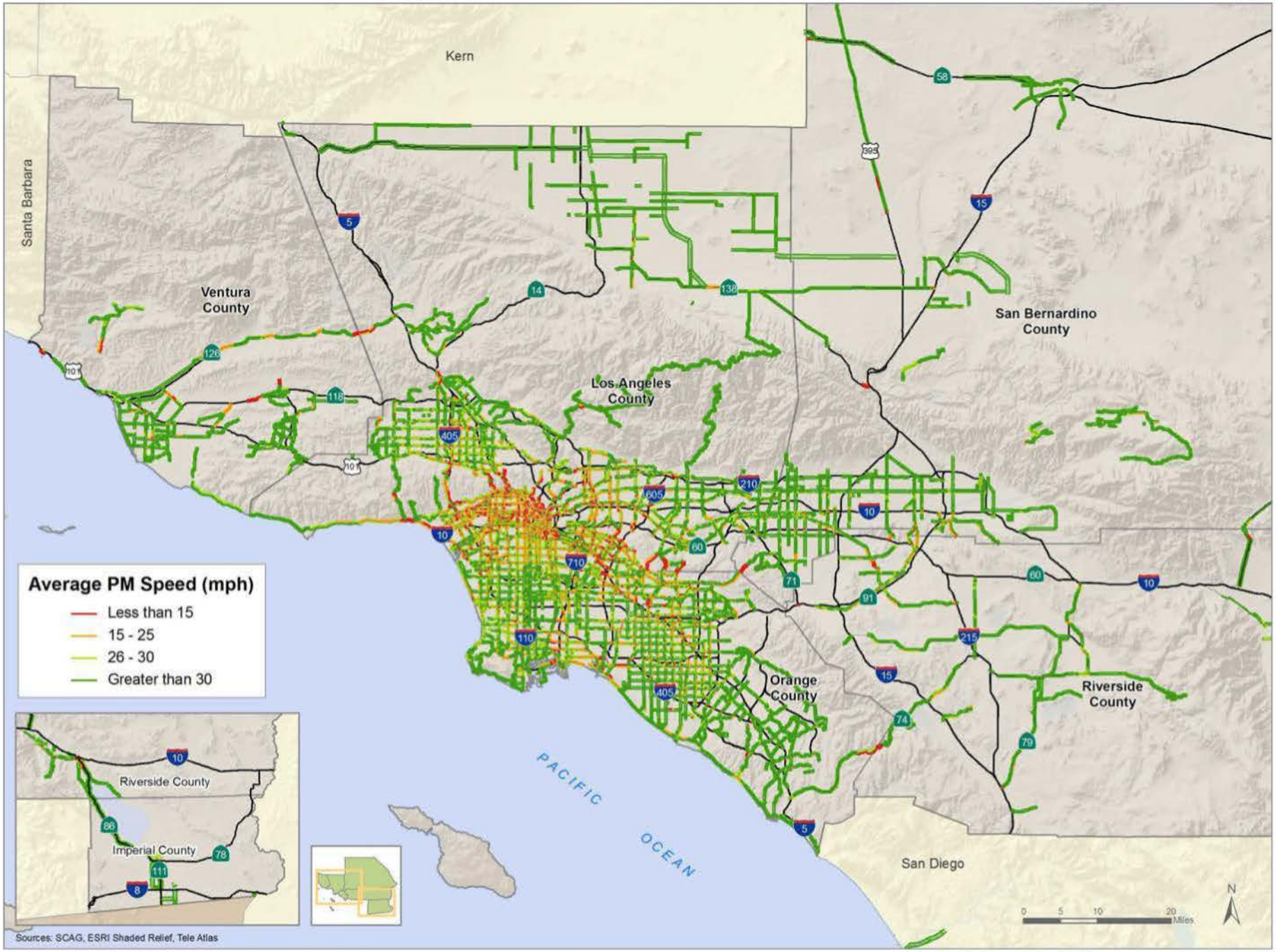


EXHIBIT A20 Baseline 2035 to Plan 2035 Arterial Speed Changes



Network Statistics

TABLE A1 Centerline Miles Summary

County	Base Year 2008	Baseline 2035	Plan 2035
Imperial	1,743	1,757	1,761
Los Angeles	7,821	7,889	8,024
Orange	2,123	2,163	2,217
Riverside	3,423	3,496	3,758
San Bernardino	5,550	5,585	5,934
Ventura	1,032	1,050	1,059
Region	**21,693**	**21,939**	**22,753**

Numbers may not sum to total due to rounding.

TABLE A2 Lane Miles Summary (PM Peak Network)

County	Base Year 2008	Baseline 2035	Plan 2035
Imperial	3,912	3,966	4,071
Los Angeles	26,716	27,026	27,953
Orange	8,777	9,162	10,126
Riverside	9,845	10,171	12,537
San Bernardino	14,696	14,992	17,768
Ventura	3,039	3,116	3,202
Region	**66,986**	**68,433**	**75,657**

Numbers may not sum to total due to rounding.

TABLE A3 Base Year 2008 Network Statistics

County	Centerline Miles	Lane Miles (PM)
Freeway (Mixed-Flow)		
Imperial	95	379
Los Angeles	637	4,582
Orange	167	1,290
Riverside	308	1,698
San Bernardino	471	2,470
Ventura	94	503
Subtotal	*1,772*	*10,922*
Toll		
Imperial	0	0
Los Angeles	0	0
Orange	61	322
Riverside	0	1
San Bernardino	0	0
Ventura	0	0
Subtotal	*61*	*322*
Major Arterial		
Imperial	111	400
Los Angeles	2,268	8,775
Orange	657	3,150
Riverside	354	1,167
San Bernardino	608	1,824
Ventura	264	886
Subtotal	*4,262*	*16,203*
Minor Arterial		
Imperial	333	669
Los Angeles	2,968	9,075
Orange	902	3,152
Riverside	1,120	3,094
San Bernardino	1,614	4,266
Ventura	360	966
Subtotal	*7,297*	*21,222*
Collector		
Imperial	1,205	2,464
Los Angeles	1,720	3,816
Orange	217	621
Riverside	1,604	3,809
San Bernardino	2,809	6,041
Ventura	314	684
Subtotal	*7,870*	*17,434*
Freeway (HOV)		
Imperial	0	0
Los Angeles	227	468
Orange	119	243
Riverside	37	77
San Bernardino	48	95
Ventura	0	0
Subtotal	*431*	*883*
Total All Facilities		
Imperial	1,743	3,912
Los Angeles	7,821	26,716
Orange	2,123	8,777
Riverside	3,423	9,845
San Bernardino	5,550	14,696
Ventura	1,032	3,039
Total	**21,693**	**66,986**

Numbers may not sum to total due to rounding.

TABLE A4 Baseline 2035 Network Statistics

County	Centerline Miles	Lane Miles (PM)
Freeway (Mixed-Flow)		
Imperial	95	380
Los Angeles	638	4,611
Orange	167	1,326
Riverside	310	1,726
San Bernardino	472	2,505
Ventura	94	528
Subtotal	*1,776*	*11,077*
Toll		
Imperial	0	0
Los Angeles	0	0
Orange	76	550
Riverside	0	1
San Bernardino	0	0
Ventura	0	0
Subtotal	*76*	*551*
Major Arterial		
Imperial	123	451
Los Angeles	2,271	8,870
Orange	672	3,224
Riverside	355	1,204
San Bernardino	611	1,893
Ventura	265	892
Subtotal	*4,296*	*16,534*
Minor Arterial		
Imperial	333	669
Los Angeles	2,969	9,118
Orange	905	3,174
Riverside	1,137	3,200
San Bernardino	1,620	4,372
Ventura	369	993
Subtotal	*7,332*	*21,526*
Collector		
Imperial	1,205	2,465
Los Angeles	1,724	3,840
Orange	222	633
Riverside	1,645	3,940
San Bernardino	2,825	6,106
Ventura	318	695
Subtotal	*7,939*	*17,679*
Freeway (HOV)		
Imperial	0	0
Los Angeles	288	588
Orange	121	255
Riverside	49	102
San Bernardino	57	115
Ventura	4	8
Subtotal	*520*	*1,067*
Total All Facilities		
Imperial	1,757	3,966
Los Angeles	7,889	27,026
Orange	2,163	9,162
Riverside	3,496	10,171
San Bernardino	5,585	14,992
Ventura	1,050	3,116
Total	**21,939**	**68,433**

Numbers may not sum to total due to rounding.

TABLE A5 Plan 2035 Network Statistics

County	Centerline Miles	Lane Miles (PM)
Freeway (Mixed-Flow)		
Imperial	102	418
Los Angeles	639	4,682
Orange	167	1,437
Riverside	314	1,964
San Bernardino	504	2,741
Ventura	95	554
Subtotal	*1,820*	*11,795*
Toll (incl. HOT & Truck)		
Imperial	0	0
Los Angeles	191	671
Orange	126	705
Riverside	72	236
San Bernardino	78	243
Ventura	0	0
Subtotal	*466*	*1,854*
Major Arterial		
Imperial	121	460
Los Angeles	2,327	9,250
Orange	682	3,549
Riverside	429	1,606
San Bernardino	625	2,445
Ventura	271	927
Subtotal	*4,455*	*18,236*
Minor Arterial		
Imperial	333	728
Los Angeles	2,969	9,158
Orange	925	3,544
Riverside	1,186	4,012
San Bernardino	1,690	5,247
Ventura	371	1,019
Subtotal	*7,473*	*23,708*
Collector		
Imperial	1,205	2,465
Los Angeles	1,694	3,778
Orange	229	701
Riverside	1,706	4,617
San Bernardino	2,954	6,926
Ventura	318	695
Subtotal	*8,106*	*19,182*
Freeway (HOV)		
Imperial	0	0
Los Angeles	204	413
Orange	89	191
Riverside	52	103
San Bernardino	83	166
Ventura	4	8
Subtotal	*432*	*881*
Total All Facilities		
Imperial	1,761	4,071
Los Angeles	8,024	27,953
Orange	2,217	10,126
Riverside	3,758	12,537
San Bernardino	5,934	17,768
Ventura	1,050	3,202
Total	**22,753**	**75,657**

Numbers may not sum to total due to rounding.

Trip Statistics

TABLE A6 Total Person Trips By County

County	Base Year 2008	Baseline 2035	Plan 2035
Imperial	466,000	888,000	860,000
Los Angeles	34,224,000	38,429,000	37,406,000
Orange	11,341,000	12,220,000	12,003,000
Riverside	6,707,000	11,166,000	10,527,000
San Bernardino	6,578,000	9,089,000	8,917,000
Ventura	2,844,000	3,294,000	3,192,000
Region	**62,159,000**	**75,086,000**	**72,906,000**

Numbers may not sum to total due to rounding.

TABLE A7 Average Vehicle Occupancy for Home Based Work Trips

County	Base Year 2008	Baseline 2035	Plan 2035
Imperial	1.09	1.09	1.10
Los Angeles	1.08	1.10	1.09
Orange	1.08	1.09	1.09
Riverside	1.09	1.10	1.10
San Bernardino	1.09	1.10	1.10
Ventura	1.07	1.08	1.08
Region	**1.08**	**1.10**	**1.09**

TABLE A8 Average Vehicle Occupancy for All Trips

County	Base Year 2008	Baseline 2035	Plan 2035
Imperial	1.40	1.38	1.40
Los Angeles	1.42	1.45	1.46
Orange	1.41	1.43	1.45
Riverside	1.47	1.44	1.47
San Bernardino	1.46	1.45	1.48
Ventura	1.41	1.42	1.43
Region	**1.43**	**1.44**	**1.46**

TABLE A9 Median Home Based Work Trip Length (miles)

County	Base Year 2008	Baseline 2035	Plan 2035
Imperial	4.60	3.56	3.95
Los Angeles	9.58	9.78	9.57
Orange	8.63	8.55	8.67
Riverside	11.50	10.20	10.02
San Bernardino	10.35	9.40	10.34
Ventura	9.51	9.31	8.85
Region	**9.51**	**9.43**	**9.42**

TABLE A10 Median Non-Work Trip Length (miles)

County	Base Year 2008	Baseline 2035	Plan 2035
Imperial	1.54	1.55	1.50
Los Angeles	3.11	3.02	2.97
Orange	3.31	3.23	3.31
Riverside	2.96	2.62	2.70
San Bernardino	3.04	2.85	3.14
Ventura	2.32	2.30	2.17
Region	**3.05**	**2.88**	**2.92**

Mobility Statistics

TABLE A11 Average Daily Delay Per Capita (minutes)

County	Base Year 2008	Baseline 2035	Plan 2035
Imperial	1.5	6.7	3.3
Los Angeles	20.7	23.5	15.5
Orange	16.6	16.8	10.8
Riverside	12.0	32.0	10.2
San Bernardino	10.9	27.8	12.4
Ventura	11.9	16.5	8.1
Region	**17.3**	**23.8**	**13.1**

TABLE A12 Base Year 2008 Daily VMT, VHT, Delay, and Speed by County and Time Period

	VMT (thousands)		VHT (thousands)		Delay (thousands)		Speed (MPH)		Total (Auto + Truck)			
County	Auto	Truck	Auto	Truck	Auto	Truck	Auto	Truck	VMT	VHT	Delay	Speed
AM Peak												
Imperial	828	126	16	2	*	*	50.3	61.7	955	19	*	51.5
Los Angeles	45,064	1,862	1,629	59	577	23	27.7	31.5	46,926	1,688	599	27.8
Orange	15,674	518	498	15	150	5	31.5	34.7	16,192	513	155	31.6
Riverside	10,725	834	301	17	83	4	35.6	48.1	11,559	318	87	36.3
San Bernardino	11,183	1,101	299	24	73	6	37.4	46.5	12,284	323	79	38.1
Ventura	4,037	149	116	4	30	1	34.7	40.5	4,186	120	31	34.9
Region Total	**87,511**	**4,590**	**2,860**	**121**	**912**	**39**	**30.6**	**38.0**	**92,101**	**2,981**	**951**	**30.9**
PM Peak												
Imperial	1,295	143	26	2	1	*	49.7	61.8	1,437	28	1	50.7
Los Angeles	72,987	2,211	3,224	83	1,464	39	22.6	26.6	75,198	3,307	1,503	22.7
Orange	25,053	580	929	19	358	8	27.0	30.5	25,633	948	366	27.0
Riverside	16,939	953	513	21	163	6	33.0	45.7	17,892	534	169	33.5
San Bernardino	17,601	1,263	506	29	143	9	34.8	44.0	18,864	535	152	35.3
Ventura	6,455	170	215	5	75	2	30.0	35.0	6,625	220	77	30.1
Region Total	**140,330**	**5,320**	**5,413**	**159**	**2,203**	**63**	**25.9**	**33.5**	**145,650**	**5,572**	**2,267**	**26.1**
Daily												
Imperial	4,648	828	92	13	3	*	50.4	62.1	5,476	105	3	51.9
Los Angeles	213,447	12,189	7,310	315	2,294	85	29.2	38.8	225,636	7,624	2,379	29.6
Orange	73,925	3,400	2,222	81	568	18	33.3	42.0	77,325	2,303	586	33.6
Riverside	51,455	5,721	1,326	104	274	15	38.8	55.0	57,176	1,430	289	40.0
San Bernardino	53,488	7,108	1,319	130	231	19	40.6	54.6	60,596	1,449	250	41.8
Ventura	18,679	954	517	21	111	3	36.1	45.1	19,633	538	114	36.5
Region Total	**415,642**	**30,201**	**12,786**	**664**	**3,481**	**140**	**32.5**	**45.5**	**445,843**	**13,450**	**3,621**	**33.1**

* Value is less than 1,000.
Numbers may not sum to total due to rounding.

TABLE A13 Base Year 2008 Daily VMT, VHT, Delay, and Speed by Facility Type and Time Period

Facility Type	VMT (thousands)		VHT (thousands)		Delay (thousands)		Speed (MPH)		Total (Auto + Truck)			
	Auto	Truck	Auto	Truck	Auto	Truck	Auto	Truck	VMT	VHT	Delay	Speed
AM Peak												
Freeway (MF) & Toll	39,828	3,427	1,131	81	548	32	35.2	42.5	43,255	1,211	580	35.7
Freeway (HOV)	3,361	0	92	0	44	0	36.4	N/A	3,361	92	44	36.4
Arterial	44,323	1,163	1,637	40	320	7	27.1	28.9	45,486	1,677	327	27.1
Region Total	**87,511**	**4,590**	**2,860**	**121**	**912**	**39**	**30.6**	**38.0**	**92,101**	**2,981**	**951**	**30.9**
PM Peak												
Freeway (MF) & Toll	58,982	3,945	2,023	106	1,160	50	29.2	37.2	62,927	2,129	1,210	29.6
Freeway (HOV)	5,962	0	212	0	127	0	28.1	N/A	5,962	212	127	28.1
Arterial	75,386	1,375	3,178	53	916	14	23.7	25.9	76,761	3,231	930	23.8
Region Total	**140,330**	**5,320**	**5,413**	**159**	**2,203**	**63**	**25.9**	**33.5**	**145,650**	**5,572**	**2,267**	**26.1**
Daily												
Freeway (MF) & Toll	193,075	23,702	4,758	453	1,935	113	40.6	52.4	216,777	5,211	2,048	41.6
Freeway (HOV)	12,050	0	347	0	174	0	34.8	N/A	12,050	347	174	34.8
Arterial	210,518	6,499	7,681	212	1,373	26	27.4	30.7	217,016	7,893	1,399	27.5
Region Total	**415,642**	**30,201**	**12,786**	**664**	**3,481**	**140**	**32.5**	**45.5**	**445,843**	**13,450**	**3,621**	**33.1**

MF = mixed-flow or general purpose lanes, HOV = high-occupancy vehicle lanes
Numbers may not sum to total due to rounding.

TABLE A14 Baseline 2035 Daily VMT, VHT, Delay, and Speed by County and Time Period

County	VMT (thousands)		VHT (thousands)		Delay (thousands)		Speed (MPH)		Total (Auto + Truck)			
	Auto	Truck	Auto	Truck	Auto	Truck	Auto	Truck	VMT	VHT	Delay	Speed
AM Peak												
Imperial	1,385	350	31	6	4	*	44.5	61.3	1,735	37	4	47.1
Los Angeles	49,125	3,045	1,932	100	783	42	25.4	30.4	52,170	2,032	825	25.7
Orange	16,661	772	539	21	171	7	30.9	36.8	17,434	560	178	31.1
Riverside	16,400	1,625	709	48	360	22	23.1	33.7	18,025	757	383	23.8
San Bernardino	15,244	2,305	565	67	249	31	27.0	34.3	17,549	633	279	27.7
Ventura	4,647	228	151	6	51	2	30.8	37.7	4,875	157	53	31.1
Region Total	**103,461**	**8,326**	**3,928**	**248**	**1,617**	**104**	**26.3**	**33.5**	**111,787**	**4,176**	**1,721**	**26.8**
PM Peak												
Imperial	2,164	391	51	6	7	*	42.4	61.0	2,556	57	8	44.5
Los Angeles	78,971	3,399	3,682	132	1,776	67	21.4	25.7	82,371	3,814	1,843	21.6
Orange	26,617	860	988	26	385	10	26.9	33.5	27,478	1,014	396	27.1
Riverside	25,582	1,831	1,229	60	673	31	20.8	30.6	27,413	1,288	704	21.3
San Bernardino	24,035	2,633	972	84	461	43	24.7	31.2	26,668	1,056	504	25.3
Ventura	7,382	260	278	8	116	3	26.5	32.7	7,642	286	119	26.7
Region Total	**164,753**	**9,374**	**7,200**	**316**	**3,420**	**153**	**22.9**	**29.6**	**174,127**	**7,516**	**3,573**	**23.2**
Daily												
Imperial	7,638	2,210	172	36	21	1	44.5	62.2	9,848	207	23	47.5
Los Angeles	234,015	18,924	8,390	497	2,891	151	27.9	38.1	252,939	8,887	3,041	28.5
Orange	78,908	5,127	2,389	116	632	27	33.0	44.1	84,035	2,505	659	33.5
Riverside	78,459	10,946	2,827	244	1,156	73	27.8	44.9	89,405	3,071	1,228	29.1
San Bernardino	74,518	14,760	2,308	319	771	91	32.3	46.2	89,278	2,628	862	34.0
Ventura	21,419	1,450	647	33	178	6	33.1	43.9	22,869	680	184	33.6
Region Total	**494,958**	**53,416**	**16,733**	**1,245**	**5,649**	**349**	**29.6**	**42.9**	**548,374**	**17,978**	**5,997**	**30.5**

* Value is less than 1,000.
Numbers may not sum to total due to rounding.

TABLE A15 Baseline 2035 Daily VMT, VHT, Delay, and Speed by Facility Type and Time Period

Facility Type	VMT (thousands)		VHT (thousands)		Delay (thousands)		Speed (MPH)		Total (Auto + Truck)			
	Auto	Truck	Auto	Truck	Auto	Truck	Auto	Truck	VMT	VHT	Delay	Speed
AM Peak												
Freeway (MF) & Toll	43,445	6,340	1,507	174	874	84	28.8	36.4	49,786	1,681	958	29.6
Freeway (HOV)	5,209	0	186	0	111	0	28.0	N/A	5,209	186	111	28.0
Arterial	54,807	1,985	2,235	74	632	20	24.5	26.8	56,792	2,309	652	24.6
Region Total	**103,461**	**8,326**	**3,928**	**248**	**1,617**	**104**	**26.3**	**33.5**	**111,787**	**4,176**	**1,721**	**26.8**
PM Peak												
Freeway (MF) & Toll	64,707	7,069	2,627	220	1,684	119	24.6	32.1	71,776	2,847	1,804	25.2
Freeway (HOV)	8,302	0	363	0	243	0	22.9	N/A	8,302	363	243	22.9
Arterial	91,744	2,305	4,209	96	1,492	34	21.8	23.9	94,049	4,306	1,526	21.8
Region Total	**164,753**	**9,374**	**7,200**	**316**	**3,420**	**153**	**22.9**	**29.6**	**174,127**	**7,516**	**3,573**	**23.2**
Daily												
Freeway (MF) & Toll	216,129	42,904	6,026	889	2,880	279	35.9	48.3	259,033	6,915	3,159	37.5
Freeway (HOV)	19,084	0	638	0	364	0	29.9	N/A	19,084	638	364	29.9
Arterial	259,746	10,512	10,069	356	2,405	69	25.8	29.5	270,257	10,424	2,475	25.9
Region Total	**494,958**	**53,416**	**16,733**	**1,245**	**5,649**	**349**	**29.6**	**42.9**	**548,374**	**17,978**	**5,997**	**30.5**

MF = mixed-flow or general purpose lanes, HOV = high-occupancy vehicle lanes
Numbers may not sum to total due to rounding.

TABLE A16 Plan 2035 VMT, VHT, Delay, and Speed by County and Time Period

County	VMT (thousands)		VHT (thousands)		Delay (thousands)		Speed (MPH)		Total (Auto + Truck)			
	Auto	Truck	Auto	Truck	Auto	Truck	Auto	Truck	VMT	VHT	Delay	Speed
AM Peak												
Imperial	1,355	345	29	6	1	*	47.4	60.5	1,700	34	2	49.6
Los Angeles	45,727	2,960	1,568	80	519	25	29.2	36.8	48,686	1,648	544	29.5
Orange	15,858	764	463	19	118	6	34.2	39.2	16,622	483	124	34.4
Riverside	15,509	1,737	420	37	103	10	36.9	46.4	17,247	458	113	37.7
San Bernardino	14,830	2,197	419	47	119	13	35.4	46.4	17,028	466	133	36.5
Ventura	4,077	231	108	5	22	1	37.6	43.6	4,308	114	23	37.9
Region Total	**97,357**	**8,234**	**3,007**	**196**	**882**	**56**	**32.4**	**42.1**	**105,591**	**3,203**	**938**	**33.0**
PM Peak												
Imperial	2,126	387	46	6	3	*	46.3	60.5	2,513	52	3	48.0
Los Angeles	74,056	3,337	2,946	98	1,197	36	25.1	34.1	77,393	3,044	1,232	25.4
Orange	25,505	834	813	23	245	8	31.4	36.2	26,339	836	254	31.5
Riverside	25,018	1,962	729	44	208	13	34.3	44.6	26,980	773	221	34.9
San Bernardino	23,681	2,538	696	58	209	19	34.0	43.7	26,218	754	228	34.8
Ventura	6,539	292	197	7	55	2	33.2	39.4	6,832	204	57	33.5
Region Total	**156,925**	**9,350**	**5,427**	**237**	**1,916**	**78**	**28.9**	**39.5**	**166,275**	**5,664**	**1,995**	**29.4**
Daily												
Imperial	7,534	2,191	160	36	10	1	47.0	60.9	9,725	196	11	49.6
Los Angeles	216,289	18,560	6,962	425	1,948	91	31.1	43.7	234,849	7,387	2,039	31.8
Orange	74,856	4,990	2,058	107	410	21	36.4	46.6	79,846	2,165	431	36.9
Riverside	74,851	11,474	1,912	212	359	35	39.1	54.1	86,325	2,124	394	40.6
San Bernardino	72,778	14,415	1,833	264	360	45	39.7	54.6	87,193	2,097	405	41.6
Ventura	19,089	1,498	499	32	86	4	38.2	46.9	20,588	531	90	38.7
Region Total	**465,398**	**53,127**	**13,424**	**1,076**	**3,173**	**197**	**34.7**	**49.4**	**518,525**	**14,500**	**3,370**	**35.8**

* Value is less than 1,000.
Numbers may not sum to total due to rounding.

TABLE A17 Plan 2035 VMT, VHT, Delay, and Speed by Facility Type and Time Period

Facility Type	VMT (thousands)		VHT (thousands)		Delay (thousands)		Speed (MPH)		Total (Auto + Truck)			
	Auto	Truck	Auto	Truck	Auto	Truck	Auto	Truck	VMT	VHT	Delay	Speed
AM Peak												
Freeway (MF) & Toll	44,817	6,578	1,222	141	570	48	36.7	46.5	51,395	1,363	618	37.7
Freeway (HOV)	2,005	0	40	0	11	0	49.7	N/A	2,005	40	11	49.7
Arterial	50,535	1,656	1,745	54	300	9	29.0	30.4	52,191	1,799	309	29.0
Region Total	**97,357**	**8,234**	**3,007**	**196**	**882**	**56**	**32.4**	**42.1**	**105,591**	**3,203**	**938**	**33.0**
PM Peak												
Freeway (MF) & Toll	67,313	7,493	2,068	171	1,089	64	32.6	43.8	74,806	2,239	1,153	33.4
Freeway (HOV)	4,083	0	98	0	39	0	41.6	N/A	4,083	98	39	41.6
Arterial	85,529	1,857	3,261	66	788	15	26.2	28.2	87,386	3,327	803	26.3
Region Total	**156,925**	**9,350**	**5,427**	**237**	**1,916**	**78**	**28.9**	**39.5**	**166,275**	**5,664**	**1,995**	**29.4**
Daily												
Freeway (MF) & Toll	214,954	44,005	5,002	793	1,880	166	43.0	55.5	258,959	5,795	2,046	44.7
Freeway (HOV)	7,176	0	154	0	51	0	46.5	N/A	7,176	154	51	46.5
Arterial	243,268	9,122	8,268	283	1,242	31	29.4	32.3	252,390	8,551	1,273	29.5
Region Total	**465,398**	**53,127**	**13,424**	**1,076**	**3,173**	**197**	**34.7**	**49.4**	**518,525**	**14,500**	**3,370**	**35.8**

MF = mixed-flow or general purpose lanes, HOV = high-occupancy vehicle lanes
Numbers may not sum to total due to rounding.

REGIONAL TRANSPORTATION PLAN
2012–2035 RTP
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future

SOUTHERN CALIFORNIA
ASSOCIATION of GOVERNMENTS

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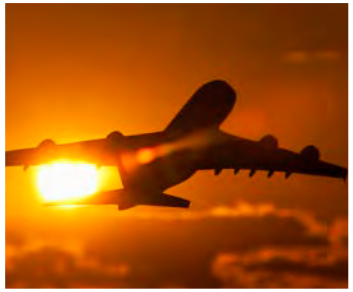
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PASSENGER RAIL APPENDIX









REGIONAL TRANSPORTATION PLAN
2012–2035
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future
RTP











Southern California Association of Governments

ADOPTED APRIL 2012

PASSENGER RAIL

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Overview and Description

While the SCAG Region is served by a large and diverse transit system, including heavy rail, light rail, fixed route bus and demand response services, it is also served by a network of intercity passenger rail and commuter rail services. These services operate on the region's rail network, often sharing facilities with freight rail. They operate at higher speeds and have less frequent station stops than traditional transit services, and are more likely to serve intercity and interregional trips.

Two operators offer rail services to passengers within our region: Amtrak and the Southern California Regional Rail Authority (Metrolink). Between the two services, Southern California has a passenger rail network serving five of the six counties in the SCAG region.

Within our region, intercity passenger rail service is operated by Amtrak, and is divided into two types of service: long distance and corridor. Four of Amtrak's fifteen long distance routes, the Coast Starlight, the Texas Eagle, the Southwest Chief, and the Sunset Limited, connect our region with destinations throughout the country. Of these services, the Coast Starlight and Southwest Chief offer daily service, and the other two offer service three days a week.

Amtrak provides much more frequent intercity passenger rail corridor service via the Pacific Surfliner. This 351 mile long service traverses the length of the Los Angeles-San Diego-San Luis Obispo (LOSSAN) rail corridor. Amtrak's Pacific Surfliner is the second most used service in Amtrak's national network, moving nearly 9 percent of the system's total national ridership. Surfliner ridership is also growing over 8 percent a year recently. Administrative and management services for this corridor are currently provided by the Caltrans Division of Rail, and both Amtrak and Caltrans contribute operating revenues for the Surfliner.

Metrolink is currently the sole operator of commuter rail service in our region. Metrolink operates 512 route miles of service along seven routes in Ventura, Orange, Los Angeles, San Bernardino, Riverside and San Diego Counties. Metrolink passengers travel further than most other transit passengers, having an average trip length of 36.9 miles. In FY 2011, Metrolink reported providing 10,605,300 unlinked passenger trips. Five routes, the Ventura County Line, the Orange County Line, the Inland Empire-Orange County Line, and the SR-91 Line, share portions of the LOSSAN Corridor with the Pacific Surfliner.

Other Metrolink routes include the Antelope Valley Line, the San Bernardino Line, and the Riverside Line.

High Speed Rail

Despite these services, fast and efficient interregional ground transportation remains an issue within our region. SCAG has historically sought to address these issues through the development of a High Speed Regional Transport (HSRT) system. Beginning in the 1990s, HSRT was seen as a way of providing high speed intraregional mobility in key transportation corridors. This system was seen as a way to provide an alternative to congested commutes, to aid the regional goods movement system, and to help regionalize our aviation system.

As described in the 2001, 2004, and 2008 RTPs, an HSRT system would facilitate the development of a regional airport system and connect major activity and multi-modal transportation centers in Los Angeles, Riverside, San Bernardino and Orange Counties. In December 2002, SCAG's Regional Council approved the focused study of a 56-mile Initial Operating Segment (IOS) of the HSRT system, connecting West Los Angeles with Ontario International Airport via Los Angeles Union Station (LAUS).

TECHNICAL ANALYSES OF THE HSRT IOS

SCAG has produced multiple analyses of the HSRT serving the IOS Corridor since 1998. The first of these reports was "Southern California Intra Regional Maglev for the Next Millennium," published in 1998. This was followed by the "California Maglev Deployment Program" in 2000, which contained a detailed project description and ridership projections for the West L.A. to Inland Empire Corridor. The "SCAG Maglev Deployment Program Phases I and II" were published in 2003 and 2006, respectively. The report for Phase I included financial analyses, and explored the integration of the IOS with existing rail infrastructure. Phase II included detailed cost analysis, and preliminary engineering drawings and station designs. In 2007, SCAG released two more reports, the "West Los Angeles Multi-Modal Transfer Transit Site Survey" and the "HSRT Business Plan." The West Los Angeles report analyzed potential station sites in West L.A., and the Business Plan investigated financial innovations for funding the HSRT system. In early 2009, SCAG released the "HSRT Alternatives Analysis" which presented refined ridership and financial forecasts, as well as analysis of a possible HSRT extension to LAX.

HSRT and the IOS

Much of SCAG's analysis of HSRT has focused on Maglev propulsion systems. Maglev is the name for an elevated monorail using advanced magnetic levitation technology to move people and goods at a very high speed (up to 310 mph). Maglev technology exists on test tracks in Europe, Japan, and the United States. Worldwide, the only high speed Maglev system in revenue service is the Shanghai Transrapid, a 19 mile system connecting Shanghai Pudong International Airport with the Longyang Road Metro Station in Shanghai's suburbs. A low speed Maglev system also operates in the Japanese city of Nagoya. Capital and operating costs remain fairly amorphous in the North American context. As these details became apparent, analysis of the HSRT IOS became mode neutral, and further study of the proposal evaluated both Maglev and conventional High Speed Rail.

In selecting the IOS, SCAG considered the RTP performance measures, stakeholder support and environmental issues. Initial feasibility studies suggested that the HSRT system could be constructed and deployed through a public-private partnership structure administered through a public agency or a Joint Powers Authority (JPA). In 2009, the Southern California Regional High Speed Transport Authority (SCRHSTA) began meeting in order to pursue strategies to deliver an HSRT IOS project. The Cities of Los Angeles, West Covina, and Ontario were the partners in this JPA. The JPA met several times in 2009, but has since been dormant.

SCAG's technical analysis of the potential HSRT IOS evolved over the course of ten years. By the publication of the HSRT AA in 2009, consultant staff were using the most advanced analytical tools and more conservative assumptions. This led to lower performance projections than earlier studies, and methodological reasons for these differences are discussed in the appendices to the HSRT AA. Further, the HSRT AA sought to compare the costs and benefits of both conventional and Maglev high speed transport systems, and of routes along I-10 or the Union Pacific Railroad right-of-way. The proposals examined included station assumptions in West L.A., L.A.Union Station, Ontario International Airport, and either West Covina or the City of Industry.

TABLE 1 Key Findings 2009 High Speed Regional Transportation Alternatives Analysis

Technology	2035 Daily Ridership Forecast	Estimated Capital Cost (in 2008 Dollars)
Conventional High Speed Rail Technology	11,290–12,470	$4.63 Billion–$4.41 Billion
Maglev Technology	11,670–12,800	$7.03 Billion–$7.82 Billion

Source: SCAG [2009] High Speed Regional Transportation System Alternatives Analysis

- Travel Time Variation: Travel time varied by about 12 percent among the four different options. This variety is influenced by technology, alignment, and direction. Neither technology reaches its top design speed (311 mph for maglev and 220 mph for High Speed Rail).
- Capital Cost Estimates: Capital cost estimates range between $4.41 and $7.82 billion for the four options. Maglev options in this corridor appear to be about 60 percent to 70 percent more capital intensive. Maglev systems require much higher guide-beam costs, more intensive traction and power distribution investments, and higher vehicle acquisition costs.
- Operations Costs and Revenue Forecast: Forecast annual operational revenues vary between $52.6 million and $57 million. None of the four alternatives generates an operational surplus by the 2035 forecast year. Annual O&M costs were forecast to be between $73.4 and $81.2 million and projected annual operating deficits in that year range from $16.4 to $28.6 million. Maglev technologies have significantly higher propulsion costs—due to high electric consumption. HSR systems have significantly higher Maintenance of Equipment costs. Farebox recovery would be about 65 percent to 78 percent, which is fairly high for an intraregional transit system. By adjusting fares to a more distance-weighted regimen, the HSRT system would attract 28 percent more riders and 18 percent more revenues.

Given the projected operations loss, none of the proposed HSRT alternatives would likely generate revenues sufficient for bond financing. An economic analysis was performed using Monte Carlo Simulation, and found that in only 14 percent of scenarios would there be positive revenue; even assuming revenue maximizing fares only 38 percent of

operating scenarios would return positive revenue. It would be very difficult to attract private sector financing with these revenue projections. Moreover, it is important to note that in these forecasts technology has no impact on profitability while ridership, revenue, and operational performance are roughly similar across modes, and capital costs are 60–70 percent higher for MAGLEV.

While SCAG was analyzing the potential of a HSRT, the state had begun analyzing the potential of a statewide high speed rail system. In 1996, the state legislature authorized the formation of the California High-Speed Rail Authority (Authority). The Authority has spent the past fifteen years planning and designing a two-phase High-Speed Train (HST) system, intending to link Southern California and the Bay Area. In 2008, California voters approved Prop 1A, authorizing nearly $9 billion in bonds for system design and construction. Phase I of the HST system will connect San Francisco with Anaheim, with several intermediate stops, and Phase II will add connections to Sacramento, Ontario, Riverside, and San Diego.

The evolution of the state HST system illustrated very large challenges to the HSRT system. The first is financial: the HSRT's business model appears to be unprofitable, and there are no apparent programmed funds for project development or delivery. It seems that bond financing or private sector financing is also very unlikely for this proposal.

Secondly, the HSRT IOS would likely occupy a corridor that has also been analyzed by the Authority for Phase II of the California HST, specifically the Los Angeles to San Diego via the Inland Empire segment. The Authority has recently issued a preliminary Alternatives Analysis of this corridor, which included a comprehensive outreach process including monthly meetings with county transportation commissions and MPOs along the corridor, a series of technical working groups with local agency staff, one-on-one meetings with local agencies and jurisdictions, and several series of public meetings. The Authority is currently seeking Prop 1A planning funds to continue technical and outreach work in pursuit of an EIR/EIS.

This competing project is also part a state wide transport system, and ridership numbers would benefit from access to Riverside, San Diego, the Central Valley and the Bay Area. Further, given these longer distances, the fare structure is drastically different than for the HSRT, with much higher maximum ticket prices. These fares give the project a much higher likelihood of profitability, and thus private sector finance.

The state HST system will provide an additional long distance transport option in the state of California, offering an alternative to air and auto travel for Californians. Total cost for Phase I is estimated at $98.5 billion in year of expenditure dollars. This figure does not include Phase II, and the state has secured only $12.6 billion in funds for the project to date. The Authority, in partnership with the Federal Railroad Administration (FRA), has chosen to begin construction in the San Joaquin Valley, using federal High-Speed and Intercity Passenger Rail funds.

Three segments of the project are being developed in the SCAG Region: Los Angeles to Anaheim, Los Angeles to Palmdale, and Los Angeles to San Diego via the Inland Empire. All three segments have produced Alternatives Analysis documents, and are proceeding in various stages of the environmental review process. The Authority's Draft 2012 Business Plan was recently released and has introduced a new construction and implementation approach called the "Blended Approach," that recognizes the funding and implementation realities that have changed dramatically since passage of the bond. A major component of this approach is to connect to, and invest in, existing rail services in the state until the entire HST system is built.

The State of the Existing Passenger Rail System

The Pacific Surfliner

Passenger rail service has been operated in the Los Angeles to San Diego corridor since 1938. This service, dubbed the San Diegan, was initially operated by the Atchinson-Topeka and Santa Fe Railroad. In 1971, when domestic passenger rail services were nationalized, Amtrak assumed operation of the San Diegan service, In 1992, Metrolink commuter rail service was added to the corridor as a result of new state revenues from the passage of 1990's Proposition 116. In 2000, the San Diegan was renamed the Pacific Surfliner, and service was extended north to San Luis Obispo.

In order to coordinate planning activities along the corridor, stakeholders formed the Los Angeles-San Diego-San Luis Obispo Rail Corridor Agency (LOSSAN). LOSSAN is a JPA which seeks to address issues of safety, revenue, productivity and reliability along the LOSSAN corridor. Its membership consists of the San Luis Obispo Council of Governments (SLOCOG), the Santa Barbara Association of Governments (SBCAG), the Ventura County Transportation Commission (VCTC), the Los Angeles County Metropolitan

Transportation Authority (Metro), the Orange County Transportation Authority (OCTA), the San Diego Association of Governments (SANDAG), the North County Transit District (NCTD), the San Diego Metropolitan Transit System (MTS) and the California Department of Transportation's Division of Rail (Caltrans DOR). SCAG, the California High- Speed Rail Authority, and the Riverside County Transportation Commission (RCTC) are all ex officio members of this JPA.

Members of this group have been meeting to coordinate planning activities for the corridor since the 1980s. Over this time period, the LOSSAN partners have attracted nearly $1.2 billion in state and federal funds for the corridor, while also investing nearly a half billion in local funds. As a result of this activity, the Pacific Surfliner has seen significant ridership growth. Between April 2000 and 2011, annual ridership is up 77 percent.

This growth is challenged by two issues, however. The first is On-Time Performance (OTP), which remains a major challenge in the LOSSAN corridor. Due to a combination of congestion and underbuilt infrastructure, any minor delay can lead to a train losing its slot, thereby causing cascading delays throughout the network. In April 2011, OTP for the Pacific Surfliner was 81.2 percent. According to Amtrak's monthly performance report for May 2011, the Surfliner was delayed a total of 20,302 minutes during the course of the month. Of this total, 4,131 minutes of delay were imposed by Amtrak due to passenger hold orders, engine failures, or crew-related delays. An additional 13,587 minutes of delay were imposed by the seven host railroads, including freight train interference, slow orders, and passenger train interference.

Second, operating and maintenance costs also remain a challenge to the Pacific Surfliner service. As per Section 209 of the Passenger Rail Investment and Improvement Act of 2008, Amtrak medium distance corridor services funded by both state and federal revenue streams will lose federal revenues by October of 2013. The FRA is currently working with the states to promulgate operating cost allocation standards by which to make this transition and to recognize in these standards previous capital investments by states such as California. The Pacific Surfliner is one of 11 state supported Intercity Passenger Rail Corridors that will be affected by Section 209, but the only one in California.

The Pacific Surfliner operates 22 trains a day carrying over 8,000 passengers. The Pacific Surfliner carried 2.8 million passengers in FY 2011, a 6.6 percent increase over FY 2010. This continues a ten-year trend of year over year ridership increases. Revenues are also growing. In May of 2011, total fare revenues were $4,791,891, compared with $2,643,578 in May 2003. This is a growth of 81 percent for the Surfliner. However, farebox recovery for FY2010 was 50.7 percent. Of the $47 million operating subsidy for the Surfliner, roughly $28 million was contributed by Caltrans DOR, and roughly $16 million by Amtrak. While 50.7 percent would be an outstanding farebox recovery ratio for an urban mass transit service, the Pacific Surfliner is an intercity transportation mode, with a different fare structure and additional revenue streams such as business class and a dining car. Moving forward, it is important to find strategies to garner increased farebox recovery for the Pacific Surfliner.

Metrolink

Metrolink operates with a very different business model. Metrolink was formed in 1991, when five local county transportation commissions, Metro, OCTA, VCTC, RCTC and SANBAG, formed a JPA with the intent of addressing congestion on regionally significant highway corridors. This agency, the Southern California Regional Rail Authority (Metrolink) began providing commuter rail service in the fall of 1992.

Commuter rail service is defined by the National Transit Database as a transit mode that is an electric or diesel propelled railway for urban passenger train service consisting of local short distance travel operating between a central city and adjacent suburbs. Service must be operated on a regular basis by or under contract with a transit operator for the purpose of transporting passengers within urbanized areas (UZAs), or between UZAs and outlying areas.

Such rail service, using either locomotive hauled or self-propelled railroad passenger cars, is generally characterized by:

- Multi-trip tickets
- Specific station-to-station fares
- Railroad employment practices
- Minimal stations in the central business district

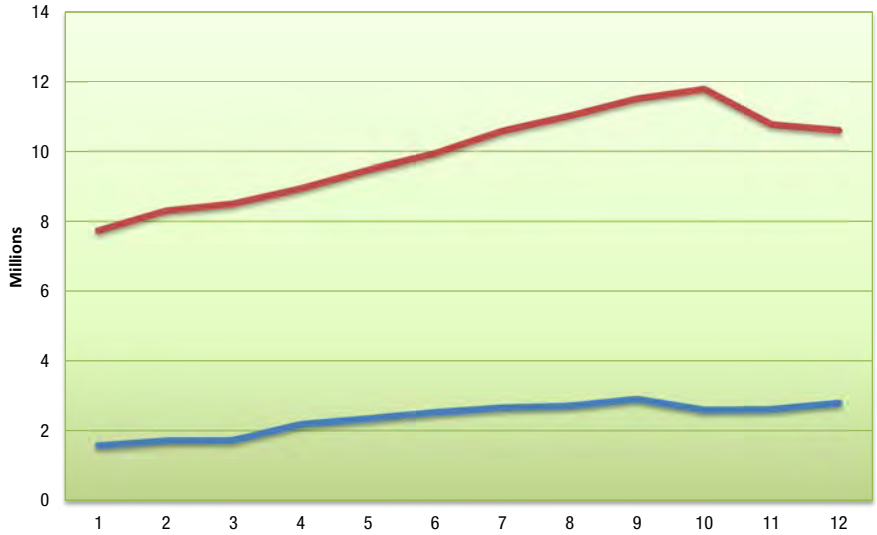
It does not include:

- Heavy rail rapid transit
- Light rail / streetcar transit service

Commuter rail station stops tend to be much closer together than those of intercity passenger rail. Also, smaller portions of the total route alignment tend to be out of urbanized statistical areas, and a much higher proportion of passengers are daily riders. Peak ridership occurs on weekdays, whereas intercity rail operators often have weekend peak ridership. Commuter rail often fuses urban transit business models with railroad style operations. As such, farebox recovery ratios tend to be lower, though operations costs tend to be similar.

Metrolink operates 163 trains on seven lines carrying roughly 42,000 passengers on weekdays. Metrolink carried 10.6 million passengers in FY 2011, a 1.6 percent decrease from FY2010. Ridership has generally increased year over year but was negatively impacted by the recession. Metrolink has made strong progress in improving its farebox recovery ratio. Nearly 44 percent of Metrolink's FY2011 $173.3 million operating budget was funded with fare revenues. This compares with a 37 percent ratio in FY2002. During the last year, Metrolink implemented operational policies that saved $10 million in costs, increased revenue by $6 million, and reduced fuel consumption by 840,000 gallons. It also is in the process of accepting its new passenger car fleet designed with special new safety features.

FIGURE 1 Pacific Surfliner and Metrolink Ridership 2000–2011



Source: Amtrak and Metrolink Ridership Reports

Compared to commuter rail operators in other metropolitan regions with populations of over five million, Metrolink is a strong fiscal performer. In 2008, Metrolink's average cost per passenger mile was 19 percent lower than the national median, and cost per trip was only 2 percent higher than the national median. The national median farebox recovery for operators in large metropolitan regions was 48 percent, which Metrolink outperformed by 2 percent. However, Metrolink's cost per service hour was 30 percent higher than the national median.

Average speeds for the Pacific Surfliner and Metrolink are 46 mph and 40 mph respectively. The average speeds vary by line and while top speeds are 79 mph, the number of stops and capacity and geographic constraints result in these average speeds which are lower than one would think. These facts demonstrate the need to fund capital projects in order to speed up the service and make these services more attractive to the SOV commuter.

The extent of the total commuter rail network is another area where Southern California is highly competitive. Our region boasts 4.32 commuter rail route miles per 100,000 residents, which is 2.71 times the median for large metropolitan regions. However, in 2008 residents of the SCAG region took only 0.7 per capita trips on the commuter rail system, well below the national median of 0.82. Chicagoans, by contrast, took 8.28 trips per capita, on a network that provides 11.8 route miles for every 100,000 residents. Residents of Baltimore took 34 percent more commuter rail trips per capita on a network similar to that of the SCAG region. Thus, our commuter rail system has the potential and capacity to be used much more intensely.

Projects In Development

Metrolink's short term capital investment priorities include improvements for capacity, access, and safety. The Metrolink Service Expansion Program (MSEP), sponsored by OCTA and Metrolink, will deliver increased Metrolink service between Fullerton and Laguna Niguel/Mission Viejo. This program was approved by OCTA's board of directors in 2005, but the Great Recession and subsequent anemic economic growth has slowed implementation. In order to facilitate increased commuter train volumes, OCTA and Metrolink have begun building station and capacity improvements along the Orange County Line. This $91 million program of improvements includes a turn back facility at Laguna Niguel/Mission Viejo Station, new track at Fullerton station, a new Metrolink station in Placentia, a new parking structure in Fullerton, and new passenger amenities including shade structures and ticket vending machines.

Also in Orange County, an $85 million investment program is also being pursued via the Orange County Grade Crossing Safety Improvement (OCX) program. This program will provide grade crossing safety enhancements at 31 grade crossings in the cities of Orange, Anaheim, Tustin, San Juan Capistrano, Dana Point, San Clemente and Irvine. Additional safety improvements are also being made along the Burlington Northern Santa Fe (BNSF) main line as part of the Orange County Bridges program. Currently, BNSF operates up to 70 freight trains a day along its mainline, and expects to run up to 130 a day by 2030. To reduce delay and improve safety, OCTA is constructing seven grade separations in the cities of Fullerton, Placentia, and Anaheim. The City of Irvine is also engaging in a $55.9 million effort to grade separate Sand Canyon Avenue. As with all grade separation projects, this new underpass will improve both safety and traffic flow.

Metrolink is also pursuing safety and capacity enhancements in Los Angeles County. The Glendale Corridor Grade Crossing Safety Improvements program will enable Metrolink to meet the latest grade crossing and safety standards by installing automatic vehicle exit gates, pedestrian gates, roadway widenings, new sidewalks and handrails, and advance traffic signal pre-emption at six grade crossings in the city of Glendale. Additionally, Metrolink is engaged in a program of improvements to install tunnel lighting and intrusion detection systems in six L.A. County train tunnels, mostly along the Antelope Valley and Ventura County Lines. Metrolink's final major capital priority is the reconstruction of L.A. Union Station's Platform 7. This $8.5 million project will restore tracks 13, 14, and 15 into service after 35 years of non-passenger use, and improve communications systems and install new lighting and message boards.

Additional projects in Los Angeles County that are priorities for Metro include the ongoing Antelope Valley Line Infrastructure Improvement Strategic Plan study, the Control Point (CP) Raymern to CP Bernson Double Track, and the Van Nuys Station second platform.

In Riverside County, the largest near term capital priority is the Perris Valley Line (PVL). The PVL is a 24 mile extension of Metrolink's 91 Line, and will connect residents of the cities of Riverside, Moreno Valley, and Perris with jobs and services in Orange and Los Angeles Counties. This service will connect to the BNSF mainline near the City of Riverside, and use the San Jacinto Branch line paralleling I-215 to reach South Perris. Four new stations will include Riverside Hunter Park, Moreno Valley March Field Station, Downtown Perris Station, and South Perris Station. This project represents the first addition of new track miles to the Metrolink system since the 1990s.

San Bernardino County is also expanding its rail network. The Downtown San Bernardino Passenger Rail Project is a one mile extension of Metrolink service into Downtown San Bernardino. Upon projected completion in 2014, commuter rail service will terminate at the future site of the San Bernardino Transit Center at E Street and Rialto Avenue. This will allow greatly increased regional transit access to downtown San Bernardino, an important center for governance, commerce, and services in the San Bernardino Valley. Metrolink passengers will also be able to connect to the sBX E Street BRT service at this location. SANBAG is also investigating potential transit connections to the city Redlands via the Redlands Subdivision.

The Constrained and Strategic Plans: Our Passenger Rail Vision

Constrained and Strategic Plan Project Selection

In June 2011, the Regional Council approved the formation of the High-Speed Rail (HSR) Subcommittee. The purpose of the subcommittee was to help guide staff in defining and formulating high-speed rail strategies for the RTP's Constrained and Strategic Plans due to the significant number of projects in the planning phase.

Since several HSR projects are in the planning phases, with varying degrees of funding, costing, and operational specifics, the Regional Council formed the HSR subcommittee to evaluate all of the projects in depth, so as to make informed project inclusion decisions for the Constrained and Strategic Plans. Due to their different levels of development, it was difficult to rate and compare the projects on a direct basis, and in some cases projects directly compete with one another. Therefore, staff developed an evaluation approach using various criteria to determine which projects in the planning phases are most viable, beneficial to our region, and offer the greatest chances of being implemented sooner rather than later.

The decision-making approach used to make a final recommendation of HSR projects to include in the RTP had three steps. The first step narrowed down the proposed HSR projects to a set of projects that were qualified for the Strategic Plan. The second step narrowed down the projects further to those to be included in the Constrained Plan. This required higher levels of details relative to costs, funding, ridership potential, community and stakeholder support and other measures. The final step evaluated how the proposed HSR system worked together with the rest of the planned transportation system using SCAG's travel demand model.

The criteria that staff used to formulate the preferred HSR alternative included: reasonableness of available funding, level and amount of costing details, current project status, level of stakeholder and public support, stakeholder consensus of project's alignment and operational characteristics, degree of regional connectivity, ridership potential and commuter rail potential.

TABLE 2 High Speed Rail Matrix

Project	Project Description	Project Readiness	Project Consensus	Stakeholder Support	Regional Connectivity	Ridership Potential	Cost	Funding	Business Plan	Commuter Rail Potential	Staff Recommendation
California High-Speed Rail Phase One	San Francisco to L.A. Union Station with additional alignment south to Anaheim. Top speed 220 mph.	Alternatives Analysis completed.	Some stakeholders have concerns with project finances.	Moderate, especially among cities with stations.	Very good. Connecting and adjacent transit services must be properly adjusted to provide appropriate feeder role.	Very good. Should attract significant inter-city and also current auto and airline trips.	$98.5 billion	Only partially funded. Some of those funds will be used to provide shared benefits improvements to LOSSAN and Metrolink.	New draft business plan out in early November for public comment.	Not good. High-Speed rail fares will be too expensive for commuters without local subsidies.	Include in Constrained Plan.

Project	Project Description	Project Readiness	Project Consensus	Stakeholder Support	Regional Connectivity	Ridership Potential	Cost	Funding	Business Plan	Commuter Rail Potential	Staff Recommendation
California High-Speed Rail Phase Two	Merced to Sacramento and L.A. Union Station to San Diego via the Inland Empire.	In Alternatives Analysis.	Moderate, some concerns of negative impacts in San Gabriel Valley and Inland Empire along alternative alignments.	Moderate, some concerns of negative impacts in San Gabriel Valley and Inland Empire along alternative alignments.	Very good. Connecting and adjacent transit services must be properly adjusted to provide appropriate feeder role.	Very good. Should attract significant inter-city and also current auto and airline trips.	Not estimated.	Currently not funded.	New draft business plan out in early November for public comment.	Not good. High Speed rail fares will be too expensive for commuters without local subsidies.	Include in Strategic Plan.
Desert Xpress	Las Vegas to Victorville with no intermediate stops, generally along I-15 corridor. Phase 2 would connect Victorville with Palmdale. Top speed of 150 MPH using Tier III compliant electric multiple unit trains.	Project specific EIS is complete and federal interstate operating licenses were issued in 2011: FRA Record of Decision (ROD). STB issued Certificate of Public Convenience and Necessity authorizing DesertXpress as an interstate railroad. BLM ROD; FHWA ROD; executed a ROW lease agreement with BLM	High - agreements in place with the State of California, and Surface Transportation Board.	Support from cities in Antelope and Victor Valleys, San Bernardino County, LA County, and in Nevada.	Eventual Phase II Connection to Palmdale could provide for a connection to Metrolink and ultimately to California High- Speed Rail	Very good. Should attract a significant amount of current auto and airline trips along this corridor.	$6.5 billion	Federal loan or privately funded.	Ridership and revenue report completed for loan application but not yet available.	This service is not expected to attract commuter trips, though DXE staff believe phase II might attract some commuters..	Include in Strategic Plan.
California/ Nevada Super-Speed Train	Maglev project from Las Vegas to Anaheim with intermediate stops in Primm, Barstow, Victorville and Ontario. Top speed 300 mph.	Program EIS begun in 2004 has not been completed.	Low. Project not moving forward and is a competing project to Desert Xpress which is further along in project delivery process.	Low. Project not moving forward and is a competing project to Desert Xpress which is further along in project delivery process.	Would be good if project was built.	Would be good if project was built.	$12.1 billion	$45 million federal earmark for environmental work. Potential funding from TIFIA and private bonding.	2007 Financial Plan submitted to FRA.	Moderate. This service would attract some commuter trips between Victorville, Ontario and Anaheim.	Include in Strategic Plan.

Project	Project Description	Project Readiness	Project Consensus	Stakeholder Support	Regional Connectivity	Ridership Potential	Cost	Funding	Business Plan	Commuter Rail Potential	Staff Recommendation
California/ Nevada Super-Speed Train Anaheim to Ontario IOS	Initial operating segment, or stand-alone project of CNSSTP from Ontario Airport to Anaheim. Top speed 220 mph.	Program EIS begun in 2004 has not been completed.	Good, but lower outside of corridor and operator not identified.	Good, but maglev technology does not have broad stakeholder support and consensus in our region.	Very good. Connecting and adjacent transit services must be properly adjusted to provide appropriate feeder role.	Good. Will provide excellent connection from under-utilized Ontario airport to Anaheim Resort area.	$2.77 billion	$45 million federal earmark for environmental work. Potential funding from TIFIA and private bonding.	2003 Financial Plan submitted to FRA and updated in 2011 with Implementation Plan.	Moderate. This service would attract some commuter trips between Ontario and Anaheim.	Include in Strategic Plan.
Orangeline – Northern Segment	Speed and service improvements from Santa Clarita to L.A. Union Station via Bob Hope Airport.	In Metrolink Antelope Valley and Bob Hope Airport Ground Access studies.	Good with corridor stakeholders. Operational characteristics not yet vetted. Duplicates CAHSRA alignment.	OLDA members strongly support concept. Still need to work with some corridor stakeholders.	Good. Provides multi-modal connections along alignment. Can be integrated to serve as feeder to CA HSR, Metrolink and Amtrak. Includes new station at Bob Hope Airport.	Very good. Provides direct connection to Bob Hope Burbank Airport and downtown L.A.	No updated costs available.	Not funded.	Some station area planning completed. Project requires further definition.	Very good. This service would attract commuter trips.	Include in Strategic Plan.
Amtrak LOSSAN Corridor Improvements	Speed and service improvements to Pacific Surfliner corridor in SCAG region. Top speeds up to 110 mph in some segments.	Improvements ready to go with funding.	Very high	Very high	Very good. Connecting and adjacent transit services must be properly adjusted to provide appropriate feeder role.	Very good. Should attract significant intercity and also current auto trips.	Costing for some identified projects is estimated.	Funding will be committed by CAHSRA MOU – up to $1 billion.	2010 LOSSAN Corridor Strategic Assessment. Ridership forecasting in progress for 2030.	Very good. This service already attracts commuter trips.	Include in Constrained Plan.

Project	Project Description	Project Readiness	Project Consensus	Stakeholder Support	Regional Connectivity	Ridership Potential	Cost	Funding	Business Plan	Commuter Rail Potential	Staff Recommendation
IOS HSRT proposed in the 2008 RTP by SCAG	IOS West L.A. to Ontario Airport with four additional possible segments. Technology neutral.	In conceptual stage.	Moderate, with stronger support in the Inland Empire. Operator not identified. JPA has not met in over a year.	Moderate, with some support in the Inland Empire.	IOS redundant to CA HSR Phase 2 from L.A. Union Station to San Bernardino.	IOS redundant to CA HSR Phase 2 from L.A. Union Station to San Bernardino.	$7.8 billion (2007 estimate)	Not funded. Planning assumptions questionable.	2007 Business Case Study	Good. This service would attract commuter trips.	Do not include in 2012 RTP.
Metrolink Improvements	All current Metrolink corridors, with current emphasis on the Antelope Valley Corridor. Top speeds up to 110 mph in some segments.	Improvements being studied.	Very high.	Very high.	Very good. Connecting and adjacent transit services must be properly adjusted to provide appropriate feeder role. Metrolink and the CAHSR will complement one another.	Very good. Should attract significant inter-city and also current auto trips.	Costing for some identified projects is estimated.	Funding will be committed by CAHSRA MOU - up to $1 billion.	2007 Strategic Assessment. Update in progress.	Excellent. This service already attracts many commuter trips.	Include in Constrained Plan.

The projects selected for inclusion in the Constrained Plan are detailed below:

California High-Speed Rail Phase I

Phase I is from San Francisco to Anaheim via L.A. Union Station, and in our region from the Kern County line to Anaheim via L.A. Union Station with stops in Palmdale, Sylmar, Burbank, L.A. Union Station, Norwalk and Anaheim. This inclusion in to the Constrained Plan is conditional upon the California High-Speed Rail Authority (Authority) entering in to a MOU with Southern California transportation agencies to invest $1 billion in HSR funding to the LOSSAN and Metrolink corridors over the next few years.

AMTRAK LOSSAN CORRIDOR AND METROLINK SYSTEM

There has been strong stakeholder support in our region to pursue significant improvements to the LOSSAN corridor and Metrolink system that would enable operation of HSR services at least on some segments that would meet the FRA criteria for HSR (110 mph or above). Amtrak, Metrolink and the LOSSAN Rail Corridor Agency are continuously working towards speed and service improvements. These stakeholders are in the process of identifying and planning corridor projects with estimated costs through the LOSSAN Corridorwide Strategic Implementation Plan, which will identify programs and policies to better coordinate all rail services in the corridor and aim to increase ridership and develop new markets. The plan is expected to be completed in early 2012. This, coupled with the California High Speed Rail Authority's new blended approach for HSR implementation has resulted in consensus among our Region's stakeholders, the Regional Council and the Authority that $1 billion in HSR funding be allocated to the LOSSAN and Metrolink corridors over the next few years. Currently, a MOU is being developed between the Authority, SCAG, Metrolink, Metro, OCTA, RCTC, SANBAG and SANDAG to prescribe how these funds will be allocated.

This is the most viable way to expedite HSR operation in our region and also to connect to the CA HST Phase I that will begin construction in the Central Valley next year. This new approach in our region is reflected nationwide since much of the federal HSR appropriation awards have funded existing Amtrak intercity rail corridors.

EXHIBIT 1 Constrained Plan HSR Map



EXHIBIT 2 Commuter Rail



TABLE 3 Transit Ridership

SCAG Region Annual Transit Ridership				
	2001	2005	2008	2035 Plan
Metro Rail	61,802,000	74,243,000	86,707,000	150,000,000
Commuter Rail	7,398,000	10,693,000	12,681,000	25,000,000
Bus	548,728,000	609,795,000	622,286,000	806,000,000
Total	**617,928,000**	**694,731,000**	**721,674,000**	**981,000,000**

Source: National Transit Database (NTD) for past years and SCAG model estimates for 2035 based on the 2012 RTP/SCS

Funding Rail Investment: Phased Implementation and the Blended Approach

The Authority's Draft 2012 Business plan outlines new capital cost estimates and new strategies to secure necessary revenues. The new estimate of $98.5 Billion (in year of expenditure dollars) will require new state, federal, and public private partnership (P3) revenues to ensure Phase I completion by 2034. The Authority's new strategy to secure funds and deliver incremental projects between now and 2034 involves a strategy of phased implementation and blended operations.

As part of this strategy, the state's HST program will proceed in two simultaneous paths: the critical path of major corridor delivery, and a coterminous path of early investments that provide early benefits to existing rail operators and passengers. These early investments will delvier more efficient and safer passenger rail service for current services, while eventually linking our region to the state system. As noted on page 2-3 of the draft 2012 business plan:

"It is important to note that, although improvements to local and regional rail systems are intended to improve or facilitate connections to the High Speed Train System, they do not need to be implemented sequentially. As with the stages of the HST system, these improvements, such as grade crossing eliminations and additional tracks, have independent utility that will benefit riders prior to connection to the high speed system. Where possible, they should move ahead independently and as quickly as feasible."

The new critical path outlined by the Authority includes a vision of risk mitigation through incremental project delivery. As each phase of the critical path is delivered, the California High Speed Rail Authority's governing board comes to a decision point:

a. Should the program move forward?
b. What is the appropriate next phase/segment?

The draft business plan envisions this strategy as delivering incremental benefits while allowing the state to opt out of the project if cost or schedule overruns become too burdensome. The plan also lays out the following critical path and concurrent activities:

TABLE 4 Phased Critical Path Sections, California High-Speed Rail Program

Section	Length	Endpoints	Description	Incremental Cost in 2010 Billions	Completion Year
Initial Construction Section (ICS)	130	Fresno – Bakersfield	Provides track and structures to support system spin; allows vehicle testing.	$5.2	2018
IOS Options (North/ South)	290/300	Bakersfield to San Jose/ Merced to San Fernando Valley	Supports 220 mph HSR service; includes trains and systems. Ridership and revenues sufficient to attract private participation. Connects with regional/local rail for blended operation.	$19.4 to $26.4/$21.0 to $25.8	2022
Bay to Basin	410	San Jose and Merced to the San Fernando Valley	First HSR service to connect the San Francisco Bay area with the Los Angeles Basin.	$14.2 to $17.3	2027
Phase I Blended (Non-critical path)	520	San Francisco to Los Angeles/Anaheim	Builds on Bay to Basin with blended operations with existing commuter/intercity rail, and additional improvements for a one-seat ride, connecting downtown San Francisco and Los Angeles/Anaheim. Caltrain corridor electrified for HSR, and new dedicated lines into Los Angeles and Anaheim.	$14.1 to $18.0	2026–2034
Full Phase I	520	San Francisco to Los Angeles/Anaheim	Continues dedicated highspeed alignment in full from San Jose to San Francisco and into Los Angeles/Anaheim.	$8.2 to $10.5	2034

The Authority estimates that the Initial Construction Segment (ICS) will be complete in 2018; this will lead to a decision point:

a. Should the program move forward?
b. Should the next step be to extend south, or extend north?

The business plan identifies two possible Initial Operating Segments (IOS). The first is a northward connection of the ICS into San Jose. This project is estimated to cost between $19.4 and $26.4 billion, and is estimated to generate between $207 and $368 million in net operating surplus by 2025. This option is named the IOS-North.

The second, IOS-South, would build the system south from Bakersfield, extending HST service into the San Fernando Valley. The estimated capital cost of this extension south would be $21.0 to $25.8 billion. The Authority estimates that the IOS – South would generate between $352 and $582 in annual net operating surplus by 2025.

The step on the critical path after the IOS is the "Bay to Basin" phase. In this phase, the authority will deliver the IOS section that was not selected to move forward in the previous section. Two key decisions will have to be made at this step:

a. Should the program move forward?
b. Is the operating surplus significant enough to attract P3 investment?

The net operating surpluses discussed above are crucial to this step. The business plan views the IOS stage as demonstrating the revenue generating potential of the total system, and the first point in the program where there is significant potential to attract

private sector funding. As such, a careful analysis of ridership and revenue forecasts it crucial to the IOS selection process.

Concurrent to the critical path activities are the Phase I Blended projects. These improvements will consist of incremental projects that deliver benefits to existing railroads and lay the foundation for eventual high speed service. Many core projects in this phase will begin in 2026, but early actions on the LOSSAN Corridor and the Metrolink system will occur before then.

Before the full build out of Phase I of the HST program in 2034, the business plan envisions a partial "sharing [of] existing commuter rail infrastructure" resulting in a "one-seat-ride from end-to-end." By upgrading existing Caltrain, Metrolink, or Amtrak rights of way or infrastructure, high speed trains can travel onward to San Francisco or Los Angeles at lower speeds. Eventually, upgrades to existing infrastructure will allow up to 125 mph service.

In the SCAG Region, this plan will be complicated by drive issues. While the Authority's HSTs will be electric drive, and powered by direct-overhead contact lines (often called catenaries), Amtrak and Metrolink currently operate diesel-electric locomotives, as do UP and BNSF. Moving forward, the region will have to reconcile the use of electric and diesel-electric locomotives in the same corridor; and resolve whether these two types of locomotives can share facilities. Blended operations may not be possible until these conflicts are resolved.

The final critical step of the program is the full build out of Phase I between downtown San Francisco, Los Angeles, and Anaheim. Final steps will include electrifying rail infrastructure and sealing corridors here in Southern California, and tunneling from 4th and King to the Transbay terminal in San Francisco.

The blended Phase I step is particularly important to the vision for passenger rail in the SCAG Region presented here. The 2012 RTP contains strategies to accelerate and implement Phase I blended investments, allowing the existing Amtrak Pacific Surfliner and Metrolink system to operate at top speeds over 110 mph in the near term. Funds from Proposition 1A and other Authority revenue streams can be leveraged to allow high speed travel years before the 2034 completion of the HST program. The MOU between the Authority and local rail stakeholders discussed above will set a funding mechanism for moving funds for initial investments from the state to local agencies.

Strategies and Recommendations

There are several strategies to increase rail ridership in our region. It is important to note that there are three distinct rail markets: commuter, intercity, and interregional. The first served by Metrolink, the second by Amtrak, and the third will be served by the state HST service. However, the three carriers can be attractive to the rail travel markets different from their own. Rail strategies include:

- Increasing speed
- Increasing service levels
- Cooperative fare agreements and media
- Cooperative marketing efforts

Speed and Service

The LOSSAN partners and Metrolink are in the process of planning and implementing capital projects to improve capacity, speed, and service, bringing at least some segments of their networks up to the federally defined high speed of 110 mph or greater. This includes a strategic implementation plan for 2030 that is estimating ridership and additional service using a coordinated schedule among Metrolink, Amtrak and NCTD's Coaster commuter rail service. This effort is also looking at extending some Metrolink trips to San Diego and some Coaster trips to L.A. Union Station. As speeds improve, these services will become more competitive with SOV travel and thus ridership will continue to grow. Further, their schedules should be adjusted once the state HST project is implemented so that all rail services complement and feed each other. These local efforts will now be greatly increased and speeded up due to the new funding partnership with the Authority.

Cooperative Agreements

The LOSSAN Rail Corridor Agency Joint Powers Board consists of the Ventura County Transportation Commission (VCTC), the Orange County Transportation Authority (OCTA), the North County Transit District (NCTD), the San Diego Association of Governments (SANDAG), San Diego's Metropolitan Transit System (MTS), the San Luis Obispo Council of Governments (SLOCOG), the Santa Barbara County Association of Governments (SBCAG), the Los Angeles County Metropolitan Transportation Authority (Metro), and the California Department of Transportation, Division of Rail (DOR), and coordinates

EXHIBIT 3 Strategic Plan HSR Map



service and investment planning along the corridor. SCAG, the California High-Speed Rail Authority, Amtrak, and the Riverside County Transportation Commission (RCTC) are ex-officio members of the Joint Powers Board.

Amtrak's Pacific Surfliner is the designated intercity passenger rail service in the corridor, and Caltrans DOR provides administration and management for the Surfliner. Both Amtrak and the DOR currently provide operating subsidies for the Pacific Surfliner. Other rail operations in the corridor include NCTD and Metrolink commuter rail service, and freight service by Union Pacific and Burlington Northern Santa Fe.

The LOSSAN Corridor Strategic Assessment, outlining a long-term, shared vision for enhancing passenger rail service between San Diego, Los Angeles, and San Luis Obispo through 2025, was completed in January 2010. This vision includes express services, faster travel times, and increased coordination between operators.

At the direction of the LOSSAN Board, the LOSSAN member agency CEOs group examined changes to LOSSAN's governance structure that would enhance LOSSAN's ability to implement the Strategic Assessment vision, especially in light of upcoming changes to federal operating subsidies per the Passenger Rail Investment and Improvement Act of 2008. The LOSSAN CEOs proposed a new joint powers structure wherein the LOSSAN Rail Corridor Agency would have direct control of Amtrak operations, similar to Northern California's Capital Corridor JPA. The LOSSAN Board has reiterated that initial governance changes should focus only on the state-supported intercity rail service and not modifications to the Metrolink or NCTD COASTER governance structures.

The benefits of local management of passenger rail service in the LOSSAN corridor include:

- More efficient resource allocation related to service expansion, frequencies, and schedules;
- A unified voice at the state and federal levels when advocating on passenger rail issues, including funding for capital improvements;
- Consolidated services such as fares, ticketing, marketing, and passenger information systems;
- Coordinated capital improvement prioritization; and
- More focused oversight of on-time performance, schedule integration, mechanical issues, and customer service.

It is expected that this new JPA will be formalized over the next year.

Marketing and Fares

Cooperative fare agreements and media also offer opportunities for increasing rail ridership and attracting new riders. For example, the Rail-to-Rail pass allows Metrolink monthly-pass riders who have origin and destination points along the LOSSAN corridor to ride Amtrak. Agreements like this one could be expanded once the CA HST project is built.

Metrolink has recently been pursuing innovative marketing, ticket pricing and operations strategies to increase ridership and reduce costs. In May 2011, Metrolink started express service demonstration programs on its San Bernardino and Antelope Valley Lines. This service shaves a large amount of travel time off the conventional trips. By skipping most stops, travel time is reduced 33 percent to just one hour on the San Bernardino Line, and 25 percent to an hour and a half on the Antelope Valley Line. Metrolink has also started specific trains for both Dodgers' and Angels' games, and other special events.

Amtrak also initiated an express trip in February 2011. It shaves 17 minutes off the northbound trip (currently, there is no southbound express). The provision of more express trips in the future should attract new transit riders.

Metrolink also started some progressive new fares this year, including the $10.00 all-weekend pass. From 7:00 p.m. Friday to 12:00 p.m. Sunday, riders can take multiple trips anywhere on the Metrolink system. Monthly pass holders can also take unlimited trips on the weekend regardless of their pass' origin/destination pair.

The Strategic Plan: Our Ultimate Vision for High Speed Rail

Our ultimate vision for a true HST system that would link major urban areas and activity centers within our region and beyond would be incomplete without Phase II of the proposed state HST system. Phase II would link Los Angeles Union station to San Diego via the Inland Empire in our region. The project is being planned in segments all in different degrees of project readiness. This corridor is approximately 160 miles long, stretching from Union Station in downtown Los Angeles through San Bernardino and Riverside Counties, and terminating in San Diego County. With 20.8 million residents, these four counties make up approximately 56 percent of the state's current population and will grow significantly by 2050.

Phase II of the state HST system, by adding connections to the Inland Empire and San Diego County, completes the backbone of a true regional High-Speed Transport system. The LOSSAN, Metrolink system, and state HST Phase I investments will provide high speed travel alternatives in Northern Los Angeles County, the San Fernando Valley, the Gateway Cities, and Orange County; Phase II will extend those alternatives to the San Gabriel Valley and the Inland Empire. Upon completion, Phase II will provide important access to planned and existing regional centers, including Ontario International Airport, the March Inland Port, and possibly San Bernardino International and Corona airports, helping to meet SCAG's long-term goal of regionalizing air travel in Southern California. Furthermore, Phase II may one day be the basis for further high speed rail extensions into Nevada or Arizona. Another possibility for service to Nevada exists with Phase II of the Desert Xpress Project. That service may eventually operate between Palmdale and Las Vegas, allowing Metrolink or CA HST passengers an option.

The state HST system will provide excellent regional connectivity to our region by connecting with a robust network of intercity and commuter rail, subway and light-rail, and fixed-route transit systems. Integrated planning and service levels of these connecting services will allow them and the state HST to feed and complement each other. While commuter, intercity and interregional rail services are distinct travel markets, the proper coordination of their schedules will further increase the region's rail and transit ridership by attracting crossover passengers to these different markets. It will also significantly relieve capacity constraints of the existing air and highway transportation system as increases in intercity travel demand in California occur. By attracting a large number of trips from current auto and air travel markets, a significant decrease in GHG emissions will be achieved in our region. In addition, the state HST system will provide a much cheaper alternative to building additional airport and highway capacity to serve intrastate aviation routes and auto trips.

Strategic Plan Projects

CALIFORNIA HIGH-SPEED RAIL PHASE II

Phase II is from Madera to Sacramento and in our region from L.A. Union Station to San Diego through the San Gabriel Valley and Inland Empire. Phase II is in the Supplemental Alternatives Analysis phase and includes some alternative alignments in our region: either I-10 or SR 60 through the San Gabriel Valley, and either I-15 or I-215 from the Inland Empire to the San Diego County line. There is currently no funding for Phase II.

DESERTXPRESS

The Desert Xpress would connect Las Vegas to Victorville using steel wheel on steel rail technology. There are no intermediate stops. The project has completed the environmental process and the FRA issued a record of decision (ROD) on July 8, 2011. DesertXpress Enterprises has applied to the FRA's Railroad Rehabilitation Improvement Financing (RRIF) program for a loan to start and complete construction of the project. In addition to the RRIF loan, private debt and equity will be included in the project financing. Phase Two of this project would connect Victorville to Palmdale, thereby providing a connection with the CA HST system and the Metrolink Antelope Valley Line. Phase Two was not included in DesertXpress' environmental process, nor is it part of their FRA loan application.

The DesertXpress EIS has received the following Federal approvals:

- July 8, 2011: Federal Railroad Administration Record of Decision (ROD)
- October 26, 2011: Surface Transportation Board issued Certificate of Public Convenience and Necessity.
- October 31, 2011: Bureau of Land Management ROD
- November 18, 2011: Federal Highway Administration ROD
- December 7, 2011: DesertXpress executed a lease agreement with BLM for the alignment and facilities located on federal land.
- Application for a federal loan under the FRA Railroad Rehabilitation and Improvement Financing program currently under review by US Department of Transportation.

CALIFORNIA/NEVADA SUPER-SPEED TRAIN

The California/Nevada Super-Speed Train (CNSST) project would connect Las Vegas to Anaheim using maglev with intermediate stops in Primm, Barstow, Victorville, and Ontario. A Programmatic EIR/EIS was initiated in 2004 but has not been completed to date, and $45 million of federal funding has been earmarked for the environmental review. Plans call for building the first 40-mile segment either from Las Vegas to Primm or Anaheim to Ontario. To date, no funds for construction have been identified.

CALIFORNIA/NEVADA SUPER-SPEED TRAIN ANAHEIM TO ONTARIO INITIAL OPERATING SEGMENT

This is a maglev project which is part of the larger Las Vegas to Anaheim project. This southernmost segment from Anaheim to Ontario is being considered as the initial operating segment of the larger project due to its strong ridership potential and regional connectivity, and its ability to operate as a stand-alone project. A $45 million planning project for this segment is also included in the Constrained Plan.

ORANGELINE NORTHERN SEGMENT

The northern segment of the Orangeline is between Los Angeles Union Station (LAUS) and Santa Clarita. The Orangeline Development Authority (OLDA) is a joint powers authority formed to pursue development of a higher speed, environmentally friendly, technology neutral transit system from Cerritos to Santa Clarita. The southern section from LAUS to Cerritos is along the West Santa Ana Branch PE ROW that is partially funded by Measure R.

A series of improvements in the corridor are being evaluated including the previously mentioned high-speed rail memorandum of understanding (MOU) effort, the Antelope Valley Line Infrastructure Improvement Plan, and the on-going Bob Hope Airport Ground Access Study. This interagency MOU includes a list of priority projects including a proposed new Metrolink station at the Bob Hope Airport. Therefore, the OLDA Northern Corridor will benefit from a set of investments during the life of the plan that will improve safety, efficiency, capacity, speed and connectivity. This supports OLDA's intermediate vision of more frequent service and increased hours of operation within the corridor.

Greater Vision for our Commuter and Passenger Rail System

Metrolink Enhancements

Metrolink provides our region's commuter rail service operating 163 trips on seven lines carrying 42,000 passengers on weekdays. With the investments proposed within the Constrained Plan in Chapter 2, we expect to achieve more than double the ridership by 2035. But, we believe, the Metrolink system has even greater untapped potential for our region.

Our region boasts 4.32 commuter rail route miles per 100,000 residents, which is over 2.5 times the median for large metropolitan regions. However, in 2008, residents of the SCAG region took only 0.7 per capita trips on the commuter rail system, well below the national median of 0.82. Chicagoans, by contrast, took 8.28 trips per capita, on a network that provides 11.8 route miles for every 100,000 residents. Residents of Baltimore took 34 percent more commuter rail trips per capita on a network similar to that of the SCAG region.

The average speed for Metrolink is about 40 mph today. The average speeds vary by line and while top speeds are 79 mph, the number of stops and physical capacity and geographic constraints result in this average system speed which is lower than one would

think. This shows the need to fund capital projects in order to speed up the service and make Metrolink more attractive to the SOV commuter.

The recent release of the Authority's draft 2011 Business Plan puts off the arrival of the state HST system in our region to 2033, and greatly escalates the official project cost. This confirms long-standing stakeholder concerns of the project's implementation timeline and viability, and therefore confirms the need to spend HSR dollars on our region's current rail services. In fact, the new Business Plan calls for "blended" rail services whereby incremental operating segments of the state HST system will connect with existing rail services until the entire project gets built.

Our Strategic Plan vision for Metrolink speed and service improvements calls for an intensive investment in capital projects to further increase speed and service levels over and above the Constrained Plan. The Strategic Plan results in even more segments of the network operating at speeds of 110 mph or greater. These projects include additional double tracking, sidings, station improvements, grade separations, and grade crossings. Not only will this benefit commuter rail trips in our region, but will benefit Amtrak intercity and the state HST interregional trips also as the three systems feed and complement each other. While these are three distinct travel markets, improving all three networks encourages cross-over rail travel market trips.

In addition to capital improvements, our strategic vision calls for:

- A doubling of system use by 2020, and possibly doubling again by 2035. The constrained plan increases ridership by 338 percent from 2001 to 2035.
- Considerably more express trips
- Regular special event services
- A connection to Ontario International airport
- The implementation of new BRT services that directly connect with the Metrolink system
- A robust growth of TOD around Metrolink stations
- The implementation of first mile/last mile policies for robust bicycle and pedestrian improvements around Metrolink stations.

Additional Passenger Rail Service

An additional Strategic Plan passenger rail element implements daily passenger rail service between downtown Los Angeles and the Coachella Valley. Stops would include L.A. Union Station, Fullerton, Riverside, Redlands/Loma Linda, Beaumont/Banning, Palm Springs, Rancho Mirage and Indio. Service would be operated by Amtrak with ideally at least two if not three daily round trips.

Currently, rail service between downtown L.A. and the Coachella Valley is only provided three days a week with an unattractive schedule as part of Amtrak's interstate services. Union Pacific Railroad owns this rail corridor east of Colton and is opposed to implementing additional passenger service without large capital improvements. However, Amtrak retains the right to operate passenger service on freight-owned railroads and there is a process in place to resolve freight opposition, although Amtrak and other partners such as Caltrans DOR and RCTC may be required to fund capital projects to mitigate potential financial damages to Union Pacific. A 2010 RCTC study estimates $75 million in station costs, $40 million in equipment costs, and $11.4 million in yearly operating costs to start this service. These figures do not include any capital costs required to mitigate service disruptions incurred by Union Pacific.

REGIONAL TRANSPORTATION PLAN
2012–2035 RTP
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future

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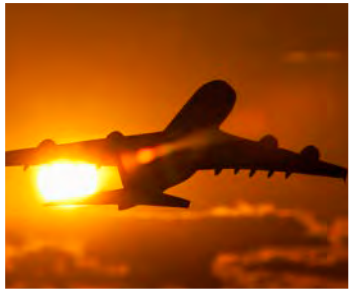
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SUBREGIONAL SUSTAINABLE COMMUNITIES STRATEGIES APPENDIX









REGIONAL TRANSPORTATION PLAN
2012–2035
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future
RTP











Southern California Association of Governments

ADOPTED APRIL 2012

SUBREGIONAL SUSTAINABLE COMMUNITIES STRATEGIES

Framework and Guidelines for Subregional Sustainable Communities Strategy **1**

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II. Eligibility and Participation 1

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Subregional Sustainable Communities Strategy – Gateway Cities Council of Governments (GCCOG) and Orange County Council of Governments (OCCOG) **9**

Framework and Guidelines for Subregional Sustainable Communities Strategy

I. Introduction

SB 375 (Steinberg), also known as California's Sustainable Communities Strategy and Climate Protection Act, is a new state law which became effective January 1, 2009. SB 375 calls for the integration of transportation, land use, and housing planning, and also establishes the reduction of greenhouse gas (GHG) emissions as one of the main goals for regional planning. SCAG, working with the individual County Transportation Commissions (CTCs) and the subregional organizations within the SCAG region, is responsible for implementing SB 375 in the Southern California region. Success in this endeavor is dependent on collaboration with a range of public and private partners throughout the region.

Briefly summarized here, SB 375 requires SCAG as the Metropolitan Planning Organization to:

- Prepare a Sustainable Communities Strategy (SCS) as part of the 2012 Regional Transportation Plan (RTP). The SCS will meet a State-determined regional GHG emission reduction target, if it is feasible to do so.
- Prepare an Alternative Planning Strategy (APS) that is not part of the RTP if the SCS is unable to meet the regional target.
- Integrate SCAG planning processes, in particular assuring that the Regional Housing Needs Assessment (RHNA) is consistent with the SCS, at the jurisdiction level.
- Specific to SCAG only, allow for subregional SCS/APS development.
- Develop a substantial public participation process involving all stakeholders.

Unique to the SCAG region, SB 375 provides that "a subregional council of governments and the county transportation commission may work together to propose the sustainable communities strategy and an alternative planning strategy . . . for that subregional area." Govt. Code §65080(b)(2)(C). In addition, SB 375 authorizes that SCAG "may adopt a framework for a subregional SCS or a subregional APS to address the intraregional land use, transportation, economic, air quality, and climate policy relationships." Id. Finally, SB 375 requires SCAG to "develop overall guidelines, create public participation plans, ensure coordination, resolve conflicts, make sure that the overall plan complies with applicable legal requirements, and adopt the plan for the region." Id. The intent of this Framework and Guidelines for Subregional Sustainable Communities Strategy (also referred to herein as the "Framework and Guidelines" or the "Subregional Framework and Guidelines") is to offer the SCAG region's subregional agencies the highest degree of autonomy, flexibility and responsibility in developing a program and set of implementation strategies for their subregional areas. This will allow the subregional strategies to better reflect the issues, concerns, and future vision of the region's collective jurisdictions with the input of the fullest range of stakeholders. In order to achieve these objectives, it is necessary for SCAG to develop measures that assure equity, consistency and coordination, such that SCAG can incorporate the subregional SCSs in its regional SCS which will be adopted as part of the 2012 RTP pursuant to SB 375. For that reason, this Framework and Guidelines establishes standards for the subregion's work in preparing and submitting subregional strategies, while also laying out SCAG's role in facilitating and supporting the subregional effort with data, tools, and other assistance.

While the Framework and Guidelines are intended to facilitate the specific subregional option to develop the SCS (and APS if necessary) as described in SB 375, SCAG encourages the fullest possible participation from all subregional organizations. As SCAG undertakes implementation of SB 375 for the first time, SCAG has also designed a "collaborative" process, in cooperation with the subregions, that allows for robust subregional participation for subregions that choose not to exercise their statutory option.

II. Eligibility and Participation

SB 375 allows for subregional councils of governments in the SCAG region to have the option to develop the SCS (and the APS if necessary) for their area. SCAG interprets this option as being available to any subregional organization recognized by SCAG, regardless of whether the organization is formally established as a "subregional council of governments."

County Transportation Commissions (CTCs) play an important and necessary role in the development of a subregional SCS. Any subregion that chooses to develop a subregional strategy will need to work closely with the respective CTC in its subregional area in order to identify and integrate transportation projects and policies. Beyond working with CTCs, SCAG encourages partnership efforts in the development of subregional strategies, including partnerships between and among subregions.

Subregional agencies must formally indicate to SCAG, in writing, by December 31, 2009 if they intend to exercise this option to develop their own SCS. Subregions that choose to develop an SCS for their area must do so in a manner consistent with this Framework and Guidelines. The subregion's intent to exercise its statutory option to prepare the strategy for their area must be decided and communicated through formal action of the subregional agency's governing board. Subsequent to receipt of any subregion's intent to develop and adopt an SCS, SCAG will convene discussions regarding a formal written agreement between SCAG and the subregion, which may be revised if necessary, as the SCS process is implemented.

III. Framework

The Framework portion of this document covers regional objectives and policy considerations, and provides general direction to the subregions in preparing their own SCS, and APS if necessary.

A. SCAG'S PRELIMINARY GOALS FOR IMPLEMENTING SB 375 ARE AS FOLLOWS:

- Achieve the regional GHG emission reduction target for cars and light trucks through an SCS.
- Fully integrate SCAG's planning processes for transportation, growth, intergovernmental review, land use, housing, and the environment.
- Seek areas of cooperation that go beyond the procedural statutory requirements, but that also result in regional plans and strategies that are mutually supportive of a range of goals.
- Build trust by providing an interactive, participatory and collaborative process for all stakeholders. Provide, in particular, for the robust participation of local jurisdictions, subregions and CTCs in the development of the SCAG regional SCS and implementation of the subregional provisions of the law.
- Assure that the SCS adopted by SCAG and submitted to California Air Resources Board (ARB) is a reflection of the region's collective growth strategy and vision for the future.
- Develop strategies that incorporate and are respectful of local and subregional priorities, plans, and projects.

B. FLEXIBILITY

Subregions may develop any appropriate strategy to address the region's greenhouse gas reduction goals and the intent of SB 375. While subregions will be provided with SCAG data, and with a conceptual or preliminary scenario to use as a helpful starting point, they may employ any combination of land use policy change, transportation policy, and transportation investment, within the specific parameters described in the Guidelines.

C. OUTREACH EFFORT AND PRINCIPLES

Subregions are required to conduct an open and participatory process that includes the fullest possible range of stakeholders. As further discussed within the Guidelines, SCAG amended its existing Public Participation Plan (PPP) to describes SCAG's responsibilities in complying with the outreach requirements of SB 375 and other applicable laws and regulations. SCAG will fulfill its outreach requirements for the regional SCS/APS which will include outreach activities regarding the subregional SCS/APS. Subregions are also encouraged to design their own outreach process that meets each subregion's own needs and reinforces the spirit of openness and full participation. To the extent that subregions do establish their own outreach process, this process should be coordinated with SCAG's outreach process.

D. COMMUNICATION AND COORDINATION

Subregions developing their own SCS are strongly encouraged to maintain regular communication with SCAG staff, the respective CTC, their jurisdictions and other stakeholders, and other subregions if necessary, to review issues as they arise and to assure close coordination. Mechanisms for ongoing communication should be established in the early phases of strategy development.

E. PLANNING CONCEPTS

SCAG, its subregions, and member cities have established a successful track record on a range of land use and transportation planning approaches through the on-going SCAG Compass Blueprint Program, including approximately 60 local demonstration projects

completed to date. Subregions are encouraged to capture, further develop and build off the concepts and approaches of the Compass Blueprint program. In brief, these include developing transit-oriented, mixed use, and walkable communities, and providing for a mix of housing and jobs.

IV. Guidelines

These Guidelines describe specific parameters for the subregional SCS/APS effort under SB 375, including process, deliverables, data, documentation, and timelines. As described above, the Guidelines are created to ensure that the region can successfully incorporate strategies developed by the subregions into the regional SCS, and that the region can comply with its own requirements under SB 375. Failure to proceed in a manner consistent with the Guidelines will result in SCAG not accepting a subregion's submitted strategy.

A. SUBREGIONAL PROCESS

(1) Subregional Sustainable Communities Strategy

Subregions that choose to exercise their optional role under SB 375 will develop and adopt a subregional Sustainable Communities Strategy. That strategy must contain all of the required elements, and follow all procedures, as described in SB 375. Subregions may choose to further develop an Alternative Planning Strategy (APS), according to the procedures and requirements described in SB 375. If subregions prepare an APS, they must prepare a Sustainable Communities Strategy first, in accordance with SB 375. A subregional APS is not "in lieu of" a subregional SCS, but in addition to the subregional SCS. In part, an APS must identify the principal impediments to achieving the targets within the SCS. The APS must show how the GHG emission targets would be achieved through alternative development patterns, infrastructure, and additional transportation measures or policies. SCAG encourages subregions to focus on feasible strategies that can be included in the SCS.

The subregional SCS must include all components of a regional SCS as described in SB 375, and outlined below:

1. identify the general location of uses, residential densities, and building intensities within the subregion;
2. identify areas within the subregion sufficient to house all the population of the subregion, including all economic segments of the population, over the course of the planning period of the RTP taking into account net migration into the region, population growth, household formation and employment growth;
3. identify areas within the subregion sufficient to house an eight-year projection of the regional housing need for the subregion pursuant to Section 65584;
4. identify a transportation network to service the transportation needs of the subregion;
5. gather and consider the best practically available scientific information regarding resource areas and farmland in the subregion as defined in subdivisions (a) and (b) of Section 65080.01;
6. consider the state housing goals specified in Sections 65580 and 65581;
7. set forth a forecasted development pattern for the subregion, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the ARB; and
8. allow the RTP to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Sec. 7506). See, Government Code §65080(b)(2)(B).

In preparing the subregional SCS, the subregion will consider feasible strategies, including local land use policies, transportation infrastructure investment (e.g., transportation projects), and other transportation policies such as Transportation Demand Management (TDM) strategies (which includes pricing), and Transportation System Management (TSM) strategies. Technological measures may be included if they exceed measures captured in other state and federal requirements (e.g., AB32).

As discussed further below (under "Documentation"), subregions need not constrain land use strategies considered for the SCS to current General Plans. In other words, the adopted strategy need not be fully consistent with local General Plans currently in place. However, should the adopted subregional strategy deviate from General Plans, subregions will need to demonstrate the feasibility of the strategy by documenting any affected jurisdictions' willingness to adopt the necessary General Plan changes.

The regional SCS shall be part of the 2012 RTP. Therefore, for transportation investments included in a subregional SCS to be valid, they must also be included in the 2012 RTP. Further, such projects need to be scheduled in the RTIP for construction completion by the target years (2020 and 2035) in order to demonstrate any benefits as part of the SCS. As such, subregions will need to collaborate with the respective CTC in their area to coordinate the subregional SCS with future transportation investments. It should also be noted that the California Transportation Commission is updating their RTP Guidelines. This topic is likely to be part of further discussion through the SCS process as well.

SCAG will accept and incorporate the subregional SCS, unless (a) it does not comply with SB 375, (b) it is does not comply with federal law, or (c) it is does not comply with SCAG's Subregional Framework and Guidelines. In the event that a compiled regional SCS, including subregional submissions, does not achieve the regional target, SCAG will initiate a process to develop and consider additional GHG emission reduction measures region-wide. SCAG will develop a written agreement with each subregional organization to define a process and timeline whereby subregions would submit a draft subregional SCS for review and comments to SCAG, so that any inconsistencies may be identified and resolved early in the process. Furthermore, SCAG will compile and disseminate performance information on the preliminary regional SCS and its components in order to facilitate regional dialogue. The development of a subregional SCS does not exempt any subregion from further GHG emission reduction measures being included in the regional SCS. Further, all regional measures needed to meet the regional target will be subject to adoption by the Regional Council, and any additional subregional measures beyond the SCS submittal from subregions accepting delegation needed to meet the regional target must also be adopted by the subregional governing body.

(2) Subregional Alternative Planning Strategy (APS)

Subregions are encouraged to focus their efforts on feasible measures that can be included in an SCS. In the event that a subregion chooses to prepare an APS, the content of a subregional APS should be consistent with what is required by SB 375 (see, Government Code §65080(b)(2)(H)), as follows:

1. Shall identify the principal impediments to achieving the subregional SCS
2. May include an alternative development pattern for the subregion pursuant to subparagraphs (B) to (F), inclusive.
3. Shall describe how the alternative planning strategy would contribute to the regional greenhouse gas emission reduction target, and why the development pattern, measures, and policies in the alternative planning strategy are the most practicable choices for the subregion.
4. An alternative development pattern set forth in the alternative planning strategy shall comply with Part 450 of Title 23 of, and Part 93 of Title 40 of, the Code of Federal Regulations, except to the extent that compliance will prevent achievement of the regional greenhouse gas emission reduction targets approved by the ARB.
5. For purposes of the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code), an alternative planning strategy shall not constitute a land use plan, policy, or regulation, and the inconsistency of a project with an alternative planning strategy shall not be a consideration in determining whether a project may have an environmental effect.

Any precise timing or submission requirements for a subregional APS will be determined based on further discussions with subregional partners. As previously noted, a subregional APS is in addition to a subregional SCS.

(3) Outreach and Process

SCAG will fulfill all of its outreach requirements under SB 375 for the regional SCS/APS, which will include outreach regarding any subregional SCS/APS. SCAG staff has revised its Public Participation Plan to incorporate the outreach requirements of SB 375, and integrate the SB 375 process with the 2012 RTP development as part of SCAG's Public Participation Plan Amendment No. 2, adopted by SCAG's Regional Council on December 3, 2009. Subsequent to the adoption of the PPP Amendment No. 2, SCAG will continue to discuss with subregions and stakeholders the Subregional Framework & Guidelines, which further describe the Public Participation elements of SB 375.

Subregions that elect to prepare their own SCS or APS are encouraged to present their subregional SCS or APS, in coordination with SCAG, at all meetings, workshops and hearings held by SCAG in their respective counties. Additionally, the subregions would be asked to either provide SCAG with their mailing lists so that public notices and outreach materials may also be posted and sent out by SCAG, or SCAG will provide notices and outreach materials to the subregions for their distribution to stakeholders. The SCAG PPP Amendment No. 2 provides that additional outreach may be performed by subregions.

Subregions are strongly encouraged to design and adopt their own outreach processes that mimic the specific requirements imposed on the region under SB 375. Subregional outreach processes should reinforce the regional goal of full and open participation, and engagement of the broadest possible range of stakeholders.

(4) Subregional SCS Approval

It is recommended that the governing board of the subregional agency approve the subregional SCS prior to submission to SCAG. While the exact format is still subject to further discussion, SCAG recommends that there be a resolution from the governing board of the subregion with a finding that the land use strategies included in the subregional SCS are feasible and based upon consultation with the local jurisdictions in the respective subregion. Subregion should consult with their legal counsel as to compliance with the California Environmental Quality Act (CEQA). In SCAG's view, the subregional SCS is not a "project" for the purposes of CEQA; rather, the 2012 RTP which will include the regional SCS is the actual "project" which will be reviewed for environmental impacts pursuant to CEQA. As such, the regional SCS, which will include the subregional SCSs, willundergo a thorough CEQA review. Nevertheless, subregions approving subregional SCSs should consider issuing a notice of exemption under CEQA to notify the public of their "no project" determination and/or to invoke the "common sense" exemption pursuant to CEQA Guidelines §15061(b)(3).

Finally, in accordance with SB 375, subregions are strongly encouraged to work in partnership with the CTC in their area. SCAG can facilitate these arrangements if needed.

(5) Data Standards

SCAG is currently assessing the precise data standards anticipated for the regional and subregional SCS. In particular, SCAG is reviewing the potential use of parcel data and development types currently used for regional planning. At present, the following describes the anticipated data requirements for a subregional SCS.

1. Types of VariablesVariables are categorized into socio-economic variables and land use variables. The socioeconomic variables include population, households, housing units, and employment. The land use variables include land uses, residential densities, building intensities, etc, as described in SB 375.
2. Geographical Levels – SCAG is considering the collection and adoption of the data at a small-area level as optional for local agencies in order to make accessible the CEQA streamlining provisions under SB 375. The housing unit, employment, and the land use variables can be collected at a small-area level for those areas which under SB 375 qualify as containing a "transit priority project" (i.e. within halfmile of a major transit stop or high-quality transit corridor) for purposes of allowing jurisdictions to take advantage of the CEQA streamlining incentives in SB 375. For all other areas in the region, SCAG staff will collect the population, household, employment, and land use variables at the Census tract or Traffic Analysis Zone (TAZ) level.
3. Base Year and Forecast Years – The socio-economic and land use variables will be required for the base year of 2008, and the target years of 2020 and 2035.

(6) Documentation

Subregions are expected to maintain full and complete records related to the development of the subregional SCS, including utilizing the most recent planning assumptions considering local general plans and other factors. In particular, subregions must document the feasibility of the subregional strategy by demonstrating the willingness of local agencies to consider and adopt land use changes necessitated by the SCS. The format for this documentation may include adopted resolutions from local jurisdictions and/or the subregion's governing board.

(7) Timing

An overview schedule of the major milestones of the subregional process and its relationship to the regional SCS/RTP is included below. Subregions must submit the subregional SCS to SCAG by the date prescribed. Further, SCAG will need a preliminary SCS from subregions for the purpose of preparing a project description for the 2012 RTP Program Environmental Impact Report. The precise content of this preliminary submission will be determined based on further discussions. The anticipated timing of this preliminary product is approximately February 2011.

(8) Relationship to Regional Housing Needs Assessment (RHNA) and Housing Element

Although SB 375 calls for an integrated process, subregions are not automatically required to take on RHNA delegation as described in State law if they prepare an SCS/APS. However, SCAG encourages subregions to undertake both processes due to their inherent connections.

SB 375 requires that the RHNA allocated housing units be consistent with the development pattern included in the SCS. See, Government Code §65584.04(i). Population and housing demand must also be proportional to employment growth. At the same time, in addition to the requirement that the RHNA be consistent with the development pattern in the SCS, the SCS must also identify areas that are sufficient to house the regional population by income group through the RTP planning period, and must identify areas to accommodate the region's housing need for the next local Housing Element eight year planning period update. The requirements of the statute are being further interpreted through the RTP guidelines process. Staff intends to monitor and participate in the guideline process, inform stakeholders regarding various material on these issues, and amend, if necessary, these Framework and Guidelines, pending its adoption.

SCAG will be adopting the RHNA and applying it to local jurisdictions at the jurisdiction boundary level. SCAG staff believes that consistency between the RHNA and the SCS may still be accomplished by aggregating the housing units contained in the smaller geographic levels noted in the SCS and including such as part of the total jurisdictional number for RHNA purpose. SCAG staff has concluded that there is no consistency requirement for RHNA purposes at sub-jurisdictional level, even though the SCS is adopted at the smaller geographic level for the opportunity areas.

The option to develop a subregional SCS is separate from the option for subregions to adopt a RHNA distribution, and subject to separate statutory requirements. Nevertheless, subregions that develop and adopt a subregional SCS should be aware that the SCS will form the basis for the allocation of housing need as part of the RHNA process. Further, SCS development requires integration of elements of the RHNA process, including assuring that areas are identified to accommodate the 8 year need for housing, and that housing not be constrained by certain types of local growth controls as described in State law. SCAG will provide further guidance for subregions and a separate process description for the RHNA.

B. COUNTY TRANSPORTATION COMMISSIONS' ROLES AND RESPONSIBLITIES

Subregions that develop a subregional SCS will need to work closely with the CTCs in their area in order to coordinate and integrate transportation projects and policies as part of the subregional SCS. As discussed above (under "Subregional Sustainable Communities Strategy"), any transportationprojects identified in the subregional SCS must also be included in the 2012 RTP in order to be considered as a feasible strategy. SCAG can help to facilitate communication between subregions and CTCs.

C. SCAG ROLES AND RESPONSIBILITIES

SCAG's roles in supporting the subregional SCS development process are in the following areas:

(1) Preparing and adopting the Framework and Guidelines

SCAG will adopt these Framework and Guidelines in order to assure regional consistency and the region's compliance with law.

(2) Public Participation Plan

SCAG will assist the subregions by developing, adopting and implementing a Public Participation Plan and outreach process with stakeholders. This process includes consultation with congestion management agencies, transportation agencies, and transportation commissions; and SCAG will hold public workshops and hearings. SCAG will also conduct informational meetings in each county within the region for local elected officials (members of the board of supervisors and city councils), to present the draft SCS, and APS if necessary, and solicit and consider input and recommendations.

(3) Methodology

As required by SB 375, SCAG will adopt a methodology for measuring greenhouse gas emission reductions associated with the strategy.

(4) Incorporation/Modification

SCAG will accept and incorporate the subregional SCS unless it does not comply with SB 375, federal law, or the Subregional Framework and Guidelines. As SCAG intends the entire SCS development process to be iterative, SCAG will not amend a locally-submitted SCS. SCAG may provide additional guidance to subregions so that subregions may make amendments to its subregional SCS as part of the iterative process, or request a subregion to prepare an APS if necessary. Further, SCAG can propose additional regional strategies if feasible and necessary to achieve the regional emission reduction target with the regional SCS. SCAG will develop a written agreement with each subregional organization to define a process and timeline whereby subregions would submit a draft subregional SCS for review and comments to SCAG, so that any inconsistencies may be identified and resolved early in the process.

(5) Modeling

SCAG currently uses a Trip-Based Regional Transportation Demand Model and ARB's EMFAC model for emissions purposes. In addition to regional modeling, SCAG is developing tools to evaluate the effects of strategies that are not fully accounted for in the regional model. SCAG is also developing two additional tools—a Land Use Model and an Activity Based Model—to assist in strategy development and measurement of outcomes under SB 375.

In addition to modeling tools which are used to measure results of completed scenarios, SCAG is developing a scenario planning tool for use in workshop settings as scenarios are being created with jurisdictions and stakeholders. The tool will be made available to subregions and local governments for their use in subregional strategy development.

(6) Adoption/Submission to State

After the incorporation of subregional strategies, SCAG will finalize and adopt the regional SCS as part of the 2012 RTP. SCAG will submit the SCS to ARB for review as required in SB 375.

(7) Conflict Resolution

While SB 375 requires SCAG to develop a process for resolving conflicts, it is unclear at this time the nature or purpose of a conflict resolution process as SCAG does not intend to amend a locallysubmitted SCS. As noted above, SCAG will accept the subregional SCS unless it is inconsistent with SB 375, federal law, or the Subregional Framework and Guidelines. SCAG will also request that a subregion prepare an APS if necessary. It is SCAG's intent that the process be iterative and that there be coordination among SCAG, subregions and their respective jurisdictions and CTCs. SCAG is open to further discussion on issues which may generate a need to establish a conflict resolution process as part of the written agreement between SCAG and the subregional organization.

(8) Funding

Funding for subregional activities is not available at this time, and any specific parameters for future funding are speculative. Should funding become available, SCAG anticipates providing a share of available resources to subregions. While there are no requirements associated with potential future funding at this time, it is advisable for subregions to track and record their expenses and activities associated with these efforts.

(9) Preliminary Scenario Planning

SCAG will work with each subregion to collect information and prompt dialogue with each local jurisdiction prior to the start of formal SCS development. This phase of the process is identified as "preliminary scenario planning" in the schedule below. The purpose of this process is to create a base of information to inform SCAG's recommendation of a regional target to ARB prior to June 2010. All subregions are encouraged to assist SCAG in facilitating this process.

(10) Data

SCAG is currently developing, and will provide each subregion with datasets for the following:

1. 2008 Base year;
2. General Plan/Growth projection & distribution;
3. Trend Baseline; and
4. Policy Forecast/SCS.

While the Trend Baseline is a technical projection that provides a best estimate of future growth based on past trends and assumes no general plan land use policy changes, the

Policy Forecast/ SCS is derived using local input through a bottom-up process, reflecting regional policies including transportation investments. Local input is collected from counties, subregions, and local jurisdictions.

Data/GIS maps will be provided to subregions and local jurisdiction for their review. This data and maps include the 2008 base year socioeconomic estimates and 2020 and 2035 socioeconomic forecast. Other GIS maps including the existing land use, the general plan land use, the resource areas, and other important areas identified in SB 375. It should be noted that none of the data/ maps provided were endorsed or adopted by SCAG's Community, Economic and Human Development Committee (CEHD). All data/maps provided are for the purpose of collecting input and comments from subregions and local jurisdictions. This is to initiate dialogue among stakeholders to address the requirements of SB 375 and its implementation.

The list of data/GIS maps include:

1. Existing land use
2. Zoning
3. General plan land use
4. Resource areas include:

a. all publicly owned parks and open space;
b. open space or habitat areas protected by natural community conservation plans, habitat conservation plans, and other adopted natural resource protection plans;
c. habitat for species identified as candidate, fully protected, sensitive, or species of special status by local, state, or federal agencies or protected by the federal Endangered Species Act (1973), the California Endangered Species Act, or Native Plant Protection Act;
d. lands subject to conservation or agricultural easements for conservation or agricultural purposes by local governments, special districts, or nonprofit 501(c)(3) organizations, areas of the state designated by the State Mining and Geology Board as areas of statewide or regional significance pursuant to Section 2790 of the Public Resources Code, and lands under Williamson Act contracts;
e. areas designated for open-space or agricultural uses in adopted open-space elements or agricultural elements of the local general plan or by local ordinance;
f. areas containing biological resources as described in Appendix G of the CEQA Guidelines that may be significantly affected by the sustainable communities strategy or the alternative planning strategy; and
g. an area subject to flooding where a development project would not, at the time of development in the judgment of the agency, meet the requirements of the National Flood Insurance Program or where the area is subject to more protective provisions of state law or local ordinance.

5. Farmland
6. Sphere of influence
7. Transit priority areas
8. City/Census tract boundary with ID
9. City/TAZ boundary with ID

(11) Tools

SCAG is developing a Local Sustainability Planning Model (LSPM) for subregions/local jurisdictions to analyze land use impact. The use of this tool is not mandatory and is at the discretion of the Subregion. The LSPM is a web-based tool that can be used to analyze, visualize and calculate the impact of land use changes on auto ownership, mode use, vehicle miles of travel (VMT), and greenhouse gas emissions in real time. Users will be able to estimate transportation and emissions impacts by modifying land use designations within their community.

Other tools currently maintained by SCAG may be useful to the subregional SCS development effort, including the web-based CaLOTS application. SCAG will consider providing guidance and training on additional tools based on further discussions with subregional partners.

(12) Resources and Technical Assistance

SCAG will assist the subregions by making available technical tools for scenario development as described above. Further, SCAG will assign a staff liaison to each subregion, regardless of whether the subregion exercises its statutory option to prepare an SCS. SCAG staff can participate in subregional workshops, meetings, and other processes at the request of the subregion, and pending funding and availability. SCAG's legal staff will

be available to assist with questions related to SB 375 or SCAG's implementation of SB 375. Further, SCAG will prepare materials for its own process in developing the regional SCS, and will make these materials available to subregions.

D. MILESTONES/SCHEDULE

- CARB issues Final Regional Targets – September 2010
- SCS development (preliminary scenario, draft, etc) – through early 2011
- Release Draft RTP/regional SCS for public review – November 2011
- Regional Council adopts RTP/SCS – April 2012

If other milestones are needed, they will be incorporated into the written agreement between SCAG and the Subregion.

Subregional Sustainable Communities Strategy – Gateway Cities Council of Governments (GCCOG) and Orange County Council of Governments (OCCOG)

The Orange County Council of Governments and the Gateway Cities Council of Governments chose to develop their own SCS, and entered into Memoranda of Understanding with SCAG specifying submission schedules and standards for each component of the subregional SCS. The following subregional SCSs have both been formally approved and adopted by their respective councils of government.

EXHIBIT 1 Gateway Cities COG Subregional SCS

MEMORANDUM OF UNDERSTANDING

BY AND BETWEEN

GATEWAY CITIES COUNCIL OF GOVERNMENTS

AND

THE SOUTHERN CALIFORNIA ASSOCATION OF GOVERNMENTS

FOR

GATEWAY CITIES SUSTAINABLE COMMUNITIES STRATEGY

THIS MEMORANDUM OF UNDERSTANDING (hereinafter referred to as "MOU") is entered by and between the Gateway Cities Council of Governments, (hereinafter referred to as "GCCOG"), and the Southern California Association of Governments, (hereinafter referred to as "SCAG"), collectively referred to as the "Parties."

RECITALS:

WHEREAS, Senate Bill 375 (Chapter 728, laws of 2008, "SB 375") requires SCAG to prepare a regional Sustainable Communities Strategy (hereinafter referred to as "SCS" or "Regional SCS") as part of SCAG's Regional Transportation Plan ("RTP") to achieve goals for the reduction of greenhouse gas emissions from automobiles and light trucks in the SCAG region which comprises the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura;

WHEREAS, SB 375 allows GCCOG, as a subregional council of governments for Southeast Los Angeles County, to develop and submit to SCAG a subregional SCS for its jurisdiction (hereinafter referred to as "Gateway Cities SCS");

WHEREAS, as part of its implementation of SB 375, SCAG has developed and adopted a certain "Framework and Guidelines for the Subregional Sustainable Communities Strategy" (hereinafter referred to as "Framework and Guidelines"), attached hereto as Exhibit "A" and incorporated herein by this reference.

WHEREAS, SCAG is required by SB 375 to include a subregional SCS in the regional SCS, to the extent consistent with state and federal law;

WHEREAS, GCCOG and SCAG desire to enter into this MOU to demonstrate mutual commitments to prepare the Gateway Cities SCS.

NOW, THEREFORE, the Parties enter into the following MOU with respect to the matters set forth herein:

1. This MOU establishes the roles, responsibilities, and requirements for GCCOG and SCAG that are necessary to develop a Gateway Cities SCS that shall be included in the regional SCS prepared by SCAG.

2. GCCOG shall prepare the Gateway Cities SCS consistent with SCAG's adopted Framework and Guidelines, as attached hereto, to ensure that the region can successfully incorporate strategies within the Gateway Cities SCS into the Regional SCS, and not inhibit the region from complying with SB 375.

3. GCCOG agrees to comply with the Milestones Schedule, attached hereto as Exhibit "B" and incorporated herein by this reference, and work with SCAG and the other subregions to ensure the successful delivery of a regional SCS by using the Deliverables Template, attached hereto as Exhibit "C" and incorporated by this reference as the primary template for developing a subregional SCS workplan. The Deliverables Template may be subject to change based on direction from the SCAG Regional Council or Community, Economic and Human Development Policy Committee, and approval by GCCOG.

4. GCCOG are encouraged by SCAG to conduct a public participation process in developing the Gateway Cities SCS, above and beyond the process required for the regional SCS required under Section 65080(b)(2)(D) (E) of the California Government Code. Further, SCAG encourages GCCOG to develop a public participation plan, similar to SCAG's Public Participation Plan adopted in December 2009, for such purposes.

5. GCCOG agrees to participate in all publicly noticed meetings, workshops, hearings, and other outreach activities organized by SCAG within the GCCOG's jurisdiction, at which the regional SCS or Gateway Cities SCS is included on the agenda. All parties shall coordinate with one another during implementation of SCAG's public participation process in order to ensure broad public and stakeholder participation, and to avoid duplication of effort.

6. GCCOG shall retain and deliver to SCAG all documentation pertaining to the Gateway Cities SCS from publicly noticed meetings, workshops, and hearings at which the Gateway Cities SCS is included on the agenda. Such documentation shall include, but is not limited to, meeting notices, agendas, minutes, comments and responses to comments, sign-up sheets, hand-outs, and copies of power point presentations.

7. The Parties acknowledge that population, household, housing, and employment estimates are being prepared by GCCOG and/or its consultants (hereinafter referred to as "GCCOG Dataset"). SCAG agrees to use the GCCOG Dataset as reviewed and approved by

GCCOG, for the Regional SCS and the 2012 RTP; provided, that SCAG, in consultation with GCCOG, may make adjustments to the GCCOG Dataset in order to ensure consistency with SCAG's 2012 RTP growth forecast.

8. The Parties agree and acknowledge that population, household, housing, and employment data submitted to SCAG by GCCOG shall be accurately reflected in all documentation produced by SCAG that relates to the Gateway Cities SCS and the Regional SCS.

9. The Parties agree and acknowledge that RHNA responsibilities shall remain with SCAG, and that GCCOG shall not assume delegation responsibility for RHNA as part of the Gateway Cities SCS development. However, GCCOG is not precluded by this MOU from assuming delegation responsibility for RHNA as part of a subsequent, separate agreement.

10. SCAG agrees that in addition to preparation of the Gateway Cities SCS developed under this MOU, development of an Alternative Planning Strategy (APS) by GCCOG is optional. This understanding shall not preclude SCAG from preparing a regional APS pursuant to SB 375.

11. SCAG shall not develop SCS related targets that are attributable to the subregions. Further, SCAG agrees that it will not impose a penalty on the Gateway Cities subregion if the greenhouse gas targets, as established by the California Air Resources Board, are not met by the Regional SCS.

12. SCAG shall accept the Gateway Cities SCS prepared in accordance with this MOU as the Gateway Cities subregion's input into the Regional SCS prepared by SCAG.

13. GCCOG and SCAG shall amend this MOU in writing or develop a separate, mutual funding agreement addressing Gateway Cities SCS costs should state or federal funding become available that can be applied toward preparation of the Gateway Cities SCS.

14. GCCOG and SCAG agree to work closely together throughout the Regional SCS process and Gateway Cities SCS process to provide technical input, applicable planning data, and constructive feedback with respect to all documents, products and deliverables developed and associated with the Gateway Cities SCS.

15. SCAG agrees to make good faith efforts to provide GCCOG with assistance, including tools and models in its possession, as requested by GCCOG in evaluating preliminary Gateway Cities SCS growth and green house gas ("GHG") estimates.

16. SCAG agrees to make good faith efforts to provide GCCOG with assistance with GIS services relating to the development of the Gateway Cities SCS, as requested by GCCOG.

17. GCCOG and SCAG agree to work together in good faith, using reasonable efforts to resolve any unforeseen issues and disputes arising out of the performance of this MOU.

18 GCCOG and SCAG agree in good faith to provide the resources necessary to implement the provisions of the MOU.

19. GCCOG and SCAG agree to defend, indemnify and hold harmless each other, including their officers, agents, elected officials, and employees, from all liability, claims, losses and demands, including defense costs and reasonable attorneys' fees, whether resulting from court action or otherwise, arising out of the acts or omissions of the defending party, its officers, agents, or employees, in the performance of this MOU. When acts or omissions of one party are directed by another party, the party directing the acts or omission shall owe this defense and indemnity obligation to the party following the directions. The provisions of this paragraph shall survive termination of this MOU.

20. This MOU shall be governed by all applicable federal, state, and local laws. The signatories warrant that in the performance of this MOU, each shall comply with all applicable federal, state and local laws, statutes and ordinances and all lawful orders, rules and regulations promulgated there under.

21. This MOU may only be modified or amended upon written mutual consent of all signatories. All modifications, amendments, changes and revisions of this MOU, in whole or part, and from time to time, shall be binding upon the parties, so long as the same shall be in writing and executed by the signatories.

22. This MOU, including all exhibits and documents incorporated herein and made applicable by reference, constitutes the complete and exclusive statement of the term(s) and condition(s) of the agreement between the parties with respect to the subject matter herein and supersedes all prior representations, understandings and communications. The invalidity in whole or part of any term or condition of this MOU shall not affect the validity of the other term(s) or condition(s).

23. Any party may withdraw from this MOU upon 30 days' written notice to the other, until the due date set forth in Exhibit "B" for submittal to SCAG of the preliminary Gateway Cities SCS. After such due date, any party may withdraw from this MOU only upon mutual written agreement.

24. Each signatory shall be excused from performing its obligations under this MOU during the time and to the extent that it is prevented from performing by an unforeseeable cause beyond its control, including but not limited to: any incident of fire, flood; acts of God; commandeering of material, produces, plants or facilities by federal, state or local government, national fuel shortage; or a material act or omission by any other party; when satisfactory evidence of such cause is presented to the other parties, and provided further such nonperformance is unforeseeable, beyond the control and is not due to the fault or negligence of the party not performing.

25. Any notice sent by first class mail, postage paid, to the address and addressee, shall be deemed to have been given when in the ordinary course it would be delivered. The representatives of the parties who are primarily responsible for the administration of this MOU, and to whom notices, demands and communications shall be given are as detailed below. If there are any changes in the names and/or addresses listed below, the party desiring to make such changes shall give a written notice to the other respective parties within five (5) days of such change

Gateway Cities Council of Governments
Attention: Richard Powers, Executive Director
16401 Paramount Blvd
Paramount, CA 90723

Southern California Association of Governments
Attention: Hasan Ikhrata, Executive Director
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

26. This MOU shall continue in full force and effect from the Effective Date up to and until the date that the Regional SCS is adopted by SCAG's Regional Council, unless otherwise terminated earlier in accordance with section 23 of this MOU. The Effective Date of this MOU shall mean the date (last date indicated below) that all Parties have fully executed this MOU.

[Signature page to follow.]

IN WITNESS WHEREOF, the Parties hereto have caused this MOU to be executed by their duly authorized representatives.

GATEWAY CITIES COUNCIL OF GOVERNMENTS

By: _____
Richard Powers, Executive Director

Date: _____

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

By: _____
Hasan Ikhrata, Executive Director

Date: 10/12/2010

Exhibit A: SCAG's Adopted Framework and Guidelines

Southern California Association of Governments

(Approved by Regional Council - April 1, 2010)

FRAMEWORK AND GUIDELINES
for
SUBREGIONAL SUSTAINABLE COMMUNITIES STRATEGY

I. INTRODUCTION

SB 375 (Steinberg), also known as California's Sustainable Communities Strategy and Climate Protection Act, is a new state law which became effective January 1, 2009. SB 375 call's for the integration of transportation, land use, and housing planning, and also establishes the reduction of greenhouse gas (GHG) emissions as one of the main goals for regional planning. SCAG, working with the individual County Transportation Commissions (CTCs) and the subregional organizations within the SCAG region, is responsible for implementing SB 375 in the Southern California region. Success in this endeavor is dependent on collaboration with a range of public and private partners throughout the region.

Briefly summarized here, SB 375 requires SCAG as the Metropolitan Planning Organization to:

- Prepare a Sustainable Communities Strategy (SCS) as part of the 2012 Regional Transportation Plan (RTP). The SCS will meet a State-determined regional GHG emission reduction target, if it is feasible to do so.
- Prepare an Alternative Planning Strategy (APS) that is not part of the RTP if the SCS is unable to meet the regional target.
- Integrate SCAG planning processes, in particular assuring that the Regional Housing Needs Assessment (RHNA) is consistent with the SCS, at the jurisdiction level.
- Specific to SCAG only, allow for subregional SCS/APS development.
- Develop a substantial public participation process involving all stakeholders.

Unique to the SCAG region, SB 375 provides that "a subregional council of governments and the county transportation commission may work together to propose the sustainable communities strategy and an alternative planning strategy . . . for that subregional area." Govt. Code §65080(b)(2)(C). In addition, SB 375 authorizes that SCAG "may adopt a framework for a subregional SCS or a subregional APS to address the intraregional land use, transportation, economic, air quality, and climate policy relationships." *Id.* Finally, SB 375 requires SCAG to "develop overall guidelines, create public participation plans, ensure coordination, resolve conflicts, make sure that the overall plan complies with applicable legal requirements, and adopt the plan for the region." *Id.*

The intent of this Framework and Guidelines for Subregional Sustainable Communities Strategy (also referred to herein as the "Framework and Guidelines" or the "Subregional Framework and Guidelines") is to offer the SCAG region's subregional agencies the highest degree of autonomy,

flexibility and responsibility in developing a program and set of implementation strategies for their subregional areas. This will allow the subregional strategies to better reflect the issues, concerns, and future vision of the region's collective jurisdictions with the input of the fullest range of stakeholders. In order to achieve these objectives, it is necessary for SCAG to develop measures that assure equity, consistency and coordination, such that SCAG can incorporate the subregional SCSs in its regional SCS which will be adopted as part of the 2012 RTP pursuant to SB 375. For that reason, this Framework and Guidelines establishes standards for the subregion's work in preparing and submitting subregional strategies, while also laying out SCAG's role in facilitating and supporting the subregional effort with data, tools, and other assistance.

While the Framework and Guidelines are intended to facilitate the specific subregional option to develop the SCS (and APS if necessary) as described in SB 375, SCAG encourages the fullest possible participation from all subregional organizations. As SCAG undertakes implementation of SB 375 for the first time, SCAG has also designed a "collaborative" process, in cooperation with the subregions, that allows for robust subregional participation for subregions that choose not to exercise their statutory option.

II. ELIGIBILITY AND PARTICIPATION

SB 375 allows for subregional councils of governments in the SCAG region to have the option to develop the SCS (and the APS if necessary) for their area. SCAG interprets this option as being available to any subregional organization recognized by SCAG, regardless of whether the organization is formally established as a "subregional council of governments."

County Transportation Commissions (CTCs) play an important and necessary role in the development of a subregional SCS. Any subregion that chooses to develop a subregional strategy will need to work closely with the respective CTC in its subregional area in order to identify and integrate transportation projects and policies. Beyond working with CTCs, SCAG encourages partnership efforts in the development of subregional strategies, including partnerships between and among subregions.

Subregional agencies must formally indicate to SCAG, in writing, by December 31, 2009 if they intend to exercise this option to develop their own SCS. Subregions that choose to develop an SCS for their area must do so in a manner consistent with this Framework and Guidelines. The subregion's intent to exercise its statutory option to prepare the strategy for their area must be decided and communicated through formal action of the subregional agency's governing board. Subsequent to receipt of any subregion's intent to develop and adopt an SCS, SCAG will convene discussions regarding a formal written agreement between SCAG and the subregion, which may be revised if necessary, as the SCS process is implemented.

III. FRAMEWORK

The Framework portion of this document covers regional objectives and policy considerations, and provides general direction to the subregions in preparing their own SCS, and APS if necessary.

A. SCAG's preliminary goals for implementing SB 375 are as follows:

- Achieve the regional GHG emission reduction target for cars and light trucks through an SCS.
- Fully integrate SCAG's planning processes for transportation, growth, intergovernmental review, land use, housing, and the environment.
- Seek areas of cooperation that go beyond the procedural statutory requirements, but that also result in regional plans and strategies that are mutually supportive of a range of goals.
- Build trust by providing an interactive, participatory and collaborative process for all stakeholders. Provide, in particular, for the robust participation of local jurisdictions, subregions and CTCs in the development of the SCAG regional SCS and implementation of the subregional provisions of the law.
- Assure that the SCS adopted by SCAG and submitted to California Air Resources Board (ARB) is a reflection of the region's collective growth strategy and vision for the future.
- Develop strategies that incorporate and are respectful of local and subregional priorities, plans, and projects.

B. Flexibility

Subregions may develop any appropriate strategy to address the region's greenhouse gas reduction goals and the intent of SB 375. While subregions will be provided with SCAG data, and with a conceptual or preliminary scenario to use as a helpful starting point, they may employ any combination of land use policy change, transportation policy, and transportation investment, within the specific parameters described in the Guidelines.

C. Outreach Effort and Principles

Subregions are required to conduct an open and participatory process that includes the fullest possible range of stakeholders. As further discussed within the Guidelines, SCAG amended its existing Public Participation Plan (PPP) to describes SCAG's responsibilities in complying with the outreach requirements of SB 375 and other applicable laws and regulations. SCAG will fulfill its outreach requirements for the regional SCS/APS which will include outreach activities regarding the subregional SCS/APS. Subregions are also encouraged to design their own outreach process that meets each subregion's own needs and reinforces the spirit of openness and full participation. To the extent that subregions do establish their own outreach process, this process should be coordinated with SCAG's outreach process.

D. Communication and Coordination

Subregions developing their own SCS are strongly encouraged to maintain regular communication with SCAG staff, the respective CTC, their jurisdictions and other stakeholders, and other subregions if necessary, to review issues as they arise and to assure close coordination. Mechanisms for ongoing communication should be established in the early phases of strategy development.

E. Planning Concepts

SCAG, its subregions, and member cities have established a successful track record on a range of land use and transportation planning approaches through the on-going SCAG Compass Blueprint Program, including approximately 60 local demonstration projects completed to date. Subregions are

encouraged to capture, further develop and build off the concepts and approaches of the Compass Blueprint program. In brief, these include developing transit-oriented, mixed use, and walkable communities, and providing for a mix of housing and jobs.

IV. GUIDELINES

These Guidelines describe specific parameters for the subregional SCS/APS effort under SB 375, including process, deliverables, data, documentation, and timelines. As described above, the Guidelines are created to ensure that the region can successfully incorporate strategies developed by the subregions into the regional SCS, and that the region can comply with its own requirements under SB 375. Failure to proceed in a manner consistent with the Guidelines will result in SCAG not accepting a subregion's submitted strategy.

A. Subregional Process

(1) Subregional Sustainable Communities Strategy

Subregions that choose to exercise their optional role under SB 375 will develop and adopt a subregional Sustainable Communities Strategy. That strategy must contain all of the required elements, and follow all procedures, as described in SB 375. Subregions may choose to further develop an Alternative Planning Strategy (APS), according to the procedures and requirements described in SB 375. If subregions prepare an APS, they must prepare a Sustainable Communities Strategy first, in accordance with SB 375. A subregional APS is not "in lieu of" a subregional SCS, but in addition to the subregional SCS. In part, an APS must identify the principal impediments to achieving the targets within the SCS. The APS must show how the GHG emission targets would be achieved through alternative development patterns, infrastructure, and additional transportation measures or policies. SCAG encourages subregions to focus on feasible strategies that can be included in the SCS.

The subregional SCS must include all components of a regional SCS as described in SB 375, and outlined below:

(i.) identify the general location of uses, residential densities, and building intensities within the subregion;
(ii.) identify areas within the subregion sufficient to house all the population of the subregion, including all economic segments of the population, over the course of the planning period of the RTP taking into account net migration into the region, population growth, household formation and employment growth;
(iii.) identify areas within the subregion sufficient to house an eight-year projection of the regional housing need for the subregion pursuant to Section 65584;
(iv.) identify a transportation network to service the transportation needs of the subregion;
(v.) gather and consider the best practically available scientific information regarding resource areas and farmland in the subregion as defined in subdivisions (a) and (b) of Section 65080.01;
(vi.) consider the state housing goals specified in Sections 65580 and 65581;
(vii.) set forth a forecasted development pattern for the subregion, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the ARB; and

(viii.) allow the RTP to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Sec. 7506). See, Government Code §65080(b)(2)(B).

In preparing the subregional SCS, the subregion will consider feasible strategies, including local land use policies, transportation infrastructure investment (e.g., transportation projects), and other transportation policies such as Transportation Demand Management (TDM) strategies (which includes pricing), and Transportation System Management (TSM) strategies. Technological measures may be included if they exceed measures captured in other state and federal requirements (e.g., AB32).

As discussed further below (under "Documentation"), subregions need not constrain land use strategies considered for the SCS to current General Plans. In other words, the adopted strategy need not be fully consistent with local General Plans currently in place. However, should the adopted subregional strategy deviate from General Plans, subregions will need to demonstrate the feasibility of the strategy by documenting any affected jurisdictions' willingness to adopt the necessary General Plan changes.

The regional SCS shall be part of the 2012 RTP. Therefore, for transportation investments included in a subregional SCS to be valid, they must also be included in the 2012 RTP. Further, such projects need to be scheduled in the RTP for construction completion by the target years (2020 and 2035) in order to demonstrate any benefits as part of the SCS. As such, subregions will need to collaborate with the respective CTC in their area to coordinate the subregional SCS with future transportation investments. It should also be noted that the California Transportation Commission is updating their RTP Guidelines. This topic is likely to be part of further discussion through the SCS process as well.

SCAG will accept and incorporate the subregional SCS, unless (a) it does not comply with SB 375, (b) it is does not comply with federal law, or (c) it is does not comply with SCAG's Subregional Framework and Guidelines. In the event that a compiled regional SCS, including subregional submissions, does not achieve the regional target, SCAG will initiate a process to develop and consider additional GHG emission reduction measures region wide. SCAG will develop a written agreement with each subregional organization to define a process and timeline whereby subregions would submit a draft subregional SCS for review and comments to SCAG, so that any inconsistencies may be identified and resolved early in the process. Furthermore, SCAG will compile and disseminate performance information on the preliminary regional SCS and its components in order to facilitate regional dialogue. The development of a subregional SCS does not exempt any subregion from further GHG emission reduction measures being included in the regional SCS. Further, all regional measures needed to meet the regional target will be subject to adoption by the Regional Council, and any additional subregional measures beyond the SCS submittal from subregions accepting delegation needed to meet the regional target must also be adopted by the subregional governing body.

(2) Subregional Alternative Planning Strategy (APS)

Subregions are encouraged to focus their efforts on feasible measures that can be included in an SCS. In the event that a subregion chooses to prepare an APS, the content of a subregional APS should be consistent with what is required by SB 375 (see, Government Code §65080(b)(2)(H)), as follows:

(i.) Shall identify the principal impediments to achieving the subregional SCS.

(ii.) May include an alternative development pattern for the subregion pursuant to subparagraphs (B) to (F), inclusive.

(iii.) Shall describe how the alternative planning strategy would contribute to the regional greenhouse gas emission reduction target, and why the development pattern, measures, and policies in the alternative planning strategy are the most practicable choices for the subregion.

(iv.) An alternative development pattern set forth in the alternative planning strategy shall comply with Part 450 of Title 23 of, and Part 93 of Title 40 of, the Code of Federal Regulations, except to the extent that compliance will prevent achievement of the regional greenhouse gas emission reduction targets approved by the ARB.

(v.) For purposes of the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code), an alternative planning strategy shall not constitute a land use plan, policy, or regulation, and the inconsistency of a project with an alternative planning strategy shall not be a consideration in determining whether a project may have an environmental effect.

Any precise timing or submission requirements for a subregional APS will be determined based on further discussions with subregional partners. As previously noted, a subregional APS is in addition to a subregional SCS.

(3) Outreach and Process

SCAG will fulfill all of its outreach requirements under SB 375 for the regional SCS/APS, which will include outreach regarding any subregional SCS/APS. SCAG staff has revised its Public Participation Plan to incorporate the outreach requirements of SB 375, and integrate the SB 375 process with the 2012 RTP development as part of SCAG's Public Participation Plan Amendment No. 2, adopted by SCAG's Regional Council on December 3, 2009. Subsequent to the adoption of the PPP Amendment No. 2, SCAG will continue to discuss with subregions and stakeholders the Subregional Framework & Guidelines, which further describe the Public Participation elements of SB 375.

Subregions that elect to prepare their own SCS or APS are encouraged to present their subregional SCS or APS, in coordination with SCAG, at all meetings, workshops and hearings held by SCAG in their respective counties. Additionally, the subregions would be asked to either provide SCAG with their mailing lists so that public notices and outreach materials may also be posted and sent out by SCAG, or SCAG will provide notices and outreach materials to the subregions for their distribution to stakeholders. The SCAG PPP Amendment No. 2 provides that additional outreach may be performed by subregions. Subregions are strongly encouraged to design and adopt their own outreach processes that mimic the specific requirements imposed on the region under SB 375. Subregional outreach processes should reinforce the regional goal of full and open participation, and engagement of the broadest possible range of stakeholders.

(4) Subregional SCS Approval

It is recommended that the governing board of the subregional agency approve the subregional SCS prior to submission to SCAG. While the exact format is still subject to further discussion, SCAG recommends that there be a resolution from the governing board of the subregion with a finding that the land use strategies included in the subregional SCS are feasible and based upon consultation with the local jurisdictions in the respective subregion. Subregion should consult with their legal counsel as to compliance with the California Environmental Quality Act (CEQA). In SCAG's view, the

subregional SCS is not a "project" for the purposes of CEQA; rather, the 2012 RTP which will include the regional SCS is the actual "project" which will be reviewed for environmental impacts pursuant to CEQA. As such, the regional SCS, which will include the subregional SCSs, will undergo a thorough CEQA review. Nevertheless, subregions approving subregional SCSs should consider issuing a notice of exemption under CEQA to notify the public of their "no project" determination and/or to invoke the "common sense" exemption pursuant to CEQA Guidelines § 15061(b)(3).

Finally, in accordance with SB 375, subregions are strongly encouraged to work in partnership with the CTC in their area. SCAG can facilitate these arrangements if needed.

(5) Data Standards

SCAG is currently assessing the precise data standards anticipated for the regional and subregional SCS. In particular, SCAG is reviewing the potential use of parcel data and development types currently used for regional planning. At present, the following describes the anticipated data requirements for a subregional SCS.

1. Types of Variables
   Variables are categorized into socio-economic variables and land use variables. The socio-economic variables include population, households, housing units, and employment. The land use variables include land uses, residential densities, building intensities, etc, as described in SB 375.

2. Geographical Levels
   SCAG is considering the collection and adoption of the data at a small-area level as optional, for local agencies in order to make accessible the CEQA streamlining provisions under SB 375. The housing unit, employment, and the land use variables can be collected at a small area level for those areas which under SB 375 qualify as containing a "transit priority project" (i.e. within half-mile of a major transit stop or high quality transit corridor) for purposes of allowing jurisdictions to take advantage of the CEQA streamlining incentives in SB 375.

   For all other areas in the region, SCAG staff will collect the population, household, employment, and land use variables at the Census tract or Traffic Analysis Zone (TAZ) level.

3. Base Year and Forecast Years
   The socio-economic and land use variables will be required for the base year of 2008, and the target years of 2020 and 2035.

(6) Documentation

Subregions are expected to maintain full and complete records related to the development of the subregional SCS, including utilizing the most recent planning assumptions considering local general plans and other factors. In particular, subregions must document the feasibility of the subregional strategy by demonstrating the willingness of local agencies to consider and adopt land use changes necessitated by the SCS. The format for this documentation may include adopted resolutions from local jurisdictions and/or the subregion's governing board.

(7) **Timing**

An overview schedule of the major milestones of the subregional process and its relationship to the regional SCS/RTP is included below. Subregions must submit the subregional SCS to SCAG by the date prescribed. Further, SCAG will need a preliminary SCS from subregions for the purpose of preparing a project description for the 2012 RTP Program Environmental Impact Report. The precise content of this preliminary submission will be determined based on further discussions. The anticipated timing of this preliminary product is approximately February 2011.

(8) **Relationship to Regional Housing Needs Assessment (RHNA) and Housing Element**

Although SB 375 calls for an integrated process, subregions are not automatically required to take on RHNA delegation as described in State law if they prepare an SCS/APS. However, SCAG encourages subregions to undertake both processes due to their inherent connections.

SB 375 requires that the RHNA allocated housing units be consistent with the development pattern included in the SCS. *See*, Government Code §65584.04(i). Population and housing demand must also be proportional to employment growth. At the same time, in addition to the requirement that the RHNA be consistent with the development pattern in the SCS, the SCS must also identify areas that are sufficient to house the regional population by income group through the RTP planning period, and must identify areas to accommodate the region's housing need for the next local Housing Element eight year planning period update. The requirements of the statute are being further interpreted through the RTP guidelines process. Staff intends to monitor and participate in the guideline process, inform stakeholders regarding various material on these issues, and amend, if necessary, these Framework and Guidelines, pending its adoption.

SCAG will be adopting the RHNA and applying it to local jurisdictions at the jurisdiction boundary level. SCAG staff believes that consistency between the RHNA and the SCS may still be accomplished by aggregating the housing units contained in the smaller geographic levels noted in the SCS and including such as part of the total jurisdictional number for RHNA purpose. SCAG staff has concluded that there is no consistency requirement for RHNA purposes at sub-jurisdictional level, even though the SCS is adopted at the smaller geographic level, for the opportunity areas.

The option to develop a subregional SCS is separate from the option for subregions to adopt a RHNA distribution, and subject to separate statutory requirements. Nevertheless, subregions that develop and adopt a subregional SCS should be aware that the SCS will form the basis for the allocation of housing need as part of the RHNA process. Further, SCS development requires integration of elements of the RHNA process, including assuring that areas are identified to accommodate the 8 year need for housing, and that housing not be constrained by certain types of local growth controls as described in State law.

SCAG will provide further guidance for subregions and a separate process description for the RHNA

B. COUNTY TRANSPORTATION COMMISSIONS' ROLES AND RESPONSIBILITIES

Subregions that develop a subregional SCS will need to work closely with the CTCs in their area in order to coordinate and integrate transportation projects and policies as part of the subregional SCS. As discussed above (under "Subregional Sustainable Communities Strategy"), any transportation

projects identified in the subregional SCS must also be included in the 2012 RTP in order to be considered as a feasible strategy. SCAG can help to facilitate communication between subregions and CTCs.

C. SCAG ROLES AND RESPONSIBILITIES

SCAG's roles in supporting the subregional SCS development process are in the following areas.

(1) **Preparing and adopting the Framework and Guidelines**

SCAG will adopt these Framework and Guidelines in order to assure regional consistency and the region's compliance with law.

(2) **Public Participation Plan**

SCAG will assist the subregions by developing, adopting and implementing a Public Participation Plan and outreach process with stakeholders. This process includes consultation with congestion management agencies, transportation agencies, and transportation commissions; and SCAG will hold public workshops and hearings. SCAG will also conduct informational meetings in each county within the region for local elected officials (members of the board of supervisors and city councils), to present the draft SCS, and APS if necessary, and solicit and consider input and recommendations.

(3) **Methodology**

As required by SB 375, SCAG will adopt a methodology for measuring greenhouse gas emission reductions associated with the strategy.

(4) **Incorporation/Modification**

SCAG will accept and incorporate the subregional SCS unless it does not comply with SB 375, federal law, or the Subregional Framework and Guidelines. As SCAG intends the entire SCS development process to be iterative, SCAG will not amend a locally-submitted SCS. SCAG may provide additional guidance to subregions so that subregions may make amendments to its subregional SCS as part of the iterative process, or request a subregion to prepare an APS if necessary. Further, SCAG can propose additional regional strategies if feasible and necessary to achieve the regional emission reduction target with the regional SCS. SCAG will develop a written agreement with each subregional organization to define a process and timeline whereby subregions would submit a draft subregional SCS for review and comments to SCAG, so that any inconsistencies may be identified and resolved early in the process.

(5) **Modeling**

SCAG currently uses a Trip-Based Regional Transportation Demand Model and ARB's EMFAC model for emissions purposes. In addition to regional modeling, SCAG is developing tools to evaluate the effects of strategies that are not fully accounted for in the regional model. SCAG is also developing two additional tools – a Land Use Model and an Activity Based Model – to assist in strategy development and measurement of outcomes under SB 375.

In addition to modeling tools which are used to measure results of completed scenarios, SCAG is developing a scenario planning tool for use in workshop settings as scenarios are being created with jurisdictions and stakeholders. The tool will be made available to subregions and local governments for their use in subregional strategy development.

(6) Adoption/Submission to State

After the incorporation of subregional strategies, SCAG will finalize and adopt the regional SCS as part of the 2012 RTP. SCAG will submit the SCS to ARB for review as required in SB 375.

(7) Conflict Resolution

While SB 375 requires SCAG to develop a process for resolving conflicts, it is unclear at this time the nature or purpose of a conflict resolution process as SCAG does not intend to amend a locally-submitted SCS. As noted above, SCAG will accept the subregional SCS unless it is inconsistent with SB 375, federal law, or the Subregional Framework and Guidelines. SCAG will also request that a subregion prepare an APS if necessary. It is SCAG's intent that the process be iterative and that there be coordination among SCAG, subregions and their respective jurisdictions and CTCs. SCAG is open to further discussion on issues which may generate a need to establish a conflict resolution process as part of the written agreement between SCAG and the subregional organization.

(8) Funding

Funding for subregional activities is not available at this time, and any specific parameters for future funding are speculative. Should funding become available, SCAG anticipates providing a share of available resources to subregions. While there are no requirements associated with potential future funding at this time, it is advisable for subregions to track and record their expenses and activities associated with these efforts.

(9) Preliminary Scenario Planning

SCAG will work with each subregion to collect information and prompt dialogue with each local jurisdiction prior to the start of formal SCS development. This phase of the process is identified as "preliminary scenario planning" in the schedule below. The purpose of this process is to create a base of information to inform SCAG's recommendation of a regional target to ARB prior to June 2010. All subregions are encouraged to assist SCAG in facilitating this process.

(10) Data

SCAG is currently developing, and will provide each subregion with datasets for the following:

(1) 2008 Base year;
(2) General Plan/Growth projection & distribution;
(3) Trend Baseline; and
(4) Policy Forecast/SCS.

While the Trend Baseline is a technical projection that provides a best estimate of future growth based on past trends and assumes no general plan land use policy changes, the Policy Forecast/SCS is derived using local input through a bottom-up process, reflecting regional policies including transportation investments. Local input is collected from counties, subregions, and local jurisdictions.

Data/GIS maps will be provided to subregions and local jurisdiction for their review. This data and maps include the 2008 base year socioeconomic estimates and 2020 and 2035 socioeconomic forecast. Other GIS maps including the existing land use, the general plan land use, the resource areas, and other important areas identified in SB 375. It should be noted that none of the data/maps provided were endorsed or adopted by SCAG's Community, Economic and Human Development Committee (CEHD). All data/maps provided are for the purpose of soliciting input and comments from subregions and local jurisdictions. This is to initiate dialogue among stakeholders to address the requirements of SB 375 and its implementation.

The list of data/GIS maps include:

1. Existing land use
2. Zoning
3. General plan land use
4. Resource areas include:
   (a.)all publicly owned parks and open space;
   (b.)open space or habitat areas protected by natural community conservation plans, habitat conservation plans, and other adopted natural resource protection plans;
   (c.)Habitat for species identified as candidate, fully protected, sensitive, or species of special status by local, state, or federal agencies or protected by the federal Endangered Species Act (1973), the California Endangered Species Act, or Native Plant Protection Act;
   (d.)lands subject to conservation or agricultural easements for conservation or agricultural purposes by local governments, special districts, or nonprofit 501(c)(3) organizations, areas of the state designated by the State Mining and Geology Board as areas of statewide or regional significance pursuant to Section 2790 of the Public Resources Code, and lands under Williamson Act contracts;
   (e.)areas designated for open-space or agricultural uses in adopted open space elements or agricultural elements of the local general plan or by local ordinance;
   (f.)areas containing biological resources as described in Appendix G of the CEQA Guidelines that may be significantly affected by the sustainable communities strategy or the alternative planning strategy; and
   (g.)an area subject to flooding where a development project would not, at the time of development in the judgment of the agency, meet the requirements of the National Flood Insurance Program or where the area is subject to more protective provisions of state law or local ordinance.
5. Farmland
6. Sphere of Influence
7. Transit priority areas
8. City/Census tract boundary with ID
9. City/TAZ boundary with ID

(11) Tools

SCAG is developing a Local Sustainability Planning Model (LSPM) for subregions/local jurisdictions to analyze land use impact. The use of this tool is not mandatory and is at the discretion of the Subregion. The LSPM is a web-based tool that can be used to analyze, visualize and calculate the impact of land use changes on auto ownership, mode use, vehicle miles of travel (VMT), and greenhouse gas emissions in real time. Users will be able to estimate transportation and emissions impacts by modifying land use designations within their community.

Other tools currently maintained by SCAG may be useful to the subregional SCS development effort, including the web-based CaLCOTS application. SCAG will consider providing guidance and training on additional tools based on further discussions with subregional partners.

(12) Resources and technical assistance

SCAG will assist the subregions by making available technical tools for scenario development as described above. Further, SCAG will assign a staff liaison to each subregion, regardless of whether the subregion exercises its statutory option to prepare an SCS. SCAG staff can participate in subregional workshops, meetings, and other processes at the request of the subregion, and pending funding and availability. SCAG's legal staff will be available to assist with questions related to SB 375 or SCAG's implementation of SB 375. Further, SCAG will prepare materials for its own process in developing the regional SCS, and will make these materials available to subregions.

D. MILESTONES/SCHEDULE

- CARB issues Final Regional Targets – September 2010
- SCS development (preliminary scenario, draft, etc) – through early 2011
- Release Draft RTP/regional SCS for public review – November 2011
- Regional Council adopts RTP/SCS – April 2012

If other milestones are needed, they will be incorporated into the written agreement between SCAG and the Subregion.

Exhibit B: Milestones Schedule

The key milestones and related schedule required as part of the development of the Gateway Cities COG Subregional SCS are as follows:

1. Status report on Preliminary Subregional SCS – Dec 2010
2. Adopted GCCOG Dataset/Delivery to SCAG – Jan 2011
3. Preliminary SCS / for purposes of preparing PEIR project description (intended to be narrative only project description that describes intended strategies or strategy options that are likely to be incorporated into the final Subregional SCS.) – Feb 2011
4. Status report on Draft Subregional SCS – Feb 2011
5. Draft Subregional SCS (containing all components described above) to be incorporated into draft Regional SCS – Apr 2011
6. Status report on final Subregional SCS – April 2011
7. Final Subregional SCS for incorporation into Regional SCS – June 2011
8. Iterative process, if necessary to meet target – June to November 2011
9. Gateway Cities COG to participate in regional outreach conducted in Orange County – June 2011 to February 2012
10. Regional SCS adoption – April 2012

Exhibit C: Deliverables Template

The Gateway Cities COG Subregional SCS will consist of the following components:

1. Database (GCCOG Dataset) that allocates population, housing, household, and employment to areas of the county. Geographic area should be the smallest level practicable for the COG to produce, preferably at the parcel level. The database must reflect the base year 2008 and each variable in the two GHG target years (2020 and 2035), in accordance with the Data Standards set forth below.
2. A map or series of maps that illustrates the growth distribution described above, and that further delineates uses, intensities, and residential densities, in accordance with the Data Standards set forth below.
3. A listing of transportation projects that are incorporated in the subregional SCS.
4. A listing and description of transportation policies (e.g. TDM, TSM and others) to be employed.
5. Documentation that establishes the process, including the public participation and outreach process used to develop the SCS, and demonstrates the affected jurisdictions willingness to consider general plan changes.
6. A narrative description of the strategies employed to reduce greenhouse gas emissions. A further description of any other strategies that were considered and not ultimately included.

DATA STANDARDS

The following data standards will be used in the development of a subregional SCS:

1. Types of Variables

Variables are categorized into socio-economic variables and land use variables. The socio-economic variables include population, households, housing units, and employment. The land use variables may include land uses designations, building densities, building intensities, and applicable policies.

2. Geographical Levels

Socio-economic and land-use variables should be provided to SCAG at the smallest geographical level practicable for GCCOG to produce, preferably at the parcel level. At a minimum, such variables will be provided at the Census tract or Traffic Analysis Zone (TAZ) level

3. Base Year and Forecast Years

The socio-economic data and land use variables will be required for the base year of 2008, and as feasible, for the target years of 2020 and 2035

DOCUMENTATION

Subregions are expected to maintain full and complete records related to the development of the Subregional SCS, including utilizing the most recent planning assumptions considering local general plans and other factors. In particular, subregions must document the feasibility of the subregional strategy by demonstrating the willingness of local agencies to consider and adopt land use changes necessitated by the SCS. The format for this documentation may include adopted resolutions from local jurisdictions and/or the subregion's governing board. Subregions shall include information regarding the status of the documentation as part of the required status reports to SCAG, and copies of the actual documentation shall be submitted to SCAG as part the final Subregional SCS.

CAMBRIDGE SYSTEMATICS

Gateway Cities Council of Governments
Subregional Sustainable Communities Strategy

In Accordance with California Senate Bill 375

final

report

prepared for

Gateway Cities Council of Governments

prepared by

Cambridge Systematics, Inc.

with

Willdan Engineering
MIG, Inc.
ESTC

June 21, 2011

www.camsys.com

final report

Gateway Cities Council of Governments Subregional Sustainable Communities Strategy

In Accordance with California Senate Bill 375

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Gateway Cities Council of Governments

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June 21, 2011

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Executive Summary

The Gateway Cities subregion is one of 14 within the Southern California Association of Governments (SCAG). The California law Senate Bill (SB) 375 requires each of the 18 metropolitan planning organizations (MPO) in the State to prepare a Sustainable Communities Strategy (SCS).[1] The requirement applies as each MPO prepares its next update of its Regional Transportation Plan (RTP). Unique to the SCAG region, however, a subregional council of governments, such as the Gateway Cities Council of Governments (COG), and the county transportation commission (Los Angeles County Metropolitan Transportation Authority (LACMTA)) may work together to formulate the SCS for that subregional area. Two of the 14 subregions, Gateway Cities and Orange County, exercised this option. The remaining subregions elected to participate with SCAG in development of the regional SCS.

The Gateway Cities SCS was built first by each city selecting GHG strategies that work for their individual community. These local strategies are a blend of efforts that the Gateway COG and its communities have been pursuing over the last decade and future efforts that each jurisdiction plans to implement over about the next 25 years. The Gateway City communities then integrated these local strategy portfolios with subregional and regional transportation projects located within the subregion that are expected to be part of the 2012 SCAG RTP. The results are a Gateway SCS that will exceed the regional targets set by the California Air Resources Board (CARB).

This report provides the Gateway Cities subregional SCS, documenting the program the subregion's jurisdictions plan to implement to reduce greenhouse gases (GHG) by 2020 and 2035 using transportation and land use strategies throughout the Gateway Cities.

GHG Reduction Results from Gateway Cities

Gateway Cities COG worked with SCAG to obtain the information needed to generate the Gateway Cities subregional baseline emissions per capita in 2005, which is the base year specified by SB 375. This analysis applied the Adopted

[1] Set forth in amendments to the Government Code Sections 65080, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, and 65588, and added to Sections 14522.1, 14522.2, and 65080.01 and to amend the Public Resources Code Section 21061.3, add Section 21159.28, and add Chapter 4.2 (commencing with Section 21155) to Division 13 relating to environmental quality.

2008 RTP Growth Forecast and the Local Input/General Plan 2012 RTP Growth Forecast as the per capita denominator for the SB 375 target years of 2020 and 2035. The results of this analysis produced a daily GHG per capita estimate for 2005 of 16.64 lbs of carbon dioxide equivalent (CO_2e) for the Gateway Cities subregion compared to 21.2 lbs CO_2e for the SCAG region.[2] This difference is consistent with the differences between the Gateway Cities subregion and the SCAG region as a whole: higher land use density, lower car ownership per household, higher density and service levels for transit, and lower vehicle miles of travel (VMT) per household. The 16.64 lbs CO_2e per capita in 2005 for the Gateway Cities subregion was used as the benchmark for the Gateway Cities SCS attainment of the CARB targets for the SCAG region. The estimated GHG reductions relative to this benchmark are achieved with the following five bundles of strategies.

- **Transportation Strategies.** Cities and the County submitted approximately 340 strategies.[3] This portfolio generates a significant amount of reduction, the highest GHG reduction after the regional transportation projects. The interactive effects between these strategies and land use (smart growth policies) are accounted for in the land use analysis (described below).
- **Transportation Demand Management (TDM) Strategies.** The focus was on three main categories of TDM: compressed workweek schedules for city employees (12 cities), ridesharing programs for city employees (6 cities), and TDM or Trip Reduction Ordinances for new development (8 cities). This bundle also incorporates the interactive effects between TDM and land use and transit.[4]
- **Land Use.** Of the 26 participating cities, 11 cities chose to evaluate their 2008, 2020, and 2035 default scenarios in the Sustainability Tool (ST). These cities worked with SCAG to revise the 2008 scenario so it more accurately reflected the actual land use at that time. These cities also evaluated their 2020 and 2035 scenarios, which the ST contained as representations of each city's general plan.[5] After these evaluations, most cities made adjustments so the land use patterns in the ST more closely matched their general plan. None of these cities adopted land use strategies for their 2020 or 2035 scenarios that will differ from their general plans. The remaining cities used the ST-equivalents of their adopted general plans (i.e., default scenarios in the ST), which is SCAG's best judgment of city general plans converted to grid cells. The ST has functionality that estimates the interactions between land use and proximity to bus and rail (i.e., fixed guideway) transit node.[6] These are included in the estimated GHG reductions from each city's 2020 and 2035 land use policies.
- **Regional Projects, including Measure R.** Regional transportation projects located within the Gateway Cities will reduce GHG within the subregion. Gateway Cities COG staff determined 17 projects that are included in the RTP, such as multimodal and intermodal facilities; and ramp and freeway improvements, such as carpool (high-occupancy vehicle (HOV)), high-occupancy toll (HOT), and toll lanes. The analysis of their estimated GHG reductions was derived from travel demand model output from LACMTA and SCAG.
- **Interactive Effects Between Land Use and Regional Transit Projects.** The long timeframe for implementation of the Measure R transit projects and the long lead time for redevelopment activities adjacent to new transit justify only attributing estimated GHG reductions resulting from the interaction between land use and Measure R transit projects in the Gateway Cities in 2035 and none in 2020.

Combining the GHG reduction strategies from the five categories described above, the subregion, as a whole, is expected to reduce GHG per capita from the benchmark in 2005 by approximately 8.4 percent in 2020 and more than 15 percent in 2035. Table ES.1 and Figure ES.1 present these results.

[2] The unincorporated areas of Gateway Cities subregion are included in the daily GHG per capita baseline.

[3] Approximately 50 additional strategies were either incomplete, did not have sufficient information for analysis, or were not relevant.

[4] The inventory of TDM strategies does not include activities being carried out by private businesses or institutions. Insufficient time and resources prevented a survey.

[5] The ST converts general plan information from each city into 5.5-acre grid cells, where each grid cell is assigned one of 26 possible types of land use. This assignment process provides a reasonable approximation of a city's aggregate land use, but may on occasion assign general plan land use designations to incorrect grid cell types.

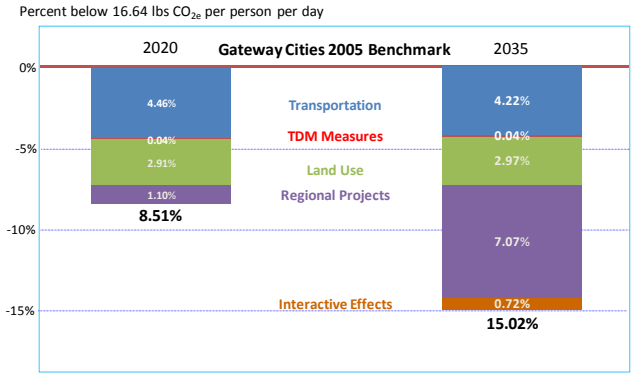
[6] The influence of land use on travel behavior (i.e., mode choice and VMT) is often separated into four characteristics of the built environment: density, diversity (mix of land use types), design, destination (the 4Ds). The ST has a typology of 24 types of land use that incorporate the significant differences in density, diversity, and design, which is three of the four Ds.

Gateway Cities Council of Governments Subregional Sustainable Communities Strategy

Table ES.1 Summary GHG Reduction Results for Gateway Cities from 2005 Benchmark
In lbs CO2e per Person per Day

	Absolute Daily GHG Reduction per Capita		Percentage Daily GHG Reduction per Capita	
	2020	2035	2020	2035
Transportation	0.74	0.70	4.46%	4.22%
TDM	0.007	0.007	0.04%	0.04%
Land Use	0.48	0.49	2.91%	2.97%
Regional Projects	0.18	1.17	1.10%	7.07%
Interactive Effects	N/A	0.12	N/A	0.72%
Total	1.40	2.48	8.51%	15.02%
SCAG Targets			*8%*	*13%*

Figure ES.1 Percentage Daily GHG Reduction Per Capita in Gateway Cities
In lbs CO_2e per Person per day from 2005 Benchmark



1.0 Introduction

1.1 Gateway Cities COG

The Gateway Cities make up the area of Los Angeles County generally bordered by the City of Los Angeles on the west, Orange County on the east, the Pomona (SR 60) Freeway on the north, and extending south to the Cities of Long Beach and Avalon. The entire Gateway Cities region is home to about two million residents. The cities' collaboration dates back to their joint establishment of a regional authority, the Gateway Cities Council of Governments (or COG), in the mid-1990s.

The Gateway Cities COG is a California joint powers authority made up of 27 cities and the County of Los Angeles (three County supervisory districts which cover the unincorporated communities within the subregion), formed for the purpose of providing a vehicle for members to voluntarily engage in regional and cooperative planning and coordination of government services for the collective benefit of the residents of Southeast Los Angeles County. The goal and intent of the COG are to foster voluntary cooperation among cities and the County in the areas of transportation, air quality, housing, and economic development. The City of Montebello is a member of the Gateway Cities COG, but associates with the San Gabriel Valley COG, of which it is also a member, on housing policy and regulation. Montebello did not participate in this Sustainable Communities Strategy (SCS), leaving 26 participating cities.[7]

In addition to the member jurisdictions, the Gateway Cities COG includes the Port of Long Beach as an ex-officio member. In addition, other agencies that have an informal affiliation with Gateway Cities COG include the Los Angeles County Metropolitan Transportation Authority (LACMTA) and Los Angeles County.

1.2 Purpose of the SCS

In September 2008, the State passed Senate Bill 375 (SB 375), which became effective on January 1, 2009. SB 375 assigns each of California's 18 Metropolitan Planning Organizations (MPO) with targets to reduce greenhouse gas (GHG)

[7] The Los Angeles County Public Works Department provided intercity arterial improvement projects described in detail in Appendix G.

emissions from passenger and light-truck vehicle miles traveled (VMT).[8] These targets have been set for each MPO by the California Air Resources Board (CARB); and in accordance with SB 375, CARB formed the Regional Targets Advisory Committee (RTAC) to advise them on targets. CARB assigned the Southern California Association of Governments (SCAG) a target of 8 percent reduction in per capita GHG (i.e., carbon dioxide equivalent or CO_2e) from 2005 levels by the year 2020 and 13 percent from 2005 levels by 2035.

SB 375 requires each MPO to prepare an SCS as part of its Regional Transportation Plan (RTP) update that specifies how the region will attain the GHG reduction targets it was assigned. The SCS identifies the land use policies, transportation improvements, transportation demand management (TDM) strategies, and other measures that will in combination reduce GHG to achieve the CARB targets. The SCS may only account for estimated GHG reductions from changes in the emissions from the VMT of autos and light trucks. This narrow specification is difficult to fully understand, so we present the following example:

- Suppose a city launched a new transit service that uses hybrid buses, which emit 50 percent less GHG than buses powered by conventional diesel motors. Suppose this program attracted 1,000 new riders, all of whom were each previously driving single-occupant vehicles (SOV), 10 miles daily. The SCS could account for the difference in GHG between the GHG from the new hybrid buses and the 10,000 VMT eliminated from the mode shift of 1,000 SOVs to the new transit service. It could not include the GHG reduced from using hybrid buses instead of conventional diesel-powered buses. This latter reduction was from a technological source (hybrid power) and not from a transportation improvement (new transit service).
- Now, suppose the city also enacted a new smart growth plan that shifted future commercial development from three low-density business parks to high rises in its central business district (CBD). This compact, high-density development pattern shifted another 1,000 SOVs to use the new transit service that would have otherwise commuted five miles on average to the three business parks. The SCS could add this reduction in GHG from 5,000 VMT towards its target. Nevertheless, the SCS could not take credit for any reduction in GHG from the new high-rise office buildings in the CBD because they were built to green building standards (e.g., efficient heating and cooling, recycling, etc.). This latter reduction comes from a stationary source, which is credited under AB 32, but not SB 375.

[8] SB 375 is one part of a broader GHG reduction effort to meet the Assembly Bill 32 – Global Warming Solutions Act of 2006 (AB 32) target of reducing GHG emissions statewide to 1990 levels by 2020.

- Furthermore, suppose the city adopted a TDM ordinance that required all employers to provide discounted transit passes, bike lockers, and flex time schedules to all employees in the CBD. Suppose these TDM programs led to an additional reduction of 10,000 VMT compared to the VMT without such an ordinance. The SCS could add the reduction in GHG from another 10,000 VMT towards its target.

The overall goal of the SCS is to identify and implement land use policies, transportation improvements (including transit), and other supporting strategies that work in combination (i.e., interactions or synergies), which shift drivers from SOVs to transit, carpools, bicycle, or walking. And for those that still drive, the SCS provides strategies that reduce their VMT.

1.3 THE SCS DEVELOPMENT PROCESS

SCAG is preparing the regional SCS in conjunction with its RTP, and CARB must approve the regional SCS. Unique to the SCAG region, however, a subregional COG, such as the Gateway Cities COG, and the county transportation commission (LACMTA) may work together to formulate the SCS for that subregional area. Two of the 14 subregional COGs, Gateway Cities and Orange County, exercised this option.[9] The remaining COGs elected to participate with SCAG in development of the regional SCS.

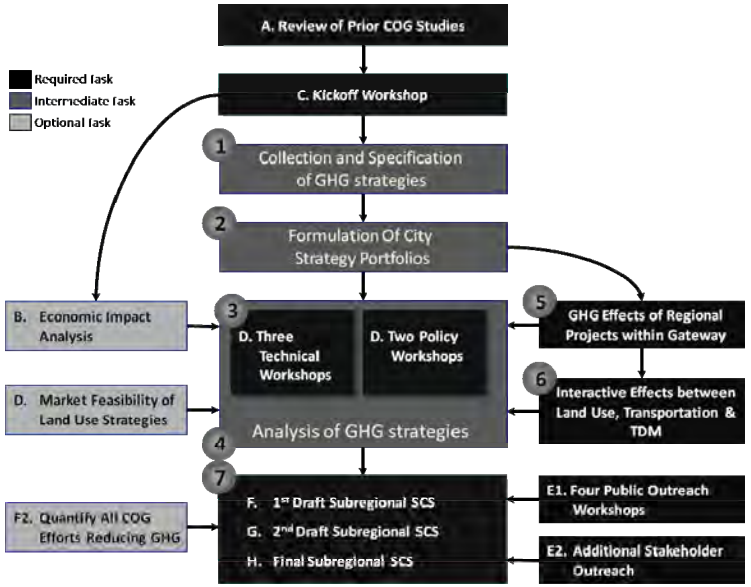
The Gateway Cities COG and its 26 participating member jurisdictions (the City of Montebello participates with the San Gabriel Valley COG) assessed themselves to retain a consulting team led by Cambridge Systematics, Inc. with Willdan Energy Solutions/Engineering, Eric Schreffler Transportation Consultant, and MIG, Inc. to prepare this SCS. The COG decided to develop a subregional SCS that would fulfill virtually all of the requirements set forth by CARB for the regional SCS. This included quantifying the expected GHG reductions in the two target years of 2020 and 2035 from strategies selected and agreed to by the 26 participating cities, Los Angeles County, and LACMTA. Appendix A provides the Memorandum of Understanding (MOU) between SCAG and Gateway Cities COG regarding the subregional SCS, which includes the SCAG Framework and Guidelines for Subregional Sustainable Communities Strategy as Exhibit A.

The consultant team and Gateway Cities COG staff started with a review of the white paper (*Addressing the Requirements of SB 375 at the Sub-Regional Level*, December 2009), which was prepared by Willdan in a prior phase of work; and a survey conducted by Willdan in 2009 of COG sustainability efforts to all member cities (see Figure 1.1). A summary of the white paper can be found in Appendix B.

[9] Gateway Cities COG formally notified SCAG after the COG Board voted on January 6, 2010.

This information was used to prepare a road map and conduct a gap analysis of what information and analysis would be needed to complete a subregional SCS. This road map and gap analysis were used to frame the contents of a kickoff workshop for Gateway Cities COG Board members, city managers, and planning directors, as well as SCAG staff and LACMTA staff. During this kickoff meeting, which took place in October 2010, Gateway Cities COG staff and consultant team worked with city staff and some stakeholders to refine the overall SCS process and a preliminary approach to estimating GHG reduction. This involved augmenting the task plan from that specified in the request for proposals (RFP). The primary augmentations were the addition of intermediate tasks shown in Figure 1.1 below.

Figure 1.1 The SCS Development Process



After the kickoff workshop, the SCS Steering Committee and COG staff acknowledged that no additional funding would be available for the optional tasks. The consultant team, therefore, proceeded with the following required and intermediate tasks:

1. Each of the 26 participating cities included in the Gateway Cities SCS plus the Los Angeles County Public Works Department identified and assisted with the specification of GHG reduction strategies that they would implement. This task constitutes the approach of local formulation of the SCS.
2. Each city conducted between two to five iterations of strategy selections, after which each city formulated a draft strategy portfolio composed of transportation projects (including transit), TDM measures, and land use scenarios.
3. These portfolios were reviewed and refined first by the consultant team, and then by city staff and elected officials during the four technical and two policy workshops. Significant attention was devoted to bundling strategies so that their interactions produce larger effects than if each strategy operated independently.
4. The consultant team refined existing analytical methods on evaluating the performance of GHG strategies to adapt to Gateway Cities' conditions; and applied these methods using sketch planning models, the SCAG Sustainability Tool, and the LACMTA iMpact Tool.[10]
5. In addition to the formulation of each city's portfolio, regional projects were added, and the interaction between these regional projects and land use and transportation improvements was estimated.
6. Once analysis of all city portfolios and regional projects was complete, a further round of analysis evaluated interactions and added these effects to the overall GHG reduction estimates.
7. During the preparation of the draft subregional SCS, the methods, strategies, and some preliminary performance evaluations were presented to the public at four public outreach meetings and a meeting with a group of interested business, housing, and environmental stakeholders.

[10]The iMpact Tool was developed by Cambridge Systematics for LACMTA to facilitate the preparation of a countywide Congestion Mitigation Fee (CMF). The tool is a web-based geographic information system (GIS) application that allows each of the 88 cities and the Los Angeles County to enter candidate CMF transportation projects, edit land use or socioeconomic forecasts, estimate total costs, forecast revenues, and calculate impact fee schedules by jurisdiction. Gateway Cities COG requested that supplemental functionality be added to the iMpact Tool that would calculate the GHG impacts of individual projects. This functionality was used to estimate the GHG of the 340 transportation projects selected by the participating jurisdictions included in this SCS.

8. The results were integrated into the first draft of the SCS, which was provided for review to the 26 participating jurisdictions, COG staff, SCAG, and other stakeholders. The final SCS was delivered to the Board on June 29, 2011.

1.4 ORGANIZATION OF SCS DOCUMENT

The remainder of this document is organized into 12 sections (including appendices). This organization follows the format specified by CARB and in the MOU between the Gateway Cities COG and SCAG (see Appendix A).

2. **Situation Analysis.** This section is an overview of the demographic, transportation, and economic context for the Gateway subregion's SCS. It consists of the following four subsections:

   2.1 Growth Trends and Projections. The demographic setting for the SCS, including population, employment, household income, ethnicity, age, and land use density and its relevance to transportation planning and land use patterns.

   2.2. Transportation Trends. Existing transportation systems throughout the subregion: facilities, services, and travel patterns. This subsection also describes transportation performance in target years based on funded transportation projects and transportation policies (e.g., Traffic Demand Management (TDM), Transportation System Management (TSM), and others) included in the SCAG RTP and the LACMTA Long-Range Transportation Plan (LRTP).

   2.3. Economic and Fiscal Trends. Current real estate markets, employment trends, industry structure of subregion, and other salient business conditions. This subsection also summarizes economic development and current fiscal conditions of cities.

   2.4. 2005 GHG Performance for Gateway Cities. Presents the analysis used to calculate the 2005 base year GHG per capita baseline.

3. **Subregional SCS Development Process.** This section has three subsections that describe the process Gateway Cities COG followed to initiate and develop its SCS.

   3.1. SCS Delegation to Gateway describes the decision to develop a stand-alone SCS versus one that identified strategies at the jurisdictional and subregional levels. The former calculates the expected GHG reduction and compares the amount reduced to a 2005 benchmark calculated specifically for the subregion.

   3.2. Development of Strategy Portfolios describes the approach beginning with each jurisdiction developing its own portfolio, then integration with other jurisdictions, the Gateway subregion, LACMTA, and the SCAG region.

   3.3. Stakeholder and public outreach describes the timeline and public outreach activities.

4. **Land Use Characteristics.** This section identifies the general location of uses, residential densities, and building intensities within the subregion. It presents SCAG and State Department of Finance projections for regional population and employment growth trends, and describes revisions made by member jurisdictions. It also summarizes existing general plans and housing elements from all 26 Gateway Cities participating in the SCS.

5. **Growth Accommodations.** This section identifies areas within the subregion sufficient to house all the population of the subregion, including economic segments of the population, over the course of the planning period of the RTP, taking into account net migration into the region, population growth, household formation, and employment growth. It also identifies areas within the Gateway subregion that are sufficient to accommodate the subregion's projected regional housing need for an eight-year period (pursuant to Section 65584 of the Government Code), and an inventory of surplus development capacity of housing sites by city for the current housing element planning period (2006 to 2014).

6. **Affordable Housing Accommodation.** The law (SB 375) requires this analysis show the ability of the land use patterns proposed in the subregional SCS to accommodate the development of housing to meet the Regional Housing Needs Assessment (RHNA) estimated needs of low-, very low-, and extremely low-income households. It also describes the default densities established in Section 65583.2 of the California Government Code, utilized by the State Department of Housing and Community Development, to determine certification of housing elements of the jurisdictions' general plans. This process, however, cannot be completed at this time because the State's RHNA housing allocations will not be provided to SCAG until the fall of 2011, which is some months past the submittal of this SCS to SCAG.

7. **Transportation Network.** This section describes the roadway, transit, TDM, and other strategies employed to reduce GHG emissions.

8. **Resource Areas and Farmland.** This section describes the resource areas and farmland in the subregion as defined in Subdivisions A and B of Government Code §65080.01. Resource areas within the Gateway Cities subregion include:

   a. Publicly-owned parks and open space;

   b. Significant wildlife habitat areas;

   c. Lands subject to conservation or other forms of open space easements; and

   d. Flood prone areas in which development would not meet the requirements of the National Flood Insurance Program.

9. **State Housing Goals.** This section is required to describe the consideration of the state housing goals specified in Government Code §65580 and §65581 and the distribution of SCAG's subregional RHNA allocation among the member jurisdictions. It will identify adequate appropriately zoned sites to accommodate the projected housing needs. The RHNA allocations, however, will not be available until after this SCS is completed, and thus these requirements will be fulfilled as part of the SCAG SCS.
10. **Integration of Development Pattern with the Transportation Network.** This section describes the integration of the forecasted development pattern for the subregion with the transportation network and other transportation measures and policies. It reports interactions or synergies between land use changes and the other transportation measures and policies. These synergies add significant magnitude to the reductions of GHG emissions from individual strategies.
11. **Compliance with Regional and Federal Requirements.** This section consists of three subsections that present the total reduction of GHG from all strategies (including land use).
    - 11.1 This subsection describes the SCS strategies, growth forecasts, land use, and housing accommodation; and how other elements of the subregional SCS conform to the SCAG RTP and SCS plans and assumptions.
    - 11.2 This subsection describes how the Gateway Cities Subregional SCS attains GHG per capita reduction relative to the 2005 GHG per capita benchmark specific for the Gateway subregion. It compares these reductions in 2020 and 2035 to the 2005 benchmark GHG per capita presented in Subsection 2.4. These results demonstrate how well the Gateway SCS achieves the GHG emission targets specified for the SCAG region by the CARB.
    - 11.3 This subsection describes how the Gateway Cities Subregional SCS complies with the Federal Clean Air Act, and specifically with Section 176 of the Federal Clean Air Act (42 U.S.C. Sec. 7506). See Government Code §65080(b)(2)(B). This Federal law forms the statutory basis for the transportation conformity process. While there is no State Implementation Plan (SIP) budget or National Ambient Air Quality Standards (NAAQS) for GHG emissions, current practice treats proposed controls as Transportation Control Measures (TCM) in the SIP and the controls become subject to the timely implementation requirements of the conformity rule.
12. **Financial and Fiscal Implementation**. This section considers the challenges of implementing the SCS strategies, especially those that would be funded by local jurisdictions.

13 **Appendices**. The following 10 appendices provide the underlying data, analytical methods, and other supporting materials for the results presented in this document:

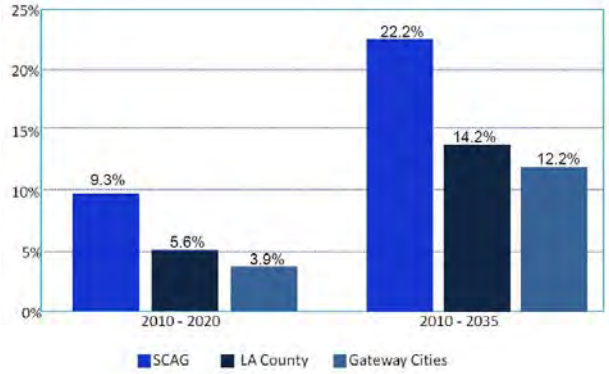
- 13.1 **Appendix A.** Process Document. Memorandum of Understanding (MOU) Between SCAG and Gateway Cities Council of Governments for the Gateway Cities Sustainable Communities Strategy, October 7, 2010.
- 13.2 **Appendix B.** Prior Studies of the Gateway Cities Council of Governments Relevant to SB 375.
- 13.3 **Appendix C.** Public Outreach Materials: Press Release, Stakeholder Invitation list, Workshop Flyer, Open House Looping Presentation, and Display Boards.
- 13.4 **Appendix D.** List of Transportation Improvement Projects in the Gateway Cities and the list of Future (Post 2010) Project Costs and Funding.
- 13.5 **Appendix E.** Analysis for Transportation Demand Management Strategies in the Gateway Cities.
- 13.6 **Appendix F.** Land Use Scenario Strategies from Sustainability Tool (2008, 2020, and 2035).
- 13.7 **Appendix G.** List of Regional Transportation Strategies in the Gateway Cities.
- 13.8 **Appendix H.** Analysis of Interactive Effects Contributing to Further GHG Reduction in the Gateway Cities.
- 13.9 **Appendix I.** CEQA Streamlining.
- 13.10 **Appendix J.** Jurisdiction General Plans.

2.0 Situation Analysis

2.1 Overview of Growth

A comparison of data from SCAG's draft 2012 RTP Growth Forecast (i.e., the Integrated Growth Forecast) indicates that the Gateway Cities will have a lower rate of population growth over the next 10-year and 25-year periods than either the SCAG region or Los Angeles County. Projected population growth for the Gateway Cities subregion is approximately 3.9 percent for the period 2010 to 2020, as compared to 9.3 percent for the SCAG region and 5.6 percent for Los Angeles County for the same period. Similarly, as shown in Figure 2.1, the Gateway Cities subregion has a lower projected population growth at 12.2 percent for the period 2010 to 2035, as compared to 22.2 percent and 14.2 percent for the SCAG region and Los Angeles County, respectively.

Figure 2.1 Relative Population Growth of SCAG, Los Angeles County, and Gateway Cities from Draft 2012 RTP Forecasts

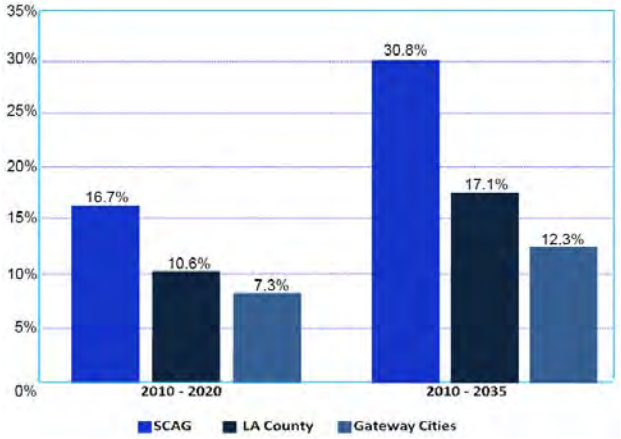


Source: SCAG RTP 2012 Integrated Growth Forecast.

Growth forecasts for employment show a similar trend over the 2010 to 2020 and 2010 to 2035 periods with the Gateway Cities subregion lagging behind higher employment growth rates for the SCAG region and Los Angeles County. Projected employment growth for the Gateway Cities is 7.3 percent for 2010 to 2020 and 12.3 percent for the period 2010 to 2035, as shown in Figure 2.2. By

comparison, projected employment growth for the 2010 to 2020 period is 16.7 percent for the SCAG region and 10.6 percent for Los Angeles County; and 30.8 percent and 17.1 percent, respectively, for the SCAG region and Los Angeles County in the 2010 to 2035 period.

Figure 2.2 Relative Employment Growth of SCAG, Los Angeles County and Gateway Cities from Draft 2012 RTP Forecasts



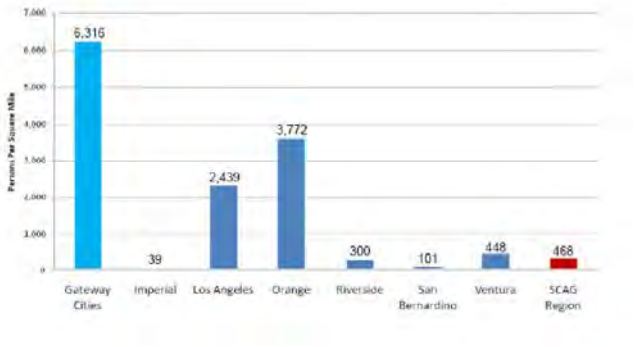
Source: SCAG RTP 2012 Integrated Growth Forecast.

With regard to growth in the number of households over the 2010 to 2020 and 2020 to 2035 periods, with a household representing the most basic unit of demand for housing, the projected household growth rate for Gateway Cities subregion is once again less than that for either the SCAG region or Los Angeles County. The projected household growth rate for the Gateway Cities is 4.2 percent for the 2010 to 2020 period and 11.1 percent for 2010 to 2035 period. By comparison, the household growth rate for the 2010 to 2020 period is 10.7 percent for the SCAG region and 8.0 percent for Los Angeles County; and 24.7 percent and 17.4 percent for the SCAG region and Los Angeles County, respectively, for the 2010 to 2035 period.

The lower rates for projected population, employment, and household growth in the Gateway Cities COG subregion relative to the SCAG region and Los Angeles County are largely attributable to a higher rate of land utilization or build-out in the Gateway Cities area, as measured by population and employment density. Since the Gateway Cities area is already highly built-out relative to the SCAG region overall, there is less growth opportunity in the Gateway Cities area.

Population density for the Gateway Cities COG subregion in 2010 is reported to be 6,316 persons per square mile, as illustrated in Figure 2.3. This compares with much lower population densities of 468 and 2,439 persons per square mile, respectively, for the SCAG region and Los Angeles County. Similarly, employment density within the Gateway Cities COG subregion is much higher than in the SCAG region and Los Angeles County. Employment density for the Gateway Cities COG subregion was reported at 2,209 employees per square mile. Considerably lower densities were reported for the SCAG region and Los Angeles County at 187 and 1,024 employees per square mile, respectively. Given the highly built-out nature of the Gateway Cities subregion, any major reductions in VMT and related GHG emissions within the subregion will more likely result from the transportation rather than the land use measures that are implemented by the Gateway Cities over the RTP planning period.

Figure 2.3 Population Density by Region – 2010



Source: SCAG and 2010 U.S. Census.

The Gateway Cities subregion is comprised of a lower income population, compared with the SCAG region as a whole and Los Angeles County. Household and per capita income data from the 2010 Census are not available at this time. The 2000 Census, however, reported a median household income of $38,354 for the Gateway Cities COG subregion. The median household income levels for SCAG and Los Angeles County are higher at $45,844 and $42,189, respectively. The average per capita income for the Gateway Cities subregion, according to the 2000 Census, also lags behind Los Angeles County and the State of California. The average per capita income for the Gateway Cities subregion is $16,206, as compared to $20,683 for Los Angeles County and $22,711 for the State of California.

Age further distinguish the population of the Gateway Cities COG subregion from that of Los Angeles County and the State of California. At 31.2 years of age, the median age (average for all cities) reported by the 2000 Census for the Gateway Cities subregion is slightly lower than the median age for Los Angeles County at 32.0 and the State of California at 33.3 years of age.[11] Within the Gateway Cities COG subregion, the median age ranges from a low of 23.8 for the Cities of Bell Gardens and Cudahy to a high of 42.4 for the City of La Habra Heights.

2.2 TRANSPORTATION TRENDS

Although SB 375 does not include the analysis of heavy-duty trucks, the transportation trends and improvements in the Gateway Cities are shaped by its role as a goods movement hub. Within the Gateway Cities COG reside two million residents in close proximity to the Ports of Long Beach and Los Angeles, the largest port complex in the United States. Approximately 45 percent of the nation's containerized imports pass through these two ports, and the I-710 freeway, a primary truck route to service these ports that runs through the Gateway Cities, has the highest concentration of trucks in the country.

The Gateway Cities is also a densely populated residential and employment center with a high density of households and jobs that generates demand for high frequency transit and multimodal services, high quality freeways that can relieve congestion and improve regional travel, and initiatives toward transportation demand management to reduce future travel demand.

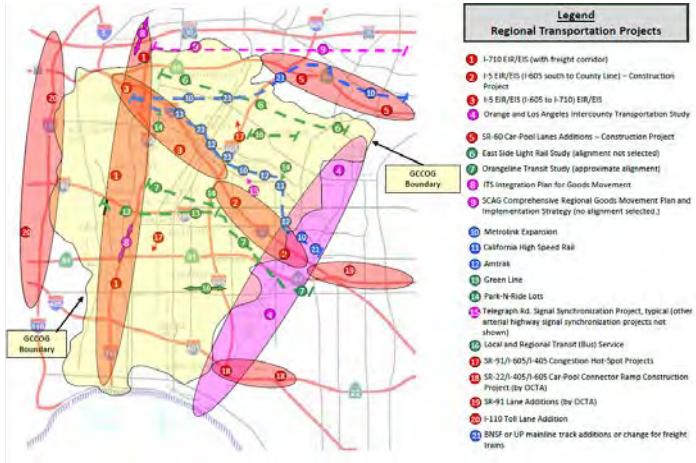
The Gateway Cities COG and its member cities have been engaged for the last 20 years in studies aimed at improving mobility, congestion, air quality, and other traffic reduction projects. As part of the I-710 Environmental Impact Report (EIR)/Environmental Impact Statement (EIS), a Multimodal Transportation Report (completed in 2009) reviewed bus and rail transit, park-and-ride facilities, HOV lanes, and goods movement by rail. Transportation Demand Management/Transportation System Management (TDM/TSM) projects were also evaluated along with Intelligent Transportation Systems (ITS), among other alternatives.[12] This report determined that the collective use of multimodal transportation improvements has the potential to reduce future travel demand and increase freeway capacity.

[11] As of this writing, the 2010 Census data on median age has not been published.

[12] I-710 Corridor Project EIR/EIS Technical Memorandum – Multimodal Review, prepared for LACMTA by URS, March 4, 2009, http://www.metro.net/projects_studies/I710/images/710_dr_mmr.pdf.

Figure 2.4 shows the inventory of projects being explored and potentially implemented in the Gateway Cities subregion. An analysis of a subset of these projects is conducted as part of this SCS in Section 10. Transportation performance in target years, based on funded RTP and LRTP transportation projects and transportation policies (e.g., TDM, TSM, and others), is analyzed using a "No Project" baseline with the LACMTA model in Section 10.0.

Figure 2.4 Regional Transportation Projects and Trends for the Gateway Cities



Source: Jerry Wood. Gateway Cities Transportation Project Brochures, 2011.

2.3 ECONOMIC AND FISCAL TRENDS

An economic overview and forecast report completed by the Los Angeles County Economic Development Corporation (LAEDC) in January 2003 is useful in providing a summary of the economic structure of the North Gateway area (i.e., a major portion of the Gateway Cities COG subregion). The report identifies the North Gateway area as including 22 incorporated cities (excluding the Cities of Avalon, Hawaiian Gardens, Lakewood, Long Beach, and Signal Hill) and some unincorporated areas.

The North Gateway area is transected by major transportation lines, including being served by six freeways, the Alameda Corridor rail project, transited by the Burlington Northern Santa Fe and Union Pacific railroads, being served by Metrolink, Amtrak service, and MetroRail Green and Blue lines. The North

Gateway area is substantially built-out resulting in relatively low levels of new residential construction. Most development opportunities for housing are "in-fill" sites on small blocks of land. New residential development has generally been single-family development, but with an increasing shift toward multifamily development on in-fill and mixed-use sites. Some cities have development opportunities on recycled sites, such as brownfield sites, but generally with respect to residential, most activity involved the demolition and replacement of older smaller homes with new larger, single and multifamily structures. Compared to residential development, there have been more opportunities for industrial-commercial development, and there are opportunities for redevelopment efforts in older downtowns.

Even though the LAEDC report is somewhat dated and only focuses on a portion of the Gateway Cities subregion[13], the report identifies a number of forces that will impact the future economic health of the entire subregion and are still quite relevant, including:

- Importance of an educated population and the need for career connections for students;
- Need for improvements to the transportation infrastructure;
- Need for increased rail capacity;
- Need for upgrading aging infrastructure; and
- Need for the local economy to be considered in a global context.

These major issues must be addressed to maintain and grow economic activity in the entire Gateway area.

Economic development and affordable housing strategies implemented by cities in the Gateway Cities COG subregion over the past decade include:

- Transit-oriented development to relieve transportation pressures;
- Brownfield redevelopment as a source of land for economic development and new housing;
- Programs to encourage employers to locate or expand in the subregion to address jobs/housing balance and reduce VMT; and
- Promotion of infill development for housing and mixed-use development involving commercial and residential uses.

[13]This is the only report prepared by the LAEDC for the Gateway Cities subregion. There is no corresponding analysis of the southern portion of the Gateway Cities subregion.

2.4 2005 GHG PERFORMANCE FOR GATEWAY CITIES

Gateway Cities COG obtained the information needed to generate the Gateway Cities subregional baseline emissions per capita in 2005 from SCAG model data. A data request was sent on February 22, 2011, from Gateway Cities COG to SCAG, outlining the methodology and data needs to calculate a 2005 GHG per capita baseline benchmark for Gateway Cities. The information requested included:

- VMT within the SCAG region for all auto trips with a trip origin and/or destination inside of the Gateway Cities COG;
- The VMT not including any light heavy-duty, medium heavy-duty, or heavy heavy-duty VMT;
- Through trips not included in the estimate (i.e., trips that to not have either an origin or destination within the Gateway Cities);
- VMT estimates broken out by into the standard time periods that SCAG models (AM, mid-day, PM, evening, and overnight); and
- VMT provided by speed bin.

The Adopted 2008 RTP Growth Forecast and the Local Input/General Plan 2012 RTP Growth Forecast were used as the per capita denominator for the SB 375 target years of 2020 and 2035.

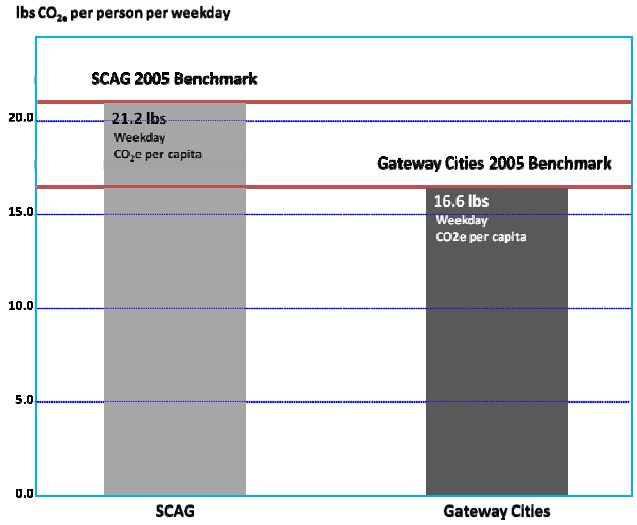
Table 2.1 Data Sources for Gateway Cities Population Estimates

Year	Gateway Cities Population	Source
2005	2,094,268	Adopted 2008 RTP Growth Forecast, by City (RTP07_CityLevel.xls)
2020	2,208,499	Local Input/General Plan Growth Forecast for 2012 RTP) (RTP2012_GROWTH-FORECAST.xls)
2035	2,380,833	Local Input/General Plan Growth Forecast for 2012 RTP) (RTP2012_GROWTH-FORECAST.xls)

Source: http://www.scag.ca.gov/forecast/index.htm.

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Figure 2.5 Benchmarks for SCAG and Gateway Cities



3.0 Subregional SCS Development Process

3.1 SCS Policy Development Committee

The Gateway Cities COG established an SCS Policy Development Committee to oversee the SCS process and direct the work of the consultant team. The SCS Policy Development Committee is a subcommittee of the Gateway Cities City Managers' Steering Committee; and includes five city managers, eight planning directors from geographically representative cities, and one public works director. Three COG staff attended meetings and supported the Committee's work, including Richard Powers, the Executive Director of the Gateway Cities COG. The Committee membership consists of the following officials:

1. Mike Egan, City Manager of Bellflower;
2. Jorge Rifa, City Manager of Commerce;
3. Tom Modica, representing the City Manager of Long Beach;
4. Ron Bates, City Manager of Pico Rivera;
5. Ken Farfsing, City Manager of Signal Hill (Committee Chair);
6. Aldo Schindler, Bell Gardens Planning/Community Development Director;
7. Torrey Contreras, Cerritos Planning/Community Development Director;
8. Sonia Southwell, Lakewood Planning/Community Development Director;
9. Brian Saeki, Downey Planning/Community Development Director;
10. Reuben Arceo, La Mirada Planning/Community Development Director;
11. Wayne Morrell, Santa Fe Springs Planning/Community Development Director;
12. Sonia Shah, South Gate Planning/Community Development Director;
13. Don Dooley, Whittier Planning/Community Development Director;
14. Steve Forster, Chair, La Mirada and Liaison to the Gateway Cities Public Works Officers;
15. Richard Powers, Executive Director of Gateway Cities Council of Governments;
16. Jack Joseph, Gateway Cities Council of Governments Staff; and
17. Nancy Pfeffer, Gateway Cities Council of Governments Staff and Contract Project Manager.

After the consultant team was selected, the Committee met seven times beginning on January 13, 2011 to review progress and provide guidance.

3.2 SCS Delegation to Gateway

The SCAG Regional Council approved the Framework and Guidelines for Subregional SCS on April 1, 2010. This 12-page document laid out the terms and conditions for any of the 14 subregions within SCAG to take delegation of their SCS. In October 2010, SCAG and the Gateway Cities COG signed an MOU officially delegating the preparation of the SCS for the Gateway Cities subregion to the Gateway Cities COG. While this six-page MOU incorporated the Framework and Guidelines, neither document anticipated all of the potential issues that could emerge as a result of SCS delegation. This document can be found in Appendix A.

The most significant issue came to light when the Gateway Cities COG and its member jurisdictions carefully considered the range or scale for their SCS. At the modest end of the spectrum, the subregion could compile a list of strategies, which it was prepared to implement. These would be submitted to SCAG for inclusion in the regional SCS. At the other end of this range would be a virtually stand-alone SCS. This would require a rigorous quantification of the estimated GHG reductions from all strategies implemented from 2005 to 2020 and from 2020 to 2035. Once the Gateway Cities SCS Steering Committee decided to pursue the stand-alone approach, it needed to determine the appropriate GHG (CO_{2e}) per capita benchmarks in 2005 for the Gateway Cities subregion in order to measure its attainment of the regional targets.

The regional targets, assigned to SCAG by CARB for a percent reduction in GHG per capita against the regional 2005 benchmark, do not apply to any individual subregion within the SCAG region. Nevertheless, the SCS Policy Development Committee decided to measure the total reduction in GHG from the bundle of strategies that make up the subregional SCS as a percentage against the 2005 benchmark estimated for the Gateway Cities subregion. Because SCAG had not calculated a 2005 GHG per capita for each subregion, the Gateway Cities SCS Policy Development Committee requested that SCAG provide the methodology it used to calculate the regional 2005 GHG per capita, and then applied this methodology to calculate the Gateway Cities' regional-specific 2005 inventory. The calculations produced the 2005 benchmark of 16.6 lbs of CO_2e per capita for the Gateway Cities region compared to 21.2 lbs of CO_2e per capita as a 2005 average for the entire SCAG region. This analysis was summarized in Section 2.4.

3.3 Development of Strategy Portfolios

The Gateway Cities COG held four technical workshops with the city planning and public works directors from all of the jurisdictions. These workshops were

the interactive tools for cities to work with the consultant research and analysis, and develop portfolios of GHG reduction strategies for each jurisdiction. This approach started with each city assembling three broad categories of strategies that they would select and implement: transportation projects, TDM activities, and land use strategies. The planning directors and public works officers followed a three-step procedure for developing each city's program for contributing to the subregional SCS:

1. **Screening.** Each city would first select among the universe of GHG reduction strategies a subset that could be implemented at the subregional or jurisdictional level. They would then rank these selected strategies according to their fit with the pilot city's market conditions, transit infrastructure, land use characteristics, and other circumstances that would affect the cost effectiveness and political feasibility of each candidate strategy.
2. **Scaling and Measurement.** For each of the strategies that was screened and ranked, city staff considered appropriate levels of deployment for each strategy. This step included considering the following attributes of each strategy:
   a. Total amount of reduced GHG;
   b. Bundling with other strategies to achieve the most effective combination (i.e., interactive or synergistic effects);
   c. Performance over time (i.e., immediate to long term);
   d. Fiscal cost, including any potential to generate revenues;
   e. Cost effectiveness (cost per ton of CO_2); and
   f. Level(s) of government most appropriate to implement them.

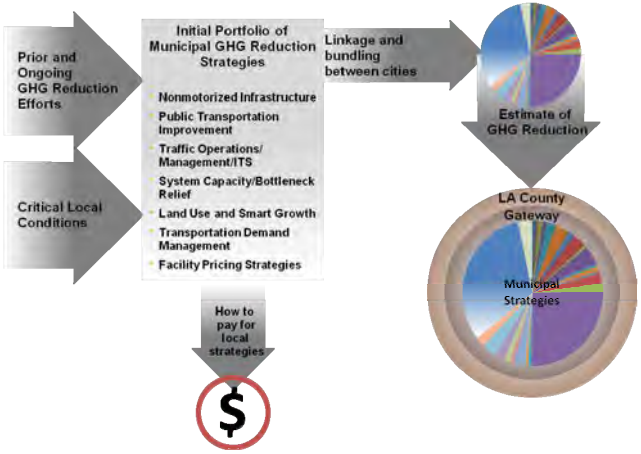
   Once each city had assembled an initial portfolio, the consultant team entered the technical characteristics of each strategy into the LACMTA iMpact web-based software that measured GHG impacts of the strategies.[14]
3. **Bundling.** The consultant team worked with each jurisdiction to group strategies into bundles on three criteria: a) logical combinations of strategies that may have synergies, such as transit investment, land use, and nonmotorized travel; b) consideration of the cost effectiveness of various strategies (e.g., selecting only those strategies meeting a particular cost-effectiveness threshold); and c) each jurisdiction's political conditions. The consultants then reestimated the impacts of each bundle using the iMpact software tool that included GHG analysis.

[14] The iMpact Tool, developed by Cambridge Systematics for LACMTA, is a web-based GIS application that calculates the GHG impacts of individual transportation projects. This functionality was based on previous Federally-sponsored research conducted for the *Moving Cooler* study (http://www.movingcooler.info).

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An illustration of this process and the linkages associated with the bundling is shown in Figure 3.1.

Figure 3.1 SCS and Strategy Portfolio Development Process



3.4 STAKEHOLDER AND PUBLIC OUTREACH

The SCS outreach program provided opportunities for Gateway Cities stakeholders and community members to learn about the SCS process and provide feedback.

In February 2011, a stakeholder briefing was convened to inform Gateway Cities stakeholders representing climate and environmental groups, chambers of commerce, and housing advocates about the SCS process and to address questions on related topics. Approximately 50 stakeholders were invited by the Gateway Cities COG to attend the two-hour session, which was held at the COG offices.

Public Information Open Houses were also held in four locations representative of the Gateway Cities subregion. These Open Houses were held in the Cities of Cerritos, Long Beach, Pico Rivera, and Commerce. The purpose of these public information events was to present basic information on the SCS process, what the SCS means to the community, and provide an opportunity for community members to have one-on-one dialogue with members of the project team, COG staff, and representatives from subregional cities. Participants were encouraged

to attend exhibit areas, where project staff were available to answer questions and receive feedback from attendees.

Noticing for the public open houses included a series of information materials that were used to advertise the open houses by local media, the COG, and individual Gateway Cities.

- Press release,
- Open house flyer,
- HTML open house invitation, and
- SCS newsletter article.

The press release was distributed to all local media. The open house flyer was distributed to COG cities Planning Directors and Public Works Officers, made available at the COG offices, and mailed to stakeholders that were invited to the stakeholder briefing, with a request for further distribution. Noticing for the open houses was also posted to the Gateway Cities COG web site, as well as made available to the web sites of other Gateway Cities. In addition, information on the open houses and the SCS was packaged for use in local newsletters and other publications. Noticing materials were provided in Spanish as well as English.

The presentation materials that were used at the Public Information Open Houses included:

- Information regarding SB 375 and how the Gateway Cities subregion SCS adheres to the process;
- Display Boards with information on proposed strategies related to land use, transportation, and transportation demand management;
- Frequently Asked Questions information;
- Process Graphic Display Board demonstrating the timeline for the project and depicting the SCS process from start to finish; and
- PowerPoint presentation with background information.

Copies of the outreach materials are included in Appendix C.

All materials presented and utilized at the Public Information Open Houses were made available in English and Spanish. In addition, Spanish-speaking staff were on hand at each open house to answer questions in Spanish.

4.0 Land Use Characteristics

The 2005 land use pattern in the Gateway Cities subregion is shown on Figure 4.1, while the utilization of land within the subregion by acreage is presented in Table 4.1. As seen in Table 4.1, the predominant land use in the subregion is low-density residential, which occupies 43.3 percent of the subregion's land area, exclusive of streets. Industrial and commercial uses occupy approximately 15.1 percent and 10.1 percent of the subregion's land area, respectively. Over 11.5 percent of the subregion is devoted to open space, which primarily consists of the resource areas discussed in Section 8.0 of the SCS, but also includes a minor amount of vacant land available for development. Other substantial land uses include medium-density residential at nearly 8.5 percent and public facilities at 8.1 percent. Transportation uses include airports, rail yards, and transit facilities. The agriculture remaining in the area primarily consists of avocado and citrus orchards on large residentially-zoned lots in the northern portion of the subregion and equestrian uses existing at various locations across the subregion.

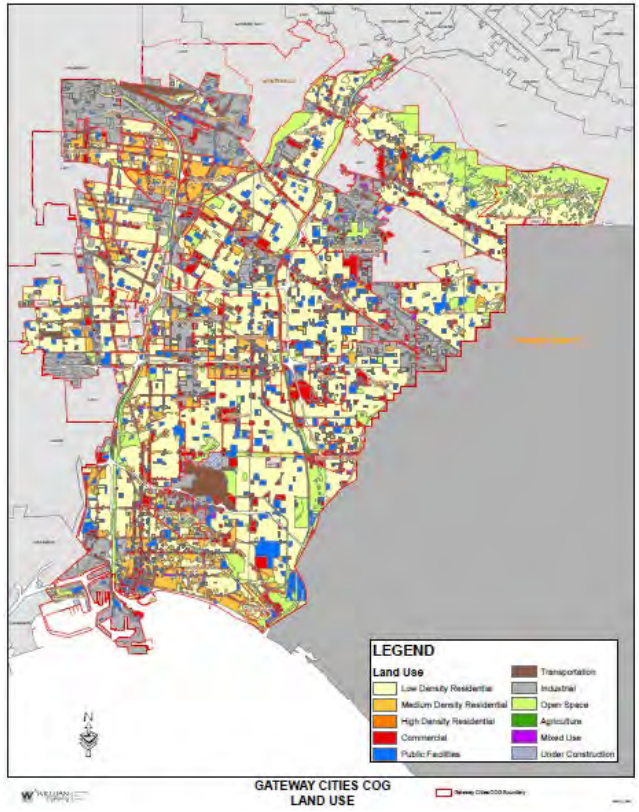
Table 4.1 Gateway Cities Subregion Existing Land Use – 2005[1]

Land Use Category	Acreage[2]	Percentage
Low Density Residential	66,287.51	43.27
Medium Density Residential	13,002.30	8.49
High Density Residential	501.70	0.33
Commercial	15,493.00	10.11
Mixed Use	342.23	0.22
Industrial	23,186.75	15.14
Public Facilities	12,358.25	8.07
Transportation	3,138.27	2.05
Open Space[3]	17,684.84	11.55
Agriculture	442.49	0.29
Under Construction	741.56	0.48
Total	153,178.90	100.00

1. No summary data is available for the 2020 and 2035 target years.
2. Exclusive of streets.
3. Includes vacant land available for development.

Source Acreages tabulated by Willdan Engineering based on 2005 Existing Land Use Map generated by SCAG.

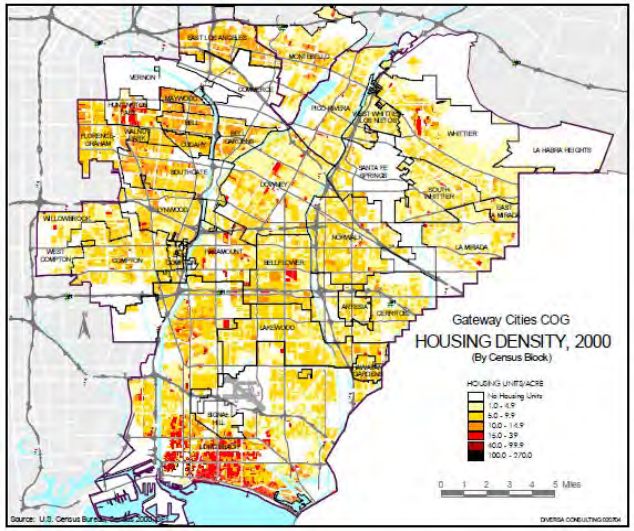
Figure 4.1 Existing Land Use 2005



While the predominant land use in the subregion is low-density residential, the Gateway Cities have provided for a wide range of housing types and densities through their general plans and zoning ordinances, capable of accommodating all economic segments of the subregion's population. This is graphically illustrated on Figure 4.2, which shows 2000 census data for housing density by census block. As seen in this figure, existing housing densities range from large

lot, semi-rural and traditional single-family densities (i.e., from 1 to 5 units per acre) to low-medium density of 6 to 14 units per acre to medium residential densities of 15 to 39 units per acre up to high densities of 40 units, to well in excess of 100 units per acre.

Figure 4.2 Housing Density, 2000



In preparing the SCS, the COG compiled an inventory of the general plans of each of the 26 participating cities. The general plan maps for the Gateway Cities are contained in Appendix J. Collectively, they constitute the land use component of the SCS.

The COG also inventoried the status of the land use, circulation, and housing elements of each city's general plan. The resulting inventory is presented in Table 4.2, which includes the most recent adoption and horizon dates for each element, as well as any pertinent comments regarding the status of these elements. As seen in this table, only one city has a general plan that extends the course of the planning period for the RTP (i.e., 2035), while 12 cities currently have general plans with horizon dates ranging from 2020 to 2030. As the Gateway Cities continue to update their general plans, most, if not all, of the COG's members will eventually have general plans with horizon dates that

coincide with the RTP planning period. However, the financial condition of cities across the SCAG region and State poses a constraint to the future updating of general plans.

Table 4.2 Gateway Cities Subregion General Plan Adoption and Horizon Dates

City	Plan Element	Adoption Date	Horizon Date	Comments
Artesia	Land Use Element	2010	2030	
	Circulation Element	2010	2030	
	Housing Element	2008	2014	
Avalon	Land Use Element	1972	–	Recently contracted with consultant to update City's General Plan and Housing Element.
	Circulation Element	1972	–	
	Housing Element	Due		
Bell	Land Use Element	1996	2011	City working on General Plan update with completion expected in 2011. Housing Element being drafted.
	Circulation Element	1996	2011	
	Housing Element	Due	–	
Bellflower	Land Use Element	1997	2010	City staff, working with consultant, is preparing the Housing Element update.
	Circulation Element	1997	2010	
	Housing Element	Due		
Bell Gardens	Land Use Element	1995	2010	The City would like to complete a General Plan update, but is limited by financial constraints until late 2011 or 2012. Working on draft Housing Element to submit to HCD.
	Circulation Element	1995	2010	
	Housing Element	Due	2008	
Cerritos	Land Use Element	2004	2020	
	Circulation	2004	2020	
	Housing Element	2008	2014	
Commerce	Land Use Element	2008	2020	
	Circulation Element	2008	2020	
	Housing Element	2008	2014	
Compton	Land Use Element	2011	2030	General Plan expected to be adopted in May 2011. Housing Element submitted to HCD, waiting for comments.
	Circulation Element	2011	2030	
	Housing Element	2008	2014	
Cudahy	Land Use Element	2010	2025	The City updated the General Plan in 2010, including the Housing Element for the period 2008-2014.
	Circulation Element	2010	2025	
	Housing Element	2008	2014	

City	Plan Element	Adoption Date	Horizon Date	Comments
Downey	Land Use Element	2005	2030	
	Circulation Element	2005	2030	
	Housing Element	2008	2014	
Hawaiian Gardens	Land Use Element	2010	10-15 yrs	
	Circulation Element	2010	10-15 yrs	
	Housing Element	2008	2014	
Huntington Park	Land Use Element	1991	2010	
	Circulation Element	1991	2010	
	Housing Element	2008	2014	
La Habra Heights	Land Use Element	2004	20 years	General Plan horizon date not clearly specified, but rather assumed to be 20 years. Draft of Housing Element submitted to HCD for review.
	Circulation Element	2004	20 years	
	Housing Element	2008	2014	
La Mirada	Land Use Element	2003	2020	
	Circulation Element	2003	2020	
	Housing Element	2008	2014	
Lakewood	Land Use Element	1996	2026	
	Circulation Element	1996	2026	
	Housing Element	2008	2014	
Long Beach	Land Use Element	1989	2000	General Plan update underway to plan for 2030.
	Transportation Element	1991	2010	
	Housing Element	2008	2014	
Lynwood	Land Use Element	2003	2020	Housing Element certified by HCD.
	Circulation Element	2003	2020	
	Housing Element	2008	2014	
Maywood	Land Use Element	2007	–	City responding to first round of HCD comments on the Housing Element.
	Circulation Element	2007	–	
	Housing Element	2008	2014	
Norwalk	Land Use Element	1996	2010	Horizon date only formally noted in Circulation Element. City responding to HCD comments on Housing Element.
	Circulation Element	1996	2010	
	Housing Element	2008	2014	

City	Plan Element	Adoption Date	Horizon Date	Comments
Paramount	Land Use Element	2007	10 years	No formal General Plan horizon date but it is anticipated to be updated in about 2017. Updated Housing Element in negotiations with HCD.
	Circulation Element	2007	10 years	
	Housing Element	Out	2008	
Pico Rivera	Land Use Element	1993	10-15 yrs.	The 2006-2014 Housing Element was certified by HCD in January 2010.
	Circulation Element	1993	10-15 yrs	
	Housing Element	2008	2014	
Santa Fe Springs	Land Use Element	1993	21st Century	General reference to horizon date in Land Use Element as guiding development into the 21st century.
	Circulation Element	1994	21st Century	
	Housing Element	2008	2014	
Signal Hill	Land Use Element	2001	2015	City has submitted 2008-2014 Housing Element update, but is still in negotiations with HCD for certification.
	Circulation Element	2010	2025	
	Housing Element	2008	2014	
South Gate	Land Use Element	2009	2035	
	Circulation Element	2009	2035	
	Housing Element	2010	2014	
Vernon	Land Use Element	2007	2030	
	Circulation Element	2007	2030	
	Housing Element	2008	2014	
Whittier	Land Use Element	1993	2010	General reference made to horizon date in introduction to General Plan. Noncomprehensive updates of General Plan in 2006
	Circulation Element	1993	2010	
	Housing Element	2008	2014	

5.0 Growth Accommodations

The SCS must identify areas within the subregion sufficient to house an eight-year projection of the regional housing need for the subregion pursuant to California Government Code §65584. The SCS must further identify areas within the subregion sufficient to house all of the population of the subregion, including all economic segments of the population, over the course of the planning period of the RTP, taking into account net migration into the region, population growth, household formation, and employment growth. Regarding the first requirement, Government Code §65584 involves the RHNA component of housing element law and the eight-year period referred to is the 2013 to 2021 planning period for the initial RHNA to be generated under SB 375. In allocating sufficient areas to accommodate the subregion's estimated housing need for this time period, the Gateway Cities COG is also expected to determine that the SCS is consistent with the RHNA for this period. However, it is technically impossible to make this determination due to the timing of these parallel planning efforts.

The Gateway Cities COG must submit its final subregional SCS to SCAG by June 2011. SCAG, in turn, must approve the final regional SCS by April 2012. SCAG will also release the draft RHNA in April 2012, and is tentatively scheduled to adopt the final RHNA when the SCAG RTP and SCS are approved in June 2012. Therefore, neither the Gateway Cities COG nor SCAG will have the ability to determine that the subregional and regional SCSs, respectively, are consistent with the RHNA prior to their finalization. Instead, SCAG will need to determine whether the regional SCS is consistent with the RHNA, upon the release of the RHNA, and amend the regional SCS to achieve consistency, if needed.

Despite the inability to determine consistency between the SCS and RHNA, the SCS must identify areas sufficient to accommodate the subregion's projected housing need for the 2013 to 2021 period; and addressing the second requirement of SB 375, further identify areas sufficient to house the subregion's projected population to the end of the RTP planning period in 2035. In reviewing and commenting on SCAG's preliminary Integrated Growth Forecast for the 2012 RTP, the Gateway Cities have indicated what they believe are realistic estimates for household and population growth in each of their jurisdictions to 2020 and 2035. These estimates were based on past and current growth trends, as well as the capacity of the Gateway Cities general plans to support additional residential development. Since these growth estimates reflect the housing development capacity of local general plans, it can be concluded that the Gateway Cities general plans, as presented in Appendix J, allocate adequate land at appropriate densities to house the subregion's projected population to 2020 and 2035.

The Gateway Cities expect that the subregional housing need eventually identified for the Gateway Cities COG in the 2013 to 2021 RHNA will be consistent with the Integrated Growth Forecast that is the underpinning of the

subregional SCS. Each of the Gateway Cities has provided SCAG with 2020 and 2035 household and population growth projections. The subregion's jurisdictions estimate 21,903 additional households from 2010 to 2020. SCAG initially estimated 25,014 additional households, but released their estimate in May 2011 of 23,980 households over a 2011 to 2021 period, which most closely corresponds with the next RHNA planning period, taking into consideration the local input received and 2010 Census data. As of this date, SCAG and the Gateway COG are still reviewing the projections, and Gateway COG is expecting further adjustments to bring the two projections into convergence.

6.0 Affordable Housing Accommodation

The Gateway Cities' 2020 and 2035 allocations of residential land use are designated in their general plans (Appendix J). These residential land use designations specify allowable density ranges at and well above the default densities established in California Government Code §65583.2 that are applicable to the Gateway Cities. These default densities, which are 20 or 30 dwelling units per acre depending upon city population, are the densities at which the State Department of Housing and Community Development has determined that the development of lower-income housing becomes financially feasible.

Within the Gateway Cities' general plans, the housing elements allocate sufficient land at appropriate densities to accommodate the projected housing needs. In addition, the general plans identify programs for expanding the supply of affordable housing in the subregion to low- and moderate-income households. These programs include:

- Offering incentives to encourage in-fill development on vacant and underutilized residentially zoned land;
- Rezoning to increase the permitted intensity of development on vacant and underutilized residentially zoned land;
- Offering density bonuses and other incentives to encourage the development of housing affordable to low- and moderate-income households;
- Utilizing redevelopment and brownfield development to generate new affordable housing for low- and moderate-income households;
- Facilitating mixed-use development that incorporates high-density housing along major arterial streets and in downtown areas served by mass transit;
- Pursuing and utilizing state and Federal funding sources to expand the supply of housing affordable to low- and moderate-income households;
- Partnering with private developers and nonprofit housing sponsors to promote the development of housing affordable to low- and moderate-income households; and
- Utilizing housing overlay zones to provide options for the development of special needs and other affordable housing in areas otherwise designated for nonresidential uses.

7.0 Transportation Network

This section describes the roadway, transit, TDM, and other strategies employed to reduce GHG.

7.1 Transportation Improvement Projects

Inefficient transportation networks are a key contributor to transportation-related GHG emissions. Transportation improvement projects that improve traffic flow, reduce vehicle idling and delay, and/or reduce overall VMT can significantly decrease per capita emissions on congested networks.

Gateway Cities jurisdictions submitted 340 revenue-constrained transportation improvement projects, which together have the potential to considerably reduce per capita GHG emissions from the transportation sector.

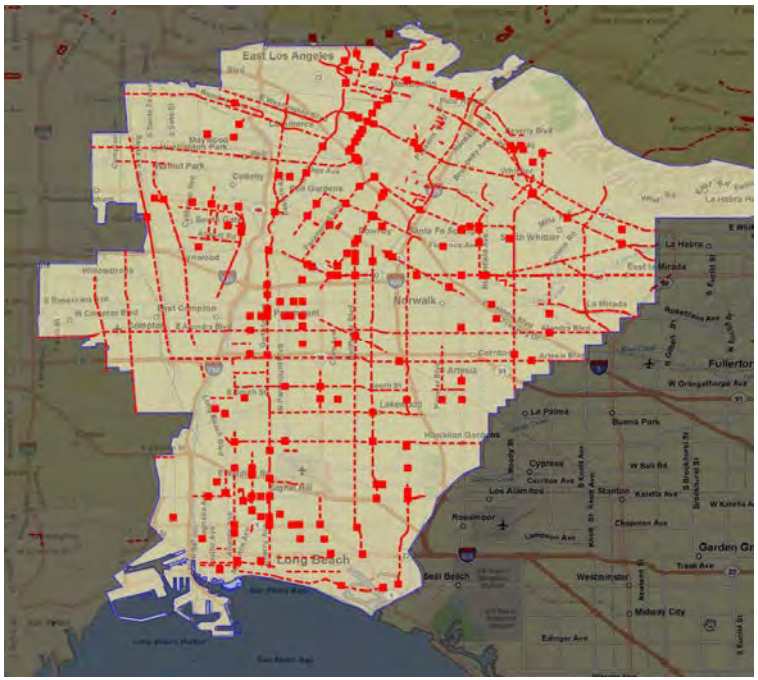
Figure 7.1 shows the locational extent of these transportation improvement projects in the Gateway Cities using the LACMTA iMpact Tool. Figure 7.2 shows the numerical distribution of submitted transportation projects. These projects fall under six categories:

1. Roadway Capacity Improvements (e.g., new lanes, bottleneck relief);
2. Intersection Improvements (e.g., new signals, new signal phases, new intersection approach capacity);
3. System Operations Improvements (e.g., intersection delay improvements, corridor-wide signal timing, ITS, adaptive traffic control systems, arterial management);
4. Railroad Grade Separations;
5. Nonmotorized Transportation Improvements (e.g., new bicycle and pedestrian facilities); and
6. Park-and-Ride Facilities.

Appendix D provides a list of all submitted strategies within these categories.

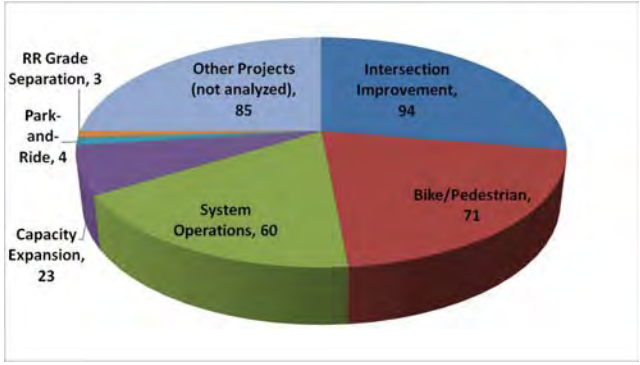
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Figure 7.1 Submitted Transportation Project Locations



Note: All red squares and dashed lines denote transportation projects.

Figure 7.2 Distribution of the Submitted Transportation Projects



Each transportation improvement strategy offers unique potential for reducing per capita GHG emissions, and requires a different methodology to estimate potential emissions reductions. To estimate these potential project-level benefits, a series of sketch planning methodologies was developed for each project type, using algorithms developed in the *Moving Cooler* Report, the Transportation Research Board (TRB) *Highway Capacity Manual* (2000), Federal Highway Administration (FHWA) *Traffic Signal Timing Manual* (2008), and other sources.[15]

The resulting estimated total GHG reduction per capita per day amounts to 0.74 lbs CO_2e per capita per day in 2020 and 0.70 lbs CO_2e per capita per day in 2035.

Each transportation improvement project category is described below, along with a brief note on the project-specific inputs that were required to make sketch planning estimates of potential GHG impacts. (See Appendix K for descriptions of the methodologies used to make these calculations.

[15] *Moving Cooler* was an extensive research and documentation commissioned in 2010 by a wide range of agencies and interest groups to obtain objective information about the potential contributions of transportation strategies to GHG reduction goals. *Moving Cooler* measures the effectiveness and costs of almost 50 types of strategies and combinations of strategies (http://www.movingcooler.info). (See Appendix K).

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7.1.1 Roadway Capacity Improvements

Roadway capacity projects are those that either 1) widen an existing facility, or 2) build or extend a new roadway. Roadway capacity improvements have the potential to reduce excess GHG caused by delay at critical bottlenecks and chokepoints on heavily congested roadways. Emission reductions from these projects are derived from increased average vehicle speeds due to capacity expansion and improved traffic flow rates resulting from decreased congestion.[16] Emission reductions vary by the type of facility under expansion and the location of the facility.

At a large network scale, benefits gained from initial improved traffic flow rates on congested major highways are often offset to some degree by induced traffic (i.e., pent-up demand for travel) over the long term, resulting in lower emissions reductions than initially obtained. All of the local transportation projects included in the subregional SCS, however, are small and mostly isolated improvements. Their small scale and scope make it unlikely that their initial benefits would induce a significant amount of additional travel.

Roadway capacity GHG reduction estimates are a function of several inputs, including project length, number of new lanes, corridor traffic volumes, facility type, and land use conditions. Speed and capacity information by facility type and area types were obtained from the LACMTA travel demand model. Travel speed changes on the facility after capacity expansion was calculated by sketch planning tools developed by Cambridge Systematics based on peer-reviewed methodologies (see Appendix K). These tools used speed-flow curves from the travel demand model. Travel speeds were calculated for peak periods and only during weekdays, since it is conservatively assumed that the speed variations during the off-peak periods and weekends are marginal.

7.1.2 Intersection Improvements

Intersection improvements have the potential to reduce excess GHG emissions caused by idling and delay at single intersections. In general, these improvements fall under three categories:

1. **New Signal.** An unsignalized intersection approaching failure due to intolerable levels of delays is improved to a signalized intersection with an acceptable auto level of service.

[16] The estimation of GHG impacts from local transportation projects were made using sketch planning models to estimate changes in speed, vehicle hours of delay, and vehicle miles of travel. These outputs were then used as inputs for the EMission FACtors (EMFAC) model, which calculates CO_2 emissions for 2020 and 2035. The EMFAC model incorporates future year emission factors that account for the lower emissions from future vehicles (see http://www.arb.ca.gov/msei/msei.htm).

2. **New Turning Phase.** A new specific turn or movement is enabled at the intersection, or a permissive turn is made into a protected turn by changing the signal phasing and/or timing.
3. **Improved Intersection Capacity.** Physical improvements are made to the signalized intersection that positively impact level of service, including improvements to geometry, approach redesign, or new lanes.

The GHG reduction methodologies used to evaluate each intersection improvement type vary slightly, but estimates are generally a function of factors, such as approach capacities (i.e., number of lanes); peak-hour traffic volumes; facility types; cycle lengths; and land use densities. Since detailed delay and level of service (LOS) calculations were not available for this analysis, traffic volumes and delay were generally approximated using travel model output. Signal cycle lengths either were specified by jurisdictions or approximated using the FHWA *Traffic Signal Timing Manual* (2008). In each case, emissions reduction benefits were estimated by approximating the average reduction in delay per vehicle due to the improvement.

7.1.3 System Operations Improvements

System operations projects impact GHG emissions by improving traffic flows and reducing vehicle delay along key corridors involving multiple intersections. Examples include arterial management strategies such as corridor signalization and synchronization improvements, and ITS such as Advanced Traffic Management System (ATMS) implementation. Travel timesavings at each intersection along the corridor are calculated and aggregated by applying a delay reduction factor. Los Angeles County Public Works Department, for example, provided 14 traffic signal synchronization projects and ITS projects on primary arterials through both incorporated and unincorporated areas.

System operations project benefits are a function of inputs, such as corridor length, number of intersections affected, number of lanes, traffic volumes, and existing travel times and cycle lengths. These details were provided by jurisdictions or approximated using travel demand model output; the SCAG Highway Inventory[17] (a TransCAD database recently compiled); and sources such as the Caltrans Traffic Light Synchronization Program and the TRB *Highway Capacity Manual* (2000).

[17]The SCAG Modeling/GIS section undertook an inventory of major streets within the six counties comprising the SCAG region. The inventory contains information pertaining to existing LOSs, as well as planned highway improvements. Its primary purpose is to define the highway network for the RTP transportation demand model, but it will also support other programs, such as the Highway Performance Monitoring System. It includes LOS attributes for more than 7,000 streets and highways. It houses attributes such as posted speed, number of lanes, and median type.

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7.1.4 Railroad Grade Separations

Separating at-grade railroad crossings reduces vehicle delay and associated GHG emissions caused by railroad facility conflicts. Grade separation project GHG benefits are a function of roadway average daily traffic, existing and improved average speeds, and average gate down time on the affected rail corridor. Average gate down time is used as a proxy for intersection delay prior to the grade separation improvement. Inputs for the sketch analysis were provided by jurisdictions or approximated using travel demand model output, the SCAG Highway Inventory, and documentation and research prepared by local agencies.

7.1.5 Nonmotorized Transportation Improvements

The implementation of bicycle and pedestrian facilities can reduce GHG emissions to the extent that auto trips are replaced by walking or biking, or by transit trips accessed by walking or biking. Generally, bicycle lanes and pedestrian facilities that offer access to transit have greater potential for GHG emissions reduction.

While such improvements typically have a positive impact on reducing auto use, the magnitude of that impact is difficult to estimate. Due to the scarcity of methodologies for accurately estimating the VMT impacts of nonmotorized transportation improvements at the project level, bicycle and pedestrian improvements were approximated using citywide factors based on research by Dill and Carr (2003).[18] Ultimately, the planned bike lanes in Long Beach contributed an estimated 38,000 annual tons of CO_2e reduced per bike lane mile.

7.1.6 Park-and-Ride Facilities

Increasing parking capacity at rail transit stations and major transit hubs reduces emissions by encouraging SOV drivers to shift to transit for a proportion of their commute trip. Both new facilities and expansions of existing parking facilities have the potential to reduce per capita GHG. A park-and-ride lot's potential for reducing GHG is a function of a number of inputs, including number of spaces; average parking lot utilization; average auto trip commute lengths; and the type of transit being served (e.g., urban rail, commuter rail, bus rapid transit (BRT)/ express bus, etc.). Project-specific inputs were provided by jurisdictions. Regional inputs, such as parking lot utilization and commute length, were

[18]Dill, Jennifer, and Theresa Carr, 2003, *Bicycle Commuting and Facilities at Major U.S. Cities: If You Build Them, Commuters Will Use Them*, TRB Annual Meeting, 2003. Based on surveys collected in 35 major U.S. cities with at least 250,000 population; each additional mile of Type 2 bike lanes per square mile is associated with a 1-percent increase in bike commuting. Note that this research differs from the methodology presented in Appendix K for quantifying GHG impacts from bicycle improvements.

approximated using local documents, such as the LACMTA *Gold Line Phase II Draft EIR* (2004).[19]

7.2 TRAVEL DEMAND MANAGEMENT STRATEGIES

7.2.1 TDM Strategies Employed to Reduce GHG Emissions

As stated above, the SCS analysis also included consideration of TDM strategies being employed by Gateway Cities and an assessment of their GHG emission reduction impacts in 2020 and 2035. The analysis keyed on three distinct strategies being implemented by many of the Gateway Cities, including:

1. Compressed work week schedules for city employees,
2. Ridesharing programs for city employees, and
3. TDM or Trip Reduction Ordinances for new development.

Compressed work weeks are generally in the form of city offices closing one day every two weeks, or offering employees 9/80 or 4/40 work schedules. Some cities also utilize 3/36 schedules for safety officers. As shown in Appendix E, 11 cities reported utilizing compressed work week schedules, with more than 3,200 employees participating.[20] It was estimated that, on average, 14 percent of a participating city's workers were off on any given day. Six cities reported having ridesharing programs for their employees, with various incentives and promotions for the use of alternative commute modes. Several of the cities reported that their Average Vehicle Ridership (AVR) was about 1.3 as a result of their ridesharing programs. This rate is a rise from pre-program levels of between 1.21 to 1.23. It was estimated that about 700 city employees subregion-wide were participating in ridesharing programs.

Finally, the last strategy, TDM ordinances, is reinforced by the LACMTA's Congestion Management Program and model TDM ordinance. TDM or Trip Reduction Ordinances have been adopted by many Los Angeles County cities in response to the LACMTA Congestion Management Plan, which includes developer-based TDM programs as one strategy for reducing congestion. Seven cities reported having TDM ordinances that apply to new or expanded commercial development (mainly office) of 25,000 square feet or more. One city reported that 30 percent to 40 percent of all its new commercial developments are subject to its TDM ordinance. Conservatively, estimating that these TDM ordinances result in a 10-percent reduction in vehicle trips (many studies show

[19] LACMTA, 2004, *Gold Line Phase II – Pasadena to Montclair – Foothill Extension DEIS/DEIR*, pp. 3-15-87.

[20] Appendix E provides the cost effectiveness of funded projects using published results of past evaluation studies, including many from the South Coast Air Basin.

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reductions of 20 percent or more[21]) and applying this travel behavior impact to 30 percent of the anticipated office growth in these 7 cities, it was possible to estimate the potential GHG reduction from applying TDM ordinance requirements to this new growth.

Table 7.1 provides an estimate of the annual estimated GHG reductions (stated as metric tons of CO2 reduced) for 2020 and 2035 for each of the three TDM strategies described above.

Table 7.1 Estimated Annual GHG Reduction from TDM Strategies for 2020 and 2035
In Metric Tons

TDM Strategy	Annual GHG Emission Reduction 2020	Annual GHG Emission Reduction 2035
Compressed work weeks[1]	607.5	530
Ridesharing program[2]	682.5	597.5
TDM ordinance**	415	607.5
Total TDM Reduction	1,705	1,735

[1] For city employees.

[2] Applied to new office development.

7.2.2 Other TDM Strategies Considered

The TDM analysis also sought to quantify the impact of several other travel-reducing strategies being employed in some Gateway Cities, but available data did not allow for more than a qualitative assessment. TDM strategies that likely would contribute to GHG reduction and that are being implemented in many cities include:

1. Participation in the Los Angeles County Bike to Work day (among city and private employees, estimated to reduce 4.36 ton of GHG on Bike to Work day within the Gateway Cities);
2. Promotion and sales of transit passes to residents and others within the city (the U-Pass program at Long Beach State is estimated to reduce more than 2,000 metric tons of GHG per year);
3. Safe Routes to School projects being implemented in many cities, which can lead to travel behavior change (and reduced idling); and
4. Distance learning at local colleges and universities through on-line courses, which reduces the need for some to drive to campus.

[21] Spack Consulting, "TDM: An Analysis of the Effectiveness of TDM Plans in Reducing Traffic and Parking in the Minneapolis/St. Paul Metropolitan Area," January 2010.

While some evidence exists in the form of the self-reported results provided above, insufficient data was available from which to estimate the GHG potential impacts across a broader set of implementing cities and private entities. The possible participation of private businesses and institutions presents significant potential for TDM strategies. To the degree that there is widespread TDM activities among these private entities, the GHG reduction from TDM may be much larger than estimated for this SCS. Unfortunately, the schedule and resources were insufficient to launch a comprehensive survey of Gateway Cities major employers.[22]

7.2.3 Interactive Effects Between TDM and Land Use/Transit Improvements

The analyses of TDM, transportation, and land use strategies, when considered independently, did not factor in the potential interactive effects between these complementary GHG reduction measures. Smart land use policies and transit service improvements can serve to enhance the effectiveness of TDM strategies, especially when focused on employment at new developments that would benefit from the same land use policies and transit enhancements. Therefore, an additional TDM analysis was undertaken to estimate the multiplicative effects of land use and transit improvements on TDM program effectiveness.

This analysis focused on the TDM Ordinance element of the TDM analysis summarized in Section 7.2.1. The TDM Ordinances are the avenue in which to condition developments to support vehicle trip reduction (and therefore GHG reduction) strategies. These same developments may occur in areas that will benefit from smart land use policies (increased density, mixed uses, etc.) and transit improvements (such as increased coverage, frequency, type of service, fare policies, transit marketing enhancements, etc.). Therefore, the interactive impact analysis of these three measures (TDM, transit, and land use) involved the application of a 13-percent trip reduction to new office development space as analyzed in Section 7.2.1. That analysis assumed an 8-percent vehicle trip reduction (VTR) based on a conservative estimate of TDM program effectiveness at new developments subject to TDM requirements. The higher effectiveness factor (13 percent vs. 8 percent VTR) is based on studies conducted in Utah[23] and Virginia.[24] In Fairfax County, Virginia, the research estimated the VTR impacts

[22] Participating cities were unable to provide sufficient detailed information regarding any business-related TDM strategies needed to calculate GHG emissions.

[23] Cambridge Systematics, *TDM Best Practices*, prepared for the Utah TravelWise Program, Utah DOT, Draft Report, submitted January 13, 2009.

[24] Cambridge Systematics, *Increasing the Integration of TDM into the Land Use and Development Process: Findings and Recommendations*, Draft Final Report, prepared for the Fairfax County DOT, submitted May 12, 2010.

of various TDM programs as implemented at new developments under various transit "intensity" assumptions. The results of that analysis are shown in Table 7.2.

Table 7.2 National Evidence on TDM Program Impacts
Vehicle Trip Reduction from Background Conditions

TDM Program or Strategy	High Transit	Moderate Transit	Low Transit
Support, Promotion, Information	3-5%	1-3%	<1%
Alternative Commute Services	5-10%	*5-10%*	1-3%
Financial Incentives	10-20%	5-15%	1-5%
Combined Strategies			
With Free Parking	*15-20%*	10-15%	3-7%
With Paid Parking	25-30%	15-20%	N/A[a]

Source: Cambridge Systematics, Inc., UrbanTrans, and ESTC for Fairfax County DOT, 2010.

This table was used to derive the projected vehicle trip reduction impacts for the application of the eight cities' TDM ordinances to the new development projected for each city (8 percent) and for enhanced transit and land use policies as reflected in higher transit availability (13 percent). Thirteen percent is a low estimate, as compared to the 15 to 20 percent cited in the table, given the lower base levels of transit availability in the Los Angeles Basin and the somewhat unproven relationship between land use, transit, and TDM effectiveness.

As shown in Table 7.3, the application of a 13-percent vehicle trip reduction to the eight cities with TDM ordinances and their projected growth in office development, the estimated GHG reduction (as compared to TDM ordinance effectiveness without interactive effects or an 8-percent VTR) results in the following estimated impacts.

Table 7.3 Estimated Annual GHG Reduction from TDM Strategies for 2020 and 2035 with and Without Interactive Effects
In Metric Tons

TDM Ordinance Impacts	Annual GHG Emission Reduction 2020	Annual GHG Emission Reduction 2035
Without Interactive Effects	415.0	607.5
With Interactive Effects	652.5	957.5

7.3 OTHER TRANSPORTATION STRATEGIES NOT INCLUDED IN THE GATEWAY CITIES SUBREGIONAL SCS

7.3.1 Strategies Submitted but not Analyzed

Several transportation and transportation demand management strategies were submitted by Gateway Cities jurisdictions for analysis, but were either incomplete, did not have sufficient information for analysis, or were not relevant. Appendix D provides a list of these strategies under "Gateway Cities Submitted Other Projects that Were Not Analyzed." These projects were not analyzed for the SCS due to several overarching reasons:

- **ITS Applications such as Traffic Management Centers and Traffic Control Systems.** These are important systems operations improvements that could relieve congestion and reduce bottlenecks in the corridor. Many of these investments are providing infrastructure for coordinated signal systems; however, based on the information provided by cities, a rigorous analysis could not be performed without more information. These systems could be examined in the future for possible GHG reduction potential. Table 7.4 shows the range of annual GHG reduction that could be achieved with different ITS applications.
- **Transit Amenities on a Micro Scale, such as Bus Stops and Shelters**. There is no peer-reviewed literature on the analysis of GHG reduction due only to transit amenities at the micro scale. Even with improvements at a handful of select bus stops, the change in ridership and GHGs is likely to be minimal. There are studies that show that comprehensive improvements in "customer service orientation," including much more than just bus stops, can lead to a significant ridership increase; however, these strategies would move beyond the amenities submitted.
- **Transit Electric Vehicle Connection.** The Gateway Cities, along with the rest of Southern California, are encouraging electric vehicle usage by installing electric vehicle charging stations at key transit nodes. To date, the research concerning GHG reduction due to mode shift has not been conclusive and there is not yet enough evidence on GHG reduction potential due to electric vehicles as a connection to transit. In the upcoming year, more studies will be conducted, including one by Southern California Edison on Electric Vehicle Readiness.

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Table 7.4 GHG Reduction from ITS Applications from *Moving Cooler*

	Moving Cooler Range of Percentage Annual GHG Reduction from Nationwide Baseline[2]		*Moving Cooler* Reduction per Cost (Metric Tons Reduced per 2008 Dollars Implementation Cost)[3]	
ITS Application[1]	Min	Max	Min	Max
Ramp Metering	0.01%	0.44%	0.011	0.025
Variable Message Signs	0.00%	0.01%	0.001	0.003
Active Traffic Management	0.01%	0.42%	0.003	0.004
Integrated Corridor Management	0.01%	0.42%	0.004	0.031
Incident Management	0.00%	0.45%	0.006	0.026
Road Weather Management	0.00%	0.00%	0.000	0.001
Signal Control Management	0.00%	0.15%	0.001	0.003
Traveler Information	0.00%	0.15%	0.002	0.006
Vehicle Infrastructure Integration	0.01%	0.37%	0.000	0.002

1. Further definitions and assumptions on levels of deployment can be found in *Moving Cooler*, Appendix A, page A-14.
2. *Moving Cooler*, Appendix D, Tables D.3 and D.4. Note that percentage reductions are compared to a nationwide baseline, and ITS strategies are only applied in locations with certain levels of congestion. Therefore percentage reductions for urban areas may be higher than national numbers because they have a higher share of congested roadways than the whole nation.
3. Calculated from *Moving Cooler* Main Report, Table 4.1.

7.3.2 Possible Strategies to Consider for the Gateway Cities

Beyond the strategies selected for analysis in the Gateway Cities subregional SCS, there are several additional strategies that could be explored further in future SCS development. The *Moving Cooler* report analyzed nearly 50 strategies; some of which were included in the SCS, some of which do not apply to SB 375, and some of which cannot be implemented at the local or regional level.

There are, however, three categories of strategies that could be explored further in future SCS development.

- **TDM or Trip Reduction Ordinances**. Within this SCS, we have analyzed the GHG reduction for eight cities in the Gateway Cities reporting having TDM ordinances.[25] Based on an understanding of the LACMTA's Congestion Management Program and model TDM ordinance, it is assumed that many

[25] TDM or Trip Reduction Ordinances have been adopted by many Los Angeles County cities in response to the LACMTA Congestion Management Plan, which includes developer-based TDM programs as one strategy for reducing congestion.

cities – if not all of the cities within the Gateway Cities – have adopted a TDM ordinance within the Gateway Cities. Further assessment of which cities in the Gateway Cities have adopted and implemented TDM ordinances could provide more GHG reduction within the subregion.

- **Pricing strategies (congestion, parking, VMT, etc.).** Despite the political challenges associated with implementing pricing strategies, this category can be both cost effective and provide significant GHG reductions. This category of strategies focuses on raising the costs associated with use of the transportation system by autos and especially by SOVs, both in terms of the cost of VMT and fuel consumption. The revenues generated from pricing strategies can be reinvested in transportation infrastructure, potentially covering the costs of implementing GHG reduction strategies.
- **Regulatory strategies (urban nonmotorized zones, urban parking restrictions, etc.).** This category includes various regulatory measures to moderate vehicle travel and encourage more efficient driving.

For the Gateway Cities, parking pricing merits particular attention. Parking fees could be implemented and charged for parking in CBDs in shopping districts and downtown areas, employment areas, and retail centers to encourage "park once" behavior or reduce single-occupant trips. Other approaches include the introduction of taxes or higher fees on otherwise free private parking lots and parking management approaches, including requirements for residential parking permits, as well as permits for delivery and service vehicles and for visitors.

In terms of regulatory strategies, nonmotorized zones could be established in CBDs and regional employment and retail centers, transforming these areas to transit malls, linear parks, or other nonmotorized zones. Parking restrictions could be imposed in urban areas, capping the absolute number of commuter spaces in a CBD and other regional employment and retail centers, with potential exception for carpools.

8.0 Resource Areas and Farmland

In preparing the SCS, the Gateway Cities COG was required to gather and consider the best practically available information regarding resource areas and farmland in the Gateway Cities subregion. As defined in Government Code §65080.01, resource areas include:

1. All publicly owned parks and open space;
2. Open space or habitat areas protected by natural community conservation plans, habitat conservation plans, and other adopted natural resource protection plans;
3. Habitat for species identified as candidate, fully protected, sensitive, or species of special status by local, state, or Federal agencies or protected by the Federal Endangered Species Act of 1973, the California Endangered Species Act, or the Native Plant Protection Act;
4. Lands subject to conservation or agricultural easements for conservation or agricultural purposes by local governments, special districts, or nonprofit 501(c)(3) organizations, areas of the state designated by the State Mining and Geology Board as areas of statewide or regional significance pursuant to Section 2790 of the Public Resources Code, and lands under Williamson Act contracts;
5. Areas designated for open-space or agricultural uses in adopted open-space elements or agricultural elements of the local general plan or by local ordinance;
6. Areas containing biological resources as described in Appendix G of the California Environmental Quality Act Guidelines that may be significantly affected by the SCS or the alternative planning strategy; and
7. An area subject to flooding where a development project would not, at the time of development in the judgment of the agency, meet the requirements of the National Flood Insurance Program, or where the area is subject to more protective provisions of state law or local ordinance.

Farmland, as defined in Government Code §65080.01, means farmland that is outside of all existing city spheres of influence or city limits as of January 1, 2008; and is classified as prime or unique farmland or farmland of statewide importance.

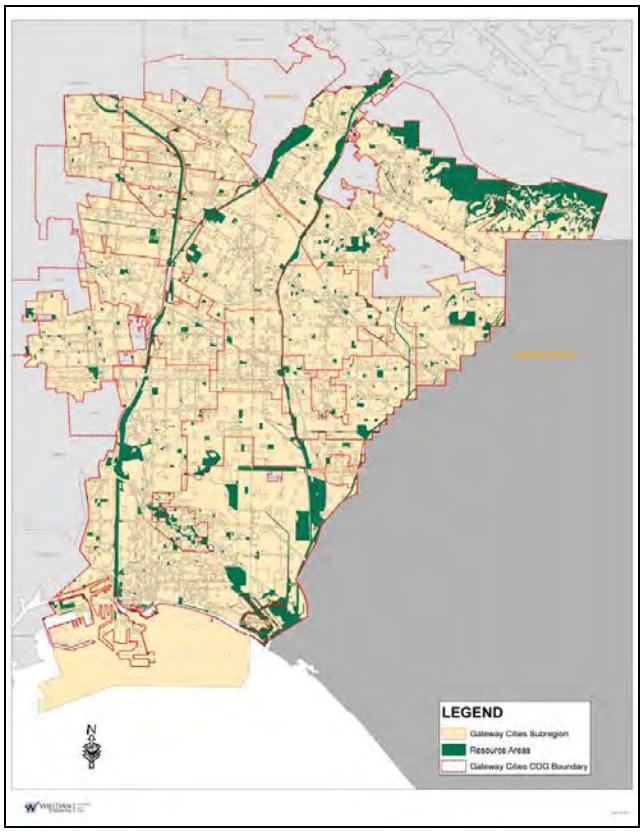
There is no farmland as defined above in the Gateway Cities subregion. Given the absence of farmland, there are no lands under Williamson Act contracts. Likewise, there are no areas of statewide or regional significance pursuant to Section 2790 of the Public Resources Code. Nevertheless, there are a variety of other resource areas in the subregion, as defined in Government Code §65080.01.

The existing resource areas within the Gateway Cities subregion are shown on Figure 8.1. These resource areas are an integral part of the planned urban development pattern for the subregion as depicted on the general plans of the Gateway cities. These resource areas contribute to the sustainability of the subregion by the various functions they perform, which include:

- Meeting the recreational needs of the subregion's residents, and thereby contributing to their health and well being through the provision of parks, golf courses, and other recreational facilities;
- Serving as aquifer recharge areas that allow for the replenishment of the groundwater basins beneath the subregion on which the Gateway Cities rely for a major portion of their water supply;
- Preserving significant habitat and other ecologically important areas that are critical to maintaining the biodiversity of the subregion;
- Protecting residents and property within the subregion from the hazard of flooding through an integrated system of flood control facilities; and
- Supporting the production of energy resources by accommodating oil recovery operations.

Recognizing the importance of these areas to the sustainability of the subregion, the majority of these areas have been designated in the Gateway Cities general plans and zoned as open space or public facilities. In doing so, the Gateway Cities have clearly expressed their intent that these areas be preserved in perpetuity as open space/publicly-held land. The one major exception is the areas devoted to oil production. However, the preservation of these areas as open space is not essential to the continued production of oil in these areas. Through the consolidation of wells at strategically located drill sites and the use of slant drilling and other recovery techniques, oil production operations can continue within the oilfields existing across the subregion for years to come while releasing surface areas for other forms of urban in-fill development.

Figure 8.1 Resource Areas



9.0 State Housing Goals

The SCS must consider the state housing goals set forth in Government Code §65580 and §65581. In establishing state housing policy, the California Legislature finds and declares in Government Code §65580 that:

- The availability of housing is of vital statewide importance, and the early attainment of decent housing and a suitable living environment for every Californian, including farm workers, is a priority of the highest order.
- The early attainment of this goal requires the cooperative participation of government and the private sector in an effort to expand housing opportunities and accommodate the housing needs of Californians of all economic levels.
- The provision of housing affordable to low- and moderate-income households requires the cooperation of all levels of government.
- Local and state governments have a responsibility to use the powers vested in them to facilitate the improvement and development of housing to make adequate provision for the housing needs of all economic segments of the community.
- The Legislature recognizes that in carrying out this responsibility, each local government also has the responsibility to consider economic, environmental, and fiscal factors and community goals set forth in the general plan; and to cooperate with other local governments and the State in addressing regional housing needs.

In Government Code §65581 the Legislature further states that, in enacting the requirement that each general plan must contain a housing element, it is their intent:

- To assure that counties and cities recognize their responsibilities in contributing to the attainment of the state housing goal;
- To assure that counties and cities will prepare and implement housing elements that, along with Federal and state programs, will move toward attainment of the state housing goal;
- To recognize that each locality is best capable of determining what efforts are required by it to contribute to the attainment of the state housing goal, provided such a determination is compatible with the state housing goal and regional housing needs; and
- To ensure that each local government cooperates with other local governments in order to address regional housing needs.

Gateway Cities Council of Governments Subregional Sustainable Communities Strategy

These state housing goals were considered and fully taken into account during the formulation of this SCS. The general plans of the COG's member cities, which collectively constitute the land use component of the SCS, allocate adequate land at appropriate densities for residential development to meet the projected housing needs of the Gateway Cities subregion. The goals and policies found in the housing elements of these general plans are consistent with the state housing goals, and the housing programs being implemented by the Gateway Cities contribute to the attainment of the state housing goals. Some of the more widely implemented programs being deployed by the Gateway Cities to expand the supply of housing in the subregion that is affordable to low- and moderate-income households, while also contributing to a more sustainable development pattern within the subregion, have already been identified in Section 6.0 of this SCS. Additional measures that have been taken by the Gateway Cities to address the housing needs of all economic segments of the subregion's population include:

- Utilizing zoning and property rehabilitation programs to preserve well-established residential neighborhoods and existing housing affordable to low- and moderate-income households;
- Utilizing zoning and other land use controls to accommodate the housing needs of the elderly, disabled, homeless, and other special needs households;
- Providing rental assistance to lower-income households; and
- Offering first-time homebuyer assistance to low- and moderate-income households.

10.0 Integration of Development Pattern with the Transportation Network

This section describes the methodology used to integrate future land development patterns for the subregion with the transportation network and the travel demand the network accommodates. The SCAG Sustainability Tool is used to analyze 2020 and 2035 land use scenarios for each of the 26 participating cities. Additionally, the subregional transportation network and other transportation measures and policies are layered on top of the locally significant projects listed in Section 7.0 and their combined impacts are assessed. This section also reports interactions or synergies between land use changes and the transportation strategies and policies. These synergies add significant magnitude to the reductions of GHG emissions from individual strategies in 2035.

10.1 Land Use Analysis Using the Sustainability Tool

SCAG has expended significant effort and conducted extensive one-on-one outreach efforts to develop the Sustainability Tool (ST). For the subregional SCS, Gateway Cities has used the ST as the primary method of assessing GHG impacts of future land use scenarios from individual jurisdictions (i.e., the 26 participating Gateway Cities). By using the tool developed by SCAG, the Gateway Cities have been able to estimate GHG reductions from land use strategies, and provide the underlying GIS and Excel datasets to SCAG in order for SCAG to include the analysis in the regional SCS.

One of the primary goals of SB 375 involves motivating local governments to implement aggressive smart growth land use strategies, and integrate these with systematic transit and nonmotorized transportation investments. The consultant team and SCS Policy Development Committee advocated for this goal. Consultants, COG staff, and Committee members encouraged city staffs to consider aggressive land use reforms during the four technical workshops and numerous communications with individual cities throughout the SCS development process. Some cities had already incorporated significant smart growth policies during the most recent update to their general plans. Other cities considered pushing density and clustering of mixed-use development beyond what was specified in their general plans. Long Beach, for example, experimented with some extremely dense development throughout their transit

corridors and CBDs. At the end of this process, however, no city adopted land use policies for this SCS that significantly vary from those in their adopted general plans. This outcome probably came about for four reasons:

1. Some cities have already adopted aggressive smart growth policies in their general plans. As an almost universal fact of local governments, cities will protect their authority over land use planning zealously.
2. All cities are currently facing significant slumps in development and may be concerned that aggressive land use regulation may discourage new development.
3. Just about all Gateway Cities are built out and are expecting modest amounts of in-fill development, which provides only modest opportunities to increase density and envision "place making" development opportunities.
4. High quality transit nodes require high quality transit service to attract riders. Current funding for such services has been reduced and service quality has suffered. Meanwhile, little or no incentives (e.g., parking charges, congestion pricing, carbon tax, etc.) have been seriously proposed, let alone implemented, to encourage less driving and more use of transit, biking, and walking. Most transportation analysts are adamant that until pricing policies are used to discourage driving, auto travel will dominate other modes of travel almost regardless of land use policy.

Of the 26 participating cities, 11 cities evaluated the land use data loaded as default scenarios into the ST, and these cities worked with SCAG to develop a modified 2008 land use scenario, as well as apply smart growth policies in 2020 and 2035 scenarios.[26] The remaining cities used the ST equivalents of their adopted general plans (i.e., default scenarios in the ST), which is SCAG's best judgment of city general plans converted to 5.5-acre grid cells. The ST has functionality that estimates the interactions between land use (expressed as one of 24 types of land use) and proximity to a transit node. The ST specifies proximity as one-quarter mile from a bus stop and one-half mile from a passenger rail station. These interactions are included in the estimated GHG reductions from each city's 2020 and 2035 land use policies.

The resulting GHG reduction amounts to 0.47 lbs CO_2e per capita per day in 2020 and 0.49 lbs CO_2e per capita per day in 2035. Individual city scenarios can be found in Appendix F.

[26] The ST converts general plan information from each city into 5.5-acre grid cells, where each grid cell is assigned 1 of 26 possible types of land use. This assignment process provides a reasonable approximation of a city's aggregate land use, but may on occasion assign general plan land use designations to incorrect grid cell types.

10.2 REGIONALLY SIGNIFICANT TRANSIT AND TRANSPORTATION IMPROVEMENT PROJECTS

Planned regional transportation projects located within or near the Gateway Cities (e.g., HOT lanes on I-110, Green Line extension to LAX, Regional Connector) will impact GHG within the subregion. Gateway Cities COG staff determined 17 such projects are included in the RTP. These include Measure R projects, such as multimodal and intermodal facilities; and ramp and freeway improvements, such as HOV, HOT and toll lanes.[27] The list of projects is shown in Table 10.1.

Table 10.1 Key Regional Projects Included in the Gateway Cities SCS

2020 Regional Project List	Anticipated Completion	Fully Funded/ Part of RTP	Partially Funded/Potentially Likely to Proceed
I-5 (between I-605 to countyline)	2020	✓	
I-110 Harbor Transitway HOV lane conversion to HOT lanes	2012	✓	
I-710 Arterial Hwy Improvements	2020	✓	
I-710 TSM/TDM	2020	✓	
BNSF Grade Separation	2035	✓	
California High-Speed Rail	2035		✓
Goldline Eastside Extension	2035		✓
Green Line Extension to LAX	2035		✓
I-5 (between I-605 to I-710)	2035		✓
I-5 Arterial Highway Improvements	2035		✓
I-605 Hot Spots	2035		✓
I-710 Freight Corridor	2025		✓
ITS Integration Plan	2025		✓
Orangeline Development Authority – OLDA Project	2035		✓
Regional Connector	2025		✓
Signal Synchronization of Major Arterials (re: I-710)	2025		✓
SR 91/I-605/I-405 Arterial Highway Improvements	2035	✓	

[27] Measure R is a one-half-cent, 30-year sales tax dedicated to specific transportation improvements throughout Los Angeles County. Appendix G lists the specific projects located within the Gateway Cities region.

The analysis of their estimated GHG reductions requires using the travel demand model output from LACMTA and SCAG. As shown in the second column of Table 10.1, the anticipated dates of completion for all but one of these projects (I-5 between I-605 to county line) occur after 2020. Most of their estimated GHG impacts, therefore, are accounted for in the second target period from 2021 to 2035. The results of LACMTA and SCAG modeling of these 17 projects were input into EMFAC emission model, which estimated a 7.0 percent reduction in daily CO_2 in 2035, compared to the 2005 benchmark, because of increases in network speed; and a 1.1-percent reduction because of reduced VMT (i.e., mode shift). When these two are combined, the estimated total daily CO_2 reduction is 7.07 percent (the two are combined by multiplying rather than adding).[28] Appendix G explains the methodology and analysis for the quantification of GHG reduction due to regional transportation projects.

10.3 LAND USE – REGIONAL TRANSIT CAPACITY EXPANSION INTERACTION

10.3.1 Overview

The ST estimates the interaction between new development and redevelopment in Gateway Cities and regional public transportation projects funded under Measure R with the same methodology as applied for a local bus or local rail transit service. This interaction, however, may be more substantial for regional transit projects that will serve travel across the subregion, the county, and the region. This higher level of mobility from regional transit produces larger interactive impacts when station areas are developed as higher-density transit-oriented developments (TOD).

10.3.2 Assessment Process in Gateway Cities SCS

There are two primary components to the land use-regional transit capacity expansion interaction under consideration in the SCS:

1. **Regional Transit Walk Access.** There are two potential interactions to consider:
   a. Residential and commercial development and redevelopment identified in the Gateway Cities adjacent to existing and planned transit stations will on average generate less VMT per household than households not adjacent to transit. This interaction is accounted for in the ST.

[28] The relative change in CO_2 emissions based on build/no-build comparisons from Metro's modeling for the 2009 LRTP was used to estimate the emission reductions for the 17 identified projects. This assumes that the benefits of the 2009 LRTP are distributed equitably across Los Angeles County.

b. The improvement of transit access to regional destinations outside the Gateway Cities and new high capacity and frequent regional transit service in Gateway Cities improves the level of service and utility of the transit mode leading to mode shift from vehicle-based trips.

2. **TOD Opportunity.** New or improved transit stations may attract new TOD, as long as the appropriate combinations of higher-density, mixed-use zoning, parking policies, urban design guidelines, and redevelopment investments are implemented. This type of high density and mixed residential and commercial development should facilitate attracting residents and workers with higher propensities for transit trips.

10.3.3 Regional Transit Walk Access

The ST has functionality that estimates the interactions between land use (expressed as the trip generation characteristics and mode shares of the 24 types of land use) and proximity to a fixed-guideway transit node (defined as within one-half mile) or a bus stop (defined as within one-quarter mile). The ST subdivides the growth forecasts from the cities into 5.5-acre grid cells, overlays the data with existing and planned transit facilities (planned transit facilities include all projects in the fiscally constrained RTP), and flags all cells within a one-half mile of rail stations and one-quarter mile of bus stops.

In the ST, regional transit walk access is the most significant environmental predictor of household transit trips, with an average elasticity of 0.25 (meaning that for every 10-percent increase in households flagged with regional transit walk access, there is an estimated 2.5-percent increase in transit trips.). Another way to view this interaction is that for every 100 new trips generated within one-half mile of regional transit, 25 of them will be on transit (a 25-percent mode share).

The GHG reduction estimates developed through the ST reflect the benefit of both the growth and land use changes within the Gateway Cities through 2035 and the added accessibility to regional destinations through new transit access in the RTP.

What the ST does not presently consider is the additional VMT reduction that could occur in the Gateway Cities as a result of long-range implementation of Measure R projects that are partially funded and not included in the current fiscally-constrained RTP. Projects in the Measure R plan, anticipated to be completed by 2035 impacting travel in Gateway Cities, include the Gold Line Eastside Extension, the Orange Line Development Authority (OLDA) grade-separated regional transit project, the Regional Connector project linking the Blue Line to other lines in Downtown Los Angeles, and the Green Line extension to Los Angeles International Airport (LAX). These projects will positively affect transit ridership in the Gateway Cities in two ways: 1) the projects will improve regional access to attractions, employment, and services for Gateway Cities

households, and 2) the projects will provide a new fixed guideway transit alternative to private vehicle or bus transit trips.

Fixed guideway transit (i.e., commuter or light rail) tends to be more attractive than bus transit to discretionary travelers (people who have the option of driving), including commuters, visitors, and people traveling to major sport and cultural events if they are located along transit lines. To reflect the transition from bus to fixed-guideway transit access, an assumption that the regional transit walk access elasticity increases from 0.17 for bus to 0.33 for rail is reasonable for these discretionary trips. In other words, travelers with existing access to bus transit would be 1.5 to as much as 2 times as likely to choose transit if they had access to rail transit (while controlling for socioeconomic variables). This increase in transit mode share makes the regional rail projects that transect the Gateway Cities subregion more effective at reducing GHG than existing bus service, and even more effective when rail station areas are developed as TODs.

10.3.4 TOD Opportunity

In expanding transit corridors in California and elsewhere, the presence of new, high capacity, high level of service public transportation options has been shown to be a catalyst for new or redevelopment. Through zoning codes and development regulations, cities may support development of these areas through reduced parking requirements, tax increment financing, and other incentives to maximize the opportunity for development and capitalize on their investment in transit.

It is uncertain how much the opportunity for rezoning and eventual redevelopment of land uses near planned transit stations is incorporated into city general plans. OLDA is the only transit project in the Measure R plan anticipated to be completed by 2035 within the Gateway Cities. This project, which could facilitate TOD in Gateway Cities, would provide access to Vernon, Maywood, Bell, Huntington Park, Cudahy, Downey, South Gate, Paramount, Artesia, Bellflower, and Cerritos.

In addition, other regional transit projects that increase the level of service and accessibility to attractions outside the Gateway Cities (for example, such as new Green Line access to LAX) could also, to a lesser degree than above, facilitate TOD at existing transit stations in the Gateway Cities. It is likely that the benefits from TOD at these locations would occur sooner than TOD associated with the OLDA project given that the transit infrastructure is already in place.

The level to which growth in the Gateway Cities could intensify or be redistributed to focus in areas adjacent to new fixed-guideway transit stations is dependent on available development capacity, supporting infrastructure, zoning and development regulations, and future economic and market conditions. The example analysis of this interaction considers the effect of TOD in areas within one-half mile of Orange Line transit stations.

10.3.5 Results of Interactions

The data summarized in Table 10.2 reflects the range of potential benefits resulting from the interaction between land use and Measure R transit projects in the Gateway Cities in 2035. Given the anticipated long timeframe for implementation of the Measure R transit projects, as well as the long lead time for redevelopment activities adjacent to new transit, the resulting estimated GHG reductions associated with this interaction are only considered for 2035.

Table 10.2 Gateway Cities SCS – GHG Reduction from Land Use and Regional Transit Interactions

Gateway Cities – Land Use and Regional Transit Interaction	2035
Interaction 1 – Regional Walk Access	
Improved Access to Regional Destinations	
• Average Daily VMT per Household in Gateway Cities	42.5
• Total Daily GHG Reduction (lbs GHG per capita)	0.041-0.062
New Access to Fixed Guideway Transit	
• Total Households within 1/2 mile of possible future station location for potential OLDA project[1]	40,075
• Total Daily GHG Reduction (lbs GHG per capita)	0.021-0.042
Interaction 2 – TOD	
• Target Density Range in TOD Station Areas (TOD defined as ½ mile of station)[2]	23.7-60.7 dwelling units/acre
• Total Households in TOD Station Areas	8,186-20,966
• Total Daily GHG Reduction (lbs GHG per capita)	0.058-0.073
Total Daily GHG Reduction (lbs GHG per capita)	0.120-0.177

Notes:

1. Assumes constant residential density across each city based on 2035 forecasts.

2. Change characteristics of range from *Town Residential Low Mix* to *Town Residential High Mix* for TOD station areas, as defined in the ST.

Further explanation on interactive effects between transit and land use can be found in Appendix H.

11.0 Compliance with Regional and Federal Requirements

11.1 COMPLIANCE WITH SCAG SCS/RTP

At the time of this subregional SCS submittal, the SCAG RTP is still under development; thus, Gateway Cities COG cannot determine if the SCS strategies, growth forecasts, land use, housing accommodation, and other elements of this subregional SCS conform with the SCAG RTP and regional SCS plans and assumptions. Nevertheless, the transportation investments included in this subregional SCS must also be included in the 2012 RTP, and must be scheduled in the Regional Transportation Improvement Plan (RTIP) for construction completion by the target years (2020 and 2035) in order to demonstrate any benefits as part of the SCS. Gateway Cities COG has collaborated with LACMTA to coordinate the subregional SCS with future transportation investments.

Gateway Cities COG expects SCAG to accept and incorporate this subregional SCS because 1) it complies with SB 375, 2) it complies with Federal law, and 3) it complies with SCAG's Subregional Framework and Guidelines. Furthermore, the compiled Gateway Cities subregional SCS achieves the regional targets set for SCAG by CARB. Gateway Cities have adhered to a process and timeline; whereby, the draft subregional SCS was delivered to SCAG for its review and comment, so that SCAG could identify any inconsistencies and resolve these prior to the final SCS being completed.

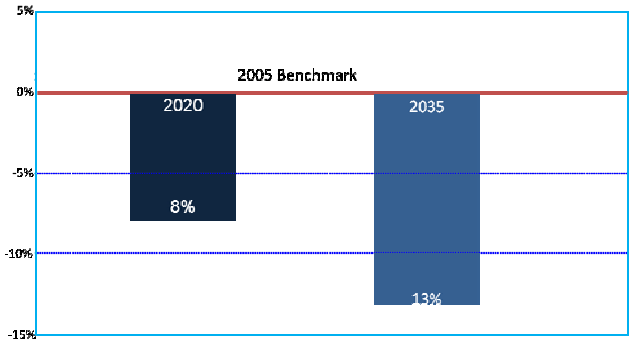
While completion of this subregional SCS does not exempt the subregion from further GHG emission reduction measures being included in the regional SCS, the clear intent and purpose of this subregional SCS is to occupy the field. Thus, the Gateway Cities COG does not expect to be compelled to adopt additional regional measures needed to meet the regional targets.

In addition, this SCS does work with SCAG to take advantage of the California Environmental Quality Act (CEQA) streamlining provisions of SB 375. To help Gateway Cities COG jurisdictions take advantage of the CEQA streamlining, SCAG will include maps in the regional 2012 RTP/SCS in order to show the uses, densities, intensities, and locations for future development; and in order to facilitate subsequent project consistency findings. More on this subject can be found in Appendix I.

11.2 COMPLIANCE WITH CARB REGIONAL TARGETS

According to CARB, the SCAG region is to comply with the regional targets set forth through the Regional Targets Advisory Committee target-setting exercise.[29] For the SCAG region, the proposed targets are 8 percent per capita GHG reduction from passenger vehicles and light trucks for 2020 relative to 2005 and 13 percent in 2035 (Figure 11.1).

Figure 11.1 CARB GHG Emissions Target for SCAG Region (Emission Reduction Based on 2005 per Capita CO_2e)



Although the regional targets are not applicable at the subregional level, the Gateway Cities wished to compare the performance of their SCS with the regional targets. Thus, the Gateway Cities worked with SCAG to obtain the information needed to generate the Gateway Cities subregional baseline emissions per capita in 2005. This analysis applied the Adopted 2008 RTP Growth Forecast and the Local Input/General Plan 2012 RTP Growth Forecast as the per capita denominator for the SB 375 target years of 2020 and 2035. The results of this analysis produced an estimated daily GHG per capita for 2005 of 16.64 lbs CO_2e for the Gateway Cities subregion, compared to 21.2 lbs CO_2e for the SCAG region.[30] This difference is consistent with the following differences between the Gateway Cities subregion and the SCAG region as a whole: higher

[29] CARB, Staff Report, *Proposed Regional Greenhouse Gas Emission Reduction Targets for Automobiles and Light Trucks Pursuant to Senate Bill 375*, September 23, 2010.

[30] The unincorporated areas of Gateway Cities subregion are included in the total GHG per capita baseline.

land use density, lower car ownership per household, higher density and service levels for transit, and lower VMT per household. The 16.64 lbs CO_2e per capita in 2005 for the Gateway Cities subregion serves as the benchmark for the Gateway Cities SCS attainment of the CARB targets for the SCAG region. The estimated GHG reductions relative to this benchmark are achieved with the following five bundles of strategies.

1. **Transportation Strategies.** Participating cities submitted approximately 340 strategies; of these, a subset of strategies was either incomplete, did not have sufficient information for analysis, or was not relevant. (See Section 7.3.1, Strategies Submitted but not Analyzed, and Appendix D for detailed descriptions of these projects.) This portfolio generates a significant amount of reduction, the highest GHG reduction after the regional transportation projects. The interactive effects between these strategies and land use (smart growth policies) are accounted for in the land use analysis.
2. **TDM Strategies.** The focus was on three main categories of TDM: compressed work week schedules for city employees (12 cities), ridesharing programs for city employees (6 cities), and TDM or Trip Reduction Ordinances for new development (8 cities). This bundle also incorporates the interactive effects between TDM and land use and transit.
3. **Land Use.** Of the 26 participating cities, 11 cities chose to modify their land use in the ST. These cities worked with SCAG to develop a modified 2008 scenario that more closely approximated their current land use, as well as to apply smart growth policies in 2020 and 2035 scenarios. The remaining cities used the ST-equivalents of their adopted general plans (i.e., default scenarios in the ST), which is SCAG's best judgment of city general plans converted to grid cells. The ST has functionality that estimates the interactions between each of its 24 types of land use and proximity to a transit node.[31] These are included in the estimated GHG reductions from each city's 2020 and 2035 land use policies.
4. **Regional Projects, including Measure R.** Regional transportation projects located within or near to the Gateway Cities will reduce GHG within the subregion. Gateway Cities COG staff determined 17 projects that are included in the RTP, such as multimodal and intermodal facilities; and ramp and freeway improvements, such as HOV, HOT, and toll lanes. The analysis of their estimated GHG reductions was derived from travel demand model output from LACMTA and SCAG.
5. **Interactive Effects Between Land Use and Regional Transit Projects.** The long timeframe for implementation of the Measure R transit projects and the long lead time for redevelopment activities adjacent to new transit justify

[31] Proximity is defined as one-half mile from a rail station and one-quarter mile from a bus stop.

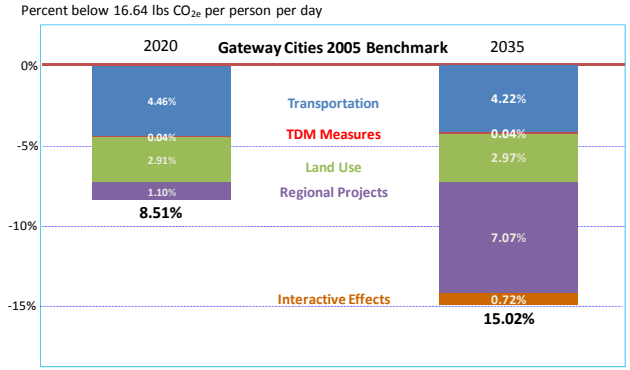
only attributing estimated GHG reductions resulting from the interaction between land use and Measure R transit projects in the Gateway Cities in 2035 and none in 2020.

Combining the GHG reduction strategies from the five categories described above, the subregion as a whole is expected to reduce GHG per capita from the benchmark in 2005 by approximately 8.5 percent in 2020 and just over 15 percent in 2035. Table 11.1 and Figure 11.2 present these results.

Table 11.1 Summary GHG Reduction Results for Gateway Cities from 2005 Benchmark
In lbs CO2e per Person per Day

	Absolute Daily GHG Reduction per Capita		Percentage Daily GHG Reduction Per Capita	
	2020	2035	2020	2035
Transportation	0.74	0.70	4.46%	4.22%
TDM	0.007	0.007	0.04%	0.04%
Land Use	0.48	0.49	2.91%	2.97%
Regional Projects	0.18	1.17	1.10%	7.07%
Interactive Effects	N/A	0.12	N/A	0.72%
Total	1.40	2.48	8.51%	15.02%
SCAG Targets			*8%*	*13%*

Figure 11.2 Percentage Daily GHG Reduction Per Capita in Gateway Cities
In lbs CO2e per Person per Day



11.3 Compliance with the Federal Clean Air Act

Under California Government Code §65080(b)(2)(B), the SCS prepared by SCAG is subject to the requirement that it allow the regional transportation plan to comply with Section 176 of the Federal Clean Air Act (42 U.S.C. Sec. 7506). Section 176 is the portion of Title I, Subpart D, Subpart 1 of the 1990 Clean Air Amendments that establishes the statutory authority for the Transportation Conformity rule and the General Conformity rule. While there is no State Implementation Plan (SIP) budget or National Ambient Air Quality Standards (NAAQS) for GHG emissions, the policies and projects included in the SCS are likely to also affect the criteria pollutant and their precursor emissions, which are subject to conformity.

What are the Requirements?

Transportation Conformity and General Conformity requires that Federal actions (including transportation plans and programs) conform to the region's State Implementation Plan [42 U.S.C. Sec. 7506(c)(1)]. Activities cannot:

- cause or contribute to any new violation of any standard in any area;
- increase the frequency or severity of any existing violation of any standard in any area; or
- delay timely attainment of any standard or any required interim emission reductions or other milestones in any area [42 U.S.C. Sec. 7506(c)(1)(B)].

The Transportation Conformity rule specifies procedures for use in the evaluation of transportation plans and programs. Generally, these include an emissions budget test, timely implementation of all SIP traffic control measures (TCM), and use of the latest planning assumptions.

General conformity applies to all Federal actions (e.g., funding, licensing, permitting or approving) that do not include the FHWA/Federal Transit Administration (FTA) projects. In an area with a SIP, General Conformity can be demonstrated in one of four ways:

1. By showing that the emission increases caused by an action are included in the SIP;
2. By demonstrating that the State agrees to include the emission increases in the SIP;
3. Through offsetting the action's emissions in the same or nearby area; or
4. Through mitigation to reduce the emission increase.

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The emission budget tests are applicable to both Transportation Conformity and General Conformity, but are applicable to the South Coast Air Basin as a whole, rather than the Gateway Cities subregion. The strategies covered in the Gateway Cities SCS are expected to reduce the emissions of criteria pollutants and their precursors and, therefore, are consistent with the emission budget tests that SCAG will be required to meet for the next RTP. Many of the regional projects are already included in conforming SCAG RTP and RTIP.

Transportation conformity requires timely implementation of all transportation control measures from the applicable state implementation plan. The 2007 Air Quality Management Plan (AQMP)/SIP includes the following three Transportation Control Measures (TCM) project categories:

1. HOV measures,
2. Transit and systems management measures, and
3. Information-based transportation strategies.

The TCM project categories in Appendix IV-C of the Regional Transportation Strategy and Control Measures of the 2007 Ozone AQMP/SIP are consistent with those of TCM01 specified in the 1994 and subsequent Ozone SIPs, and consist of the projects as specified in the fiscally-constrained portion, or the first two of the years (i.e., fiscal year (FY) 2010/2011 to 2011/2012) of SCAG's 2011 FTIP, adopted September 2, 2010.

SCAG's 2011 FTIP incorporates LACMTA's 2009 LRTP, which was the basis of the regional projects incorporated into the SCS. Therefore, the SCS incorporates all applicable transportation control measures from the 2007 SIP, and is

consistent with the transportation conformity rule's timely TCM implementation requirement.

Future Implementation

Experience in the Bay Area and San Joaquin Valley has shown that assumptions and proposed controls in the RTP can be treated by U.S. Environmental Protection Agency (EPA) as TCM during SIP revisions. When selecting strategies, the implications of the SCS strategies and land use assumptions becoming SIP TCMs, subject to timely implementation requirements, should be considered.

12.0 Financial and Fiscal Implementation

This section considers the fiscal challenges of implementing the SCS strategies, especially those that would be funded by local jurisdictions. The fiscal challenges are large, including the need for approximately $156 million in project funding, even though the plan provides over $215 million in committed funding (see Table 12.2). The cities and MPOs throughout the State have consistently commented that the success of GHG reductions at the local level relies on the State assisting Cities in developing predictable and stable funding sources in order to implement the SCS. The existing predictable and stable funding sources have been eviscerated at the State and local level as result of the impacts of the severe economic recession of 2008 to 2010 and the slow economic recovery. These include drops in sales tax revenues that support local transportation projects, as well as deferrals of local revenues collected by the State. This unpredictability makes it very difficult to plan the major statewide and regional projects that are necessary for GHG reductions.

In many ways, this has been the most severe economic recession since the Great Depression of the 1930s. The impacts of the current recession have been felt especially in the Gateway Cities in terms of persistent high unemployment. Unemployment in the Gateway Cities totaled 13.2 percent in April of this year. Six of the Gateway Cities have unemployment above 15 percent, while 11 of the local communities have unemployment above 13 percent. The City of Long Beach has an unemployment rate of 12.9 percent, with 30,700 persons out of work. Local municipal budgets have been severely reduced by the impacts of the recession, and the State has proposed the elimination of redevelopment, which up to now has been a successful tool at promoting sustainable communities and transit-oriented development in the Gateway Cities subregion. California's housing market and construction industry has borne the brunt of the recession. The State has the highest number of housing foreclosures in the nation, and the bottom of the housing market has not yet been reached. Building permit activity in the region is at historic lows.

The communities in the Gateway Cities have been proactive in funding this Subregional SCS, and will continue to be proactive in developing and securing the necessary funds to implement the strategy. The voters in Los Angeles County have supported three "self-help" sales tax increases over the last 25 years in order to implement transportation measures, the most recent being Measure R. A small number of the Gateway Cities have traffic mitigation fees, and the LACMTA is working on a pilot program for several of the cities. However, there is great concern in many of the communities that an impact fee will adversely impact a fragile and tentative economic recovery. The success of the Gateway

Cities SCS depends in good part in financial assistance from both the State and Federal government, recognizing that there is only so much local funding that is realistic and available.

12.1 Project Costs and Funding Status

All 26 participating cities plus the Los Angeles County Public Works Department submitted transportation projects totaling 340 projects. Of that total, about 240 were funded and became functional between 2005 and 2011. The remaining 100 are planned to become functional between 2011 and 2035 (see Table 12.1), and are estimated to cost a total of roughly $371 million. These future projects are distributed among 16 of the 27 participating jurisdictions (including Los Angeles County).

The 16 jurisdictions have identified about $206 million in funding, which leaves about $156 million more of required additional funding. Table 12.2 below shows the total costs, number of projects, and the funded and unfunded portions.

The $206 million of available funding comes from a broad range of local, county, regional, state, and Federal sources. Appendix D provides details of each project's funding assumptions.

The estimates for each project's total costs were either provided by the city staff submitting the project, or were generated by the consultant team. The consultant estimates were made by comparing each project to similar projects with established costs. When multiple projects were available for comparison, an average cost was devised and then applied to the project of unknown cost. In the case of those projects where length was a factor, the average cost per mile was established and then multiplied by the length of the project of unknown cost.

The consultant team has also made estimates for the funded and unfunded portions when city staff were unable to provide funding information. Future revisions and refinements to these estimates are expected.

Table 12.1 Types of Transportation Strategies by Jurisdiction to be Implemented from 2011 through 2035

City	Roadway Capacity	Intersection Improvements[1]			System Ops-ITS	Grade Separation	Nonmotorized Transportation	Park and Ride	Total
		New Signal	New Phase	Intersection Capacity					
Bell Gardens				2					2
Bellflower				1				1	2
Commerce	1								1
Compton								1	1
Downey	5	2	4	2	4				17
La Mirada						1			1
LACDPW[2]					14				14
Long Beach	1	4	3	4	4		19		35
Lynwood							1		1
Norwalk	1	1					1		3
Pico Rivera		1	1			1			3
Santa Fe Springs		1					1		2
Signal Hill	2	2	2		1		1		8
South Gate	1								1
Vernon	1			1					2
Whittier		1	3				3		7
Total	12	12	13	10	23	2	26	2	100

1. Intersection improvements are divided into three types: new signals, new phase, and new capacity.
2. Los Angeles County Public Works Department projects are all almost all traffic signal synchronization projects and a few ITS projects on primary arterials through both incorporated and unincorporated areas.

Source: Cambridge Systematics, Inc.

Gateway Cities Council of Governments Subregional Sustainable Communities Strategy

Table 12.2 Estimated Total Costs and Funding for Future Transportation Strategies from 2011 through 2035
2011 Current Dollars

	Number of Projects	Total Cost	Funded Portion	Unfunded Portion
Bell Gardens	2	$300,000	$195,000	$105,000
Bellflower	2	$4,020,000	$3,010,000	$1,010,000
Commerce	1	$23,008,000	$15,582,000	$7,426,000
Compton	1	$12,000,000	$8,000,000	$4,000,000
Downey	16	$87,555,000	$42,301,000	$45,254,000
La Mirada	1	$75,000,000	$37,000,000	$38,000,000
LAPW	14	$24,672,350	$22,451,839	$2,220,512
Long Beach	35	$49,740,000	$35,755,000	$14,045,000
Lynwood	1	$100,000	$0	$100,000
Norwalk	3	$5,497,351	$2,517,881	$2,979,470
Pico Rivera	3	$44,400,000	$22,200,000	$22,200,000
Santa Fe Springs	2	$490,000	$320,000	$170,000
Signal Hill	8	$9,119,000	$7,023,000	$2,096,000
South Gate	1	$14,721,000	$9,424,000	$5,297,000
Vernon	2	$17,202,000	$7,002,000	$10,200,000
Whittier	7	$3,484,000	$2,515,000	$969,000
All Projects	100	$371,308,701	$215,296,720	$156,071,982

Source: Cambridge Systematics, Inc.

The remaining $156 million in unfunded costs presents a challenge for the subregion's goal of demonstrating a feasible and implementable SCS. The terms laid out in the MOU between SCAG and Gateway Cities COG are silent on the necessity that the subregional SCS conform with the same financial constraint requirement that applies to the SCAG RTP/SCS.[32] If the RTP financial constraint requirement flows down from the regional SCS to a subregional SCS, then this subregional SCS must identify likely revenue sources sufficient to cover the $156 million in unfunded costs.

Gateway Cities will investigate the feasibility of using an assortment of local, regional, state, and Federal sources over the next 24 years. The potential sources

[32]This financial constraint requirement provides the basis for the assumption that the 17 regional projects, which are included in the 2008 RTP, are funded and thus may be included in this subregional SCS.

include local gas tax revenues, redevelopment tax increment, local assessment districts, LACMTA Call for Projects, and state and Federal revenues. Some of these sources will require a local match, or by having a local match put a jurisdiction in a stronger competitive position.

One of the few remaining untapped sources for local funding involves developer impact fees. LACMTA has proposed a countywide Congestion Mitigation Fee (CMF) as a replacement to the debit/credit system previously required (and now temporarily suspended) to conform with the state-mandated Congestion Mitigation Program (CMP). A countywide CMF would collect development impact fees to fund local projects with regional significance. These projects would be selected by each local jurisdiction, but must conform with state requirements for development impact fees (Government Code §66000 *et seq.*). Two of these requirements are the most applicable for qualifying SCS strategies for funding with a CMF:

1. **Nexus test.** An SCS strategy must be shown to mitigate the impact of new development on future congestion in rough proportion to the amount of impact. This means the aggregate benefits of the SCS strategies that are funded with CMF revenues cannot exceed the impacts of new development, and thus remedy existing deficiencies.
2. **Capital investments**. Only capital costs are eligible for CMF funding. The operating costs of SCS strategies must be funded with other revenue sources.

The CMF funds collected from new development remain under the control of each local jurisdiction. The LACMTA's role is limited to providing technical assistance in the nexus studies required to adopt a CMF, and monitoring and auditing the CMF programs once each jurisdiction implements them.

LACMTA has initiated pilot studies with all seven other subregions in the County, but none of these pilot studies obligates a subregional COG or any of its member jurisdictions to adopt a CMF. Each jurisdiction's council (or Board of Supervisors for the unincorporated areas) may decide to adopt a CMF after the LACMTA Board has formally adopted the CMF as the method of complying with the CMP.

Some Gateway Cities jurisdictions have agreed individually to undertake pilot studies for a CMF. The Gateway Cities COG, however, has not formally approved proceeding with a subregional pilot study, so at this point wider participation remains uncertain. This leaves this subregional SCS financially unconstrained. While there is no clear legal guidance from CARB or SCAG, the Gateway Cities COG legal counsel advised the SCS Policy Development Committee (March 11, 2011) that further progress on identifying likely local funding sources may continue after the Gateway Cities COG Board approves and submits this subregional SCS to SCAG. As implementation proceeds, cities may identify additional funding sources and be able to implement all of their strategies.

Appendix A.

Process Document

- Memorandum of Understanding (MOU) Between SCAG and Gateway Cities Council of Governments for the Gateway Cities Sustainable Communities Strategy, October 7, 2010

  Exhibit A. SCAG Framework and Guidelines for Subregional Sustainable Communities Strategy, April 1, 2010

Southern California Association of Governments

(Approved by Regional Council - April 1, 2010)

FRAMEWORK AND GUIDELINES
for
SUBREGIONAL SUSTAINABLE COMMUNITIES STRATEGY

I. INTRODUCTION

SB 375 (Steinberg), also known as California's Sustainable Communities Strategy and Climate Protection Act, is a new state law which became effective January 1, 2009. SB 375 calls for the integration of transportation, land use, and housing planning, and also establishes the reduction of greenhouse gas (GHG) emissions as one of the main goals for regional planning. SCAG, working with the individual County Transportation Commissions (CTCs) and the subregional organizations within the SCAG region, is responsible for implementing SB 375 in the Southern California region. Success in this endeavor is dependent on collaboration with a range of public and private partners throughout the region.

Briefly summarized here, SB 375 requires SCAG as the Metropolitan Planning Organization to:

- Prepare a Sustainable Communities Strategy (SCS) as part of the 2012 Regional Transportation Plan (RTP). The SCS will meet a State-determined regional GHG emission reduction target, if it is feasible to do so.
- Prepare an Alternative Planning Strategy (APS) that is not part of the RTP if the SCS is unable to meet the regional target.
- Integrate SCAG planning processes, in particular assuring that the Regional Housing Needs Assessment (RHNA) is consistent with the SCS, at the jurisdiction level.
- Specific to SCAG only, allow for subregional SCS/APS development.
- Develop a substantial public participation process involving all stakeholders.

Unique to the SCAG region, SB 375 provides that "a subregional council of governments and the county transportation commission may work together to propose the sustainable communities strategy and an alternative planning strategy . . . for that subregional area." Govt. Code §65080(b)(2)(C). In addition, SB 375 authorizes that SCAG "may adopt a framework for a subregional SCS or a subregional APS to address the intraregional land use, transportation, economic, air quality, and climate policy relationships." *Id.* Finally, SB 375 requires SCAG to "develop overall guidelines, create public participation plans, ensure coordination, resolve conflicts, make sure that the overall plan complies with applicable legal requirements, and adopt the plan for the region." *Id.*

The intent of this Framework and Guidelines for Subregional Sustainable Communities Strategy (also referred to herein as the "Framework and Guidelines" or the "Subregional Framework and Guidelines") is to offer the SCAG region's subregional agencies the highest degree of autonomy, flexibility and responsibility in developing a program and set of implementation strategies for their subregional areas. This will allow the subregional strategies to better reflect the issues, concerns, and future vision of the region's collective jurisdictions with the input of the fullest range of stakeholders. In order to achieve these objectives, it is necessary for SCAG to develop measures that assure equity, consistency and coordination, such that SCAG can incorporate the subregional SCSs in its regional SCS which will be adopted as part of the 2012 RTP pursuant to SB 375. For that reason, this Framework and Guidelines establishes standards for the subregion's work in preparing and submitting subregional strategies, while also laying out SCAG's role in facilitating and supporting the subregional effort with data, tools, and other assistance.

While the Framework and Guidelines are intended to facilitate the specific subregional option to develop the SCS (and APS if necessary) as described in SB 375, SCAG encourages the fullest possible participation from all subregional organizations. As SCAG undertakes implementation of SB 375 for the first time, SCAG has also designed a "collaborative" process, in cooperation with the subregions, that allows for robust subregional participation for subregions that choose not to exercise their statutory option.

II. ELIGIBILITY AND PARTICIPATION

SB 375 allows for subregional councils of governments in the SCAG region to have the option to develop the SCS (and the APS if necessary) for their area. SCAG interprets this option as being available to any subregional organization recognized by SCAG, regardless of whether the organization is formally established as a "subregional council of governments."

County Transportation Commissions (CTCs) play an important and necessary role in the development of a subregional SCS. Any subregion that chooses to develop a subregional strategy will need to work closely with the respective CTC in its subregional area in order to identify and integrate transportation projects and policies. Beyond working with CTCs, SCAG encourages partnership efforts in the development of subregional strategies, including partnerships between and among subregions.

Subregional agencies must formally indicate to SCAG, in writing, by December 31, 2009 if they intend to exercise this option to develop their own SCS. Subregions that choose to develop an SCS for their area must do so in a manner consistent with this Framework and Guidelines. The subregion's intent to exercise its statutory option to prepare the strategy for their area must be decided and communicated through formal action of the subregional agency's governing board. Subsequent to receipt of any subregion's intent to develop and adopt an SCS, SCAG will convene discussions regarding a formal written agreement between SCAG and the subregion, which may be revised if necessary, as the SCS process is implemented.

III. FRAMEWORK

The Framework portion of this document covers regional objectives and policy considerations, and provides general direction to the subregions in preparing their own SCS, and APS if necessary.

A. SCAG's preliminary goals for implementing SB 375 are as follows:

- Achieve the regional GHG emission reduction target for cars and light trucks through an SCS.
- Fully integrate SCAG's planning processes for transportation, growth, intergovernmental review, land use, housing, and the environment.
- Seek areas of cooperation that go beyond the procedural statutory requirements, but that also result in regional plans and strategies that are mutually supportive of a range of goals.
- Build trust by providing an interactive, participatory and collaborative process for all stakeholders. Provide, in particular, for the robust participation of local jurisdictions, subregions and CTCs in the development of the SCAG regional SCS and implementation of the subregional provisions of the law.
- Assure that the SCS adopted by SCAG and submitted to California Air Resources Board (ARB) is a reflection of the region's collective growth strategy and vision for the future.
- Develop strategies that incorporate and are respectful of local and subregional priorities, plans, and projects.

B. Flexibility

Subregions may develop any appropriate strategy to address the region's greenhouse gas reduction goals and the intent of SB 375. While subregions will be provided with SCAG data, and with a conceptual or preliminary scenario to use as a helpful starting point, they may employ any combination of land use policy change, transportation policy, and transportation investment, within the specific parameters described in the Guidelines.

C. Outreach Effort and Principles

Subregions are required to conduct an open and participatory process that includes the fullest possible range of stakeholders. As further discussed within the Guidelines, SCAG amended its existing Public Participation Plan (PPP) to describes SCAG's responsibilities in complying with the outreach requirements of SB 375 and other applicable laws and regulations. SCAG will fulfill its outreach requirements for the regional SCS/APS which will include outreach activities regarding the subregional SCS/APS. Subregions are also encouraged to design their own outreach process that meets each subregion's own needs and reinforces the spirit of openness and full participation. To the extent that subregions do establish their own outreach process, this process should be coordinated with SCAG's outreach process.

D. Communication and Coordination

Subregions developing their own SCS are strongly encouraged to maintain regular communication with SCAG staff, the respective CTC, their jurisdictions and other stakeholders, and other subregions if necessary, to review issues as they arise and to assure close coordination. Mechanisms for on-going communication should be established in the early phases of strategy development.

E. Planning Concepts

SCAG, its subregions, and member cities have established a successful track record on a range of land use and transportation planning approaches through the on-going SCAG Compass Blueprint Program, including approximately 60 local demonstration projects completed to date. Subregions are

encouraged to capture, further develop and build off the concepts and approaches of the Compass Blueprint program. In brief, these include developing transit-oriented, mixed use, and walkable communities, and providing for a mix of housing and jobs.

IV. GUIDELINES

These Guidelines describe specific parameters for the subregional SCS/APS effort under SB 375, including process, deliverables, data, documentation, and timelines. As described above, the Guidelines are created to ensure that the region can successfully incorporate strategies developed by the subregions into the regional SCS, and that the region can comply with its own requirements under SB 375. Failure to proceed in a manner consistent with the Guidelines will result in SCAG not accepting a subregion's submitted strategy.

A. Subregional Process

(1) <u>Subregional Sustainable Communities Strategy</u>

Subregions that choose to exercise their optional role under SB 375 will develop and adopt a subregional Sustainable Communities Strategy. That strategy must contain all of the required elements, and follow all procedures, as described in SB 375. Subregions may choose to further develop an Alternative Planning Strategy (APS), according to the procedures and requirements described in SB 375. If subregions prepare an APS, they must prepare a Sustainable Communities Strategy first, in accordance with SB 375. A subregional APS is not "in lieu of" a subregional SCS, but in addition to the subregional SCS. In part, an APS must identify the principal impediments to achieving the targets within the SCS. The APS must show how the GHG emission targets would be achieved through alternative development patterns, infrastructure, and additional transportation measures or policies. SCAG encourages subregions to focus on feasible strategies that can be included in the SCS.

The subregional SCS must include all components of a regional SCS as described in SB 375, and outlined below:

(i.) identify the general location of uses, residential densities, and building intensities within the subregion;
(ii.) identify areas within the subregion sufficient to house all the population of the subregion, including all economic segments of the population, over the course of the planning period of the RTP taking into account net migration into the region, population growth, household formation and employment growth;
(iii.) identify areas within the subregion sufficient to house an eight-year projection of the regional housing need for the subregion pursuant to Section 65584;
(iv.) identify a transportation network to service the transportation needs of the subregion;
(v.) gather and consider the best practically available scientific information regarding resource areas and farmland in the subregion as defined in subdivisions (a) and (b) of Section 65080.01;
(vi.) consider the state housing goals specified in Sections 65580 and 65581;
(vii.) set forth a forecasted development pattern for the subregion, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the ARB; and

(viii.) allow the RTP to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Sec. 7506). See, Government Code §65080(b)(2)(B).

In preparing the subregional SCS, the subregion will consider feasible strategies, including local land use policies, transportation infrastructure investment (e.g., transportation projects), and other transportation policies such as Transportation Demand Management (TDM) strategies (which includes pricing), and Transportation System Management (TSM) strategies. Technological measures may be included if they exceed measures captured in other state and federal requirements (e.g., AB32).

As discussed further below (under "Documentation"), subregions need not constrain land use strategies considered for the SCS to current General Plans. In other words, the adopted strategy need not be fully consistent with local General Plans currently in place. However, should the adopted subregional strategy deviate from General Plans, subregions will need to demonstrate the feasibility of the strategy by documenting any affected jurisdictions' willingness to adopt the necessary General Plan changes.

The regional SCS shall be part of the 2012 RTP. Therefore, for transportation investments included in a subregional SCS to be valid, they must also be included in the 2012 RTP. Further, such projects need to be scheduled in the RTIP for construction completion by the target years (2020 and 2035) in order to demonstrate any benefits as part of the SCS. As such, subregions will need to collaborate with the respective CTC in their area to coordinate the subregional SCS with future transportation investments. It should also be noted that the California Transportation Commission is updating their RTP Guidelines. This topic is likely to be part of further discussion through the SCS process as well.

SCAG will accept and incorporate the subregional SCS, unless (a) it does not comply with SB 375, (b) it is does not comply with federal law, or (c) it is does not comply with SCAG's Subregional Framework and Guidelines. In the event that a compiled regional SCS, including subregional submissions, does not achieve the regional target, SCAG will initiate a process to develop and consider additional GHG emission reduction measures region-wide. SCAG will develop a written agreement with each subregional organization to define a process and timeline whereby subregions would submit a draft subregional SCS for review and comments to SCAG, so that any inconsistencies may be identified and resolved early in the process. Furthermore, SCAG will compile and disseminate performance information on the preliminary regional SCS and its components in order to facilitate regional dialogue. The development of a subregional SCS does not exempt any subregion from further GHG emission reduction measures being included in the regional SCS. Further, all regional measures needed to meet the regional target will be subject to adoption by the Regional Council, and any additional subregional measures beyond the SCS submittal from subregions accepting delegation needed to meet the regional target must also be adopted by the subregional governing body.

(2) Subregional Alternative Planning Strategy (APS)

Subregions are encouraged to focus their efforts on feasible measures that can be included in an SCS. In the event that a subregion chooses to prepare an APS, the content of a subregional APS should be consistent with what is required by SB 375 (*see*, Government Code §65080(b)(2)(H)), as follows:

(i.) Shall identify the principal impediments to achieving the subregional SCS.

(ii.) May include an alternative development pattern for the subregion pursuant to subparagraphs (B) to (F), inclusive.
(iii.) Shall describe how the alternative planning strategy would contribute to the regional greenhouse gas emission reduction target, and why the development pattern, measures, and policies in the alternative planning strategy are the most practicable choices for the subregion.
(iv.) An alternative development pattern set forth in the alternative planning strategy shall comply with Part 450 of Title 23 of, and Part 93 of Title 40 of, the Code of Federal Regulations, except to the extent that compliance will prevent achievement of the regional greenhouse gas emission reduction targets approved by the ARB.
(v.) For purposes of the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code), an alternative planning strategy shall not constitute a land use plan, policy, or regulation, and the inconsistency of a project with an alternative planning strategy shall not be a consideration in determining whether a project may have an environmental effect.

Any precise timing or submission requirements for a subregional APS will be determined based on further discussions with subregional partners. As previously noted, a subregional APS is in addition to a subregional SCS.

(3) Outreach and Process

SCAG will fulfill all of its outreach requirements under SB 375 for the regional SCS/APS, which will include outreach regarding any subregional SCS/APS. SCAG staff has revised its Public Participation Plan to incorporate the outreach requirements of SB 375, and integrate the SB 375 process with the 2012 RTP development as part of SCAG's Public Participation Plan Amendment No. 2, adopted by SCAG's Regional Council on December 3, 2009. Subsequent to the adoption of the PPP Amendment No. 2, SCAG will continue to discuss with subregions and stakeholders the Subregional Framework & Guidelines, which further describe the Public Participation elements of SB 375.

Subregions that elect to prepare their own SCS or APS are encouraged to present their subregional SCS or APS, in coordination with SCAG, at all meetings, workshops and hearings held by SCAG in their respective counties. Additionally, the subregions would be asked to either provide SCAG with their mailing lists so that public notices and outreach materials may also be posted and sent out by SCAG, or SCAG will provide notices and outreach materials to the subregions for their distribution to stakeholders. The SCAG PPP Amendment No. 2 provides that additional outreach may be performed by subregions. Subregions are strongly encouraged to design and adopt their own outreach processes that mimic the specific requirements imposed on the region under SB 375. Subregional outreach processes should reinforce the regional goal of full and open participation, and engagement of the broadest possible range of stakeholders.

(4) Subregional SCS Approval

It is recommended that the governing board of the subregional agency approve the subregional SCS prior to submission to SCAG. While the exact format is still subject to further discussion, SCAG recommends that there be a resolution from the governing board of the subregion with a finding that the land use strategies included in the subregional SCS are feasible and based upon consultation with the local jurisdictions in the respective subregion. Subregion should consult with their legal counsel as to compliance with the California Environmental Quality Act (CEQA). In SCAG's view, the

subregional SCS is not a "project" for the purposes of CEQA; rather, the 2012 RTP which will include the regional SCS is the actual "project" which will be reviewed for environmental impacts pursuant to CEQA. As such, the regional SCS, which will include the subregional SCSs, will undergo a thorough CEQA review. Nevertheless, subregions approving subregional SCSs should consider issuing a notice of exemption under CEQA to notify the public of their "no project" determination and/or to invoke the "common sense" exemption pursuant to CEQA Guidelines § 15061(b)(3).

Finally, in accordance with SB 375, subregions are strongly encouraged to work in partnership with the CTC in their area. SCAG can facilitate these arrangements if needed.

(5) Data Standards

SCAG is currently assessing the precise data standards anticipated for the regional and subregional SCS. In particular, SCAG is reviewing the potential use of parcel data and development types currently used for regional planning. At present, the following describes the anticipated data requirements for a subregional SCS.

1. Types of Variables
   Variables are categorized into socio-economic variables and land use variables. The socio-economic variables include population, households, housing units, and employment. The land use variables include land uses, residential densities, building intensities, etc, as described in SB 375.

2. Geographical Levels
   SCAG is considering the collection and adoption of the data at a small-area level as optional for local agencies in order to make accessible the CEQA streamlining provisions under SB 375. The housing unit, employment, and the land use variables can be collected at a small-area level for those areas which under SB 375 qualify as containing a "transit priority project" (i.e. within half-mile of a major transit stop or high-quality transit corridor) for purposes of allowing jurisdictions to take advantage of the CEQA streamlining incentives in SB 375.

   For all other areas in the region, SCAG staff will collect the population, household, employment, and land use variables at the Census tract or Traffic Analysis Zone (TAZ) level.

3. Base Year and Forecast Years
   The socio-economic and land use variables will be required for the base year of 2008, and the target years of 2020 and 2035.

(6) Documentation

Subregions are expected to maintain full and complete records related to the development of the subregional SCS, including utilizing the most recent planning assumptions considering local general plans and other factors. In particular, subregions must document the feasibility of the subregional strategy by demonstrating the willingness of local agencies to consider and adopt land use changes necessitated by the SCS. The format for this documentation may include adopted resolutions from local jurisdictions and/or the subregion's governing board.

(7) Timing

An overview schedule of the major milestones of the subregional process and its relationship to the regional SCS/RTP is included below. Subregions must submit the subregional SCS to SCAG by the date prescribed. Further, SCAG will need a preliminary SCS from subregions for the purpose of preparing a project description for the 2012 RTP Program Environmental Impact Report. The precise content of this preliminary submission will be determined based on further discussions. The anticipated timing of this preliminary product is approximately February 2011.

(8) Relationship to Regional Housing Needs Assessment (RHNA) and Housing Element

Although SB 375 calls for an integrated process, subregions are not automatically required to take on RHNA delegation as described in State law if they prepare an SCS/APS. However, SCAG encourages subregions to undertake both processes due to their inherent connections.

SB 375 requires that the RHNA allocated housing units be consistent with the development pattern included in the SCS. *See*, Government Code §65584.04(i). Population and housing demand must also be proportional to employment growth. At the same time, in addition to the requirement that the RHNA be consistent with the development pattern in the SCS, the SCS must also identify areas that are sufficient to house the regional population by income group through the RTP planning period, and must identify areas to accommodate the region's housing need for the next local Housing Element eight year planning period update. The requirements of the statute are being further interpreted through the RTP guidelines process. Staff intends to monitor and participate in the guideline process, inform stakeholders regarding various material on these issues, and amend, if necessary, these Framework and Guidelines, pending its adoption.

SCAG will be adopting the RHNA and applying it to local jurisdictions at the jurisdiction boundary level. SCAG staff believes that consistency between the RHNA and the SCS may still be accomplished by aggregating the housing units contained in the smaller geographic levels noted in the SCS and including such as part of the total jurisdictional number for RHNA purpose. SCAG staff has concluded that there is no consistency requirement for RHNA purposes at sub-jurisdictional level, even though the SCS is adopted at the smaller geographic level for the opportunity areas.

The option to develop a subregional SCS is separate from the option for subregions to adopt a RHNA distribution, and subject to separate statutory requirements. Nevertheless, subregions that develop and adopt a subregional SCS should be aware that the SCS will form the basis for the allocation of housing need as part of the RHNA process. Further, SCS development requires integration of elements of the RHNA process, including assuring that areas are identified to accommodate the 8 year need for housing, and that housing not be constrained by certain types of local growth controls as described in State law.

SCAG will provide further guidance for subregions and a separate process description for the RHNA.

B. COUNTY TRANSPORTATION COMMISSIONS' ROLES AND RESPONSIBLITIES

Subregions that develop a subregional SCS will need to work closely with the CTCs in their area in order to coordinate and integrate transportation projects and policies as part of the subregional SCS. As discussed above (under "Subregional Sustainable Communities Strategy"), any transportation

projects identified in the subregional SCS must also be included in the 2012 RTP in order to be considered as a feasible strategy. SCAG can help to facilitate communication between subregions and CTCs.

C. SCAG ROLES AND RESPONSIBLITIES

SCAG's roles in supporting the subregional SCS development process are in the following areas:

(1) Preparing and adopting the Framework and Guidelines

SCAG will adopt these Framework and Guidelines in order to assure regional consistency and the region's compliance with law.

(2) Public Participation Plan

SCAG will assist the subregions by developing, adopting and implementing a Public Participation Plan and outreach process with stakeholders. This process includes consultation with congestion management agencies, transportation agencies, and transportation commissions; and SCAG will hold public workshops and hearings. SCAG will also conduct informational meetings in each county within the region for local elected officials (members of the board of supervisors and city councils), to present the draft SCS, and APS if necessary, and solicit and consider input and recommendations.

(3) Methodology

As required by SB 375, SCAG will adopt a methodology for measuring greenhouse gas emission reductions associated with the strategy.

(4) Incorporation/Modification

SCAG will accept and incorporate the subregional SCS unless it does not comply with SB 375, federal law, or the Subregional Framework and Guidelines. As SCAG intends the entire SCS development process to be iterative, SCAG will not amend a locally-submitted SCS. SCAG may provide additional guidance to subregions so that subregions may make amendments to its subregional SCS as part of the iterative process, or request a subregion to prepare an APS if necessary. Further, SCAG can propose additional regional strategies if feasible and necessary to achieve the regional emission reduction target with the regional SCS. SCAG will develop a written agreement with each subregional organization to define a process and timeline whereby subregions would submit a draft subregional SCS for review and comments to SCAG, so that any inconsistencies may be identified and resolved early in the process.

(5) Modeling

SCAG currently uses a Trip-Based Regional Transportation Demand Model and ARB's EMFAC model for emissions purposes. In addition to regional modeling, SCAG is developing tools to evaluate the effects of strategies that are not fully accounted for in the regional model. SCAG is also developing two additional tools – a Land Use Model and an Activity Based Model – to assist in strategy development and measurement of outcomes under SB 375.

In addition to modeling tools which are used to measure results of completed scenarios, SCAG is developing a scenario planning tool for use in workshop settings as scenarios are being created with jurisdictions and stakeholders. The tool will be made available to subregions and local governments for their use in subregional strategy development.

(6) Adoption/Submission to State

After the incorporation of subregional strategies, SCAG will finalize and adopt the regional SCS as part of the 2012 RTP. SCAG will submit the SCS to ARB for review as required in SB 375.

(7) Conflict Resolution

While SB 375 requires SCAG to develop a process for resolving conflicts, it is unclear at this time the nature or purpose of a conflict resolution process as SCAG does not intend to amend a locally-submitted SCS. As noted above, SCAG will accept the subregional SCS unless it is inconsistent with SB 375, federal law, or the Subregional Framework and Guidelines. SCAG will also request that a subregion prepare an APS if necessary. It is SCAG's intent that the process be iterative and that there be coordination among SCAG, subregions and their respective jurisdictions and CTCs. SCAG is open to further discussion on issues which may generate a need to establish a conflict resolution process as part of the written agreement between SCAG and the subregional organization.

(8) Funding

Funding for subregional activities is not available at this time, and any specific parameters for future funding are speculative. Should funding become available, SCAG anticipates providing a share of available resources to subregions. While there are no requirements associated with potential future funding at this time, it is advisable for subregions to track and record their expenses and activities associated with these efforts.

(9) Preliminary Scenario Planning

SCAG will work with each subregion to collect information and prompt dialogue with each local jurisdiction prior to the start of formal SCS development. This phase of the process is identified as "preliminary scenario planning" in the schedule below. The purpose of this process is to create a base of information to inform SCAG's recommendation of a regional target to ARB prior to June 2010. All subregions are encouraged to assist SCAG in facilitating this process.

(10) Data

SCAG is currently developing, and will provide each subregion with datasets for the following:

(1) 2008 Base year;
(2) General Plan/Growth projection & distribution;
(3) Trend Baseline; and
(4) Policy Forecast/SCS.

While the Trend Baseline is a technical projection that provides a best estimate of future growth based on past trends and assumes no general plan land use policy changes, the Policy Forecast/ SCS is derived using local input through a bottom-up process, reflecting regional policies including transportation investments. Local input is collected from counties, subregions, and local jurisdictions.

Data/GIS maps will be provided to subregions and local jurisdiction for their review. This data and maps include the 2008 base year socioeconomic estimates and 2020 and 2035 socioeconomic forecast. Other GIS maps including the existing land use, the general plan land use, the resource areas, and other important areas identified in SB 375. It should be noted that none of the data/ maps provided were endorsed or adopted by SCAG's Community, Economic and Human Development Committee (CEHD). All data/maps provided are for the purpose of collecting input and comments from subregions and local jurisdictions. This is to initiate dialogue among stakeholders to address the requirements of SB 375 and its implementation.

The list of data/GIS maps include:

1. Existing land use
2. Zoning
3. General plan land use
4. Resource areas include:
   (a.) all publicly owned parks and open space;
   (b.) open space or habitat areas protected by natural community conservation plans, habitat conservation plans, and other adopted natural resource protection plans;
   (c.) habitat for species identified as candidate, fully protected, sensitive, or species of special status by local, state, or federal agencies or protected by the federal Endangered Species Act (1973), the California Endangered Species Act, or Native Plant Protection Act;
   (d.) lands subject to conservation or agricultural easements for conservation or agricultural purposes by local governments, special districts, or nonprofit 501(c)(3) organizations, areas of the state designated by the State Mining and Geology Board as areas of statewide or regional significance pursuant to Section 2790 of the Public Resources Code, and lands under Williamson Act contracts;
   (e.) areas designated for open-space or agricultural uses in adopted open-space elements or agricultural elements of the local general plan or by local ordinance;
   (f.) areas containing biological resources as described in Appendix G of the CEQA Guidelines that may be significantly affected by the sustainable communities strategy or the alternative planning strategy; and
   (g.) an area subject to flooding where a development project would not, at the time of development in the judgment of the agency, meet the requirements of the National Flood Insurance Program or where the area is subject to more protective provisions of state law or local ordinance.
5. Farmland
6. Sphere of influence
7. Transit priority areas
8. City/Census tract boundary with ID
9. City/TAZ boundary with ID

(11) Tools

SCAG is developing a Local Sustainability Planning Model (LSPM) for subregions/local jurisdictions to analyze land use impact. The use of this tool is not mandatory and is at the discretion of the Subregion. The LSPM is a web-based tool that can be used to analyze, visualize and calculate the impact of land use changes on auto ownership, mode use, vehicle miles of travel (VMT), and greenhouse gas emissions in real time. Users will be able to estimate transportation and emissions impacts by modifying land use designations within their community.

Other tools currently maintained by SCAG may be useful to the subregional SCS development effort, including the web-based CaLOTS application. SCAG will consider providing guidance and training on additional tools based on further discussions with subregional partners.

(12) Resources and technical assistance

SCAG will assist the subregions by making available technical tools for scenario development as described above. Further, SCAG will assign a staff liaison to each subregion, regardless of whether the subregion exercises its statutory option to prepare an SCS. SCAG staff can participate in subregional workshops, meetings, and other processes at the request of the subregion, and pending funding and availability. SCAG's legal staff will be available to assist with questions related to SB 375 or SCAG's implementation of SB 375. Further, SCAG will prepare materials for its own process in developing the regional SCS, and will make these materials available to subregions.

D. MILESTONES/SCHEDULE

- CARB issues Final Regional Targets – September 2010
- SCS development (preliminary scenario, draft, etc) – through early 2011
- Release Draft RTP/regional SCS for public review – November 2011
- Regional Council adopts RTP/SCS – April 2012

If other milestones are needed, they will be incorporated into the written agreement between SCAG and the Subregion.

REPORT

AGENDA ITEM # 7

DATE: October 7, 2010

TO: Executive/Administration Committee
Regional Council

FROM: Joann Africa, Chief Counsel, (213)-236-1928, africa@scag.ca.gov

SUBJECT: Memorandum of Understanding (MOU) between SCAG and Gateway Cities Council of Governments for Gateway Cities Sustainable Communities Strategy

EXECUTIVE DIRECTOR'S APPROVAL:

RECOMMENDED ACTION:

Approve the attached MOU between SCAG and Gateway Cities Council of Governments (COG) for Gateway Cities Sustainable Communities Strategy, and authorize the SCAG Executive Director or his designee to execute the MOU.

EXECUTIVE SUMMARY:

SCAG and Gateway Cities COG have worked out an agreement concerning the development of the Gateway Cities subregional sustainable communities strategy (SCS). Similar to the Regional Council's action last July related to the OCCOG/OCTA MOU, SCAG staff seeks approval by the EAC and Regional Council of the attached MOU, and authority for the Executive Director or his designee to execute the MOU.

STRATEGIC PLAN:

This item supports the following goal and objective of the Strategic Plan:
Goal 1: Improve Regional Decision Making by Providing Leadership and Consensus Building on Key Plans and Policies.
Objective a: Create and facilitate a collaborative and cooperative environment to produce forward thinking regional plans

BACKGROUND:

The attached, proposed MOU between SCAG and Gateway Cities COG sets forth the roles, responsibilities, and requirements for each party regarding the development of the Gateway Cities subregional SCS (Gateway Cities SCS), which will be included in the regional SCS prepared by SCAG, in accordance with Senate Bill 375 (Chapter 728, laws of 2008, "SB 375"). The terms of the attached MOU are identical to the agreement approved by the Regional Council at its July 2010 meeting, for the Orange County subregional SCS entered into by SCAG, the Orange County Transportation Authority and the Orange County Council of Governments.

The MOU includes requirements for preparation of the Gateway Cities SCS consistent with SCAG's adopted Framework and Guidelines; a Milestones Schedule for submittal of deliverables to SCAG by Gateway Cities COG; and Deliverables Template for utilization by Gateway Cities COG in developing their

REPORT

subregional SCS workplan. This attached MOU was previously approved by Gateway Cities COG Board in the summer. In order to finalize the agreement, staff seeks approval by the EAC and Regional Council, and authority for the Executive Director or his designee to execute the MOU.

FISCAL IMPACT:

Funding is not provided to any parties under this MOU. However, in the event that state or federal funding becomes available for preparation of the Gateway Cities SCS, the MOU may be amended or a separate, mutual funding agreement developed to address Gateway Cities SCS costs. SCAG staff time necessary to implement this MOU and coordinate with subregions as part of SB 375 implementation activities, will be charged to work element 055.SCG00934.01.

ATTACHMENT:

"Memorandum of Understanding by and between Gateway Cities Council of Governments and the Southern California Association of Governments for Gateway Cities Sustainable Communities Strategy," with Exhibits A-C attached.

Reviewed by:

Department Director

Reviewed by:

Chief Financial Officer

MEMORANDUM OF UNDERSTANDING

BY AND BETWEEN

GATEWAY CITIES COUNCIL OF GOVERNMENTS

AND

THE SOUTHERN CALIFORNIA ASSOCATION OF GOVERNMENTS

FOR

GATEWAY CITIES SUSTAINABLE COMMUNITIES STRATEGY

THIS MEMORANDUM OF UNDERSTANDING (hereinafter referred to as "MOU") is entered by and between the Gateway Cities Council of Governments, (hereinafter referred to as "GCCOG"), and the Southern California Association of Governments, (hereinafter referred to as "SCAG"), collectively referred to as the "Parties."

RECITALS:

WHEREAS, Senate Bill 375 (Chapter 728, laws of 2008, "SB 375") requires SCAG to prepare a regional Sustainable Communities Strategy (hereinafter referred to as "SCS" or "Regional SCS") as part of SCAG's Regional Transportation Plan ("RTP") to achieve goals for the reduction of greenhouse gas emissions from automobiles and light trucks in the SCAG region which comprises the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura;

WHEREAS, SB 375 allows GCCOG, as a subregional council of governments for Southeast Los Angeles County, to develop and submit to SCAG a subregional SCS for its jurisdiction (hereinafter referred to as "Gateway Cities SCS");

WHEREAS, as part of its implementation of SB 375, SCAG has developed and adopted a certain "Framework and Guidelines for the Subregional Sustainable Communities Strategy" (hereinafter referred to as "Framework and Guidelines"), attached hereto as Exhibit "A" and incorporated herein by this reference.

WHEREAS, SCAG is required by SB 375 to include a subregional SCS in the regional SCS, to the extent consistent with state and federal law;

WHEREAS, GCCOG and SCAG desire to enter into this MOU to demonstrate mutual commitments to prepare the Gateway Cities SCS.

NOW, THEREFORE, the Parties enter into the following MOU with respect to the matters set forth herein:

1. This MOU establishes the roles, responsibilities, and requirements for GCCOG and SCAG that are necessary to develop a Gateway Cities SCS that shall be included in the regional SCS prepared by SCAG.

2. GCCOG shall prepare the Gateway Cities SCS consistent with SCAG's adopted Framework and Guidelines, as attached hereto, to ensure that the region can successfully incorporate strategies within the Gateway Cities SCS into the Regional SCS, and not inhibit the region from complying with SB 375.

3. GCCOG agrees to comply with the Milestones Schedule, attached hereto as Exhibit "B" and incorporated herein by this reference, and work with SCAG and the other subregions to ensure the successful delivery of a regional SCS by using the Deliverables Template, attached hereto as Exhibit "C" and incorporated by this reference as the primary template for developing a subregional SCS workplan. The Deliverables Template may be subject to change based on direction from the SCAG Regional Council or Community, Economic and Human Development Policy Committee, and approval by GCCOG.

4. GCCOG are encouraged by SCAG to conduct a public participation process in developing the Gateway Cities SCS, above and beyond the process required for the regional SCS required under Section 65080(b)(2)(D)-(E) of the California Government Code. Further, SCAG encourages GCCOG to develop a public participation plan, similar to SCAG's Public Participation Plan adopted in December 2009, for such purposes.

5. GCCOG agrees to participate in all publicly noticed meetings, workshops, hearings, and other outreach activities organized by SCAG within the GCCOG's jurisdiction, at which the regional SCS or Gateway Cities SCS is included on the agenda. All parties shall coordinate with one another during implementation of SCAG's public participation process in order to ensure broad public and stakeholder participation, and to avoid duplication of effort.

6. GCCOG shall retain and deliver to SCAG all documentation pertaining to the Gateway Cities SCS from publicly noticed meetings, workshops, and hearings at which the Gateway Cities SCS is included on the agenda. Such documentation shall include, but is not limited to, meeting notices, agendas, minutes, comments and responses to comments, sign-up sheets, hand-outs, and copies of power point presentations.

7. The Parties acknowledge that population, household, housing, and employment estimates are being prepared by GCCOG and/or its consultants (hereinafter referred to as "GCCOG Dataset"). SCAG agrees to use the GCCOG Dataset as reviewed and approved by

GCCOG, for the Regional SCS and the 2012 RTP; provided, that SCAG, in consultation with GCCOG, may make adjustments to the GCCOG Dataset in order to ensure consistency with SCAG's 2012 RTP growth forecast.

8. The Parties agree and acknowledge that population, household, housing, and employment data submitted to SCAG by GCCOG shall be accurately reflected in all documentation produced by SCAG that relates to the Gateway Cities SCS and the Regional SCS.

9. The Parties agree and acknowledge that RHNA responsibilities shall remain with SCAG, and that GCCOG shall not assume delegation responsibility for RHNA as part of the Gateway Cities SCS development. However, GCCOG is not precluded by this MOU from assuming delegation responsibility for RHNA as part of a subsequent, separate agreement.

10. SCAG agrees that in addition to preparation of the Gateway Cities SCS developed under this MOU, development of an Alternative Planning Strategy (APS) by GCCOG is optional. This understanding shall not preclude SCAG from preparing a regional APS pursuant to SB 375.

11. SCAG shall not develop SCS-related targets that are attributable to the subregions. Further, SCAG agrees that it will not impose a penalty on the Gateway Cities subregion if the greenhouse gas targets, as established by the California Air Resources Board, are not met by the Regional SCS.

12. SCAG shall accept the Gateway Cities SCS prepared in accordance with this MOU as the Gateway Cities subregion's input into the Regional SCS prepared by SCAG.

13. GCCOG and SCAG shall amend this MOU in writing or develop a separate, mutual funding agreement addressing Gateway Cities SCS costs should state or federal funding become available that can be applied toward preparation of the Gateway Cities SCS.

14. GCCOG and SCAG agree to work closely together throughout the Regional SCS process and Gateway Cities SCS process to provide technical input, applicable planning data, and constructive feedback with respect to all documents, products and deliverables developed and associated with the Gateway Cities SCS.

15. SCAG agrees to make good faith efforts to provide GCCOG with assistance, including tools and models in its possession, as requested by GCCOG in evaluating preliminary Gateway Cities SCS growth and green house gas ("GHG") estimates.

16. SCAG agrees to make good faith efforts to provide GCCOG with assistance with GIS services relating to the development of the Gateway Cities SCS, as requested by GCCOG.

17. GCCOG and SCAG agree to work together in good faith, using reasonable efforts to resolve any unforeseen issues and disputes arising out of the performance of this MOU.

18. GCCOG and SCAG agree in good faith to provide the resources necessary to implement the provisions of the MOU.

19. GCCOG and SCAG agree to defend, indemnify and hold harmless each other, including their officers, agents, elected officials, and employees, from all liability, claims, losses and demands, including defense costs and reasonable attorneys' fees, whether resulting from court action or otherwise, arising out of the acts or omissions of the defending party, its officers, agents, or employees, in the performance of this MOU. When acts or omissions of one party are directed by another party, the party directing the acts or omission shall owe this defense and indemnity obligation to the party following the directions. The provisions of this paragraph shall survive termination of this MOU.

20. This MOU shall be governed by all applicable federal, state, and local laws. The signatories warrant that in the performance of this MOU, each shall comply with all applicable federal, state and local laws, statutes and ordinances and all lawful orders, rules and regulations promulgated there under.

21. This MOU may only be modified or amended upon written mutual consent of all signatories. All modifications, amendments, changes and revisions of this MOU in whole or part, and from time to time, shall be binding upon the parties, so long as the same shall be in writing and executed by the signatories.

22. This MOU, including all exhibits and documents incorporated herein and made applicable by reference, constitutes the complete and exclusive statement of the term(s) and condition(s) of the agreement between the parties with respect to the subject matter herein and supersedes all prior representations, understandings and communications. The invalidity in whole or part of any term or condition of this MOU shall not affect the validity of the other term(s) or condition(s).

23. Any party may withdraw from this MOU upon 30 days' written notice to the other, until the due date set forth in Exhibit "B" for submittal to SCAG of the preliminary Gateway Cities SCS. After such due date, any party may withdraw from this MOU only upon mutual written agreement.

24. Each signatory shall be excused from performing its obligations under this MOU during the time and to the extent that it is prevented from performing by an unforeseeable cause beyond its control, including but not limited to any incident of fire, flood; acts of God; commandeering of material, produces, plants or facilities by federal, state or local government; national fuel shortage; or a material act or omission by any other party; when satisfactory evidence of such cause is presented to the other parties, and provided further such nonperformance is unforeseeable, beyond the control and is not due to the fault or negligence of the party not performing.

25. Any notice sent by first class mail, postage paid, to the address and addressee, shall be deemed to have been given when in the ordinary course it would be delivered. The representatives of the parties who are primarily responsible for the administration of this MOU, and to whom notices, demands and communications shall be given are as detailed below. If there are any changes in the names and/or addresses listed below, the party desiring to make such changes shall give a written notice to the other respective parties within five (5) days of such change.

Gateway Cities Council of Governments
Attention: Richard Powers, Executive Director
16401 Paramount Blvd
Paramount, CA 90723

Southern California Association of Governments
Attention: Hasan Ikhrata, Executive Director
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

26. This MOU shall continue in full force and effect from the Effective Date up to and until the date that the Regional SCS is adopted by SCAG's Regional Council, unless otherwise terminated earlier in accordance with section 23 of this MOU. The Effective Date of this MOU shall mean the date (last date indicated below) that all Parties have fully executed this MOU.

[Signature page to follow.]

IN WITNESS WHEREOF, the Parties hereto have caused this MOU to be executed by their duly authorized representatives.

GATEWAY CITIES COUNCIL OF GOVERNMENTS

By: _____
Richard Powers, Executive Director

Date: _____

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

By: _____
Hasan Ikhrata, Executive Director

Date: _____

Exhibit A: SCAG's Adopted Framework and Guidelines

Southern California Association of Governments

(Approved by Regional Council - April 1, 2010)

FRAMEWORK AND GUIDELINES
for
SUBREGIONAL SUSTAINABLE COMMUNITIES STRATEGY

I. INTRODUCTION

SB 375 (Steinberg), also known as California's Sustainable Communities Strategy and Climate Protection Act, is a new state law which became effective January 1, 2009. SB 375 calls for the integration of transportation, land use, and housing planning, and also establishes the reduction of greenhouse gas (GHG) emissions as one of the main goals for regional planning. SCAG, working with the individual County Transportation Commissions (CTCs) and the subregional organizations within the SCAG region, is responsible for implementing SB 375 in the Southern California region. Success in this endeavor is dependent on collaboration with a range of public and private partners throughout the region.

Briefly summarized here, SB 375 requires SCAG as the Metropolitan Planning Organization to:

- Prepare a Sustainable Communities Strategy (SCS) as part of the 2012 Regional Transportation Plan (RTP). The SCS will meet a State-determined regional GHG emission reduction target, if it is feasible to do so.
- Prepare an Alternative Planning Strategy (APS) that is not part of the RTP if the SCS is unable to meet the regional target.
- Integrate SCAG planning processes, in particular assuring that the Regional Housing Needs Assessment (RHNA) is consistent with the SCS, at the jurisdiction level.
- Specific to SCAG only, allow for subregional SCS/APS development.
- Develop a substantial public participation process involving all stakeholders.

Unique to the SCAG region, SB 375 provides that "a subregional council of governments and the county transportation commission may work together to propose the sustainable communities strategy and an alternative planning strategy . . . for that subregional area." Govt. Code §65080(b)(2)(C). In addition, SB 375 authorizes that SCAG "may adopt a framework for a subregional SCS or a subregional APS to address the intraregional land use, transportation, economic, air quality, and climate policy relationships." *Id.* Finally, SB 375 requires SCAG to "develop overall guidelines, create public participation plans, ensure coordination, resolve conflicts, make sure that the overall plan complies with applicable legal requirements, and adopt the plan for the region." *Id.*

The intent of this Framework and Guidelines for Subregional Sustainable Communities Strategy (also referred to herein as the "Framework and Guidelines" or the "Subregional Framework and Guidelines") is to offer the SCAG region's subregional agencies the highest degree of autonomy.

flexibility and responsibility in developing a program and set of implementation strategies for their subregional areas. This will allow the subregional strategies to better reflect the issues, concerns, and future vision of the region's collective jurisdictions with the input of the fullest range of stakeholders. In order to achieve these objectives, it is necessary for SCAG to develop measures that assure equity, consistency and coordination, such that SCAG can incorporate the subregional SCSs in its regional SCS which will be adopted as part of the 2012 RTP pursuant to SB 375. For that reason, this Framework and Guidelines establishes standards for the subregion's work in preparing and submitting subregional strategies, while also laying out SCAG's role in facilitating and supporting the subregional effort with data, tools, and other assistance.

While the Framework and Guidelines are intended to facilitate the specific subregional option to develop the SCS (and APS if necessary) as described in SB 375, SCAG encourages the fullest possible participation from all subregional organizations. As SCAG undertakes implementation of SB 375 for the first time, SCAG has also designed a "collaborative" process, in cooperation with the subregions, that allows for robust subregional participation for subregions that choose not to exercise their statutory option.

II. ELIGIBILITY AND PARTICIPATION

SB 375 allows for subregional councils of governments in the SCAG region to have the option to develop the SCS (and the APS if necessary) for their area. SCAG interprets this option as being available to any subregional organization recognized by SCAG, regardless of whether the organization is formally established as a "subregional council of governments."

County Transportation Commissions (CTCs) play an important and necessary role in the development of a subregional SCS. Any subregion that chooses to develop a subregional strategy will need to work closely with the respective CTC in its subregional area in order to identify and integrate transportation projects and policies. Beyond working with CTCs, SCAG encourages partnership efforts in the development of subregional strategies, including partnerships between and among subregions.

Subregional agencies must formally indicate to SCAG, in writing, by December 31, 2009 if they intend to exercise this option to develop their own SCS. Subregions that choose to develop an SCS for their area must do so in a manner consistent with this Framework and Guidelines. The subregion's intent to exercise its statutory option to prepare the strategy for their area must be decided and communicated through formal action of the subregional agency's governing board. Subsequent to receipt of any subregion's intent to develop and adopt an SCS, SCAG will convene discussions regarding a formal written agreement between SCAG and the subregion, which may be revised if necessary, as the SCS process is implemented.

III. FRAMEWORK

The Framework portion of this document covers regional objectives and policy considerations, and provides general direction to the subregions in preparing their own SCS, and APS if necessary.

A. SCAG's preliminary goals for implementing SB 375 are as follows:

- Achieve the regional GHG emission reduction target for cars and light trucks through an SCS.
- Fully integrate SCAG's planning processes for transportation, growth, intergovernmental review, land use, housing, and the environment.
- Seek areas of cooperation that go beyond the procedural statutory requirements, but that also result in regional plans and strategies that are mutually supportive of a range of goals.
- Build trust by providing an interactive, participatory and collaborative process for all stakeholders. Provide, in particular, for the robust participation of local jurisdictions, subregions and CTCs in the development of the SCAG regional SCS and implementation of the subregional provisions of the law.
- Assure that the SCS adopted by SCAG and submitted to California Air Resources Board (ARB) is a reflection of the region's collective growth strategy and vision for the future.
- Develop strategies that incorporate and are respectful of local and subregional priorities, plans, and projects

B. Flexibility

Subregions may develop any appropriate strategy to address the region's greenhouse gas reduction goals and the intent of SB 375. While subregions will be provided with SCAG data, and with a conceptual or preliminary scenario to use as a helpful starting point, they may employ any combination of land use policy change, transportation policy, and transportation investment, within the specific parameters described in the Guidelines.

C. Outreach Effort and Principles

Subregions are required to conduct an open and participatory process that includes the fullest possible range of stakeholders. As further discussed within the Guidelines, SCAG amended its existing Public Participation Plan (PPP) to describes SCAG's responsibilities in complying with the outreach requirements of SB 375 and other applicable laws and regulations. SCAG will fulfill its outreach requirements for the regional SCS/APS which will include outreach activities regarding the subregional SCS/APS. Subregions are also encouraged to design their own outreach process that meets each subregion's own needs and reinforces the spirit of openness and full participation. To the extent that subregions do establish their own outreach process, this process should be coordinated with SCAG's outreach process.

D. Communication and Coordination

Subregions developing their own SCS are strongly encouraged to maintain regular communication with SCAG staff, the respective CTC, their jurisdictions and other stakeholders, and other subregions if necessary, to review issues as they arise and to assure close coordination. Mechanisms for on-going communication should be established in the early phases of strategy development.

E. Planning Concepts

SCAG, its subregions, and member cities have established a successful track record on a range of land use and transportation planning approaches through the on-going SCAG Compass Blueprint Program, including approximately 90 local demonstration projects completed to date. Subregions are

encouraged to capture, further develop and build off the concepts and approaches of the Compass Blueprint program. In brief, these include developing transit-oriented, mixed use, and walkable communities, and providing for a mix of housing and jobs.

IV. GUIDELINES

These Guidelines describe specific parameters for the subregional SCS/APS effort under SB 375, including process, deliverables, data, documentation, and timelines. As described above, the Guidelines are created to ensure that the region can successfully incorporate strategies developed by the subregions into the regional SCS, and that the region can comply with its own requirements under SB 375. Failure to proceed in a manner consistent with the Guidelines will result in SCAG not accepting a subregion's submitted strategy.

A. Subregional Process

(1) Subregional Sustainable Communities Strategy

Subregions that choose to exercise their optional role under SB 375 will develop and adopt a subregional Sustainable Communities Strategy. That strategy must contain all of the required elements, and follow all procedures, as described in SB 375. Subregions may choose to further develop an Alternative Planning Strategy (APS), according to the procedures and requirements described in SB 375. If subregions prepare an APS, they must prepare a Sustainable Communities Strategy first, in accordance with SB 375. A subregional APS is not "in lieu of" a subregional SCS, but in addition to the subregional SCS. In part, an APS must identify the principal impediments to achieving the targets within the SCS. The APS must show how the GHG emission targets would be achieved through alternative development patterns, infrastructure, and additional transportation measures or policies. SCAG encourages subregions to focus on feasible strategies that can be included in the SCS.

The subregional SCS must include all components of a regional SCS as described in SB 375, and outlined below:

(i.) identify the general location of uses, residential densities, and building intensities within the subregion;
(ii.) identify areas within the subregion sufficient to house all the population of the subregion, including all economic segments of the population, over the course of the planning period of the RTP taking into account net migration into the region, population growth, household formation and employment growth.
(iii.) identify areas within the subregion sufficient to house an eight-year projection of the regional housing need for the subregion pursuant to Section 65584;
(iv.) identify a transportation network to service the transportation needs of the subregion;
(v.) gather and consider the best practically available scientific information regarding resource areas and farmland in the subregion as defined in subdivisions (a) and (b) of Section 65080.01.
(vi.) consider the state housing goals specified in Sections 65580 and 65581;
(vii.) set forth a forecasted development pattern for the subregion, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the ARB, and

(viii.) allow the RTP to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Sec. 7506). See, Government Code §65080(b)(2)(B).

In preparing the subregional SCS, the subregion will consider feasible strategies, including local land use policies, transportation infrastructure investment (e.g., transportation projects), and other transportation policies such as Transportation Demand Management (TDM) strategies (which includes pricing), and Transportation System Management (TSM) strategies. Technological measures may be included if they exceed measures captured in other state and federal requirements (e.g., AB32).

As discussed further below (under "Documentation"), subregions need not constrain land use strategies considered for the SCS to current General Plans. In other words, the adopted strategy need not be fully consistent with local General Plans currently in place. However, should the adopted subregional strategy deviate from General Plans, subregions will need to demonstrate the feasibility of the strategy by documenting any affected jurisdictions' willingness to adopt the necessary General Plan changes.

The regional SCS shall be part of the 2012 RTP. Therefore, for transportation investments included in a subregional SCS to be valid, they must also be included in the 2012 RTP. Further, such projects need to be scheduled in the RTIP for construction completion by the target years (2020 and 2035) in order to demonstrate any benefits as part of the SCS. As such, subregions will need to collaborate with the respective CTC in their area to coordinate the subregional SCS with future transportation investments. It should also be noted that the California Transportation Commission is updating their RTP Guidelines. This topic is likely to be part of further discussion through the SCS process as well.

SCAG will accept and incorporate the subregional SCS, unless (a) it does not comply with SB 375, (b) it is does not comply with federal law, or (c) it is does not comply with SCAG's Subregional Framework and Guidelines. In the event that a compiled regional SCS, including subregional submissions, does not achieve the regional target, SCAG will initiate a process to develop and consider additional GHG emission reduction measures region-wide. SCAG will develop a written agreement with each subregional organization to define a process and timeline whereby subregions would submit a draft subregional SCS for review and comments to SCAG, so that any inconsistencies may be identified and resolved early in the process. Furthermore, SCAG will compile and disseminate performance information on the preliminary regional SCS and its components in order to facilitate regional dialogue. The development of a subregional SCS does not exempt any subregion from further GHG emission reduction measures being included in the regional SCS. Further, all regional measures needed to meet the regional target will be subject to adoption by the Regional Council, and any additional subregional measures beyond the SCS submittal from subregions accepting delegation needed to meet the regional target must also be adopted by the subregional governing body.

(2) Subregional Alternative Planning Strategy (APS)

Subregions are encouraged to focus their efforts on feasible measures that can be included in an SCS. In the event that a subregion chooses to prepare an APS, the content of a subregional APS should be consistent with what is required by SB 375 (see, Government Code §65080(b)(2)(H)), as follows:

(i.) Shall identify the principal impediments to achieving the subregional SCS.

(ii.) May include an alternative development pattern for the subregion pursuant to subparagraphs (B) to (F), inclusive.
(iii.) Shall describe how the alternative planning strategy would contribute to the regional greenhouse gas emission reduction target, and why the development pattern, measures, and policies in the alternative planning strategy are the most practicable choices for the subregion.
(iv.) An alternative development pattern set forth in the alternative planning strategy shall comply with Part 450 of Title 23 of, and Part 93 of Title 40 of, the Code of Federal Regulations, except to the extent that compliance will prevent achievement of the regional greenhouse gas emission reduction targets approved by the ARB.
(v.) For purposes of the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code), an alternative planning strategy shall not constitute a land use plan, policy, or regulation, and the inconsistency of a project with an alternative planning strategy shall not be a consideration in determining whether a project may have an environmental effect.

Any precise timing or submission requirements for a subregional APS will be determined based on further discussions with subregional partners. As previously noted, a subregional APS is in addition to a subregional SCS.

(3) Outreach and Process

SCAG will fulfill all of its outreach requirements under SB 375 for the regional SCS/APS, which will include outreach regarding any subregional SCS/APS. SCAG staff has revised its Public Participation Plan to incorporate the outreach requirements of SB 375, and integrate the SB 375 process with the 2012 RTP development as part of SCAG's Public Participation Plan Amendment No. 2, adopted by SCAG's Regional Council on December 3, 2009. Subsequent to the adoption of the PPP Amendment No. 2, SCAG will continue to discuss with subregions and stakeholders the Subregional Framework & Guidelines, which further describe the Public Participation elements of SB 375.

Subregions that elect to prepare their own SCS or APS are encouraged to present their subregional SCS or APS, in coordination with SCAG, at all meetings, workshops and hearings held by SCAG in their respective counties. Additionally, the subregions would be asked to either provide SCAG with their mailing lists so that public notices and outreach materials may also be posted and sent out by SCAG, or SCAG will provide notices and outreach materials to the subregions for their distribution to stakeholders. The SCAG PPP Amendment No. 2 provides that additional outreach may be performed by subregions. Subregions are strongly encouraged to design and adopt their own outreach processes that mimic the specific requirements imposed on the region under SB 375. Subregional outreach processes should reinforce the regional goal of full and open participation, and engagement of the broadest possible range of stakeholders.

(4) Subregional SCS Approval

It is recommended that the governing board of the subregional agency approve the subregional SCS prior to submission to SCAG. While the exact format is still subject to further discussion, SCAG recommends that there be a resolution from the governing board of the subregion with a finding that the land use strategies included in the subregional SCS are feasible and based upon consultation with the local jurisdictions in the respective subregion. Subregion should consult with their legal counsel as to compliance with the California Environmental Quality Act (CEQA). In SCAG's view, the

subregional SCS is not a "project" for the purposes of CEQA; rather, the 2012 RTP which will include the regional SCS is the actual "project" which will be reviewed for environmental impacts pursuant to CEQA. As such, the regional SCS, which will include the subregional SCSs, will undergo a thorough CEQA review. Nevertheless, subregions approving subregional SCSs should consider issuing a notice of exemption under CEQA to notify the public of their "no project" determination and/or to invoke the "common sense" exemption pursuant to CEQA Guidelines § 15061(b)(3).

Finally, in accordance with SB 375, subregions are strongly encouraged to work in partnership with the CTC in their area. SCAG can facilitate these arrangements if needed.

(5) Data Standards

SCAG is currently assessing the precise data standards anticipated for the regional and subregional SCS. In particular, SCAG is reviewing the potential use of parcel data and development types currently used for regional planning. At present, the following describes the anticipated data requirements for a subregional SCS.

1. Types of Variables
   Variables are categorized into socio-economic variables and land use variables. The socio-economic variables include population, households, housing units, and employment. The land use variables include land uses, residential densities, building intensities, etc, as described in SB 375.

2. Geographical Levels
   SCAG is considering the collection and adoption of the data at a small-area level as optional for local agencies in order to make accessible the CEQA streamlining provisions under SB 375. The housing unit, employment, and the land use variables can be collected at a small-area level for those areas which under SB 375 qualify as containing a "transit priority project" (i.e. within half-mile of a major transit stop or high-quality transit corridor) for purposes of allowing jurisdictions to take advantage of the CEQA streamlining incentives in SB 375.

   For all other areas in the region, SCAG staff will collect the population, household, employment, and land use variables at the Census tract or Traffic Analysis Zone (TAZ) level.

3. Base Year and Forecast Years
   The socio-economic and land use variables will be required for the base year of 2008, and the target years of 2020 and 2035.

(6) Documentation

Subregions are expected to maintain full and complete records related to the development of the subregional SCS, including utilizing the most recent planning assumptions considering local general plans and other factors. In particular, subregions must document the feasibility of the subregional strategy by demonstrating the willingness of local agencies to consider and adopt land use changes necessitated by the SCS. The format for this documentation may include adopted resolutions from local jurisdictions and/or the subregion's governing board.

(7) Timing

An overview schedule of the major milestones of the subregional process and its relationship to the regional SCS/RTP is included below. Subregions must submit the subregional SCS to SCAG by the date prescribed. Further, SCAG will need a preliminary SCS from subregions for the purpose of preparing a project description for the 2012 RTP Program Environmental Impact Report. The precise content of this preliminary submission will be determined based on further discussions. The anticipated timing of this preliminary product is approximately February 2011.

(8) Relationship to Regional Housing Needs Assessment (RHNA) and Housing Element

Although SB 375 calls for an integrated process, subregions are not automatically required to take on RHNA delegation as described in State law if they prepare an SCS/APS. However, SCAG encourages subregions to undertake both processes due to their inherent connections.

SB 375 requires that the RHNA allocated housing units be consistent with the development pattern included in the SCS. *See*, Government Code §65584.04(i). Population and housing demand must also be proportional to employment growth. At the same time, in addition to the requirement that the RHNA be consistent with the development pattern in the SCS, the SCS must also identify areas that are sufficient to house the regional population by income group through the RTP planning period, and must identify areas to accommodate the region's housing need for the next local Housing Element eight year planning period update. The requirements of the statute are being further interpreted through the RTP guidelines process. Staff intends to monitor and participate in the guideline process, inform stakeholders regarding various material on these issues, and amend, if necessary, these Framework and Guidelines, pending its adoption.

SCAG will be adopting the RHNA and applying it to local jurisdictions at the jurisdiction boundary level. SCAG staff believes that consistency between the RHNA and the SCS may still be accomplished by aggregating the housing units contained in the smaller geographic levels noted in the SCS and including such as part of the total jurisdictional number for RHNA purpose. SCAG staff has concluded that there is no consistency requirement for RHNA purposes at sub-jurisdictional level, even though the SCS is adopted at the smaller geographic level for the opportunity areas.

The option to develop a subregional SCS is separate from the option for subregions to adopt a RHNA distribution, and subject to separate statutory requirements. Nevertheless, subregions that develop and adopt a subregional SCS should be aware that the SCS will form the basis for the allocation of housing need as part of the RHNA process. Further, SCS development requires integration of elements of the RHNA process, including assuring that areas are identified to accommodate the 8 year need for housing, and that housing not be constrained by certain types of local growth controls as described in State law.

SCAG will provide further guidance for subregions and a separate process description for the RHNA.

D. COUNTY TRANSPORTATION COMMISSIONS' ROLES AND RESPONSIBILITIES

Subregions that develop a subregional SCS will need to work closely with the CTCs in their area in order to coordinate and integrate transportation projects and policies as part of the subregional SCS. As discussed above (under "Subregional Sustainable Communities Strategy"), any transportation

projects identified in the subregional SCS must also be included in the 2012 RTP in order to be considered as a feasible strategy. SCAG can help to facilitate communication between subregions and CTCs.

C. SCAG ROLES AND RESPONSIBILITIES

SCAG's roles in supporting the subregional SCS development process are in the following areas:

(1) Preparing and adopting the Framework and Guidelines

SCAG will adopt these Framework and Guidelines in order to assure regional consistency and the region's compliance with law.

(2) Public Participation Plan

SCAG will assist the subregions by developing, adopting and implementing a Public Participation Plan and outreach process with stakeholders. This process includes consultation with congestion management agencies, transportation agencies, and transportation commissions; and SCAG will hold public workshops and hearings. SCAG will also conduct informational meetings in each county within the region for local elected officials (members of the board of supervisors and city councils), to present the draft SCS, and APS if necessary, and solicit and consider input and recommendations.

(3) Methodology

As required by SB 375, SCAG will adopt a methodology for measuring greenhouse gas emission reductions associated with the strategy.

(4) Incorporation/Modification

SCAG will accept and incorporate the subregional SCS unless it does not comply with SB 375, federal law, or the Subregional Framework and Guidelines. As SCAG intends the entire SCS development process to be iterative, SCAG will not amend a locally-submitted SCS. SCAG may provide additional guidance to subregions so that subregions may make amendments to its subregional SCS as part of the iterative process, or request a subregion to prepare an APS if necessary. Further, SCAG can propose additional regional strategies if feasible and necessary to achieve the regional emission reduction target with the regional SCS. SCAG will develop a written agreement with each subregional organization to define a process and timeline whereby subregions would submit a draft subregional SCS for review and comments to SCAG, so that any inconsistencies may be identified and resolved early in the process.

(5) Modeling

SCAG currently uses a Trip-Based Regional Transportation Demand Model and ARB's EMFAC model for emissions purposes. In addition to regional modeling, SCAG is developing tools to evaluate the effects of strategies that are not fully accounted for in the regional model. SCAG is also developing two additional tools – a Land Use Model and an Activity Based Model – to assist in strategy development and measurement of outcomes under SB 375.

In addition to modeling tools which are used to measure results of completed scenarios, SCAG is developing a scenario planning tool for use in workshop settings as scenarios are being created with jurisdictions and stakeholders. The tool will be made available to subregions and local governments for their use in subregional strategy development.

(6) Adoption/Submission to State

After the incorporation of subregional strategies, SCAG will finalize and adopt the regional SCS as part of the 2012 RTP. SCAG will submit the SCS to ARB for review as required in SB 375.

(7) Conflict Resolution

While SB 375 requires SCAG to develop a process for resolving conflicts, it is unclear at this time the nature or purpose of a conflict resolution process as SCAG does not intend to amend a locally-submitted SCS. As noted above, SCAG will accept the subregional SCS unless it is inconsistent with SB 375, federal law, or the Subregional Framework and Guidelines. SCAG will also request that a subregion prepare an APS if necessary. It is SCAG's intent that the process be iterative and that there be coordination among SCAG, subregions and their respective jurisdictions and CTCs. SCAG is open to further discussion on issues which may generate a need to establish a conflict resolution process as part of the written agreement between SCAG and the subregional organization.

(8) Funding

Funding for subregional activities is not available at this time, and any specific parameters for future funding are speculative. Should funding become available, SCAG anticipates providing a share of available resources to subregions. While there are no requirements associated with potential future funding at this time, it is advisable for subregions to track and record their expenses and activities associated with these efforts.

(9) Preliminary Scenario Planning

SCAG will work with each subregion to collect information and prompt dialogue with each local jurisdiction prior to the start of formal SCS development. This phase of the process is identified as "preliminary scenario planning" in the schedule below. The purpose of this process is to create a base of information to inform SCAG's recommendation of a regional target to ARB prior to June 2010. All subregions are encouraged to assist SCAG in facilitating this process.

(10) Data

SCAG is currently developing, and will provide each subregion with datasets for the following:

(1) 2008 Base year,
(2) General Plan/Growth projection & distribution;
(3) Trend Baseline; and
(4) Policy Forecast/SCS

While the Trend Baseline is a technical projection that provides a best estimate of future growth based on past trends and assumes no general plan land use policy changes, the Policy Forecast/ SCS is derived using local input through a bottom-up process, reflecting regional policies including transportation investments. Local input is collected from counties, subregions, and local jurisdictions.

Data/GIS maps will be provided to subregions and local jurisdiction for their review. This data and maps include the 2008 base year socioeconomic estimates and 2020 and 2035 socioeconomic forecast. Other GIS maps including the existing land use, the general plan land use, the resource areas, and other important areas identified in SB 375. It should be noted that none of the data/ maps provided were endorsed or adopted by SCAG's Community, Economic and Human Development Committee (CEHD). All data/maps provided are for the purpose of collecting input and comments from subregions and local jurisdictions. This is to initiate dialogue among stakeholders to address the requirements of SB 375 and its implementation.

The list of data/GIS maps include:

1. Existing land use
2. Zoning
3. General plan land use
4. Resource areas include:
   (a.) all publicly owned parks and open space;
   (b.) open space or habitat areas protected by natural community conservation plans, habitat conservation plans, and other adopted natural resource protection plans;
   (c.) habitat for species identified as candidate, fully protected, sensitive, or species of special status by local, state, or federal agencies or protected by the federal Endangered Species Act (1973), the California Endangered Species Act, or Native Plant Protection Act,
   (d.) lands subject to conservation or agricultural easements for conservation or agricultural purposes by local governments, special districts, or nonprofit 501(c)(3) organizations, areas of the state designated by the State Mining and Geology Board as areas of statewide or regional significance pursuant to Section 2790 of the Public Resources Code, and lands under Williamson Act contracts;
   (e.) areas designated for open-space or agricultural uses in adopted open-space elements or agricultural elements of the local general plan or by local ordinance;
   (f.) areas containing biological resources as described in Appendix G of the CEQA Guidelines that may be significantly affected by the sustainable communities strategy or the alternative planning strategy, and
   (g.) an area subject to flooding where a development project would not, at the time of development in the judgment of the agency, meet the requirements of the National Flood Insurance Program or where the area is subject to more protective provisions of state law or local ordinance.
5. Farmland
6. Sphere of influence
7. Transit priority areas
8. City/Census tract boundary with ID
9. City/TAZ boundary with ID

(11) Tools

SCAG is developing a Local Sustainability Planning Model (LSPM) for subregions/local jurisdictions to analyze land use impact. The use of this tool is not mandatory and is at the discretion of the Subregion. The LSPM is a web-based tool that can be used to analyze, visualize and calculate the impact of land use changes on auto ownership, mode use, vehicle miles of travel (VMT), and greenhouse gas emissions in real time. Users will be able to estimate transportation and emissions impacts by modifying land use designations within their community

Other tools currently maintained by SCAG may be useful to the subregional SCS development effort, including the web-based CaLOTS application. SCAG will consider providing guidance and training on additional tools based on further discussions with subregional partners

(12) Resources and technical assistance

SCAG will assist the subregions by making available technical tools for scenario development as described above. Further, SCAG will assign a staff liaison to each subregion, regardless of whether the subregion exercises its statutory option to prepare an SCS. SCAG staff can participate in subregional workshops, meetings, and other processes at the request of the subregion, and pending funding and availability. SCAG's legal staff will be available to assist with questions related to SB 375 or SCAG's implementation of SB 375. Further, SCAG will prepare materials for its own process in developing the regional SCS, and will make these materials available to subregions.

D. MILESTONES/SCHEDULE

- CARB issues Final Regional Targets – September 2010
- SCS development (preliminary scenario, draft, etc) – through early 2011
- Release Draft RTP/regional SCS for public review – November 2011
- Regional Council adopts RTP/SCS – April 2012

If other milestones are needed, they will be incorporated into the written agreement between SCAG and the Subregion.

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Exhibit B: Milestones Schedule

The key milestones and related schedule required as part of the development of the Gateway Cities COG Subregional SCS are as follows:

1. Status report on Preliminary Subregional SCS – Dec 2010
2. Acopted GCCOG Dataset/Delivery to SCAG Jan 2011
3. Preliminary SCS / for purposes of preparing PEIR project description (intended to be narrative only project description that describes intended strategies or strategy options that are likely to be incorporated into the final Subregional SCS.) – Feb 2011
4. Status report on Draft Subregional SCS – Feb 2011
5. Draft Subregional SCS (containing all components described above) to be incorporated into draft Regional SCS April 2011
6. Status report on final Subregional SCS – April 2011
7. Final Subregional SCS for incorporation into Regional SCS – June 2011
8. Iterative process, if necessary to meet target – June to November 2011
9. Gateway Cities COG to participate in regional outreach conducted in Orange County – June 2011 to February 2012
10. Regional SCS adopt on – April 2012

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Exhibit C: Deliverables Template

The Gateway Cities COG Subregional SCS will consist of the following components:

1. Database (GCCOG Dataset) that allocates population, housing, household, and employment to areas of the county. Geographic area should be the smallest level practicable for the COG to produce, preferably at the parcel level. The database must reflect the base year 2008 and each variable in the two GHG target years (2020 and 2035), in accordance with the Data Standards set forth below.
2. A map or series of maps that illustrates the growth distribution described above, and that further delineates uses, intensities, and residential densities, in accordance with the Data Standards set forth below.
3. A listing of transportation projects that are incorporated in the subregional SCS.
4. A listing and description of transportation policies (e.g. TDM, TSM and others) to be employed.
5. Documentation that establishes the process, including the public participation and outreach process used to develop the SCS, and demonstrates the affected jurisdictions willingness to consider general plan changes.
6. A narrative description of the strategies employed to reduce greenhouse gas emissions. A further description of any other strategies that were considered and not ultimately included.

DATA STANDARDS

The following data standards will be used in the development of a subregional SCS:

1. Types of Variables

Variables are categorized into socio-economic variables and land use variables. The socio-economic variables include population, households, housing units, and employment. The land use variables may include land uses designations, building densities, building intensities, and applicable policies.

2. Geographical Levels

Socio-economic and land-use variables should be provided to SCAG at the smallest geographical level practicable for OCCOG to produce, preferably at the parcel level. At a minimum, such variables will be provided at the Census tract or Traffic Analysis Zone (TAZ) level.

3. Base Year and Forecast Years

The socio-economic data and land use variables will be required for the base year of 2008, and as feasible, for the target years of 2020 and 2035.

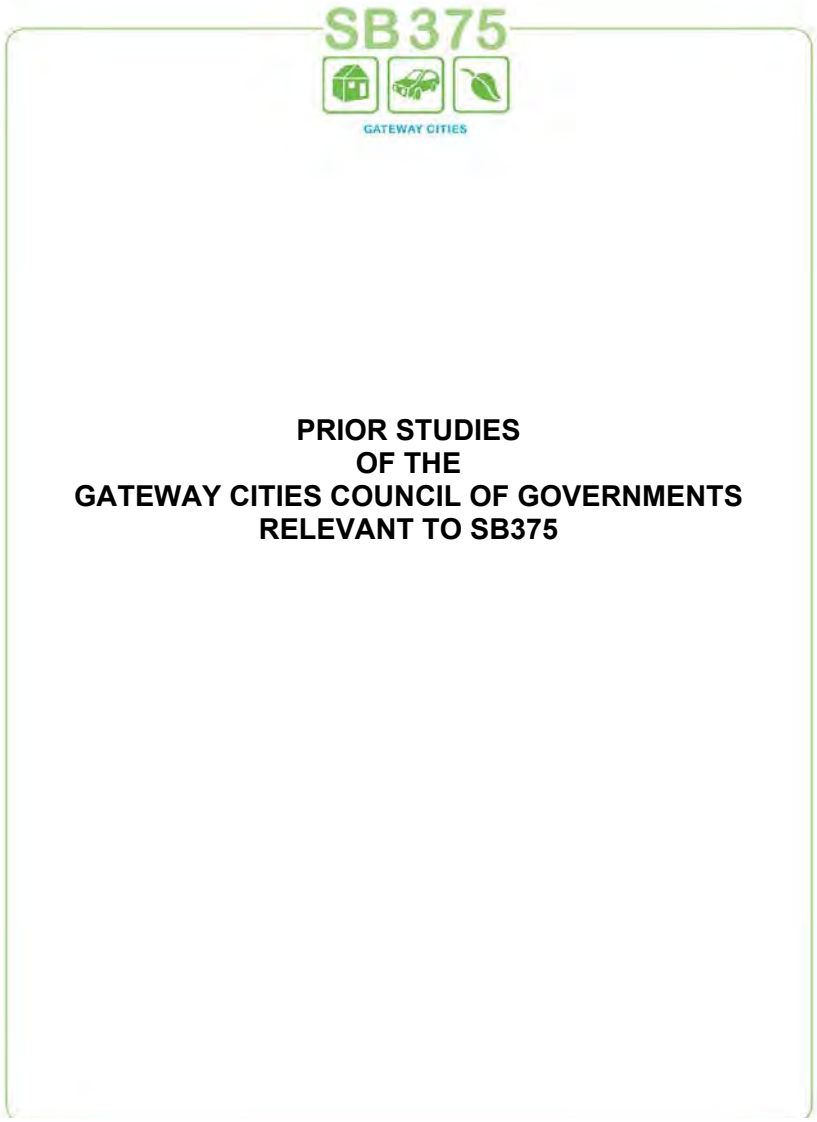
DOCUMENTATION

Subregions are expected to maintain full and complete records related to the development of the Subregional SCS, including utilizing the most recent planning assumptions considering local general plans and other factors. In particular, subregions must document the feasibility of the subregional strategy by demonstrating the willingness of local agencies to consider and adopt land use changes necessitated by

the SCS. The format for this documentation may include adopted resolutions from local jurisdictions and/or the subregion's governing board. Subregions shall include information regarding the status of the documentation as part of the required status reports to SCAG, and copies of the actual documentation shall be submitted to SCAG as part the final Subregional SCS.

Appendix B.

Prior Studies of the Gateway Cities Council of Governments Relevant to SB 375



SB 375
GATEWAY CITIES

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BACKGROUND/INTRODUCTION

In mid-2010, the Gateway Cities Council of Governments (COG) retained a Cambridge Systematics led team to assist the COG with the development of a Sustainable Communites Strategy (SCS) for the Gateway Cities sub-region, in accordance with the requirements of SB 375. One of the initial tasks of the work program for the development of the SCS involved the review of prior COG studies. The purpose of this task was to review prior studies to identify Vehicle Miles Traveled/ Greenhouse Gas (VMT/GHG) reduction measures contained in these studies that could be included in SCS Strategy portfolios to be prepared for each city by Cambridge Systematics. Team member Willdan Engineering was charged with this task of compiling and reviewing the prior COG studies.

Being proactive in addressing issues facing its sub-region, the Gateway Cities COG has generated a number of studies since its inception. The COG has conducted 37 studies since 1996, exclusive of addendums and supplements, and of these, 25 are germane to SB 375 and the development of the sub-regional SCS and/or Regional Housing Needs Assessment. On the pages that follow, the 16 reports that contained the most relevant measures or other information with regard to VMT/GHG reductions are discussed in the chronological order in which they were prepared. Each report is briefly summarized and any key findings/recommendations relevant to VMT/GHG reductions are listed.

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Report: Community Link 21: Southern California Association of Governments (SCAG's) Draft Regional Transportation Plan

Date: February 1998

Summary: This report reviews SCAG's draft Regional Transportation Plan (RTP) (Community Link 21), explains its significance for the Gateway Cities Sub-region, and makes recommendations as to what position the Gateway Cities COG should take with respect to these issues.

Findings/Recommendations Relevant to GHG and VMT Reductions include:

- Gateway Cities Goods Movement Network, a system of intersections and connecting arterials, should be accorded programmatic status by SCAG, similar to the Alameda Corridor East, and properly budgeted with regional funding;
- endorse truck lanes on I-710 in concept only, subject to further review and clarification;
- request SCAG to allocate funding in the RTP for grade crossing improvements in the Gateway Cities;
- Gateway Cities COG should participate in any regional bus restructuring and smart shuttles studies to have adequate local control over route and service decisions;
- LAX expansion should be subject to the Metropolitan Transportation Authority's (MTA's) Congestion Management Plan requirements;
- Intelligent Transportation System technologies should be identified as a means to improve the efficient and safe movement of people and goods; and
- Gateway Cities COG should request a reconfiguration of the RTP to support infrastructure improvements in the industrial core as opposed to funding for spread out development that increases the burden on meeting air quality requirements in increasing vehicle miles traveled.

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Report: Livable Cities Case Studies

Date: 2001

Summary: Three case studies are presented in this report to demonstrate the possibilities of creating a livable community through strategies of downtown revitalization, reuse of industrial lands, and streetscape improvements to arterial corridors. Alternatives and recommendations presented in each case study are intended to provide lessons that can be utilized by all member cities facing similar challenges. Alternatives and recommendations by city include:

1. The case study for the City of Artesia focused on revitalizing an existing downtown by incorporating a healthy mix of uses, utilizing building form, architectural details and design guidelines to showcase the unique qualities of the city. In addition, the case study showed how to utilize the current assets of the city to focus their redevelopment energy and use the vitality of the downtown to strengthen the structure of the city as a whole.
2. The case study for the City of Paramount focused on the redevelopment of underutilized industrial land to achieve a city structure based on a series of walk-able, mixed-use districts serving local residents. In addition, the case study addressed how to link these districts through the use of public transit and streetscape design.
3. The case study for the City of Pico Rivera focused on the revitalization of a commercial arterial through the use of streetscape enhancements and urban design recommendations. More specifically, the case study addressed how to handle the transformation of a large thoroughfare historically dominated by industrial truck traffic into a mixed-use boulevard that contributes to the overall structure and vitality of the city.

One of the greatest issues facing the case study cities of Artesia, Paramount and Pico Rivera, and of relevance to all of the Gateway Cities, is the shift in land use caused by the changing regional economy. As large-scale manufacturing becomes less relevant to local economies, the conversion of post-industrial land becomes a key opportunity for these otherwise built-out metropolitan areas. Study and analysis of regional trends, as well as an understanding of what is important to the community, can help to direct the reuse of this land. New uses should support current and anticipated future trends in both the economics of land use and allocation, and support the retail, civic, and residential structure necessary to create "livable cities".

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Findings/Recommendations Relevant to GHG and VMT Reductions include:

- Increase utilization of underutilized industrial land to create mixed-use activity areas that are linked through public transportation;
- Improve the vitality of the downtown by incorporating a mix of uses and through the use of building form, architectural details and design guidelines; and
- Transform a traffic-ridden thoroughfare into a more pedestrian-friendly, mixed-use boulevard.

Report: OrangeLine Feasibility Study

Date: 2002

Summary: The OrangeLine feasibility study is a financial, engineering and environmental assessment of an advanced technology, 30-33 mile high-speed transportation system operating along the former Pacific Electric "Red Car" land and adjoining corridors. This corridor extends from downtown Los Angeles to central Orange County. Results indicate that the OrangeLine transportation system can provide the required transportation improvements to support current and future development, and that it could be successfully built and operated without the need for significant government subsidies.

It is anticipated that additional housing, office and retail development projects completed along the OrangeLine corridor by 2025 will accommodate an increased population of 8,000 people within a quarter mile of station areas and tens of thousands more in the surrounding area, as well as up to 125,000 additional jobs. This growth in population and employment will result in added trips per day in the corridor. In addition to providing a very high quality, non-polluting transportation service to over 46,000 daily riders by 2025, the OrangeLine will also divert an estimated number of daily riders to other transit modes, thus significantly reducing the traffic impacts of future growth. The OrangeLine is projected to reduce auto trips in the corridor compared to travel patterns that would exist if the OrangeLine were not built.

Findings/Recommendations Relevant to GHG and VMT Reductions include:

- reduce auto trips by providing an advanced technology high-speed transportation system along a transportation corridor linking Los Angeles with central Orange County; and

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- provide for higher intensity housing, office and retail development projects along this public transit corridor.

Report: Supplemental Southeast Area Bus Restructuring Study

Date: 2003

Summary: The purpose of this study was to identify and evaluate opportunities to improve existing local and regional fixed-route bus transit services, transit facilities, and community-level transit and Para transit systems serving the Southeast study area. This study builds on the Southeast Area Bus Restructuring Study, completed in August 2000, with an increased focus on community-based services in the Southeast area. The study presented concrete recommendations for improving transit service within the Southeast study area.

Findings/Recommendations Relevant to GHG and VMT Reductions include:

- County should conduct a more detailed review and analysis of passenger trip-making patterns to determine whether current service area designations effectively match reasonable trip requests from County residents (i.e., review the destinations commonly served or commonly requested to identify destination-rich areas and to determine what fit or misfit may exist with current service area designation);
- cross-jurisdictional trips should be provided when needed to enhance services and provide services more cost-effectively;
- cities within the study area should view the gradual implementation and development of both city-specific and coordinated multi-jurisdictional transit projects as wholly interrelated and necessary to develop a cohesive transportation network in the Southeast; and
- cities in the study area should establish a formalized institutional arrangement that is easy to administer and consistent with MTA current plans for the Southeast area and other transit funding plans (i.e., programming of projects). The recommended option is a cooperative agreement based on an MOU among all parties, with the City of Norwalk designated as the lead agency as recommended by the Technical Advisory Committee for this study. This option is recommended for several reasons: simplicity; ease of implementation; flexibility; effectiveness in achieving its goal; and ability to encompass the MTA Sector as an accepted partner.

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Report: The Gateway Cities Council of Governments Sub-Regional Housing Implementation Strategy

Date: July 2003

Summary: The Gateway Cities COG is mandated by the State to assist in developing housing policy, and as a result, is required to go through a series of processes to identify housing issues and needs. The objective of this study was to identify ways that the Gateway Cities COG, as a coalition of twenty-seven cities, can play a beneficial role in solving the regional housing shortage. Particular emphasis was placed on identifying potential financing mechanisms available to local governments that could be effectively used by the Gateway Cities COG to make new housing more feasible.
The study identifies a number of strategies for promoting the sub-region and affordable housing.

Findings/Recommendations Relevant to GHG and VMT Reductions include:

- transit-oriented development relieving transportation pressures;
- brownfield redevelopment as a source of available land for economic development and new housing;
- initiate programs to promote manufacturing-based sustainable economic development, educational programs and employee training programs to help encourage new employers to locate or expand in the sub-region to address the jobs/housing balance and reduce VMT; and
- promote infill development for housing.

Report: Gateway Cities Infrastructure Needs Assessment

Date: September 2003

Summary: This report summarizes the finding and recommendations from the Gateway Cities Infrastructure Needs Assessment project SCAG. The Gateway Cities sub-region is located in a major goods transportation corridor connected to the Port of Los Angeles and the Port of Long Beach, which generates high concentrations of heavy truck traffic passing through the sub-region. In a recent study by SCAG, the Gateway Cities Trucking Study identified pavement deterioration resulting from heavy truck traffic as the number one concern of Gateway Cities Public Works staff. The primary purpose of the study was to conduct an inventory of current pavement management and rehabilitation practices, an assessment of pavement conditions of the study area through selective

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sampling of representative streets, and an assessment of the current under-funded needs of each Gateway City. The study also reviewed the latest pavement maintenance and rehabilitation practices of each Gateway City. The study concluded that a significant shortfall exists between the total annual maintenance and rehabilitation budget for the Gateway Cities region and the projected annual maintenance and rehabilitation costs. Most cities will be faced with a significant maintenance and rehabilitation shortfall for their streets.

Report: I-710 Tier 2 Community Advisory Committee Final Report

Date: August 2004

Summary: A broad-based committee, known as the Tier 2 Committee, was appointed by the I-710 Oversight Policy Committee (OPC) to study the current congestion and design of the I-710 Freeway. The I-710 Corridor impacts homes, businesses, schools, parks and lives of the communities in the immediate area. The committee's recommendations were made in the areas of health, jobs and economic development, safety, noise, congestion and mobility, community enhancements, design concepts and environmental justice.

Findings/Recommendations Relevant to GHG and VMT Reductions include:

- implement local alternative fuels/electrification and/or hydrogen policies and programs to reduce diesel emissions;
- implement port-specific air quality improvement strategies;
- position the I-710 corridor and Gateway communities for a post-oil economy;
- separate trucks and cars;
- conduct a study to assess how truck traffic from extended gate hours will impact communities, and assess what mitigations may be appropriate;
- maximize use of existing infrastructure;
- implement expanded public transit solutions;
- provide a comprehensive bicycle and pedestrian network with connectivity throughout the area;
- support cooperative planning among all ports along the West Coast;
- preserve existing parks, open spaces, and natural areas;
- provide programs to minimize construction impacts;
- use of new truck lanes; and
- redesign unsafe and congested I-710 interchanges.

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Report: I-710 Oversight Policy Committee Adopted Locally Preferred Strategy

Date: November 2004

Summary: The I-710 Oversight Policy Committee (OPC) is advised by a Technical Advisory Committee (TAC) and several Community Advisory Committees (Tier 1 Committee and Tier 2 Committee). The TAC was directed by the OPC in May 2003 to develop a hybrid design alternative to the 5 alternative designs presented in the I-710 Major Corridor Study.

Working from the following guiding principles:

1. Minimize ROW acquisitions to preserve existing houses, businesses and open space.
2. Identify and minimize exposure to air toxics and pollution through diesel emissions reduction programs, use of alternative fuels, and project planning and design.
3. Improve safety through truck safety inspection facilities, reduced truck/car conflicts and improved roadway design.
4. Relieve congestion and reduce traffic by employing a comprehensive regional systems approach adding needed capacity and deploying Transportation Systems Management (TSM) and Transportation Demand Management (TDM) to make full use of freeway, roadway, rail and transit systems.
5. Facilitate effective public participation.

The OPC adopted the Locally Preferred Strategy developed in close cooperation with the TAC, Tier 1 and Tier 2 Committees:

- The hybrid design concept consists of 10 mixed flow lanes, specified interchange improvements, and 4 truck lanes between inter-modal rail yards in Vernon/Commerce and Ocean Boulevard in Long Beach.
- Implementation of Alternative B TSM/TDM measures.
- Improvement of arterial highways within the I-710 Corridor.
- Construction of truck inspection facilities to be integrated with the selected overall design.

Findings/Recommendations Relevant to GHG and VMT Reductions include:

- Interchange improvements;
- Coordination of truck and inter-modal rail yards; and
- Transportation Systems Management and Transportation Demand Management.

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Report: Gateway Cities COG – Summary of the Proceedings of the Joint Housing Summit "Strategies and Tactics for Infill Development Success"

Date: November 2004

Summary: This joint housing summit by the Gateway Cities and the South Bay Cities Councils of Governments discussed federal and state initiatives to promote affordable housing and home ownership. The President's initiative: America's Affordable Communities Initiative: Bringing Homes Within Reach Through Regulatory Reform emphasizes that government regulation contributes to the high cost of housing and regulatory reform may serve to increase the affordability of housing. The initiative is supported by research conferences, awards programs, incentives in competitive grants and HUD internal screening of housing programs and regulations that create barriers for affordable housing. The State supports the availability of housing as a key factor to promote a prosperous economy, a quality environment and social equity. Anticipated State initiatives will promote program changes to support affordable housing and seek funding sources to help house low and very low income persons.

Report: SR-91 / I-605 Needs Assessment Study

Date: September 2005

- **Summary:** The freeways in Southern California are continuing to become increasingly congested due to the region's expanding population. In addition, the freeways in Southeast Los Angeles County are also affected by the continuing growth of the Ports of Long Beach and Los Angeles. The impetus to prepare the SR-91 and I-605 Needs Assessment is, in large part, the result of the effect on these two freeways by the truck traffic volumes from the two ports, as well as the additional truck volumes in the future from continued port growth. The report analyzed projections for continued traffic growth that would affect these two freeways and examined improvements needed to accommodate this increasing traffic. Intelligent Transportation Systems (ITS) were also examined as a technology to increase mobility and improve safety for people and freight to complete end-to-end trips as efficiently as possible.

Findings/Recommendations Relevant to GHG and VMT Reductions include:

- additional freeway lanes for general purpose traffic;

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- upgrade and improve the I-405/I-605, the SR-91/I-605 and the I05/I-605 interchanges;
- analysis of possible carpool-to-carpool interchanges at major freeway interchanges;
- further study the possibility of adding truck lanes to SR-91, I-105 and I-605;
- add additional lanes to at least one arterial highway that parallels each freeway, including signal synchronization and consideration/ evaluation of removal and replacement of on-street parking (as needed) along freeway corridors;
- all arterial bridges over the San Gabriel River next to the I-605 freeway need to be widened by one lane in each direction;
- signal synchronization of most of the nearby arterial highways that border the SR-91 and I-605 corridors as part of an ITS strategy;
- develop an ITS master plan for the COG region and establish traffic management centers as needed within the region; and
- air quality and quality of life issues and concerns should be addressed as part of any additional studies.

Report: The Gateway Cities & Surrounding Areas Intelligent Transportation System (ITS) Research and Strategies For Transportation and Goods Movement Study

Date: December 2005

ITS is the application of technology to the highway systems. Many Gateway Cities are in the process of implementing a variety of ITS programs. This study was initiated to research the ITS planning, design, deployment and operations that are being planned or implemented by other agencies for traffic and for goods movement strategies to reduce traffic congestion, increase safety, reduce pavement/roadway damage and improve real time traveler information sharing for the freeways in the Gateway Cities COG area. The increasing cargo shipments in the ports, expected to double over the next 15 years and possibly triple over the next 20 years, will increase diesel emissions affecting regional air quality and increase traffic along routes to and from the ports. Improving the goods movement systems and infrastructure can serve to reduce environmental impacts and relieve congestion on freeways and increase mobility in the area. The application of ITS technology includes:

- automatic collection and transmission of “real time” traffic information;
- commercial vehicle operations;

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- electronic tolling and collection;
- traffic management centers;
- arterial highway traffic signal synchronization;
- development of a 511 Traveler Information System;
- development of telecommunications systems providing “real time” traffic information to the driver;
- incident management alerts for drivers and the California Highway Patrol; and
- incident reduction systems.

This study identifies a number of ITS projects adopted by various agencies in the region.

Findings/Recommendations Relevant to GHG and VMT Reductions include:

- ramp metering;
- signal coordination with ramp metering;
- incident management;
- real-time traveler information;
- arterial signal management;
- isolated traffic actuated signals;
- actuated corridor signal coordination;
- central control signal coordination;
- automatic transit vehicle location and scheduling;
- transit vehicle signal priority;
- traffic management center;
- traffic signal synchronization;
- clean air program; and
- shuttle train pilot program.

Report: SR-91 / I-605 / I-405 Proposal for Major Corridor Study and RSTIS Peer Review Presented by Gateway Cities COG

Date: October 2006

Summary: On January 27, 2005, the Board of Directors of the Los Angeles County Metropolitan Transportation Authority (Metro) adopted the Draft Final Report on the I-710 Major Corridor Study. As a result of the I-710 Major Corridor Study (MCS), it was apparent that existing and future port-related truck traffic impacting the I-710 freeway

would also impact the other freeways in Southeast Los Angeles County east of the I-710 freeway. These freeways include the SR-91, I-605, I-405 and I-105. The results of a needs assessment study showed that these freeways will be overwhelmed with general purpose, car-pool and heavy-duty truck traffic in the future, clearly identifying a need for further analysis and mitigation. In order to proceed with a Major Corridor Study, federal funding is required. Therefore, Regionally Significant Transportation Investment Studies (RSTIS) requirements needed to be followed. Based on the preceding, the Gateway Cities COG requested a RSTIS Peer Review for these freeway corridors.

Report: Draft (Revised) Technical Scope of Work Southeast Los Angeles County SR-91 / I-605 / I-405 Freeway Corridors Major Corridor Study (MCS)

Date: May 2007

Summary: This Scope of Work addresses the transportation issues to be addressed through the preparation of a Major Corridor Study for the SR-91 / I-605 / I-405 Corridors, as required for the Regionally Significant Transportation Investment Study (RSTIS) by SCAG. The purpose of the study is to conduct a comprehensive evaluation of the overall transportation system, the results of which will be assembled into a Corridor Analysis Report and will include a Preferred Alternative assuming a built-out environment for all alternatives considering existing houses and businesses.

Report: Development of the Air Quality Action Plan for the I-710 Corridor

Date: May 2007

Summary: A study assessing the options and costs associated with widening the freeway to expand the capacity of the Interstate 710 Freeway (I-710) from the ports (Ocean Boulevard) to SR-60 freeway began in 2001. As part of the study, feedback was obtained from the communities in the I-710 corridor and determined that the main concerns about expanding the freeway were related to issues of air quality in the region. The Gateway Cities COG was asked by stakeholders in the I-710 Corridor planning process to prepare an Air Quality Action Plan (AQAP) to address the air quality concerns associated with expanding the freeway. This report was a preliminary step in the development of the AQAP. This report summarizes the process that resulted in the

creation of the AQAP and the expectations that stakeholders have for the document. It also reviews the primary emission reduction measures from diesel fueled engines and the goods movement sector that have been proposed or which are being implemented and should improve air quality in the I-710 Corridor communities.

Findings/Recommendations Relevant to GHG and VMT Reductions include:

Provided below is a listing of emission reduction policies and programs from various agencies that should have a direct impact on GHG emissions.

California Air Resources Board Goods Movement/Diesel Risk Reduction Measures

- stricter PM and NOx emissions standards for new and in-use cargo handling equipment (CHE) at California's ports and inter-modal rail yards;
- limit the amount of time 2008 and newer sleeper berth equipped trucks can operate at idle;
- measure to reduce emissions from diesel-powered trucks in port service;
- measure to reduce emissions from in-use heavy-duty diesel powered vehicles by requiring in-use controls such as verified diesel emission controls to ensure engines operate as cleanly as possible;
- railroads commitment to studying and reducing pollution risks at 17 designated rail yards in and around Los Angeles County;
- require public agency and utility vehicle owners to reduce diesel PM emissions from their affected vehicles through the application of best available control technologies (BACT);
- manufacturer-run heavy-duty diesel engine in-use compliance program on 2007 and newer heavy-duty engines;
- measure to reduce emissions from in-use off-road vehicles requiring each fleet to meet fleet average requirements by March 1 of each year or demonstrate that BACT technology be applied;
- requires the use of low-sulfur fuel in the main engine of ocean-going vessels (OGVs);
- requires ships entering California's ports to use 0.5 percent sulfur content Marine Diesel Oil by January 1, 2007, or Marine Gas Oil for auxiliary diesel engines within 24 nautical miles of the California coast;
- regulation to reduce emissions from commercial harbor craft such as tugs, tows, ferries and fishing vessels through engine retrofits and re-powers, as well as regulations on fuel type;
- requires OGVs use shore power (connecting to electrical power at the dock) in lieu of auxiliary engines while hotelling; and

- assess the emission reduction results from the other OGV measures.

San Pedro Bay Ports Clean Air Action Plan Measures

- requirement to meet or be cleaner than the EPA 2007 on-road PM emissions standards and the cleanest available NOx at the time of replacement or retrofit for all trucks frequently or semi-frequently calling at ports by the end of 2011;
- measure providing for the development of an alternative fuel refueling and central maintenance facility, jointly owned by both ports, and located on Terminal Island;
- compliance with the vehicle speed reduction requirement 20 nautical miles (nm) from Point Fermin, with the prospect of expanding the measure to 40 nm from Point Fermin;
- mandates the use of shore power to reduce hotelling emissions at container terminals, cruise terminals, container terminals and one crude oil terminal and exploration of alternative emission reduction technologies for hotelling OGVs;
- measure establishing a fuel standard for fuel used in on-board auxiliary power units of ≤0.2 percent sulfur distillate or Marine Gas Oil equivalent reduction;
- establishes a fuel standard for fuel used when ships are arriving or departing San Pedro Bay of ≤0.2 percent sulfur distillate or Marine Gas Oil equivalent reduction;
- measure provides research money for the development of new technologies that reduce emissions from both auxiliary power units (APUs) and main engines;
- requirement that, beginning in 2007, all cargo handling equipment (CHE) purchases will be required to have either the cleanest available NOx alternative fueled engine or the cleanest available NOx diesel fueled engine;
- San Pedro Bay Ports (SPBP) harbor craft will meet EPA standards within specified timeframes and eventually all previously re-powered harbor craft will be retrofitted with the most effective NOx and PM emission reduction devices;
- require that, by 2008, all existing switch engines in the ports be replaced with cleaner engines and use emulsified fuels as available or other equivalently clean alternative diesel fuels. Additionally, new switch engines acquired after the initial replacement must meet even cleaner standards;
- require, by 2011, all diesel-powered Class 1 switcher and helper locomotives entering port facilities be 90 percent controlled for PM and NOx and have 15-minute idle restriction devices installed. After January 1, 2007, all locomotives

will be required to use ultra low sulfur diesel fuel. Additional cleaner standards are required by 2012; and
- require the cleanest available technology for switcher, helper and long haul locomotives for new or redeveloped rail yards on SPBP's property and require "green-container" transport systems, idling shut off devices, idling exhaust hoods, ultra-low sulfur diesel or alternative fuels and clean CHE and heavy-duty vehicles.

Tier 2 Committee Report Measures

- establish a baseline of current levels of pollution, identify level of air quality impacts from increasing truck, rail and shipping and determine costs of health care that can be traced to pollution encountered by corridor communities as a result of construction; and
- require the increased use of enforcement and inspections to control emissions from on-road heavy-duty vehicles.

Report: SR-91 / I-605 / I-405 Initial Corridors Studies

Date: April 2008

Summary: This report is a follow-up to the 2005 SR-91 / I-605 Needs Assessment which projected growth in ports-related goods movement will significantly increase truck traffic on all the freeways in the Gateway Cities area. This follow-up report reflects a new SCAG Regional Model with 2035 projections (previously 2030 projections), applying the same assumptions for port operations and adding results for three additional links including I-605 north of I-405, I-405 between I-110 and I-710 as well as I-405 between I-710 and I-605. The projected increase in truck traffic has resulted in the freeway study evolving to include an assessment of regional goods movement through the area without total reliance on the traditional port-to-truck-to-freeway-to-destination option. The report's adopted guiding principles are provided below:

1. Confine new freeway construction to existing State right-of-way in order to preserve and enhance local economies and environments.
2. Address freeway operational deficiencies, relieve freeway congestion "hot-spots" and decease the impact of truck bypass traffic on communities.
3. Secure funding for major corridor studies and improvements.
4. Support a separate freight movement corridor provided it is evaluated

and constructed along non-freeway (e.g., rail or utility) alignments using minimally or non-polluting technologies.

5. Implement additional Intelligent Transportation Systems (ITS) improvements in the SR-91 / I-605 / I-405 Corridor and advocate a broader regional approach.
6. Continue collaborative planning efforts.
7. Advocate to preserve and enhance health and quality of life in the corridor.

The report identifies a number of needs and recommendations for improvements.

Findings/Recommendations Relevant to GHG and VMT Reductions include:

- Gateway Cities COG and its communities will support a separate freight movement corridor constructed along non-freeway alignments using minimally or non-polluting transportation technologies;
- ITS Integration Plan demonstrates the computer technology providing real-time traveler information can be used to have a significant benefit for both the private and public sectors for goods movement and should be implemented;
- freeway operational deficiencies should be addressed as mainline freeway improvements including local freeway interchanges;
- one additional lane in each direction added to freeways (with some local property impacts) may be sufficient to meet projected general traffic demands if a successful and reliable freight movement corridor can be implemented; and
- HOV direct connectors may be feasible at some freeway-to-freeway interchanges.

Report: White Paper – Addressing the Requirements of SB 375 at the Sub-regional Level

Date: December 2009

Summary: This report discusses in detail the month's long process undertaken by the Gateway Cities COG during 2009 to determine its response to the requirements of SB 375 and the formulation of a Sustainable Communities Strategy. The COG initially engaged the MTA as a co-partner in the SB 375 process and then its member jurisdictions assessed themselves to retain a consulting team to provide technical support in responding to this complex and evolving legislation.

Over an 8-month period, the consultant team conducted an on-line survey of COG sustainability efforts; compared the general plans of COG jurisdictions to SCAG growth assumptions; evaluated the current efforts of COG members as compared to the efforts that may be needed, based on a Best Management Practices list and weighting factors, in order to attain the desired level of GHG emissions reductions; monitored and reported on the SB 375 process and related meetings; organized and conducted a series of SB 375 workshops for COG representatives; and presented the results of these efforts in a final comprehensive report to the COG. Based on the recommendations presented in this report, the COG Board elected to assume responsibility from SCAG for preparing the SB 375 required Sustainable Communities Strategies (SCS) for the Gateway Cities sub-region.

Findings/Recommendations Relevant to GHG and VMT Reductions include:

- the web-based survey documented that COG member cities have already initiated or are planning to undertake various measures that have/will reduce VMT and GHG emissions;
- the Gateway cities demonstrate a strong institutional capacity for strategies that are the foundation for complying with SB 375 and SCS requirements;
- current and planned policies and improvements could achieve ±15% of a hypothetical sub-regional target of 4% GHG reduction by 2020;
- in order to meet the hypothetical target, 80% of COG members would need to adopt various land use and transportation policies; and
- the COG should assume responsibility from SCAG for developing the sub-regional SCS and Regional Housing Needs Assessment (RHNA) as allowed by SB 375.

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Appendix C.

Public Outreach Materials

Stakeholder Organizations
Included in Gateway Cities SCS Outreach During 2011

1. American Lung Association
2. Artesia Chamber of Commerce
3. Avalon Chamber of Commerce
4. Bell Chamber of Commerce
5. Bell Gardens Chamber of Commerce
6. Bellflower Chamber of Commerce
7. Breathe California of LA County
8. Building Industry Association of Southern California
9. California Air Resources Board
10. California Conference for Equality & Justice
11. California Department of Transportation - District 7
12. Center for Law in the Public Interest
13. Cerritos Chamber of Commerce
14. ClimatePlan
15. Coalition for Clean Air
16. Commerce Chamber of Commerce
17. Communities for a Better Environment
18. Community Development Commission of the County of Los Angeles
19. Compton Chamber of Commerce
20. Cudahy Chamber of Commerce
21. Downey Chamber of Commerce
22. East Yard Communities for Environmental Justice
23. Environment Now
24. Fair Housing Foundation of Long Beach
25. Hawaiian Gardens Chamber of Commerce
26. Huntington Park Chamber of Commerce
27. ICLEI
28. International Longshore Warehouse Union
29. Jamboree Housing Corporation
30. LA County Department of Public Health, PLACE Program
31. La Habra Heights Chamber of Commerce
32. La Mirada Chamber of Commerce
33. Lakewood Chamber of Commerce
34. LINC Housing
35. Long Beach Chamber of Commerce
36. Long Beach Cyclists
37. Long Beach Diabetes Collaborative and Long Beach Alliance for Food & Fitness
38. Long Beach Housing Development Company
39. Long Beach Transit
40. Los Angeles County Economic Development Corporation
41. Los Angeles County Metropolitan Transportation Authority
42. Los Angeles County Public Health
43. Lynwood Chamber of Commerce
44. Maywood Chamber of Commerce

45. Metropolitan Water District
46. Montebello Chamber of Commerce
47. Move LA
48. NAACP
49. National Safe Routes to School Partnership
50. Natural Resources Defense Council
51. Norwalk Chamber of Commerce
52. Orange County Transportation Authority
53. Paramount Chamber of Commerce
54. Pedal Movement
55. Pico Rivera Chamber of Commerce
56. Port of Long Beach
57. Santa Fe Springs Chamber of Commerce
58. Signal Hill Chamber of Commerce
59. South Coast Air Quality Management District
60. South Gate Chamber of Commerce
61. Southeast Water Coalition
62. Southern California Association of Non-Profit Housing
63. TELACU
64. The HUB Pedal Movement
65. U.S. Green Building Council
66. ULI LA Chapter
67. Vernon Chamber of Commerce
68. Water Replenishment District
69. We Love Long Beach
70. Whittier Chamber of Commerce

GATEWAY CITIES
COUNCIL OF GOVERNMENTS

For Immediate Release **April 12, 2011**

SOUTHEAST AREA CITIES TO ADOPT PLAN TO REDUCE GREENHOUSE GASES

Twenty-six cities in southeastern Los Angeles County, located in the area called the Gateway Cities, are working together to develop an unprecedented plan to reduce greenhouse gas emissions from cars and light trucks by changing land use and transportation patterns. The plan, called a Sustainable Communities Strategy or SCS, is a new requirement of state law adopted in 2008 known as SB 375.

The Gateway Cities SCS is under development and is expected to be finalized in June. The plan compiles city, county, and regional strategies in three categories. The first category, transportation projects, includes bicycle and pedestrian improvements, such as separated bike lanes, intersection improvements, and traffic signal synchronization, among many others that will help reduce auto usage and emissions. For example, in 2009 the City of Bellflower reclaimed a bike and pedestrian path from an unused rail right-of-way.

The second category, land use changes, involves denser development near existing or planned transit stations. Examples can be seen on Long Beach Boulevard in Long Beach, along the Metro Blue Line.

The third category is known to planners as TDM, or travel demand management. This refers to programs like shortened work weeks and employer-sponsored ride sharing, which enable commuters to use their personal cars less often while still getting to and from work. The City of Commerce, for one, makes extensive use of this strategy.

The projects and strategies comprising the Gateway Cities SCS are expected to be implemented by one of two target years: 2020, or 2035. The California Air Resources Board has set regional emission reduction targets for each of these years. The targets must be collectively met by six Southern California counties that comprise the Southern California Association of Governments, or SCAG.

The Gateway Cities make up the area of Los Angeles County generally bordered by the City of Los Angeles on the west, Orange County on the east, and the Pomona (SR-60) Freeway on the north, and extending south to the cities of Long Beach and Avalon. The entire Gateway Cities region is home to about 2 million residents. The cities' collaboration dates back to their joint establishment of a regional authority, the Gateway Cities Council of Governments (or COG) in the mid-1990's.

With SB 375, the Gateway Cities had a choice: to prepare their own plan, or allow the regional authority, SCAG, to prepare it on their behalf. According to Gil Hurtado, President of the COG's Board of Directors and Council Member from the City of South Gate, "The Gateway Cities have a long history of working together to address our unique situation: high density, built-out cities, and very diverse residents. The Gateway Cities wanted to create our own vision of a cleaner, lower-emissions future."

According to SCAG Executive Director Hasan Ikhrata, "As a regional partner, SCAG is pleased that Gateway Cities is undertaking its own SCS. Their ability to work directly with their member jurisdictions will ensure an inclusive, bottoms-up approach. We look forward to including the Gateway Cities' strategies as a key component of a successful Regional SCS."

To learn more about the Gateway Cities SCS, please visit the COG web site at www.gatewaycog.org/sb375.html. Additionally, four public information sessions about the SCS will be offered in late April and early May at various locations around the Gateway Cities as follows:

- Tuesday, April 26: Cerritos – Cerritos Library, Skyline Room, 6:30 – 8:30 p.m.
- Tuesday, May 3: Long Beach – Mark Twain Library, 6:30 – 8:30 p.m.
- Monday, May 9: Pico Rivera – Golf Course - Banquet Room, 6:30 – 8:30 p.m.
- Thursday, May 12: Commerce – Senior Center, 6:30 – 8:30 p.m.

The Gateway Cities Council of Governments is a California joint powers authority made up of twenty-seven cities and the County of Los Angeles, formed for the purpose of providing a vehicle for the members to voluntarily engage in regional and cooperative planning and coordination of government services for the collective benefit of the residents of Southeast Los Angeles County. The goal and intent of the COG is one of voluntary cooperation among cities and the County in the areas of transportation, air quality, housing, and economic development. For further information, please contact Richard Powers, Executive Director, 562-663-6850 or richardpowers@gatewaycog.org.

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Gateway Cities Council of Governments Sustainable Communities Strategy

SB 375

GATEWAY CITIES

The Gateway Cities Council of Governments (COG) is leading a process to develop a plan that includes strategies to reduce greenhouse gas emissions from cars and light trucks in the sub-region. The Sustainable Communities Strategy (SCS) is required by California law in order to achieve the State's greenhouse gas reduction goals.

Please join us for a public open house!

To learn more about the SCS drop in on one of these information sessions!

Tuesday, April 26, 6:30 - 8:30 p.m.
Cerritos - Cerritos Library, Skyline Room, 18025 Bloomfield Avenue, Cerritos, CA 90703

Tuesday, May 3, 6:30 - 8:30 p.m.
Long Beach - Mark Twain Library, 1401 East Anaheim Street, Long Beach, CA 90813

Monday, May 9, 6:30 - 8:30 p.m.
Pico Rivera - Golf Course, Banquet Room, 3260 Fairway Drive, Pico Rivera, CA 90660

• ursday, May 12, 6:30 - 8:30 p.m.
Commerce - Senior Center, 2555 Commerce Way, Commerce, CA 90040

Representatives from the COG's member cities have been working with the COG staff and consultants to identify specific strategies to include in the plan for the Southeast Los Angeles County sub-region.

Come and learn more about:

- SCS process and schedule
- Relationship of the SCS to local planning efforts
- Types of transportation and land use strategies included in the SCS
- How the SCS will affect you
- Opportunities to stay involved in process

GATEWAY CITIES

For additional information please visit the COG website at:

www.gatewaycog.org/sb375.html

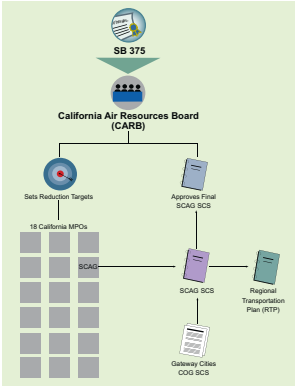
What is a Sustainable Communities Strategy?

Senate Bill 375 Basics

California State legislation that prompts California regions to work together to reduce greenhouse gas (GHG) emissions from *cars* and *light trucks*.

This law directs the California Air Resources Board (CARB) to set greenhouse gas reduction targets for regions of the state and work with California's 18 metropolitan planning organizations (MPOs) to align each region's transportation, housing, and land-use plans with greenhouse gas reductions in mind.

In Southern California, the sub-regions have an option to create their own SCS. The Gateway Cities have accepted delegation in creating their own sub-regional SCS that will be incorporated into the regional SCS that the Southern California Association of Governments (SCAG) is developing. The final adopted regional SCS is then incorporated into a federally required Regional Transportation Plan (RTP) for the Southern California Region.



Gateway Cities Council of Governments
Sustainable Communities Strategy
SB 375

Land Use/*Uso del Suelo*






Proposed Strategies˘
Estrategias Propuestas

- Mix of Uses
  Usos Mixtos
- Pedestrian Oriented Design
  Diseño Orientado a Peatones
- ˘Transit Oriented Development
  Desarollo Orientado al Transito
- Improved Connections Between Uses
  Mejoramiento de Conexiones entre Usos
- Urban Design
  Diseño Urbano

Gateway Cities Council of Governments
Sustainable Communities Strategy
SB 375

Transportation/*Transportación*





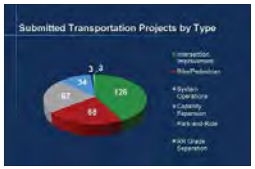

Proposed Strategies
Estrategias Propuestas

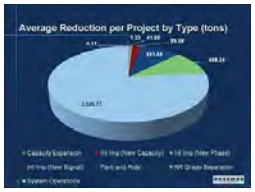
- Street Improvements
  Mejoras de Calle
- Sidewalk Improvements
  Mejoras de Acera
- Bike and Pedestrian Amenities
  Amenidades de bicicleta y peatón
- Expansion of †ransit
  Expansión de transito
- Park & Ride Lots
  Lotes para estacionar y transitar

Transportation/*Transportación*



Submitted Transportation Projects
Proyectos de transporte sometidos





Transportation Demand Management (TDM)/*Manejo de Demanda Para Transporte*







Proposed Strategies
Estrategias Propuestas

- Shuttles
  Mini autobús
- Bus Pass Program
  Programa de pase de autobús
- Transit Marketing
  Comercialización de transito
- Ridesharing Programs
  Programa para compartir el viaje
  - Employee Trip Reduction Program
    Programa para reducir viajes de empleados
  - Preferential Parking to Vanpools
    Estacionamiento preferencial para vehículos de viaje compartido
  - Carpool and Vanpool Loading Areas
    Áreas para abordar vehículos de viaje compartido

Gateway Cities Council of Governments
Sustainable Communities Strategy
SB 375

Transportation Demand Management (TDM)/*Manejo de Demanda Para Transporte*









Proposed Strategies
Estrategias Propuestas

- Safe Routes to School
  Rutas seguras para caminar a la escuela
- Parking Structures
  Estacionamiento
- Bike Initiatives
  Iniciativas para transitar en bicicleta
  - Bike Stations
    Estacionamiento para bicicletas
  - Bike Safety and Awareness
    Conocimiento y seguridad sobre andar en bicicleta
  - Bike Friendly Districts
    Distritos orientados hacia bicicleta
  - Bike Racks
    Porta bicicletas

Gateway Cities Council of Governments
Sustainable Communities Strategy
SB 375

Frequently Asked Questions

1. What is SB 375?

SB 375 is California state legislation that became law effective January 1, 2009. It prompts California regions to work together to reduce greenhouse gas (GHG) emissions from cars and light trucks. This new law requires the integration of planning processes for transportation, land-use and housing. The plans emerging from this process will lead to more efficient communities that provide residents with alternatives to driving alone.

2. What is the Gateway Cities COG?

The Gateway Cities COG is a joint powers authority compose of city and county governments in southeastern Los Angeles County"The COG provides regional leadership and focuses on priorities such as reducing traffic congestion, improving air quality, addressing housing needs, and strengthening the economy"

3. Will this affect my utility bills?

The Sustainable Communities Strategy (SCS) seeks to reduce greenhouse gas emissions from cars and light trucks through concentrated planning efforts. It is not related to home energy usage.

4. Will there be rebates for home improvements?

SB 375 is not related to home energy usage.

5. Will this make my community more "dense"?

It could increase densities consistent with a City's Land Use Element of their General Plan. These plans are sensitive to the history and character of the existing community"

6. What if our community does not meet the Southern California Association of Governments (SCAG) targets?

The Gateway Cities SCS by itself is not required to meet the SCAG targets. SCAG, as the metropolitan planning organization (MPO), is required to demonstrate how the region will meet the greenhouse gas emission targets by including a "Sustainable Communities Strategy" (SCS) in the regional transportation plan. If the regional SCS falls short of meeting the targets, SCAG must prepare an "alternative planning strategy" that, if implemented, would meet the targets. The Gateway Cities, together or individually, are not required to prepare an alternative planning strategy"

7. How does my business fit into this strategy?

Cities can include strategies to incentivize businesses and employees to participate.

Preguntas Frecuentes

1. ¿Qué es la Ley SB 375?

La Ley SB 375, es parte de la legislación estatal de California que se entro en vigor partir del 1º. de enero del 2009. Esta ley indica las regiones que deben de trabajar en conjunto para reducir las emisiones de gases con efecto invernadero (GHG) emitidas por autos y camiones de carga ligera. Esta nueva ley requiere la integración de procesos de planeación para transporte, uso de suelo y vivienda. Estos planes son el resultado de procesos que llevarán a las comunidades a ser más eficientes y a proveer a los residentes de alternativas para los que manejan solos en sus autos.

2. ¿Qué es el COG de las Ciudades Gateway?

El COG de las Ciudades Gateway es un conjunto de poderes de autoridades que se compone de ciudades y gobiernos del condado en el suroeste del Condado de Los Angeles. El COG provee liderazgo regional y se enfoca en prioridades tales como la reducción del congestionamiento de tránsito, mejorar la calidad del aire, atender las necesidades de vivienda y fortalecer la economía.

3. ¿Afectará el costo de los servicios públicos?

La Estrategia para Comunidades Sustentables (SCS) busca reducir la emisión de gases con efecto invernadero generados por autos y camiones de carga ligera por medio de esfuerzos conjuntos de planeación. No tiene nada que ver con el uso de energía en casa.

4. ¿Habrá reembolsos para mejoras en el hogar?

La SB 375 no tiene nada que ver con el uso de energía en casa.

5. ¿Qué es lo que hace a mi comunidad más "densa"?

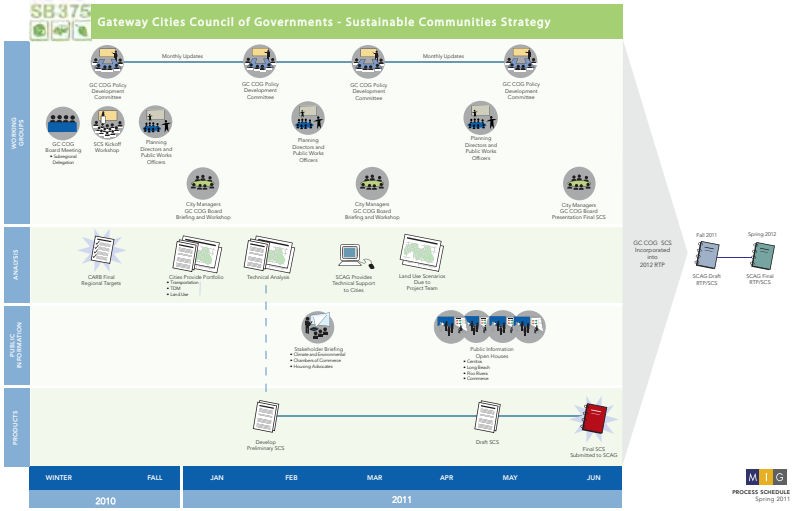
Las estrategias de la SCS que están relacionadas con la vivienda o el desarrollo urbano, reflejan lo que ya se ha desarrollado en las comunidades de manera individual. Estas estrategias son sensibles a los antecedentes históricos y al carácter de la comunidad ya existente.

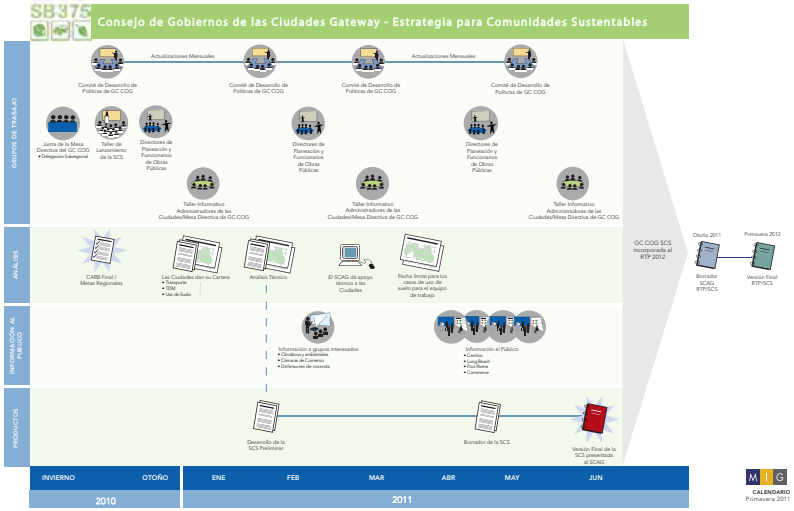
6. ¿Qué pasa si nuestra comunidad no cumple con las metas de La Asociación de Gobiernos del Sur de California (SCAG)?

La SCS de las Ciudades Gateway no está obligada por si misma a cumplir con las metas del SCAG. El SCAG como organismo de planeación metropolitano (MPO) está obligado a demostrar cómo la región cumplirá con las metas para la reducción de emisión de gases con efecto invernadero al incluír la "Estrategia para Comunidades Sustentables" (SCS) en el plan regional de transporte. Si la SCS regional se queda corta para alcanzar las metas, el SCAG deberá preparar una "estrategia de planeación alternativa" que al implementarse, deberá cumplir con las metas establecidas. Las Ciudades Gateway, en conjunto o de manera individual, no están obligadas a preparar una estrategia de planeación alternativa.

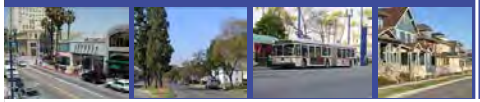
7. ¿Cómo encaja mi negocio en esta estrategia?

Las ciudades pueden incluír estrategias para motivar a que los comercios y sus empleados participen.


SB 375
Gateway Cities Council of Governments - Sustainable Communities Strategy
WORKING GROUPS
ANALYSIS
PUBLIC INFORMATION
PRODUCTS
Monthly Updates
Monthly Updates
GC COG Policy Development Committee
GC COG Board Meeting
SCS Kickoff Workshop
Planning Directors and Public Works Officers
City Managers GC COG Board Briefing and Workshop
CARB Final Regional Targets
Cities Provide Portfolio
Technical Analysis
SCAG Provides Technical Support to Cities
Land Use Scenarios Due to Project Team
Stakeholder Briefing
Public Information Open Houses
Develop Preliminary SCS
Draft SCS
Final SCS Submitted to SCAG
GC COG SCS Incorporated into 2012 RTP
Fall 2011
Spring 2012
SCAG Draft RTP/SCS
SCAG Final RTP/SCS
WINTER
FALL
JAN
FEB
MAR
APR
MAY
JUN
2010
2011
PROCESS SCHEDULE
Spring 2011


SB 375
Consejo de Gobiernos de las Ciudades Gateway - Estrategia para Comunidades Sustentables
GRUPOS DE TRABAJO
ANÁLISIS
INFORMACIÓN AL PÚBLICO
PRODUCTOS
Actualizaciones Mensuales
Actualizaciones Mensuales
Comité de Desarrollo de Políticas de GC COG
Junta de la Mesa Directiva del GC COG
Taller de Lanzamiento de la SCS
Directores de Planeación y Funcionarios de Obras Públicas
Taller Informativo Administradores de las Ciudades/Mesa Directiva de GC COG
CARB Final / Metas Regionales
Las Ciudades dan su Cartera
Análisis Técnico
El SCAG dá apoyo técnico a las Ciudades
Fecha límite para los casos de uso de suelo para el equipo de trabajo
Información a grupos interesados
Información al Público
Desarrollo de la SCS Preliminar
Borrador de la SCS
Versión Final de la SCS presentada al SCAG
GC COG SCS incorporada al RTP 2012
Otoño 2011
Primavera 2012
Borrador SCAG RTP/SCS
Versión Final RTP/SCS
INVIERNO
OTOÑO
ENE
FEB
MAR
ABR
MAY
JUN
2010
2011
CALENDARIO
Primavera 2011

Gateway Cities COG SCS Overview



SB 375

GATEWAY CITIES

Spring 2011
Public Information
Open Houses

Background

Senate Bill 375 - Overview

- *Legislation passed in 2008*
- *Aims at reducing greenhouse gas emissions (GHG) from cars and light trucks*
- *Includes mechanism for California Air Resources Board (CARB) to set GHG reduction targets for 2020 and 2035 to 1990 levels*

Background

Senate Bill 375 - Approach

- *Metropolitan Planning Organizations (MPOs) produce Sustainable Communities Strategy (SCS) as part of the Regional Transportation Plan (RTP)*
- *The Southern California Association of Governments (SCAG) - MPO for Southern California - will update its RTP by 2012*

Background

Senate Bill 375 - Sustainable Communities Strategy (SCS)

- *Is a regional GHG plan that links transportation, housing and land use to reduce GHG emissions from cars and light trucks*
- *Achieves GHG reduction targets set by the California Air Resources Board*

Gateway Cities Sub-regional SCS

Gateway Cities Process

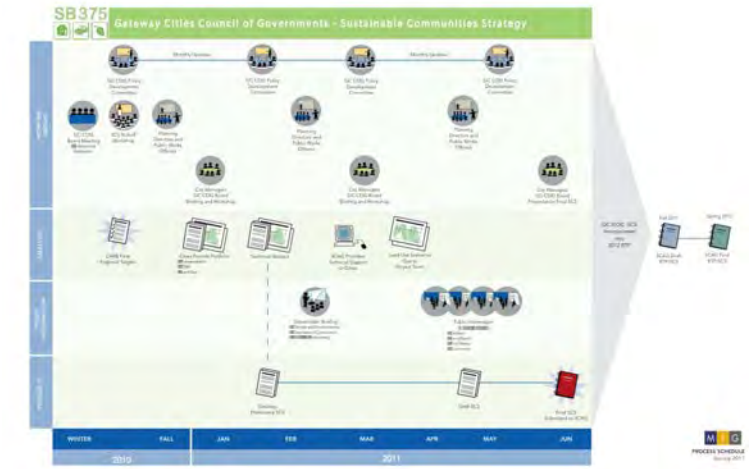
- *Council of Governments (COG) have option to prepare SCS for sub-region*
  - *Gateway Cities COG provides regional leadership for southeast Los Angeles County cities*
- *Gateway Cities COG Board chose SCS delegation in January 2010*
- ***First effort of its type!***

Gateway Cities Sub-regional SCS

Gateway Cities Approach

- *Focus on three strategy categories for GHG Reduction*
  - *Travel Demand Management*
  - *Land Use*
  - *Transportation projects*
- *Work with city staff to provide inputs*
- *Develop strategies consistent with cities' plans*

Process Schedule



Findings

Preliminary results indicate GHG reductions in Gateway sub-region meet the CARB regional targets

- *Strategies contributing to reductions*
  - *Local transportation projects*
  - *Local land use projects*
  - *Travel Demand Management*
  - *Regional transportation projects*

Lessons Learned

Some strategies result in greater reductions than others

- *Regional transportation projects*
- *Local transportation projects*

- *Need to refine tools and models*
- *These lessons will assist in future 4-year planning cycles*

Public Engagement

- *Attend Public Information Open Houses*
  - *Cerritos*
  - *Long Beach*
  - *Pico Rivera*
  - *Commerce*
- *Attend Gateway Cities COG Board meeting*
  - *May – Draft SCS*
  - *June – Final SCS*

Next Steps

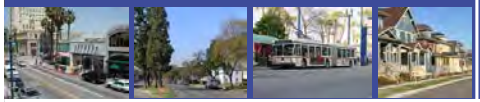
- *Final Gateway Cities SCS approval by Gateway Cities COG Board - June, 2011*
- *Submit Final Gateway Cities SCS to SCAG - June, 2011*
- *SCAG Incorporates Gateway Cities SCS into regional SCS and RTP - Summer 2011*
- *SCAG completes draft Regional SCS - Fall 2011*
- *SCAG submits final Regional SCS to CARB - Spring 2012*

For additional information please visit the COG website at:

GATEWAY CITIES

www.gatewaycog.org/sb375.html

COG SCS CIUDADES GATEWAY GENERALIDADES



Primavera 2011
Difusión Social
Juntas Informativas

Antecedentes

Ley del Senado 375 - Generalidades

- *Se aprobó la legislación en 2008*
- *Trata de reducir la emisión de gases con efecto invernadero (GHG) producidos por autos y camiones de carga ligera*
- *Incluye mecanismos de la Junta de Recursos Atmosféricos de California (CARB) para establecer metas para la reducción de GHG en el 2020 y 2035 a los niveles de 1990*

Antecedentes

Ley del Senado 375 - Enfoque

- *Las Organizaciones Metropolitanas de Planeación (MPOs) diseñaron la Estrategia para Comunidades Sustentables (SCS) como parte del Plan Regional de Transporte (RTP)*
- *La Asociación de Gobiernos del Sur de California (SCAG)-MPO para el Sur de California, actualizará su RTP para el 2012*

Antecedentes

Ley del Senado 375 – Estrategia para Comunidades Sustentables (SCS)

- *Es un plan regional de GHG que relaciona el transporte, la vivienda y el uso de suelo para la reducción en la emisión de GHG producidos por autos y camiones de carga ligera*
- *Alcanza las metas de reducción de GHG establecidos por la Junta de Recursos Atmosféricos de California*

La SCS Subregional, Ciudades Gateway

Proceso de las Ciudades Gateway

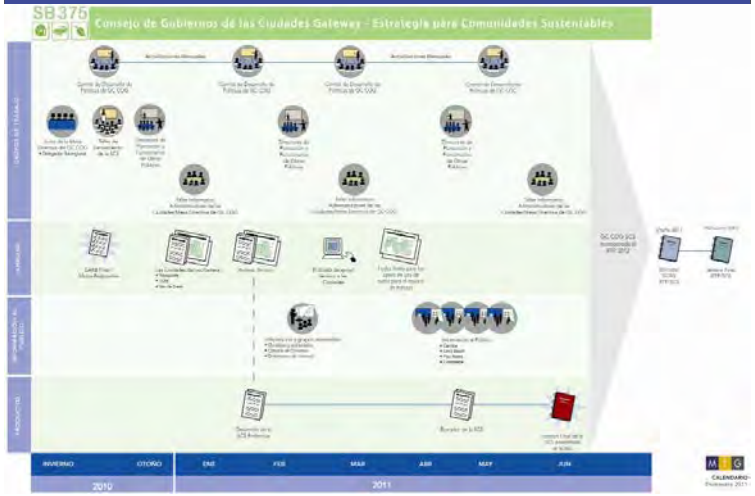
- *El Consejo de Gobiernos (COG) tiene la opción de preparar la SCS para la sub-región*
  - *El COG de las Ciudades Gateway provee liderazgo regional para las ciudades del sureste del Condado de Los Angeles*
- *La Mesa Directiva del COG de las Ciudades Gateway optó por la delegar la SCS en enero del 2010*
- ***¡Son los primeros trabajos de este tipo!***

La SCS Subregional, Ciudades Gateway

Enfoque de las Ciudades Gateway

- *Enfoque en tres categorias para estrategias de reducción de GHG*
  - *Gestión para la Demanda del Transporte*
  - *Uso de Suelo*
  - *Proyectos para transporte*
- *Trabajar con el personal de la ciudad para la retroalimentación de información*
- *Desarrollar estrategias que sean consistentes con los planes de la ciudad*

Calendario del Proceso



Resultados

Los resultados preliminares indican que la reducción de GHG en la sub-región Gateway, cumplirá con las metas regionales establecidas por CARB

- *Estrategias que contribuyen a la reducción*
  - *Proyectos locales para el transporte*
  - *Proyectos locales para uso de suelo*
  - *Gestión de la demanda de transporte*
  - *Proyectos regionales de transporte*

Lecciones Aprendidas

Algunas estrategias resultan en una mayor reducción que otras

- *Proyectos regionales de transporte*
- *Proyectos locales de transporte*

- *Se necesita afinar los modelos y herramientas*
- *Estas lecciones ayudarán a futuro en los ciclos de planeación de 4 años*

Participación Pública

- *Asistir a las Juntas Informativas Abiertas al Público*
  - *Cerritos*
  - *Long Beach*
  - *Pico Rivera*
  - *Commerce*
- *Asistir a las Juntas de la Mesa Directiva del COG de las Ciudades Gateway*
  - *Mayo – Borrador de la SCS*
  - *Junio – Versión Final de la SCS*

Pasos a seguir

- *Aprobación de la versión final de la SCS de las Ciudades Gateway por la Mesa Directiva del COG de las Ciudades Gateway - Junio 2011*
- *Presentación de la versión final de la SCS de las Ciudades Gateway al SCAG Junio 2011*
- *El SCAG incorpora la SCS de las Ciudades Gateway en la SCS regional y el RTP - Verano 2011*
- *El SCAG finalizará el borrador de la SCS regional Otoño 2011*
- *El SCAG presenta la versión final de la SCS regional a la CARB – Primavera 2012*

Para obtener información adicional por favor visite el sitio Web de COG en:

GATEWAY CITIES

www.gatewaycog.org/sb375.html

Appendix D.

List of Transportation Improvement Projects in the Gateway Cities

Gateway Cities Submitted Roadway Capacity Projects

City	Project Name	Project Description	Location	Length of Project (miles)	Facility Type	Area Type	No. of Lanes (Pre-Project)	No. of Lanes (Post-Project)	ADT (weekday)	ADT (18.4% growth in VMT)
Bell Gardens	Eastern Avenue Widening	The Street was widened by 5 feet to create better flow of traffic	Eastern Avenue from Muller to Florence	1.5	Primary Arterial	Urban	4	6	14,351	16,992
Commerce	Washington Blvd Reconsttuction	Reconstruct pavement in concrete, add 1 lane, traffic signals, landscape & hardscape improvements, ADA ramps, RxR crossing, street lights, etc.	Washington Blvd from I-5 Fwy to westerly City limit (west of Arrowmill)	2	Primary Arterial	CBD	2	3	26,788	31,717
Downey	LAKEWOOD BLVD IMPROVEMENT - Phase 2	Minor widening to provide three continuous travel lanes, additional turn lanes, wider lanes and larger turning radii to decrease congestion and accommodate truck traffic. Rehab pavement, construct curb, gutter, and sidewalk, block wall(s), center landscaped medians, street and ornamental pedestrian lighting systems. Upgrade to traffic signal at Gardendale St and Lakewood Bl.	On Lakewood Bl between Dalen Street and Gardendale Street	0.44	Primary Arterial	Urban	2	3	26,233	31,060
Downey	PARAMOUNT MEDIAN	Construction of raised medians, installation of landscaping and irrigation system, construction of stamped concrete paving, installation of accent tree lighting fixtures, and replacement of traffic striping and pavement markings. Added to this contract was the installation of a midblock traffic signal in front of Fire Station No. 3.	On Paramount Bl between Florence Avenue and Lubec Street	0.27	Primary Arterial	Urban	2	2	35,332	41,833
Downey	LAKEWOOD BLVD IMPROVEMENTS PHASE 3	Minor widening to provide three 12-foot travel lanes, minor widening of intersections, traffic signal system upgrades, drainage improvements, reduction of cross-slopes, pavement removal and resurfacing, construction of curb, gutter and sidewalk, raised medians with landscaping, parkways with landscaping, install pedestrian and street lighting system.	On Lakewood Bl from Florence Ave to Telegraph Road	1.01	Primary Arterial	Urban	2	3	45,921	54,370
Downey	LAKEWOOD BLVD IMPR PHASE 3A 5TH TO FLORENCE	Minor widening to provide three 12-foot travel lanes, center LS medians, installation of decorative street lighting, construction of a recycled water main, resurfacing of existing asphalt concrete, and repair of miscellaneous concrete.	On Lakewood Bl between Fifth St and Florence Ave	0.64	Primary Arterial	Urban	2	3	20,101	23,800
Downey	IMPERIAL LANDSCAPED MEDIAN	Construction of raised LS medians, sidewalk, curb ramps, street trees, solar-powered irrigation systems, striping and signage modifications. Construct new midblock traffic signal at school at La Reina Ave, upgrade to the traffic signal at the intersection of Imperial Highway at Downey Avenue.	On Imperial Hwy between Paramount Bl and Bellflower Bl	1.9	Primary Arterial	Urban	3	3	29,512	34,942
Downey	IMPERIAL MEDIAN, SAFETY & REHAB IMPROV PH 2	Minor widening to provide 11-foot travel lanes, minor widening at intersections, construction of new raised landscaped median islands, rehabilitation of the existing pavement, reclaimed water irrigation system, traffic signal improvements and modifications, sound walls, sidewalk, curb ramps, and signing and striping modifications.	On Imperial Hwy between Old River School Rd and Paramount Bl and between Bellflower Bl and Woodruff Avenue	1.44	Primary Arterial	Urban	3	3	29,602	35,048

Gateway Cities Submitted Roadway Capacity Projects

City	Project Name	Project Description	Location	Length of Project (miles)	Facility Type	Area Type	No. of Lanes (Pre-Project)	No. of Lanes (Post-Project)	ADT (weekday)	ADT (18.4% growth in VMT)
Downey	LAKEWOOD BLVD IMPR FROM IMP HWY TO S & G	Constructing AC pavement; resurfacing with a variable AC overlay; cold planning; curb and gutter, driveway approach; curb ramps and sidewalk; local depressions and cross gutters; curb opening catch basins; masonry walls; reclaimed water main and potable water improvements; traffic signal upgrades, ornamental street and pedestrian lights, irrigation and landscaping; and traffic striping.	On Lakewood Bl from Imperial Hwy to Stewart & Gray Rd	0.9	Primary Arterial	Urban	2	3	23,112	27,364
Downey	TELEGRAPH RD TRFIC THRPUT & SFTY ENHCMTS PHS 1	Construction of raised landscaped median islands	On Telegraph Rd between the Passons Bl and E City Limit	0.5	Primary Arterial	Urban	2	3	48,039	56,879
La Mirada	Additional Lane on Artesia	Restriping to add an additional lane	Artesia from Knott and Valley View	1	Primary Arterial	Urban	2	3	17,355	20,548
Long Beach	Spring Street Transporation Improvement Project	Roadway geometrics were modified to convert a 4 lane highway into a six lane highway.	Spring Street between Cherry Avenue and Redondo Avenue		Primary Arterial	Urban	4	6	21,890	25,918
Long Beach	Lakewood Boulevard Transporation Improvement Project	Parking was removed and roadway geometrics were modified to convert this regional highway from 4 lanes to 6 lanes. Traffic signals were modernized to facilitate traffic flow.	Lakewood Boulevard between Willow Street and PCH.		Primary Arterial	Urban	4	6	14,711	17,418
Long Beach	PCH & Cherry	Cities of Long Beach & Signal Hill are working collectively to acquire property to widen Cherry Avenue to add a second travel lane in Long Beach from the Signal Hill boarder to south of PCH.	Cherry Avenue between 19th Street and 15th Street		Primary Arterial	Urban	3.5	4.5	12,142	14,376
Norwalk	Firestone Bridge	Extend 3rd WB lane.	Firestone Bridge over SG River	0.5	Primary Arterial	Urban	2	3	61,490	72,804
Signal Hill	786 Cherry Ave	Additional lanes	19th St to PCH	0.04	Primary Arterial	Urban	2	4	17,882	21,172
Signal Hill	800 Crescent Heights Street Improvement	Reconstruction of Crescent Street	Cherry Ave to Gardena	0.1	Secondary	Urban	2	4	8,899	10,536
Signal Hill	California Avenue	Reconstruction	Patterson St to Willow Avenue	0.1	Secondary	Urban	2	2	8,899	10,536
South Gate	424-ST Kauffman and Dorothy Ave Street Widenings	Removal of existing improvement and widening on Kauffman Ave and Dorothy Ave and construction and landscaping of median island in Firestone Blvd	Kauffman and Dorothy Avenues between Firestone Blvd and Southern Ave	0.4	Secondary	Urban	2	2	7,811	9,249
South Gate	409-ST Willow Place Widening	Removal of existing improvement and widening on Willow place	Willow Pl between Santa Fe Ave and Long Beach Blvd	0.3	Secondary	Urban	2	2	7,811	9,249
South Gate	I-710/Rio Hondo Bridge Widening Project	Widen both sides of Firestone Boulevard Bridge over the Rio Hondo channel to provide a seven-lane structure, three through lanes in each direction with a median/turning lane.	Firestone Boulevard over Rio Hondo Channel	0.2	Primary Arterial	Urban	2	3	42,018	49,749
South Gate	I-710/Firestone Blvd Interchange	This project involves widening south side of the Firestone Boulevard Bridge over the Los Angles River to provide three through lanes in each direction with a center raised median from Rayo Ave to I-710 freeway.	Firestone Boulevard over LA River	0.2	Primary Arterial	Urban	2	3	58,662	69,455
Vernon	26th Street - Widening & Storm Drain	Widen 26th Street, added new C&G, shoulder, and middle lane. Installation of storm drain system. New Traffic Signal System Installation.	Project extended from 2500 feet west of Indiana to west of Atlantic Boulevard. New traffic signal on 26th Street at Bonnie Beach Place ("T" Intersection)	2.1	Secondary	Urban	2	2.5	7,811	9,249

Gateway Cities Submitted Roadway Capacity Projects

City	Project Name	Project Description	Location	Length of Project (miles)	Facility Type	Area Type	No. of Lanes (Pre-Project)	No. of Lanes (Post-Project)	ADT (weekday)	ADT (18.4% growth in VMT)
Vernon	Atlantic Blvd. Bridge over the LA River	The City of Vernon proposes to widen Atlantic Blvd. bridge over the Los Angeles River. Project will enhance the safety and operational use of Atlantic Blvd. bridge over the Los Angeles River and improve the intersection performance at District Blvd. The project involves widening Atlantic Blvd. for approximately 1,300 linear feet to provide traffic shoulders, standard sidewalks and extending the right-turn lane over to the Atlantic Blvd. Bridge. The proposed roadway configuration includes six 11-foot through traffic lanes, one northbound 11-foot right turn lane, 4-foot minimum shoulders, 5' sidewalks, and a center median. The adjacent intersection of Atlantic Blvd. and District Blvd. will be reconfigured and the traffic timing optimized.	Project limits are from Atlantic Blvd. north of the Los Angeles River to 800 feet south of the intersection with District Blvd. The proposed project is located approximately 0.25 miles (mi) southwest of the Long Beach Freeway (1-710) in the City of Vernon.		Primary Arterial	Urban	6	6.5	57,528	68,114

Gateway Cities Submitted Intersection Improvements - New Signal

City	Project Name	Project Description	Location	Area Type	Facility Type -	Total Number	Facility Type -	Total Number of	ADT - Street 1	ADT - Street 2	Peak Hour Volume - Street	Peak Hour Volume - Street	Proposed Intersecti	Peak Hour
Artesia	Norwalk Blvd/186th St	Replace obsolete signal controllers; install new traffic signal, improve vehicle detection to reduce traffic congestion	Norwalk Blvd/186th St	Suburban	Primary	4.5	Primary	4	12618	325	1262	33	60	50
Bell Gardens	Signal at Fire Station 39	New Signal was installed at the Fire Station 39 to facilitate movement of Fire Trucks in and out of Station as as well as to be used by Pedestrian to cross Garfield from City Hall to Post Office and DMV across the Street	Garfield Avenue at Fire Station 39	Suburban	Primary	4.5	Secondary	1	24396	7645	2440	765	90	50
Cerritos	Beach Street @ Carmenita Avenue, Project No. 75072	New traffic signal	Beach Street and Carmenita Avenue	Suburban	Secondary	2.5	Primary	5	7645	18076	765	1808	60	50
Cerritos	Dumont Avenue @ Artesia Boulevard, Project No. 45071	New traffic signal	Dumont Avenue and Artesia Boulevard	Suburban	Primary	4.5	Secondary	1	20620	7645	2062	765	60	50
Commerce	Garfield @ Slauson	Reconstruct intersection in concrete, new traffic signal, enhance turning radius, ADA ramps, concrete repair (sidewalk, curb & gutter), etc.	Garfield & Slauson	Suburban	Primary	5	Primary	6	34173	21065	3417	2107	90	50
Commerce	Telegraph @ Slauson	Reconstruct intersection in concrete, new traffic signal, enhance turning radius, ADA ramps, concrete reparis (sidewalk, curb & gutter).	Telegraph & Slauson	Urban	Primary	6	Primary	6	41635	44326	4163	4433	90	50
Downey	WOODRUFF/VIA AMORITA TRAFFIC SIGNAL	Installation of a new vehicle and pedestrian-actuated traffic signal, video detection, countdown pedestrian signals, provide fiber optic communication to the intersection to enable remote traffic management and surveillance	Woodruff Ave, Via Amorita	Suburban	Primary	2	Secondary	1	7297	7645	730	765	60	50
Downey	FLORENCE AVE / ARRINGTON AVE TRAFFIC SIGNAL	The installation of traffic signals at the intersection of Florence Avenue and Arrington Avenue, modifications to the traffic signals at the intersection of Florence Avenue and Lakewood Boulevard, and the purchasing of equipment required for the application of thermoplastic pavement markings to be installed.	Florence Ave, Lakewood Bl, Arrington Ave	Urban	Primary	7	Secondary	2	47055	7645	4706	765	60	50
Downey	IMPERIAL Improvements, La Reina Ave	Construct new midblock traffic signal at school at La Reina Ave	At Imperial Hwy and La Reina Ave	Suburban	Primary	7	Secondary	1	25863	16036	2586	1604	60	50
Long Beach	Walnut Avenue Transportation Enhancement Project	Reconfigure two separate intersections into a single intersection and provide new signalized pedestrian crossings at a location that serves four grade schools and adults accessing LBCC.	Walnut Avenue & Alamitos/20th Street	Suburban	Primary	2	Secondary	2	13615	7645	1362	765	60	50

Gateway Cities Submitted Intersection Improvements - New Signal

City	Project Name	Project Description	Location	Area Type	Facility Type -	Total Number	Facility Type -	Total Number of	ADT - Street 1	ADT - Street 2	Peak Hour Volume - Street	Peak Hour Volume - Street	Proposed Intersecti	Peak Hour
Long Beach	LCD Traffic Enhancement Project	Reconfigure the LCD (LOS COYOTES DIAGONAL) & Studebaker Road/Parkcrest intersection into two separate intersections to improve traffic opeations and capacity while improving access to a new high school currently underconstruction. Project also includes reconfiguration of the lanes and traffic signal operations at LCD & Carson Street to address peak period congestion issues.	LCD (LOS COYOTES DIAGONAL) between Studebaker & Carson Street	Suburban	Primary	4.5	Primary	6	27215	16292	2721	1629	60	50
Long Beach	Del Amo & Locust Intersec	Signalize intersection to provide improved neighborhood connectivity and access to transit and park facilities	Del Amo Boulevard & Locust Avenue	Suburban	Primary	7	Secondary	2	37129	7645	3713	765	60	50
Long Beach	Park Avenue & Anahiem	Installation of a new traffic signal to adress access and traffic congestion related to Wilson High School and events at Recreation Park.	Park Avenue & Anahiem Street	Suburban	Primary	2.5	Primary	5	25546	19562	2555	1956	60	50
Long Beach	2nd Street & Pomona Ave	Construction of a new traffic signal to facilitate traffic flow during the peak period while also providing a new signalized pedestrian crossing in a dense retail shopping center.	2nd Street & Pomona Avenue	CBD	Primary	4.5	Secondary	1	25546	7645	2555	765	60	50
Maywood	Slauson @ Loma Vista	Traffic Signal	Slauson @ Loma Vista	urban	Primary	5	Secondary	2	30740	2673	3074	267	60	50
Norwalk	Project 7209	New traffic signal	Rosecrans Avenue/Greenstone Avenue	urban	Primary	5.5	Secondary	2	49351	7645	4935	765	120	50
Norwalk	Project 7219	New traffic signal	Shoemaker Avenue/Excelsior Drive	urban	Primary	4	Secondary	2.5	16933	5050	1693	505	90	50
Norwalk	Project 7214	New traffic signal	Norwalk Boulevard/Cheshire Street	Urban	Primary	4	Secondary	2	14662	7645	1466	765	90	50
Norwalk	Project 7215	New traffic signal	Imperial Highway/Fairford Avenue	Urban	Primary	6.5	Secondary	2	56291	7645	5629	765	90	50
Norwalk	Project 7211	New traffic signal	Firestone Boulevard/Paddison Avenue	Urban	Primary	4.5	Secondary	2	28621	7645	2862	765	90	50
Paramount	Downey and Madison	Installation of new traffic signal		Urban	Primary	4.5	Secondary	2	15572	7645	1557	765	60	50
Paramount	Orange and Jackson	Installation of new traffic signal		Urban	Primary	4.5	Secondary	2	11804	619	1180	62	60	50
Paramount	Somerset and El Camino	Installation of new traffic signal		Urban	Primary	4.5	Secondary	2	15979	7645	1598	765	60	50
Paramount	Garfield and Peterson	Installation of new traffic signal		Urban	Primary	4.5	Secondary	2	35255	7645	3526	765	60	50
Paramount	Garfield and Howery	Installation of new traffic signal		Urban	Primary	4.5	Secondary	2	17623	7645	1762	765	60	50
Paramount	Garfield and Exeter	Installation of new traffic signal		Urban	Primary	4.5	Secondary	2	22934	7645	2293	765	60	50
Pico Rivera	Beverly Boulevard Median Rehabilitaon Project	Installation of new signalized intersection	Beverly Boulevard and Sandoval Avenue/Pico Park	Urban	Primary	6.5	Secondary	2	65675	7645	6568	765	120	50

Gateway Cities Submitted Intersection Improvements - New Signal

City	Project Name	Project Description	Location	Area Type	Facility Type -	Total Number	Facility Type -	Total Number of	ADT - Street 1	ADT - Street 2	Peak Hour Volume - Street	Peak Hour Volume - Street	Proposed Intersecti	Peak Hour
Pico Rivera	Traffic Signal Plan	Installation of new signalized intersection	Washington Boulevard and Loch Alene Avenue	Urban	Primary	6.5	Secondary	2	14409	535	1441	54	120	50
Pico Rivera	Traffic Signal Plan	Installation of new signalized intersection	Rosemead Boulevard and L.A. Fitness Driveway	Urban	Primary	5	Secondary	2	28976	11721	2898	1172	120	50
SantaFe Springs	Traffic signal; Norwalk at Mora/Heritatge Springs Drive	Installation of new traffic signal. Installation of right turn only pocket for NB traffic	Norwalk Blvd. & Mora Dr.	Suburban	Primary	4.5	Secondary	2	19236	14289	1924	1429	60	50
SantaFe Springs	Traffic signal; Bloomfield at Heritage Springs Dr. East	Installation of new traffic signal. Installation of right turn only pocket for SB traffic.	Bloomfield & Heritage Springs Dr. East	Suburban	Primary	4.5	Secondary	2.5	16159	7645	1616	765	60	50
SantaFe Springs	Traffic Signal; Florence at Laurel (LA County)	Installation of new traffic signal at intersection of Florence at Laurel	Florence Ave. & Laurel Ave.	Urban	Primary	4.5	Secondary	2.5	31564	7645	3156	765	60	50
SantaFe Springs	Traffic Signal Installation at Bloomfield at Corral	Installation of new traffic signal at intersection of Bloomfield at Corral	Bloomfield Ave. & Corral Pl.	Urban	Primary	4.5	Secondary	2	24544	7645	2454	765	60	50
SantaFe Springs	Traffic signal; Telegraph at Villages Dr.	Installation of new traffic signal. Installation of right turn only pocket for EB traffic	Telegraph Rd. & Villages Drive, (new road between Bloomfield and Norwalk)	Urban	Primary	5.5	Primary	2	35845	7645	3584	765	60	50
Signal Hill	746 Traffic Signal Cherry & 20th Street	New traffic signal (no signal or stop sign currently)	Cherry Ave/ 20th St	Suburban	Primary	4.5	Secondary	2	17882	7645	1788	765	60	50
Signal Hill	Orizaba & PCH Traffic Signal	New traffic signal	Orizaba & PCH intersection	Urban	Secondary	2	Primary	6.5	7645	54215	765	5421	60	50
South Gate	357.TRF Traffic Signal at Tweedy & Alameda	Installation/modification of traffic signals, lighting, electrical systems, tree removals, and concrete curb and sidewalk work.	Tweedy Blvd, Alameda St	Urban	Primary	4.5	Primary	6.5	13258	30990	1326	3099	60	50
Vernon	New Traffic Signal 26th at Bonnie Beach Pl	Widen 26th Street, added new C&G, shoulder, and middle lane. Installation of storm drain system. New Traffic Signal System Installation.	Project extended from 2500 feet west of Indiana to west of Atlantic Boulevard. New traffic signal on 26th Street at Bonnie Beach Place ("T" intersection)	Suburban	Secondary	2.5	Secondary	2.5	7645	7645	765	765	60	50

Gateway Cities Submitted Intersection Improvements - New Signal

City	Project Name	Project Description	Location	Area Type	Facility Type -	Total Number	Facility Type -	Total Number of	ADT - Street 1	ADT - Street 2	Peak Hour Volume - Street	Peak Hour Volume - Street	Proposed Intersecti	Peak Hour
Whittier	Santa Gertrudes Avenue at Starbuck Street	Installation of new traffic signal	Santa Gertrudes Avenue and Starbuck Street	Suburban	Primary	4.5	Secondary	2.5	8703	7645	870	765	60	50
Whittier	Philadelphia Street at Whittier Greenway Trail/Gregory Avenue	Installation of new traffic signal	Philadelphia Street at Whittier Greenway Trail/Gregory Avenue	Urban	Primary	4	Secondary	2	4539	7645	454	765	60	50
Whittier	Pickering Avenue at Bailey Street	Installation of new traffic signal	Pickering Avenue at Bailey Street	Suburban	Secondary	2.5	Secondary	2	7645	7645	765	765	60	50
Whittier	Hadley Street at Whittier Avenue	Installation of new traffic signal	Hadley Street at Whittier Avenue	Urban	Primary	4.5	Primary	4.5	16832	5993	1683	599	60	50

Gateway Cities Submitted Intersection Improvements - New Phase

City	Project Name	Project Description	Location	Intersection Improvement Type	Type of Turn with New Phase	Proposed Intersection Signal Cycle Length (sec)	Number of lanes for which the movement is being enabled
Cerritos	Traffic Signal Modifications at 195th Street and Norwalk Boulevard, Project No. 75041	Added left turn phasing	195th Street and Norwalk Boulevard	Added left turn phasing	Left	120	4
Cerritos	Traffic Signal Modifications at Marquardt Avenue and Artesia Boulevard, Project No. 75042	Added left turn phasing	Marquardt Avenue and Artesia Boulevard	Added left turn phasing	Left	120	4
Cerritos	Traffic Signal Modifications at 195th Street and Pioneer Boulevard, Project No. 75044	Added left turn phasing	195th Street and Pioneer Boulevard	Added left turn phasing	Left	120	4
Cerritos	Traffic Signal Modifications at 195th Street and Studebaker Road, Project No. 75044	Added left turn phasing	195th Street and Studebaker Road	Added left turn phasing	Left	120	4
Downey	PARAMOUNT/GALLATIN T.S. UPGRADE	Traffic signal upgrades including E-W left-turn phasing, implementation of vehicle video detection system, signal communication system.	Paramount Bl. Gallatin Rd	Improved phasing for left or right turns only	Left	120	2
Downey	PARAMOUNT/TELEGRAPH T.S. UPGRADE	Traffic signal upgrades including E-W left-turn phasing, implementation of vehicle video detection system, signal communication system, emergency vehicle pre-emption system.	Paramount Bl, Telegraph Rd	Improved phasing for left or right turns only	Left	120	2
Downey	WOODRUFF / WASHBURN TRAFFIC SIGNAL	Upgrade of the existing traffic signal, including the installation of accessible audible pedestrian devices to accommodate the disabled	Woodruff Ave, Washburn Road	Improved phasing for left or right turns only	Left	90	4
Downey	IMPERIAL HWY/COLUMBIA WY TRAFFIC SIGNAL	Traffic signal upgrades, curb ramps.	Imperial Hwy, Columbia Way	Improved phasing for left or right turns only	Left	90	4
La Mirada	Alondra and Valley View Int. Improvement	Extend westbound left turn lane	Alondra and Valley View	Signal phasing improvement with LT lanes	Left	90	1
Long Beach	7th Street & Park Avenue	Reconfigure medians & add left-turn phasing	7th Street & Park Avenue		left	100	4
Long Beach	Carson Street & Woodruff Avenue Intersection Improvement Project	Modernize traffic signal control and provide improved left-turn phasing to improve safety and operations	Carson Street & Woodruff Avenue		left	100	4
Long Beach	Paramount & South Street Intersection Enhancement Project	Modernize traffic signal to provide left-turn phasing, countdown pedestrain indications, and improved lighting to address elevated accident rate and severe peak period congestion	Paramount Boulevard & South Street		left	100	4
Long Beach	Atlantic Avenue & Carson Street	Reconfigure travel lanes and install westbound left-turn arrows to improve safety and improve traffic operations	Atlantic Avenue & Carson Street		left	100	1
Long Beach	Spring Street & Woodruff Avenue Intersection Improvement Project	Modernize traffic signal to provide left-turn phasing in two directions and improved pedestrian crossings to address safety and congestion issues.	Spring Street & Woodruff Avenue		left	100	2

Gateway Cities Submitted Intersection Improvements - New Phase

City	Project Name	Project Description	Location	Intersection Improvement Type	Type of Turn with New Phase	Proposed Intersection Signal Cycle Length (sec)	Number of lanes for which the movement is being enabled
Long Beach	Willow Street & Woodruff Avenue Intersection Improvement Project	Modernize traffic signal to provide left-turn phasing and improved pedestrian crossings to address congestion issues at this intersection that provides access to and from the I-405 freeway ramps	Willow Street & Woodruff Avenue		left	100	4
Long Beach	Magnolia & Willow	Add Left-turn phasing to improve access to freeway and reduce congestion	Magnolia Avenue & Willow Street		left	100	4
Long Beach	Pine & Ocean Transporation Enhancement Project	Modernization of an existing traffic signal to provide adaptive control and left-turn phasing to address congestion arrising from brisk pedestrian and vehicle demand related to special events and other evening activity.	Pine Avenue & Ocean Boulevard		left	100	4
Long Beach	Studebaker & Willow Intersection Improvement	Project to modernize the traffic signal to provide left-turn phasing, countdown pedestrian indications, and modification of landscaped medians to address congestion issues and facilitate the safe and orderly movement of left-turn vehicles.	Studebaker Road & Willow Street.		left	100	4
Long Beach	Studebaker Road & Wardlow Road Intersection Improvement	Project to modernize the traffic signal to provide left-turn phasing, countdown pedestrian indications, and modification of landscaped medians to address congestion issues and facilitate the safe and orderly movement of left-turn vehicles.	Studebaker Road & Wardlow Road		left	100	4
Long Beach	PCH & Cherry	Caltrans modernized the traffic signal to provide adaptive control and left-turn phasing to address congestion issues.	PCH & Cherry Avenue		left	100	4
Long Beach	Bellflower Boulevard & Anahiem Road Traffic Signal Upgrade	The signalized intersection was modernized and left-turn phasing was installed to improve traffic operations, reduce congestion, and improve safety.	Bellflower Boulevard & Anaheim Road		Left	100	4
Paramount	Flower and Downey	N/S bound protective Left turn phasing			Left	90	2
Pico Rivera	Beverly Boulevard Rehabilitaion Project	Part of the improvements is the signal modification at Beverly Boulevard and Durfee Avenue	Beverly Boulevard and Durfee Avanue	Improved phasing for left or right turns only	Left	120	4
Signal Hill	Willow & Walnut Traffic Signal	Left-turn phasing traffic signal	Willow & Walnut intersection	New signal or signal phasing improvement impacting all approaches	Left	90	4
Signal Hill	Willow & Orange Traffic Signal	Left-turn phasing traffic signal	Orange and Willow intersection	New signal or signal phasing improvement impacting all approaches	Left	90	4
South Gate	343-TRF Traffic Signal Upgrade at Tweedy Blvd and Hildreth	Modify traffic signal and construct handicap access ramps	Tweedy Blvd, Hildreth Ave	New signal or signal phasing improvement impacting all approaches	Left	90	4

Gateway Cities Submitted Intersection Improvements - New Phase

City	Project Name	Project Description	Location	Intersection Improvement Type	Type of Turn with New Phase	Proposed Intersection Signal Cycle Length (sec)	Number of lanes for which the movement is being enabled
Whittier	Painter Avenue at Philadelphia Street	Traffic Signal Modification	Painter Avenue at Philadelphia Street	Improved phasing for left or right turns only	Left	90	4
Whittier	Lambert Road at Santa Gertrudes Avenue	Traffic Signal Modification	Lambert Road at Santa Gertrudes Avenue. Includes installation of median island to separate traffic on Santa Gertrudes Avenue at adjacent railroad grade crossing.	Improved phasing for left or right turns only	Left	90	4
Whittier	Lambert Road at Painter Avenue	Traffic Signal Modification	Lambert Road at Painter Avenue	Improved phasing for left or right turns only	Left	120	4
Whittier	Lambert Road at Mills Avenue	Traffic Signal Modification	Lambert Road at Mills Avenue. Joint juridictional project with Los Angeles County. City 25% share of project cost.	Improved phasing for left or right turns only	Left	120	4

Gateway Cities Submitted Intersection Improvements - Capacity

City	Project Name	Project Description	Location	Area Type	Facility Type - Street 1	Existing Number of Lanes - Street 1	Facility Type - Street 2	Existing Number of Lanes - Street 2	Total Lanes After Imp. - Street 1	Total Lanes After Imp. - Street 2	ADT Volume - Street 1	ADT Volume - Street 2	Peak Hour Volume - Street 1	Peak Hour Volume - Street 2	Intersection Existing Signal Cycle Length (sec)
Bell Gardens	Truck Impacted Intersection	The intersection is being re-constructed to provided exclusive Left Turn Pockets in the Noth and South Direction to alocate more time to the east/west direction to create better flow of traffic in that direction.	Florence Avenue and Jaboneria Street	Urban	Primary	6.5	Secondary	2	6.5	2.5	46593	6456	4659	646	120
Bell Gardens	Truck Impacted Intersection	The intersection is being re-constructed to provided exclusive Left Turn Pockets in the Noth and South Direction to alocate more time to the east/west direction to create better flow of traffic in that direction.	Florence Avenue and Ajax Street	Urban	Primary	6.5	Secondary	2	6.5	2.5	45777	7645	4578	765	120
Bellflower	Clark/Flower	Restriping to create left turn pockets for eastbound and westbound Flower Street at 3-phase (split phase) signalized intersection	Clark Avenue at Flower Street	Suburban	Secondary	4	Primary	4	4	4.5	16925	2150	1693	215	90
Downey	IMPERIAL Improvements, Downey Ave	upgrade to the traffic signal at the intersection of Imperial Highway at Downey Avenue.	At Imperial Hwy and Downey Ave	Urban							33095	45133	3309	4513	120
Downey	PARAMOUNT/FLORENCE TRUCK IMP INST	Intersection widening at NW and SE corners, installation of right-turn only lanes in N-S direction, signal modification, relocation of existing street lighting, construction of new curb ramps, incidental pavement striping, markings, and signage.	Paramount Bl, Florence Ave	Urban	Primary	4.5	Primary	6.5	5	6.5	20844	29546	2084	2955	120
Downey	LAKEWOOD/FIRESTONE INTERSECTION	Widening at SW corner, providing one thru and one right-turn only lane in east bound direction, installation of pedestrian safety lighting, decorative sw, bollards, curb ramp, asphalt paving, parkway and median trees and LS, irrigation system, potable water main, curb, gutter, striping and pavement markings.	Firestone Bl, Lakewood Bl	Urban		6	Primary	7	7.5	7	25863	16036	2586	1604	120
Downey	BELLFLOWER/IMPERIAL INTERSECTION IMP	Construction of double left-turn pockets in the northbound and southbound directions on Bellflower Boulevard and right-turn pockets in the southbound, eastbound and nortbbound directions, the reconstruction of all four curb returns to provide 50-foot radii, modification of the existing traffic signal and incidental utility relocations and lane restriping	Bellflower Bl, Imperial Hwy	Urban	Primary	4.5	Primary	6.5	5.5	7	15340	22851	1534	2285	120
Downey	PARAMOUNT BLVD AT FIRESTONE BLVD IMPRVMTS	Construction of a right-turn pocket in the eastbound direction, widening of all four curb returns to provide 50-foot radii, modification of the traffic signal, incidental utility relocations, curb ramps, sw, AC pavement, striping, and signage modifications	Paramount Bl, Firestone Bl	Urban	Primary	6	Primary	6.5	6	7	14202	38785	1420	3878	120
Lakewood	Carwood West	Add Right Turn Lane	Woodruff s/b @ Carson	Urban	Primary	6	Primary	6.5	6.5	6.5	20642	17238	2064	1724	120
Lakewood	Douglas Park	Add Right Turn Lane	Paramount n/b @ Carson	Urban	Primary	5	Primary	6.5	5.5	6.5	4652	33534	465	3353	120
Lakewood	Douglas Park	Add two Left turn Lanes	Cover s/b @ Cherry	Urban	Secondary	2	Primary	6.5	2.5	6.5	7645	27281	765	2728	90
Lakewood	Lakewood Collection	Add Left and right Turn Lanes	Clark @ Candlewood	Urban	Primary	4	Primary	4.5	5	4.5	10512	8846	1051	885	120
Lakewood	Lakewood Collection	Add Through only lane	Candlewood @ Lakewood	Urban	Primary	4	Primary	7.5	4.5	7.5	17138	27170	1714	2717	120
Lakewood	Lakewood Collection	Add through and right turn lanes	South St and Lakewood Blvd	Urban	Primary	4.5	Primary	6.5	6	6.5	16141	26320	1614	2632	120
Long Beach	Redondo & Anaheim Intersection Improvement	Widen Southbound Redondo Avenue to provide for right-turn lane.	Redondo & Anaheim	Urban	Primary	4	Primary	4.5	4.5	4.5	18148	28084	1815	2808	90
Long Beach	PCH & 2nd Street Improvement Project	Widen Southbound PCH to provide for 2nd left-turn lane and right-turn lane	PCH & 2nd Street	Urban	Primary	6	Primary	7	7.5	7	45505	47920	4551	4792	120
Long Beach	PCH & Atlantic Avenue Intersection Improvement	Widen Northbound Atlantic Avenue to provide for right-turn lane and traffic signal overlap phase	PCH & Atlantic Avenue	Urban	Primary	6.5	Primary	4.5	6.5	5	46648	8102	4665	810	120

Gateway Cities Submitted Intersection Improvements - Capacity

City	Project Name	Project Description	Location	Area Type	Facility Type - Street 1	Existing Number of Lanes - Street 1	Facility Type - Street 2	Existing Number of Lanes - Street 2	Total Lanes After Imp. - Street 1	Total Lanes After Imp. - Street 2	ADT Volume Street 1	ADT Volume Street 2	Peak Hour Volume - Street 1	Peak Hour Volume - Street 2	Intersection Existing Signal Cycle Length (sec)
Long Beach	Los Alamitos Traffic Circle Improvement Project	Cooperative Project with Caltrans to implement changes to the traffic characteristics of the facility to improve capacity and reduce accidents	PCH, Lakewood Boulevard, LCD	Urban	Primary		Primary				48154	11196	4815	1120	
Long Beach	2nd Street & Studebaker Intersection Improvement Project	Reconfigure intersection geometrics through the removal of a median to add a third westbound travel lane	2nd Street & Studebaker Road	Suburban	Primary	5.5	Primary	5.5	6.5	5.5	39559	29293	3956	2929	90
Long Beach	Wardlow Road & Cherry Avenue Intersection Improvement Project	Roadway geometrics were modified to provide a third southbound through lane and a northbound right-turn lane. Traffic signal was modernized to provide adaptive control to address varring traffic demands	Wardlow Road & Cherry Avenue	Urban	Primary	4.5	Primary	5.5	5.5	5.5	2431	28873	243	2887	90
Long Beach	Wardlow Road & Orange Avenue Intersection Improvement Project	Wardlow Road was widened to provide left-turn pockets and the trafic signal was modernized to provide left-turn phasing improving access to and from the freeway and airport industrial areas.	Wardlow Road & Orange Avenue	Urban	Primary	4	Primary	4.5	4.5	4.5	9792	17022	979	1702	90
Norwalk	McDonalds	Install a WB right turn only lane.	WB Imperial Highway at Norwalk Boulevard	Urban	Primary	6	Primary	7	6.5	7	56291	21959	5629	2196	120
Santa Fe Springs	RTO for WB Telegraph at 5FS Rd.	Installation of right turn only pocket for WB traffic at the intersection of Telegraph at Santa Fe Springs Rd	Telegraph Road & Santa Fe Springs Rd.	Suburban	Primary	6.5	Secondary	4.5	7	4.5	35845	13833	3584	1383	120
South Gate	305-ST Firestone Blvd and Garfield Ave Intersection Improvements	Widen the west side of Garfield Ave, install right turn lanes, construct PCC concrete pavement approaches on three legs, asphalt pavement, modification of medians, construction of catch basin and connector pipe, traffic signal modifications, street light relocations, ADA ramps, curb, gutter, sidewalk, and landscape restoration	Firestone Blvd, Garfield Ave	Urban	Primary	7.5	Primary	6	7.5	6.5	61950	39694	6195	3969	90
Vernon	Atlantic Blvd. And District Blvd Intersection Improvement	The City of Vernon proposes to widen Atlantic Blvd. bridge over the Los Angeles River. Project will enhance the safety and operational use of Atlantic Blvd. bridge over the Los Angeles River and improve the intersection performance at District Blvd. The project involves widening Atlantic Blvd. for approximately 1,300 linear feet to provide traffic shoulders, standard sidewalks and extending the right-turn lane over to the Atlantic Blvd. Bridge. The proposed roadway configuration includes six 11-foot through traffic lanes, one northbound 11-foot right turn lane, 4-foot minimum shoulders, 5' sidewalks, and a center median. The adjacent intersection of Atlantic Blvd. and District Blvd. will be reconfigured and the traffic timing optimized.	Project limits are from Atlantic Blvd. north of the Los Angeles River to 800 feet south of the intersection with District Blvd. The proposed project is located approximately 0.25 miles (mi) southwest of the Long Beach Freeway (I-710) in the City of Vernon.	Urban	Primary	6.5	Primary	4.5	7	4.5	50661	26266	5066	2627	120

Gateway Cities Submitted System Operations/ Signal Sync / ITS

City	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Total # of Lanes	# of Signalized Intersections Affected	ADT Volume	Peak hour Traffic Volume	Existing Peak Hour Travel Time	Existing Average Cycle Length (secs)
Artesia	Air Quality Management District	Traffic signal synchronization	South Street	0.9	5	6	8848	885	3.5	100
Bellflower	Artesia Blvd	Signal synch	City limit to City limit	2.6	5	8	10413	1,041	4.5	100
Bellflower	Alondra Blvd	Signal synch	City limit to City limit	2.3	4.5	9	15295	1,530	4.5	100
Bellflower	Bellflower Blvd	Signal synch	City limit to City limit	2.8	4.5	15	13727	1,373	6.0	100
Bellflower	Boeing project mitigation	Signal communication	Bellflower portion: Bellflower Blvd: SCL to 91 fwy	0.5	4.5	5	15922	1,592	1.5	100
Downey	PARAMOUNT BLVD F.O. SYSTEM, Phase I	Installation of fiber-optic conduit/cable along Paramount Bl, interconnection to existing signal comm network at Telegraph, traffic signal upgrades, vehicle video detection system	On Paramount Bl between Telegraph Rd and Lubec St	1.0	5.5	6	24577	2,458	3.3	120
Downey	FLORENCE AVENUE TRAFFIC SIGNAL COMM SYS	Installation of fiber-optic conduit/cable along the length of Florence Ave, interconnection to existing signal comm network at Lakewood Bl, traffic signal upgrades, vehicle video detection, incidental utility relocation, signage.	On Florence Ave between Old River School Rd and the E City Limit	3.2	7	13	26763	2,676	6.8	100
Downey	IMPERIAL HWY TRAFFIC SIGNAL COMM SYSTEM	Installation of fiber-optic conduit/cable along the length of Imperial Hwy, interconnection to existing signal comm network at Paramount Bl, Lakewood Bl, traffic signal upgrades, vehicle video detection, incidental utility relocation, signage.	On Imperial Hwy between Rives Ave and Woodruff Ave	2.5	7	10	17903	1,790	4.9	120
Downey	PARAMOUNT BLVD TRAFFIC IMP-FIRESTONE TO IMPERIAL	Installation of fiber-optic conduit/cable along Paramount Bl, traffic signal upgrades, coodinated timing along corridor, comm network modifications at TMC	On Paramount Bl between Firestone Bl and Imperial Hwy	1.5	5.5	6	8807	881	3.2	120
Downey	PARAMOUNT BLVD TRAFFIC IMP-FIRESTONE TO FLORENCE	Installation of fiber-optic conduit/cable along Paramount Bl, traffic signal upgrades, coodinated timing along corridor, comm network modifications at TMC	On Paramount Bl between Firestone Bl and Florence Ave	0.9	5.5	5	8224	822	1.8	120
Lakewood	ATCS Cherry Ave/Del Amo to Candlewood	LADOT's Adaptive Traffic Control System installed		0.5	6.5	2	15456	1,546	1.1	120
Lakewood	ATCS Lakewood Blvd/Del Amo to Ashworth	LADOT's Adaptive Traffic Control System installed		1.5	6.5	5	16105	1,610	3.0	100
Lakewood	ATCS Bellflower Blvd/Del Amo to Ashworth	LADOT's Adaptive Traffic Control System installed		1.5	6.5	4	11437	1,144	3.2	100
Lakewood	ATCS Carson St/Paramount to Lakewood Dr	LADOT's Adaptive Traffic Control System installed		1.0	7	5	21093	2,109	2.8	100
Lakewood	ATCS Carson St/San Gabriel River to Pioneer	LADOT's Adaptive Traffic Control System installed		0.7	7	4	31576	3,158	1.7	100
Lakewood	ATCS Del Amo/Cherry Ave to I-605	LADOT's Adaptive Traffic Control System installed		4.4	6.5	11	16495	1,650	9.7	120
LAPW	Alondra Blvd Traffic Signal Synchronization Project (TSSP)	Traffic Signal Syncronization improvements. Including Providing additional vehicle detection to enable operation of each signal as a fully traffic actuated signal, and installing the appropriate components to enable each signal to be capable of time-based coordination	Figueroa Street to La Mirada Bl	16.0	6	62	15295	1,530	29.1	100
LAPW	Pacific /Long Beach Blvd TSSP	Traffic Signal Syncronization improvements, additional vehicle detection, traffic actuated signals, and time-based coordination.	Florence Av to Greenleaf Blvd	15.0	4	30	18243	1,824	27.0	90

Gateway Cities Submitted System Operations/ Signal Sync / ITS										
City	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Total # of Lanes	# of Signalized Intersections Affected	ADT Volume	Peak hour Traffic Volume	Existing Peak Hour Travel Time	Existing Average Cycle Length (secs)
LAPW	Bellflower Blvd TSSP	See above.	Lakewood Bl to PCH	7.0	6	47	13727	1,373	25.3	90
LAPW	Eastern/Garfield/Cherry Av TSSP	See above.	Atlantic to PCH	15.0	4.5	61	13955	1,396	31.5	100
LAPW	Artesia Bl TSSP	See above.	Alameda St to Valley View Av	11.0	6	34	10413	1,041	25.2	100
LAPW	Central Av TSSP	See above.	El Segundo Bl to Victoria St	6.0	4.5	13	10720	1,072	14.0	100
LAPW	Gage Av TSSP	See above.	Central Av to Slauson Av	8.0	4.5	40	11074	1,107	18.0	100
LAPW	Whittier Av TSSP	See above.	Paramount Bl to Valley Home Av	9.0	4.5	34	21920	2,192	20.4	100
LAPW	Wilmington Av TSSP	See above.	Imperial Hwy to Sepulveda Bl	6.0	4.5	37	11782	1,178	20.1	100
LAPW	Carson St TSSP	See above.	Long Beach Bl to Bloomfield Av	7.3	6	28	17604	1,760	16.6	100
LAPW	Bandini/37th St St/8th St TSSP	See above.	Alameda St to Garfield Ave	6.0	6	17	13445	1,345	14.6	100
LAPW	Colima Rd/Lamirada Bl TSSP	See above.	Mar Vista Bl to Alondra Bl	5.5	6	19	17753	1,775	14.5	100
LAPW	Garfield Av	See above.	Olympic Bl to Eastern Av	4.5	5	19	20731	2,073	13.4	100
LAPW	Painter Av / Carmenita Rd TSSP	See above.	Hadley St to South St	9.0	4	30	12287	1,229	20.4	100
LAPW	Studebaker Rd TSSP	See above.	Florence Av to Del Amo Bl	6.0	4.5	25	12256	1,226	15.8	100
LAPW	Alameda St TSSP	See above.	Nadeau St to Auto Dr South	6.0	5	24	10425	1,043	21.2	100
LAPW	Woodruff Av TSSP	See above.	Firestone Av to Willow St	9.0	5	26	10117	1,012	21.4	100
LAPW	Leffingwell Rd TSSP	See above.	Imperial Hwy to Valley Home Av	4.5	5	14	16724	1,672	11.6	100
LAPW	Beverly Bl TSSP	See above.	Pomona Bl to Pickering Av	7.5	5	34	20847	2,085	18.3	100
LAPW	South St TSSP	See above.	Atlantic Bl to Studebaker Rd	5.0	5	13	9303	930	10.8	100
LAPW	Washington Bl TSSP	See above.	Atlantic Av to Whittier Bl	8.0	6	29	24287	2,429	22.8	100
LAPW	Lambert Rd TSSP	See above.	Washington Bl to Grayling Av	5.0	5	17	14445	1,444	11.8	100
LAPW	I-710/Atlantic Corridor ITS Project	See above.	Alameda St from Randolph Ave to Industry Wy	4.5	4.5	13	18971	1,897	10.3	100
LAPW	I-5/Telegraph Corridor ITS Project	Installation of fiber optic equipment and closed circuit television cameras, the modification of traffic signals, and the performance of other appurtenant work.	Telegraph Rd from Parmount Bl to Carmenita Rd; Carmenita Rd from Telegraph Rd to Imperial Hwy; Bloomfield Ave from Telegraph Rd to Emmens Wy; Emmens Wy from Bloomfield Ave to Santa Fe Springs Yard	4.6	7	20	48156	4,816	15.5	100

Gateway Cities Submitted System Operations/ Signal Sync / ITS										
City	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Total # of Lanes	# of Signalized Intersections Affected	ADT Volume	Peak hour Traffic Volume	Existing Peak Hour Travel Time	Existing Average Cycle Length (secs)
LAPW	I-105 Corridor ITS Project	See above.	Firestone Bl from Stewart & Gray Rd to Imperial Hwy; Imperial Hwy from Firestone Bl to Carmenita Rd; Imperial Hwy from Paramount Bl to Bellflower Bl.	1.6	6.5	7	73006	7,301	3.6	100
LAPW	I-5 ATMS Integration Project	See above.	Imperial Hwy from Carmenita Rd to Valley View Ave; Valley View Ave from Imperial Hwy to Rosecrans Ave	1.0	6.5	4	11782	1,178	2.5	100
Long Beach	Ocean Boulevard Transportation Enhancement Project	Interconnect and modernize traffic signals along Ocean Boulevard Corridor and add two new traffic signals to improve safety and traffic operations	Ocean Boulevard between Alamitos & Livingston/2nd Street	2.6	4	16	20069	2,007	7.2	100
Long Beach	Atlantic Avenue Transportation Enhancement Project	Interconnect and modernize traffic signals along Atlantic Avenue to improve operations and traffic safety	Atlantic Avenue between Ocean Boulevard & Wardlow Road	3.6	4	27	5593	559	9.0	100
Long Beach	Studebaker Road ATCS and Communicitions Enhancement Project	Construction of an eastside communications backbone to support trafic signal control and motorist information systems, conversion of traffic signal control from fixed time to adaptive control.	Studebaker Road between Spring Street and 2nd Street	3.6	4	12	13175	1,318	7.0	100
Long Beach	Bellflower Boulevard Traffic Signal Syncronization Project	Operational and timing improvements to traffic signals along the Bellflower corridor throughout the City.	Bellflower Boulevard between 7th Street & Del Amo Boulevard	5.0	6	20	349049	34,905	11.2	100
Long Beach	Artesia Boulevard Traffic Signal Syncronization Project	Operational and timing improvements to traffic signals along the Artesia Boulevard corridor throughout the City.	Artesia Boulevard between Long Beach Boulevard and Downey Road	3.0	4	11	9144	914	6.5	100
Long Beach	Wardlow Road Traffic Signal Syncronization Project	Operational and timing improvements to traffic signals along the Wardlow Road corridor in the western part of the City.	Wardlow Road between Santa Fe & the western City limit	0.5	4	3	18316	1,832	3.5	100
Long Beach	Atlantic Avenue Cooridor Improvement Project	Modernization of existing traffic signals, construction of a new traffic signal, installation of left-turn phasing, installation of medians to reduce/eliminate vehicle conflicts, along a retail corridor that is being renovated to improve safety and facilitate traffic movement	Atlantic Avenue between 55th Street & 61st Street	0.6	4	4	10162	1,016	2.0	100
Lynwood	Long Beach Blvd. Synchronization Project	Synchronization of 10 Traffic Signals in Lynwood. Part of the County's synchronization progam.	Long Beach Blvd. from south city limit to north city limit.	2.0	4	10	17534	1,753	4.0	100
Lynwood	Atlantic Avenue Synchronization Project	Synchronization of 10 Traffic Signals in Lynwood. Part of the County's synchronization program which includes the installation of KITS for the City.	Atlantic Avenue from south city limit to north city limit	3.0	4	10	14736	1,474	6.0	100
Norwalk	Project 7166	LA County TSSP	Alondra Boulevard	1.5	4	4	15295	1,530	3.2	100
Norwalk	Project 7155	LA County TSSP	Studebaker Road	3.5	4	14	12256	1,226	7.0	100
Norwalk	Project 7157	LA County TSSP	Firestone Boulevard	1.0	5	4	21307	2,131	4.6	100
SantaFe Springs	Painter-Carmenita Rd. Signal synchronization project (LA County)		Painter/Carmenita Road	3.8	5	16	12287	1,229	6.0	105
SantaFe Springs	I-5/Telegraph Rd. ITS Project (LA County)		I-5/Telegraph Road	3.0	5	13	25032	2,503	5.0	105
Signal Hill	673 Orange Ave Signal Upgrades	Replace traffic signals	32nd and 33rd Streets @ Orange Ave	0.1	2	2	5085	509	0.9	100
Signal Hill	Boeing ATCS	Synchronize traffic signals	Cherry Avenue corridor (Long Beach and Signal Hill)	1.4	7	7	15456	1,546	3.4	100

Gateway Cities Submitted System Operations/ Signal Sync / ITS

City	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Total # of Lanes	# of Signalized Intersections Affected	ADT Volume	Peak hour Traffic Volume	Existing Peak Hour Travel Time	Existing Average Cycle Length (secs)
Signal Hill	Orange Avenue Corridor Traffic Signal Synchronization	Synchronize traffic signals	Spring Street to Hill Street	1.0	3	5	4460	446	2.9	100
South Gate	355-ST Otis Street Rehabilitation	Remove and replace pavement, grind and overlay asphalt rubber hot mix, make sidewalk, curb, and gutter repairs, reconstruct new ADA ramps, convert street lighting to LED, install signal interconnect conduit between Firestone and Southern Ave, make traffic signal upgrades	Otis St from North City Limit to South City Limit	1.8	4	6	8602	860	4.2	100
South Gate	358-ST Atlantic Avenue Improvements	Roadway pavement rehabilitation with asphalt rubber hot mix, construction landscaped median island , sidewalk, curb, and gutter repairs, reconstruction of curb ramps to meet Americans with Disabilities Act standards, signal interconnect between Tweedy Boulevard and Michigan Avenue and traffic signal upgrades, and peripheral improvements	Atlantic Avenue from Firestone Boulevard to South City Limit	1.2	4.5	4	13718	1,372	2.6	100

Gateway Cities Submitted Railroad Grade Separation Projects

City	Project Name	Detailed Description	Detailed Location	Daily # of Trains Using Corridor	Average Gate Down Time (mins)	ADT	Avg Vehicle RR Xing Speed	Posted Speed Limit (after project)
Downey	Firestone Bl at Old River School Rd Grade Separation Study	Either an undercrossing or overcrossing of the RR with roadway, yet to be determined.	Firestone Bl at Old River School Rd and Burris Ave	50	3.6	61490	25	40
Pico Rivera	Passons Grade Separation Project	Construction of a grade separtion at Passons Boulevard	Passons Boulevard at Rivera Road	50	3.6	48039	25	25
La Mirada	Valley View Ave to go under BNSF lines at Stage Road	Valley View Ave to go under BNSF lines at Stage Road	Valley View Ave and Stage Road	50	3.6	25000	25	45

Gateway Cities Submitted Non-motorized Transportation Improvements (Bicycle/Pedestrian)

Location	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Bike, Ped or Bike + Ped?	Within 2 mi of University or College?	Access to Transit?	Access to Rail Transit?	# of Activity Centers within 1/2 mi of project	# of Activity Centers within 1/4 mi of project
Artesia	American Recovery and Re-investment Act	Landscaped median, sidewalk/handicapped ramp improvements,street pavement reconstruction with recycled rubberized asphalt	South Street	0.5	Bike + Ped	N	Y		<3	<3
Artesia	Safe Routes to School Program (State 5th Cycle)	Landscape Norwalk Blvd frontage road and install sidewalk for students walking to school	Norwalk Blvd	0.1	Bike + Ped	N	Y	N	<3	<3
Bellflower	West Branch Greenway Multi-modal Transportation Corridor aka Bellflower Bike Trail	Class 1 bike and ped path	Former PE ROW Lakewood Blvd. to Caruthers Park	2.4	Bike + Ped	Y	Y	N	>6	>6
Downey	PEDESTRIAN IMPROVEMENTS-FY05/06/07 (Blodgett)	Construct new sw, wc ramps.	On Blodgett Ave from Alameda St to Mory St; On Mory St from Blodgett Ave to Lakewood Bl; on Donovan St between Birchdale Avenue and Lakewood Bl; 8500 block of Orange St; 7700 block of Arnett St; 7700 block of Phlox St	0.9	Ped Only	N	N	N	<3	<3
Downey	3RD STREET SIDEWALKS-NEW TO LA REINA	Construct tree wells, PCC, install parkway trees	On Second, Third, and Fourth St from New St to La Reina Ave; on New St and La Reina Ave from Firestone Bl to Fourth St	0.62	Ped Only	N	Y	N	4-6	3
Downey	SAFE ROUTE TO SCHOOL-OLD RIVER SCHOOL RD	Construct new sw, wc ramps, modify traffic signal at Old River School Rd at Stewart & Gray Rd, remove exist SCE street lighting	On Old River School Rd from Laura St to Florence Ave	1.7	Ped Only	N	Y	N	4-6	3

Gateway Cities Submitted Non-motorized Transportation Improvements (Bicycle/Pedestrian)

Location	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Bike, Ped or Bike + Ped?	Within 2 mi of University or College?	Access to Transit?	Access to Rail Transit?	# of Activity Centers within 1/2 mi of project	# of Activity Centers within 1/4 mi of project
La Mirada	Beach Blvd Bike Path	Path along flood control channel	Hillsborough Dr to Imperial highway	0.5	Bike Only	Y	Y	N	>6	>6
Lakewood	Douglas Park	Add Class I Bike Path	north side of Cover from Paramount 0.25 mile east to City Limit		Bike Only	Y	Y	N	>6	>6
Lakewood	Safe Routes to School	Pedestrian improvements constructed to facilitate routes.	16 schools - 275 miles of safe routes		Ped Only	N	Y	N	>6	>6
Lakewood	Douglas Park Bike Path	Bike-Ped	north side of Cover from Paramount 0.25 mile east to City Limit							
Long Beach	9th Street Pedestrian Enhancement Project	Signalize two intersections and provide an all-way stop at a third to provide improved connectivity for pedestrians and cyclists traveling along 9th Street to access schools, medical facilities, park facilities, and shopping.	9th Street between Pacific Avenue and Long Beach Boulevard							
Long Beach	Linberg Middle School Transporation Enhancement Project	Upgrade of school zone traffic controls including the installation of a new pedestrian traffic signal to provide enhanced access to the campus	Market Street & Lewis Avenue							
Long Beach	Market Street Transporation Enhancement Project	Reconfigure the roadway to provide improved pedestrian facilities (widen sidewalks, enhanced pedestrian crossings) and access to key destinations (post office, transit stops, fire station, schools, shopping) for pedestrians, cylists, and motorists.	Market Street between Long Beach Boulevard and Atlantic Avenue							

Gateway Cities Submitted Non-motorized Transportation Improvements (Bicycle/Pedestrian)

Location	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Bike, Ped or Bike + Ped?	Within 2 mi of University or College?	Access to Transit?	Access to Rail Transit?	# of Activity Centers within 1/2 mi of project	# of Activity Centers within 1/4 mi of project
Long Beach	4th Street & Lime Avenue	Construction of a new traffic signal to address traffic congestion and pedestrian access issues to schools and transit stops	4th Street & Lime Avenue							
Long Beach	Santa Fe Avenue & 20th Street	Installation of a new traffic signal to provide primary access to Cabrillo High School, Admiral Kidd Park, and transit stops	Santa Fe Avenue & 20th Street							
Long Beach	Orange Avenue Transportation Improvement Project	Traffic Calming project to narrow the roadway via striping to reduce vehicle speeds along this residential collector street and to add a traffic signal midway to improve neighborhood connectivity and access to transit stops.	Orange Avenue between Wardlow Road & Bixby Road							
Long Beach	Long Beach Boulevard & 51st Street	Installation of a new traffic signal at a newly constructed elementry school to provide a signalized pedestrian crossing to connect the campus to the residential areas it serves.	Long Beach Boulevard & 51st Street							
Long Beach	Walnut Avenue & 4th Street Intersection Improvement	Modernize the traffic signal to provide enhanced pedestrian access to bus stops and relocation of signal and electrical equipment to improve pedestrian access to bus stops.	Walnut Avenue & 4th Street							

Gateway Cities Submitted Non-motorized Transportation Improvements (Bicycle/Pedestrian)

Location	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Bike, Ped or Bike + Ped?	Within 2 mi of University or College?	Access to Transit?	Access to Rail Transit?	# of Activity Centers within 1/2 mi of project	# of Activity Centers within 1/4 mi of project
Long Beach	3rd Street & Lime Avenue Intersection Improvement	Construction of a new traffic signal in downtown to improve pedestrain access to a nearby grocery market, schools, and transit stops.	3rd Street & Lime Avenue							
Long Beach	Belmont Shore Green Lane and Sharrows	Installed green painted bike lanes with sharrows on 2nd Street in Belmont Shore along with modified "Share the Road" signs. The results include a 29% increase in bicycle usage, about 400 more cyclists over the 3-day count period, about the same as the increase in the number of cyclists riding on the green lane.	2nd Street in Belmont Shore, between Livingston Dr. and Bay Shore Ave.	0		N			>6	>6
Long Beach	Bicycle Boxes	Installed bike boxes on the left-hand turn lane to safely guide cyclists into the green shared lanes when heavy traffic makes merging from the striped bike lane to the shared lane more challenging.	Marina to 2nd Street and 2nd Street at Bayshore Avenue							
Long Beach	Bicycle Lanes to California State University, Long Beach	Implemented Class II bicycle lanes as a safe passage for cyclists to travel to the campus from nearby housing or from longer distances with a connection to the regional San Gabriel River bike path.	East and West streets adjacent to the campus on Atherton Street and on 7th Street.			Y				
Long Beach	Naples Road Diet	Replaced one automobile lane with a Class II bicycle lane.	Eastbound on 2nd Street between Bayshore Bridge and Marina Drive	1.02		Y			>6	>6

Gateway Cities Submitted Non-motorized Transportation Improvements (Bicycle/Pedestrian)

Location	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Bike, Ped or Bike + Ped?	Within 2 mi of University or College?	Access to Transit?	Access to Rail Transit?	# of Activity Centers within 1/2 mi of project	# of Activity Centers within 1/4 mi of project
Long Beach	Willow Street Pedestrian Improvement	This project provides pedestrian-oriented improvements to Willow St including medians, pedestrian lighting, landscaping, signage and crosswalk treatments.	Willow Street from Los Angeles River to Atlantic Avenue.	1.2		Y			>6	>6
Long Beach	I-710 Improvements	Funded by the SAFETEA-LU Demo Project, the project improves bicycle, pedestrian, and streetscape on major thoroughfares.	On Broadway, 3rd Street, 6th Street, and 7th Street from Shoreline Drive to Alamitos.			Y				
Long Beach	Pacific Electric Right-of-Way	Funded by the MTA, the project improves bikeway and pedestrian access along a former railroad right-of-way.	The Pacific Electric ROW in Long Beach (South of Willow Street and North of 4th Street)							

Gateway Cities Submitted Non-motorized Transportation Improvements (Bicycle/Pedestrian)

Location	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Bike, Ped or Bike + Ped?	Within 2 mi of University or College?	Access to Transit?	Access to Rail Transit?	# of Activity Centers within 1/2 mi of project	# of Activity Centers within 1/4 mi of project
Long Beach	South Waterfront Bike Path Connection	The South Waterfront Bike Path Connection (SWBPC) project is the construction of a new Class I bike path segment that closes an existing gap in the area. The project will include a mid-block crossing and wayfinding. The SWBPC links two primary segments of an existing pathway system in the south waterfront area to one of Downtown Long Beach's primary pedestrian and bikeway networks. This proposed path closes a vital gap between the existing Class I path across Queensway Bridge and the existing Class I bike and pedestrian path along the south waterfront, connecting the Greater Downtown with the hotels and commercial centers located across the harbor. This proposed bike path creates a safe and much needed segment that connects two existing systems and provides what will be both an alternate	The proposed South Waterfront Bike Path starts at the north end of the Queensway Bridge at the existing terminus of the Class I path. The proposed alignment follows the north side of Queensway Drive within the City right-of-way as a Class I bike path to the Special Events Park existing Class I path. Total proposed bike path ditance in miles: 0.3.	0.3		N			4-6	3

Gateway Cities Submitted Non-motorized Transportation Improvements (Bicycle/Pedestrian)

Location	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Bike, Ped or Bike + Ped?	Within 2 mi of University or College?	Access to Transit?	Access to Rail Transit?	# of Activity Centers within 1/2 mi of project	# of Activity Centers within 1/4 mi of project
Long Beach	3rd Separated Bikeway	Dedicated bike lanes on Broadway and 3rd in downtown Long Beach will encourage residents, families, and visitors to participate in a more bike friendly downtown. Initially, the pilot will include a painted island to separate the bike lane. One traffic lane will be lost to preserve parking on both sides of the street.	3rd from Alamitos and Golden Avenue	1.16		Y			>6	>6
Long Beach	Broadway Separated Bikeway	See above	Broadway from Alamitos and Golden Avenue	1.15		Y			>6	>6
Long Beach	Third Street Street Bike Lanes	Bike lanes (Class II) along Third Street between Alamitos/Junipero and Bike lane on Third Street b/w Alamitos/Junipero	Third Street between Alamitos/Junipero	1		Y			>6	>6

Gateway Cities Submitted Non-motorized Transportation Improvements (Bicycle/Pedestrian)

Location	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Bike, Ped or Bike + Ped?	Within 2 mi of University or College?	Access to Transit?	Access to Rail Transit?	# of Activity Centers within 1/2 mi of project	# of Activity Centers within 1/4 mi of project
Long Beach	Vista Bike Boulevard	In an effort to provide sustainable transportation alternatives to the community, as well as a safe route to several neighborhood schools, the City of Long Beach is installing a "bike boulevard" on Vista Street, extending from Temple Avenue to Nieto Avenue. The bike boulevard on Vista Street will provide a safe route to school for students at Lowell Elementary and Rogers Middle School on the east, and Horace Mann Elementary on the west end of Vista Street. More broadly, the bike boulevard will provide a convenient, direct cycling option for families with young children, students, commuters, and recreational cyclists.	Vista Street, from Temple Ave to Nieto Ave	1.5		N			>6	>6
Long Beach	Daisy Street - Bike Boulevard	Bike boulevard will provide North-South Class III bicycle facility (running the length of the City- from downtown to 70th).	running the length of the City- from downtown to 70th	8.73		Y			>6	>6
Long Beach	Sixth Street - Bike Boulevard	Bike boulevard will provide East-West Class III bicycle facility (running from Junipero to Park).	6th St from Junipero to Park	1.53		Y			>6	>6

Gateway Cities Submitted Non-motorized Transportation Improvements (Bicycle/Pedestrian)

Location	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Bike, Ped or Bike + Ped?	Within 2 mi of University or College?	Access to Transit?	Access to Rail Transit?	# of Activity Centers within 1/2 mi of project	# of Activity Centers within 1/4 mi of project
Long Beach	Long Beach Blvd. Pedestrian Improvement Project	Project provides pedestrian-oriented improvements to Long Beach Boulevard including pedestrian lighting, street trees, and crosswalk treatments.	Long Beach Blvd b/t Willow Ave & I-405	0		Y			>6	>6
Long Beach	Atherton Street Enhancement Project	Rehabilitating the landscaped median to enhance the experience of over 37,000 pedestrians, bicyclists, transit users and autos daily.	Bellflower & Los Cerritos Channel							
Long Beach	Willow Street Pedestrian Improvement Project	This project provides pedestrian-oriented improvements to Willow St including medians, pedestrian lighting, landscaping, signage and crosswalk treatments.	Willow St B/t LA River & Atlantic							
Long Beach	San Gabriel River Bike Path Closure at Willow Street	Creation of off-street bicycle path to achieve bicycle route gap closure on Willow Street from the San Gabriel River Bike Path west to Studebaker Road	Willow St, at San Gabriel River & Studebaker	0		Y			<3	<3
Long Beach	Carson Street Bike Improvement Project	Add Bike Lanes on Carson Street between Atlantic & Long Beach Boulevard	Carson Street between Atlantic & Long Beach Boulevard	0		N			>6	>6
Long Beach	Atlantic Avenue Bike Lane Project	Provide new bike lanes connecting facilities on San Antonio and those on Del Amo	Atlantic Avenue north of Bixby Knolls	0		N			>6	>6
Long Beach	Harding Street Traffic Calming Project	Reconfigure roadway stripping to install bike lanes and new pedestrian crossings	Harding Street between Atlantic Avenue and Cherry Avenue	0		Y			>6	>6

Gateway Cities Submitted Non-motorized Transportation Improvements (Bicycle/Pedestrian)

Location	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Bike, Ped or Bike + Ped?	Within 2 mi of University or College?	Access to Transit?	Access to Rail Transit?	# of Activity Centers within 1/2 mi of project	# of Activity Centers within 1/4 mi of project
Lynwood	Abbott Road Improvement Project	Roadway improvement project that includes upgrading existing sidewalk and new sidewalk and curb ramp installation.	Abbott Road (Martin Luther King Jr. Blvd. to East City Limit)	1.46	Ped Only	N	Y	N	>6	>6
Lynwood	Sidewalk Improvement Project FY 09-10	Reconstructed damaged sidewalk and install new sidewalk.	Various locations City Wide (Major work Martin Luther King Jr Blvd. and Clark Avenue)	0.25	Ped Only	Y	Y	N	>6	>6
Lynwood	Annual Sidewalk Improvement Project FY 10-11	Reconstructed damaged sidewalk and install new sidewalk.	Various locations citywide.		Ped Only	N	Y	N	<3	<3

Gateway Cities Submitted Non-motorized Transportation Improvements (Bicycle/Pedestrian)

Location	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Bike, Ped or Bike + Ped?	Within 2 mi of University or College?	Access to Transit?	Access to Rail Transit?	# of Activity Centers within 1/2 mi of project	# of Activity Centers within 1/4 mi of project
Norwalk	Norwalk/Santa Fe SpringsTransportation Center-Metrolink Park and Ride - Pedestrian Plaza Upgrade	Upgrade of existing passenger amenities for the Pedestrian Plaza at the regional inter-modal Norwalk/Santa Fe Springs - Metrolink Transportation Center. The projec includes construction of a pedestrian plaza with pathways for bicycles and pedestrians, a passenger car pick-up/drop-off area to encourage access to the buses and trains as alternative modes of transportation, seating areas,security lighting, signage, electronic bus schedule information, decorative paving and landscaping. The project also includes widening of the approach into the Transportation Center and modifications to the entrance to improve access and visibility, as well as signage improvements to the transit center, bus layover areas and park and ride lot. The project is intended to improve pedestrian and vehicular	The project is located at the Norwalk-Santa Fe SpringsMetrolink Transportation Centerand Park and Ride at 12700 E.Imperial Highway, Norwalk, CA 90650. The transportation center serves all of Los Angeles, Orange and San Bernardino Counties. This project is totally enclosed within the Norwalk/Santa Fe Springs Transportation Center - Metrolink Park and Ride.	< 1	Bike + Ped	N	Y	Y	4-6	<3

Gateway Cities Submitted Non-motorized Transportation Improvements (Bicycle/Pedestrian)

Location	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Bike, Ped or Bike + Ped?	Within 2 mi of University or College?	Access to Transit?	Access to Rail Transit?	# of Activity Centers within 1/2 mi of project	# of Activity Centers within 1/4 mi of project
Pico Rivera	Safe Route to School Program	New sidewalk	Loch Alene Avenue Balfour Street, Catherne Street, Lidsey Avenue, Havenwood Drive, Kilgarry Aveneu, Lemoran Avenue, Reichling Lane, Coffman Pico Road, Crossway Drive, Shade Lane, Sideview Drive, Sunglow Street, Roma Street, Clarinda Avenue	2.5	Ped Only	N	Y	N	>6	>6
Pico Rivera	CDBG-R Sidewalk Curb and Gutter Improvemtents	Sidewalk Curb and Gutter Improvemtents	Loch Alene Avenue	0.25	Ped Only	N	Y	N	<3	<3
SantaFe Springs	Sorensen Avenue Sidewalk Improvements		Sorensen Avenue		Bike + Ped	N	Y	N	<3	<3
SantaFe Springs	New Bike Lanes and Bike Lockers	Bike lanes connecting Coyote Creek to Metrolink Transportation Center and to San Gabriel River Path; and Bike lockers (total of 20 bike lockers) at Metrolink station	Foster Rd. to Carmenita Rd. to Orden Dr. west, Leffingwell Rd. north, to Adler Dr. west, to Shoemaker Av. north, to Imperial Hwy. west, to Transit Center, then to Bloomfield Ave. north, to Los Nietos Rd. west, to the San	6	Bike Only	Y	Y	Y	>6	>6
Signal Hill	674 Coronado Sidewalk	new sidewalk	PCH and Coronado	0.02	Ped Only	Y	Y	N	>6	>6
Signal Hill	743 Illuminated Crosswalk 19th & Cherry	Crosswalk upgrade	19th St and Cherry Ave	0.01	Ped Only	Y	Y	N	>6	>6
Signal Hill	629 Willow Street ADA Improvements	ADA Ramps, new sidewalk	Willow Street, between California and Orange	0.1	Ped Only	Y	Y	N	>6	>6
Signal Hill	675 21st Street & Stanley Sidewalk	new sidewalk	Stanley and 21st Street	0.01	Ped Only	Y	N	N	<3	<3

Gateway Cities Submitted Non-motorized Transportation Improvements (Bicycle/Pedestrian)

Location	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Bike, Ped or Bike + Ped?	Within 2 mi of University or College?	Access to Transit?	Access to Rail Transit?	# of Activity Centers within 1/2 mi of project	# of Activity Centers within 1/4 mi of project
Signal Hill	602 ADA Access Improvements	Sidewalk improvements	Orange and Willow	0.01	Ped Only	Y	Y	N	>6	>6
Signal Hill	606 Las Brisas St Phase 2	Sidewalk improvements	California Ave Las Brisas area	0.02	Ped Only	Y	Y	N	>6	>6
Signal Hill	Crescent Heights Street Sidewalk Improvements	Sidewalk improvements	Gardena Street to Cherry Ave	0.01	Ped Only	Y	Y	N	>6	>6
Signal Hill	Citywide ADA Sidewalk Improvements	Sidewalk improvements	Citywide	1	Ped Only	Y	Y	N	>6	>6
Signal Hill	612 25th Street Improvement	Resurface street & construct sidewalks, ADA ramps, curb&gutter etc	Between Lewis and Orange Avenues	0.2	Bike + Ped					
South Gate	Safe Route to Schools Cycle 1	Construct a traffic signal, countdown pedestrian signals, flashing beacons/in-pavement crosswalk light, install speed awareness signs, and widen the sidewalk adjacent to a new school location	Pinehurst Ave between Tweedy and Southern	0.5	Ped Only	N	N	N	4-6	4-6
South Gate	Safe Route to Schools Cycle 2	Hold two educational community workshops to the benefits of walking/biking, hiring a coordinating consultant, developing site specific education materials, and conducting education and encouragement campaigns	Near 16 Primary schools within South gate		Ped Only	Y	Y	N	>6	>6

Gateway Cities Submitted Non-motorized Transportation Improvements (Bicycle/Pedestrian)

Location	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Bike, Ped or Bike + Ped?	Within 2 mi of University or College?	Access to Transit?	Access to Rail Transit?	# of Activity Centers within 1/2 mi of project	# of Activity Centers within 1/4 mi of project
South Gate	Safe Route to Schools Cycle 8	Construct 1.5 mi. Class I bike path along Southern Ave and 2000 ft. sidewalk along Tweedy Boulevard, install 98 ped heads, 17 driver speed awareness signs, 6 speed humps, 1 new flashing beacon/in-pavement light system	Various locations near 14 schools. Bike path on Southern Ave. between State St and Burke Ave; Sidewalk on Tweedy Blvd from Pinehurst Ave to Hildreth Ave	1.5	Bike + Ped	Y	Y	N	>6	>6
South Gate	Safe Route to Schools Cycle 9	Construct 1.2 miles of Class II bike lanes and 1,500 feet of raised center traffic calming medians with related encouragement activities	Alexander Ave between Firestone Blvd and Abbot Rd (bike lane); and Southern Ave between Vossler Ave and Pinehurst Ave (medians)	1.2	Bike + Ped	N	N	N	<3	<3
South Gate	Los Angeles River Trail Head Improvements	Make improvements on existing facilities at two locations along the Los Angeles River Bicycle Trail. At Hollydale Park existing restroom facilities and landscaping and at Southern Avenue improvements to the existing Los Angeles River Bicycle Trail entrance.	Los Angeles River Trail Heads located at Southern Ave (east end) and Hollydale Park.		Bike + Ped	N	N	N	<3	<3
Whittier	Whittier Greenway Trail	Class I Bike and Pedestrian trail	Along abandon UPRR ROW from Pioneer Blvd. to Mills Ave.	5.2	Bike + Ped	Y	Y	N	>6	>6

Gateway Cities Submitted Non-motorized Transportation Improvements (Bicycle/Pedestrian)

Location	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Bike, Ped or Bike + Ped?	Within 2 mi of University or College?	Access to Transit?	Access to Rail Transit?	# of Activity Centers within 1/2 mi of project	# of Activity Centers within 1/4 mi of project
Whittier	Pio Pico Bikeway Connection	Bikeway connection from San Gabriel River Bike Path to the Pio Pico State Histrocial Park	Adjacent to Whittier Boulevard from San Gabriel River Bike Path to Pio Pico State Historical Park	0.4	Bike + Ped	N	Y	N	<3	3
Whittier	Greenleaf Avenue Class II Bike Lanes	Installation of Class II Bike Lanes and Two-Way Left-Turn Lane. Road Diet from 4 lane to 2 lane.	La Cuarta Street to South of Mulberry Drive	1	Bike Only	Y	Y	N	>6	>6
Whittier	Pioneer Blvd. Class II Bike Lane	Installation of Class II Northbound Bike Lane and Southbound Sharrow Lane on Pioneer Blvd. from Whittier Greenway Trail to Beverly Blvd.	Pioneer Blvd. from Whittier Greenway Trail to Beverly Blvd.	0.38	Bike Only	N	Y	N	<3	<3
Whittier	Philadelphia Street Class II Bike Lanes	Installation of Class II Bike Lanes adjactent to Whittier College	Philadelphia Street from Painter Avenue to Bryn Mawr Way	0.25	Bike Only	Y	Y	N	>6	>6
Whittier	Beverly Boulevard Class II Bike Lanes	Installation of Class II Bike Lanes, Median Islands, Safety Lighting and Bus Shelters	Beverly Blvd. from 605 Freeway to Norwalk Blvd./Workman Mill Road.	0.59	Bike + Ped	N	Y	N	>6	>6
Whittier	Mills Avenue Sidewalks	Installation of Sidewalks and Wheelchair Access Ramps	Mills Avenue from Whittier Blvd. to Lambert Road	0.65	Ped Only	N	Y	N	4-6	3
Whittier	Laurel Avenue Bike Lanes	Installation of Class II Bike Lanes	Laurel Avenue from Whittier Blvd. to Carnell Street	0.2	Bike Only	Y	Y	N	>6	4-6
Compton	Safe Routes to School	Construction of pedestrian safety devices:lighted crosswalks and hardscape improvements in school vicinties	Longfellow Elementary (Reeve St at Central Av), Washington Elementary (Rosecrans Av at Kemp Av), Mayo Elementary (Chester Av at Rosecrans Av), and Roosevelt Middle (Alondra Bl at Sloan Av)		Bike + Ped	Y	N	N	4-6	>6

Gateway Cities Submitted Non-motorized Transportation Improvements (Bicycle/Pedestrian)

Location	Project Name	Detailed Description	Detailed Location	Length of Project (mi)	Bike, Ped or Bike + Ped?	Within 2 mi of University or College?	Access to Transit?	Access to Rail Transit?	# of Activity Centers within 1/2 mi of project	# of Activity Centers within 1/4 mi of project
Compton	Blue Line Enhancement	Along Artesia Station pathway various enhancements, including construction of medians, monuments, irrigation, walls, provision of landscaping, signage and striping	Artesia Boulevard and Acacia Avenue in vicinity of Artesia Blueline Station		Bike + Ped	Y	Y	Y	<3	4-6

Gateway Cities Submitted Park-and-Ride Lots

City	Project Name	Project Description	Location	Implementation Date	Estimated Cost	Funding Source	Total New Parking Spaces	Type of Transit Served	Average Auto Trip Length	Parking Lot Utilization	Average Auto Access Trip Length	Days of use/year
Bellflower	New Bellflower Town Center Transit Center	Planned Transit Center. Will provide bus layover; inter-operator bus connections; park'n'ride; bike'n'ride; shuttle service to/from Green Line; add'l rail in future per outcome of SCAG PE ROW Alternatives Analysis	16307 Bellflower Blvd	2011 - 2020	4000000	Actively applying for various grant funds	134	Transit Center	20	60%	5	250
Compton	Public Parking Structure	The structure will be approximately 192 feet x 300 feet in size. 4-level parking structure with 600 spaces	Adjacent to the MLK Transit Center, 301 N. Willowbrook Ave.	2011 - 2020	$12 million	Community Redevelopment Agency	600	Urban Rail	20	95%	5	250
Long Beach	Blue Line Park & Ride	Large parking structure (920 parking spaces) at the Metro Blue Line Willow Station.	Metro Blue Line Willow Station				920	Urban Rail	20	95%	5	250
Santa Fe Springs	Expansion of existing park and ride facility	Imperial Highway		2006 - 2010	896000	MTA	277	Commuter Rail	20	77%	5	250

Gateway Cities Submitted Other Projects that Were Not Analyzed

City	Project Name	Detailed Description	Detailed Location
Artesia	Economic Development Administration	Install landscaped median and traffic signal interconnect on Pioneer Boulevard to mitigate traffic congestion	Pioneer Boulevard
Artesia	Air Quality Management District/Prop C	Install master signal computer for traffic signal synchronization	City-Wide
Artesia	183rd/South St	Install signal interconnect system	183rd/South St
Bell Gardens	Signal at Fire Station 39	Existing Signal at Eastern and Village Center was upgraded to provide East/West split phases to enhance safety and better traffic flow.	Eastern and Village Center
Bellflower	Belmont Court	Land Use: Increased Density & Reduced Distance or Need for Travel/Belmont Village Overlay Zone (pending); 30-unit residential condo with 6,000 sqft of commercial (approved 10-25-10); Density - 50 units per acre	SE Corner of Belmont and Bellflower
Bellflower	Mixed Use Overlay Zone	Land Use: Increased Density & Reduced Distance or Need for Travel/Adjacency to completed Greenway Trail and potential Orange Line; Mixed Use Overlay Zone (pending); Study Sessions underway at Planning Commission	Intersection of Alondra and Bellflower and south on Bellflower to Greenway Trail
Bellflower	The Village	Land Use: Increased Density & Reduced Distance or Need for Travel/The Village; Completed July 2010; 20 units per acre	9815 Walnut
Cerritos	Cerritos College Bus Stop	The City of Cerritos/Redevelopment Agency constructed a new bus stop at Cerritos College to accommodate the new larger fixed route buses and the increased demand for the service. In spring 2009, there were 24,334 students enrolled at the college. These students have access to the COW bus stop on the south campus.	New Falcon Way and Studebaker Road
Commerce	Traffic Synchronization	Procurement and installation of new Traffic Signal Control System consistent with Gateway Cities Regional Traffic Signal Forum's Intelligent Transportation System.	All signalized location in City of Commerce
Compton	Traffic Signal Upgrade	Upgrading the traffic signal control system and installation of a Traffic Management and Operations Center	Citywide
Compton MLK Transit Center Expansion – Multi-Modal Transportation Building	The new Transit Center will include a 10,000 square foot building to house the Regional Traffic Management and Operations Center, Renaissance Bus Transit System, Dial-a-Ride Service, Dial-a-Taxi Service, Park and Ride, and Bus Lay-over Facilities.	301 North Willowbrook Avenue, Compton CA 90220-2430	.5 miles
Downey	MULLER/ORSR TRAFFIC SIGNAL	Construction of traffic signal opposite main entrance to City golf course and dining facility; removal of existing street lighting, construction of new curb ramps, incidental pavement striping, markings, and signage.	Old River School Road, Muller Street
Downey	BELLFLOWER/STEVE HORN WAY INTERSECTION	Traffic signal modifications, vehicle video detection system, construction of west approach to intersection, new stiping, signage, curb ramps	Bellflower Bl, Steve Horn Way
Downey	LAKEWOOD I-5 INTERSECTION (JPA)	I-5 interchange at Lakewood Bl	Lakewood Bl, Vista Del Rio Ave, Brookshire Ave, Vista Del Rosa St, Lindell Ave
Downey	LAKEWOOD AT COLUMBIA INTERSECTION IMP	Removal of existing center median island, landscaping and irrigation within the intersection; construction of AC pavement, new median nose and flare, replacement of existing overhead street lighting with new street and ped lighting, modification of traffic signal on Lakewood Boulevard at Downey Studios, installation of incidental pavement striping, markings and signage.	Lakewood Bl, Columbia Way
Downey	LAKEWOOD/IMPERIAL INTERSECTION	Minor widening, traffic signal modifications, installation of countdown ped heads, decorative crosswalks in pavement, bollards, curb ramps	Lakewood Bl, Imperial Hwy
Downey	LAKEWOOD/STEWART & GRAY INTERSECTION	Traffic signal modifications, decorative crosswalks in pavement, bollards, curb ramps	Lakewood Bl, Stewart & Gray Rd
Downey	LAKEWOOD/BELLFLOWER INTERSECTION	Minor widening, traffic signal modifications, curb ramps	Lakewood Bl, Bellflower Bl
Downey	BELLFLOWER/STEWART & GRAY INTER.	Installation of fiber-optic cable into existing conduits along both Bellflower Bl and Stewart & Gray Rd to connect to both the City's Water Yard and Public Works Yard with the City's communication network	Bellflower Bl, Stewart & Gray Rd
Downey	SIGNAL SYSTEM INTEGRATION	Initial construction of ethernet based communication network utilizing fiber optic cable to transmit real time data from field equipment back to central system in City Hall.	Firestone Corridor, from Ryerson Ave to Stewart & Gray Rd
Downey	CENTRALIZED TRAFFIC MANG'T CENTER	Construction of Traffic Management Center in City Hall, video wall software acquisition and licensure	Citywide
Downey	T.S. CONTROL SYSTEM	Implementation of i2 Traffic Signal Management System software, acceptance testing, training, maintenance Contract	Citywide
Downey	CITYWIDE TRAFFIC SIGNAL COMM SYSTEM EXP	Upgrade to County regional communcation (video distribution) system, new servers and software, interfaced with City system and field equipment (CCTV network), training	Citywide

Gateway Cities Submitted Other Projects that Were Not Analyzed			
City	Project Name	Detailed Description	Detailed Location
Downey	DOWNEY ADVANCED TRAFFIC CONTROL SYSTEM	Upgrade to County regional Information Exchange Network (IEN), new server and software, interfaced with City i2 software and traffic signal management system, interfacing with field equipment (controllers, switches, video cameras), training	Citywide
La Mirada	La Mirada Signal Sync	Signal Syncronization	Rosecrans Ave, La Mirada Blvd, Imperial highway, Telegraph rd
Lakewood	Housing Element	increase maximum residential density from 27 du/acre to 30 du/acre	Citywide (multi-family zones)
Lakewood	ATCS	Adaptive Traffic Control System installed on Five (5) Corridors in Lakewood. LADOT is the system installed.	
Lakewood	Bus PAX Shelters	18 Passenger Bus Shelters added with solar lighting, benches and litter receptacles at various transit stops.	Various transit stops.
Long Beach	I-405 & Orange Avenue	Reconfigure off-ramp and signalize to improve safety and capacity	I-405 & Orange Avenue
Long Beach	I-405 & Cherry Avenue	Reconfigure on-ramp to improve safety and capacity	I-405 & Cherry Avenue
Long Beach	Anaheim Street & Oregon Avenue	Reconfigure southbound intersection approach to reduce conflicts and modernize traffic signal to improve peak traffic flow.	Anahiem Street & Oregon Avenue
Long Beach	Millikan High School Transporation Improvement Project	Modernize a traffic signal to address ADA issues, traffic congestion, and an ackward intersection jog, thereby improving traffic operations and safety for residents and students.	Spring Street & Snowden Avenue
Long Beach	Pacific Avenue & Spring Street Intersection Enhancement Project	Intersection provides primary access across Blue Line tracks, to an adjacent park, and nearby hospital. Improvements include pedestrian countdown signals, lighting improvements, and adaptive control elements to address varrying traffic and emergency vheicle demands while providing traffic calming elements off peak.	Pacific Avenue & Spring Street
Long Beach	Orange Avenue/Alamitos Avenue Traffic Improvement Project	Reconfigured a schewed roadway alignment to eliminate conflicts, concentrate pedestrian movements, and provide traffic signal control.	Alamitos Avenue between 17th Street & 15th Street
Long Beach	Virgina Village Transportation Enhancement Project	Construct median, install two new traffic signals, convert cross streets to one-way to reduce conflicting traffic movements, enhance capacity, and improve safety	Long Beach Boulevard between Del Amo Boulevard and 55th Street
Long Beach	Wardlow Road Transportation Improvement Project	Complete gaps in sidewalks and modernize traffic signals to facilitate peak period traffic flow and safety	Wardlow Road between Cherry Avenue & Long Beach Boulevard
Long Beach	Atherton Transportation Improvement Project	Modernize one traffic signal to provide left-turn phasing and adaptive control and install a new traffic signal to improve access for vehciles and pedestrians to improve traffic opeations between freeway connections and CSULB.	Atherton Street between Studebaker Road & Bellflower Boulevard
Long Beach	Iron Triangle Transporation Improvement Project	Project to provide grade separation of a number of traffic movements at the primary access point between freeways and the southeast area of the City	7th Street, Bellflower, & PCH triangle of intersections.
Long Beach	Shoreline Adpative Traffic Signal Project	Implement an Adaptive Traffic Signal Control system, including CCTV, CMS, and other motorist information systems in downtown Long Beach to address peak period congestion and special events.	Downtown Long Beach
Long Beach	Long Beach Traffic Management Center	Construction of a new regional TMC to operate traffic signals and motorist information systems for the Cities of Long Beach, Lakewood, Signal Hill, Bellflower, Hawaiian Gardens, and some State owned traffic signals/facilities	Long Beach City Hall
Long Beach	Douglas Park ATCS Expansion Project	Expansion of the recently completed 160 traffic signal Long Beach TLSP project to include approximately 120 additonal traffic signals into the new system	8 Square Mile area comprising multiple jursdictions in the area bounded by I-405, I-605, CA-91, I-710
Long Beach	Orange Avenue Transportation Improvement Project	A project to reduce conflicts and traffic operations adjacent to a new grocery market and fire station underconstruction. Project involves a number of improvements to an existing traffic signal and the installation of a new traffic signal.	Orange Avenue between CA-91 and Artesia Boulevard
Lynwood	Imperial Hwy and Martin Luther King Blvd. Intersection Improvement Project	Truck impacted instersection. County project to widen curb returns, PCC intersection, traffic signal improvements and sidewalk improvements.	Imperial Hwy and Martin Luther King Jr, Blvd.
Lynwood	Long Beach Blvd Improvement Project	Street improvement project including realignment and improve intersection geometry of Long Beach Blvd., State Street and Tenaya Avenue.	Long Beach Blvd., State Street and Tenaya Avenue.
maywood	Slauson @ Atlantic	Intersection widening and concrete lanes	Slauson @ Atlantic
Multiple		install wireless communications for traffic signal system	City of South Gate, Lynwood, Huntington Park, La Mirada, Commerce,
Multiple		install wireless communications for traffic signal system	City of Bell, Bell Gardens, Santa Fe Springs, Cudahy, Maywood, Pico Rivera, Paramount
Norwalk	Project 7212	Replaced signal cabinet and upgraded traffic signal controller assembly, conduits, cables, and electrical service	Pioneer Boulevard/Lakeland Road
Norwalk	Firestone Boulevard Rehabilitation	Extend 3rd WB lane.	WB Firestone Boulevard at Target Driveway (west of I-605 Freeway)
Norwalk	Traffic Control System	Installation of a traffic control system	Citywide
Norwalk	Traffic Control System	Upgrade and expand traffic control system	Citywide

Gateway Cities Submitted Other Projects that Were Not Analyzed			
City	Project Name	Detailed Description	Detailed Location
Parmount	Rosecrans and Anderson	Vehicle video detection	
Parmount	Rosecrans and Bianchi Way	Vehicle video detection	
Parmount	Somerset and Texaco	Vehicle video detection	
Parmount	Somerset and Garfield	Vehicle video detection	
Parmount	Somerset and Paramount	Vehicle video detection	
Parmount	Somerset and Orizaba	Vehicle video detection	
Parmount	Somerset and Downey	Vehicle video detection	
Parmount	Downey and Gardendale	Vehicle video detection	
Parmount	Rosecrans and Downey	Vehicle video detection	
Regionwide	Charging Stations at Key Test Stations (Norwalk, Long Beach)	VMT Reduction from Mode Shift at Stations that have EV Station Cars or Charging Stations. Research to estimate mode shift for drivers of EV vehicles?	Region-wide
Santa Fe Springs	RTO for EB Telegraph at Bloomfield Ave.	Installation of right turn only pocket for EB traffic at the intersection of Telegraph at Bloomfield	Telegraph Rd. & Bloomfield Ave.
Santa Fe Springs	Traffic Control System	Installation of a traffic control system	Citywide
Signal Hill	Orange & Hill Street Bridge Overpass Removal	Demo the bridge overpass at Hill & Orange intersection and remove existing grade separation	Orange Ave & Hill Street
Signal Hill	Cherry Ave and I-405 Ramp Interchange	Ramp Interchange improvement	Cherry Ave & I-405 interchange
Signal Hill	800 Crescent Heights Street Improvement	Reconstruction of Gardena St	Burnett to Crescent Heights Streets
Signal Hill	613 Nevada Street	Reconstruct	Orange to Cerritos
Signal Hill	Patterson Street	New Street segment	California to Olive
Signal Hill	Olive Street	New Street segment	Patterson to 27th
Signal Hill	28th Street	New Street segment	California to Olive
Signal Hill	Olive Street	New Street segment	28th to Patterson
Signal Hill	673 Orange Ave Signal Upgrades	Replace traffic signals	32nd and 33rd Streets @ Orange Ave
Signal Hill	Citywide bus stop improvements	Install newly designed bus stops	Citywide
South Gate	329-ST Truck impacted intersection Phase II Imperial Highway and Garfield Ave	This project will benift the city by improving the traffic flow conditions on Imperial Highway and Garfield Avenue. The construction consists of widening the intersection that includes new curbs, gutters, sidewalk and drainage system as well as upgrades of traffic signals.	Imperial Hwy, Garfield Ave
South Gate	365-ST Atlantic Ave & Firestone Blvd Intersection Improvements	Three thru lanes in each direction and a left turn lane is designated for arterial roadways. The proposed improvements will be consistent with the General Plan. Provide a wider typical section in order to realign the intersection.	Firestone Blvd, Atlantic Ave
South Gate	358-ST Atlantic Ave Improvement Project	Roadway pavement rehabilitation with asphalt rubber hot mix, construction landscaped median island , sidewalk, curb, and gutter repairs, reconstruction of curb ramps to meet Americans with Disabilities Act standards, signal interconnect between Tweedy Boulevard and Michigan Avenue and traffic signal upgrades, and peripheral improvements.	Atlantic Ave and Tweedy Blvd, Atlantic and Michigan Ave.
South Gate	448-TRF Traffic Signal Left Turn Phasing on Firestone Blvd at Santa Fe, Long Beach, California, Otis	design protected left turns for the 4 intersections, provide compliance with ADA as it relates to access ramps at the 4 intersections, and synchronize the modified signals with the Firestone corridor	Firestone Blvd at Santa Fe Ave, Long Beach Blvd, California Ave, Otis St
South Gate	Traffic Management Center	Remodeling and upgrade space at the City Yard with work stations, TCS software, computers, video display. Upon completion the TMC will contribute traffic data to the Information Exchange Network, integrate traffic signals into the Traffic Control System, and develop coordination plans from information gathered.	TMC construction at the City Yard, upgrades to approx. 40 intersections throught the City
South Gate	358-ST Atlantic Ave Improvement Project	Roadway pavement rehabilitation with asphalt rubber hot mix, construction landscaped median island , sidewalk, curb, and gutter repairs, reconstruction of curb ramps to meet Americans with Disabilities Act standards, signal interconnect between Tweedy Boulevard and Michigan Avenue and traffic signal upgrades, and peripheral improvements.	Atlantic Ave and Tweedy Blvd, Atlantic and Michigan Ave.
South Gate	448-TRF Traffic Signal Left Turn Phasing on Firestone Blvd at Santa Fe, Long Beach, California, Otis	design protected left turns for the 4 intersections, provide compliance with ADA as it relates to access ramps at the 4 intersections, and synchronize the modified signals with the Firestone corridor	Firestone Blvd at Santa Fe Ave, Long Beach Blvd, California Ave, Otis St
South Gate	Traffic Control System	Installation of a traffic control system and Traffic Management Center	Citywide

Gateway Cities Submitted Other Projects that Were Not Analyzed

City	Project Name	Detailed Description	Detailed Location
Vernon	26th St Bridge and Street Improvement Street Bridge	Extend 26th Street by constructing a bridge over Atlantic Blvd. and construct a new street (Pennington Way) from the bridge to Bandini Blvd. Installation of a new traffic. New street and bridge provides an alternative roadway route to commuters to and from the City, as well as easing the traffic congestion throughout the City, especially at the adjacent intersection of Atlantic Blvd. and Bandini Blvd.	Project is located at the east end of the Vernon. New traffic signal installed at the newly constructed intersection of Pennington Way and Bandini Blvd.
Vernon	Traffic Control System Project	Installation of a Traffic Control System in the City of Vernon to facilitate the synchronization of traffic signals, integrate ITS systems and exchange real-time data among ITS systems located across jurisdictional boundaries.	Signalized intersections citywide.
Vernon	37th/Bandini Blvd. Traffic Signal Synchronization Project	Synchronization and upgrade of traffic signals along 37th/Bandini Blvd. corridor.	37th St./Bandini Blvd. from Alameda to Pennington Way
Whittier	Painter Avenue at Whittier Greenway Trail	Installation of new Pedestrian signal	Painter Aveue at Whittier Greenway Trail
Whittier	Hadley Street at Whittier Greenway Trail/City Yard	Installation of new traffic signal	Hadley Street at Whittier Greenway Trail/City Yard

Gateway Cities Future (Post 2010) Project Costs and Funding

City	Project Name	Project Description	Location	Implementation Date	Total Cost	Funded Portion	Unfunded Portion	Funding Source
Bell Gardens	Truck Impacted Intersection	The intersection is being re-constructeded to provided exclusive Left Turn Pockets in the Noth and South Direction to alocate more time to the east/west direction to create better flow of traffic in that direction.	Florence Avenue and Jaboneria Street	2011 - 2020	$150,000	$97,500	$52,500	65% COG and 35% Local Funds
Bell Gardens	Truck Impacted Intersection	The intersection is being re-constructeded to provided exclusive Left Turn Pockets in the Noth and South Direction to alocate more time to the east/west direction to create better flow of traffic in that direction.	Florence Avenue and Ajax Street	2011 - 2020	$150,000	$97,500	$52,500	65% COG and 35% Local Funds
Bellflower	Clark/Flower	Restriping to create left turn pockets for eastbound and westbound Flower Street at 3-phase (split phase) signalized	Clark Avenue at Flower Street	2011 - 2020	$20,000	$10,000	$10,000	HES
Bellflower	New Bellflower Town Center Transit Center	Planned Transit Center. Will provide bus layover; inter-operator bus connections; park'n'ride; bike'n'ride; shuttle service to/from Green Line; add'l rail in future per outcome of SCAG PE ROW Alternatives Analysis	16307 Bellflower Blvd	2011 - 2020	$4,000,000	$3,000,000	$1,000,000	Actively applying for various grant funds
Commerce	Washington Blvd Reconstruction	Reconstruct pavement in concrete, add 1 lane, traffic signals, landscape & hardscape improvements, ADA ramps, RxR crossing, street lights, etc.	Washington Blvd from I-5 Fwy to westerly City limit (west of Arrowmill)	2011 - 2020	$23,008,000	$15,582,000	$7,426,000	LAMTA - $13.6 mil; TCIF - $5.8 mil; SafeTEA:LU - $2.2 mil; City -$10.4
Compton	Public Parking Structure	The structure will be approximately 192 feet x 300 feet in size. 4-level parking structure with 600 spaces	Adjacent to the MLK Transit Center, 301 N. Willowbrook Ave.	2011 - 2020	$12,000,000	$8,000,000	$4,000,000	Community Redevelopment Agency
Downey	LAKEWOOD BLVD IMPROVEMENTS PHASE 3	Minor widening to provide three 12-foot travel lanes, minor widening of intersections, traffic signal system upgrades, drainage improvements, reduction of cross-slopes, pavement removal and resurfacing, construction of curb, gutter and sidewalk, raised medians with landscaping, parkways with landscaping, install pedestrian and street lighting system.	On Lakewood Bl from Florence Ave to Telegraph Road	2011 - 2020	$7,778,000	$3,943,000	$3,835,000	TBD
Downey	LAKEWOOD BLVD IMPR PHASE 3A 5TH TO FLORENCE	Minor widening to provide three 12-foot travel lanes, center LS medians, installation of decorative street lighting, construction of a recycled water main, resurfacing of existing asphalt concrete, and repair of miscellaneous concrete.	On Lakewood Bl between Fifth St and Florence Ave	2011 - 2020	$5,600,000	$2,000,000	$3,600,000	Federal ARRA Tier I, SAFETEA-LU, local gas tax
Downey	IMPERIAL MEDIAN, SAFETY & REHAB IMPROV PH 2	Minor widening to provide 11-foot travel lanes, minor widening at intersections, construction of new raised landscaped median islands, rehabilitation of the existing pavement, reclaimed water irrigation system, traffic signal improvements and modifications, sound walls, sidewalk, curb ramps, and signing and striping modifications.	On Imperial Hwy between Old River School Rd and Paramount Bl and between Bellflower Bl and Woodruff Avenue	2011 - 2020	$3,000,000	$1,000,000	$2,000,000	Federal Transportation Enhancements Grant, Proposition 1B, local Prop "C", gas tax
Downey	TELEGRAPH RD TRFIC THRPUT & SFTY ENHCMTS PHS 1	Construction of raised landscaped median islands	On Telegraph Rd between the Passons Bl and E City Limit	2011 - 2020	$2,000,000	$1,000,000	$1,000,000	SAFETEA-LU, HSIP grant, Prop "C", and gas tax
Downey	FLORENCE AVE / ARRINGTON AVE TRAFFIC SIGNAL	The installation of traffic signals at the intersection of Florence Avenue and Arrington Avenue, modifications to the traffic signals at the intersection of Florence Avenue and Lakewood Boulevard, and the purchasing of equipment required for the application of thermoplastic pavement markings to be installed.	Florence Ave, Lakewood Bl, Arrington Ave	2011 - 2020	$215,000	$100,000	$115,000	SAFETEA-LU, gas tax
Downey	PARAMOUNT/GALLATIN T.S. UPGRADE	Traffic signal upgrades including E-W left-turn phasing, implementation of vehicle video detection system, signal communication system.	Paramount Bl. Gallatin Rd	2011 - 2020	$100,000	$0	$100,000	Local gas tax

Gateway Cities Future (Post 2010) Project Costs and Funding

City	Project Name	Project Description	Location	Implementation Date	Total Cost	Funded Portion	Unfunded Portion	Funding Source
Downey	PARAMOUNT/TELEGRAPH T.S. UPGRADE	Traffic signal upgrades including E-W left-turn phasing, implementation of vehicle video detection system, signal communication system, emergency vehicle pre-emption system.	Paramount Bl, Telegraph Rd	2011 - 2020	$120,000	$60,000	$60,000	Local gas tax
Downey	WOODRUFF / WASHBURN TRAFFIC SIGNAL	Upgrade of the existing traffic signal, including the installation of accessible audible pedestrian devices to accommodate the disabled	Woodruff Ave, Washburn Road	2011 - 2020	$150,000	$75,000	$75,000	SAFETEA-LU, gas tax
Downey	IMPERIAL Improvements, Downey Ave	upgrade to the traffic signal at the intersection of Imperial Highway at Downey Avenue.	At Imperial Hwy and Downey Ave		$150,000	$0	$150,000	
Downey	IMPERIAL HWY/COLUMBIA WY TRAFFIC SIGNAL	Traffic signal upgrades, curb ramps.	Imperial Hwy, Columbia Way	2011 - 2020	$125,000	$0	$125,000	Local gas tax
Downey	BELLFLOWER/IMPERIAL INTERSECTION IMP	Construction of double left-turn pockets in the northbound and southbound directions on Bellflower Boulevard and right-turn pockets in the southbound, eastbound and northbound directions, the reconstruction of all four curb returns to provide 50-foot radii, modification of the existing traffic signal and incidental utility relocations and lane restriping	Bellflower Bl, Imperial Hwy	2011 - 2020	$210,000	$105,000	$105,000	Local (NASA Develp fund), gas tax
Downey	PARAMOUNT BLVD AT FIRESTONE BLVD IMPRVMTS	Construction of a right-turn pocket in the eastbound direction, widening of all four curb returns to provide 50-foot radii, modification of the traffic signal, incidental utility relocations, curb ramps, sw, AC pavement, striping, and signage modifications	Paramount Bl, Firestone Bl	2011 - 2020	$3,019,000	$1,822,000	$1,197,000	Prop "C" (Metro 2007 Call f Projects, Local Return), gas tax
Downey	PARAMOUNT BLVD F.O. SYSTEM, Phase I	Installation of fiber-optic conduit/cable along Paramount Bl, interconnection to existing signal comm network at Telegraph, traffic signal upgrades, vehicle video detection system	On Paramount Bl between Telegraph Rd and Lubec St	2011 - 2020	$1,150,000	$230,000	$920,000	Proposition C Local Return, Measure R and Gas Tax
Downey	FLORENCE AVENUE TRAFFIC SIGNAL COMM SYS	Installation of fiber-optic conduit/cable along the length of Florence Ave, interconnection to existing signal comm network at Lakewood Bl, traffic signal upgrades, vehicle video detection, incidental utility relocation, signage.	On Florence Ave between Old River School Rd and the E City Limit	2011 - 2020	$1,798,000	$1,438,000	$360,000	Proposition "C" (2007 Metro Call for Projects, Local Return funds)
Downey	PARAMOUNT BLVD TRAFFIC IMP-FIRESTONE TO IMPERIAL	Installation of fiber-optic conduit/cable along Paramount Bl, traffic signal upgrades, coodinated timing along corridor, comm network modifications at TMC	On Paramount Bl between Firestone Bl and Imperial Hwy	2011 - 2020	$1,670,000	$334,000	$1,336,000	TEA 21, transit fund
Downey	PARAMOUNT BLVD TRAFFIC IMP-FIRESTONE TO FLORENCE	Installation of fiber-optic conduit/cable along Paramount Bl, traffic signal upgrades, coodinated timing along corridor, comm network modifications at TMC	On Paramount Bl between Firestone Bl and Florence Ave	2011 - 2020	$970,000	$194,000	$776,000	TEA 21, transit fund
Downey	Firestone Bl at Old River School Rd Grade Separation Study	Either an undercrossing or overcrossing of the RR with roadway, yet to be determined.	Firestone Bl at Old River School Rd and Burns Ave	2021 - 2035	$59,500,000	$30,000,000	$29,500,000	PUC Section 190 Grant, gas tax
La Mirada	Valley View Ave to go under BNSF lines at Stage Road	Valley View Ave to go under BNSF lines at Stage Road	Valley View Ave and Stage Road	2011 - 2020	$75,000,000	$37,000,000	$38,000,000	Federal and State
LAPW	Bandini/37th St St/8th St TSSP	Traffic Signal Syncronization improvements, additional vehicle detection, traffic actuated signals, and time-based coordination.	Alameda St to Garfield Ave	2011 - 2020	$844,000	$768,040	$75,960	MTA Prop C with LA County Prop C local money as match
LAPW	Colima Rd/Lamirada Bl TSSP	See above.	Mar Vista Bl to Alondra Bl	2011 - 2020	$877,000	$798,070	$78,930	See above.
LAPW	Garfield Av	See above.	Olympic Bl to Eastern Av	2011 - 2020	$776,000	$706,160	$69,840	See above.
LAPW	Painter Av / Carmenita Rd TSSP	See above.	Hadley St to South St	2011 - 2020	$2,027,000	$1,844,570	$182,430	See above.
LAPW	Studebaker Rd TSSP	See above.	Florence Av to Del Amo Bl	2011 - 2020	$1,226,000	$1,115,660	$110,340	See above.
LAPW	Alameda St TSSP	See above.	Nadeau St to Auto Dr South	2011 - 2020	$2,130,000	$1,938,300	$191,700	MTA Prop C with LA County Prop C local

Gateway Cities Future (Post 2010) Project Costs and Funding

City	Project Name	Project Description	Location	Implementation Date	Total Cost	Funded Portion	Unfunded Portion	Funding Source
LAPW	Woodruff Av TSSP	See above.	Firestone Av to Willow St	2011 - 2020	$2,491,350	$2,267,129	$224,222	See above.
LAPW	Leffingwell Rd TSSP	See above.	Imperial Hwy to Valley Home Av	2011 - 2020	$929,000	$845,390	$83,610	See above.
LAPW	Beverly Bl TSSP	See above.	Pomona Bl to Pickering Av	2011 - 2020	$2,393,000	$2,177,630	$215,370	See above.
LAPW	South St TSSP	See above.	Atlantic Bl to Studebaker Rd	2011 - 2020	$1,485,000	$1,351,350	$133,650	See above.
LAPW	Washington Bl TSSP	See above.	Atlantic Av to Whittier Bl	2011 - 2020	$2,341,000	$2,130,310	$210,690	See above.
LAPW	Lambert Rd TSSP	See above.	Washington Bl to Grayling Av	2011 - 2020	$2,626,000	$2,389,660	$236,340	See above.
LAPW	I-710/Atlantic Corridor ITS Project	See above.	Alameda St from Randolph Ave to Industry Wy	2011 - 2020	$3,226,000	$2,935,660	$290,340	See above.
LAPW	I-5 ATMS Integration Project	See above.	Imperial Hwy from Carmenita Rd to Valley View Ave; Valley View Ave from Imperial Hwy to Rosecrans Ave	2011 - 2020	$1,301,000	$1,183,910	$117,090	ISTEA DEMO and Prop C local money as match
Long Beach	PCH & Cherry	Cities of Long Beach & Signal Hill are working collectively to acquire property to widen Cherry Avenue to add a second travel lane in Long Beach from the Signal Hill boarder to south of PCH.	Cherry Avenue between 15th Street and 15th	2011 - 2020	$6,721,000	$5,921,000	$800,000	
Long Beach	Walnut Avenue Transportation Enhancement Project	Reconfigure two separate intersections into a single intersection and provide new signalized pedestrian crossings at a location that serves four grade schools and adults accessing LBCC.	Walnut Avenue & Alamitos/20th Street	2011 - 2020	$1,200,000	$800,000	$400,000	TMP/ SC25
Long Beach	LCD Traffic Enhancement Project	Reconfigure the LCD (LOS COYOTES DIAGONAL) & Studebaker Road/Parkcrest intersection into two separate intersections to improve traffic opeations and capacity while improving access to a new high school currently underconstruction. Project also includes reconfigeration of the lanes and traffic signal operations at LCD & Carson Street to address peak period congestion issues.	LCD (LOS COYOTES DIAGONAL) between Studebaker & Carson Street	2011 - 2020	$2,500,000	$1,600,000	$900,000	TMP
Long Beach	Del Amo & Locust Intersectn	Signalize intersection to provide improved neighborhood connectivity and access to transit and park facilities	Del Amo Boulevard & Locust Avenue	2011 - 2020	$200,000	$0	$200,000	Gas tax
Long Beach	2nd Street & Pomona Avenue	Construction of a new traffic signal to facilitate traffic flow during the peak period while also providing a new signalized pedestrian crossing in a dense retail shopping center.	2nd Street & Pomona Avenue	2011 - 2020	$50,000	$0	$50,000	Parking meter revenue
Long Beach	Carson Street & Woodruff Avenue Intersection Improvement Project	Modernize traffic signal control and provide improved left-turn phasing to improve safety and operations	Carson Street & Woodruff Avenue	2011 - 2020	$35,000	$0	$35,000	TMP
Long Beach	Spring Street & Woodruff Avenue Intersection Improvement Project	Modernize traffic signal to provide left-turn phasing in two directions and improved pedestrian crossings to address safety and congestion issues.	Spring Street & Woodruff Avenue	2011 - 2020	$175,000	$0	$175,000	Gas tax
Long Beach	PCH & Cherry	Caltrans modernized the traffic signal to provide adaptive control and left-turn phasing to address congestion issues.	PCH & Cherry Avenue	2011 - 2020	$5,000,000	$3,000,000	$2,000,000	RDA / grant (sh)
Long Beach	Redondo & Anahiem Intersection Improvement	Widen Southbound Redondo Avenue to provide for right-turn lane	Redondo & Anaheim	2011 - 2020	$40,000	$26,000	$14,000	TMP
Long Beach	PCH & 2nd Street Improvement Project	Widen Southbound PCH to provide for 2nd left-turn lane and right turn lane	PCH & 2nd Street	2011 - 2020	$3,000,000	$2,000,000	$1,000,000	TMP
Long Beach	Los Alamitos Traffic Circle Improvement Project	Cooperative Project with Caltrans to implement changes to the traffic characteristics of the facility to improve capacity and reduce accidents	PCH, Lakewood Boulevard, LCD	2011 - 2020	$2,000,000	$1,300,000	$700,000	state funds

Gateway Cities Future (Post 2010) Project Costs and Funding

City	Project Name	Project Description	Location	Implementation Date	Total Cost	Funded Portion	Unfunded Portion	Funding Source
Long Beach	2nd Street & Studebaker Intersection Improvement Project	Reconfigure intersection geometrics through the removal of a median to add a third westbound travel lane	2nd Street & Studebaker Road	2011 - 2020	$400,000	$260,000	$140,000	TMP
Long Beach	Ocean Boulevard Transportation Enhancement Project	Interconnect and modernize traffic signals along Ocean Boulevard Corridor and add two new traffic signals to improve safety and traffic operations	Ocean Boulevard between Alamitos & Livingston/2nd	2011 - 2020	$1,280,000	$256,000	$1,024,000	
Long Beach	Atlantic Avenue Transportation Enhancement Project	Interconnect and modernize traffic signals along Atlantic Avenue to improve operations and traffic safety	Atlantic Avenue between Ocean Boulevard & Wardlow Road	2011 - 2020	$1,080,000	$216,000	$864,000	
Long Beach	Studebaker Road ATCS and Communiictions Enhancement Project	Construction of an eastside communications backbone to support trafic signal control and motorist information systems, conversion of traffic signal control from fixed time to adaptive control.	Studebaker Road between Spring Street and 2nd	2011 - 2020	$1,080,000	$216,000	$864,000	
Long Beach	Wardlow Road Traffic Signal Syncronization Project	Operational and timing improvements to traffic signals along the Wardlow Road corridor in the western part of the City.	Wardlow Road between Santa Fe & the western City	2011 - 2020	$159,000	$31,000	$128,000	
Long Beach	9th Street Pedestrian Enhancement Project	Signalize two intersections and provide an all-way stop at a third to provide improved connectivity for pedestrians and cyclists traveling along 9th Street to access schools, medical facilities, park facilities, and shopping.	9th Street between Pacific Avenue and Long Beach Boulevard	2011 - 2020	$500,000	$385,000	$115,000	
Long Beach	Orange Avenue Transportation Improvement Project	Traffic Calming project to narrow the roadway via striping to reduce vehicle speeds along this residential collector street and to add a traffic signal midway to improve neighborhood connectivity and access to transit stops.	Orange Avenue between Wardlow Road & Bixby Road	2011 - 2020	$350,000	$385,000	$115,000	
Long Beach	Walnut Avenue & 4th Street Intersection Improvement	Modernize the traffic signal to provide enhanced pedestrian access to bus stops and relocation of signal and electrical equipment to improve pedestrian access to bus stops.	Walnut Avenue & 4th Street	2011 - 2020	$150,000	$112,500	$27,500	
Long Beach	3rd Street & Lime Avenue Intersection Improvement	Construction of a new traffic signal in downtown to improve pedestrain access to a nearby grocery market, schools, and transit stops.	3rd Street & Lime Avenue	2011 - 2020	$175,000	$131,000	$44,000	
Long Beach	Naples Road Diet	Replaced one automobile lane with a Class II bicycle lane.	Eastbound on 2nd Street between Bayshore Bridge and Marina Drive	2011 - 2020	$45,000	$34,000	$11,000	
Long Beach	Willow Street Pedestrian Improvement	This project provides pedestrian-oriented improvements to Willow St including medians, pedestrian lighting, landscaping, signage and crosswalk treatments.	Willow Street from Los Angeles River to Atlantic Avenue.	2011 - 2020	$3,097,000	$2,180,000	$917,000	CMAQ Local

Gateway Cities Future (Post 2010) Project Costs and Funding

City	Project Name	Project Description	Location	Implementation Date	Total Cost	Funded Portion	Unfunded Portion	Funding Source
Long Beach	South Waterfront Bike Path Connection	SWBPC project is the construction of a new Class I bike path segment that closes an existing gap in the area. The project will include a mid-block crossing and wayfinding. This proposed path closes a vital gap between the existing Class I path across Queensway Bridge and the existing Class I bike and pedestrian path along the south waterfront, connecting the Greater Downtown with the hotels and commercial centers located across the harbor.	The proposed South Waterfront Bike Path starts at the north end of the Queensway Bridge at the existing terminus of the Class I path. The proposed alignment follows the north side of Queensway Drive within the City right-of-way as a Class I bike path to the Special Events Park existing Class I	2011 - 2020	$1,500,000	$1,313,000	$187,000	CMAQ Local
Long Beach	3rd Separated Bikeway	Dedicated bike lanes on Broadway and 3rd will include a painted island to separate the bike lane. One traffic lane will be lost to preserve parking on both sides of the street.	3rd from Alamitos and Golden Avenue		$940,000	$705,000	$195,000	
Long Beach	Broadway Separated Bikeway	See above	Broadway from Alamitos and Golden Avenue		$940,000	$705,000	$195,000	
Long Beach	Third Street Street Bike Lanes	Bike lanes (Class II) along Third Street between Alamitos/Junipero and Bike lane on Third Street b/w Alamitos/Junipero	Third Street between	2011 - 2020	$50,000	$37,500	$12,500	
Long Beach	Daisy Street - Bike Boulevard	Bike boulevard will provide North-South Class III bicycle facility (running the length of the City- from downtown to 70th).	running the length of the City- from downtown to 70th	2011 - 2020	$2,200,000	$1,980,000	$220,000	CMAQ SRTS
Long Beach	Sixth Street - Bike Boulevard	Bike boulevard will provide East-West Class III bicycle facility (running from Junipero to Park).	6th St from Junipero to Park	2011 - 2020	$630,000	$567,000	$63,000	CMAQ SRTS
Long Beach	Market Street Transporation Enhancement Project	Reconfigure the roadway to provide improved pedestrian facilities (widen sidewalks, enhanced pedestrian crossings) and access to key destinations (post office, transit stops, fire station, schools, shopping) for pedestrians, cylists, and motorists.	Market Street between Long Beach Boulevard and Atlantic Avenue	2011 - 2020	$5,000,000	$4,500,000	$500,000	
Long Beach	Long Beach Blvd. Pedestrian Improvement Project	Project provides pedestrian-oriented improvements to Long Beach Boulevard including pedestrian lighting, street trees, and crosswalk treatments.	Long Beach Blvd b/t Willow Ave & I-405	2011 - 2020	$2,521,000	$1,722,000	$799,000	CMAQ Local
Long Beach	Atherton Street Enhancement Project	Rehabilitating the landscaped median to enhance the experience of over 37,000 pedestrians, bicyclists, transit users and autos	Bellflower & Los Cerritos Channel	2011 - 2020	$1,322,000	$1,322,000	$0	CMAQ Prop C
Long Beach	San Gabriel River Bike Path Closure at Willow Street	Creation of off-street bicycle path to achieve bicycle route gap closure on Willow Street from the San Gabriel River Bike Path west to Studebaker Road	Willow St, at San Gabriel River & Studebaker	2011 - 2020	$200,000	$150,000	$50,000	CMAQ Local
Long Beach	Harding Street Traffic Calming Project	Reconfigure roadway stripping to install bike lanes and new pedestrian crossings	Harding Street between Atlantic Avenue and Cherry Avenue	2011 - 2020	$1,200,000	$900,000	$300,000	
Long Beach	I-710 Improvements	Funded by the SAFETEA-LU Demo Project, the project improves bicycle, pedestrian, and streetscape on major thoroughfares.	On Broadway, 3rd Street, 6th Street, and 7th Street from Shoreline Drive to Alamitos.	2011 - 2020	$2,000,000	$1,500,000	$500,000	

Gateway Cities Future (Post 2010) Project Costs and Funding

City	Project Name	Project Description	Location	Implementation Date	Total Cost	Funded Portion	Unfunded Portion	Funding Source
Long Beach	Pacific Electric Right-of-Way	Funded by the MTA, the project improves bikeway and pedestrian access along a former railroad right-of-way.	The Pacific Electric ROW in Long Beach (South of Willow Street and North of 4th Street)	2021 - 2035	$2,000,000	$1,500,000	$500,000	
Lynwood	Annual Sidewalk Improvement Project FY 10-11	Reconstructed damaged sidewalk and install new sidewalk.	Various locations citywide.	2011 - 2020	$100,000		$100,000	CDBG
Norwalk	Firestone Bridge	Extend 3rd WB lane.	Firestone Bridge over SG River	2011 - 2020	$4,331,000	$1,580,000	$2,751,000	MTA & LA County grant, HBRR
Norwalk	Project 7219	New traffic signal	Shoemaker Avenue/Excelsior Drive	2011 - 2020	$200,000	$100,000	$100,000	MTA, Prop C
Norwalk	Norwalk/Santa Fe SpringsTransportation Center-Metrolink Park and Ride - Pedestrian Plaza Upgrade	Upgrade of existing passenger amenities for the Pedestrian Plaza at the regional inter-modal Norwalk/Santa Fe Springs - Metrolink Transportation Center. The projec includes construction of a pedestrian plaza with pathways for bicycles and pedestrians, a passenger car pick-up/drop-off area to encourage access to the buses and trains as alternative modes of transportation, seating areas,security lighting, signage, electronic bus schedule information, decorative paving and landscaping. The project also includes widening of the approach into the Transportation Center and modifications to the entrance to improve access and visibility, as well as signage improvements to the transit center, bus layover areas and park and ride lot. The project is intended to improve pedestrian and vehicular access, safety, and functionality of the inter-modal Norwalk/SantaFe Springs - Metrolink Transportation Center.	The project is located at the Norwalk-Santa Fe SpringsMetrolink Transportation Centerand Park and Ride at 12700 E.Imperial Highway, Norwalk, CA 90650. The transportation center serves all of Los Angeles, Orange and San Bernardino Counties. This project is totally ~~enclosed within the~~ Norwalk/Santa Fe Springs Transportation Center - Metrolink Park and Ride.	2011 - 2020	$966,351	$837,881	$128,470	Federal - $612,881 local total $128,470 inkind $48,318
Pico Rivera	Beverly Boulevard Median Rehabilitiaon Project	Installation of new signalized intersection	Beverly Boulevard and Sandoval Avenue/Pico Park	2011 - 2020	$225,000	$75,000	$150,000	Measure R, Prop C and Prop 42
Pico Rivera	Beverly Boulevard Rehabilitaion Project	Part of the improvements is the signal modification at Beverly Boulevard and Durfee Avenue	Beverly Boulevard and Durfee Avanue	2011 - 2020	$175,000	$125,000	$50,000	ARRA Money
Pico Rivera	Passons Grade Separation Project	Construction of a grade separtion at Passons Boulevard	Passons Boulevard at Rivera Road	2011 - 2020	$44,000,000	$22,000,000	$22,000,000	TCRP, SAFETEA-LU, STIP, Prop C, BNSF and PUC
SantaFe Springs	Traffic Signal Installation at Bloomfield at Corral	Installation of new traffic signal at intersection of Bloomfield at Corral	Bloomfield Ave. & Corral Pl.	2011 - 2020	$90,000	$0	$90,000	Developer

Gateway Cities Future (Post 2010) Project Costs and Funding

City	Project Name	Project Description	Location	Implementation Date	Total Cost	Funded Portion	Unfunded Portion	Funding Source
SantaFe Springs	New Bike Lanes and Bike Lockers	Bike lanes connecting Coyote Creek to Metrolink Transportation Center and to San Gabriel River Path; and Bike lockers (total of 20 bike lockers) at Metrolink station	Foster Rd. to Carmenita Rd. to Orden Dr. west, Leffingwell Rd. north, to Adler Dr. west, to Shoemaker Av. north, to Imperial Hwy. west, to Transit Center, then to Bloomfield Ave. north, to Los Nietos Rd. west, to the San Gabriel River bike path.	2011 - 2020	$400,000	$320,000	$80,000	Federal Grant
Signal Hill	786 Cherry Ave	Additional lanes	19th St to PCH	2011 - 2020	$6,721,000	$5,921,000	$800,000	Traffic Impact Fees, demo TE-LU, MTA
Signal Hill	California Avenue	Reconstruction	Patterson St to Willow Avenue	2011 - 2020	$508,000		$508,000	
Signal Hill	746 Traffic Signal Cherry & 20th Street	New traffic signal (no signal or stop sign currently)	Cherry Ave/ 20th St	2011 - 2020	$750,000	$500,000	$250,000	Safe Routes to School & Federal Funds (HSIP)
Signal Hill	Orizaba & PCH Traffic Signal	New traffic signal	Orizaba & PCH intersection	2011 - 2020	$250,000	$125,000	$125,000	Various Sources
Signal Hill	Willow & Walnut Traffic Signal	Left-turn phasing traffic signal	Willow & Walnut intersection	2011 - 2020	$120,000	$80,000	$40,000	Truck Impacted Intersections South Bay COG (MTA Grants)
Signal Hill	Willow & Orange Traffic Signal	Left-turn phasing traffic signal	Orange and Willow intersection	2011 - 2020	$370,000	$260,000	$110,000	Truck Impacted Intersections South Bay COG (MTA Grants)
Signal Hill	Orange Avenue Corridor Traffic Signal Synchronization	Synchronize traffic signals	Spring Street to Hill Street		$300,000	$60,000	$240,000	Gateway Cities Traffic Forum
Signal Hill	Citywide ADA Sidewalk improvements	Sidewalk improvements	Citywide	2011 - 2020	$100,000	$77,000	$23,000	CDBG
South Gate	I-710/Firestone Blvd Interchange	This project involves widening south side of the Firestone Boulevard Bridge over the Los Angles River to provide three through lanes in each direction with a center raised median from Rayo Ave to I-710 freeway.	Firestone Boulevard over LA River	2011 - 2020	$14,721,000	$9,424,000	$5,297,000	Federal, Prop C

Gateway Cities Future (Post 2010) Project Costs and Funding

City	Project Name	Project Description	Location	Implementation Date	Total Cost	Funded Portion	Unfunded Portion	Funding Source
Vernon	Atlantic Blvd. Bridge over the LA River	The City of Vernon proposes to widen Atlantic Blvd. bridge over the Los Angeles River. Project will enhance the safety and operational use of Atlantic Blvd. bridge over the Los Angeles River and improve the intersection performance at District Blvd. The project involves widening Atlantic Blvd. for approximately 1,300 linear feet to provide traffic shoulders, standard sidewalks and extending the right-turn lane over to the Atlantic Blvd. Bridge. The proposed roadway configuration includes six 11-foot through traffic lanes, one northbound 11-foot right turn lane, 4-foot minimum shoulders, 5' sidewalks, and a center median. The adjacent intersection of Atlantic Blvd. and District Blvd. will be reconfigured and the traffic timing optimized.	Project limits are from Atlantic Blvd. north of the Los Angeles River to 800 feet south of the intersection with District Blvd. The proposed project is located approximately 0.25 miles (mi) southwest of the Long Beach Freeway (1-710) in the City of Vernon.	2011 - 2020	$10,402,000	$3,602,000	$6,800,000	City Local and MTA Funds
Vernon	Atlantic Blvd. And District Blvd Intersection Improvement	The City of Vernon proposes to widen Atlantic Blvd. bridge over the Los Angeles River. Project will enhance the safety and operational use of Atlantic Blvd. bridge over the Los Angeles River and improve the intersection performance at District Blvd. The project involves widening Atlantic Blvd. for approximately 1,300 linear feet to provide traffic shoulders, standard sidewalks and extending the right-turn lane over to the Atlantic Blvd. Bridge. The proposed roadway configuration includes six 11-foot through traffic lanes, one northbound 11-foot right turn lane, 4-foot minimum shoulders, 5' sidewalks, and a center median. The adjacent intersection of Atlantic Blvd. and District Blvd. will be reconfigured and the traffic timing optimized.	Project limits are from Atlantic Blvd. north of the Los Angeles River to 800 feet south of the intersection with District Blvd. The proposed project is located approximately 0.25 miles (mi) southwest of the Long Beach Freeway (1-710) in the City of Vernon.	2011 - 2020	$6,800,000	$3,400,000	$3,400,000	City Local and MTA Funds
Whittier	Hadley Street at Whittier Avenue	Installation of new traffic signal	Hadley Street at Whittier Avenue	2011 - 2020	$240,000	$120,000	$120,000	STPLG and Gas Tax B
Whittier	Lambert Road at Santa Gertrudes Avenue	Traffic Signal Modification	Lambert Road at Santa Gertrudes Avenue. Includes installation of median island to separate traffic on Santa Gertrudes Avenue at adjacent railroad grade crossing.	2011 - 2020	$535,000	$340,000	$195,000	HSIP Grant and Proposition 1B
Whittier	Lambert Road at Painter Avenue	Traffic Signal Modification	Lambert Road at Painter Avenue	2011 - 2020	$240,000	$120,000	$120,000	STPLG and Gas Tax B
Whittier	Lambert Road at Mills Avenue	Traffic Signal Modification	Lambert Road at Mills Avenue. Joint juridictional project with Los Angeles County. City 25% share of project cost.	2011 - 2020	$131,500	$65,000	$66,500	STPLG

Gateway Cities Future (Post 2010) Project Costs and Funding

City	Project Name	Project Description	Location	Implementation Date	Total Cost	Funded Portion	Unfunded Portion	Funding Source
Whittier	Pio Pico Bikeway Connection	Bikeway connection from San Gabriel River Bike Path to the Pio Pico State Histrocial Park	Adjacent to Whittier Boulevard from San Gabriel River Bike Path to Pio Pico State Historical Park	2011 - 2020	$670,000	$536,000	$134,000	Rivers and Mountains Conservancy
Whittier	Laurel Avenue Bike Lanes	Installation of Class II Bike Lanes	Laurel Avenue from Whittier Blvd. to Carnell Street	2006 - 2010	$20,000			ARRA
Whittier	Beverly Boulevard Class II Bike Lanes	Installation of Class II Bike Lanes, Median Islands, Safety Lighting and Bus Shelters	Beverly Blvd. from 605 Freeway to Norwalk Blvd/Workman Mill Road.	2011 - 2020	$1,242,500	$994,000	$248,500	HSIP and Propostion 1B
Whittier	Mills Avenue Sidewalks	Installation of Sidewalks and Wheelchair Access Ramps	Mills Avenue from Whittier Blvd. to Lambert Road	2011 - 2020	$425,000	$340,000	$85,000	SR2S and Gas Tax B
TOTAL					**$371,328,701**	**$215,296,720**	**$156,071,982**	

Note: Blue cells contain estimated costs. Orange cells contain per project cost averages devised from the FTIP in the case where multiple projects were funded as a single entity. Please see text for description of estimate methodology.

Appendix E.

Analysis for Transportation Demand Management Strategies in the Gateway Cities

E. Analysis for Travel Demand Management Strategies in the Gateway Cities

The TDM analysis, the impacts of which were summarized in Section 7, was based on information provided by the Gateways cities. Two inquiries were made of the cities to elicit information on if and what TDM strategies the cities employed or were present in the cities. Not surprisingly, most of the strategies reported were those under the control of the city as employer and land use regulator.

The results of this inquiry are summarized in Table E.1. Although cities reported activities in some eight categories of TDM strategies, participation (mode shift) data was available for only two strategies (Compressed Work Weeks and City Employee Rideshare Programs). Additionally, for those cities who reported having active TDM ordinances, trip reduction estimates were made based on growth in office development in each of these cities. Clearly, additional trip and emission reduction impacts are being produced by all eight types of TDM strategies, such as on-line course offerings at local colleges, shuttle services, safe routes to school projects, and bicycle programs, such as the Long Beach Bike Station.

Table E.1 TDM Strategies by Gateway City

City	Compressed Work Schedule	City Employee Rideshare Program	Bus Pass Sales	Higher Education TDM Initiatives	Shuttles	Bike/Ped Initiatives	Safe Routes to School	TDM Ordinance
Artesia							X	
Cerritos		X	X	X	X	X		
Commerce	X	X	X					X
Downey	X	X	X				X	
Hawaiian Gardens	X	X					X	X
Huntington Park	X							
Lakewood	X							

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City	Compressed Work Schedule	City Employee Rideshare Program	Bus Pass Sales	Higher Education TDM Initiatives	Shuttles	Bike/Ped Initiatives	Safe Routes to School	TDM Ordinance
La Mirada	X		X					
Long Beach	X		X	X	X	X	X	X
Lynwood	X							X
Pico Rivera	X		X			X	X	X
Santa Fe Springs	X		X					
Signal Hill	X							
Southgate	X	X	X				X	X
Vernon	X	X						X
Whittier	X	X	X				X	X

The calculation of impacts for each of the three TDM strategies, for which mode shift or related data existed, is summarized below.

Compressed Work Weeks

Some 14 cities reported using compressed work week schedules for some or all of municipal employees. This is a very common strategy among South Coast Air Basin cities. While most cities used a 9/80 schedule, closing nonessential city office every other Friday, other cities employed 4/40 and 3/36 schedules.

In total, 3,309 employees are using a CWW schedule in the Gateway Cities. Most of these programs were implemented after 2005. The number of participants is not expected to grow in the planning years of 2020 and 2035. The calculation of GHG emission reduction impacts (in metric tons) is as follows:

- Participating employees — 3,309 (a)
- Vehicle trip reduction (a x 80% prior SOV) — 2,647 (b)
- VMT reduction (b x 20 mile commute) — 52,944 (c)
- 2020 GHG reduction (c x 327.36 g/mi) — 17.3 tons per CWW day off (d)
- 2035 GHG reduction (c x 286.13 g/mi) — 15.15 tons per CWW day off (e)

- 2020 GHG daily reduction (d x 14% of days are CWW days off) — 2.43 tons per day (f)
- 2035 GHG daily reduction (e x 14%) — 2.12 tons per day (g)
- 2020 GHG annual reduction (f x 250 commute days) — 607.5 tons per year
- 2035 GHG annual reduction (g x 250 commute days) — 530 tons per year

City Employee Ridesharing Program

Six cities reported having employee ridesharing programs for municipal workers. These cities reported that approximately 700 employees participated in the programs. Two of the cities reported an average vehicle ridership (AVR) of 1.29 and 1.31. Therefore, an AVR of 1.3 was applied to this employment and exemplary mode shares developed to equate to 1.3. This equated to a vehicle trip reduction of 418 trips. Assuming a 20-mile round trip commute, this equated to a VMT reduction of 8,360 miles. Applying the same emission factors cited above for CWW, this VMT reduction equates to a GHG emission reduction of 2.73 tons per day (2020) and 2.39 tons per day (2035). Annual reductions equate to 682.5 tons (2020) and 597.5 tons (2035). The diminishing reductions are due to lower emission factors in 2035 as California cars being cleaner and more efficient. City employee ridesharing participation was not expected to grow in future years.

TDM Ordinance

Eight cities reported having active TDM ordinances, seeking trip reduction mitigation at new commercial developments. While other cities presumably have TDM ordinances, they may not have reported due to inactivity of commercial development or with the ordinance application itself. The TDM ordinance analysis was different from that for Compressed Work Weeks and Employee Ridesharing, which had reported participation statistics. The known information related to this area was the existence of an ordinance and amount of estimated future office development in each city for 2020 and 2035 (from the SCAG Sustainability Tool).

First, trip reduction impacts were derived for new employment based on three scenarios: 1) a typical baseline mode split at office worksites, 2) an expected trip reduction of 8 percent due to the implementation of TDM strategies at new office developments (with the expected range of impacts from the most recent TDM literature – see Section 7), and 3) an expected trip reduction of 13 percent due to the interactive effects of TDM implemented at new developments, which are located in cities with aggressive smart growth and transit improvement policies and programs (see Section 10). These forecasted impacts were applied to a hypothetical group of 1,000 office workers and resulting mode splits were derived.

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- The vehicle trip reduction impacts estimated for the second scenario (TDM ordinance alone) was calculated to be 80 trips per 1,000 employees or 2,400 miles (for a 30-mile round trip commute).
- The 2020 emission reduction impacts were estimated to be 0.79 tons per 1,000 office employee or 0.031 tons per 10,000 sq. ft. of office space.
- The 2035 emission reduction impacts were estimated to be 0.69 tons per 1,000 workers and 0.027 tons per 10,000 sq. ft.
- The vehicle trip reduction impacts estimated for the third scenario (interactive effects) was calculated to be 126 trips per 1,000 employees or 3,780 miles (for a 30-mile round trip commute).
- The 2020 emission reduction impacts were estimated to be 1.24 tons per 1,000 office employee or 0.0495 tons per 10,000 sq. ft. of office space.
- The 2035 emission reduction impacts were estimated to be 1.08 tons per 1,000 workers and 0.043 tons per 10,000 square feet.

The emission reduction estimates per 10,000 square feet of office development were then applied to the forecasted growth in such development in each city. The estimated 2020 growth in office development in the eight TDM ordinance cities is 1,759, 380 square feet of office space. In 2035, this number is expected to grow to 2,945,340. However, TDM ordinance provisions only apply to developments of a certain size (generally 25,000 square feet or larger). Therefore, trip and emission reduction impacts were only applied to 30 percent of new office space growth (as per one cities estimate).

The resulting emission estimates, using the same emission factors, were calculated to be:

- 1.66 tons per day or 415 tons per year for 2020 due to TDM ordinance application;
- 2.43 tons per day or 607.5 tons per year in 2035 due to TDM ordinance application;
- 2.61 tons per day or 652.5 tons per year in 2020 due to interactive effects of smart growth and transit; and
- 3.83 tons per day or 957.5 tons per year in 2035 due to interactive effects.

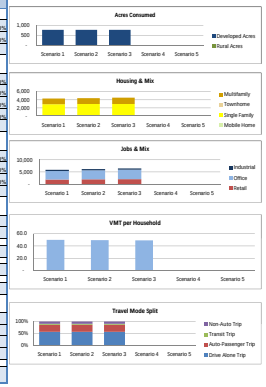
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Appendix F.

Land Use Scenario Strategies from Sustainability Tool (2008, 2020, and 2035)

Artesia

	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2006		YR 2020		YR 2035					
Acres										
Rural Acres	-	0%	-	0%	-	0%	-	0%	-	0%
Developed Acres	778	100%	778	100%	778	100%	-	0%	-	0%
Total	778		778		778		-		-	
Housing Mix										
Single Family	2,923	66%	2,979	67%	2,981	66%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	1,404	32%	1,440	33%	1,562	34%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	4,327		4,419		4,543		-		-	
Employment Mix										
Retail	1,877	32%	1,952	32%	2,016	31%	-	0%	-	0%
Office	3,497	59%	3,722	60%	3,926	61%	-	0%	-	0%
Industrial	517	9%	521	8%	518	8%	-	0%	-	0%
Total	5,891		6,195		6,460		-		-	
Density										
Housing Unit	5.6		5.7		5.8		-		-	
Employment	7.6		8.0		8.3		-		-	
Jobs/Housing Balance	1.4		1.4		1.4		-		-	
Vehicle Ownership per Household	2.2		2.2		2.2		-		-	
Vehicle Miles Traveled per Household	49.8		49.4		49.0		-		-	
Travel Mode Split										
Drive Alone Trip	57.6%		57.7%		57.7%		0.0%		0.0%	
Auto-Passenger Trip	29.0%		29.0%		28.9%		0.0%		0.0%	
Transit Trip	4.1%		4.0%		4.0%		0.0%		0.0%	
Non-Auto Trip	9.4%		9.4%		9.4%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0222		0.0217		0.0216		-		-	



** GHG emissions per Household is calculated by dividing GHG emissions total (total VMT X Emission Factor) by the total number of households.*
The below Emission Factors are for light- and medium-duty vehicles only (excluding motorcycles), calculated with EMFACT model output based on 2008 RTP Amendment #3:
Year 2008: 0.000446 tons per vmt
Year 2020: 0.000439 tons per vmt
Year 2035: 0.000445 tons per vmt
By default, emission factors for the years 2008, 2020, and 2035 are applied to calculate GHG emissions per Household values for Scenario 1-3 respectively (row 37 under columns B, D, F).

Avalon

	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008 Existing		YR 2035 Base		YR2003 ALT1					
Acres										
Vacant Acres	187	42%	736	70%	729	69%	-	0%	-	0%
Developed Acres	261	58%	305	30%	323	31%	-	0%	-	0%
Total	449		1,031		1,052		-		-	
Housing Mix										
Single Family	302	24%	349	24%	384	23%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	937	76%	1,095	76%	1,260	77%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	1,239		1,444		1,644		-		-	
Employment Mix										
Retail	1,773	41%	1,842	39%	1,931	39%	-	0%	-	0%
Office	1,747	40%	1,997	43%	2,092	43%	-	0%	-	0%
Industrial	857	20%	857	18%	898	18%	-	0%	-	0%
Total	4,377		4,696		4,921		-		-	
Density										
Housing Unit	2.8		1.4		1.6		-		-	
Employment	9.8		4.6		4.7		-		-	
Jobs/Housing Balance	3.5		3.3		3.0		-		-	
Vehicle Ownership per Household	1.8		1.8		1.8		-		-	
Vehicle Miles Traveled per Household	39.6		39.5		39.5		-		-	
Travel Mode Split										
Drive Alone Trip	54.5%		54.6%		54.3%		0.0%		0.0%	
Auto-Passenger Trip	26.2%		26.2%		26.2%		0.0%		0.0%	
Transit Trip	4.6%		4.6%		4.7%		0.0%		0.0%	
Non-Auto Trip	14.6%		14.6%		14.9%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0177		0.0176		0.0176					



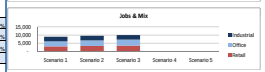
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Year 2035: 0.000445 tons per vmt
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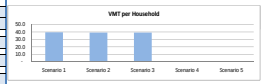
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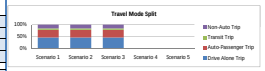
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	2	0%	3	0%	3	0%	-	0%	-	0%
Developed Acres	1,266	100%	1,263	100%	1,263	100%	-	0%	-	0%
Total	*1,267*		*1,266*		*1,266*		-		-	
Housing Mix										
Single Family	3,502	39%	3,502	39%	3,502	38%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	5,489	61%	5,540	61%	5,595	62%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	*8,992*		*9,042*		*9,097*		-		-	
Employment Mix										
Retail	3,039	34%	3,267	34%	3,475	33%	-	0%	-	0%
Office	3,103	35%	3,427	36%	3,716	37%	-	0%	-	0%
Industrial	2,856	32%	2,821	30%	2,773	28%	-	0%	-	0%
Total	*8,998*		*9,515*		*9,964*		-		-	
Density										
Housing Unit	7.1		7.0		7.1		-		-	
Employment	7.1		7.4		7.7		-		-	
Jobs/Housing Balance	1.0		1.1		1.1		-		-	
Vehicle Ownership per Household	1.9		1.9		1.9		-		-	
Vehicle Miles Traveled per Household	39.6		39.2		39.2		-		-	
Travel Mode Split										
Drive Alone Trip	46.2%		46.2%		46.2%		0.0%		0.0%	
Auto-Passenger Trip	32.0%		32.0%		32.0%		0.0%		0.0%	
Transit Trip	6.1%		6.0%		6.0%		0.0%		0.0%	
Non-Auto Trip	15.7%		15.7%		15.7%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0177		0.0172		0.0174		-		-	







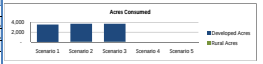


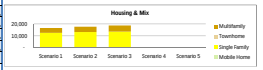


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Year 2035: 0.000445 tons per vmt
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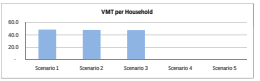
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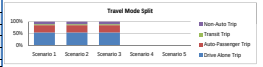
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	29	1%	63	2%	63	2%	-	0%	-	0%
Developed Acres	3,511	99%	3,633	98%	3,633	98%	-	0%	-	0%
Total	*3,541*		*3,696*		*3,696*		-		-	
Housing Mix										
Single Family	12,547	76%	13,220	75%	13,567	72%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	4,068	24%	4,460	25%	5,177	28%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	*16,615*		*17,680*		*18,744*		-		-	
Employment Mix										
Retail	8,345	51%	8,645	51%	8,936	51%	-	0%	-	0%
Office	4,965	31%	5,311	32%	5,689	33%	-	0%	-	0%
Industrial	2,922	18%	2,893	17%	2,875	16%	-	0%	-	0%
Total	*16,132*		*16,849*		*17,500*		-		-	
Density										
Housing Unit	4.7		4.8		5.1		-		-	
Employment	4.6		4.6		4.7		-		-	
Jobs/Housing Balance	1.0		1.0		0.9		-		-	
Vehicle Ownership per Household	2.2		2.2		2.2		-		-	
Vehicle Miles Traveled per Household	48.6		48.1		47.8		-		-	
Travel Mode Split										
Drive Alone Trip	54.8%		54.8%		54.7%		0.0%		0.0%	
Auto-Passenger Trip	30.4%		30.5%		30.5%		0.0%		0.0%	
Transit Trip	4.2%		4.2%		4.2%		0.0%		0.0%	
Non-Auto Trip	10.5%		10.5%		10.6%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0217		0.0211		0.0213		-		-	







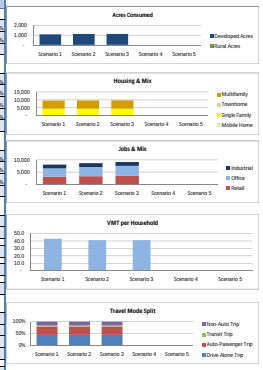




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Bell Gardens

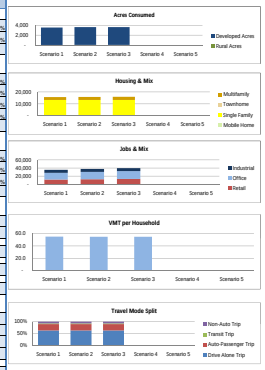
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	25	2%	26	2%	26	2%	-	0%	-	0%
Developed Acres	1,057	98%	1,093	98%	1,093	98%	-	0%	-	0%
Total	**1,081**		**1,119**		**1,119**		-		-	
Housing Mix										
Single Family	4,488	47%	4,488	47%	4,488	46%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	5,110	53%	5,154	53%	5,201	54%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	**9,598**		**9,642**		**9,689**		-		-	
Employment Mix										
Retail	3,087	38%	3,297	38%	3,461	38%	-	0%	-	0%
Office	3,428	42%	3,786	44%	4,111	45%	-	0%	-	0%
Industrial	1,564	19%	1,566	18%	1,567	17%	-	0%	-	0%
Total	**8,079**		**8,650**		**9,140**		-		-	
Density										
Housing Unit	8.9		8.6		8.7		-		-	
Employment	7.5		7.7		8.2		-		-	
Jobs/Housing Balance	0.8		0.9		0.9		-		-	
Vehicle Ownership per Household	2.0		2.0		2.0		-		-	
Vehicle Miles Traveled per Household	43.0		41.3		41.2		-		-	
Travel Mode Split										
Drive Alone Trip	44.6%		44.7%		44.7%		0.0%		0.0%	
Auto-Passenger Trip	33.9%		34.0%		33.9%		0.0%		0.0%	
Transit Trip	5.9%		5.7%		5.7%		0.0%		0.0%	
Non-Auto Trip	15.7%		15.7%		15.7%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0192		0.0181		0.0183		-		-	



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The below Emission Factors are for light- and medium-duty vehicles only (excluding motorcycles), calculated with EMFACT model output based on 2008 RTP Amendment #3:
Year 2008: 0.000446 tons per vmt
Year 2020: 0.000439 tons per vmt
Year 2035: 0.000445 tons per vmt
By default, emission factors for the years 2008, 2020, and 2035 are applied to calculate GHG emissions per Household values for Scenario 1–3 respectively (row 37 under columns B, D, F).

Cerritos

	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	18	1%	40	1%	40	1%	-	0%	-	0%
Developed Acres	3,519	99%	3,579	99%	3,579	99%	-	0%	-	0%
Total	**3,537**		**3,619**		**3,619**		-		-	
Housing Mix										
Single Family	13,272	84%	13,272	84%	13,272	83%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	2,452	16%	2,554	16%	2,653	17%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	**15,725**		**15,827**		**15,926**		-		-	
Employment Mix										
Retail	11,636	33%	12,426	33%	13,057	33%	-	0%	-	0%
Office	16,601	47%	18,076	48%	19,442	49%	-	0%	-	0%
Industrial	7,371	21%	7,271	19%	7,153	18%	-	0%	-	0%
Total	**35,610**		**37,772**		**39,652**		-		-	
Density										
Housing Unit	4.4		4.4		4.4		-		-	
Employment	10.1		10.4		11.0		-		-	
Jobs/Housing Balance	2.3		2.4		2.5		-		-	
Vehicle Ownership per Household	2.4		2.4		2.4		-		-	
Vehicle Miles Traveled per Household	55.1		54.9		54.8		-		-	
Travel Mode Split										
Drive Alone Trip	63.0%		63.1%		63.0%		0.0%		0.0%	
Auto-Passenger Trip	25.7%		25.7%		25.7%		0.0%		0.0%	
Transit Trip	3.0%		3.0%		3.0%		0.0%		0.0%	
Non-Auto Trip	7.3%		7.3%		7.3%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0245		0.0241		0.0244		-		-	



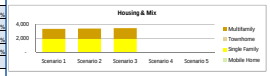
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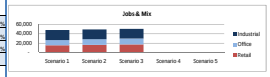
Commerce

	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	17	1%	51	2%	51	2%	-	0%	-	0%
Developed Acres	3,296	99%	3,330	98%	3,330	98%	-	0%	-	0%
Total	***3,313***		***3,381***		***3,381***		-		-	
Housing Mix										
Single Family	1,921	57%	1,921	57%	1,921	55%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	1,435	43%	1,479	43%	1,542	45%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	***3,356***		***3,400***		***3,463***		-		-	
Employment Mix										
Retail	15,285	32%	16,347	33%	17,229	34%	-	0%	-	0%
Office	11,265	23%	12,018	24%	12,775	25%	-	0%	-	0%
Industrial	21,648	45%	21,041	43%	20,627	41%	-	0%	-	0%
Total	***48,198***		***49,406***		***50,631***		-		-	
Density										
Housing Unit	1.0		1.0		1.0		-		-	
Employment	14.5		14.6		15.0		-		-	
Jobs/Housing Balance	14.4		14.5		14.6		-		-	
Vehicle Ownership per Household	2.0		2.0		2.0		-		-	
Vehicle Miles Traveled per Household	42.5		42.6		42.6		-		-	
Travel Mode Split										
Drive Alone Trip	51.1%		51.1%		51.1%		0.0%		0.0%	
Auto-Passenger Trip	31.1%		31.1%		31.1%		0.0%		0.0%	
Transit Trip	5.0%		5.0%		5.0%		0.0%		0.0%	
Non-Auto Trip	12.8%		12.8%		12.7%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0190		0.0187		0.0189		-		-	

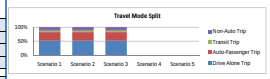
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Year 2035: 0.000445 tons per vmt
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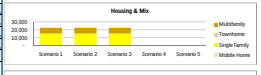


Compton

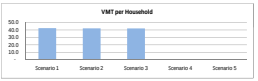
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	80	2%	112	2%	112	2%	-	0%	-	0%
Developed Acres	4,604	98%	4,631	98%	4,631	98%	-	0%	-	0%
Total	***4,682***		***4,744***		***4,744***		-		-	
Housing Mix										
Single Family	15,498	68%	15,498	68%	15,498	68%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	7,154	32%	7,169	32%	7,184	32%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	***22,652***		***22,667***		***22,682***		-		-	
Employment Mix										
Retail	7,933	26%	8,512	27%	8,982	27%	-	0%	-	0%
Office	12,937	42%	14,078	44%	15,169	45%	-	0%	-	0%
Industrial	9,700	32%	9,468	30%	9,293	28%	-	0%	-	0%
Total	***30,570***		***32,058***		***33,444***		-		-	
Density										
Housing Unit	4.8		4.8		4.8		-		-	
Employment	6.5		6.8		7.1		-		-	
Jobs/Housing Balance	1.3		1.4		1.5		-		-	
Vehicle Ownership per Household	2.0		2.0		2.0		-		-	
Vehicle Miles Traveled per Household	42.5		42.2		42.1		-		-	
Travel Mode Split										
Drive Alone Trip	47.6%		47.6%		47.6%		0.0%		0.0%	
Auto-Passenger Trip	33.1%		33.2%		33.2%		0.0%		0.0%	
Transit Trip	5.4%		5.3%		5.3%		0.0%		0.0%	
Non-Auto Trip	13.9%		13.9%		13.9%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0190		0.0185		0.0188		-		-	

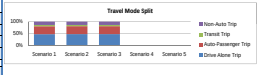
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Year 2020: 0.000439 tons per vmt
Year 2035: 0.000445 tons per vmt
By default, emission factors for the years 2008, 2020, and 2035 are applied to calculate GHG emissions per Household values for Scenario 1-3 respectively (row 37 under columns B, D, F).







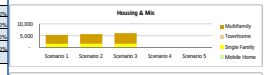




Cudahy

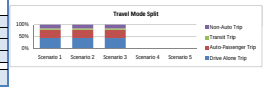
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	-	0%	-	0%	-	0%	-	0%	-	0%
Developed Acres	576	100%	597	100%	597	100%	-	0%	-	0%
Total	**576**		**597**		**597**		**-**		**-**	
Housing Mix										
Single Family	1,669	31%	1,696	30%	1,717	28%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	3,760	69%	4,046	70%	4,404	72%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	**5,429**		**5,742**		**6,121**		**-**		**-**	
Employment Mix										
Retail	1,015	30%	1,084	30%	1,144	30%	-	0%	-	0%
Office	1,674	49%	1,827	50%	1,961	51%	-	0%	-	0%
Industrial	736	21%	727	20%	721	19%	-	0%	-	0%
Total	**3,425**		**3,638**		**3,826**		**-**		**-**	
Density										
Housing Unit	9.4		9.6		10.2		-		-	
Employment	5.9		6.1		6.4		-		-	
Jobs/Housing Balance	0.6		0.6		0.6		-		-	
Vehicle Ownership per Household	1.9		1.9		1.9		-		-	
Vehicle Miles Traveled per Household	39.7		39.0		38.6		-		-	
Travel Mode Split										
Drive Alone Trip	44.6%		44.6%		44.6%		0.0%		0.0%	
Auto-Passenger Trip	34.2%		34.2%		34.2%		0.0%		0.0%	
Transit Trip	6.2%		6.1%		6.1%		0.0%		0.0%	
Non-Auto Trip	15.6%		15.6%		15.7%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0172		0.0171		0.0172		-		-	









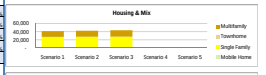


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The below Emission Factors are for light- and medium-duty vehicles only (excluding motorcycles), calculated with EMFACT model output based on 2008 RTP Amendment #3:
Year 2008: 0.000445 tons per vmt
Year 2020: 0.000439 tons per vmt
Year 2035: 0.000445 tons per vmt
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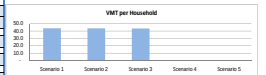
Downey

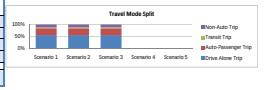
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	12	0%	20	0%	20	0%	-	0%	-	0%
Developed Acres	5,378	100%	5,583	100%	5,583	100%	-	0%	-	0%
Total	**5,390**		**5,602**		**5,602**		**-**		**-**	
Housing Mix										
Single Family	27,699	66%	28,037	66%	28,057	64%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	14,109	34%	14,770	35%	15,952	36%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	**41,799**		**42,807**		**44,009**		**-**		**-**	
Employment Mix										
Retail	8,862	59%	9,542	60%	10,059	62%	-	0%	-	0%
Office	-	0%	-	0%	-	0%	-	0%	-	0%
Industrial	6,243	41%	6,242	40%	6,181	38%	-	0%	-	0%
Total	**15,105**		**15,784**		**16,240**		**-**		**-**	
Density										
Housing Unit	7.7		7.6		7.8		-		-	
Employment	2.8		2.8		2.9		-		-	
Jobs/Housing Balance	0.4		0.4		0.4		-		-	
Vehicle Ownership per Household	2.0		2.0		2.0					
Vehicle Miles Traveled per Household	43.8		43.6		43.4		-		-	
Travel Mode Split										
Drive Alone Trip	56.3%		56.3%		56.3%		0.0%		0.0%	
Auto-Passenger Trip	27.9%		28.0%		28.0%		0.0%		0.0%	
Transit Trip	4.0%		4.0%		4.0%		0.0%		0.0%	
Non-Auto Trip	11.8%		11.7%		11.7%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0195		0.0195		0.0193		-		-	











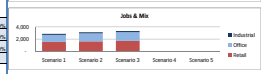
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Year 2035: 0.000445 tons per vmt
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Hawaiian Gardens

	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	-	0%	-	0%	-	0%	-	0%	-	0%
Developed Acres	429	100%	438	100%	438	100%	-	0%	-	0%
Total	**429**		**438**		**438**		-		-	
Housing Mix										
Single Family	1,456	41%	1,468	40%	1,472	38%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	2,139	59%	2,248	60%	2,403	62%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	**3,595**		**3,716**		**3,875**		-		-	
Employment Mix										
Retail	1,533	54%	1,631	52%	1,696	51%	-	0%	-	0%
Office	1,158	41%	1,312	42%	1,454	44%	-	0%	-	0%
Industrial	162	6%	171	5%	175	5%	-	0%	-	0%
Total	**2,853**		**3,116**		**3,325**		-		-	
Density										
Housing Unit	8.4		8.5		8.8		-		-	
Employment	6.7		7.1		7.6		-		-	
Jobs/Housing Balance	0.8		0.8		0.9		-		-	
Vehicle Ownership per Household	2.1		2.1		2.1		-		-	
Vehicle Miles Traveled per Household	46.8		46.5		46.5		-		-	
Travel Mode Split										
Drive Alone Trip	49.9%		49.9%		49.9%		0.0%		0.0%	
Auto-Passenger Trip	31.6%		31.7%		31.7%		0.0%		0.0%	
Transit Trip	5.0%		5.0%		5.0%		0.0%		0.0%	
Non-Auto Trip	13.5%		13.4%		13.4%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0209		0.0204		0.0207		-		-	







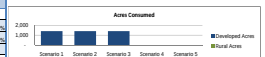


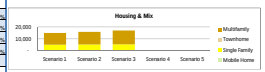


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Huntington Park

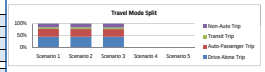
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	1	0%	1	0%	1	0%	-	0%	-	0%
Developed Acres	1,400	100%	1,400	100%	1,400	100%	-	0%	-	0%
Total	**1,401**		**1,401**		**1,401**		-		-	
Housing Mix										
Single Family	5,172	35%	5,351	34%	5,473	32%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	9,797	65%	10,561	66%	11,531	68%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	**14,969**		**15,912**		**17,004**		-		-	
Employment Mix										
Retail	4,845	30%	5,141	30%	5,404	30%	-	0%	-	0%
Office	7,934	48%	8,543	50%	9,103	51%	-	0%	-	0%
Industrial	3,614	22%	3,516	20%	3,435	19%	-	0%	-	0%
Total	**16,394**		**17,199**		**17,942**		-		-	
Density										
Housing Unit	10.7		11.4		12.1		-		-	
Employment	11.7		12.3		12.8		-		-	
Jobs/Housing Balance	1.1		1.1		1.1		-		-	
Vehicle Ownership per Household	1.9		1.9		1.9		-		-	
Vehicle Miles Traveled per Household	37.6		37.6		37.1		-		-	
Travel Mode Split										
Drive Alone Trip	45.2%		45.1%		44.9%		0.0%		0.0%	
Auto-Passenger Trip	32.1%		32.3%		32.2%		0.0%		0.0%	
Transit Trip	6.5%		6.5%		6.6%		0.0%		0.0%	
Non-Auto Trip	16.0%		16.1%		16.3%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0199		0.0195		0.0195		-		-	









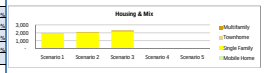


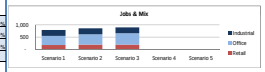
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Year 2035: 0.000445 tons per vmt
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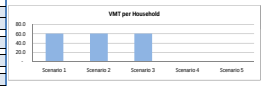
La Habra Heights

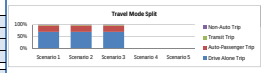
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	550	23%	728	27%	728	27%	-	0%	-	0%
Developed Acres	1,852	77%	1,959	73%	1,959	73%	-	0%	-	0%
Total	*2,402*		*2,687*		*2,687*		-		-	
Housing Mix										
Single Family	1,929	98%	2,052	97%	2,179	94%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	32	2%	55	3%	132	6%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	*1,961*		*2,107*		*2,311*		-		-	
Employment Mix										
Retail	173	22%	190	22%	191	21%	-	0%	-	0%
Office	375	47%	423	49%	466	52%	-	0%	-	0%
Industrial	244	31%	248	29%	239	27%	-	0%	-	0%
Total	*792*		*861*		*896*		-		-	
Density										
Housing Unit	0.8		0.8		0.9		-		-	
Employment	0.3		0.3		0.3		-		-	
Jobs/Housing Balance	0.4		0.4		0.4		-		-	
Vehicle Ownership per Household	2.5		2.5		2.5		-		-	
Vehicle Miles Traveled per Household	60.6		60.6		60.6		-		-	
Travel Mode Split										
Drive Alone Trip	69.9%		69.9%		69.9%		0.0%		0.0%	
Auto-Passenger Trip	26.6%		26.6%		26.6%		0.0%		0.0%	
Transit Trip	2.1%		2.1%		2.2%		0.0%		0.0%	
Non-Auto Trip	1.4%		1.4%		1.5%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0270		0.0266		0.0270		-		-	









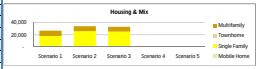


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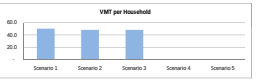
Lakewood

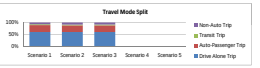
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	46	1%	46	1%	46	1%	-	0%	-	0%
Developed Acres	3,916	99%	3,916	99%	3,916	99%	-	0%	-	0%
Total	*3,962*		*3,962*		*3,962*		-		-	
Housing Mix										
Single Family	18,126	67%	26,201	76%	25,447	76%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	8,877	33%	8,205	24%	7,993	24%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	*27,002*		*34,406*		*33,440*		-		-	
Employment Mix										
Retail	7,306	46%	7,246	39%	7,143	39%	-	0%	-	0%
Office	7,933	50%	10,903	59%	10,771	59%	-	0%	-	0%
Industrial	683	4%	590	3%	523	3%	-	0%	-	0%
Total	*15,923*		*18,738*		*18,438*		-		-	
Density										
Housing Unit	6.8		8.7		8.4		-		-	
Employment	4.0		4.7		4.7		-		-	
Jobs/Housing Balance	0.6		0.5		0.6		-		-	
Vehicle Ownership per Household	2.1		2.1		2.1		-		-	
Vehicle Miles Traveled per Household	50.2		48.2		48.3		-		-	
Travel Mode Split										
Drive Alone Trip	60.9%		60.9%		60.9%		0.0%		0.0%	
Auto-Passenger Trip	28.5%		27.3%		27.3%		0.0%		0.0%	
Transit Trip	3.4%		3.3%		3.3%		0.0%		0.0%	
Non-Auto Trip	7.2%		8.4%		8.4%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0224		0.0212		0.0215		-		-	











** GHG emissions per Household is calculated by dividing GHG emissions total (total VMT X Emission Factor) by the total number of households.*
The below Emission Factors are for light- and medium-duty vehicles only (excluding motorcycles), calculated with EMFACT model output based on 2008 RTP Amendment #3:
Year 2008: 0.000446 tons per vmt
Year 2020: 0.000439 tons per vmt
Year 2035: 0.000445 tons per vmt
By default, emission factors for the years 2008, 2020, and 2035 are applied to calculate GHG emissions per Household values for Scenario 1~3 respectively (row 37 under columns B, D, F).

La Mirada

	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	24	1%	43	1%	43	1%	-	0%	-	0%
Developed Acres	3,460	99%	3,555	99%	3,555	99%	-	0%	-	0%
Total	**3,484**		**3,597**		**3,597**		-		-	
Housing Mix										
Single Family	11,939	81%	12,049	80%	12,049	78%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	2,791	19%	2,958	20%	3,317	22%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	**14,729**		**15,007**		**15,366**		-		-	
Employment Mix										
Retail	4,599	24%	4,789	24%	4,955	24%	-	0%	-	0%
Office	8,690	45%	9,076	46%	9,470	47%	-	0%	-	0%
Industrial	6,070	31%	5,973	30%	5,929	29%	-	0%	-	0%
Total	**19,349**		**19,838**		**20,354**		-		-	
Density										
Housing Unit	4.2		4.2		4.3		-		-	
Employment	5.6		5.5		5.7		-		-	
Jobs/Housing Balance	1.3		1.3		1.3		-		-	
Vehicle Ownership per Household	2.2		2.2		2.2		-		-	
Vehicle Miles Traveled per Household	50.5		50.4		50.2		-		-	
Travel Mode Split										
Drive Alone Trip	61.5%		61.6%		61.5%		0.0%		0.0%	
Auto-Passenger Trip	27.7%		27.7%		27.7%		0.0%		0.0%	
Transit Trip	3.1%		3.1%		3.1%		0.0%		0.0%	
Non-Auto Trip	7.6%		7.6%		7.7%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0225		0.0221		0.0224		-		-	

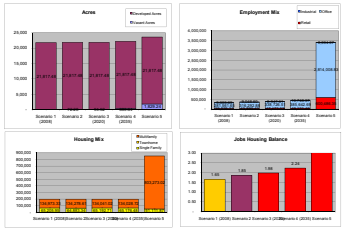
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The below Emission Factors are for light- and medium-duty vehicles only (excluding motorcycles), calculated with EMFAC model output based on 2008 RTP Amendment #3:
Year 2008: 0.000446 tons per vmt
Year 2020: 0.000439 tons per vmt
Year 2035: 0.000445 tons per vmt
By default, emission factors for the years 2008, 2020, and 2035 are applied to calculate GHG emissions per Household values for Scenario 1~3 respectively (row 37 under columns B, D, F).



Long Beach

	Scenario 1 (2008)		Scenario 2		Scenario 3 (2020)		Scenario 4 (2035)		Scenario 5	
Acres										
Vacant Acres		0%	12,464	6%	64.00	0%	383.64	2%	7,826.44	8%
Developed Acres	21,817.48	100%	21,817.48	100%	21,817.48	100%	21,817.48	98%	21,817.48	92%
Housing Mix										
Single Family	85,205.00	33%	84,883.34	33%	85,153.71	33%	85,178.48	33%	51,111.87	8%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	174,973.10	67%	174,278.61	67%	134,041.00	67%	154,038.72	67%	803,273.02	94%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
	260,178.09		**259,161.95**		**259,232.72**		**399,205.20**		**854,384.89**	
Employment Mix										
Retail	39,335.31	12%	42,865.43	12%	47,473.63	12%	46,121.46	11%	600,466.20	18%
Office	281,681.82	88%	316,260.69	88%	339,726.61	88%	399,649.05	87%	2,814,008.82	82%
Industrial	9,303.69	3%	8,048.80	2%	8,967.61	2%	10,749.51	2%	8,054.57	0%
	330,460.82		**369,224.92**		**396,167.85**		**445,512.02**		**3,422,459.20**	
Density										
Housing Unit	8.16		8.16		8.68		8.97		36.13	
Employment	10.14		9.97		10.03		10.97		144.77	
Jobs/Housing Balance	1.65		1.65		1.68		2.24		4.01	
Vehicle Ownership per Household	1.97		1.97		1.93		1.97		1.62	
Vehicle Miles Traveled per Household	32.72		32.01		33.01		33.01		27.12	
Travel Mode Split										
Drive Alone Trip	54.3%		54.2%		54.3%		54.3%		46.9%	
Auto-Passenger Trip	28.8%		28.9%		28.9%		28.9%		28.5%	
Transit Trip	4.8%		4.7%		4.7%		4.7%		9.3%	
Non-Auto Trip	14.1%		14.1%		14.1%		14.1%		15.2%	
Greenhouse Gas Emissions (Tons/Day)	3,261.33		3,119.83		3,132.91		3,173.66		11,308.26	
Greenhouse Gas Emissions (Tons/Household)	0.0156923074		0.0156195154		0.0156307041		0.0159264716		0.0125558696	
2008 Total Population	491272.00									
2008 Total Household	166363.00									
2008 Average Household Size	2.95									
GHG per Capita	0.0054		0.0053		0.0053		0.0053		0.0045	

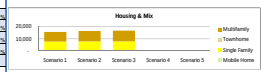
*Based on April 4 discussion with Ira Brown, the Scenarios are defined as above (2008, 2020 and 2035)

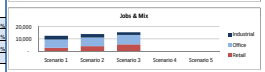


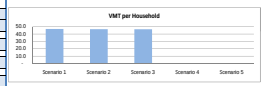
Lynwood

	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	3	0%	7	0%	7	0%	-	0%	-	0%
Developed Acres	2,124	100%	2,185	100%	2,185	100%	-	0%	-	0%
Total	*2,127*		*2,191*		*2,191*		-		-	
Housing Mix										
Single Family	7,800	49%	7,873	48%	7,873	47%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	7,974	51%	8,564	52%	8,839	53%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	*15,774*		*16,438*		*16,712*		-		-	
Employment Mix										
Retail	2,742	32%	4,041	29%	5,554	34%	-	0%	-	0%
Office	4,770	54%	7,141	51%	7,740	50%	-	0%	-	0%
Industrial	3,051	34%	2,862	20%	2,227	14%	-	0%	-	0%
Total	*12,563*		*14,044*		*15,531*		-		-	
Density										
Housing Unit	7.4		7.5		7.7		-		-	
Employment	5.9		6.4		7.1		-		-	
Jobs/Housing Balance	0.8		0.8		0.9		-		-	
Vehicle Ownership per Household	2.2		2.2		2.2		-		-	
Vehicle Miles Traveled per Household	46.6		46.6		46.5		-		-	
Travel Mode Split										
Drive Alone Trip	46.9%		46.9%		46.9%		0.0%		0.0%	
Auto-Passenger Trip	33.9%		33.9%		33.9%		0.0%		0.0%	
Transit Trip	5.4%		5.4%		5.4%		0.0%		0.0%	
Non-Auto Trip	14.2%		14.2%		14.2%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0203		0.0204		0.0207		-		-	







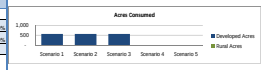


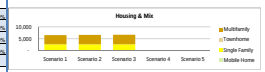


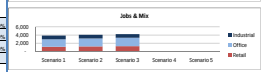
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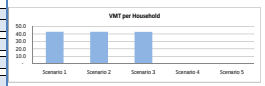
Maywood

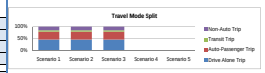
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	3	1%	3	1%	3	1%	-	0%	-	0%
Developed Acres	556	99%	556	99%	556	99%	-	0%	-	0%
Total	*559*		*559*		*559*		-		-	
Housing Mix										
Single Family	2,730	41%	2,730	41%	2,730	40%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	3,864	59%	3,931	59%	4,013	60%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	*6,594*		*6,661*		*6,743*		-		-	
Employment Mix										
Retail	1,106	29%	1,194	29%	1,254	30%	-	0%	-	0%
Office	1,832	47%	1,964	48%	2,079	49%	-	0%	-	0%
Industrial	921	24%	903	22%	885	21%	-	0%	-	0%
Total	*3,861*		*4,060*		*4,218*		-		-	
Density										
Housing Unit	11.8		11.9		12.1		-		-	
Employment	6.9		7.3		7.5		-		-	
Jobs/Housing Balance	0.6		0.6		0.6		-		-	
Vehicle Ownership per Household	2.0		2.0		2.0		-		-	
Vehicle Miles Traveled per Household	43.0		42.9		42.9		-		-	
Travel Mode Split										
Drive Alone Trip	45.9%		45.9%		45.9%		0.0%		0.0%	
Auto-Passenger Trip	32.9%		32.9%		32.9%		0.0%		0.0%	
Transit Trip	6.1%		6.1%		6.1%		0.0%		0.0%	
Non-Auto Trip	15.1%		15.1%		15.1%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0192		0.0189		0.0191		-		-	







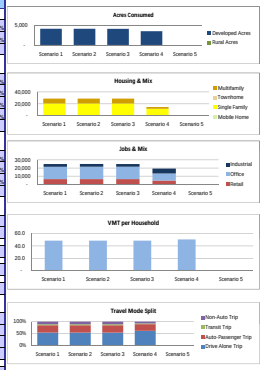




** GHG emissions per Household is calculated by dividing GHG emissions total (total VMT X Emission Factor) by the total number of households.*
The below Emission Factors are for light- and medium-duty vehicles only (excluding motorcycles), calculated with EMFACT model output based on 2008 RTP Amendment #3:
Year 2008: 0.000446 tons per vmt
Year 2020: 0.000439 tons per vmt
Year 2035: 0.000445 tons per vmt
By default, emission factors for the years 2008, 2020, and 2035 are applied to calculate GHG emissions per Household values for Scenario 1~3 respectively (row 37 under columns B, D, F).

Norwalk

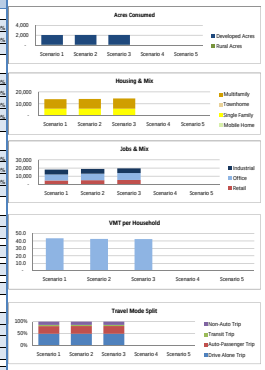
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035		blank		blank	
Acres										
Rural Acres	24	1%	28	1%	28	1%	24	1%	-	0%
Developed Acres	4,086	99%	4,087	99%	4,083	99%	3,460	99%	-	0%
Total	*4,110*		*4,115*		*4,091*		*3,484*		-	
Housing Mix										
Single Family	20,297	70%	20,297	70%	20,296	70%	11,933	81%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	8,196	28%	8,196	28%	8,194	28%	2,791	19%	-	0%
Mobile Home	423	1%	423	1%	423	1%	-	0%	-	0%
Total	*28,494*		*28,494*		*28,481*		*14,725*		-	
Employment Mix										
Retail	6,339	25%	6,342	25%	6,350	26%	4,568	24%	-	0%
Office	15,154	61%	15,251	61%	15,277	61%	8,690	46%	-	0%
Industrial	3,375	14%	3,375	14%	3,244	13%	6,070	31%	-	0%
Total	*24,868*		*24,969*		*24,871*		*19,348*		-	
Density										
Housing Unit	7.5		7.5		7.1		4.2		-	
Employment	6.1		6.1		6.1		5.6		-	
Jobs/Housing Balance	0.9		0.9		0.9		1.3		-	
Vehicle Ownership per Household	2.2		2.2		2.2		2.2		-	
Vehicle Miles Traveled per Household	48.6		48.6		48.6		50.5		-	
Travel Mode Split										
Drive Alone Trip	54.2%		54.2%		54.2%		61.5%		0.0%	
Auto-Passenger Trip	30.9%		30.9%		30.9%		27.7%		0.0%	
Transit Trip	4.3%		4.3%		4.3%		3.1%		0.0%	
Non-Auto Trip	11.0%		11.0%		11.0%		7.6%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0216		0.0213		0.0216		0.0222		-	



** GHG emissions per Household is calculated by dividing GHG emissions total (total VMT X Emission Factor) by the total number of households.*
The below Emission Factors are for light- and medium-duty vehicles only (excluding motorcycles), calculated with EMFAC1 model output based on 2008 RTP Amendment #3:
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Year 2035: 0.000445 tons per vmt
By default, emission factors for the years 2008, 2020, and 2035 are applied to calculate GHG emissions per Household values for Scenario 1–3 respectively (row 37 under columns B, D, F).

Paramount

	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	68	3%	73	4%	73	4%	-	0%	-	0%
Developed Acres	1,951	97%	1,970	96%	1,970	96%	-	0%	-	0%
Total	*2,019*		*2,043*		*2,043*		-		-	
Housing Mix										
Single Family	5,972	43%	6,000	42%	6,000	41%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	8,004	57%	8,156	58%	8,532	59%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	*13,976*		*14,156*		*14,532*		-		-	
Employment Mix										
Retail	4,706	26%	5,026	27%	5,304	27%	-	0%	-	0%
Office	7,368	41%	7,941	42%	8,471	43%	-	0%	-	0%
Industrial	6,009	33%	5,907	31%	5,829	30%	-	0%	-	0%
Total	*18,085*		*18,874*		*19,604*		-		-	
Density										
Housing Unit	6.9		6.9		7.1		-		-	
Employment	9.0		9.2		9.6		-		-	
Jobs/Housing Balance	1.3		1.3		1.3		-		-	
Vehicle Ownership per Household	2.8		2.8		2.8		-		-	
Vehicle Miles Traveled per Household	43.7		42.8		42.6		-		-	
Travel Mode Split										
Drive Alone Trip	49.2%		49.3%		49.3%		0.0%		0.0%	
Auto-Passenger Trip	32.0%		32.2%		32.1%		0.0%		0.0%	
Transit Trip	5.0%		4.9%		4.9%		0.0%		0.0%	
Non-Auto Trip	13.7%		13.7%		13.7%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0195		0.0186		0.0190		-		-	

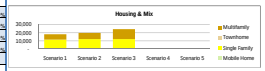


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The below Emission Factors are for light- and medium-duty vehicles only (excluding motorcycles), calculated with EMFAC1 model output based on 2008 RTP Amendment #3:
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Year 2035: 0.000445 tons per vmt
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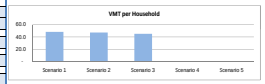
Pico Rivera

	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	39	1%	39	1%	39	1%	-	0%	-	0%
Developed Acres	3,468	99%	3,522	99%	3,505	99%	-	0%	-	0%
Total	**3,508**		**3,561**		**3,544**		-		-	
Housing Mix										
Single Family	11,666	64%	12,261	61%	12,291	50%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	6,592	36%	7,722	39%	12,304	50%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	**18,278**		**19,983**		**24,594**		-		-	
Employment Mix										
Retail	6,890	32%	7,711	36%	9,476	32%	-	0%	-	0%
Office	7,022	37%	9,300	44%	12,411	49%	-	0%	-	0%
Industrial	4,828	26%	4,118	19%	3,648	14%	-	0%	-	0%
Total	**18,739**		**21,129**		**25,535**		-		-	
Density										
Housing Unit	5.2		5.6		6.9		-		-	
Employment	5.4		5.9		7.2		-		-	
Jobs/Housing Balance	1.0		1.1		1.0		-		-	
Vehicle Ownership per Household	2.2		2.2		2.1		-		-	
Vehicle Miles Traveled per Household	48.3		47.2		45.0		-		-	
Travel Mode Split										
Drive Alone Trip	54.3%		54.2%		53.9%		0.0%		0.0%	
Auto-Passenger Trip	30.3%		30.3%		30.2%		0.0%		0.0%	
Transit Trip	4.4%		4.4%		4.4%		0.0%		0.0%	
Non-Auto Trip	11.0%		11.1%		11.9%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0215		0.0207		0.0200		-		-	









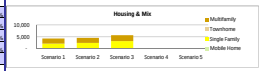


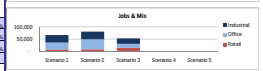
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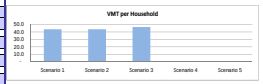
Santa Fe Springs

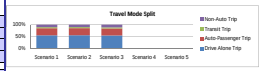
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	83	2%	83	2%	83	2%	-	0%	-	0%
Developed Acres	4,521	98%	4,521	98%	4,516	98%	-	0%	-	0%
Total	**4,604**		**4,604**		**4,599**		-		-	
Housing Mix										
Single Family	2,179	50%	2,478	54%	3,233	56%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	2,152	50%	2,106	46%	2,492	44%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	**4,331**		**4,584**		**5,725**		-		-	
Employment Mix										
Retail	7,310	11%	7,795	10%	14,174	27%	-	0%	-	0%
Office	28,370	43%	41,512	52%	16,081	30%	-	0%	-	0%
Industrial	30,900	46%	31,251	39%	22,662	43%	-	0%	-	0%
Total	**66,580**		**80,554**		**52,917**		-		-	
Density										
Housing Unit	0.9		1.0		1.2		-		-	
Employment	14.5		17.5		11.5		-		-	
Jobs/Housing Balance	15.4		17.6		9.2		-		-	
Vehicle Ownership per Household	1.9		1.9		2.1		-		-	
Vehicle Miles Traveled per Household	43.7		43.7		46.6		-		-	
Travel Mode Split										
Drive Alone Trip	55.4%		55.7%		54.8%		0.0%		0.0%	
Auto-Passenger Trip	29.6%		29.5%		29.1%		0.0%		0.0%	
Transit Trip	4.3%		4.3%		4.5%		0.0%		0.0%	
Non-Auto Trip	10.7%		10.4%		11.6%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0195		0.0192		0.0206		-		-	









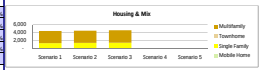


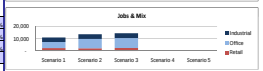
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By default, emission factors for the years 2008, 2020, and 2035 are applied to calculate GHG emissions per Household values for Scenario 1~3 respectively (row 37 under columns B, D, F).

Signal Hill

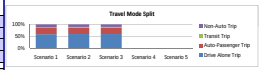
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	52	6%	124	13%	124	13%	-	0%	-	0%
Developed Acres	811	94%	849	87%	849	87%	-	0%	-	0%
Total	*862*		*972*		*972*		-		-	
Housing Mix										
Single Family	1,367	31%	1,447	32%	1,482	32%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	3,046	69%	3,045	68%	3,119	68%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	*4,413*		*4,492*		*4,601*		-		-	
Employment Mix										
Retail	2,382	21%	2,198	16%	2,435	17%	-	0%	-	0%
Office	4,970	45%	7,691	56%	8,200	58%	-	0%	-	0%
Industrial	3,756	34%	3,873	28%	3,932	27%	-	0%	-	0%
Total	*11,116*		*13,762*		*14,567*		-		-	
Density										
Housing Unit	5.1		4.6		4.7		-		-	
Employment	12.9		14.1		15.0		-		-	
Jobs/Housing Balance	2.5		3.1		3.2		-		-	
Vehicle Ownership per Household	1.7		1.7		1.7		-		-	
Vehicle Miles Traveled per Household	41.4		41.4		41.4		-		-	
Travel Mode Split										
Drive Alone Trip	59.0%		59.4%		59.4%		0.0%		0.0%	
Auto-Passenger Trip	25.9%		25.9%		25.9%		0.0%		0.0%	
Transit Trip	4.2%		4.1%		4.1%		0.0%		0.0%	
Non-Auto Trip	10.9%		10.6%		10.5%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0185		0.0182		0.0184		-		-	









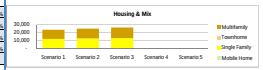


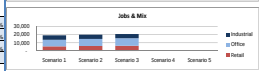
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South Gate

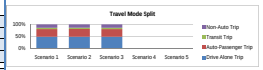
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	17	0%	28	1%	28	1%	-	0%	-	0%
Developed Acres	3,452	100%	3,508	99%	3,508	99%	-	0%	-	0%
Total	*3,469*		*3,536*		*3,536*		-		-	
Housing Mix										
Single Family	12,159	51%	12,784	51%	13,027	49%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	11,476	49%	12,346	49%	13,437	51%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	*23,635*		*25,130*		*26,464*		-		-	
Employment Mix										
Retail	5,744	30%	6,137	30%	6,454	31%	-	0%	-	0%
Office	8,099	42%	8,697	43%	9,273	44%	-	0%	-	0%
Industrial	5,513	28%	5,323	26%	5,175	25%	-	0%	-	0%
Total	*19,356*		*20,157*		*20,902*		-		-	
Density										
Housing Unit	6.8		7.1		7.5		-		-	
Employment	5.6		5.7		5.9		-		-	
Jobs/Housing Balance	0.8		0.8		0.8		-		-	
Vehicle Ownership per Household	2.0		2.0		2.0		-		-	
Vehicle Miles Traveled per Household	44.2		43.4		43.1		-		-	
Travel Mode Split										
Drive Alone Trip	48.4%		48.5%		48.4%		0.0%		0.0%	
Auto-Passenger Trip	31.9%		32.0%		32.0%		0.0%		0.0%	
Transit Trip	5.5%		5.4%		5.4%		0.0%		0.0%	
Non-Auto Trip	14.2%		14.1%		14.2%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0197		0.0191		0.0192		-		-	











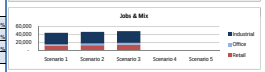
** GHG emissions per Household is calculated by dividing GHG emissions total (total VMT X Emission Factor) by the total number of households.*
The below Emission Factors are for light- and medium-duty vehicles only (excluding motorcycles), calculated with EMFAC1 model output based on 2008 RTP Amendment #3:
Year 2008: 0.000446 tons per vmt
Year 2020: 0.000439 tons per vmt
Year 2035: 0.000445 tons per vmt
By default, emission factors for the years 2008, 2020, and 2035 are applied to calculate GHG emissions per Household values for Scenario 1–3 respectively (row 37 under columns B, D, F).

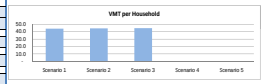
Vernon

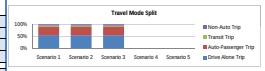
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035					
Acres										
Rural Acres	42	2%	86	3%	86	3%	-	0%	-	0%
Developed Acres	2,523	98%	2,593	97%	2,593	97%	-	0%	-	0%
Total	**2,565**		**2,679**		**2,679**		-		-	
Housing Mix										
Single Family	19	76%	19	76%	19	76%	-	0%	-	0%
Townhome	-	0%	-	0%	-	0%	-	0%	-	0%
Multifamily	6	24%	6	24%	6	24%	-	0%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	**25**		**25**		**25**		-		-	
Employment Mix										
Retail	12,240	27%	13,890	30%	15,264	31%	-	0%	-	0%
Office	3,834	8%	4,095	9%	4,531	9%	-	0%	-	0%
Industrial	28,727	64%	28,852	62%	28,928	59%	-	0%	-	0%
Total	**44,601**		**46,846**		**48,723**		-		-	
Density										
Housing Unit	0.0		0.0		0.0		-		-	
Employment	17.4		17.5		18.2		-		-	
Jobs/Housing Balance	1,784.2		1,873.0		1,948.0		-		-	
Vehicle Ownership per Household	2.2		2.2		2.2		-		-	
Vehicle Miles Traveled per Household	44.2		44.6		44.8		-		-	
Travel Mode Split										
Drive Alone Trip	55.0%		55.0%		55.0%		0.0%		0.0%	
Auto-Passenger Trip	34.0%		33.9%		33.8%		0.0%		0.0%	
Transit Trip	5.3%		5.4%		5.5%		0.0%		0.0%	
Non-Auto Trip	5.7%		5.7%		5.8%		0.0%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0197		0.0196		0.0200		-		-	









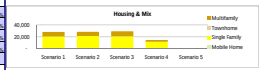


** GHG emissions per Household is calculated by dividing GHG emissions total (total VMT X Emission Factor) by the total number of households.*
The below Emission Factors are for light- and medium-duty vehicles only (excluding motorcycles), calculated with EMFACT model output based on 2008 RTP Amendment #3:
Year 2008: 0.000446 tons per vmt
Year 2020: 0.000439 tons per vmt
Year 2035: 0.000445 tons per vmt
By default, emission factors for the years 2008, 2020, and 2035 are applied to calculate GHG emissions per Household values for Scenario 1-3 respectively (row 37 under columns B, D, F).

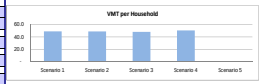
Whittier

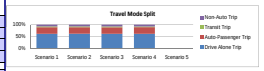
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	YR 2008		YR 2020		YR 2035		blank		blank	
Acres										
Rural Acres	165	3%	165	3%	165	3%	24	1%	-	0%
Developed Acres	5,386	97%	5,452	97%	5,452	97%	3,460	99%	-	0%
Total	**5,551**		**5,617**		**5,617**		**3,484**		-	
Housing Mix										
Single Family	20,508	73%	21,525	75%	20,851	71%	11,939	81%	-	0%
Townhome	296	1%	-	0%	315	1%	-	0%	-	0%
Multifamily	7,479	26%	7,028	25%	8,204	28%	2,781	19%	-	0%
Mobile Home	-	0%	-	0%	-	0%	-	0%	-	0%
Total	**28,282**		**28,554**		**29,373**		**14,720**		-	
Employment Mix										
Retail	5,750	19%	6,163	20%	6,256	20%	4,588	34%	-	0%
Office	21,939	72%	22,113	72%	23,049	73%	8,690	45%	-	0%
Industrial	2,603	9%	2,492	8%	2,288	7%	6,070	31%	-	0%
Total	**30,292**		**30,768**		**31,592**		**19,348**		-	
Density										
Housing Unit	5.1		5.1		5.2		4.2		-	
Employment	5.5		5.5		5.6		5.6		-	
Jobs/Housing Balance	1.1		1.1		1.1		1.3		-	
Vehicle Ownership per Household	2.1		2.1		2.0		2.2		-	
Vehicle Miles Traveled per Household	49.0		49.0		48.2		50.5		-	
Travel Mode Split										
Drive Alone Trip	61.7%		61.8%		61.5%		61.5%		0.0%	
Auto-Passenger Trip	27.4%		27.4%		27.3%		27.7%		0.0%	
Transit Trip	3.5%		3.4%		3.5%		3.1%		0.0%	
Non-Auto Trip	7.4%		7.4%		7.7%		7.6%		0.0%	
Greenhouse Gas Emissions per Household (Tons)	0.0219		0.0215		0.0215		0.0225		-	











** GHG emissions per Household is calculated by dividing GHG emissions total (total VMT X Emission Factor) by the total number of households.*
The below Emission Factors are for light- and medium-duty vehicles only (excluding motorcycles), calculated with EMFACT model output based on 2008 RTP Amendment #3:
Year 2008: 0.000446 tons per vmt
Year 2020: 0.000439 tons per vmt
Year 2035: 0.000445 tons per vmt
By default, emission factors for the years 2008, 2020, and 2035 are applied to calculate GHG emissions per Household values for Scenario 1-3 respectively (row 37 under columns B, D, F).

Appendix G.

List of Regional Transportation Strategies in the Gateway Cities, including Analysis

CAMBRIDGE SYSTEMATICS
Transportation leadership you can trust.

Memorandum

TO: Gateway Cities COG

FROM: Cambridge Systematics, Inc.

DATE: April 25, 2011

RE: Gateway Cities GHG Emission Reduction Benefits from Regional Projects

This memorandum documents the regional greenhouse gas (GHG) emission reduction estimates provided for Gateway Cities Sustainable Communities Strategy (SCS). Those reductions were:

- Daily CO_2 reduction due to changes in network speed = 7 percent;
- Daily CO_2 reduction due to reduced VMT (i.e., mode shift) = 1.1 percent; and
- Packaging is multiplicative: so the combined benefit is 7.07 percent.

GHG emission reduction estimates from regional actions are based on the expected carbon dioxide (CO_2) reductions from the Los Angeles County Metropolitan Transportation Authority (LAMTA) 2009 to 2040 Long-Range Transportation Plan (LRPT)[1]. The 2009 LRTP project lists confirmed that the Gateway Cities 17 key projects (see Table 1) had been included in LRTP modeling. The 2040 no-build and 2040 plan model summaries for Los Angeles County were obtained from LAMTA. (Gateway Cities specific results were not available.) The datasets are provided as Attachment 1 and Attachment 2, respectively. Calculations were done to reflect the vehicle miles traveled (VMT) reduction and changes in speed distributions.

VMT Reductions

VMT reductions result in a proportional reduction in CO_2 emissions. The 2009 LRTP resulted in a 1.1 percent (i.e., 0.011) reduction in VMT for 2040. This 1.1 percent reduction is used for the 2035 horizon year of the SCS.

[1] *2009 Long-Range Transportation Plan*, Technical Document (2009) Los Angeles County Metropolitan Transportation Authority, available online at: http://www.metro.net/projects_studies/images/final-2009-LRTP.pdf, last accessed April 25, 2011.

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Oakland, CA 94607
tel 510-873-8700 www.camsys.com fax 510-873-8701

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Table 1. List of Key Regional Projects

Regional Project List	Anticipated Completion
2020	
I-5 (between I-605 to county line)	2020
I-110 Harbor Transitway HOV lane conversion to HOT lanes	2012
I-710 Arterial Hwy Improvements	2020
I-710 TSM/TDM	2020
2035	
BNSF Grade Separation	2035
California High-Speed Rail	2035
Goldline Eastside Extension	2035
Green Line Extension to LAX	2035
I-5 (between I-605 to I-710)	2035
I-5 Arterial Highway Improvements	2035
I-605 Hot Spots	2035
I-710 Freight Corridor	2025
ITS Integration Plan	2025
OLDA Project	2035
Regional Connector	2025
Signal Synchronization of Major Arterials (Re: I-710)	2025
SR 91/I-605/I-405 Arterial Highway Improvements	2035

Speed Distributions Changes

The 2009 LRTP projects alter the average network speeds by targeting bottlenecks. The resulting change in speeds yields a net reduction in CO^2 emissions. This emissions benefit was estimated based on the ratio of the Unified cycle correction factor (Equation 1)[2], applied by EMFAC2007 to account for the variation in emissions as a function of average trip speed.

[2] On-Road Emission Model Methodology Documentation Section 6.2, available on-line at http://www.arb.ca.gov/msei/onroad/doctable_test.htm, last accessed on April 25, 2011.

$$CCF = e^{-[-0.026423\,(S-27.4) + 0.000744\,(S-27.4)2]} \quad \text{Equation 1}$$

Where:

CCF = CO_2 Cycle Correction Factor for light- and medium-duty fuel injected vehicles given speed "S".

For example, the CCF at 18.1 mph is 1.364 and the CCF at 20.9 mph is 1.225; and the emission reduction is therefore 1-1.23/1.36 or 10.1 percent. The calculation for each period modeled for the 2009 LRTP is shown in Table 2 below.

Table2. Unified Cycle Correction Factors Calculations for No-Build and Plan Network Speeds

Period	2040 Plan VMT	2040 No-Build Average Speed	2040 Plan Average Speed	CO2 Reduction	VMT Weighted CO2 reduction
AM Peak	49,433,206	18.1	20.9	10.1%	2.2%
Mid Day	65,659,326	33.3	35.2	3.0%	0.9%
PM Peak	76,791,120	16.1	19	11.2%	3.8%
Night time	35,186,868	46.4	45.2	0.1%	0.0%
Total	**227,070,520**				**7%**

Packaging

The emission reduction based on reduced VMT and the emission reduction based on network speed changes are not additive. The factors can be combined as multiplicative adjustments rather than additive adjustments. The combined benefit is therefore 7.07 percent.

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Attachment 1. 2040 Plan Model Summery from 2009 LRTP

Daily Los Angeles County Highway Person Trips	
HBW Drive Alone	5,399,611
HBW 2 Person Carpool	844,321
HBW 3 Person Carpool	454,525
HBO Drive Alone	5,729,347
HBO 2 Person Carpool	5,397,498
HBO 3 Person Carpool	7,027,722
NHB Drive Alone	6,843,996
NHB 2 Person Carpool	2,868,070
NHB 3 Person Carpool	2,460,488

Daily Los Angeles County Highway Vehicle Trips	
HBW	5,959,493
HBO	10,557,496
NHB	9,023,559

Daily Los Angeles County Transit Person Trips	
HBW	851,296
HBO	505,698
NHB	149,232

Los Angeles AM 3 Hour	Free-Flow VHT	Congested VHT	VMT	SPEED	DELAY
Freeway(1,9)	246,232	794,078	17,680,811	22.3	547,845
HOV(5,8)	56,467	157,337	4,059,612	25.8	100,870
Arterials(2,3,4)	674,870	1,216,892	22,578,946	18.6	542,022
Total(1-5,7-9)	1,001,005	2,196,123	45,248,548	20.6	1,195,118

Los Angeles AM 1 Hour	Free-Flow VHT	Congested VHT	VMT	SPEED	DELAY
Freeway(1,9)	98,901	560,411	7,102,449	12.7	461,510
HOV(5,8)	22,568	110,812	1,622,459	14.6	88,244
Arterials(2,3,4)	307,116	857,868	10,217,198	11.9	550,752
Total(1-5,7-9)	439,432	1,545,531	19,372,152	12.5	1,106,099

Los Angeles Daily	Free-Flow VHT	Congested VHT	VMT	SPEED	DELAY
AM	1,169,292	2,364,409	49,433,206	20.9	1,195,118
MD	1,466,445	1,865,362	65,659,326	35.2	398,917
PM	1,855,418	4,035,464	76,791,120	19.0	2,180,047
NT	724,945	779,122	35,186,868	45.2	54,177
Total	5,216,099	9,044,358	227,070,520	25.1	3,828,258

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Attachment 2. 2040 No-Build Model Summary from 2009 LRTP

Daily Los Angeles County Highway Person Trips	
HBW Drive Alone	5,440,219
HBW 2 Person Carpool	844,219
HBW 3 Person Carpool	458,703
HBO Drive Alone	5,733,554
HBO 2 Person Carpool	5,402,991
HBO 3 Person Carpool	7,044,461
NHB Drive Alone	6,855,621
NHB 2 Person Carpool	2,870,124
NHB 3 Person Carpool	2,460,100

Daily Los Angeles County Highway Vehicle Trips	
HBW	6,001,315
HBO	10,569,521
NHB	9,036,093

Daily Los Angeles County Transit Person Trips	
HBW	781,466
HBO	465,556
NHB	130,569

Los Angeles AM 3 Hour	Free-Flow VHT	Congested VHT	VMT	SPEED	DELAY
Freeway(1,9)	250,374	974,193	17,978,524	18.5	723,819
HOV(5,8)	41,057	111,516	2,951,382	26.5	70,459
Arterials(2,3,4)	725,109	1,494,804	24,129,851	16.1	769,696
Total(1-5,7-9)	1,041,414	2,611,819	46,046,055	17.6	1,570,405

Los Angeles AM 1 Hour	Free-Flow VHT	Congested VHT	VMT	SPEED	DELAY
Freeway(1,9)	100,554	683,446	7,221,179	10.6	582,892
HOV(5,8)	16,304	77,542	1,172,001	15.1	61,238
Arterials(2,3,4)	327,764	1,103,914	10,864,077	9.8	776,151
Total(1-5,7-9)	456,380	1,886,573	19,723,507	10.5	1,430,193

Los Angeles Daily	Free-Flow VHT	Congested VHT	VMT	SPEED	DELAY
AM	1,211,452	2,781,857	50,267,789	18.1	1,570,405
MD	1,500,572	1,980,730	65,927,142	33.3	480,158
PM	1,922,297	4,842,504	78,201,854	16.1	2,920,207
NT	730,867	768,483	35,681,328	46.4	37,616
Total	5,365,189	10,373,575	230,078,112	22.2	5,008,386

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Appendix H.

Analysis of Interactive Effects Contributing to Further GHG Reduction in the Gateway Cities

H. Land Use – Regional Transit Capacity Expansion Interaction

Overview

The interaction between new development and redevelopment in Gateway Cities as modeled through the Sustainability Tool (ST) and regional public transportation projects funded under Measure R is a critical component of estimating GHG emission reductions in 2020 and 2035. This interaction is assumed to represent all components of the 4D concept – that households in communities featuring high density development, a diverse and balanced mix of uses, a high quality pedestrian environment, and superior access to regional opportunities via transit are much less auto dependent.

The element of the 4Ds under more careful consideration in the Gateway Cities SCS analysis is with regard to change in transit access and level of service. The reason for this additional attention is the recognition of the significant role that regional transit projects in the RTP and funded under Measure R will play in future development patterns and travel choices in the Gateway Cities.

Assessment Process in Gateway Cities SCS

There are two primary components to the land use-regional transit capacity expansion interaction under consideration in the SCS:

1. **Regional Transit Walk Access –** There are two potential interactions to consider:
   a. Residential and commercial development and redevelopment identified in the Gateway Cities adjacent to existing transit stations will on average generate less VMT per household than households not adjacent to transit. This interaction is accounted for in the ST.
   b. The improvement of transit access to regional destinations outside the Gateway Cities and new high capacity and frequent regional transit service in Gateway Cities as identified in the RTP and Measure R project list improves the level of service and utility of the transit mode leading to mode shift from vehicle-based trips.
2. **Transit-Oriented Development (TOD) Opportunity –** New or improved transit stations attract new TOD, consisting of high-density, mixed residential and commercial development with a higher propensity for transit trips.

Regional Transit Walk Access

The Sustainability Tool has functionality that estimates the interactions between land use (expressed as the 4Ds: density, diversity, design, destination) and

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proximity to a fixed-guideway transit node (defined as within ½ mile). The ST subdivides the growth forecasts from the cities into 5.5-acre grid cells, overlays the data with existing transit facilities, and flags all cells within a one-half mile of transit station locations and one-quarter mile of bus transit routes.

In the ST, regional transit walk access is an environmental (nondemographic based) predictor of household transit trips, with an average reported elasticity of 0.25 (meaning that for every 10-percent increase in households flagged with regional transit walk access, there is a 2.5-percent increase in transit trips).

The GHG reduction estimates developed through the ST reflects the benefit of growth and land use change within the Gateway Cities through 2035 overlaid on the existing regional transit network.

The ST does not consider the additional VMT reduction that could occur in the Gateway Cities as a result of long-range implementation of Measure R transit projects. Projects in the Measure R plan anticipated to be completed by 2035 that will affect travel in Gateway Cities includes:

1. The Gold Line Eastside Extension,
2. The Orange Line Development Authority (OLDA) grade-separated regional transit project,
3. The Regional Connector project linking the Blue Line to other MTA facilities in Downtown Los Angeles, and
4. The Green Line extension to LAX.

These projects will positively affect transit ridership in the Gateway Cities in two ways: 1) the projects will improve regional access to attractions, employment, and services for Gateway Cities households; and 2) the projects will provide a new fixed guideway transit alternative to private vehicle or bus transit trips.

Inside Gateway Cities, the primary project of interest is the OLDA project. It is likely that most, if not all, of the households adjacent to this project already have access to transit. The ST currently applies the same regional transit walk access approach for the households in these grid cells, however, uses a one-quarter-mile access buffer.

Fixed guideway transit tends to be more attractive than bus transit to discretionary travelers (people who have the option of driving), including commuters, visitors, and people traveling to major sporting and cultural events if they are located along transit lines. To reflect the transition from bus to fixed-guideway transit access, an assumption that the regional transit walk access elasticity increases from 0.17 for bus to 0.33 for rail is reasonable for these discretionary trips. Essentially, travelers with existing access to bus transit, which will in the future have access to rail transit, will be 1.5 to 2 times as likely to choose transit than before (while controlling for socioeconomic variables). Results from travel demand modeling activities completed for these regional transit projects will effectively demonstrate the benefit of this interaction as well.

TOD Opportunity

In expanding transit corridors in California and elsewhere, the presence of new, high capacity, high level of service public transportation options has been shown to be a catalyst for new or redevelopment. Through zoning codes and development regulations, cities may support development of these areas through reduced parking requirements, tax increment financing, and other incentives to maximize the opportunity for development and capitalize on their investment in transit.

It is uncertain how much the opportunity for rezoning and eventual redevelopment of land uses near planned transit stations is incorporated into city general plans. The only project in the Measure R plan anticipated to be completed by 2035 that could facilitate TOD in Gateway Cities is the Orange Line Development Authority grade-separated high-speed regional transit project planned to provide access to Vernon, Maywood, Bell, Huntington Park, Cudahy, Downey, South Gate, Paramount, Artesia, Bellflower, and Cerritos.

In addition, other regional transit projects which increase the level of service and accessibility to attractions outside the Gateway Cities (for example such as new Green Line access to LAX) could also, to a lesser degree than above, facilitate TOD at existing transit stations in the Gateway Cities. It is likely, that the benefits from TOD at these locations would occur sooner than TOD associated with the OLDA project given that the transit infrastructure is already in place.

The level to which growth in the Gateway Cities could intensify or be redistributed to focus in areas adjacent to new fixed-guideway transit stations is dependent on available development capacity, supporting infrastructure, zoning and development regulations, and future economic and market conditions. The example analysis of this interaction considers the affect of TOD in areas within one-eighth mile of Orange Line transit stations.

Results

The data summarized in Table H.1 reflects the range of potential benefits resulting from the interaction between land use and Measure R transit projects in the Gateway Cities in 2035. Given the anticipated long timeframe for implementation of the Measure R transit projects, as well as the long lead time for redevelopment activities adjacent to new transit, the resulting GHG reductions associated with this interaction is only considered for 2035.

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Table H.1 Gateway Cities SCS – GHG Reduction from Land Use and Regional Transit Interactions

Gateway Cities – Land Use and Regional Transit Interaction	2035
Interaction 1 – Regional Walk Access	
Improved Access to Regional Destinations	
• Average Daily VMT per Household in Gateway Cities	42.5
• Total Daily GHG Reduction (lbs GHG per capita)	0.041-0.062
New Access to Fixed Guideway Transit	
• Total Households within 1/2 mile of "Orange Line" Station Locations [1]	40,075
• Total Daily GHG Reduction (lbs GHG per capita)	0.021-0.042
Interaction 2 – TOD	
• Target Density Range in TOD Station Areas (TOD defined as 1/8 mile of station)[2]	23.7-60.7 hu/acre
• Total Households in TOD Station Areas	8,186-20,966
• Total Daily GHG Reduction (lbs GHG per capita)	0.058-0.073
Total Daily GHG Reduction (lbs GHG per capita)	0.120-0.177

Notes:

1. Assumes constant household density within each city based on 2035 forecasts.

2. Apply characteristics of range "Town Residential High Mix to Town Residential Low Mix" to TOD station areas.

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Appendix I.

CEQA Streamlining

I. CEQA Streamlining: Existing Land Use, Density, and Building Intensity Data

SB 375 provides incentives in the form of CEQA streamlining to support community designs that help reduce GHG emissions. To take advantage of these CEQA streamlining provisions in SB 375, projects must prequalify based on two criteria:

1. A project must be consistent with the land use designation, density, building intensity, and applicable policies in an approved SCS or Alternative Planning Strategy[1]; and
2. A project must be considered a Transit Priority Project (TPP) or a Residential/Mixed Use Residential Project (as defined in SB 375).

To help Gateway Cities Council of Governments (GCCOG) jurisdictions take advantage of the CEQA streamlining provisions in SB 375, SCAG will include maps in the regional 2012 RTP/SCS in order to show the uses, densities, intensities, and locations for future development; and in order to facilitate subsequent project consistency findings. These maps will use the GCCOG dataset as reviewed and approved by GCCOG. SCAG, in consultation with GCCOG and their jurisdictions, may provide more detail to allow interested jurisdictions to take advantage of the CEQA streamlining provisions in SB 375. SCAG will only show more land use detail, where a jurisdiction has acknowledged that the land use information is based on their input and approved of its being displayed in the adopted plan.

To facilitate SB 375 CEQA Streamlining, individual GCCOG jurisdictions are asked to provide detailed land use information (uses, densities, intensities at a defined geographic level) to SCAG. These data are called out in the SCAG Framework and Guidelines and the legislation specific to the streamlining

[1] CARB will review the regional SCS to accept or reject SCAG's determination whether or not the implementation of the SCS would achieve the GHG emission reduction targets for the region. If the regional targets cannot be achieved by the regional SCS, then SCAG must prepare an Alternative Planning Strategy (APS). An APS is a separate document from the RTP and describes how the targets could be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Gateway Cities Council of Governments Subregional Sustainable Communities Strategy
Appendix

provisions. Additionally, or in lieu of detailed land use information, jurisdictions may work with SCAG in designating the appropriate regional "development type" in locations for potential future projects. Jurisdictions themselves will determine whether a particular project meets the CEQA streamlining qualifications, including making the consistency finding. If a jurisdiction does not participate in the SCS data collection effort for existing land use, density, and building intensity, there is no direct adverse consequence due to not providing input.

In order to provide the most accurate data possible for the GCCOG subregion, and to preserve individual jurisdictions' general plan and existing data accuracy, detail, and integrity, and to meet the requirements under SB 375 for purposes of CEQA streamlining, SCAG prepared and provided GCCOG local jurisdictions with a set of data/GIS maps of detailed land use information, including General Plan, zoning, and existing general land use designation, density and building intensity data and maps, all for the jurisdictions' review and comment. The data was provided in the format of the Sustainability Tool by January 31, 2011. GCCOG consultants helped to extract the data for review during the February 16 workshop at the GCCOG offices in Paramount, California.

The information contained in the data packets document was developed and/or collected by the staff in the Data and GIS group in the Department of Research, Analysis, and Information Services (RAIS) under the Land Use and Environmental Planning (LUEP) Division at SCAG. The SCAG Data/Map Guide included information on the sources, methodologies, and contents of each dataset. These data/GIS maps are identified in SB 375 as required to be considered in the SCS development to address the requirements of SB 375 and its implementation for purposes of CEQA streamlining. Comments and corrections from subregions and local jurisdictions are due to SCAG as part of the Gateway SCS process by April 29, 2011. The list of data/GIS maps included in the SCAG map and data packets, along with the review requested of GCCOG jurisdictions, appears as Table I.1 below.

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Table I.1 Contents of the SCAG Map and Data from the Sustainability Tool

Category	GIS Shapefile Available?
Land Use	
General Plan	Yes
Zoning	Yes
Existing Land Use of 2008	Yes
Geographical Boundaries	
Jurisdictional Boundary and Sphere of Influence	Yes
Census Tract Boundary	Yes
TAZ Boundary	Yes
Transit Priority Projects	
Major Stops & High Quality Transit Corridors	Yes
Resource Areas & Farmland	
Endangered Species and Plants	Yes
Flood Areas	Yes
Natural Areas	Yes
Open Space and Parks	Yes
Farmland	Yes

Background: Existing Land Use, Density, and Building Intensity

In 2008 and early 2009, SCAG began to collect the general plan and zoning information from local jurisdictions, with year adopted ranging from 1971 to 2009 by jurisdiction. The general plan and zoning documents, maps, and/or GIS shapefiles collected were coded into GIS shapefiles at parcel level. Parcel data were acquired from Digital Map Product for Gateway Cities COG. Beginning in July 2009, SCAG communicated with local jurisdictions, and revised the general plan and zoning data based on the results of the local review. Through a process of collecting general plan and zoning documents and receiving comments from local jurisdictions, information included in the data packets reflected the local inputs received by January 31, 2010. SCAG continues to receive local input, and will incorporate them into the database. General Plan data are shown at a parcel level; in many areas, they depict a local agency's adopted documents accurately. However, the data shown in some areas may be generalized or inaccurate for many reasons, a primary reason because the parcel-level database representing general plan does not support multiple uses or designations on a single parcel (either splitting the parcel or representing overlays). Additionally, data on building size, existing use, and other specific parcel-related information that SCAG collected from other original data sources, such as the Gateway Cities

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Appendix

County Assessor's Office, may have been in error and/or not up to date. Due to these inaccuracies and limitations, if site-specific data is necessary, users should always reference a local agency's adopted documents or field surveys to determine actual land use designations.

At the jurisdiction level, both general plan land use and zoning maps are prepared with the land use or zoning codes used in each local jurisdiction. General Plan land use maps are also available at larger geographic levels, such as subregion, county, or the entire SCAG region with SCAG's standardized General Plan codes. For detailed information on the standardized codes, please refer to SCAG's General Plan Code Table.

SCAG prepared three sets of land use maps (General Plan Land Use, Zoning and 2008 Existing Land Use) at parcel level. The three land use maps were originally provided to local jurisdictions in September/October 2009. Based on one-on-one meetings and communication with local jurisdictions throughout the first round outreach (July 2009 to January 2010) the Data/Map packets of existing land use, density, and building intensity data transmitted to Gateway Cities COG jurisdictions in February 2011 reflect the local inputs received by January 31, 2010.

Gateway Cities Jurisdiction Review Process

GCCOG distributed the electronic files and hard copies to Gateway cities for review. They were asked to review and submit updates and comments for purposes of SB 375 CEQA streamlining and with regard to the land use strategies developed for GHG reduction in SB 375. All GCCOG jurisdictions received the SCAG datasets in both electronic and hard copy format. Most, but not all, GCCGOG jurisdictions reviewed the data for purposes of SB 375.

SCAG staff presented a data orientation and review session to the GCCOG on February 16, 2011, at a technical workshop held at the Gateway COG. Additionally, SCAG staff was available and conducted one-on-one meetings with cities who were interested in modifying and/or reviewing their land use during the last week of March 2011 to provide technical data and GIS assistance to GCCOG jurisdictions with limited data/GIS capability that needed assistance in the Data/Map review.

Based upon parcel level data originally provided by SCAG, GCCOG jurisdictions reviewed the data to various degrees for purposes of CEQA streamlining.

Results

The results of that process have been provided electronically to SCAG through the Sustainability Tool. For a select number of cities, modifications were made in conjunction with SCAG staff. For the remainder, default scenarios were used, which were part of the SCAG original dataset.

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In Appendix J, individual jurisdiction General Plans are presented along with web address links to individual jurisdictions' General Plans. Individual jurisdiction General Plans are always considered the final and ultimate authority on land use and zoning, especially for those jurisdictions that opted not to review the SCAG data.

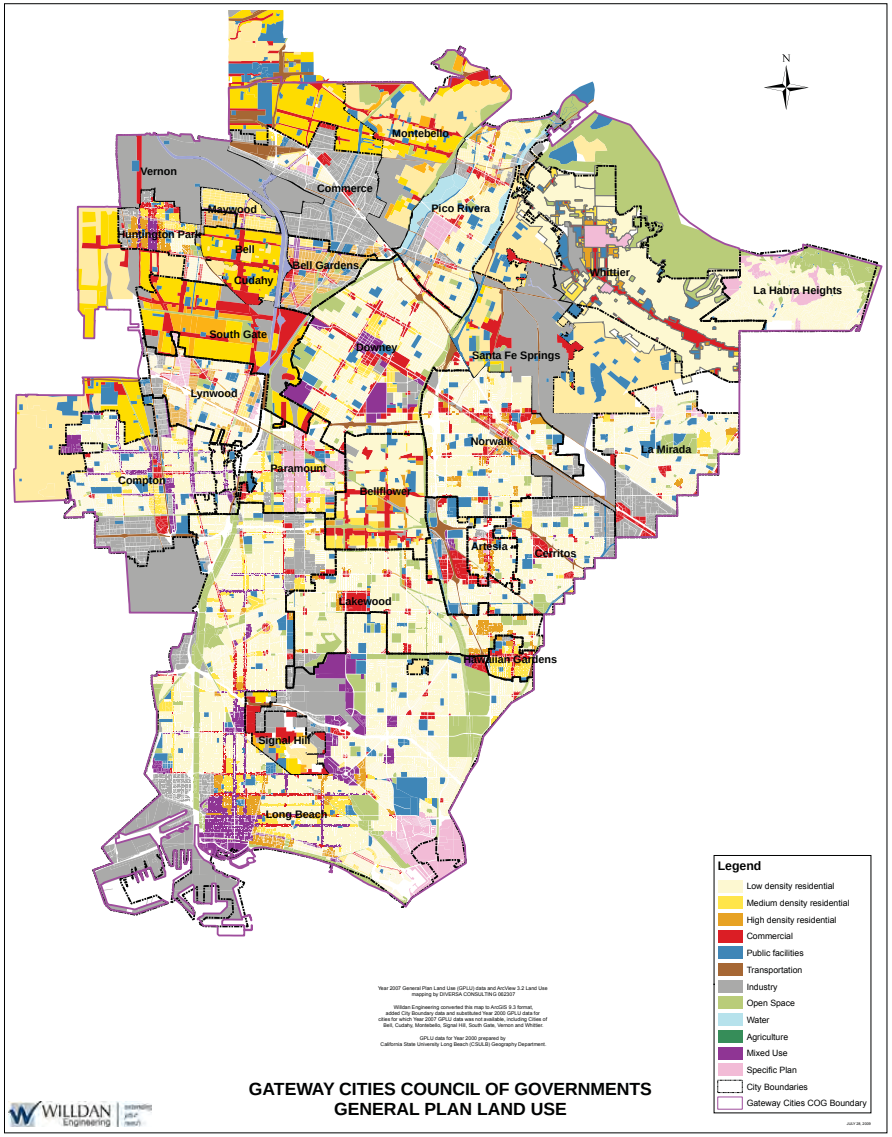
For those jurisdictions that did not fully review, there are some limitations, conditions, and caveats to the existing land use, density, and building intensity data. Data provided by SCAG on land use is in some areas inaccurate and/or generalized. Because the parcel-level database representing existing land use, general plan, and zoning data does not support multiple uses or designations on a single parcel (either splitting the parcel or representing overlays, such as zoning overlays), the data ultimately shown may generalize the data and thus not accurately depict a local government's adopted general plan or zoning or the existing land use on the site (including land use designated through a development or other legal agreement).

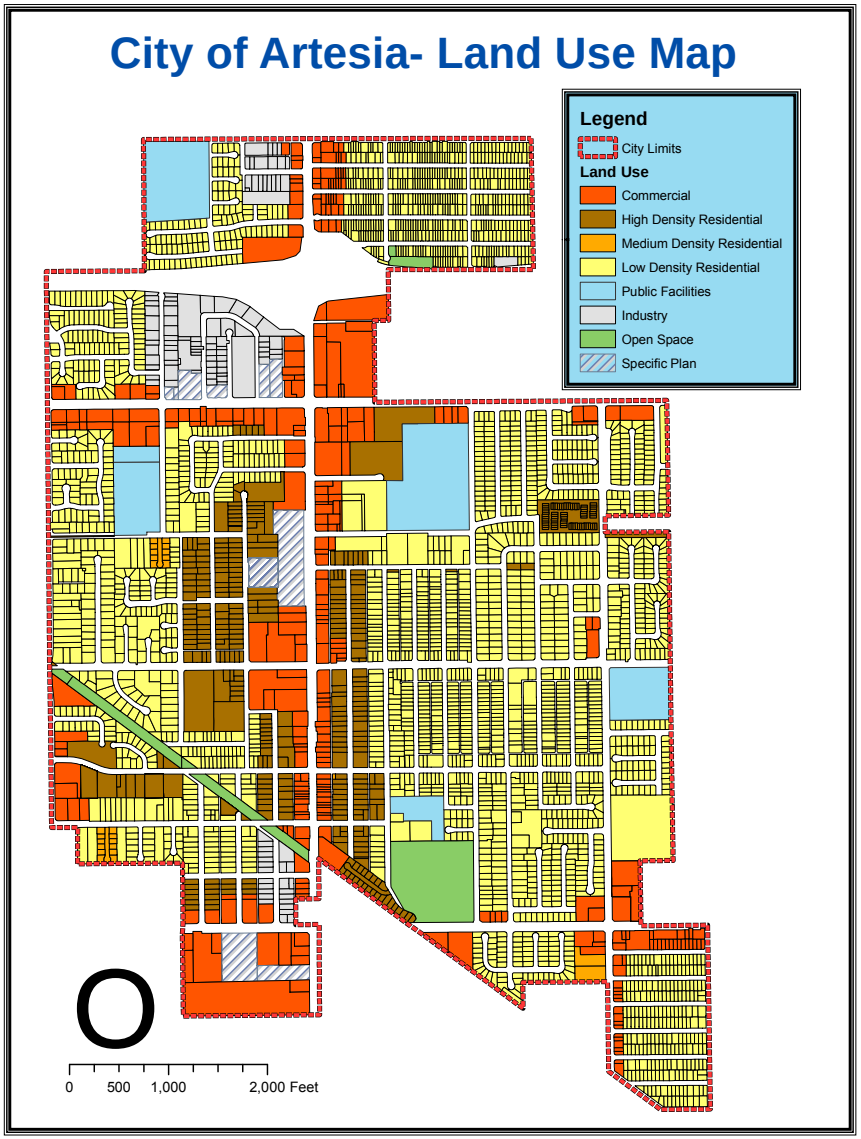
Due to these caveats and limitation, if site-specific data is necessary, users should always reference and rely on individual Gateway Cities jurisdiction general plans as the final authority. A local agency's adopted documents are always the final say on allowable land use designations and zoning, and actual site visits or field surveys to determine densities and building intensities should be undertaken.

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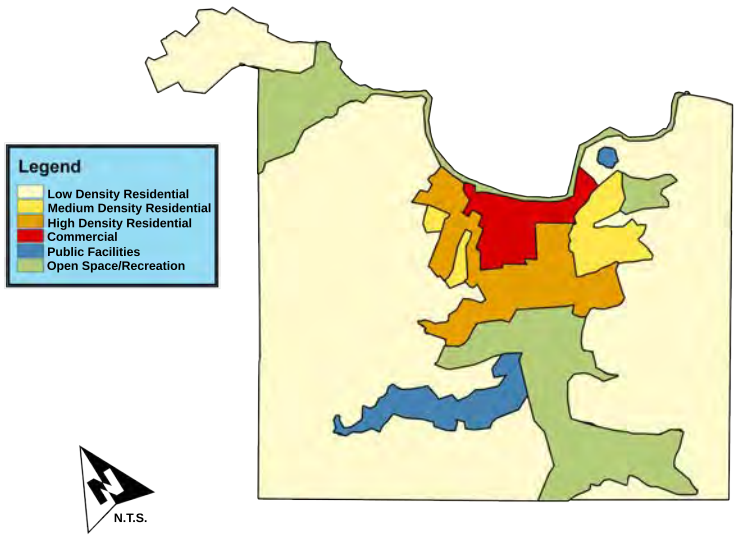
Appendix J.

Jurisdiction General Plans

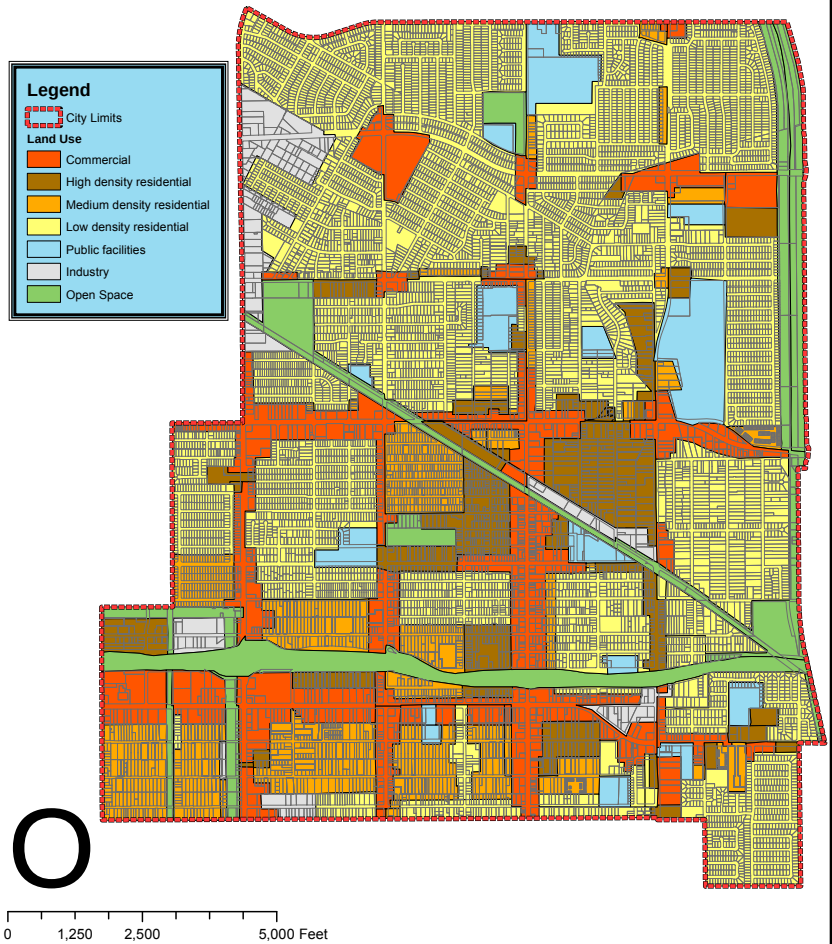

N
Montebello
Vernon
Commerce
Maywood
Pico Rivera
Huntington Park
Bell
Bell Gardens
Cudahy
Whittier
La Habra Heights
South Gate
Downey
Santa Fe Springs
Lynwood
Norwalk
La Mirada
Compton
Paramount
Bellflower
Artesia
Cerritos
Lakewood
Hawaiian Gardens
Signal Hill
Long Beach
Legend
Low density residential
Medium density residential
High density residential
Commercial
Public facilities
Transportation
Industry
Open Space
Water
Agriculture
Mixed Use
Specific Plan
City Boundaries
Gateway Cities COG Boundary
Year 2007 General Plan Land Use (GPLU) data and ArcView 3.2 Land Use mapping by DIVERSIDA CONSULTING 062307.
Willdan Engineering converted this map to ArcGIS 9.3 format, added City Boundary data and substituted Year 2000 GPLU data for cities for which Year 2007 GPLU data was not available, including Cities of Bell, Cudahy, Montebello, Signal Hill, South Gate, Vernon and Whittier.
GPLU data for Year 2000 prepared by California State University Long Beach (CSULB) Geography Department.
WILLDAN Engineering
GATEWAY CITIES COUNCIL OF GOVERNMENTS
GENERAL PLAN LAND USE

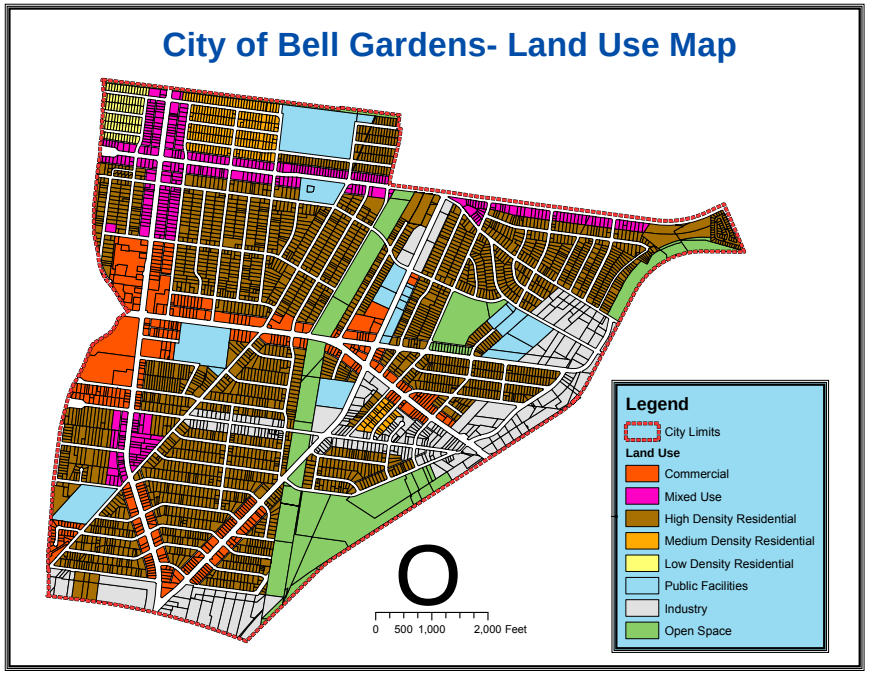

City of Artesia- Land Use Map
Legend
City Limits
Land Use
Commercial
High Density Residential
Medium Density Residential
Low Density Residential
Public Facilities
Industry
Open Space
Specific Plan
0
500
1,000
2,000 Feet

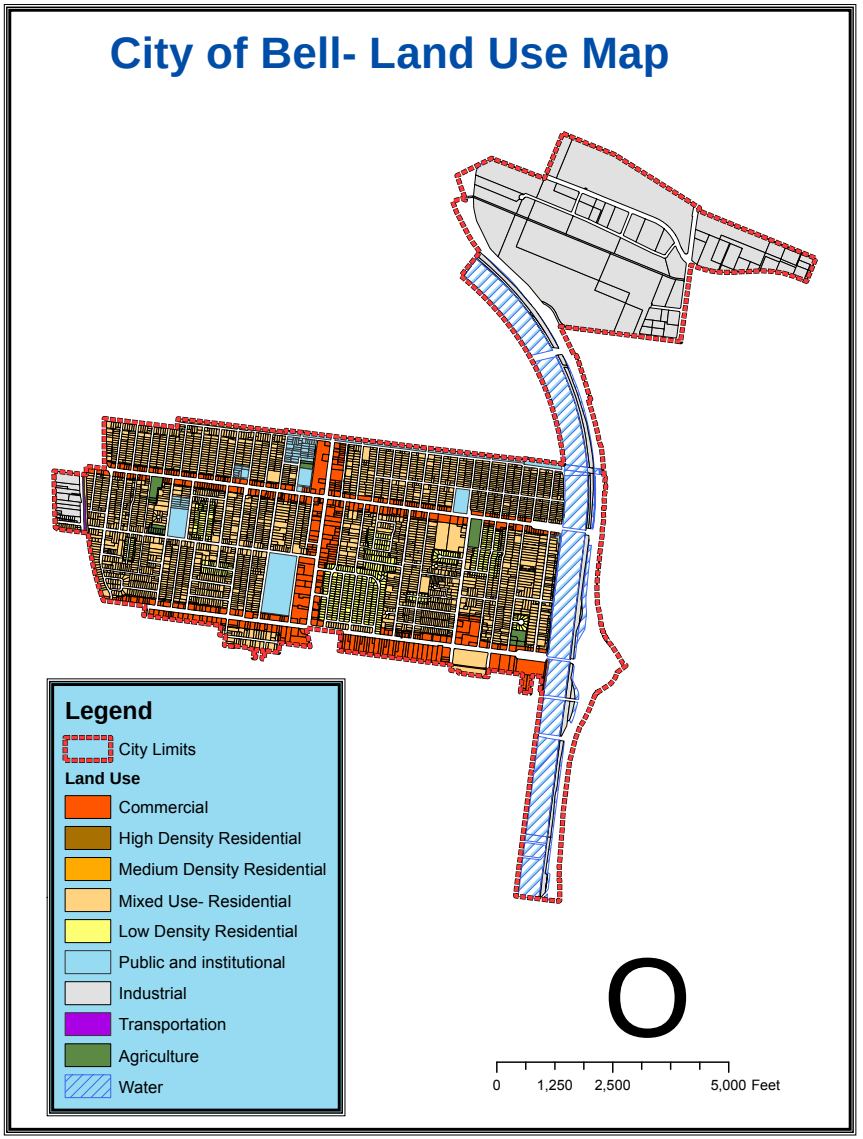
City of Avalon- Land Use Map

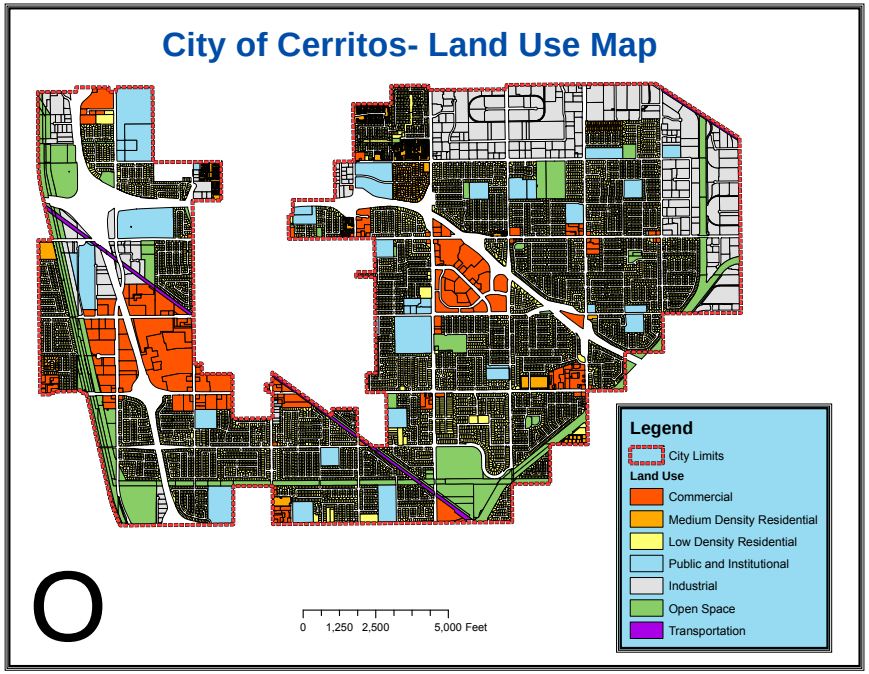


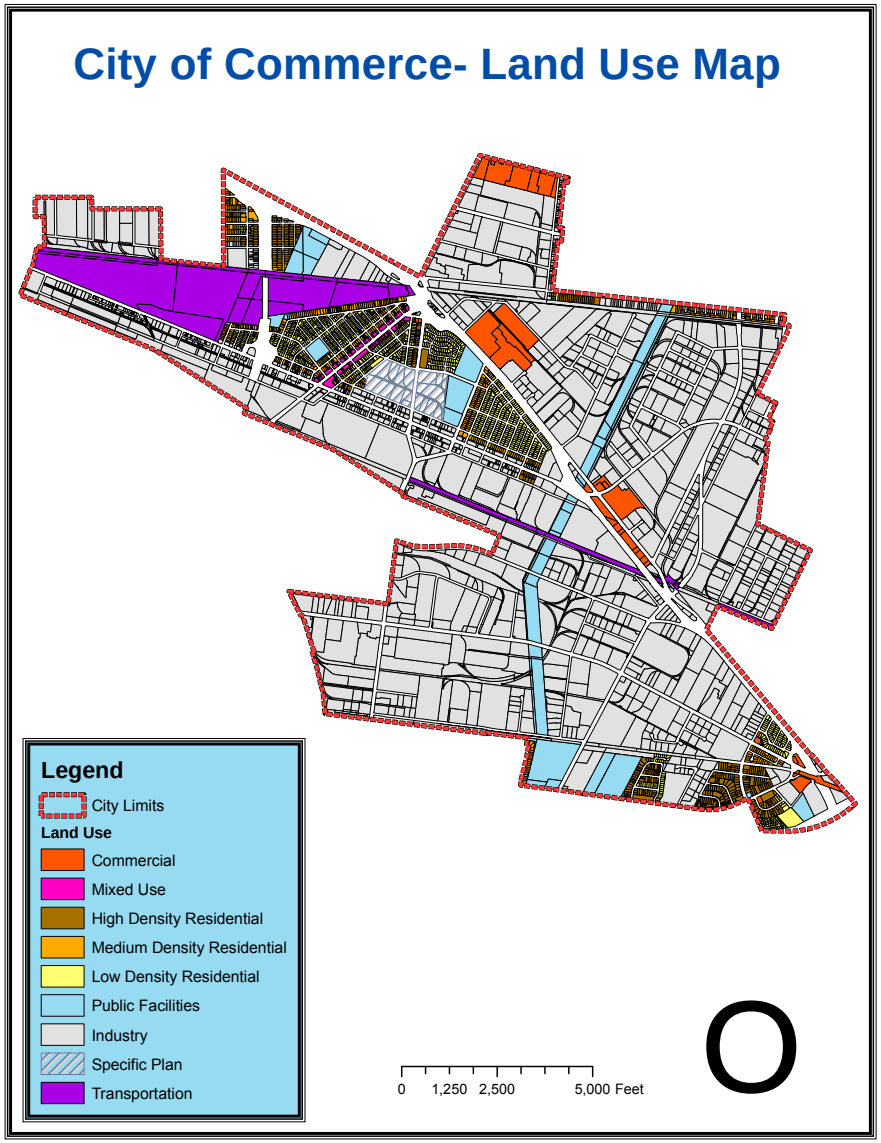
City of Bellflower- Land Use Map

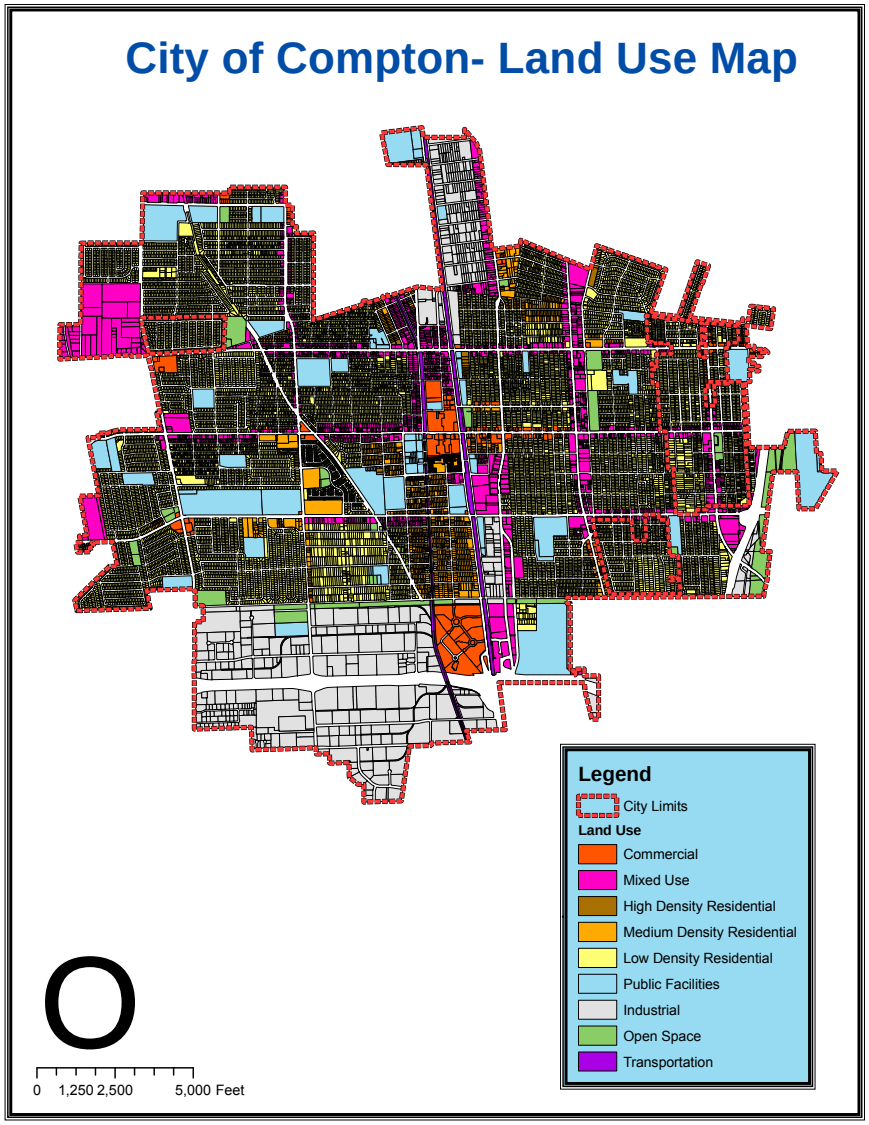


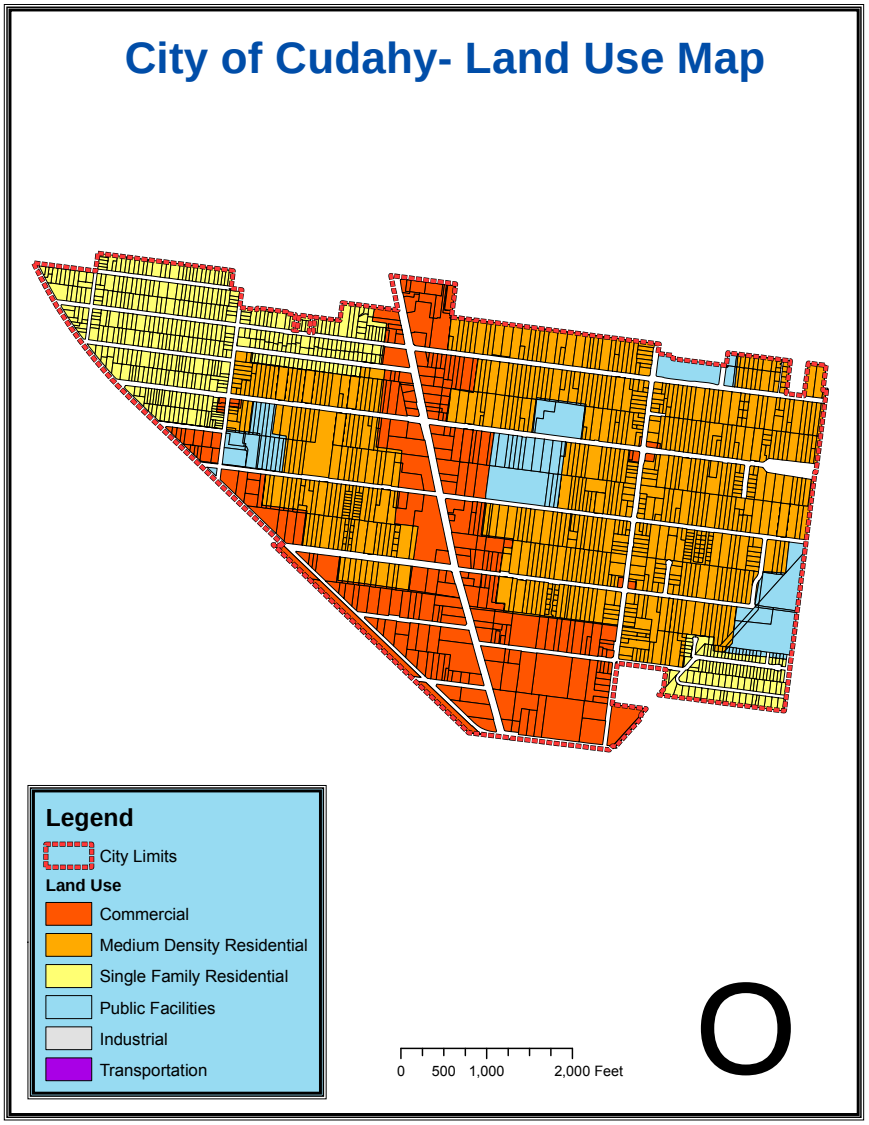

City of Bell Gardens- Land Use Map
Legend
City Limits
Land Use
Commercial
Mixed Use
High Density Residential
Medium Density Residential
Low Density Residential
Public Facilities
Industry
Open Space
0 500 1,000 2,000 Feet

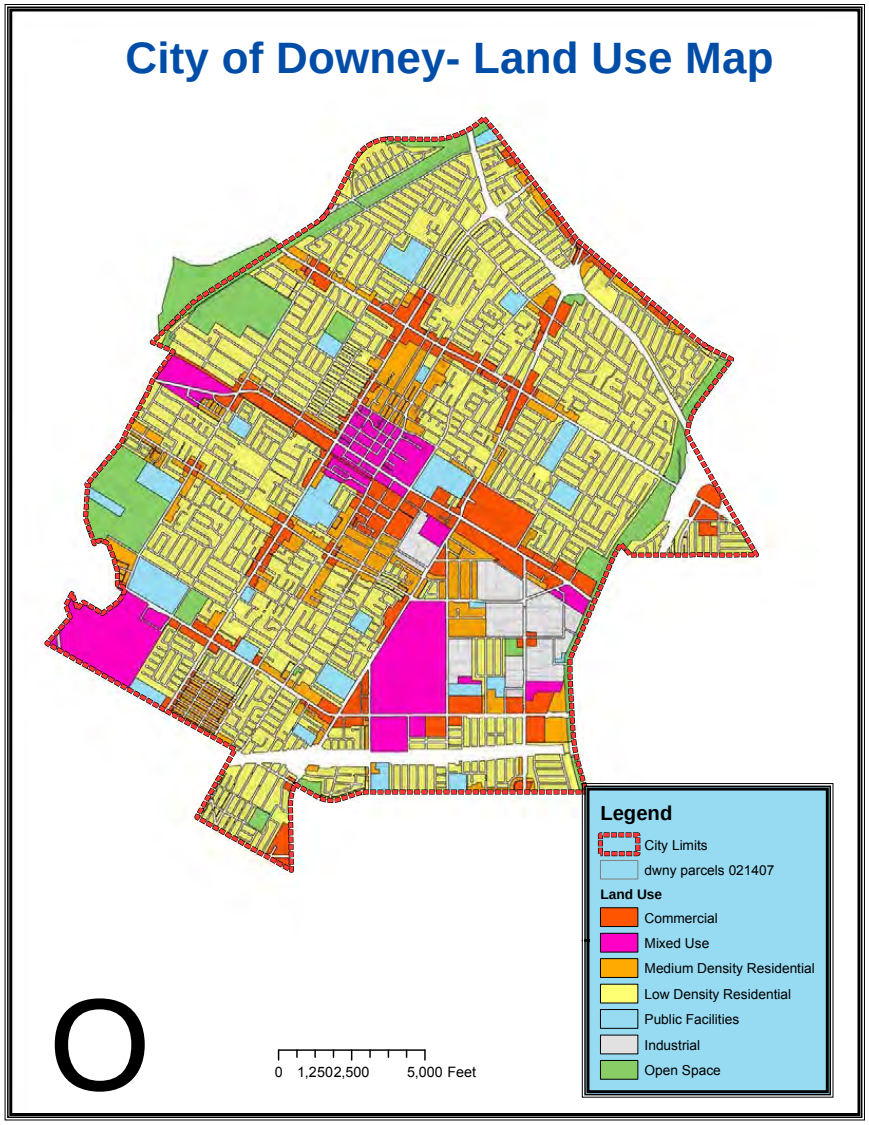

City of Bell- Land Use Map
Legend
City Limits
Land Use
Commercial
High Density Residential
Medium Density Residential
Mixed Use- Residential
Low Density Residential
Public and institutional
Industrial
Transportation
Agriculture
Water
0 1,250 2,500 5,000 Feet

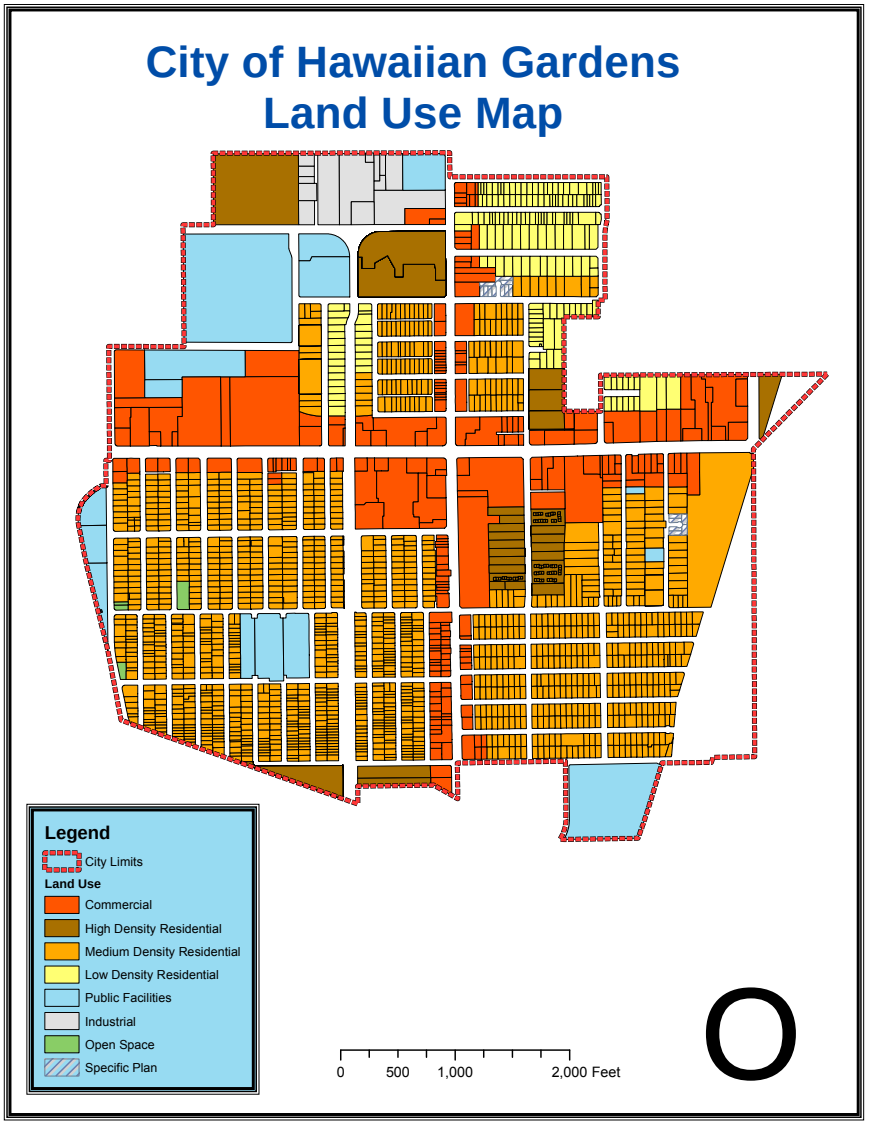

City of Cerritos- Land Use Map
Legend
City Limits
Land Use
Commercial
Medium Density Residential
Low Density Residential
Public and Institutional
Industrial
Open Space
Transportation
0 1,250 2,500 5,000 Feet


City of Commerce- Land Use Map
Legend
City Limits
Land Use
Commercial
Mixed Use
High Density Residential
Medium Density Residential
Low Density Residential
Public Facilities
Industry
Specific Plan
Transportation
0 1,250 2,500 5,000 Feet

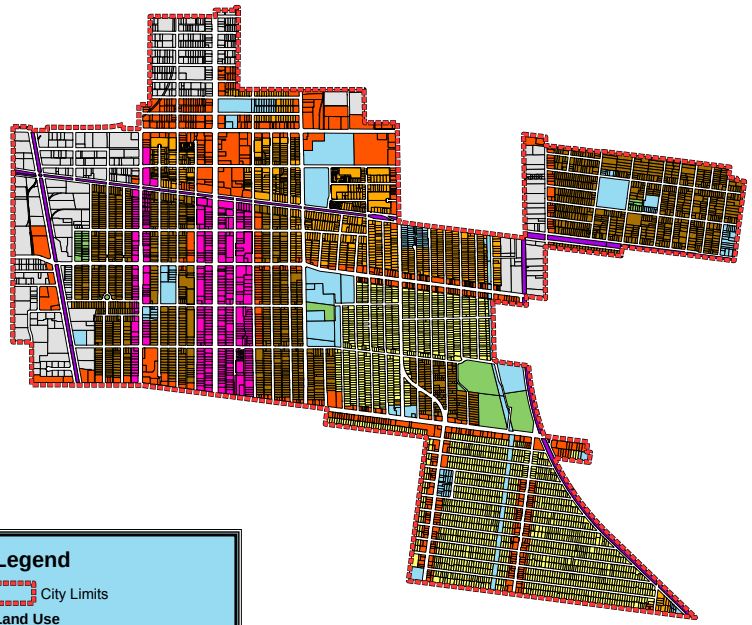

City of Compton- Land Use Map
Legend
City Limits
Land Use
Commercial
Mixed Use
High Density Residential
Medium Density Residential
Low Density Residential
Public Facilities
Industrial
Open Space
Transportation
0 1,250 2,500 5,000 Feet


City of Cudahy- Land Use Map
Legend
City Limits
Land Use
Commercial
Medium Density Residential
Single Family Residential
Public Facilities
Industrial
Transportation
0 500 1,000 2,000 Feet

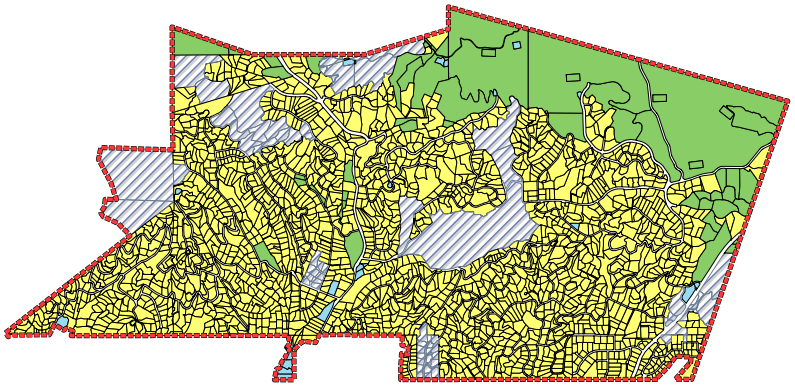

City of Downey- Land Use Map
Legend
City Limits
dwny parcels 021407
Land Use
Commercial
Mixed Use
Medium Density Residential
Low Density Residential
Public Facilities
Industrial
Open Space
0 1,2502,500 5,000 Feet

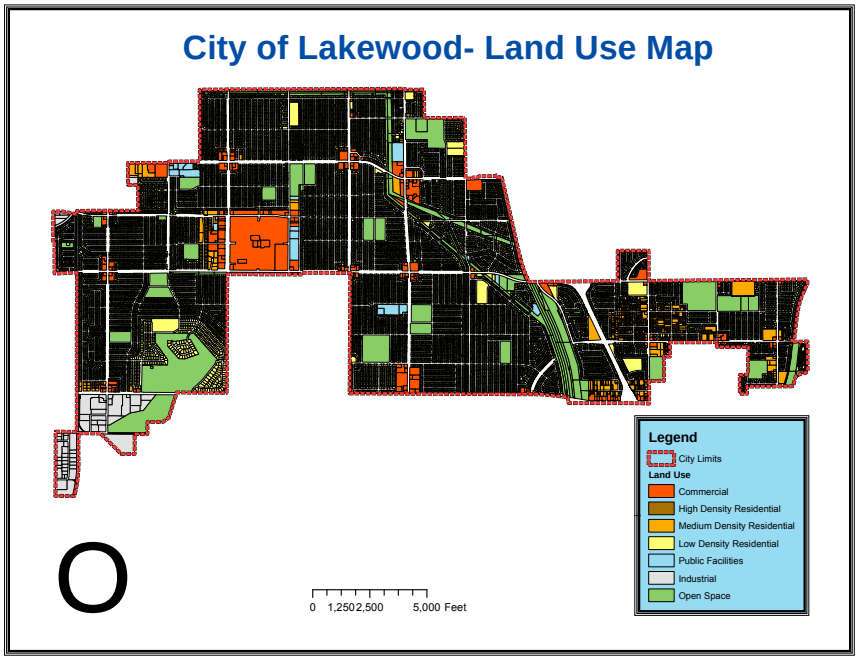

City of Hawaiian Gardens
Land Use Map
Legend
City Limits
Land Use
Commercial
High Density Residential
Medium Density Residential
Low Density Residential
Public Facilities
Industrial
Open Space
Specific Plan
0 500 1,000 2,000 Feet

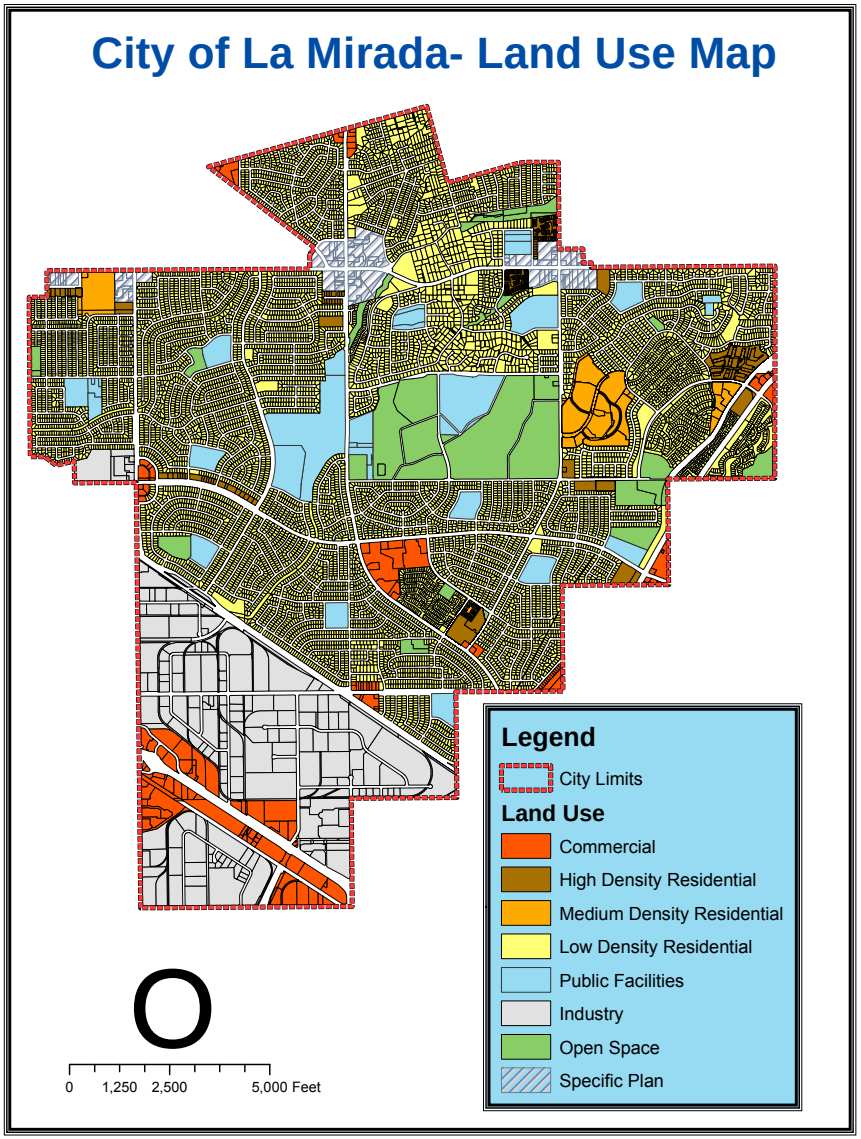
City of Huntington Park Land Use Map

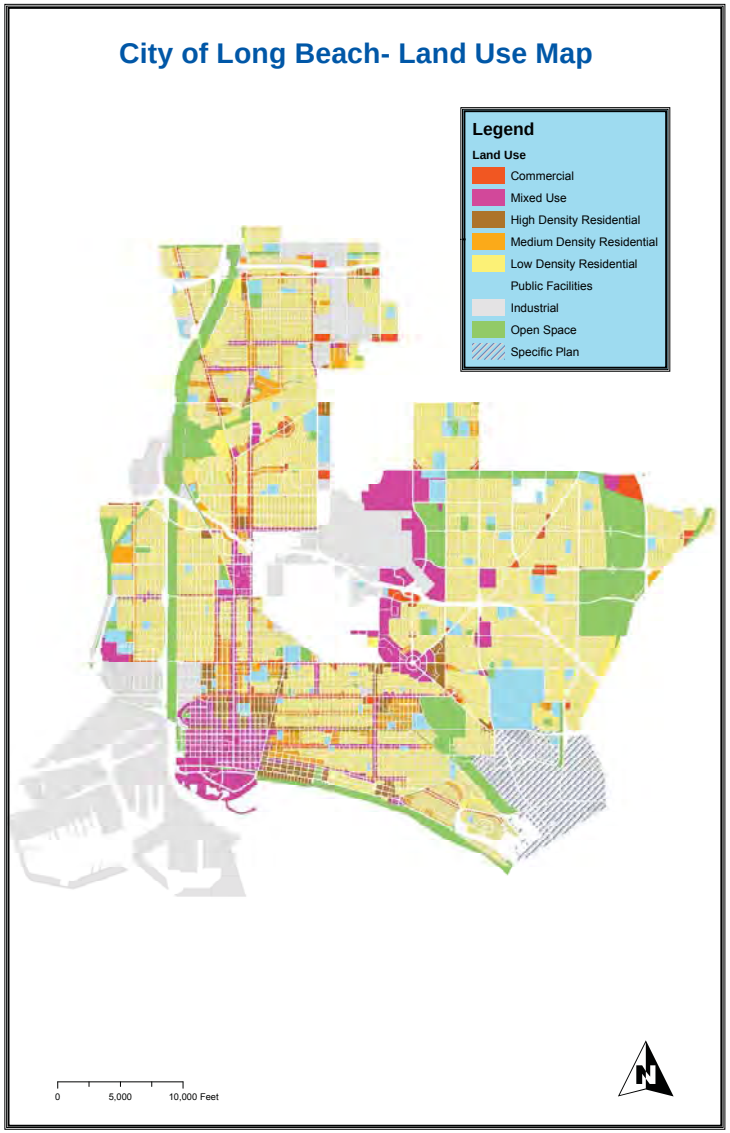


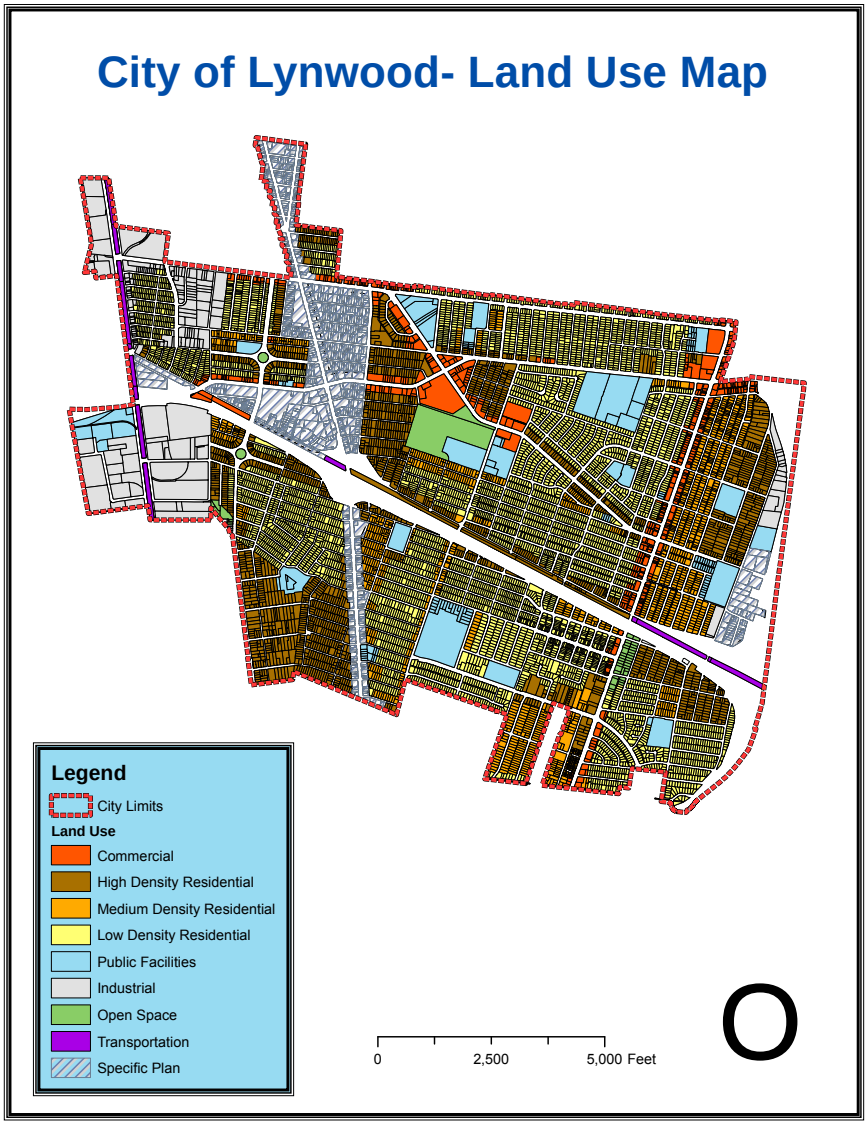
City of La Habra Heights Land Use Map



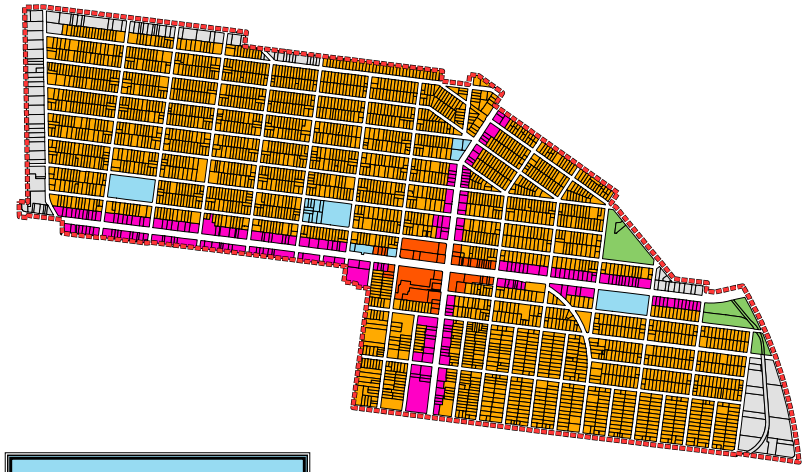

City of Lakewood- Land Use Map
Legend
City Limits
Land Use
Commercial
High Density Residential
Medium Density Residential
Low Density Residential
Public Facilities
Industrial
Open Space
0 1,250 2,500 5,000 Feet


City of La Mirada- Land Use Map
Legend
City Limits
Land Use
Commercial
High Density Residential
Medium Density Residential
Low Density Residential
Public Facilities
Industry
Open Space
Specific Plan
0 1,250 2,500 5,000 Feet


City of Long Beach- Land Use Map
Legend
Land Use
Commercial
Mixed Use
High Density Residential
Medium Density Residential
Low Density Residential
Public Facilities
Industrial
Open Space
Specific Plan
0
5,000
10,000 Feet


City of Lynwood- Land Use Map
Legend
City Limits
Land Use
Commercial
High Density Residential
Medium Density Residential
Low Density Residential
Public Facilities
Industrial
Open Space
Transportation
Specific Plan
0
2,500
5,000 Feet

City of Maywood- Land Use Map



Legend
City Limits
Land Use
Commercial
Mixed Use
Medium Density Residential
Public Facilities
Industry
Open Space

0 1,000 2,000 Feet

N

City of Norwalk- Land Use Map

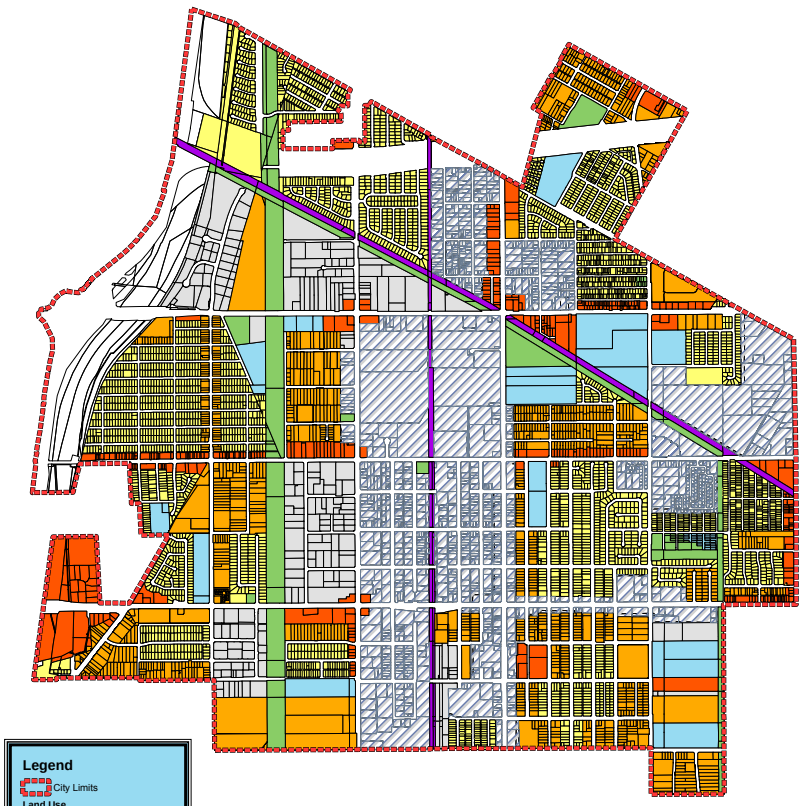


Legend
City Limits
Land Use
Commercial
High Density Residential
Medium Density Residential
Low Density Residential
Public Facilities
Industrial
Open Space
Transportation

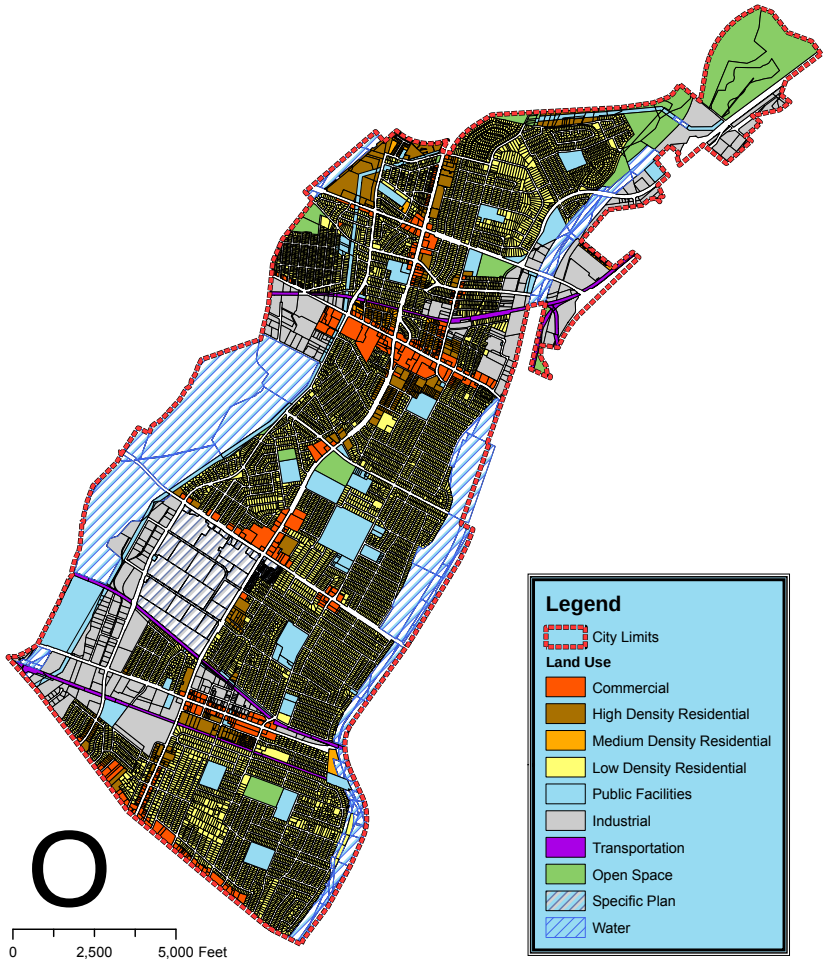
0 2,500 5,000 Feet

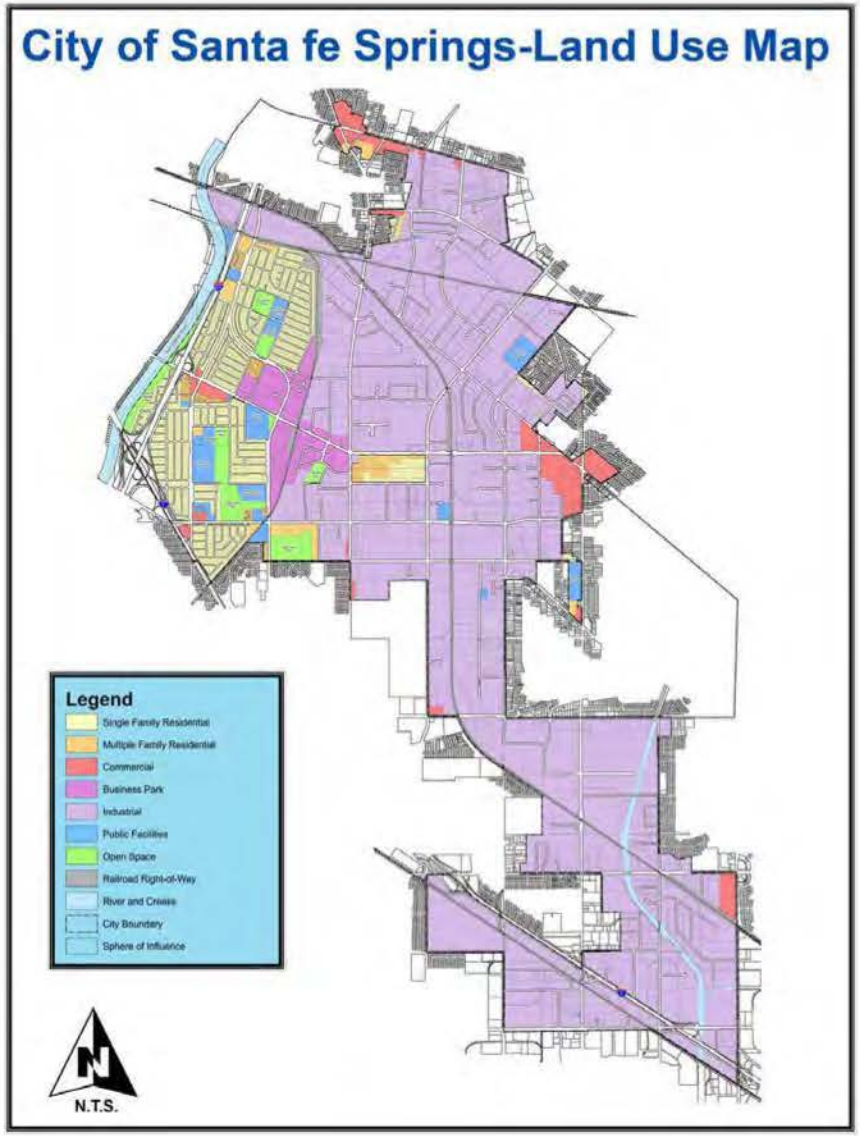
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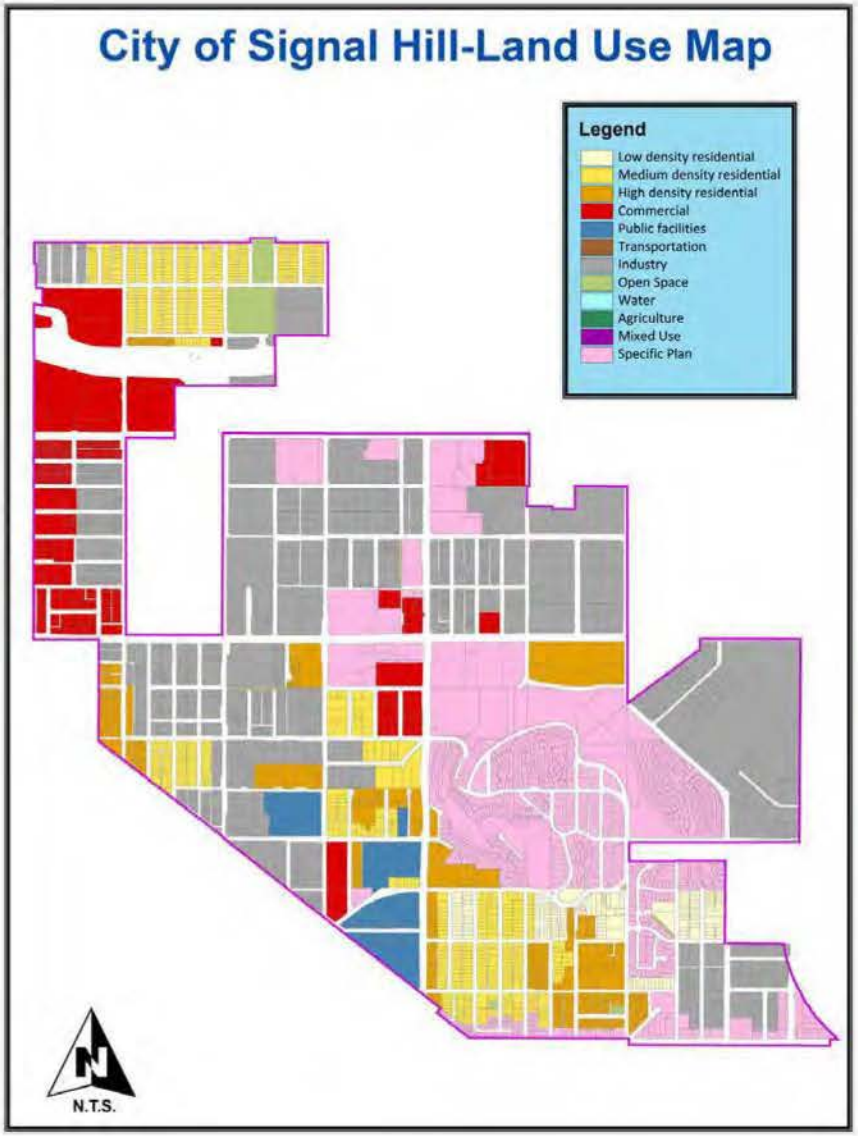
City of Paramount- Land Use Map

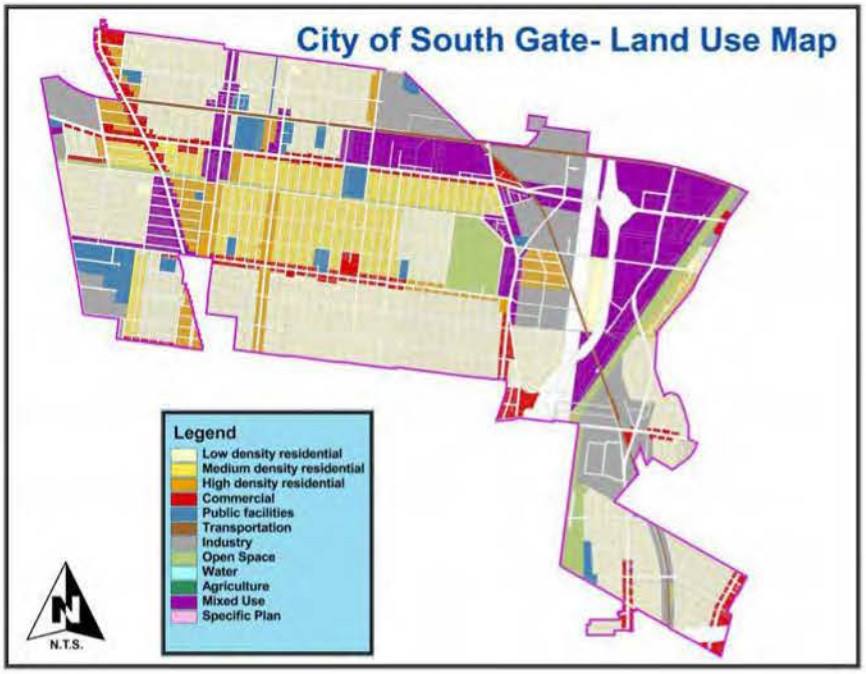


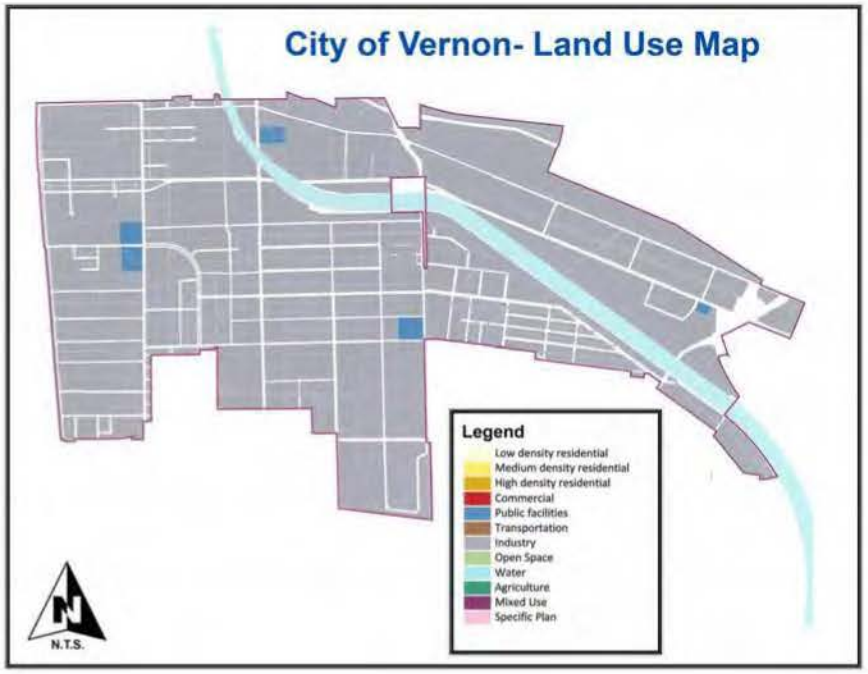
City of Pico Rivera- Land Use Map

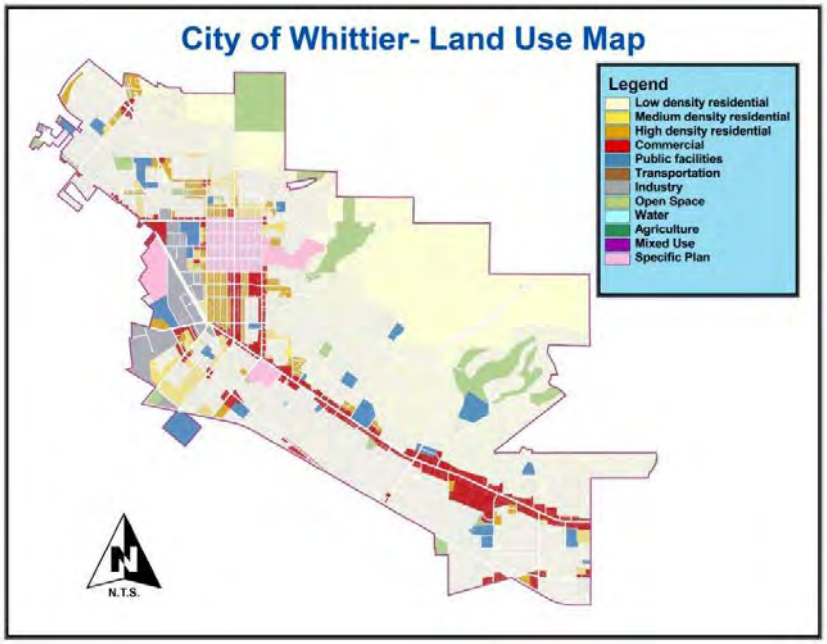



City of Santa fe Springs-Land Use Map
Legend
Single Family Residential
Multiple Family Residential
Commercial
Business Park
Industrial
Public Facilities
Open Space
Railroad Right-of-Way
River and Creeks
City Boundary
Sphere of Influence
N.T.S.


City of Signal Hill-Land Use Map
Legend
Low density residential
Medium density residential
High density residential
Commercial
Public facilities
Transportation
Industry
Open Space
Water
Agriculture
Mixed Use
Specific Plan
N.T.S.


City of South Gate- Land Use Map
Legend
Low density residential
Medium density residential
High density residential
Commercial
Public facilities
Transportation
Industry
Open Space
Water
Agriculture
Mixed Use
Specific Plan
N.T.S.


City of Vernon- Land Use Map
Legend
Low density residential
Medium density residential
High density residential
Commercial
Public facilities
Transportation
Industry
Open Space
Water
Agriculture
Mixed Use
Specific Plan
N.T.S.



Appendix K.

LA MTA Congestion Mitigation Fee Tool – GHG Emissions Calculator

CAMBRIDGE SYSTEMATICS

LA MTA Congestion Mitigation Fee Tool - GHG Emissions Calculator

Draft Methodology Documentation

technical

memorandum

prepared for

Los Angeles County Metropolitan Transportation Authority

prepared by

Cambridge Systematics, Inc.

September 27, 2010

www.camsys.com

technical memorandum

LA MTA Congestion Mitigation Fee Tool - GHG Emissions Calculator

Draft Methodology Documentation

prepared for

Los Angeles County Metropolitan Transportation Authority

prepared by

Cambridge Systematics, Inc.
555 12th Street, Suite 1600
Oakland, CA 94607

date

September 27, 2010

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1.0 Introduction

At the behest of the Los Angeles County Metropolitan Transportation Authority (MTA), Cambridge Systematics (CS) developed a set of sketch-planning tools designed to estimate the potential greenhouse gas (GHG) reduction benefits of congestion mitigation fee (CMF) candidate projects included in the web-based *Fee Revenue and Growth Forecast Calculator*.

A diverse range of national, state, and regional tools and research were referenced to support the development of the tool, including CS' *Moving Cooler* report and the U.S. Department of Transportation (U.S. DOT) Report to Congress, *Transportation's Role in Reducing U.S. GHG Emissions*. Significant adaptations and refinements were made to these existing tools and research findings in order to ensure these methodologies are context sensitive to MTA regional features and produce the most reasonable results possible. CS used the following four-step process to adapt these various tools and research into an analytical tool for use in Los Angeles County:

1. **Define the context of the MTA region.** The accurate GHG analysis of any individual project or set of projects relies on a relationship to the location context in which these projects are deployed. This step also involved analyzing and categorizing projects included in the *Fee Revenue and Growth Forecast Calculator* to ensure that methodologies were available for the vast majority of projects that might be included in a Los Angeles County CMF program.
2. **Adapt the *Moving Cooler* tools to regional analysis.** The *Moving Cooler* methodology evaluates the efficacy of more than 50 transportation and land use strategies, and estimated synergies between individual strategies when bundled. The methods rely on empirical data and experience from research projects. CS updated these methods to pivot off the *Moving Cooler* analysis while applying region-specific data. As appropriate, additional region- and/or state-specific tools were incorporated into the analysis. These data and resources were applied to the preliminary list of CMF-eligible projects, and 10 separate project methodologies were identified for development.
3. **Develop and test a draft analytical tool.** CS developed and tested an interactive sketch-planning model in Excel spreadsheet format, allowing for on-the-fly individual project GHG emission reduction analysis, pursuant to a set of user-defined inputs.
4. **Develop and test a web-based GHG analysis tool**. CS adapted the spreadsheet-based sketch-planning tools into a user-friendly, web-based module to be used within the *Fee Revenue and Growth Forecast Calculator's* Geographic Information System (GIS) tool. The finished tool allows cities and subregions to test individual GHG reduction scenarios for one or more CMF projects specified by Los Angeles County jurisdictions. The spreadsheets and web-based tool tested five identical sets of inputs by project type to validate consistency between the spreadsheet and web-based coded methodologies.

Each of the 10 project types available for analysis within the web tool are subject to specific user-defined inputs, constraints, and calculations, as detailed in Section 2.0 of this technical memorandum. While the 10 project type methodologies are able to analyze the GHG impacts of the vast majority of preliminary projects entered in the CMF web tool, some unique projects may not be suitable for these analyses. However, for the vast majority of eligible projects, the tool provides a common platform to estimate GHG reduction benefits and compare results within and across different geographic and political boundaries. Section 3.0 details two project types not included in this version of the web tool. Section 4.0 outlines the approach for developing carbon dioxide (CO_2) emission factors via the California Air Resources Board's (CARB) Emissions Factors (EMFAC) model; and the process for applying emissions factors in combination with estimates of changes in travel behavior (e.g., vehicle miles traveled (VMT), speed, and delay) to determine CO_2 emission reductions. Section 5.0 provides a summary of the major limitations of the tool as currently designed, and identifies next steps for expanding the tool's calculation abilities.

The references are provided in Appendix A. Appendices B, C, and D provide additional details regarding factors used in the calculation of GHG emission reductions for each project type. Appendix B presents a map of SCAG-defined area types; Appendix C includes the LA MTA model free-flow speed and capacity lookup table; and Appendix D presents all constants and assumptions, along with the citation and justification for their use in the project calculations.

2.0 Technical Documentation by Project Type

This section presents the project type objective, evaluation constraints, inputs, assumptions, and methodologies supporting the calculation of GHG emission reduction benefits of 10 unique types of CMF projects:

1. Roadway capacity,
2. Interchange capacity,
3. Intersection improvement,
4. System operations,
5. Grade separation,
6. Bike / pedestrian,
7. Bike / pedestrian and transit,
8. Transit expansion,
9. Park-and-ride, and
10. Managed lanes.

Sketch-planning tools are used to calculate emission reductions for all projects within each project type. It is important to note that there are some travel model and microsimulation-based approaches not included here that are considered extremely effective for simulating and calculating emission reductions on a project-by-project basis. The web-based platform is currently unable to accommodate this precision of detail at the project level without performing many costly and time consuming model runs. Nevertheless, these project-type methodologies offer a reasonable approximation of GHG impacts given the limited details provided by CMF project descriptions.

The design of the equations, lookup tables, and overall calculation process is transparent, while maintaining technical validity. The critical lookup tables and background information supporting the calculations and their location in this document are listed below:

1. **Roadway Capacity**
   a. SCAG area type map (Appendix b)
   b. LA MTA model speed and capacity lookup table (Appendix C)
   c. LA MTA model speed-flow curve equations (Section 2.1)
   d. EMFAC emission factors (Section 4.0)
2. **Interchange Capacity**
   a. LA MTA model speed and capacity lookup table (Appendix C)
   b. LA MTA model speed-flow curve equations (Section 2.1)
   c. EMFAC emission factors (Section 4.0)

3. **Intersection Improvement**
   a. LA MTA model speed and capacity lookup table (Appendix C)
   b. EMFAC emission factors (Section 4.0)
4. **Systems Operations**
   a. California DOT's (Caltrans) Traffic Light Synchronization Program (TLSP) evaluation algorithms (Section 2.4)
   b. EMFAC emission factors (Section 4.0)
5. **Grade Separation**
   a. EMFAC emission factors (Section 4.0)
6. **Bike/Pedestrian**
   a. ADT adjustment factor lookup table (Appendix D, Section 2.6)
   b. Activity center credits (Appendix D)
   c. EMFAC emission factors (Section 4.0)
7. **Bike/Pedestrian and Transit**
   a. ADT adjustment factor lookup table (see Appendix D, Section 2.6)
   b. Activity center credits (Appendix D)
   c. Increase in transit trips by area type and transit mode (Section 2.7)
   d. VMT per capita by area type (Section 2.7)
   e. SCAG area type map (Appendix B)
   f. EMFAC emission factors (Section 4.0)
8. **Transit Expansion**
   a. Increase in transit trips by area type and transit mode (Section 2.7)
   b. VMT per capita by area type (Section 2.7)
   c. SCAG area type map (Appendix B)
   d. EMFAC emission factors (Section 4.0)
9. **Park-and-Ride**
   a. Average weekday parking utilization (Table 2.12)
   b. EMFAC emission factors (Section 4.0)
10. **Managed Lanes**
    a. LA MTA model speed-flow curve equations (Section 2.1)
    b. EMFAC emission factors (Section 4.0)

Each existing CMF project-type calculation was first developed and tested in a spreadsheet format. Five unique test cases were evaluated for each project type

in the spreadsheets, and then retested in the web-based platform in order to validate the calculations.

All project-level calculations are first estimated at the daily level, and then annualized based on a factor of 250 days.[1] All emission factors and calculations are presented in Section 4.0.

2.1 ROADWAY CAPACITY

Overview and Project Types

This project type evaluates those roadway capacity projects that add new capacity by widening an existing facility, or by building or extending a new roadway. The evaluation requires the user to specify a facility type, which defines the physical characteristics of the facility under improvement; and an area type, which describes the area where the facility is located. Emission reductions from these projects are derived from increased average vehicle speeds due to capacity expansion and improved traffic flow rates resulting from decreased congestion. Emission reductions vary by the type of facility under expansion and the location of the facility.

Methodology Limitations

This approach is used for projects involving capacity expansion through the addition of additional travel lanes. Construction of new access lanes or connecting facilities can only be evaluated using this method if the existing average speed on alternative routes is known; and the anticipated traffic volume due to the construction of the proposed facility can be estimated from a study, modeling exercise, or analysis based on valid assumptions. Turning lanes, center-turn lanes, and capacity additions at intersections cannot be evaluated using this method. Emission reductions benefits are calculated for the peak period, and it is assumed that benefits are negligible during off-peak hours.

This approach does not account for the impact of diverted traffic resulting from the capacity expansion. Enhanced capacity in one corridor may act to move trips from a parallel corridor with higher congestion. It is assumed that, at a regional level, the impact of diverted traffic results in no net change in GHG emissions.

It is further assumed that the potential impact of induced travel is negligible due to the minor impact of these projects on cumulative regional travel.

[1] There are approximately 250 workdays in a year.

User-Defined Inputs

The methodology requires a set of project-specific, user-defined inputs presented in Table 2.1.

Table 2.1 Roadway Capacity Project User-Defined Inputs

User-Defined Input	Default Values	Input Guidance
Average Annual Weekday Traffic (AAWT) Volume		• Enter total daily weekday traffic on the corridor
Facility type		• Select from Interstate, Expressway, Primary, or Secondary arterial type • Definitions inherited from the Southern California Association of Governments (SCAG) travel demand model
Area type		• Select from Central Business District (CBD), Urban, Suburban, Mountain, and Rural area types • Definitions based on traffic analysis zone attributes and inherited from the SCAG travel demand model (see Appendix A)
Total number of lanes (existing, in 2010)		• Enter total number of lanes before improvement in one direction in case of a divided facility, and in both directions in case of an undivided facility • Intersection turn pockets are represented by ½ lanes
Total number of lanes (proposed, by 2020)		• Enter total number of lanes after improvement in one direction in case of a divided facility, and in both directions in case of an undivided facility
Project Length (miles)		• Enter total length of the project
Truck percentage		• Enter share of trucks as a fraction of total corridor traffic

Methodology

Emission reductions due to capacity expansion projects are a result of improved traffic flow as a result of added capacity. The extent of improvement is based on the type of facility being improved and area characteristics representing travel intensity. Speed and capacity information by facility type and area types have been obtained from the MTA's travel demand model (see Appendix B). Travel speeds on the facility's before-and-after capacity expansion are calculated using speed-flow curves from the MTA's travel demand model. Speed flow equations used in the MTA travel demand model are as follows:

$S = s0/(1+1.5\ (x)\text{^}6)$ for Freeways, high-occupancy vehicle (HOV), and Toll Facilities

$S = s0/(1+0.15\ (x)\text{^}5)$ for Other Facility Types

Where:

$s0$ = Free-flow speed; and

x = Volume to capacity ratio.

Travel speeds are calculated for peak periods and only during weekdays, since it is conservatively assumed that the speed variations during the off-peak periods and weekends are marginal. The methodology calculates separate emissions reduction rates for trucks and cars, pursuant to a user-defined estimate of the average share of trucks relative to total traffic on the segment.

2.2 INTERCHANGE CAPACITY

Overview and Project Types

Interchange capacity projects are those that improve capacity through existing interchange and ramp improvements, either by adding lanes to existing ramps, or by improving traffic flow conditions by improving vehicle delay at off-ramps serviced by a downstream-signalized intersection. The evaluation methodology incorporates emissions reductions due to improvements in traffic flow for both on-ramps and off-ramps.

Methodology Limitations

In order to accommodate as many types of interchanges as possible, the methodology addresses improvements by classifying them for on-ramps and off-ramps. Otherwise, the project input will be dependent on the type of intersection; opening the door to a number of possibilities, which makes the data input complex for a sketch-planning approach. New ramp access connections cannot be evaluated using this method.

User-Defined Inputs

The methodology requires the set of project-specific, user-defined inputs presented in Table 2.2.

Table 2.2 Interchange Capacity Project User-Defined Inputs

User-Defined Input	Default Values	Input Guidance
On-ramp 1 AAWT		• Enter average annual weekday traffic on the first on-ramp
On-ramp 2 AAWT		• Enter average annual weekday traffic on the second on-ramp
On-ramp 1 existing number of lanes		• Enter total number of lanes before improvement on the on-ramp (2010) • Intersection turn pockets are represented by ½ lane
On-Ramp 2 existing number of lanes		• Enter total number of lanes before improvement on the off-ramp
On-ramp 1 capacity enhancement (added # of lanes by 2020)		• Enter total number of lanes after improvement on the first on-ramp
On-ramp 2 Capacity Enhancement (added # of lanes by 2020)		• Enter total number of lanes after improvement on the second on-ramp

Methodology

Emission reductions from interchange improvements can be classified from two different types of improvements: 1) adding capacity to existing ramps to improve traffic flow, and thereby improve speeds and reduce emissions; and 2) reducing delay on interchange off-ramps due to traffic control (such as a signalized intersection) downstream of the off-ramp.

Emission reductions from improvements to interchanges are achieved through providing improved access to arterial streets or other connecting highway facilities through ramp improvements. Turn lanes at the traffic signal downstream of the off-ramp from the interchange are considered to be one-half the capacity of a single lane. Generalized ramp capacity and average speeds are obtained from LA MTA's travel demand model output.

The methodology is similar to providing additional capacity, resulting in improved speed and level of service (LOS). Speed-flow curves equations from MTA's travel demand model are used for calculating the travel time taken to navigate the ramps before and after the improvement.

$$TC = T0 * (1 + 1.50*(X)\text{^}6)$$

Where:

TC = Congested travel time;

$T0$ = Free-flow travel time; and

X = Volume to capacity ratio.

Travel time before and after the improvement is translated to average speed. Emission factor lookups are applied based on the before-and-after improvement speeds and ramp VMT to estimate total change in emissions.

Improvements downstream of an off-ramp may include changes to signal timing and phasing, or adding turn pockets and right-turn phases to reduce intersection delay. Control delay per vehicle can be calculated by an intersection delay study, or by estimation on the basis of traffic arrival patterns and progression criteria. Table 2.3 provides guidance for determining intersection LOS and control delay per vehicle.

The estimate of total delay savings as a result of an intersection improvement at the ramp termini uses the Section following formula:

$$d_1 = \frac{0.5C\left(1-\frac{g}{C}\right)^2}{1-\left[\min(1,X)\frac{g}{C}\right]}$$

Where C = is the cycle length, g/C = is the green time to cycle ratio = 0.5 (for simplicity) and X is the highest volume to capacity ratio of any turning movement or a lane group at the intersection. This approach is consistent with the calculation for intersection project type #3 as presented in Section 2.3.

The improvement in delay experienced per vehicle due to a change in capacity at the intersection is transformed into total delay in vehicle hours and thereby used for estimation of emission reductions.

Ultimately, total emission savings for this project type is a product of both the savings from improving ramp capacity and the savings from reduced intersection delay at ramp termini.

2.3 INTERSECTION IMPROVEMENT

Overview and Project Types

The model is designed to evaluate at-grade intersection improvement projects. CO_2 emission reductions due to intersection improvements are a result of the reduced delay navigating the intersection– – either due to idling at the red light, or due to deceleration and queuing that occurs at the intersection. The methodology to estimate the reduction in greenhouse gas emissions includes three types of intersection improvements leading to emission reductions:

- **Type 1.** New Signal. An unsignalized intersection approaching failure due to intolerable levels of delays is improved to a signalized intersection with an acceptable level of service.

- **Type 2.** New Turning Phase. Enabling a specific turn or movement at the intersection that was non-existent or making a permissive turn into a protected turn by changing the signal phasing and / or timing.
- **Type 3.** Improved Intersection Capacity. Changes to the signalized intersection positively impacting level of service, including improvements to geometry, approach redesign, or new lanes.

In each case, average reduction in delay per vehicle due to the improvement is estimated to determine the emission reduction benefits as a result of the improvement. Intersection delay can be measured by conducting intersection delay studies or by estimation with input data like signal cycle length and effective green times for critical movements.

This methodology strives to hit the middle-ground between conducting a full intersection delay analysis for determining delay before and after improvement, and conducting a field study for obtaining delay parameters. To achieve this, the methodology makes some key assumptions. Typically, agencies perform delay and LOS calculations as part of an intersection delay study or intersection LOS analysis. In the absence of such detailed data, delay can be estimated by arrival patterns and LOS data. Some of this data is already available from intersection studies and corridor studies, or might be maintained by the traffic or public works departments charged with maintaining the signals.

A major overarching assumption is that the design methodology considers the signals as pre-timed, given the difficulty of accounting for the dynamics of changes to signal times and phases under an actuated setting.

Methodology Limitations

The intersection improvement methodology calculates delay at a single intersection level, and is not equipped to estimate improvement benefits for multiple intersections or systemwide improvements. Intersection delay studies are the best source for delay measurements, if available. In the absence of observed intersection delay information, guidance to estimate delay is provided based on arrival types or LOS, as presented in Table 2.3. This methodology is not applicable in case of a staggered (five-legged or more) intersection.

In the absence of accurate delay data, estimation through vehicle approach and progression should be made as accurately as possible. LOS corresponding to delay windows may only be used to approximate control delay due to the difference in lower and upper bounds of each LOS (for example, LOS F corresponds to a delay between 55 to 80 seconds per vehicle, which might not be precise enough to provide an accurate estimation of emission reduction benefits).

User-defined input data like peak hour volumes, cycle length, and approach capacity are the minimum required to support the calculation of intersection improvement emission reduction benefits. Available traffic data and signal

operating plans from a traffic management data center or a public works/transportation department is recommended. If unavailable, observed delay or intersection LOS can be used as an approximation. In order to calculate delay reduction benefits, a number of key assumptions are required to simplify the calculations so that the number of inputs is manageable.

Note: The web-based version of the GHG Emissions Calculator allows users to assign one or more of the intersection improvement project types listed above. In project definitions where both a new phase and added capacity are included (i.e., a mix of project type 2 and 3), the following approach is recommended:

1. For projects adding only turn-lane capacity and new turn phasing, only apply the project type 2 approach, entering the new number of turn lanes as an input.
2. For projects adding both turn-lane and through-lane capacity, apply both the project type 2 and project type 3 approach separately.

User-Defined Inputs

The three unique intersection project approaches require the set of project-specific, user-defined inputs presented in Table 2.3.

Table 2.3 Intersection Improvement Project User-Defined Inputs

User-Defined Input	Default Values	Input Guidance
1. Unsignalized (2-way of 4-way stop) to Signalized Intersection		
Area Type		Five options are available (CBD, Urban, Suburban, Mountain, Rural)
Peak Hour Volume (Approach Street 1 and 2)		Enter the average weekday peak hour volume for each intersection approach[2]
Total number of lanes (Street 1 and Street 2)		Note: Each turn lane, auxiliary lane or reversible lane equals 1/2 lane. Input total lanes for both approaches of the street.
Facility Type (Street 1 and Street 2)		Four options are available (Interstate, Expressway, Primary, Secondary)
Proposed Signalized Intersection Cycle Length (sec)	60 – 120	Guidance based on FHWA signal timing manual (see Table 2.4)
Peak Hour Intersection Delay before Improvement (s/veh)	50	50 sec. per vehicle is the default assumption for LOS F at unsignalized intersections. Higher values may be entered if supported by a recent study.

[2] If only average daily traffic is known, peak-hour volumes can be approximated by applying a factor of 0.1 (regional average).

User-Defined Input	Default Values	Input Guidance
2. New or Protected Turn Phasing at Existing Signalized Intersection		
Type of Turn Affected by Project		Input the turn movement (left or right) enabled by the new phase. Project approach can measure the benefit of adding a single phase only.
Proposed Total Cycle Length (sec) (including impact from new or extended turn phases)	60 – 120	Guidance based on FHWA signal timing manual (See Table 2.4)
Total number of turn lanes on improved turn movements		The total number of turn lanes for all of the improved turn movements. For example, if 2 left turns at the intersection are being improved, each with 1 turn lane, the user should enter 2.
3. Improvement in Overall Intersection Capacity		
Area Type		Five options are available (CBD, Urban, Suburban, Mountain, Rural)
Facility Type (Street 1 and Street 2)		Four options are available (Interstate, Expressway, Primary, Secondary)
Total number of lanes (Street 1 and Street 2)		Note: Each turn lane, auxiliary lane or reversible lane equals 1/2 lane. Input total lanes for both approaches of the street.
Total number of lanes after improvement (Street 1 and Street 2)		Note: Each turn lane, auxiliary lane or reversible lane equals 1/2 lane. Input total added lanes for both approaches of the street.
Peak Hour Volume (Approach Street 1 and 2)		Enter the average weekday peak hour volume for each intersection approach
Existing Cycle Length (sec)	60-120	See signal complexity guidance from FHWA Signal Timing Manual (see Table 2.4)

Table 2.4 FHWA Signal Timing Manual Reference

Signal Complexity	Commonly Assumed Cycle Lengths
Permissive left turns on both streets	60 seconds
Protected left turns, protected-permissive left turns, or split phasing on one street	90 seconds
Protected left turns, protected-permissive left turns, or split phasing on both street	120 seconds

Source: FHWA Traffic Signal Timing Manual, 2008.

Methodology

Intersection improvements that provide additional turn lanes, better geometric design, improved signal timing and phasing can reduce vehicle delay in navigating the intersection. This delay reduction results in lower vehicle emissions due to less vehicle time spent decelerating, accelerating, or idling. Existing vehicle hours of delay for each intersecting street (by each approach) must be estimated separately, either via an intersection delay study or data from a traffic management center. Alternatively, estimation through vehicle approach and progression should be instrumental in estimating the average delay for each approach, and thereby for intersecting streets.

Delay at the intersection is calculated given the delays for individual approaches and flow rates as follows:

$$\frac{\sum_{i=1}^{n}(v_i \cdot d_i)}{\sum_{i=1}^{n} v_i}$$

Where:

d = Delay for the approach;

v = Approach flow rate (vehicles per hour); and

n = Number of approaches to the intersection.

This reduction in average delay per vehicle approaching the intersection equates to less time spent idling, where CO_2 emission rates are highest. Since control delay takes into consideration the time elapsed for deceleration, queuing, and idling, the difference in travel speeds for noncongested conditions before-and-after improvements are not included in the GHG reduction calculation. The total change in vehicle hours of delay at the intersection, before and after the improvement, is calculated as follows:

$$\Delta D_{int} = D_{intnb} - - D_{intb}$$

Where:

D_{intnb} = Total delay at the intersection for the no-build condition; and

D_{intb} = Total delay at the intersection for the build condition.

The change in delay (ΔD_{int}) is multiplied by the idle CO_2 emissions factor (g / hr) to estimate emission reductions.

Project Type #1– – New Signal

For estimating the delay at a planned signalized intersection, short of obtaining basic design parameters of the intersection including turning movements and the

lane configuration changes, the user is prompted to provide peak hour volumes for intersecting streets, respective capacity at the intersection and the total signal cycle length at the intersection. Delay at the intersection is calculated using the following formula (this formula is used within each project type approach):

$$d_1 = \frac{0.5C\left(1-\frac{g}{C}\right)^2}{1-\left[\min(1,X)\frac{g}{C}\right]}$$

Where C = is the cycle length, g/C = is the green time to cycle ratio = 0.5 (for simplicity) and X is the highest volume to capacity ratio of any turning movement or a lane group at the intersection.

The improvement in delay experienced per vehicle due to signalization is transformed into total delay in vehicle hours and thereby used for estimation of emission reductions.

Estimated delay in this methodology is assumed to be uniform delay resulting due to uniform arrival of traffic at the intersection, which is an ideal assumption. In the absence of detailed turning movement data and proposed signal timing and phasing details, green time to cycle ratio is assumed to be 0.5. It should be recognized that the mid-block capacity of a street is different from the capacity at the intersection due to turning traffic and effects of signal controls.

Project Type #2- New Turn Phase

Intersection delay can be reduced by enabling a specific turn or movement at the intersection that was non-existent or permissive before into a protected turn by providing a new phase, or by including the movement in an existing phase by changing the time allocated to the phase. If the movement is not allowed at the intersection in the existing set-up, the existing delay is assumed to reflect a level of service F or more, which translates into a delay of 80 seconds or more. By providing protected phase to this movement, we are not only changing the signal timing plan, but also potentially adding to the cycle length. Because the delay at the intersection will be reduced for this movement, due to the provision of a green time to serve this movement, delay can be calculated based on the new cycle time and the effective green time for that movement.

The same formula presented in Project Type 1 is used to calculate before and after intersection delay. This methodology relies on assuming several constants for estimation of delay at the intersection for the turning lane group. Saturation flow rate is adjusted to area type and based on the type of turn. Saturation flow

rate in CBDs and urban areas is assumed to be 1,700 veh/hr/lane[3]. Further, this saturation rate needs to be adjusted for the type of turn, which is lower for right and left turns compared to the through movement. For right turns, the adjustment factor is 0.85 and for left turns, it is 0.95. The default v/c ratio for the turning movement is 0.9.[4]

Project Type #3– – Improved Intersection Capacity

Physical changes to the intersection for increasing capacity or geometric design, including provision of new through or turn lanes can reduce delay-related emissions at congested intersections under certain conditions. These changes to capacity result in an easing of capacity restrictions due to changes caused by the improvement. Volume is considered constant for practical purposes, since it is hard to estimate the quantity of traffic that is re-routed from other facilities due to improvement in delay at the intersection. Given the added capacity and geometric redesign resulting in delay reduction, a comparative analysis of intersection configuration before and after the improvement can be conducted to estimate the reduction in greenhouse gas emissions due to physical intersection design changes.

The same formula presented in Project Type 1 is used to calculate before and after intersection delay. Effective green to cycle ratio is assumed to be 0.5 for simplification in absence of turning movement and signal timing data to calculate it. Traffic is assumed to arrive in a uniform fashion at the intersection and improvement in uniform delay is estimated for calculating reductions in total greenhouse gas emissions as a result of improved geometric design and approach changes.

2.4 SYSTEM OPERATIONS

Overview and Project Types

Projects that can be evaluated using this methodology include corridor signalization and synchronization improvements and intelligent transportation systems (ITS)/Advanced Traffic Management System (ATMS) implementation. Travel timesavings at each intersection along the corridor are calculated and aggregated by applying a delay reduction factor.

[3] Highway Capacity Manual (HCM 2000), Chapter 16-11, Adjustments for Saturation Flow Rate Chapter.

[4] HCM 2000, Chapter 16-99, Signalized Intersections, Design Strategies for Signal Timing Plan Design for Pre-timed Control.

Methodology Limitations

This method specifically evaluates arterial management strategies, such as corridor signalization, and cannot estimate systemwide or areawide improvements. However, areawide improvements can be estimated by testing individual corridors separately and summing their unique impacts. The length of the corridors and the signals being improved for synchronization should be reasonably spaced to achieve a meaningful reduction in travel savings. For example, travel time savings will be minimal for two signals spaced a mile apart compared to seven signals in a one-mile corridor.

User-Defined Inputs

The methodology requires the set of project-specific, user-defined inputs presented in Table 2.5.

Table 2.5 System Operations Project User-Defined Inputs

User-Defined Input	Default Values	Input Guidance
Length of the signalized corridor (miles)		• Enter length of corridor targeted for signal synchronization
Existing number of signalized intersections		• Enter number of signalized intersections in the corridor
Existing number of lanes		• Enter number of through lanes that serve the highest directional flow of the peak-hour traffic in the corridor • Intersection turn pockets are represented by ½ lane
Peak-hour traffic volume		• Enter highest one-hour directional volume of the day in the corridor for the highest volume segment in the corridor
Existing peak-hour travel time (minutes)		• Enter time it currently takes for a vehicle to travel the length of the corridor during the peak hour in the peak direction
Existing average cycle length (seconds)		• Enter average cycle length of all the signalized intersections in the corridor

Methodology

This methodology uses California DOT's (Caltrans) Traffic Light Synchronization Program (TLSP)[5] evaluation algorithms to calculate delay at each intersection along a defined corridor. The TLSP offers an established method of calculating various benefits of corridor traffic signal synchronization in California, and is consistent with the evaluation and calculation of fuel savings from signal synchronization projects in the State of California. Travel timesavings due to the synchronization are estimated by calculating average delay at each intersection in the corridor. The travel timesavings formula is based on the Highway Capacity Manual (HCM) equation for delay (Equation 16-11 Chapter 16). When signals are synchronized, it is assumed that delay is reduced by a factor of 0.55.[6]

$$d_1 = \frac{0.5C\left(1-\frac{g}{C}\right)^2}{1-\left[\min(1,X)\frac{g}{C}\right]}$$

Where:

C = Cycle length; and

g/C = Green time to cycle ratio.[7]

The travel timesaving is the difference in seconds per vehicle per signal. It is multiplied by the number of signals and divided by 60 to return the benefit in minutes per vehicle for the total length of the arterial. Finally, the approach multiplies this by the volume to estimate total savings in minutes.

2.5 GRADE SEPARATION

Overview and Project Types

This approach evaluates projects that improve the roadway capacity and safety of current at-grade railroad crossings. Potential improvements include grade separation of at-grade railroad crossings, which reduces delay caused by at-grade railroad facility conflicts.

This method is applicable for projects that facilitate uninterrupted movement for vehicles along a roadway and reduce delay at the crossing. Average gate down time is used as a proxy for intersection delay prior to the grade separation improvement. Gate down time varies between freight rail and passenger rail, and should be adjusted in accordance with the type and number of trains operating along the rail corridor.

Methodology Limitations

This approach should only be used to analyze projects that remove at-grade crossings of active rail corridors. Installing a grade-separated interchange at an existing at-grade intersection is not accommodated through this project approach. Improvements to at-grade rail crossings that do not include a full grade separation can be analyzed as long as future average crossing speed can be estimated, and the total daily delay resulting from queues when gates are down does not change.

User-Defined Inputs

The methodology requires the set of project-specific, user-defined inputs presented in Table 2.6.

Table 2.6 Grade Separation Project User-Defined Inputs

User-Defined Input	Default Values	Input Guidance
Daily number of trains using rail corridor		• Enter average number of weekday trains passing through the at-grade crossing
Average gate down time for each train (minutes)		• Enter average length of time during which the gate at the crossing remains down for each train
Roadway average daily traffic		• Enter total daily weekday traffic on the highway facility
Average vehicle railroad crossing speed (mph)	25 mph	• Enter average speed of vehicles negotiating the crossing when gate is not down • According to the California Department of Motor Vehicle (DMV), speed limits are to be 15 mph within 100 feet of a railroad crossing without gates; it is assumed that most urban locations have gates, and hence have a default crossing speed of 25 mph
Improved roadway posted speed limit (mph)		• Enter improved speed due to the construction of a grade-separation or other alternative that eliminates at-grade conflicts

[5] Caltrans (2008), *Traffic Light Synchronization Program (TLSP) Evaluation and Scoring Methodology*, California Department of Transportation, available on-line at: http://www.catc.ca.gov/programs/tlsp.htm.

[6] HCM (2000), *Highway Capacity Manual*, Transportation Research Board (TRB), Exhibit 16-12.

[7] To avoid users having to enter time-to-cycle ratios for each intersection, g/C is assumed to be 0.5 for the corridor. This is a recommended practice per HCM (2000).

LA MTA Congestion Mitigation Fee Tool - GHG Emissions Calculator

Methodology

The duration of conflict of movement between roadway and railroad modes can be calculated by assuming an average gate down time for trains passing through the crossing, which is a proxy for existing intersection delay. Once there is a grade separation, the intersection delay is avoided completely, resulting in fuel savings, and thereby emission reductions.[8]

This methodology assumes that railroads are afforded preference of movement (right-of-way) at the intersection, thereby eliminating any delays to the rail services due to roadway traffic (Extreme circumstances like passage of emergency vehicles is not considered to occur frequently enough to affect rail services substantially.). Three types of vehicle delays result from an at-grade crossing: 1) stopping, 2) deceleration, and 3) queuing. Since stopping delay accounts for the vast majority of delay experienced by vehicles at an at-grade crossing, it is considered a reasonable and conservative proxy for total at-grade delay.

Because data on the length and type of trains passing through the grade crossing may be difficult for most users to specify accurately, an average gate down time is used to approximate vehicle delay. Gate down time and total vehicles delayed are estimated as follows:

Gate Down Time = Length of the Train / Train Speed

Total Vehicles Delayed (Daily) = Total Gate Down Time (Daily hrs) / 24 x Annual Average Daily Traffic (AADT)

The approach assumes that the total vehicular traffic impacted by delay caused by gate down time is equal to the total daily share of gate down time.

[8] ICC (2002-2003), *Motorist Delay at Public Highway– – Rail Grade Crossings in Northeastern Illinois*, Research and Analysis Section Transportation Division, Illinois Commerce Commission, Working Paper.

Table 2.7 Bike/Pedestrian Project User-Defined Inputs

User-Defined Input	Default Values	Input Guidance
ADT on the parallel arterial		• Enter average weekday passenger vehicle traffic on nearest parallel roadway
Length of project (miles)		• Enter total length of the bike/pedestrian project
Within 2 miles of a university or college (Y/N)?		• Select "Y" if any segment of project is within 2 miles of a university or college
Average length of bicycle trips (miles)	1.8	• Enter estimated average length of bicycle trips in the area; leave blank if a pedestrian project only • Default value (1.8 mi) is based on National Household Travel Survey (NHTS) statistics, excluding purely recreational trips.
Average length of pedestrian trips (miles)	0.5	• Enter estimated average length of pedestrian trips in the area; leave blank if bike project only • Default value (0.5 mi) is based on NHTS statistics, excluding purely recreational trips
Number of activity centers within ½ mile and ¼ mile of project		• Select the number of activity centers within ½ mile (bike) and ¼ mile (pedestrian) of the project • Activity center examples include banks, churches, hospitals, park-and-ride, office parks, library, shopping, and schools; credit is only given for 3 or more centers

Methodology

The bike project approach is consistent with *Methods to Find the Cost-Effectiveness of Funding Air Quality Projects*, a handbook prepared by the CARB in 2005. The CARB handbook describes how to evaluate Motor Vehicle Registration Fee Projects and Congestion Mitigation and Air Quality Improvement (CMAQ) projects, and is the basis for determining the amount of GHG reductions from bicycle facility projects.

The 2009 report *Methodologies for Evaluating Congestion Mitigation and Air Quality Improvement Projects*, developed for the Maricopa Association of Governments (MAG), is the basis for determining GHG reductions resulting from auto trips replaced by pedestrian trips. The MAG document adapted the methodology for calculating the impact of pedestrian improvements from the 2005 CARB handbook.

The approaches for bike and pedestrian projects are consistent. Within the general CARB approach, two primary factors drive the calculation of reduced

auto trips: 1) the number of activity centers adjacent to the project, and 2) the project location with respect to a nearby university or college.[9] These factors are presented in Appendix C.

The number of activity centers within one-quarter mile of a pedestrian project and one-half mile of a bike project feed into a lookup table of factors generating percent auto trip reductions. The university/college location factor increases average trip lengths on the assumption that willingness to bike or walk, and the average distances for these trips are greater for college students.

Auto trip reductions are translated into VMT based on average bike and walk trip lengths. These average trip lengths default to 2001 National Household Travel Survey (NHTS) data, but the user interface allows users to override these figures with local-specific data.

Calculations for auto trips reduced as a result of increased bike and pedestrian trips generated by the project are listed below. Trips are then equated to VMT savings based on average bike and walk trip lengths. The VMT reductions are calculated separately for bike and pedestrian on a daily scale, then summed together and annualized (assumes a factor of 250 days, since commute benefits are assumed only to accrue during workdays). The GHG emissions calculation approach is included in Section 4.0.

$$\text{Daily auto trips reduced}_{(bike)} = AWT * 0.091 * (A_{\frac{1}{2}\text{ mile}} + C)$$

$$\text{Daily auto trips reduced}_{(walk)} = AWT * 0.091 * (A_{\frac{1}{4}\text{ mile}} + C)$$

Where:

AWT = Average weekday traffic on the adjacent or nearest parallel arterial.

0.91 = Factor to convert average weekday traffic to AADT.

[9] Per CARB documentation, adjustment factors were derived from a limited set of bicycle commute mode split data for cities and university towns in the southern and western United States (Source: U.S. DOT (1992), *National Bicycling And Walking Study––Transportation Choices for a Changing America*). This data was then averaged and multiplied by 0.7 to estimate potential auto travel diverted to bikes. On average, about 70 percent of all person trips are taken by auto driving (Source: Caltrans (2002), *2000-2001 California Statewide Travel Survey*), and it is these trips that can be considered as possible auto trips reduced. Finally, this number was multiplied by 0.65 to estimate the growth in bicycle trips from construction of the bike facility. Sixty-five percent represent the average growth in bike trips from a new bike facility, as observed in before and after data for bike projects (Source: U.S. DOT (1994), *A Compendium of Available Bicycle and Pedestrian Trip Generation Data in the United States*). Benefits are scaled to reflect differences in project structure, length, traffic intensity, community size, and proximity of activity centers. The scale has been adapted from a method developed by Dave Burch of the Bay Area Air Quality Management District (BAAQMD).

A = Adjustment factor for ADT (auto trips replaced by bike or pedestrian trips). The adjustment factor is based on a lookup table of project length and AADT.

C = Credit for number of activity centers within one-quarter mile of the pedestrian project and one-half mile of the bike project.

2.6 BIKE/PEDESTRIAN AND TRANSIT

Overview and Project Types

This approach evaluates all bike and pedestrian infrastructure improvements that provide increased nonmotorized accessibility to transit. Projects can be evaluated individually for bike or pedestrian facilities, or combined. The approach and rules for inputs are similar to those used in the bike/pedestrian project-type methodology, but also include additional factors to estimate the effect of the interaction of nonmotorized infrastructure improvements with existing transit facilities.

Pedestrian and bicycle facilities can reduce GHG emissions when auto trips are replaced by walking and biking to transit stations. The methodology estimates the annual number of vehicle trips reduced, and the annual auto VMT reduced to approximate the GHG reduction associated with pedestrian and bike improvements at and around transit stations.

Methodology Limitations

The approach does not completely account for all elements of pedestrian bridges or multiuse facilities/greenways in exclusive ROW; however, these can be tested with careful consideration of inputs. In these cases, the total travel demand between the facility start point and end point, or an estimate of total walk or bike access trips to the transit stop or station can be entered in lieu of ADT.

The approach does not test potential mode shifts to nonmotorized and transit modes as a result of complete street elements (e.g., benches, lighting, improved buffers); traffic-calming strategies; transit station design elements, such as a bike station; employer-based strategies (e.g., bike lockers, showers); or improved transit amenities.

User-Defined Inputs

The methodology requires the set of project-specific, user-defined inputs presented in Table 2.8.

Table 2.8 Bike/Pedestrian and Transit Project User-Defined Inputs

User-Defined Input	Default Values	Input Guidance
Project Type		• Select from bike, pedestrian, or bike + pedestrian.
ADT on the parallel arterial		• Enter average weekday passenger vehicle traffic on nearest parallel roadway.
Length of project (miles)		• Enter total length of the bike/pedestrian project.
Average length of bicycle trips (miles)	1.8	• Enter estimated average length of bicycle trips in the area; leave blank if a pedestrian project only. • Default value (1.8 mi) is based on 2001 NHTS statistics, excluding purely recreational trips.
Average length of pedestrian trips (miles)	0.5	• Enter estimated average length of pedestrian trips in the area; leave blank if bike project only. • Default value (0.5 mi) is based on 2001 NHTS statistics, excluding purely recreational trips
Average length of transit trips (miles)	5.2	• Enter estimated average length of transit trips in the area. • Default value based on the American Public Transportation Association (APTA) 2009 Factbook,[10] Table 7 (Bus = 3.9 mi; Commuter Rail = 24.3 mi; Heavy Rail = 4.7 mi; Average = 5.2 mi).
Number of activity centers within ½ mile of project		• Select appropriate number of activity centers. • Activity center examples include banks, churches, hospitals, park-and-ride, office parks, library, shopping, and schools.
Within 2 miles of a university or college (Y/N)?		• Select "Y" if any segment of project is within 2 miles of a university or college.
Area type		• Select from CBD, Urban, Suburban, Mountain, and Rural area types. • Definitions based on traffic analysis zone attributes and inherited from the SCAG travel demand model (see Appendix A).
Does project provide direct access to transit?		• Answer "Y" if any segment of project provides direct access to transit (station or bus stop).
Existing daily transit boardings		• Enter estimated total weekday boardings for all transit access points along project corridor.
Provides access to fixed guideway transit?		• Select "Y" if the segment provides direct access to fixed guideway transit.

[10] APTA (2009), *Public Transportation Factbook, 60th Edition*, American Public Transportation Association, accessed at http://www.apta.com/gap/policyresearch/Documents/APTA_2009_Fact_Book.pdf.

Methodology

The bike and pedestrian project approach follows the same procedures outlined in Section 2.6. The additional transit access element within this project approach is addressed through a lookup table quantifying the increase in transit trips, based on type of access and area type (two percent for improved access to bus; four percent for improved access to fixed guideway).

The source for increases in transit trips is the Transit Cooperative Research Program (TCRP) Report 95, *Traveler Response to Transportation System Changes, Chapter 17 – Transit-Oriented Development (TOD)*, which summarizes travel mode shifts of residents upon relocation into TODs. The TCRP report specifically references California results based upon a 2003 study by Lund, Cervero, and Willson.[11] The shift to transit was larger for residents along the Bay Area Rapid Transit District (BART) heavy-rail system (4.2 percent) than for TOD survey respondents statewide (1.8 percent). These results indicated a reasonable estimate for percent increases as a result of improved accessibility: two percent for bus trips and four percent for fixed guideway trips. Results from the *TCRP Report 95* sources are assumed to approximate responses in high-density areas. Increase percentages in suburban, mountain, and rural areas are based on VMT per capita relationships by population density from the 2001 NHTS (see Tables 2.9 and 2.10).

Table 2.9 Increase in Transit Trips by Area Type and Transit Mode

Area Type	Bus	Fixed Guideway
CBD/Core	2.0%	4.0%
Urban	2.0%	4.0%
Suburban	1.6%	3.2%
Mountain	1.4%	2.8%
Rural	1.4%	2.8%

Source: NHTS (2001).

[11] H. Lund, R. Cervero, and R. Willson (2003), *Travel Characteristics of Transit-Oriented Development in California*, accessed at: http://www.csupomona.edu/~rwwillson/tod/Pictures/TOD2.pdf.

Table 2.10 VMT per Capita by Area Type

Area Type	Population Density People per Square Mile (ppsm)	Annual VMT Per Capita
Mountain/Rural	0– – 499	11,818
Suburban	500 -1,999	10,435
Urban	2,000– – 3,999	9,678
Urban	4,000– – 9,999	8,285
CBD/Core	10,000+	4,639

Source: 2001 NHTS.

Auto trips reduced by bike, walk, and transit modes are translated into VMT based on average bike, walk, and transit trip lengths. The methodology uses default average trip lengths based on the NHTS and APTA *2009 Factbook* data, but can be replaced with user-defined, local-specific data.

For a description of the methodology for calculating reduced auto trips resulting from the project, see Section 2.6.4. The calculation for transit trips is detailed below. Trip reductions are equated to VMT savings based on average bike, walk, and transit trip lengths. VMT reductions are calculated separately for all modes on a daily scale, and then summed together and annualized (assuming a factor of 250 days). For the GHG emissions calculation approach, see Section 4.0.

$$\text{Daily auto trips reduced}_{(\text{transit})} = B_{(\text{project corridor})} * I_{(\text{area type \& mode})}$$

B = Daily transit boarding for all transit access points along bike/pedestrian project corridor; and

I = Percent increase in transit trips as presented in Table 2.9.

2.7 TRANSIT EXPANSION

Overview and Project Types

Transit expansion projects can cause shifts from auto travel, resulting in reductions in VMT and thus GHG emissions. The methodology assumes that, per passenger mile, all modes of transit, including buses, emit less CO_2 than an average occupancy light-duty vehicle trip.

This methodology estimates the emission reduction benefits of transit amenities, such as real-time transit arrival information or decreased out-of-vehicle travel times due to increased frequency of service (or reducing headways) and fleet expansions.

Methodology Limitations

This method is not applicable to new transit routes in areas without existing transit services. The evaluation design is tailored to "typical" CMF-eligible projects (e.g., purchasing new buses, headways, stop amenities, traveler info). Improvements such as service extensions; new corridors; new stations; general enhancement of transit amenities (stops, sidewalks, benches); transit signal priority; queue jumper lanes; or bus rapid transit (BRT) are beyond the scope of this analysis.

User-Defined Inputs

The methodology requires the set of project-specific, user-defined inputs presented in Table 2.11.

Table 2.11 Transit Expansion Project User-Defined Inputs

User-Defined Input	Default Values	Input Guidance
Average peak-period headway before improvements (mins)		• Enter average peak-period headway (minutes) before the project (2010)
Average peak-period headway after improvements (mins)		• Enter average peak-period headway (minutes) after the project (2020)
Does project include real-time arrival information?		• Select "Y" if project involves real-time arrival information
Existing (2010) project corridor transit travel time (mins)		• Enter average time it takes transit to travel the affected corridor (average can be for one route or across multiple routes)
Average peak-period transit ridership (2010) affected by improvements		• Enter average peak-period transit ridership affected by improvements (2010)

Methodology

The approach calculates the increase in transit ridership resulting from a change in headways using elasticities reported in the TCRP Report 95.[12] The methodology applies an average headway elasticity of +0.5. In other words, for each 1-percent decrease in headways, a corresponding 0.5-percent increase in

[12] TCRP 95c9 (2004), *TCRP Report 95, Chapter 9– – Transit Scheduling and Frequency*, Transportation Research Board, on-line at: http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_95c9.pdf.

ridership occurs. This elasticity is derived from an average effect observed on multiple bus transit systems in urban areas across the U.S. CS performed a validation using coefficients in SCAG's mode choice model, and arrived at a comparable elasticity for changes in headways in Southern California.

The TCRP Report 95 references case studies for Santa Clarita Transit in the mid-1990s and Santa Monica Municipal Bus Lines in 1998 that suggest the region-specific headway elasticity may be higher– – from +0.8 to +1.1. However, the current calculation framework maintains the more conservative +0.5 elasticity assumption.

The equation to calculate the change in ridership and resulting decrease in weekday light-duty VMT is as follows:

$$VMT = \frac{(\Delta H \times e_h \times R)}{AVO} \times TL$$

Where:

VMT = Reduction in daily light-duty VMT;

ΔH = Percent change in headways due to improvement;

e_h = Headway elasticity (-0.5);

R = Existing ridership impacted improvement;

AVO = Average passenger vehicle occupancy; and

TL = Average passenger vehicle trip length.

The methodology also accounts for the impact of real-time transit arrival information, which is based on an average travel time reduction as a result of real-time transit information. The 1995 NHTS indicated that transit wait times represent 22 percent of total transit trip time (or 10 minutes) on average (This was also validated through evaluation of the 2001 NHTS.).[13] The methodology assumes that the presence of real-time transit arrival information allows users to reduce average wait times by approximately 50 percent, resulting in a 10-percent reduction of overall travel time.

$$VMT = \frac{(\Delta T \times e_t \times R)}{AVO} \times TL$$

Where:

VMT = Reduction in daily light-duty VMT;

ΔT = Percent change in travel time due to real-time arrival info (10 percent);

[13]CUTR (1998), Public Transit in America: Findings from the 1995 Nationwide Personal Transportation Survey, Center for Urban Transportation Research, Table 4-13.

et = Travel time elasticity (+0.23);[14]

R = Existing ridership impacted improvement;

AVO = Average passenger vehicle occupancy; and

TL = Average passenger vehicle trip length

The reduction in GHG caused by shorter headways is offset somewhat by the addition of transit revenue miles that generate CO_2 emissions. The increase in total corridor transit revenue miles is estimated via the change in total number of daily buses multiplied by transit corridor length.

2.8 PARK-AND-RIDE

Overview and Project Types

Increasing parking capacity at transit stations reduces emissions by encouraging single-occupant vehicle drivers to shift to transit for a proportion of their commute trip.

This method is applicable for new or existing parking lots providing park-and-ride access to transit. The projects can include both expansions of existing parking facilities adjacent to transit. The user-defined type of transit station (urban rail, commuter rail, BRT/express bus, or transit center) determines the share of additional parking lot users that are new transit riders. This factor is combined with a parking lot utilization factor to estimate reduced vehicle trips as a result of the parking expansion.

Methodology Limitations

This methodology is not designed to estimate the impact of a new parking facility associated with a new transit station. The station must be existing with some level of existing parking available, but any type of existing parking (public, private, or shared) or type of transit station can be accommodated.

User-Defined Inputs

The methodology requires the set of project-specific, user-defined inputs presented in Table 2.12.

[14]VTPI (2010), *Transportation Elasticities: How Prices and Other Factors Affect Travel Behavior*. Victoria Transport Policy Institute, May 3, 2010.

Table 2.12 Park-and-Ride Project User-Defined Inputs

User-Defined Input	Default Values	Input Guidance
Transit station type		• Select from urban rail, commuter rail, BRT/express bus, transit center, or other.
Additional parking added by 2020		• Enter number of new parking spaces (by expansion of an existing lot or a new lot).
Average auto trip length (miles)	15	• Enter average commute distance traveled by autos in the area. • 15 miles is the default option, based on 2009 NHTS data for the Los Angeles-Riverside-Orange County MSA.[15]
Average weekday parking lot utilization	95%	• Enter post-parking expansion expected average weekday utilization expected • Default value, 95% parking occupancy, is the assumed utilization in MTA's Gold Line Draft Environmental Impact Statement (DEIS)[16]; • Other input guidance by transit station type: 77% for Metrolink (the midpoint of the 70-85% range for commuter rail reported in TCRP 95, Ch.3), 65% for BRT/Express Bus; and 50-60% for urban bus systems/shared use facilities.[17]
Average auto access trip length (miles)	5	• Enter the average distance traveled by vehicles accessing the park-and-ride lot. • 5 miles is the default option. As a reference, per TCRP Report 95 (2004), 80% of trips to a park-and-ride facility travel less than 10 miles. Given the density of transit service in LA County, an average drive to park-and ride of less than 10 miles is reasonable for this application.
Parking lot usage	Weekdays	• Select from weekdays (250 days per year) and everyday (365 days per year)

Methodology

The approach calculates the CO_2 emissions reductions from added parking capacity at transit stations as a result of new transit riders shifting from the private vehicle mode. The calculation of the VMT reduction is tied to a combination of user-defined inputs, as presented in Table 2.12. In addition, the percentage of new transit riders utilizing park-and-ride lots is assumed to be 37 percent, pursuant to data collected for the Metro Gold Line Foothill Extension environmental documents.[18]

The calculated VMT reduction is only applied to the portion of the trip length that shifts from auto to transit. Default average auto commute trip lengths and auto access to park-and-ride trip lengths are assumed to be 15 and 5 miles, respectively (see Table 2.12 for references). However, users may substitute unique corridor- or subregion-specific average auto trip length and auto access to parking trip lengths.

The volume of new transit riders utilizing the expanded park-and-ride lot capacity is estimated by multiplying the new parking spaces by the parking lot utilization, and by the percent of new riders using the park-and-ride lots (37 percent).[19] This new rider estimate is multiplied by the average round trip distance, excluding auto access, to obtain a daily VMT reduction for the project. The daily VMT reduction is calculated as follows:

$$VMT = \frac{(TL_1 - TL_2)}{2} \times (P \times U * NR_m)$$

Where:

VMT = Reduction in daily light-duty VMT;

TL_1 = Average auto trip length;

TL_2 = Average auto access to PNR trip length;

P = Total added parking spaces;

U = Average parking lot utilization; and

NR_m = Percentage of new transit riders using park and ride lot (37 percent).

2.9 MANAGED LANES

Overview and Project Types

The emissions reduction for transit managed lanes projects is calculated based on the benefit of: 1) decreased travel time on ridership, and 2) increased bus transit speed on GHG emissions per mile.

[15] NHTS (2009), *National Household Travel* Survey, data available at: http://nhts.ornl.gov/tools.shtml,

[16] MTA (2004), *Gold Line Phase II– – Pasadena to Montclair– – Foothill Extension DEIS/DEIR*, Los Angeles County Metropolitan Transportation Authority, pp. 3-15-87.

[17] TCRP 95c3 (2004), *TCRP 95, Chapter 3– – Park and Ride/Pool*, Transportation Research Board, http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_95c9.pdf.

[18] FTA (2003), *Metro Gold Line East Side Extension, Pending Full-Funding Grant Agreement*, Federal Transit Administration. www.fta.dot.gov/documents/LA_Metro1AA.doc.

[19] Per TCRP 95c3 (2004), the percent of new riders using park-and-ride lots varies from 20 to 75 percent nationwide. Per FTA (2003), 37 percent of ridership are new riders.

The El Monte busway project assumes new ramp access to an existing managed lane facility. This project approach evaluates the benefit of switching a portion of an existing bus transit corridor operating in general purpose lane traffic to a managed lane as a result of new ramp access points.

Methodology Limitations

The methodology does not consider any inputs or emission impacts regarding change in corridor transit service (headways or route alignment), any mode shifts from single-occupancy vehicle (SOV) to HOV as a result of new managed lane capacity, or a general reduction in corridor delay resulting from overall improved flow. While there are expected GHG emission impacts resulting from these outcomes of managed lane projects, at this point, the benefit to existing transit is the only outcome considered per the currently proposed list of CMF projects.

User-Defined Inputs

The methodology requires the set of project-specific, user-defined inputs presented in Table 2.13.

Methodology

The user-defined inputs presented in Table 2.13 describe characteristics of the managed lane (restrictions, AADT, and number of lanes) and the corridor transit service (travel time, total length, length on managed lane, peak and off-peak number of buses, and existing daily ridership).

These inputs are combined with default transit-related factors, such as the elasticity of transit ridership with respect to travel time. Managed lane capacity and free-flow speed assumptions come from the same speed and capacity lookup table used in the roadway capacity methodology.

Table 2.13 Managed Lane Project User-Defined Inputs

User-Defined Input	Default Values	Input Guidance
Managed lane restrictions		• Select the appropriate managed lane restriction: 1) bus only, 2) HOV, or 3) HOV + high-occupancy toll (HOT)
Managed lane annual average daily traffic		• Enter the existing average daily traffic on the managed lane facility. • If restriction = 1, AADT = total daily buses; if 2, AADT = buses + HOV; if 3, AADT = buses + HOV + tolled SOV
Managed lane # of lanes (one-way)		• Enter number of managed lanes in a single direction (peak direction, if reversible lanes are in place)
Corridor total average travel time (min) (existing)		• Existing average travel time for the transit corridor (route start point to end point)
Total transit corridor length (mi)		• Enter transit corridor length (route start point to end point)
Corridor length on managed lane (mi)		• Enter total mileage of transit corridor proposed for operation on the managed lane
Daily # of peak buses (6:00-9:00 a.m., 3:00-:00 p.m.)		• Enter total number of peak-period buses
Daily # of off-peak buses		• Enter total number of off-peak-period buses
Daily corridor transit ridership affected by improvements		• Enter existing transit ridership in the affected transit corridor

Existing average speed on the transit corridor is calculated based on user-defined corridor length and travel time. Managed lane average peak speeds are estimated based on MTA model speed-volume curve equations, while off-peak speeds are assumed to represent free-flow conditions. Calculated speeds are reduced by 10 percent to reflect slightly lower transit vehicle operating speeds.

$$S_m = S0 / (1+1.5X^6)$$

Where:

S_m = Managed lane average peak transit speed

$S0$ = Managed lane free-flow speed (70 mph) * 0.9 (adjustment for transit vehicles); and

X = Peak-period volume/capacity.

Based on the changes in average speed and corridor distance on and off the managed lanes, improved total peak and off-peak travel times are calculated. The difference in travel time is applied to the transit ridership with respect to travel time elasticity (+0.23) to obtain an estimate of the increase in transit trips. Transit trips are converted to VMT savings based on average trip lengths and average vehicle occupancy.

$$VMT = \frac{(\Delta T \times e_t \times R)}{AVO} \times TL$$

Where:

VMT = Reduction in daily light-duty VMT;

ΔT = Percent change in travel time resulting from change in route alignment to managed lane;

e_t = Travel time elasticity (+0.23);[20]

R = Existing ridership impacted improvement;

AVO = Average passenger vehicle occupancy; and

TL = Average passenger vehicle trip length.

In addition, the change in average transit corridor travel speed is input into CO_2 emission factor lookup tables to estimate emission reductions resulting from more efficient travel conditions.

[20] VTPI (2010).

3.0 Other Project Types

Two project types entered in the July 2010 CMF project list were considered for inclusion within the tool, but were removed from the tool development process due to insignificant GHG reduction potential and questionable adherence to AB 1600 nexus requirements.

3.1 Corridor Improvement/Streetscape

These projects involve the installation of medians, new landscaping, street lighting, signage or pedestrian amenities (i.e., benches, trash cans). It is not clear how median installation would positively affect speed or travel time in a way that substantially impacts GHG emissions. Conventionally, installation of a median reduces speeds and reduces truck traffic in urban settings– – commonly due to the difficulty in navigating around the barriers. While the other elements within this project category may lead to increased walking, biking, or transit research, the literature is not conclusive on the level of impact. Benefits of improved bike, pedestrian, and transit infrastructure are included in other project types within the tool.

3.2 Roadway Upgrade

A national comparison of speed study results for individual resurfacing sites found that the differences in mean speed before and after resurfacing ranged from an increase of 7 mph to a decrease of 4 mph, with an average of 1 mph increase. The differences in 85th percentile speed ranged from an increase of 6 mph to a decrease of 4 mph; also with an average difference of 1 mph.[21] These findings suggest negligible potential for reducing regional GHG emissions through resurfacing.

[21] NCHRP (2003), *NCHRP Report 486: Systemwide Impact of Safety and Traffic Operations – Design Decisions for 3R Projects*, National Cooperative Highway Research Program.

4.0 GHG Emission Calculations

4.1 EMFAC CO_2 Emission Factor Lookup Tables

The CARB's EMFAC model was used to calculate CO_2 emission factors by speed and vehicle type. EMFAC is the official emissions model for California, and is currently being used by SCAG for SB 375 analysis. Since EMFAC does not consider the recently implemented Pavley I clean car standards or the Low Carbon Fuel Standard (LCFS) in California, adjustments were made after the EMFAC runs were completed.[22] CARB has created a post-processor for EMFAC that adjusts for these new standards, but it does not accept emission factors by speed. Therefore, the adjustments were made manually in an Excel sheet.

The following steps summarize the assumptions supporting the EMFAC runs and the outputs post-processed to provide CO_2 emission factors by speed and vehicle type:

1. Run EMFAC using the following parameters:
   a. Los Angeles County;
   b. Calculation Method: Use Average;
   c. Calendar Years: 2010, 2020, and 2030;
   d. All model years;
   e. All vehicle classes;
   f. Default I/M program schedule;
   g. Burden Inventory Output;
   h. Detailed Planning Inventories (CSV);
   i. Provide detail for model years, tech groups, and speed; and
   j. Speed Categories: 5 mph.
2. Summarize CO_2 running emissions inventory by calendar year, vehicle type, tech group (selecting only total for each speed category), and model year.
3. Summarize VMT by calendar year, vehicle type, tech group (selecting only total for each speed category), and model year.

[22] The regional per capita emissions reduction targets set by CARB do not include emissions reductions resulting from Pavley I or LCFS.

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4. Divide each CO_2 inventory number by each VMT number to obtain CO_2 emission factors. Multiply by 907,184.74 grams per ton to convert from tons per mile to grams per mile.
5. Apply Pavley reduction factors to appropriate vehicle types and model years, as specified in CARB's User's Guide for the Pavley I + LCFS Post-Processor.[23]
6. Calculate composite emission factor for all model years by using a VMT-weighted average.
7. Apply an adjustment factor for the LCFS to the composite emission factor using the reduction factors found in CARB's User's Guide for the Pavley I + LCFS Post-Processor.[24]
8. Final CO_2 emission factors are provided in grams per mile by speed and vehicle type.

Since EMFAC does not provide idling emission rates in grams per hour, these were approximated by using emission rates for 3 mph. These were calculated in EMFAC using the same method, as described above; however, at the end the gram per mile emission rates are multiplied by 3 miles per hour to convert to grams per hour.

All metric units were subsequently converted to pounds (lbs).

Table 4.1 presents the lookup tables used in the emissions calculator tool. Results by vehicle type are aggregated into three primary vehicle types for the emissions calculation lookups by project type. The aggregation of emissions factors are based on a weighting by VMT by speed by vehicle type. The aggregation process by vehicle type combines the following vehicle types:

- Light-duty passenger cars: LDA, LDT1, LDT2, and MCY; and
- All trucks: HHD, LHD1, LHD2, MDV, and MHD.

The aggregation process works the same for 2010, 2020, and 2030. Ultimately, the 2020 emissions factors are applied in the emission reduction calculations in the tool. The 2020 emission factors are presented in Table 4.1 by 5 mpg speed increments (the emission reduction calculations use each 1 mph increments).

[23] CARB (2010), *Pavley I + Low Carbon Fuel Standard Postprocessor, Version 1.0 User's Guide*, California Air Resources Board, http://www.arb.ca.gov/cc/sb375/tools/pavleylcfs-userguide.pdf, Table 1.

[24] Ibid., Table 2.

Table 4.1 2020 CO_2 Emission Factors by Vehicle Type and Speed

	Vehicle Type		
	Light-Duty	Truck	Urban Bus
Speed	CO_2 grams/mile		
Idle (grams/hour)	2,724.96	5,197.15	7,081.33
5 mph	908.32	1,732.38	2,360.44
10 mph	675.38	1,383.41	2,217.43
15 mph	520.03	1,092.16	2,024.59
20 mph	415.75	896.14	1,908.85
25 mph	345.56	785.96	1,837.53
30 mph	297.38	718.25	1,793.02
35 mph	265.70	676.46	1,765.58
40 mph	247.89	680.79	1,749.82
45 mph	239.65	691.13	1,742.88
50 mph	239.63	676.64	1,743.56
55 mph	248.70	695.19	1,751.97
60 mph	266.66	744.09	1,769.58
65 mph	296.33	882.24	-
70 mph	310.31	919.65	-
Average VMT Weighted Speed	327.36	807.25	1,826.77

Note: All emission factors by speed are grams CO_2 per mile, except for idling, which is grams CO_2 per hour.

4.2 CO_2 Emission Reduction Calculation

Each project calculates a change in vehicle speed, delay, or VMT; and equates these results to a reduction in CO_2. Table 4.2 presents the output for each project type and a summary of the emissions calculation.

Table 4.2 CO_2 Emission Reduction Calculations by Project Type

Project Type	Project Performance Outputs	CO_2 Emissions Calculation
Roadway capacity	Change in peak-hour speed by vehicle type for project limit VMT	Emission factors (g/mi) for pre- and post-improvement speeds are multiplied by total VMT.
Interchange capacity	Change in average peak-hour speed by vehicle type for all ramp VMT, change in intersection hours of delay.	Emission factors (g/mi) for pre- and post-improvement speeds s multiplied by total VMT; and idle emission factor is multiplied by pre- and post-improvement intersection hours of delay by vehicle type.
Grade separation	Change in speed by vehicle type for project limit VMT, total reduction in delay resulting from removing queues at existing at-grade intersection.	Emission factors (g/mi) for pre- and post-improvement speeds is multiplied by total VMT; and idle emission factor is multiplied by pre- and post-improvement intersection hours of delay.
Intersection improvement	Change in average seconds of delay per vehicle by intersection approach	Idle emission factor is multiplied by pre- and post-improvement intersection hours of delay.
System operations	Change in corridor average speed resulting from decreased travel time	Emission factors (g/mi) for pre- and post-improvement speeds (average speed for entire corridor, including idling at signalized intersections) is multiplied by total VMT.
Bike/pedestrian	Reduction in VMT	Total reduction in VMT is multiplied by average VMT weighted speed light-duty vehicle emissions factor.
Bike/pedestrian and transit	Reduction in VMT	Total reduction in VMT is multiplied by average VMT weighted speed light-duty vehicle emissions factor. No additional emissions from transit are assumed (no change in service provision).
Transit expansion	Reduction in VMT	Total reduction in VMT is multiplied by average VMT weighted speed light-duty vehicle emissions factor; and additional transit revenue miles are multiplied by average urban bus VMT weighted speed emission factor.
Park-and-ride	Reduction in VMT	Total reduction in VMT is multiplied by average VMT weighted speed light-duty vehicle emissions factor. No additional emissions from transit are assumed (no change in service provision).
Managed lanes	Reduction in VMT, improvement in transit speeds	Total reduction in VMT is multiplied by average VMT weighted speed light-duty vehicle emissions factor; and emission factors (g/mi) for pre- and post-improvement urban bus speeds are multiplied by total transit miles.

5.0 Next Steps

Depending on the next steps in the evolution of the congestion mitigation fee program, there are a range of potential updates and enhancements to the web tool calculation methodologies as currently defined. The three most critical near term enhancements are:

1. **Expansion of the transit expansion project type.** The current approach is designed only to assess benefits of a combination of average corridor transit frequency adjustment or the deployment of real-time arrival information at transit stops. The scope of potential other transit improvements included within the CMF program suggests that a number of other options may be appropriate. These additional modules within the transit approach may include transit priority corridors/signal priority, new routes or circulator systems, transit vehicle replacements (i.e., diesel replaced with hybrid or other low emission technologies).
2. **Expansion of the system operations project type.** The current approach is constrained to assessing the benefits of corridor-specific signal synchronization projects. It does not represent the full scope of traditional system management projects/programs, particular corridor, subarea, or citywide ITS and ATMS applications, as currently defined in the congestion mitigation fee program list. An enhancement to this tool, or a completely new, separate approach, is a near-term priority in order to fill in this project gap.
3. **Expansion of the managed lanes project benefits calculation.** The current approach focuses exclusively on the GHG emission reductions resulting from rerouting a portion of a bus route onto an existing managed lane via construction of new access. As more information becomes available about this project type, it is possible that inclusion of an assessment of how new managed lane access points improve HOV access to new developments and results in mode shifts and potential travel timesavings should be considered. In addition, the existing tool could also be adjusted or combined with the transit tool to assess the benefits of bus-only lanes or BRT on major arterials.

In addition, the methodologies as currently constructed can report other project-related outputs, such as reduction in VMT and reduction in delay or vehicle hours of travel. These outputs could be reported through the web tool interface; or serve as the starting point for other critical project calculations, such as project-level cost-benefit assessments and reductions in criteria pollutant emissions.

A. References

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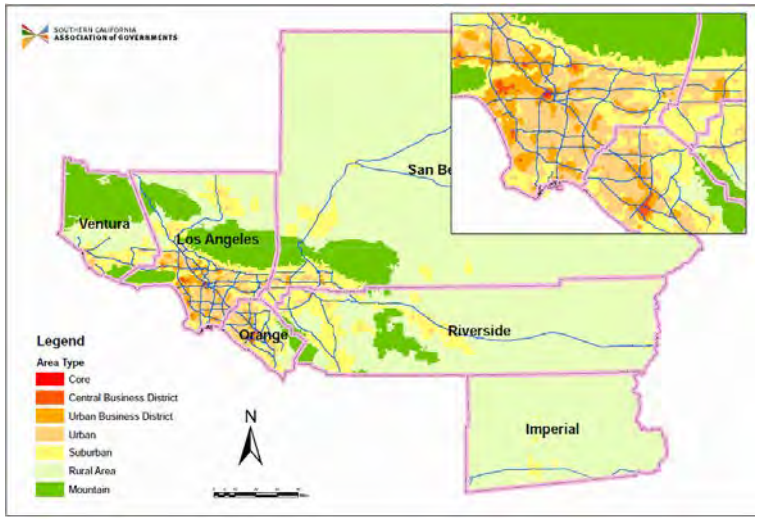
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B. SCAG Area Type Map



Source: http://www.scag.ca.gov/modeling/pdf/MVS03/MVS03_Chap04.pdf.

C. LA MTA Model Speed and Capacity Lookup Table

Facility Type	Area Type	Number of Lanes	Capacity Per Hour, Per Lane	Free-Flow Speed (mph)
1	1	1	1,950	70
1	2	1	1,950	70
1	3	1	1,950	70
1	4	1	1,950	70
1	5	1	1,950	70
2	1	1	625	35
2	2	1	650	40
2	3	1	675	45
2	4	1	800	50
2	5	1	1,250	55
3	1	1	575	35
3	2	1	600	40
3	3	1	625	45
3	4	1	800	50
3	5	1	900	55
4	1	1	500	35
4	2	1	525	40
4	3	1	550	45
4	4	1	800	50
4	5	1	900	55
Multilane Specific				
2	1	>1	800	35
2	2	>1	850	40
2	3	>1	900	45
2	4	>1	1,000	50
2	5	>1	1,500	55
3	1	>1	650	35

Facility Type	Area Type	Number of Lanes	Capacity Per Hour, Per Lane	Free-Flow Speed (mph)
3	2	>1	750	40
3	3	>1	750	45
3	4	>1	900	50
3	5	>1	1,000	55
4	1	>1	550	35
4	2	>1	600	40
4	3	>1	625	45
4	4	>1	900	50
4	5	>1	1,000	55

D. GHG Emissions Calculator Constants and Assumptions

Project Type	Constant	Value	Citation/Explanation
Roadway Capacity	Number of week days/year	250	Assumes delay reduction benefits on holidays and weekends are marginal.
	Peak-period factor	32%	SCAG 2003 trip assignment model documentation.
	Hours in peak period	4	SCAG 2003 trip assignment model documentation.
	Auto occupancy (persons/vehicle)	1.7	NHTS (2009), Los Angeles-Riverside-Orange County MSA.
Interchange Capacity[1]	Ramp Capacity (per hour per lane)	1950	LA MTA Model Documentation– – Speed Volume Curve Equations.
	Ramp Free-Flow Speed (mph)	25	LA MTA Model Documentation– – Speed Volume Curve Equations.
	Peak hour to daily conversion	10	LA MTA Model Documentation.
Intersection Improvement	Proposed Signalized Intersection Cycle Length (sec)	60-120	FHWA Traffic Signal Timing Manual (2008)
System Operations[1]	% Turns from Exclusive Lanes from the Peak Direction	10%	HCM (2000), Intersection Turning Movements, Default Values in Absence of Turning Movement Data.
Transit Expansion	Headway Elasticity to Ridership Increase	-0.50	TCRP 95c9 (2004).
	Share of Wait Time as a portion of the Total Travel Time	22%	CUTR (1998), Table 4-13.
	Travel Time Reduction Due to Real Time Arrival	20%	TCRP 95c9 (2004).
	Elasticity of Transit Ridership WRT Transit Travel Time	-0.23	VTPI (2010).
	Average Trip Length (mi)	9	NHTS (2009) Los Angeles-Riverside-Orange County MSA (all trip types).
Park-and-Ride	Percentage of New Riders Utilizing Park-and-Ride Lots	37%	TCRP 95c18 (2004). Per FTA (2003), 37% of ridership are new riders.
Managed Lanes[1]	Elasticity of Transit Ridership WRT Transit Travel Time	-0.23	VTPI (2010).
	Managed Lane Capacity (per hour per lane)	1950	LA MTA Model Documentation– – Speed Volume Curve Equations.
	Managed Lane Free-Flow Speed (mph)	70	LA MTA Model Documentation– – Speed Volume Curve Equations.

[1] Number of week days/year, peak period factor, hours in peak period and auto occupancy use same values as roadway capacity approach.

LA MTA Congestion Mitigation Fee Tool - GHG Emissions Calculator
Appendix

ADT Adjustment Factor Lookup Table (Adopted from CARB (2005))

	Non-University Area Project Length (mi)				University Area Project Length (mi)		
Max ADT	< 1	1– – 2	> 2	Max ADT	< 1	1– – 2	> 2
12,000	0.0019	0.0029	0.0038	12,000	0.0104	0.0155	0.0207
24,000	0.0014	0.0020	0.0027	24,000	0.0073	0.0109	0.0145
30,000	0.0010	0.0014	0.0019	30,000	0.0052	0.0078	0.0104

Activity Center Credits (Bike)

Activity center examples: Banks, churches, hospitals, park-and-ride, office parks, library, shopping, schools).

Centers	One-Half Mile
At least 3	0.0005
4 to 6	0.001
> 6	0.0015

Activity Center Credits (Pedestrian)

Activity center examples: Banks, churches, hospitals, park-and-ride, office parks, library, shopping, schools).

Centers	One-Quarter Mile
At least 3	0.001
4 to 6	0.002
> 6	0.003

EXHIBIT 2 Orange County COG Subregional SCS

OCTA

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Governor's
Ex-Officio Member

EXECUTIVE OFFICE

Will Kempton
Chief Executive Officer

September 22, 2010

Ms. Justine Block
Deputy Counsel
Southern California Association of Governments
818 W. 7th St., 12th Floor
Los Angeles, CA 90017

Subject: **Memorandum of Understanding C-0-1712**

Dear Ms. Block:

Enclosed please find one fully executed original copy of Memorandum of Understanding No. C-0-1712 between the Orange County Transportation Authority, Orange County Council of Governments, and The Southern California Association of Governments for your file.

If you should you have any questions, please contact me at (714) 560-5615.

Sincerely,

Carolina Coppolo
Manager, Contracts and Procurement
Contracts Administration
and Materials Management

Enclosure

MEMORANDUM OF UNDERSTANDING NO. C-0-1712

BY AND BETWEEN

ORANGE COUNTY TRANSPORTATION AUTHORITY

AND

ORANGE COUNTY COUNCIL OF GOVERNMENTS

AND

THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

FOR ORANGE COUNTY SUSTAINABLE COMMUNITIES STRATEGY

THIS MEMORANDUM OF UNDERSTANDING (hereinafter referred to as "MOU") is entered by and between the Orange County Transportation Authority, (hereinafter referred to as "AUTHORITY"), the Orange County Council of Governments, (hereinafter referred to as "OCCOG"), and the Southern California Association of Governments, (hereinafter referred to as "SCAG"), collectively referred to as the "Parties."

RECITALS:

WHEREAS, Senate Bill 375 (Chapter 728, laws of 2008, "SB 375") requires SCAG to prepare a regional Sustainable Communities Strategy (hereinafter referred to as "SCS" or "Regional SCS") as part of SCAG's Regional Transportation Plan (RTP) to achieve goals for the reduction of greenhouse gas emissions from automobiles and light trucks in the SCAG region which comprises the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura;

WHEREAS, SB 375 allows AUTHORITY, as the county transportation commission for Orange County, and OCCOG, as a subregional council of governments for Orange County, to develop and submit to SCAG a subregional SCS for Orange County (hereinafter referred to as "Orange County SCS");

WHEREAS, as part of its implementation of SB 375, SCAG has developed and adopted a certain "Framework and Guidelines for the Subregional Sustainable Communities Strategy" (hereinafter

referred to as "Framework and Guidelines"), attached hereto as Exhibit "A" and incorporated herein by this reference.

WHEREAS, SCAG is required by SB 375 to include a subregional SCS in the regional SCS, to the extent consistent with state and federal law, including the SCS conducted by Orange County; and

WHEREAS, AUTHORITY, OCCOG and SCAG desire to enter into this MOU to demonstrate mutual commitments to prepare the Orange County SCS.

NOW, THEREFORE, the Parties enter into the following MOU with respect to the matters set forth herein:

1. This MOU establishes the roles, responsibilities, and requirements for AUTHORITY, OCCOG, and SCAG that are necessary to develop an Orange County SCS that shall be included in the regional SCS prepared by SCAG.

2. AUTHORITY and OCCOG shall prepare the Orange County SCS consistent with SCAG's adopted Framework and Guidelines, as attached hereto, to ensure that the region can successfully incorporate strategies within the Orange County SCS into the Regional SCS, and not inhibit the region from complying with SB 375

3. AUTHORITY and OCCOG agree to comply with the Milestones Schedule, attached hereto as Exhibit "B" and incorporated by this reference, and work with SCAG and the other subregions to ensure the successful delivery of a regional SCS by using the Deliverables Template, attached hereto as Exhibit "C" and incorporated herein by this reference as the primary template for developing a subregional SCS workplan. The Deliverables Template may be subject to change, based on direction from the SCAG Regional Council or Community, Economic and Human Development Policy Committee, and approval by OCCOG.

4. AUTHORITY shall prepare the transportation element of the Orange County SCS through AUTHORITY'S Long-Range Transportation Plan (LRTP). Such transportation element shall, at a minimum, identify a transportation network (i.e., list of transportation projects) to service the

transportation needs of Orange County, and describe transportation policies (e.g., Transportation Demand Management and Transportation System Management strategies).

5. OCCOG shall prepare the Orange County SCS, and use AUTHORITY'S LRTP as the transportation element of the Orange County SCS.

6. OCCOG and AUTHORITY are encouraged by SCAG to conduct a public participation process in developing the Orange County SCS, above and beyond the process required for the regional SCS required under Section 65080(b)(2)(D)-(E) of the California Government Code. Further, SCAG encourages OCCOG to develop a public participation plan, similar to SCAG's Public Participation Plan adopted in December 2009, for such purposes.

7. OCCOG and AUTHORITY agree to participate in all publicly noticed meetings, workshops, hearings, and other outreach activities organized in Orange County by SCAG at which the regional SCS or Orange County SCS is included on the agenda. All parties shall coordinate with one another during implementation of SCAG's public participation process in order to ensure broad public and stakeholder participation, and to avoid duplication of effort.

8. OCCOG and AUTHORITY shall retain and deliver to SCAG all documentation pertaining to the Orange County SCS from publicly noticed meetings, workshops, and hearings at which the Orange County SCS is included on the agenda. Such documentation shall include but is not limited to meeting notices, agendas, minutes, comments and responses to comments, sign-up sheets, handouts, and copies of power point presentations.

9. AUTHORITY, OCCOG, and SCAG acknowledge that population, housing, and employment estimates are being prepared by the Center for Demographic Research at California State University Fullerton through the Orange County Projection process and the 2012 RTP growth forecasting process (hereinafter referred to as the "OCP dataset"). SCAG agrees to use the OCP dataset as reviewed and approved by OCCOG, for the Regional SCS and the 2012 RTP; provided, that SCAG, in consultation with OCCOG, may make adjustments to the OCP dataset in order to ensure consistency with SCAG's 2012 RTP growth forecast.

10. AUTHORITY and Orange County local agencies shall provide SCAG with population, employment, and housing estimates in transportation analysis zone (TAZ) format consistent with the Orange County Transportation Analysis Model (OCTAM).

11. AUTHORITY agrees to incorporate new land use-transportation interactions into OCTAM, and these shall include, at a minimum, net residential and employment densities, jobs/housing diversity, design characteristics, and destination accessibility.

12. The Parties agree and acknowledge that population, housing, and employment data submitted to SCAG by OCCOG and AUTHORITY shall be accurately reflected in all documentation produced by SCAG that relates to the Orange County SCS and Regional SCS.

13. The Parties agree and acknowledge that RHNA responsibilities shall remain with SCAG, and neither AUTHORITY nor OCCOG shall assume delegation responsibility for RHNA as part of the Orange County SCS development. However, neither AUTHORITY nor OCCOG is precluded by this MOU from assuming delegation responsibility for RHNA as part of a subsequent, separate agreement.

14. SCAG agrees to accept AUTHORITY's LRTP as Orange County's program of transportation projects as input for the 2012 Regional Transportation Plan.

15 SCAG agrees to acknowledge that the Renewed Measure M program is exempt from SB 375 requirements, to the extent consistent with SB 375 and the final, adopted California Transportation Commission RTP guidelines.

16. SCAG agrees that in addition to preparation of the Orange County SCS developed under this MOU, development of an Alternative Planning Strategy (APS) by AUTHORITY and OCCOG is optional. This understanding shall not preclude SCAG from preparing a regional APS pursuant to SB 375.

17. SCAG shall not develop SCS related targets that are attributable to the subregions.

18. SCAG agrees that it will not impose a penalty on the Orange County subregion if the greenhouse gas targets, as established by the California Air Resources Board, are not met by the Regional SCS.

19. SCAG shall accept the Orange County SCS prepared in accordance with this MOU, as the Orange County subregion's input into the Regional SCS prepared by SCAG.

20. AUTHORITY, OCCOG, and SCAG shall separately amend this MOU in writing or develop a separate, mutual funding agreement addressing Orange County SCS costs should state or federal funding become available that can be applied toward preparation of the Orange County SCS.

21. AUTHORITY, OCCOG, and SCAG agree to work closely together throughout the regional SCS process and Orange County SCS process to provide technical input, applicable planning data, and constructive feedback with respect to all documents, products and deliverables developed and associated with the Orange County SCS.

22. The AUTHORITY, OCCOG, and SCAG agree to work together in good faith, using reasonable efforts to resolve any unforeseen issues and disputes arising out of the performance of this MOU.

23. The Parties agree in good faith to provide the resources necessary to implement the provisions of the MOU.

24. AUTHORITY, OCCOG, and SCAG agree to defend, indemnify and hold harmless the other parties, their Officers, agents, elected officials, and employees, from all liability, claims, losses and demands, including defense costs and reasonable attorneys' fees, whether resulting from court action or otherwise, arising out of the acts or omissions of the defending party, its officers, agents, or employees, in the performance of the MOU. When acts or omissions of one party are directed by another party, the party directing the acts or omission shall owe this defense and indemnity obligation to the agencies following the directions. The provisions of this paragraph shall survive termination of this MOU.

25. This MOU shall be governed by all applicable federal, state, and local laws. The signatories warrant that in the performance of this MOU, each shall comply with all applicable federal, state and local laws, statutes and ordinances and all lawful orders, rules and regulations promulgated there under.

26. This MOU may only be modified or amended upon written mutual consent of all signatories. All modifications, amendments, changes and revisions of this MOU in whole or part, and from time to time, shall be binding upon the parties, so long as the same shall be in writing and executed by the signatories.

27. This MOU, including all exhibits and documents incorporated herein and made applicable by reference, constitutes the complete and exclusive statement of the term(s) and condition(s) of the agreement between the parties and it supersedes all prior representations, understandings and communications. The invalidity in whole or part of any term or condition of this MOU shall not affect the validity of the other term(s) or condition(s).

28. Any party may withdraw from this MOU upon 30 days written notice to the other, until the due date set forth in Exhibit "B" for submittal to SCAG of the preliminary Orange County SCS. After such due date, any party may withdraw from this MOU only upon mutual written agreement by all Parties.

29. Each signatory shall be excused from performing its obligations under this MOU during the time and to the extent that it is prevented from performing by an unforeseeable cause beyond its control, including but not limited to: any incident of fire, flood; acts of God; commandeering of material, produces, plants or facilities by federal, state or local government; national fuel shortage; or a material act or omission by any other party; when satisfactory evidence of such cause is presented to the other parties, and provided further such nonperformance is unforeseeable, beyond the control and is not due to the fault or negligence of the party not performing.

30. Any notice sent by first class mail, postage paid, to the address and addressee, shall be deemed to have been given when in the ordinary course it would be delivered. The representatives of the parties who are primarily responsible for the administration of this MOU, and to whom notices, demands and communications shall be given are as detailed in Exhibit "D". If there are any changes in the names and/or addresses listed in Exhibit "D", the party desiring to make such changes shall give a written notice to the other respective parties within five (5) days of such change.

31. This MOU shall continue in full force and effect from the Effective Date up to and until the date that the Regional SCS is adopted by SCAG's Regional Council, unless otherwise terminated earlier in accordance with section 28 of this MOU. The Effective Date of this MOU shall mean the date (last date indicated below) that all parties have fully executed this MOU.

[Signature Page to follow.]

MEMORANDUM OF UNDERSTANDING NO. C-0-1712

IN WITNESS WHEREOF, the Parties hereto have caused this MOU No. C-0-1712 to be executed by their duly authorized representatives.

ORANGE COUNTY TRANSPORTATION AUTHORITY ("Authority")

By _____ Date: 9/21/10
Will Kempton, Chief Executive Officer

ORANGE COUNTY COUNCIL OF GOVERNMENTS ("OCCOG")

By _____ Date: 9/20/10
Kristine Murray, Executive Director

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS ("SCAG")

By _____ Date: 9/15/2010
Hasan Ikhrata, Executive Director

Exhibit A: SCAG's Adopted Framework and Guidelines

Southern California Association of Governments

(Approved by Regional Council - April 1, 2010)

FRAMEWORK AND GUIDELINES
for
SUBREGIONAL SUSTAINABLE COMMUNITIES STRATEGY

I. INTRODUCTION

SB 375 (Steinberg), also known as California's Sustainable Communities Strategy and Climate Protection Act, is a new state law which became effective January 1, 2009. SB 375 calls for the integration of transportation, land use, and housing planning, and also establishes the reduction of greenhouse gas (GHG) emissions as one of the main goals for regional planning. SCAG, working with the individual County Transportation Commissions (CTCs) and the subregional organizations within the SCAG region, is responsible for implementing SB 375 in the Southern California region. Success in this endeavor is dependent on collaboration with a range of public and private partners throughout the region.

Briefly summarized here, SB 375 requires SCAG as the Metropolitan Planning Organization to:

- Prepare a Sustainable Communities Strategy (SCS) as part of the 2012 Regional Transportation Plan (RTP). The SCS will meet a State-determined regional GHG emission reduction target, if it is feasible to do so.
- Prepare an Alternative Planning Strategy (APS) that is not part of the RTP if the SCS is unable to meet the regional target.
- Integrate SCAG planning processes, in particular assuring that the Regional Housing Needs Assessment (RHNA) is consistent with the SCS, at the jurisdiction level.
- Specific to SCAG only, allow for subregional SCS/APS development.
- Develop a substantial public participation process involving all stakeholders.

Unique to the SCAG region, SB 375 provides that "a subregional council of governments and the county transportation commission may work together to propose the sustainable communities strategy and an alternative planning strategy . . . for that subregional area." Govt. Code §65080(b)(2)(C). In addition, SB 375 authorizes that SCAG "may adopt a framework for a subregional SCS or a subregional APS to address the intraregional land use, transportation, economic, air quality, and climate policy relationships." *Id.* Finally, SB 375 requires SCAG to "develop overall guidelines, create public participation plans, ensure coordination, resolve conflicts, make sure that the overall plan complies with applicable legal requirements, and adopt the plan for the region." *Id.*

The intent of this Framework and Guidelines for Subregional Sustainable Communities Strategy (also referred to herein as the "Framework and Guidelines" or the "Subregional Framework and Guidelines") is to offer the SCAG region's subregional agencies the highest degree of autonomy,

A. SCAG's preliminary goals for implementing SB 375 are as follows:

- Achieve the regional GHG emission reduction target for cars and light trucks through an SCS.
- Fully integrate SCAG's planning processes for transportation, growth, intergovernmental review, land use, housing, and the environment.
- Seek areas of cooperation that go beyond the procedural statutory requirements, but that also result in regional plans and strategies that are mutually supportive of a range of goals.
- Build trust by providing an interactive, participatory and collaborative process for all stakeholders. Provide, in particular, for the robust participation of local jurisdictions, subregions and CTCs in the development of the SCAG regional SCS and implementation of the subregional provisions of the law.
- Assure that the SCS adopted by SCAG and submitted to California Air Resources Board (ARB) is a reflection of the region's collective growth strategy and vision for the future.
- Develop strategies that incorporate and are respectful of local and subregional priorities, plans, and projects.

B. Flexibility

Subregions may develop any appropriate strategy to address the region's greenhouse gas reduction goals and the intent of SB 375. While subregions will be provided with SCAG data, and with a conceptual or preliminary scenario to use as a helpful starting point, they may employ any combination of land use policy change, transportation policy, and transportation investment, within the specific parameters described in the Guidelines.

C. Outreach Effort and Principles

Subregions are required to conduct an open and participatory process that includes the fullest possible range of stakeholders. As further discussed within the Guidelines, SCAG amended its existing Public Participation Plan (PPP) to describes SCAG's responsibilities in complying with the outreach requirements of SB 375 and other applicable laws and regulations. SCAG will fulfill its outreach requirements for the regional SCS/APS which will include outreach activities regarding the subregional SCS/APS. Subregions are also encouraged to design their own outreach process that meets each subregion's own needs and reinforces the spirit of openness and full participation. To the extent that subregions do establish their own outreach process, this process should be coordinated with SCAG's outreach process.

D. Communication and Coordination

Subregions developing their own SCS are strongly encouraged to maintain regular communication with SCAG staff, the respective CTC, their jurisdictions and other stakeholders, and other subregions if necessary, to review issues as they arise and to assure close coordination. Mechanisms for on-going communication should be established in the early phases of strategy development.

E. Planning Concepts

SCAG, its subregions, and member cities have established a successful track record on a range of land use and transportation planning approaches through the on-going SCAG Compass Blueprint Program, including approximately 60 local demonstration projects completed to date. Subregions are

(viii.) allow the RTP to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Sec. 7506). Sec. Government Code §65080(b)(2)(B).

In preparing the subregional SCS, the subregion will consider feasible strategies, including local land use policies, transportation infrastructure investment (e.g., transportation projects), and other transportation policies such as Transportation Demand Management (TDM) strategies (which includes pricing), and Transportation System Management (TSM) strategies. Technological measures may be included if they exceed measures captured in other state and federal requirements (e.g., AB32)

As discussed further below (under "Documentation"), subregions need not constrain land use strategies considered for the SCS to current General Plans. In other words, the adopted strategy need not be fully consistent with local General Plans currently in place. However, should the adopted subregional strategy deviate from General Plans, subregions will need to demonstrate the feasibility of the strategy by documenting any affected jurisdictions' willingness to adopt the necessary General Plan changes.

The regional SCS shall be part of the 2012 RTP. Therefore, for transportation investments included in a subregional SCS to be valid, they must also be included in the 2012 RTP. Further, such projects need to be scheduled in the RTIP for construction completion by the target years (2020 and 2035) in order to demonstrate any benefits as part of the SCS. As such, subregions will need to collaborate with the respective CTC in their area to coordinate the subregional SCS with future transportation investments. It should also be noted that the California Transportation Commission is updating their RTP Guidelines. This topic is likely to be part of further discussion through the SCS process as well.

SCAG will accept and incorporate the subregional SCS, unless (a) it does not comply with SB 375, (b) it is does not comply with federal law, or (c) it is does not comply with SCAG's Subregional Framework and Guidelines. In the event that a compiled regional SCS, including subregional submissions, does not achieve the regional target, SCAG will initiate a process to develop and consider additional GHG emission reduction measures region-wide. SCAG will develop a written agreement with each subregional organization to define a process and timeline whereby subregions would submit a draft subregional SCS for review and comments to SCAG, so that any inconsistencies may be identified and resolved early in the process. Furthermore, SCAG will compile and disseminate performance information on the preliminary regional SCS and its components in order to facilitate regional dialogue. The development of a subregional SCS does not exempt any subregion from further GHG emission reduction measures being included in the regional SCS. Further, all regional measures needed to meet the regional target will be subject to adoption by the Regional Council, and any additional subregional measures beyond the SCS submittal from subregions accepting delegation needed to meet the regional target must also be adopted by the subregional governing body.

(2) <u>Subregional Alternative Planning Strategy (APS)</u>

Subregions are encouraged to focus their efforts on feasible measures that can be included in an SCS. In the event that a subregion chooses to prepare an APS, the content of a subregional APS should be consistent with what is required by SB 375 (*see*, Government Code §65080(b)(2)(H)), as follows:

(i.) Shall identify the principal impediments to achieving the subregional SCS.

subregional SCS is not a "project" for the purposes of CEQA; rather, the 2012 RTP which will include the regional SCS is the actual "project" which will be reviewed for environmental impacts pursuant to CEQA. As such, the regional SCS, which will include the subregional SCSs, will undergo a thorough CEQA review. Nevertheless, subregions approving subregional SCSs should consider issuing a notice of exemption under CEQA to notify the public of their "no project" determination and/or to invoke the "common sense" exemption pursuant to CEQA Guidelines § 15061(b)(3).

Finally, in accordance with SB 375, subregions are strongly encouraged to work in partnership with the CTC in their area. SCAG can facilitate these arrangements if needed.

(5) Data Standards

SCAG is currently assessing the precise data standards anticipated for the regional and subregional SCS. In particular, SCAG is reviewing the potential use of parcel data and development types currently used for regional planning. At present, the following describes the anticipated data requirements for a subregional SCS.

1. Types of Variables
   Variables are categorized into socio-economic variables and land use variables. The socio-economic variables include population, households, housing units, and employment. The land use variables include land uses, residential densities, building intensities, etc, as described in SB 375.

2. Geographical Levels
   SCAG is considering the collection and adoption of the data at a small-area level as optional for local agencies in order to make accessible the CEQA streamlining provisions under SB 375. The housing unit, employment, and the land use variables can be collected at a small-area level for those areas which under SB 375 qualify as containing a "transit priority project" (i.e. within half-mile of a major transit stop or high-quality transit corridor) for purposes of allowing jurisdictions to take advantage of the CEQA streamlining incentives in SB 375.

   For all other areas in the region, SCAG staff will collect the population, household, employment, and land use variables at the Census tract or Traffic Analysis Zone (TAZ) level.

3. Base Year and Forecast Years
   The socio-economic and land use variables will be required for the base year of 2008, and the target years of 2020 and 2035.

(6) Documentation

Subregions are expected to maintain full and complete records related to the development of the subregional SCS, including utilizing the most recent planning assumptions considering local general plans and other factors. In particular, subregions must document the feasibility of the subregional strategy by demonstrating the willingness of local agencies to consider and adopt land use changes necessitated by the SCS. The format for this documentation may include adopted resolutions from local jurisdictions and/or the subregion's governing board.

projects identified in the subregional SCS must also be included in the 2012 RTP in order to be considered as a feasible strategy. SCAG can help to facilitate communication between subregions and CTCs.

C. SCAG ROLES AND RESPONSIBLITIES

SCAG's roles in supporting the subregional SCS development process are in the following areas:

(1) Preparing and adopting the Framework and Guidelines

SCAG will adopt these Framework and Guidelines in order to assure regional consistency and the region's compliance with law.

(2) Public Participation Plan

SCAG will assist the subregions by developing, adopting and implementing a Public Participation Plan and outreach process with stakeholders. This process includes consultation with congestion management agencies, transportation agencies, and transportation commissions; and SCAG will hold public workshops and hearings. SCAG will also conduct informational meetings in each county within the region for local elected officials (members of the board of supervisors and city councils), to present the draft SCS, and APS if necessary, and solicit and consider input and recommendations.

(3) Methodology

As required by SB 375, SCAG will adopt a methodology for measuring greenhouse gas emission reductions associated with the strategy.

(4) Incorporation/Modification

SCAG will accept and incorporate the subregional SCS unless it does not comply with SB 375, federal law, or the Subregional Framework and Guidelines. As SCAG intends the entire SCS development process to be iterative, SCAG will not amend a locally-submitted SCS. SCAG may provide additional guidance to subregions so that subregions may make amendments to its subregional SCS as part of the iterative process, or request a subregion to prepare an APS if necessary. Further, SCAG can propose additional regional strategies if feasible and necessary to achieve the regional emission reduction target with the regional SCS. SCAG will develop a written agreement with each subregional organization to define a process and timeline whereby subregions would submit a draft subregional SCS for review and comments to SCAG, so that any inconsistencies may be identified and resolved early in the process.

(5) Modeling

SCAG currently uses a Trip-Based Regional Transportation Demand Model and ARB's EMFAC model for emissions purposes. In addition to regional modeling, SCAG is developing tools to evaluate the effects of strategies that are not fully accounted for in the regional model. SCAG is also developing two additional tools – a Land Use Model and an Activity Based Model – to assist in strategy development and measurement of outcomes under SB 375.

Data/GIS maps will be provided to subregions and local jurisdiction for their review. This data and maps include the 2008 base year socioeconomic estimates and 2020 and 2035 socioeconomic forecast. Other GIS maps including the existing land use, the general plan land use, the resource areas, and other important areas identified in SB 375. It should be noted that none of the data/ maps provided were endorsed or adopted by SCAG's Community, Economic and Human Development Committee (CEHD). All data/maps provided are for the purpose of collecting input and comments from subregions and local jurisdictions. This is to initiate dialogue among stakeholders to address the requirements of SB 375 and its implementation.

The list of data/GIS maps include:

1. Existing land use
2. Zoning
3. General plan land use
4. Resource areas include:
   (a.) all publicly owned parks and open space;
   (b.) open space or habitat areas protected by natural community conservation plans, habitat conservation plans, and other adopted natural resource protection plans;
   (c.) habitat for species identified as candidate, fully protected, sensitive, or species of special status by local, state, or federal agencies or protected by the federal Endangered Species Act (1973), the California Endangered Species Act, or Native Plant Protection Act;
   (d.) lands subject to conservation or agricultural easements for conservation or agricultural purposes by local governments, special districts, or nonprofit 501(c)(3) organizations, areas of the state designated by the State Mining and Geology Board as areas of statewide or regional significance pursuant to Section 2790 of the Public Resources Code, and lands under Williamson Act contracts;
   (e.) areas designated for open-space or agricultural uses in adopted open-space elements or agricultural elements of the local general plan or by local ordinance;
   (f.) areas containing biological resources as described in Appendix G of the CEQA Guidelines that may be significantly affected by the sustainable communities strategy or the alternative planning strategy; and
   (g.) an area subject to flooding where a development project would not, at the time of development in the judgment of the agency, meet the requirements of the National Flood Insurance Program or where the area is subject to more protective provisions of state law or local ordinance.
5. Farmland
6. Sphere of influence
7. Transit priority areas
8. City/Census tract boundary with ID
9. City/TAZ boundary with ID

(11) Tools

SCAG is developing a Local Sustainability Planning Model (LSPM) for subregions/local jurisdictions to analyze land use impact. The use of this tool is not mandatory and is at the discretion of the Subregion. The LSPM is a web-based tool that can be used to analyze, visualize and calculate the impact of land use changes on auto ownership, mode use, vehicle miles of travel (VMT), and greenhouse gas emissions in real time. Users will be able to estimate transportation and emissions impacts by modifying land use designations within their community.

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Exhibit B: Milestones Schedule

The key milestones and related schedule required as part of the development of the Orange County Subregional SCS are as follows:

1. Status report on Preliminary Subregional SCS – Dec 2010
2. Adopted OCP 2010/Delivery to SCAG – Jan 2011
3. Preliminary SCS / for purposes of preparing PEIR project description (intended to be narrative only project description that describes intended strategies or strategy options that are likely to be incorporated into the final Subregional SCS.) –Feb 2011
4. Status report on Draft Subregional SCS – Feb 2011
5. Draft Subregional SCS (containing all components described above) to be incorporated into draft Regional SCS – April 2011
6. Status report on final Subregional SCS - April 2011
7. Final Subregional SCS for incorporation into Regional SCS – June 2011
8. Iterative process, if necessary to meet target – June to November 2011
9. OCCOG to participate in regional outreach conducted in Orange County – June 2011 to February 2012
10. Regional SCS adoption – April 2012

Exhibit C: Deliverables Template

The Orange County Subregional SCS will consist of the following components:

1. Database (OCP dataset) that allocates population, housing, household, and employment to areas of the county. Geographic area should be the smallest level practicable for the COG to produce, preferably at the parcel level. The database must reflect the base year 2008 and each variable in the two GHG target years (2020 and 2035), in accordance with the Data Standards set forth below.
2. A map or series of maps that illustrates the growth distribution described above, and that further delineates uses, intensities, and residential densities, in accordance with the Data Standards set forth below.
3. A listing of transportation projects that are incorporated in the subregional SCS.
4. A listing and description of transportation policies (e.g. TDM, TSM and others) to be employed.
5. Documentation that establishes the process, including the public participation and outreach process used to develop the SCS, and demonstrates the affected jurisdictions willingness to consider general plan changes.
6. A narrative description of the strategies employed to reduce greenhouse gas emissions. A further description of any other strategies that were considered and not ultimately included.

DATA STANDARDS

The following data standards will be used in the development of a subregional SCS:

1. Types of Variables

Variables are categorized into socio-economic variables and land use variables. The socio-economic variables include population, households, housing units, and employment. The land use variables may include land uses designations, building densities, building intensities, and applicable policies

2. Geographical Levels

Socio-economic and land-use variables should be provided to SCAG at the smallest geographical level practicable for OCCOG to produce, preferably at the parcel level. At a minimum, such variables will be provided at the Census tract or Traffic Analysis Zone (TAZ) level.

3. Base Year and Forecast Years

The socio-economic data and land use variables will be required for the base year of 2008, and as feasible, for the target years of 2020 and 2035.

DOCUMENTATION

Subregions are expected to maintain full and complete records related to the development of the Subregional SCS, including utilizing the most recent planning assumptions considering local general plans and other factors. In particular, subregions must document the feasibility of the subregional strategy by demonstrating the willingness of local agencies to consider and adopt land use changes necessitated by the SCS. The format for this documentation may include adopted resolutions from local jurisdictions and/or the subregion's governing board. Subregions shall include information regarding the status of the documentation as part of the required status reports to SCAG, and copies of the actual documentation shall be submitted to SCAG as part the final Subregional SCS

Exhibit D: Notices

Notices, demands and communications between the Parties related to this MOU shall be provided to the following persons:

To Authority/OCCOG:

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Executive Director, Government Relations Orange County Transportation Authority
Executive Director Orange County Council of Governments
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To SCAG:

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Southern California Association of Governments
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Los Angeles, CA 90017
Tel: (213) 236-1836
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Orange County
Sustainable Communities Strategy (SCS)

Prepared for

Orange County Transportation Authority
Orange County Council of Governments



Prepared by

BURKE CONSULTING

LSA
LSA ASSOCIATES, INC.

ORANGE COUNTY
BUSINESS COUNCIL

June 14, 2011

ACKNOWLEDGEMENTS

In early 2010, a joint committee with equal representation from the Orange County Council of Governments (OCCOG) and the Orange County Transportation Authority (OCTA) was formed to develop the Orange County Sustainable Communities Strategy (OC SCS). The OCCOG/OCTA SCS Joint Working Committee led overall efforts to develop a subregional OC SCS to meet the requirements of SB 375 and the mutual agreements with the Southern California Association of Governments (SCAG) with a plan that all local jurisdictions in Orange County could support. The SCS Joint Working Committee provided a forum for stakeholders to engage in the process along with direction and recommendations to the full OCCOG Board of Directors as the OC SCS was being developed.

The SCS Joint Working Committee was advised at a technical level by Orange County jurisdictions through the OCCOG Technical Advisory Committee (OCCOG TAC) comprised of staff from all OCCOG member agencies. In addition, David Simpson, OCCOG Executive Director, provided direction and support to the full board, the OCCOG/OCTA Joint SCS Working Committee, consultants and community stakeholders throughout the development of the OC SCS.

As a result of this collaborative effort, the OC SCS was adopted unanimously by the OCTA and OCCOG Boards of Directors in June of 2011.

The following OC SCS Joint Committee Members are recognized for their significant contributions in the development of the OC SCS:

OCCOG/OCTA SCS Joint Working Committee

Kris Murray, Chairwoman, Anaheim City Council Member, OCCOG Board Member

Carolyn Cavecche, Vice Chairwoman, Mayor of Orange, OCTA Director

Patricia Bates, Orange County Supervisor, OCTA Chairwoman

Peter Herzog, Mayor of Lake Forest, OCTA Director and OCCOG Chairman

Brett Murdock, Brea City Council Member, OCCOG Board Member

Sharon Quirk Silva, Fullerton City Council Member, OCCOG Board Member

Former Joint SCS Working Committee Members

Cheryl Brothers, Fountain Valley City Council Member, OCCOG Board Member

Peter Buffa, OCTA Director and past Chairman

Richard Dixon, former Lake Forest City Council Member, OCTA Director and OCCOG Board Member

Paul Glaab, City of Laguna Niguel Council Member, OCTA Director

OCCOG TAC Leadership

Marika Modugno, Chair, City of Irvine

Greg Nord, Vice Chair, OCTA

Tracy Sato, City of Anaheim

Deborah Diep, Center for Demographic Research, CSU Fullerton

Gail Shiomoto-Lohr, City of Mission Viejo

Art Bashmakian, City of Westminster

Jay Saltzberg, City of Buena Park

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LIST OF ACRONYMS

ADA	Americans with Disabilities Act
APS	Alternative Planning Strategy
ARC	Anaheim Rapid Connection
ARTIC	Anaheim Regional Transportation Intermodal Center
BRT	Bus Rapid Transit
Caltrans	California Department of Transportation
CAP	Capital Action Plan
CARB	California Air Resources Board
CBSP	Commuter Bikeways Strategic Plan
CDFG	California Department of Fish and Game
CDR	Center for Demographic Research
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
County	Orange County
CPAD	California Protected Areas Database
CSMP	Corridor System Management Plan
FEMA	Federal Emergency Management Agency
FMMP	Farmland Monitoring and Mapping Program
GHG	greenhouse gas
HOV	high-occupancy vehicle
I	Interstate
JPA	Joint Powers Authority
LOS	Level of Service
LRTP	Long Range Transportation Plan
m	meter
M2	Measure M2
MATIS	Motorist Aid and Traveler's Information System
MIS	Major Investment Studies
MOU	Memorandum of Understanding
MPAH	Master Plan of Arterial Highways
MRPP	Mitigation and Resource Protection Program
MPO	Metropolitan Planning Organization
MSEP	Metrolink Service Expansion Program
NCCP/HCP	Natural Community Conservation Plan/Habitat Conservation Plan
NFHL	National Flood Hazard Layer
OCCOG	Orange County Council of Governments
OCP-2010	2010 Orange County Projections
OC SCS	Orange County Sustainable Communities Strategy
OCTA	Orange County Transportation Authority
OCTAM	Orange County Transportation Analysis Model
OCTAP	Orange County Taxi Administration Program
PCH	Pacific Coast Highway
PHE	Population, Housing, and Employment

RHNA	Regional Housing Needs Assessment
RTP	Regional Transportation Plan
SB	Senate Bill
SB 375	Senate Bill 375 (Senator Steinberg)
SCAG	Southern California Association of Governments
SCAQMD	Southern California Air Quality Management District
SCRRA	Southern California Regional Rail Authority
SCS	Sustainable Communities Strategy
SR	State Route
TAZ	Traffic Analysis Zone
TDM	Transportation Demand Management
TOD	Transit Oriented Development
TSM	Transportation System Management
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
VMT	vehicle mile(s) traveled

EXECUTIVE SUMMARY

In 2008, California State Senate Bill 375 (SB 375) was enacted to reduce greenhouse gas (GHG) emissions from automobiles and light trucks through integrated transportation, land use, housing and environmental planning. To achieve the goal of reduced GHG emissions, the legislation requires Metropolitan Planning Organizations (MPOs) throughout the state to include a new element in their Regional Transportation Plans (RTPs) called a Sustainable Communities Strategy (SCS).

The Southern California Association of Governments (SCAG) is the MPO encompassing the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. They prepare the RTP for the SCAG region, with input from each of the counties and county transportation commissions. SCAG is also responsible for developing the Sustainable Communities Strategy for the SCAG Region, known as the SCAG Regional SCS.

However, in the SCAG region, SB 375 also allows for a subregional council of governments and county transportation commission to work together to propose a subregional SCS. As one of these subregions, Orange County has availed itself of this opportunity to prepare its own *subregional* SCS (OC SCS). As long as the OC SCS follows the requirements of SB 375, SCAG will incorporate it into the SCAG Regional SCS.

The following document constitutes the OC SCS. It was prepared by the Orange County Council of Governments (OCCOG) and the Orange County Transportation Authority (OCTA), in collaboration with multiple Orange County stakeholders including city agencies, the County of Orange, County special districts, OCTA, the Center for Demographic Research (CDR), the California Department of Transportation (Caltrans), Transportation Corridor Agencies, and many community organizations and the public.

The OC SCS begins with the setting of current population, housing, and employment in Orange County, and then describes projected long-term trends for these socio-economic variables. The resulting assessment is this: a majority of Orange County's projected growth of population, housing, and employment will occur near existing and future job centers, which will positively impact transportation patterns and therefore be beneficial to GHG emission reductions.

The projected growth in Orange County housing units will be sufficient to house the anticipated population growth in the subregion. Further, Orange County will create housing to accommodate employment growth during this period.

Because there is an indisputable interconnectedness between Orange County's population, housing and employment and the transportation systems that support them,

the OC SCS also delineates the foundational transportation systems that currently exist in Orange County. Transportation systems described include freeways, arterial streets and local roads, rail and bus transit, bikeways, and demand responsive services and transportation demand management.

Central to the OC SCS are the strategies identified to reduce GHG emissions. These strategies illustrate that there is already a collective effort by many Orange County jurisdictions, agencies, and groups to link transportation and land uses through a variety of processes and an array of progressive measures. The strategies outlined in the OC SCS and summarized below are collectively called sustainability strategies, and include both land use-related strategies and transportation system improvements.

Sustainability Strategies

✓	Support transit-oriented development.
✓	Support infill housing development and redevelopment.
✓	Support mixed-use development and thereby improve walkabilty of communities.
✓	Increase regional accessibility in order to reduce vehicle miles traveled.
✓	Improve jobs-to-housing ratio.
✓	Promote land use patterns that encourage the use of alternatives to single-occupant automobile use.
✓	Support retention and/or development of affordable housing.
✓	Support natural land restoration and conservation and/or protection offering significant carbon mitigation potential via both sequestration and avoidance of increased emissions due to land conversion.
✓	Eliminate bottlenecks and reduce delay on freeways, toll roads, and arterials.
✓	Apply Transportation System Management and Complete Street practices to arterials and freeways to maximize efficiency.
✓	Improve modes through enhanced service, frequency, convenience, and choices.
✓	Expand and enhance Transportation Demand Management practices to reduce barriers to alternative travel modes and attract commuters away from single occupant vehicle travel.
✓	Continue existing, and explore expansion of, highway pricing strategies.
✓	Implement near-term (Transportation Improvement Program and Measure M2 Early Capital Action Plan) and long-term (LRTP 2035 Preferred Plan) transportation improvements to provide mobility choices and sustainable transportation options.
✓	Acknowledge current sustainability strategies practiced by Orange County jurisdictions and continue to implement strategies that will result in or support the reduction of GHG emissions.

In summary, Orange County is engaged in a collective effort to link transportation and land uses. This effort includes a variety of progressive measures undertaken by Orange

County jurisdictions, agencies, and groups that lead to changes in the use of automobiles and light duty trucks, resulting in reductions in GHG. The scope of current and planned strategies is broad and encompasses significant investment by both the public and private sectors to implement them. They include the following:

- Promoting a land use pattern that accommodates future employment and housing needs.
- Using land in ways that make developments more compact and improves linkages among jobs, housing and major activity centers.
- Protecting natural habitats and resource areas.
- Implementing a transportation network of public transit, managed lanes and highways, local streets, bikeways, and walkways built and maintained with available funds.
- Managing demands on the transportation system (TDM) in ways that reduce or eliminate traffic congestion during peak periods of demand.
- Managing the transportation system (TSM) through measures that maximize the efficiency of the transportation network.
- Utilizing innovative pricing policies to reduce vehicle miles traveled and traffic congestion during peak periods of demand.

These strategies and actions are Orange County's contribution to the region's efforts to achieve both 2020 and 2035 GHG thresholds established by CARB.

INTRODUCTION

BACKGROUND

SB 375 was enacted in 2008 to reduce greenhouse gas (GHG) emissions from automobiles and light trucks through integrated transportation, land use, housing and environmental planning. To achieve the goal of reduced GHG emissions, the legislation requires MPOs throughout the state to include a new element in their RTPs called an SCS. Specific to the SCAG region, SB 375 also allows for a subregional council of governments and county transportation commission to work together to propose a subregional SCS.

When SB 375 was enacted, it set in motion several activities related to regional and local planning for transportation and land use. The legislation focused attention on the relationship that land use and transportation have on one another relative to how people choose to move around the region, which in turn affects GHG emissions that result from those choices. SB 375 established new processes and procedures for land use and transportation planning that are intended to ensure that opportunities for the synergy between land use and transportation will result in a reduction of GHG emissions from passenger cars and light duty trucks.

THE REGIONAL TRANSPORTATION PLAN

Each urbanized area in California with a population of 50,000 or more has a designated regional planning organization called an MPO. MPOs prepare and regularly update an RTP, a long-range planning document that details the transportation plans, policies, projects, and related funding necessary to address the transportation needs of the region.

SCAG is the MPO encompassing the Counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The SCAG region appears in Figure 1. SCAG prepares the RTP for the SCAG region, with input from each of the counties and county transportation commissions. OCTA prepares a county-level Long Range Transportation Plan (LRTP) that offers input into SCAG's RTP. Like the RTP, the LRTP analyzes the trends in Orange County related to population, housing, employment, and transportation, and sets forth a comprehensive plan for transportation projects and programs to meet the

County's transportation needs. SB 375 requires that the RTP for each region include a new planning element, the SCS, to be developed by the region's MPO.

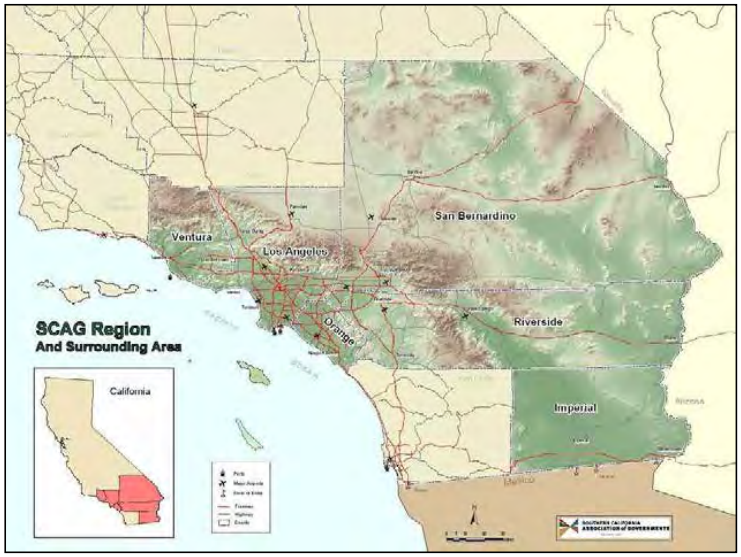


Figure 1: SCAG Region and Surrounding Area

SUSTAINABLE COMMUNITIES STRATEGY

As mentioned earlier, one of the key items established by SB 375 is a new planning element, the SCS, to be developed for inclusion in each region's RTP by its MPO, with input from the counties and county transportation commissions in each region. Each SCS must outline the strategies being undertaken in order to reduce GHG emissions from automobiles and light trucks in the region.

SB 375 outlines the elements that must be included in the SCS document. The SCS must do the following:

- Identify the general location of uses, residential densities, and building intensities within the region
- Identify areas within the region sufficient to house all the population of the region, including all economic segments of the population, over the course of the planning period of the regional transportation plan taking into account net migration into the region, population growth, household formation and employment growth
- Identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to state law (Government Code Section 65584)
- Identify a transportation network to service the transportation needs of the region
- Gather and consider the best practically available scientific information regarding resource areas and farmland in the region as defined in state law (Government Code subdivisions (a) and (b) of Section 65080.01)
- Consider the state housing goals specified in state law (Government Code Sections 65580 and 65581)
- Set forth a forecast development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the state board
- Allow the regional transportation plan to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Sec. 7506)

THE REGIONAL SCS

As the MPO for the region, SCAG is tasked with preparing the regional SCS element of the RTP. This element, referred to as the SCAG Regional SCS, includes the strategies proposed to reduce GHG emissions in the SCAG region, along with analysis documenting the amount of reduction that can be achieved through the plans, programs, and projects in the regional SCS.

SB 375 requires the California Air Resources Board (CARB) to provide each affected MPO/region with GHG emission reduction targets for 2020 and 2035. In September 2010, CARB approved the following GHG emissions reductions targets for the SCAG region, expressed as a percentage reduction of per capita GHG emissions produced by cars and light duty trucks, and using 2005 as the baseline:

- 2020—8 percent reduction
- 2035—13 percent reduction, conditioned on discussions with the MPO (See Appendix A for SCAG's letter to CARB dated September 20, 2010, which outlines conditions.)

No subregional GHG emissions reduction targets were set by CARB or SCAG. GHG emissions reduction targets, and the GHG emissions reductions achieved by the regional SCS, are only calculated at the regional level.

Although the base year set by federal agencies for the RTP is 2008, CARB has identified 2005 as the initial year for calculating GHG emissions reduction. In other words, the amount of GHG reduction achieved through the region's collective sustainable communities' strategy will be measured by comparing projected GHG emissions for 2020 and 2035 against GHG emissions that occurred in 2005. All projects, programs, and policies put into place after 2005 to help reduce GHG emissions will be included in the analysis of the region's GHG emissions reductions.

THE SUBREGIONAL SCS

Unique to the SCAG region, SB 375 provides for a subregional council of governments and county transportation commission to work together to propose the SCS for a subregional area. Orange County is one of these subregional areas. As allowed, OCCOG and OCTA have agreed to prepare the OC SCS.

Orange County's subregional effort aims to ensure an accurate reflection of existing and planned local land uses, conditions, and activities. Additionally, the OC SCS demonstrates that the subregion is already undertaking strategies to reduce GHG emissions through existing and planned transportation projects and programs; showcases Orange County's longstanding history of integrating land use and transportation planning; and facilitates and supports the ongoing leadership and innovation occurring in Orange County towards sustainable land use and transportation practices.

To reiterate, no subregional GHG emissions reduction targets were set by CARB or SCAG. GHG emission reduction targets are only calculated at the regional level.

A Memorandum of Understanding (MOU) among SCAG, OCCOG, and OCTA formalized the roles and responsibilities of each party related to the preparation and acceptance of the Orange County subregional SCS as it relates to the SCAG Regional SCS. In summary, SCAG is required to prepare the regional SCS, and OCCOG and OCTA are tasked with preparing the OC SCS consistent with SCAG's adopted Framework and Guidelines. SCAG must include the OC SCS in the SCAG Regional SCS

and RTP as long as the OC SCS meets the requirements set in statute and in SCAG's Subregional SCS Framework and Guidelines. The MOU and SCAG Framework and Guidelines are in Appendix B. The Framework and Guidelines requires documentation of affected jurisdictions' willingness to adopt the necessary General Plan changes if necessary. For this OC SCS, the jurisdictions General Plan policies actively support GHG emissions reduction; therefore, no General Plan changes are necessary. This documentation is provided in Appendix C.

PUBLIC PARTICIPATION IN THE SCS

SCAG is leading the public participation process for the SCAG Regional SCS. As part of their public outreach effort, SCAG will hold informational meetings, workshops, and public hearings on the draft SCS including some in Orange County, in order to solicit input and recommendations. Additionally, the OCCOG will augment the regional public participation effort with local outreach for the OC SCS.

WHO'S WHO IN THE ORANGE COUNTY SUSTAINABLE COMMUNITIES STRATEGY

Multiple organizations and stakeholders are involved in the implementation of SB 375 and the creation of an Orange County Sustainable Communities Strategy: municipal agencies, the County of Orange, County special districts, OCTA, CDR, Caltrans, Transportation Corridor Agencies, and many community organizations.

Orange County Stakeholders: SB 375 mandates public participation in the development of a sustainable communities strategy. SCAG is the lead for public participation in the development of the SCAG Regional SCS, with support from OCCOG in Orange County. OCCOG augmented SCAG's regional public outreach efforts, engaging the public in the SCS development process via a web tool, public meetings, and local workshops. This process allows for revisions and clarifications to ensure stakeholder and public participation in creation of the OC SCS.

Collectively, Orange County local jurisdictions, transportation agencies, interested organizations, and the public participated in identifying ongoing and planned projects, programs and policies for reducing GHG emissions.

Orange County Council of Governments (OCCOG): OCCOG is a Joint Powers Authority whose board is comprised of elected representatives from Orange County public agencies, including local jurisdictions, transportation agencies, and special districts. Non-voting ex officio members represent the business community, private sector, universities, healthcare, and nonprofit housing communities.

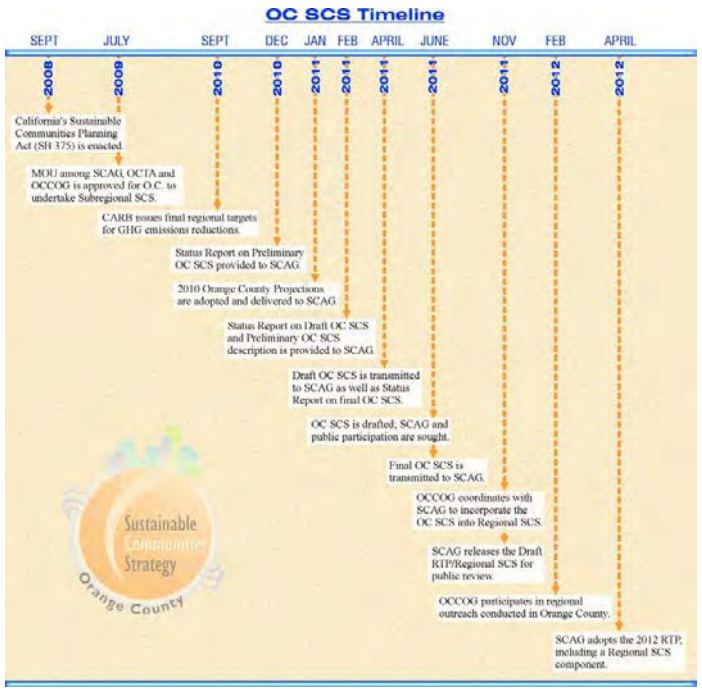
In conjunction with the Orange County Transportation Authority, the OCCOG is tasked with preparing the OC SCS. In addition to the Board, the OCCOG has a Technical Advisory Committee that is comprised of technical staff from each of the member agencies. This Committee provides technical review and input for relevant issues taken up by the Board and affecting Orange County agencies, including the OC SCS.

Orange County Transportation Authority (OCTA): OCTA is Orange County's transportation commission. It serves Orange County residents and travelers by providing countywide bus and paratransit service; Metrolink rail service; the SR-91 Express Lanes; freeway, street and road improvement projects; individual and company commuting solutions; motorist aid services; and taxi operation regulation. The Authority is governed by an 18-member Board of Directors consisting of five county supervisors, 10 city members, two public members, and the Director of Caltrans District 12 as a non-voting member. As the Countywide transportation planning agency, OCTA prepares the County-level LRTP that offers input into SCAG's RTP and is incorporated into the OC SCS, which in turn is incorporated into the RTP/Regional SCS. This incorporation ensures consistency among the subregional and regional transportation planning documents.

Center for Demographic Research (CDR): Since 1996, the CDR at California State University, Fullerton, has undertaken a consistent and collaborative effort to collect and compile data, and to generate socio-economic projections that accurately represent all 35 local jurisdictions in Orange County. The CDR maintains a centralized data source of Orange County demographic characteristics, including population, housing, and employment. These data are used by public and private agencies and individuals. Sponsors of the CDR include the County of Orange, Orange County Transportation Authority, Orange County Council of Governments, Orange County Sanitation District, Transportation Corridor Agencies, Municipal Water District of Orange County, Orange County Water District, and the Orange County Local Agency Formation Commission. The socioeconomic data and growth forecasts for the OC SCS process and document were developed through the Orange County Projections process, involving extensive data collection, analysis, outreach, and review directed and managed by the CDR.

Southern California Association of Governments (SCAG): SCAG is the MPO that encompasses the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. As the MPO, SCAG prepares the RTP, setting forth forecast development patterns for the region, the future transportation network, and strategies to reduce greenhouse gas emissions from cars and light duty trucks. Once the SCAG RTP is adopted, SCAG submits the SCS element to the CARB (see below) for review. Included in this submittal is the quantification of GHG emissions reductions achieved by the Regional SCS.

California Air Resources Board (CARB): At the state level, CARB is responsible for setting GHG emissions reduction targets for each region of the State. These targets are scheduled to be updated every eight years. However, CARB has the option to revisit the targets every four years. CARB also comments on the methodology to be used by each MPO for measuring GHG emissions. SCAG submits the adopted Regional SCS to CARB for review. CARB cannot modify the Regional SCS and is limited in its action either to accept or to reject the MPO's determination that the SCS will achieve the targets if implemented.



CHAPTER 1: POPULATION, HOUSING, AND EMPLOYMENT

INTRODUCTION

This chapter describes the 2008 base year conditions for key socio-economic variables required in the subregional SCS, including Orange County population, housing, and employment. SB 375 designates two future dates for which GHG emissions reductions targets are set: 2020 and 2035. Therefore, this chapter also describes projected conditions for these socio-economic variables and gives a synopsis of countywide trends.

The socio-economic variables of population, housing, and employment are reported for geographic areas known as Traffic Analysis Zones (TAZs), units of geography most commonly used for transportation planning models. In order to be consistent with the regional SCS, SCAG TAZs were used in this analysis. One SCAG TAZ is generally made up of three Orange County TAZs that nest into one SCAG TAZ and covers an average of 767 acres; an OC TAZ, in comparison, covers an average of 294 acres and does not follow jurisdictional boundaries. Thus, any given TAZ can be made up of areas that span one or more jurisdictions and include aggregated socio-economic information from the multiple jurisdictions within it. The TAZs represent the same geographic unit for population, employment and housing; they do not change from variable to variable.

A few important things to note when reviewing the maps in this chapter:

- Not all acreage within each TAZ is slated for development. For example, acreage within any TAZ that is protected open space, forests, land preserve, etc., is not factored for future development. The growth reported by TAZ is only for the developed and developable land within each TAZ. However, due to data limitations, the density analyses require using acreage of the full TAZ.
- The transit networks that are shown on the maps are included for illustrative purposes to highlight the connections current and planned land uses will have to potential high-quality transit corridors. These corridors reflect transit improvements discussed in the OCTA Long-Range Transportation Plan that may take place between 2021 and 2035. Further, these transit improvements are

subject to change based on future action by the OCTA Board of Directors regarding the ongoing Transit System Study.

- There are currently 34 incorporated cities and several unincorporated areas within Orange County (see Figure 2).

The following tables summarize the base year and projected data for population, housing, and employment in Orange County from the approved 2010 Orange County Projections. A description of the demographic data projections and development process conducted by CDR to produce the forecast data is provided in Appendix D.

Table A: 2010 Orange County Projections for Population, Housing, and Employment 2008, 2020 and 2035

	2008	2020	2035
Population	3,123,058	3,430,505	3,582,266
Housing Units	1,035,005	1,100,260	1,174,912
Employment	1,624,061	1,646,437	1,799,477

Table B: 2010 Orange County Projections for Population, Housing, and Employment Growth 2008—2035

	2008-2020 Growth		2020-2035 Growth		2008-2035 Growth	
	Numeric	**Percent**	**Numeric**	**Percent**	**Numeric**	**Percent**
Population	307,447	9.84%	151,761	4.42%	459,208	14.70%
Housing Units	65,255	6.30%	74,652	6.78%	139,907	13.50%
Employment	22,376	1.38%	153,040	9.30%	175,416	10.80%

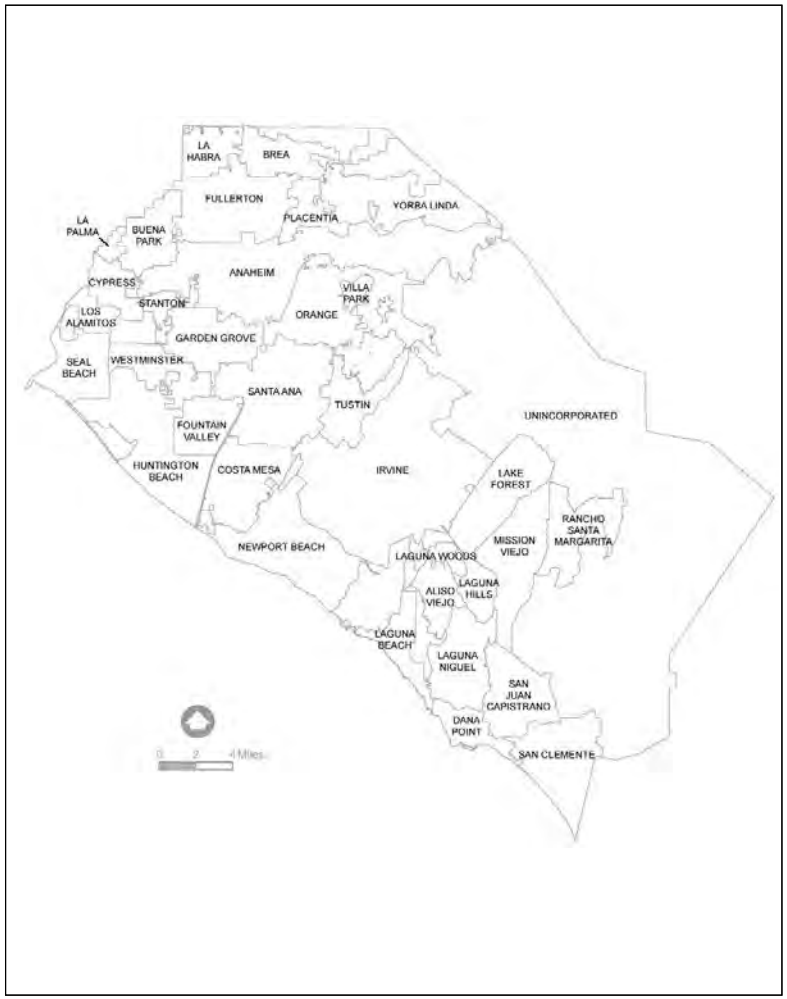


Figure 2 **Orange County Jurisdictional Boundaries**

Orange County Projections and the 2010 Census

The OCP-2010 dataset (population, housing and employment) referenced in the OC SCS was approved by the OCCOG Board on January 27, 2011. OCP-2010 is based on the approved OCP update and revision process which took place during 2009-2010; it does not include the 2010 Census data for California released on March 8, 2011.

SCAG policy committee actions have directed SCAG staff to revise the draft growth forecast dataset for the Regional SCS and RTP to include the 2010 Census data and the 2010 State Employment Development Department (EDD) employment benchmark. The CDR is coordinating with SCAG on this update process, and is evaluating the timeline and process to revise OCP-2010 to include the new data and be consistent with the growth forecast update effort being undertaken by SCAG.

Consistent with SCAG's process, any update to the growth forecast dataset will be to the 2010 totals for population, housing, and employment, and the growth increments from 2010 to 2035 will remain the same and be applied to the revised 2010 totals. If a revision is made to the OCP-2010, this effort will be completed after the June 2011 submittal deadline of the final OC SCS to SCAG. Further, the updated dataset will be provided to SCAG through a data amendment process and the full OC SCS document will not be revised.

POPULATION

In 2008, Orange County's population was 3,123,058 persons (see Figure 3). Though the majority of residents live in the northern regions of the County, the southern region also holds a sizeable portion of the population, with increasingly even population distribution occurring throughout the County. Figure 4 shows that the majority of people are concentrated mostly in the mature, northern and central cities—areas established as bedroom communities for Los Angeles prior to the 1970s. U.S. Census and other demographic information sources reveal that Orange County is no longer a suburb. In fact, it is one of the most densely populated areas in the United States, and according to the 2010 U.S. Census, as Table C shows, Orange County is the most densely populated county in the SCAG region and has the highest residential density per square mile.

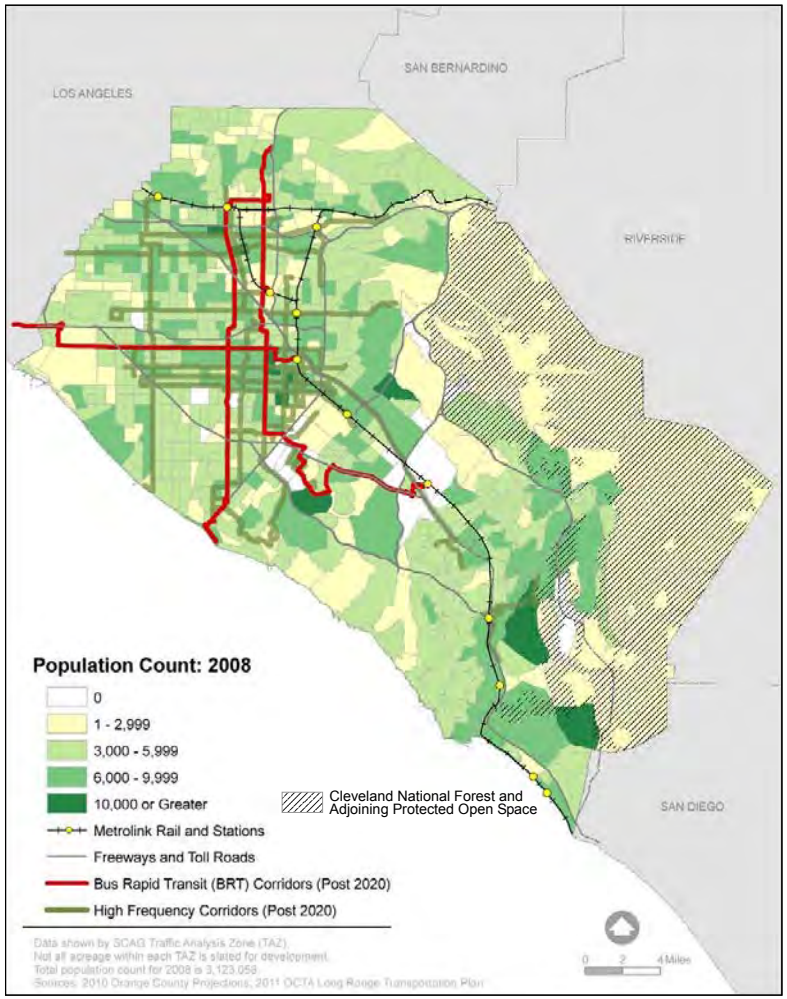


Figure 3 **Existing (2008) Orange County Population**

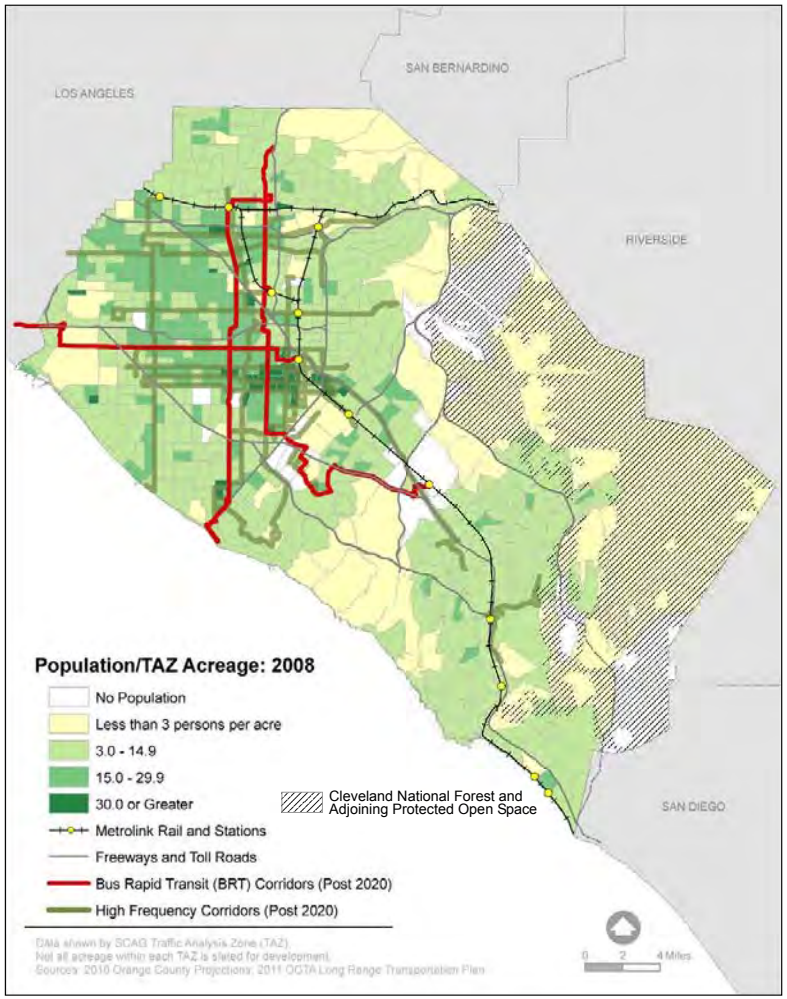


Figure 4 **Existing (2008) Orange County Population Density**

Table C: Comparative Population Density for Counties within SCAG Region, 2010 Census

County	Population Density per Square Mile	Housing Units per Square Mile
Orange	3,813	1,329
Los Angeles	2,405	848
Ventura	446	153
Riverside	304	111
San Bernardino	101	35
Imperial	42	13

Source: U.S. Census Bureau, 2010 Census.
Note: The above densities reflect total square miles of land, without distinguishing between developable or undevelopable land.

Between 2008 and 2020, Orange County's total population is projected to increase by 307,447 persons to a total of 3,430,505 (Figure 5). The number of sparsely populated TAZs is projected to shrink, along with the number of "zero population TAZs" in the southern portion of the County. Jurisdictions projected to experience the most population growth during this time include Anaheim, Brea, Tustin, Irvine, and areas within the unincorporated County. There is also significant growth in the number of TAZs with populations of 6,000 to 9,999 residents, and 10,000+ residents, occurring in central and south county (Figures 6 and 7).

Orange County's population density in 2020 (Figure 8) is projected to mirror the population changes forecast to occur between 2008 and 2020 (see Figure 9). In short, the County will become more densely populated. While population growth will occur in the remaining vacant areas planned for growth, increased density will also be prevalent in the established urban cores due to infill, reuse, and mixed-use developments. This increased density of development will result in more efficient residential land use. Efficient land use, as discussed in this document, is a land use or pattern of land uses anticipated to reduce regional GHG emissions from automobiles or light duty trucks. The land uses and patterns of use will foster efficient usage of transportation resources and infrastructure such that people will have options other than a single-occupant vehicle for travel. The projected population of Orange County in 2035 totals 3,582,266 (see Figure 10), an increase of 151,761 or 4.4% between 2020 and 2035, and an increase of 459,208 or 14.7% from 2008 to 2035. Figures 11 and 12 demonstrate that population growth will continue throughout the County.

By 2035, Orange County's population density (Figure 13) is projected to have increased along with population totals throughout the County. This increase in density is anticipated to be most prevalent in the urban core of the County, as the result of increased

infill development, reuse of land, and increased creation of mixed-use developments, providing housing, employment, recreational, and leisure opportunities (Figure 14).

POPULATION CONCLUSION

Compared to 2008 conditions, Orange County's population is projected to grow 10% by 2020 and 15% by 2035. A majority of this forecast growth will occur in areas with approved entitlements for large residential developments such as La Floresta and Canyon Crest in Brea, the Great Park in Irvine (formerly Marine Corps Air Station, El Toro), the Platinum Triangle in the City of Anaheim, the East Orange planned community in the City of Orange and unincorporated County, and the Rancho Mission Viejo planned community known as The Ranch Plan, also located in unincorporated County territory. It is important to note that population growth is forecast to occur throughout the County, within the built environment and in areas with new development. This will result in increased infill development in housing and demand for support services (i.e., employment, recreation, education, etc.). The County's population density will increase, most markedly in the established urban core.

Population growth in Orange County will be served by a robust transportation system offering mobility choices other than passenger car travel. The existing and future transportation infrastructure of Orange County includes freeways, arterial highways, a priced transportation network, fixed bus routes, High Frequency Corridors (corridors with 15-minute or better transit headways), and Metrolink rail service.

Orange County Sustainable Communities Strategy

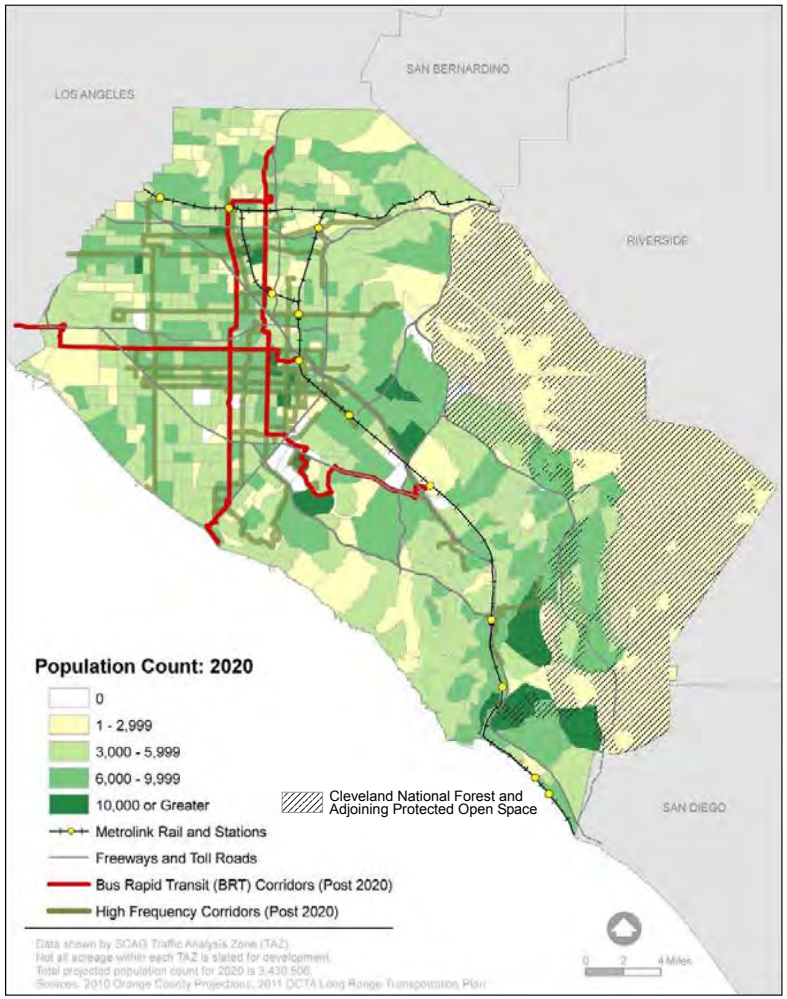


Figure 5 **Year 2020 Orange County Population**

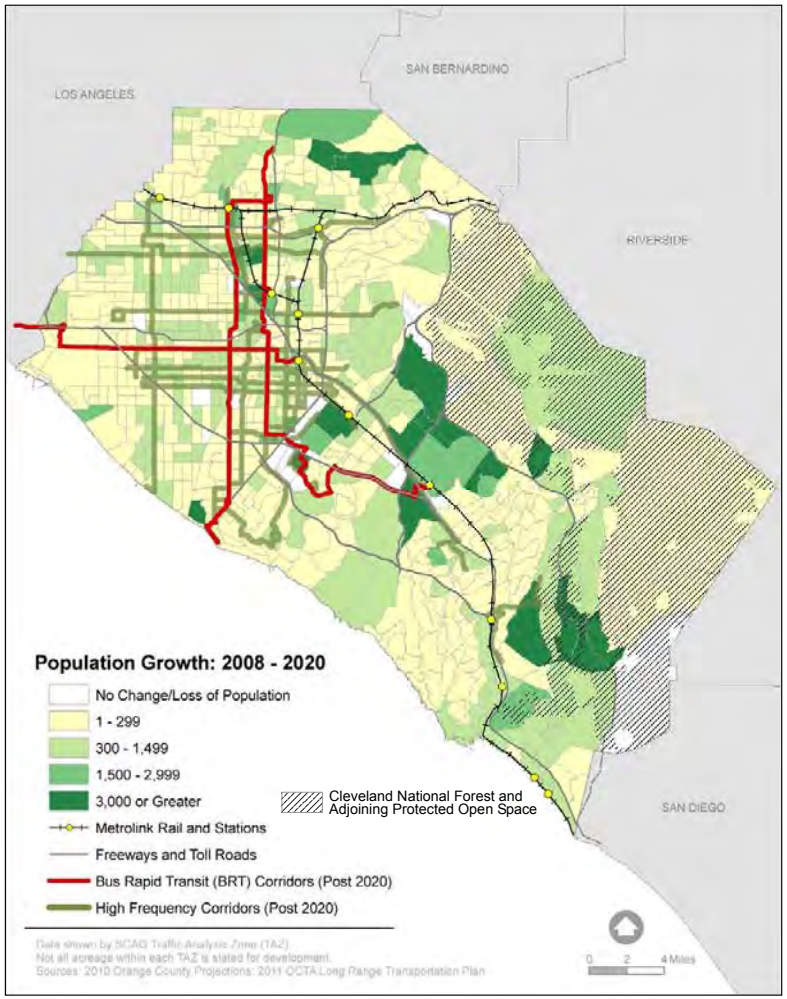


Figure 6 **Orange County Population Growth 2008 - 2020**

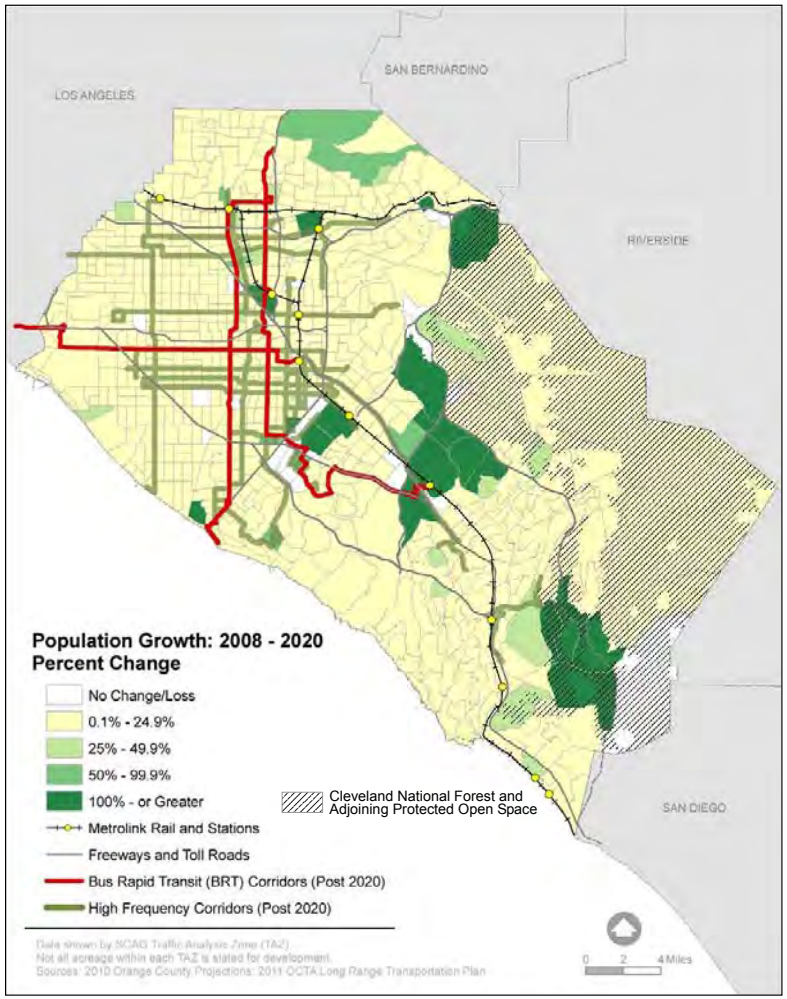


Figure 7 **Orange County Percent Change Population Growth 2008 - 2020**

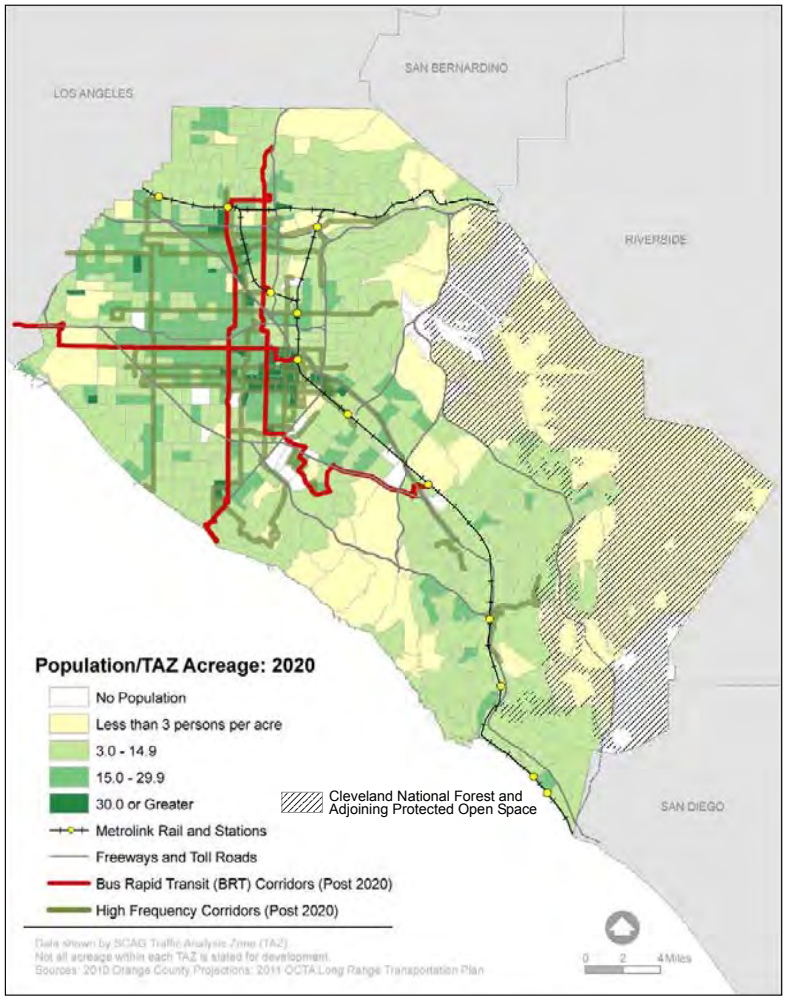


Figure 8 **Year 2020 Orange County Population Density**

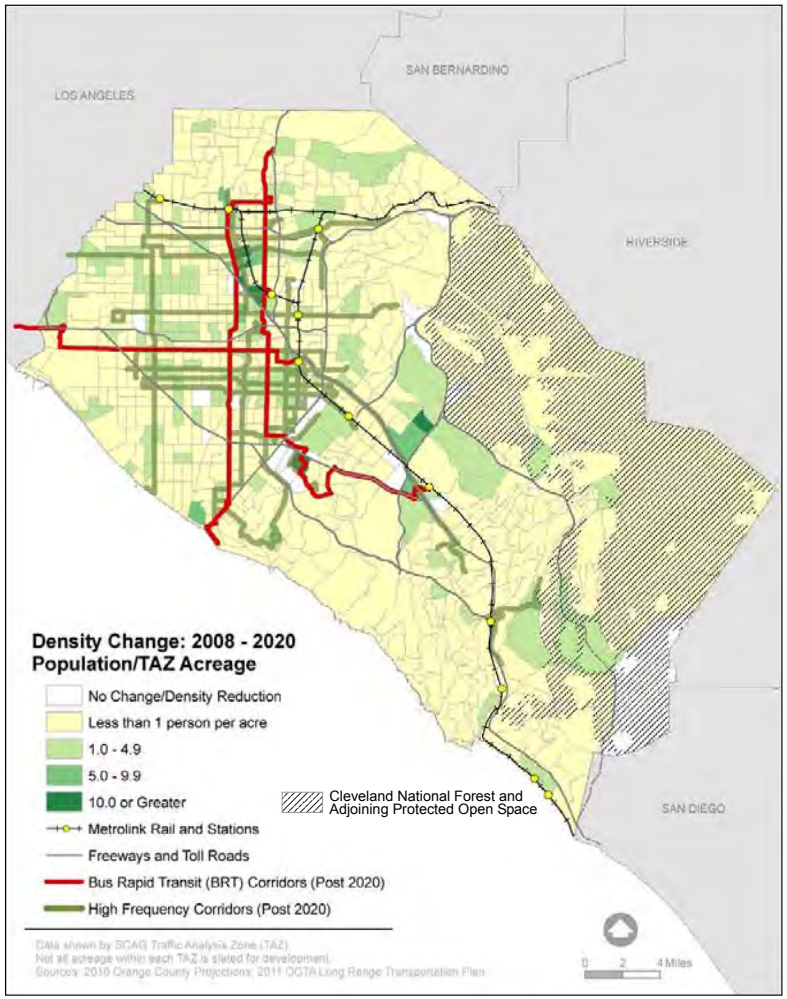


Figure 9 **Orange County Population Density Change 2008 - 2020**

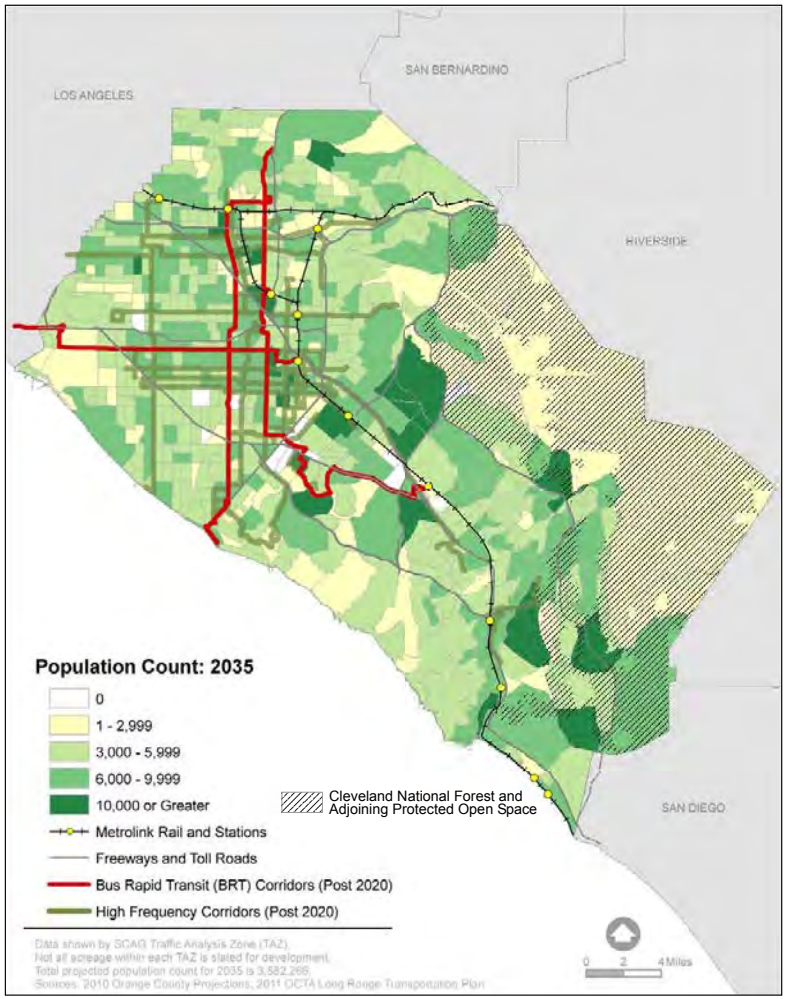


Figure 10 **Year 2035 Orange County Population**

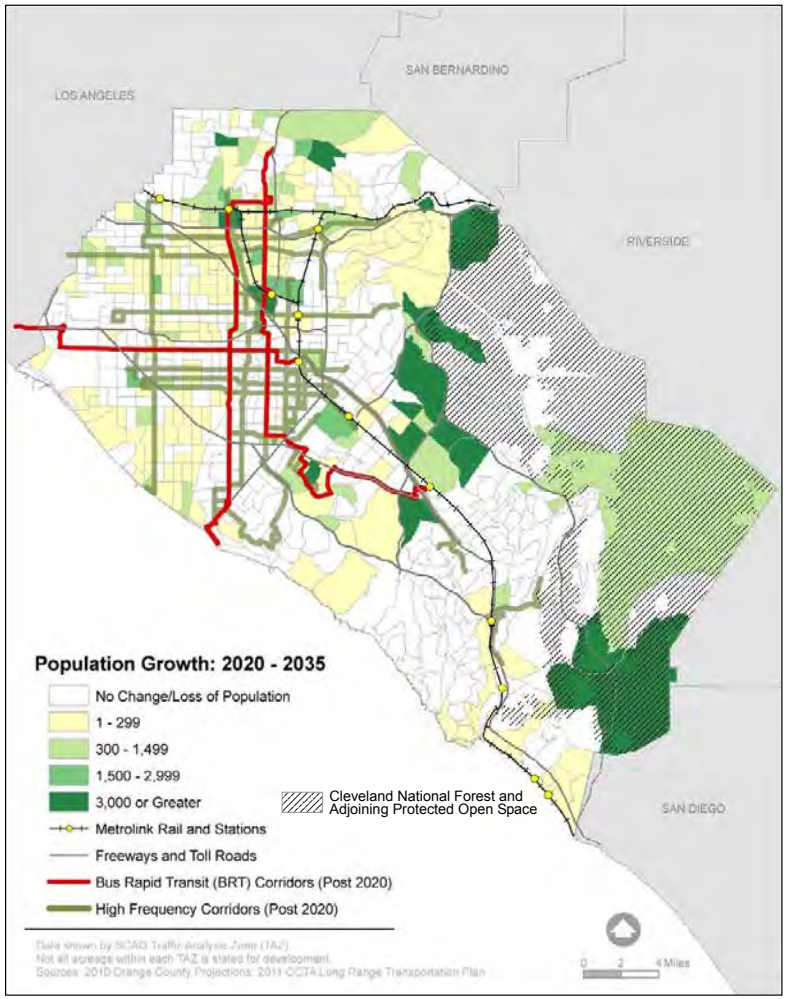


Figure 11 **Orange County Population Growth 2020 - 2035**

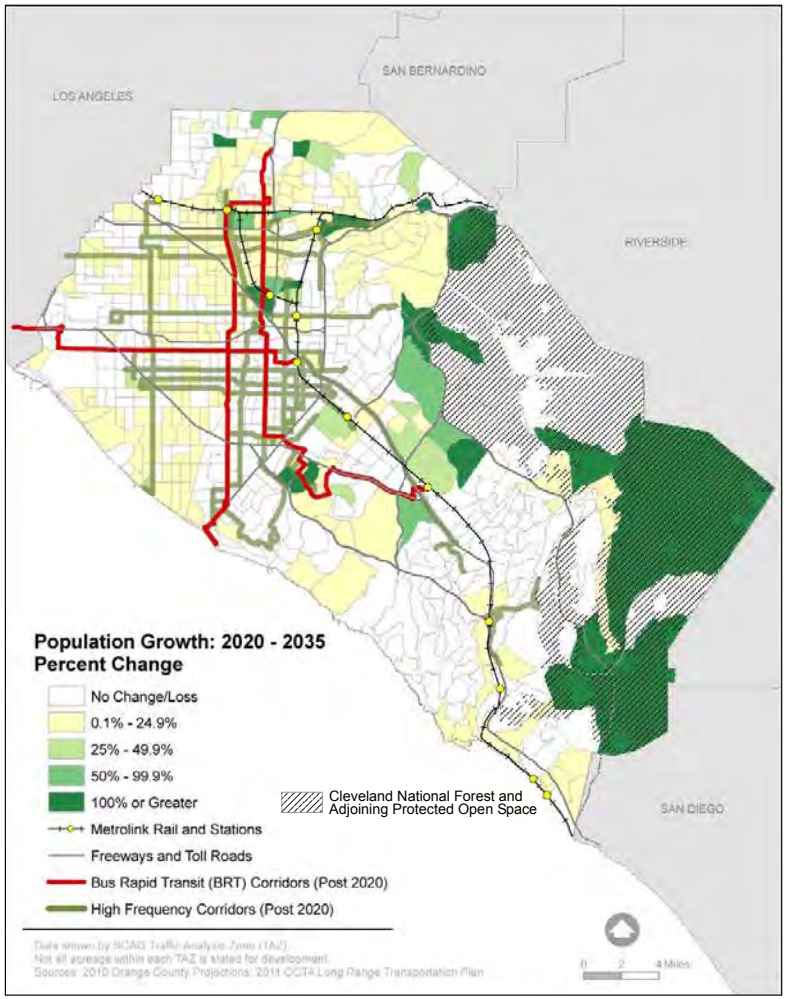


Figure 12 **Orange County Percent Change Population Growth 2020 - 2035**

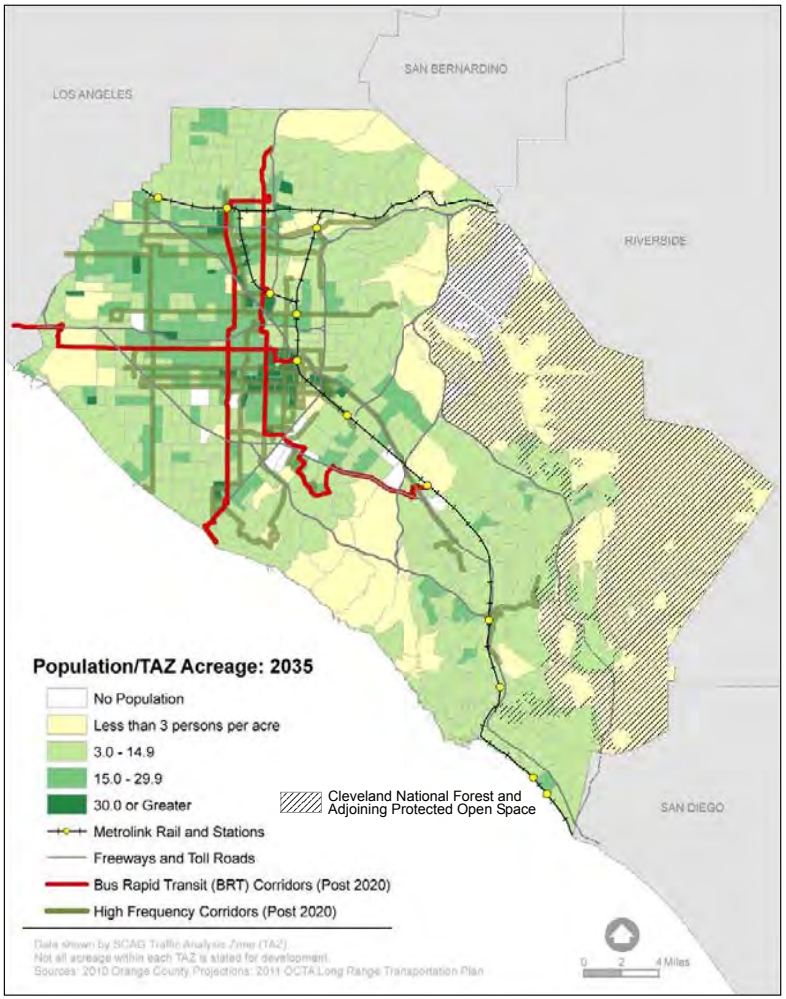


Figure 13 **Year 2035 Orange County Population Density**

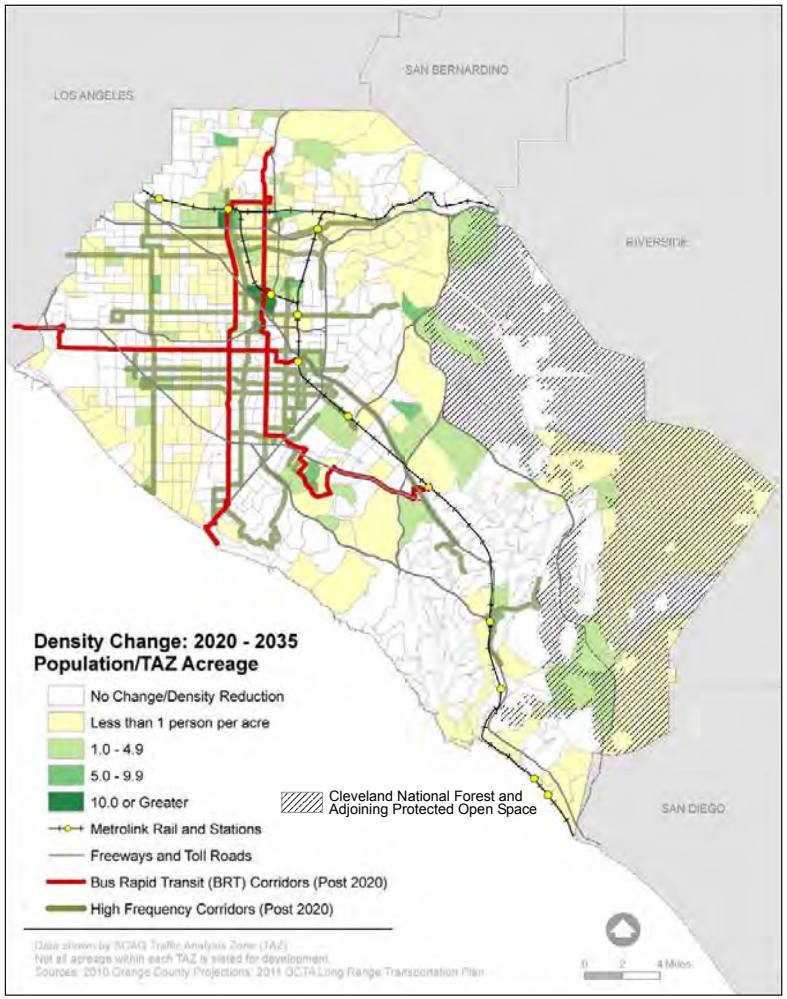


Figure 14

Orange County Population Density Change 2020 - 2035

HOUSING

In 2008, Orange County had 1,035,005 housing units (Figure 15). Taking population and employment into account, this equates to one housing unit per 3.02 Orange County residents, and one housing unit for every 1.57 jobs. Due to the large influx of population from the 1950s to the 1980s, most housing units in Orange County were built during that time. Table D shows housing construction from 1950 to 2005 and later, as reported by the 2008 American Community Survey.

Figure 16 shows that between 2005 and 2008, housing construction clearly outweighed housing demolitions. The largest pockets of housing construction occurred in the coastal and southern regions of Orange County, while the majority of housing demolitions occurred in the mature central and northern portions of the County. This concentration of demolitions may point to the projected transition near the urban cores, tending to increase residential density in these areas.

Table D: 2008 American Community Survey Orange County Homes by Decade

Year Built	Number	Percent
2005 or later	20,677	2%
2000 to 2004	60,876	5.9%
1990 to 1999	112,207	10.8%
1980 to 1989	164,819	15.9%
1970 to 1979	268,535	25.9%
1960 to 1969	213,269	20.6%
1950 to 1959	142,282	13.7%
Before 1950	52,545	5.3%
Total	1,035,210	100.0%

Source: 2008 American Community Survey 1-Year Estimate, Housing Data Profile

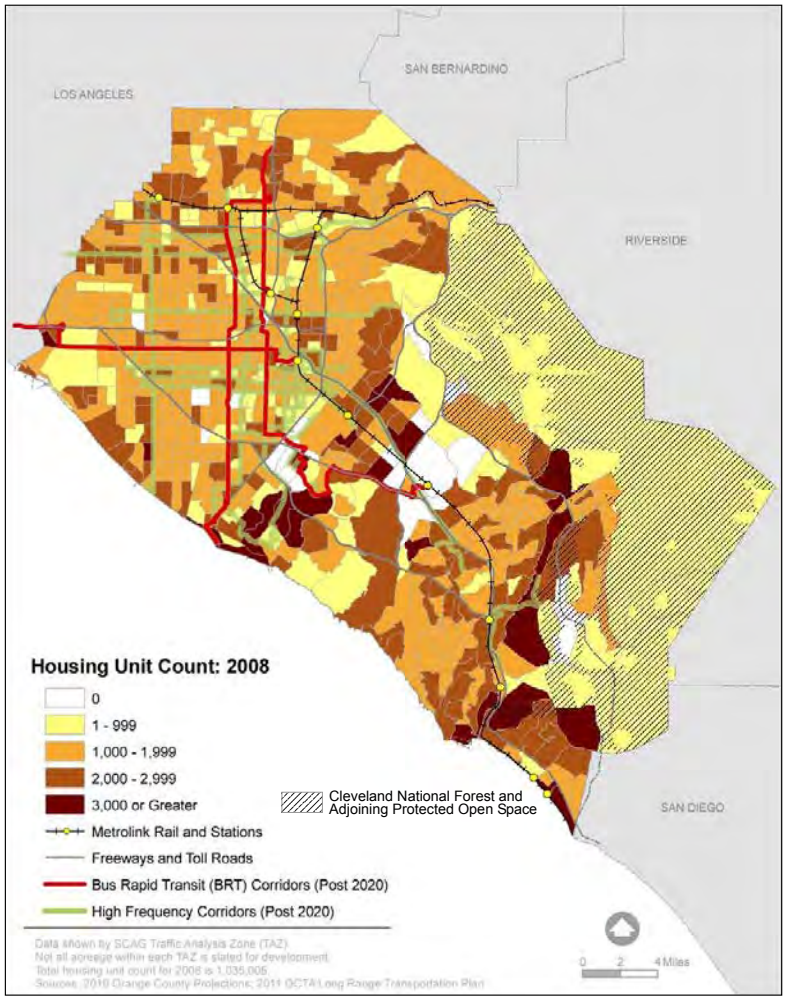


Figure 15 **Existing (2008) Orange County Housing Units**

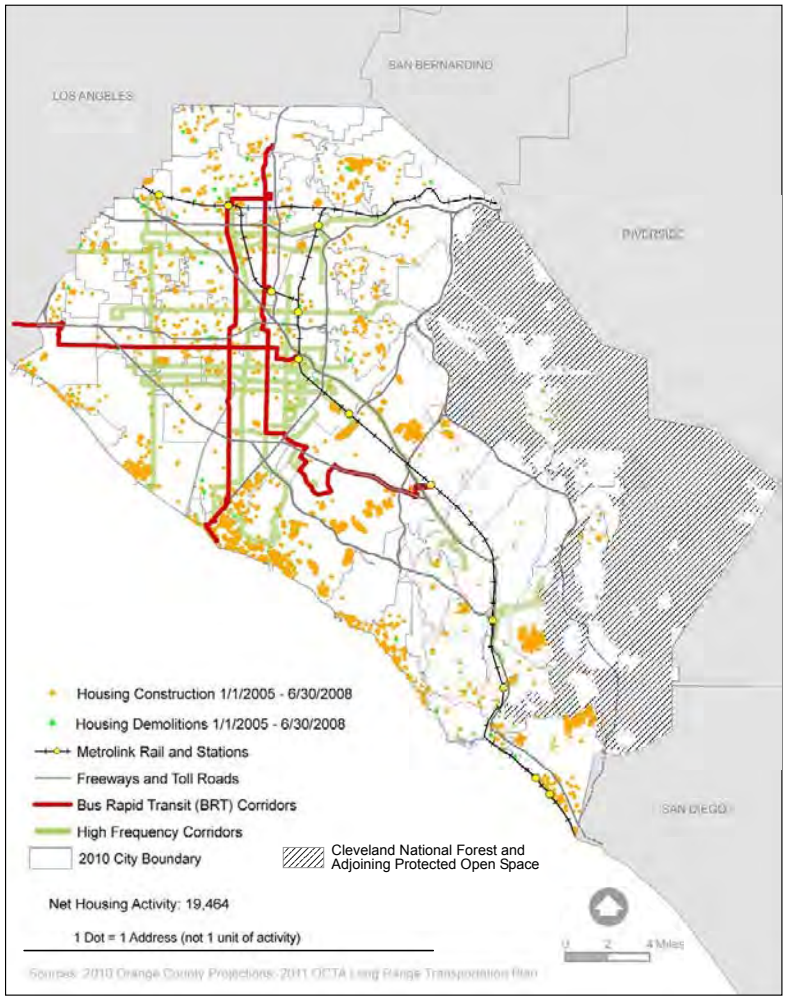


Figure 16 **Orange County Housing Activity 2005 - 2008**

Table E shows that just over half of Orange County's housing (51.6%) is comprised of one-unit, detached structures. The second most common housing is 20-unit or more structures, which make up 12.6% of housing in the County, followed by one-unit, attached housing at 11.7%.

Table E: 2008 American Community Survey Orange County Homes by Type

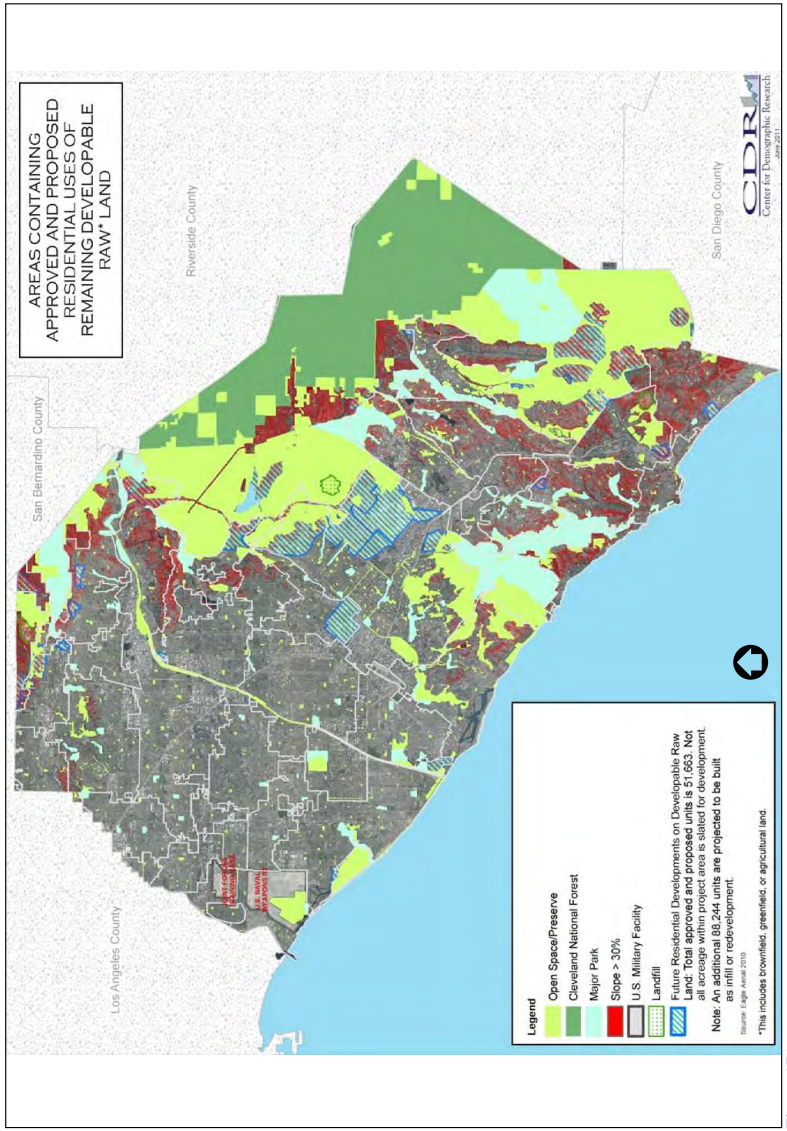
Type of Structure	Number of Units in Structures	Percent of Total
1-Unit, Detached	533,218	51.6%
1-Unit, Attached	121,432	11.7%
2 Units	16,471	1.6%
3 or 4 Units	73,948	7.1%
5 to 9 Units	69,788	6.7%
10 to 19 Units	56,357	5.4%
20 Units or More	130,209	12.6%
Mobile Home	33,254	3.2%
Boat, RV, Van, Etc.	533	0.1%
Total	1,035,210	100.0%

Source: 2008 American Community Survey 1-Year Estimate, Housing Data Profile

Between 2008 and 2035, Orange County is projected to experience a net gain of 139,907 housing units, based upon the input of the Orange County jurisdictions, with about a third of these units (36.9% or 51,663 housing units) planned on raw land within the hashmarked areas on Figure 17A.[1] Raw land for the purpose of developing Figure 17A was defined as land not previously developed or land that is a decommissioned military base and is not a protected, open space or habitat area. Figure 17B illustrates permanently protected open space areas, consolidated from several categories.[2] The remaining two thirds of projected housing units, (88,244 units or 63.1%), will be infill or redevelopment projects. Of the total, 38,821 (27.7%) are projected to be single-family detached units and 101,086 (72.3%) are projected to be attached units.

[1] Figure 17A was first developed in 2002 by CDR to look at future housing development on raw land in Orange County. This map is updated over time and has been updated with the OCP-2010 housing projections data, which was reviewed and approved by jurisdictions in Orange County. This map first identifies areas not available for development including national forest, land or habitat preserves, major parks and open space, military installations, and landfills. Because of the scale of the map, smaller parks and open space areas are not displayed. The areas identified in red, most prevalent in the eastern and southern portions of the County, have slopes of 30% or greater on which it is typically cost-prohibitive to build. An aerial photo was reviewed to identify large areas in the county that looked vacant. Those areas were bounded and then each jurisdiction with an identified area was contacted about any residential development planned for the area. Although some of the project areas are large, not all of the land within the project areas will be developed for residential or employment uses. Much of the land within those project areas will be left as open space.

[2] Though certain elements of open space are illustrated in Figure 17B, Chapter 5 provides a comprehensive inventory of the resource areas and farmlands located within the County.



Areas Containing Approved and Proposed Residential Uses of Developable Raw* Land

Figure 17A

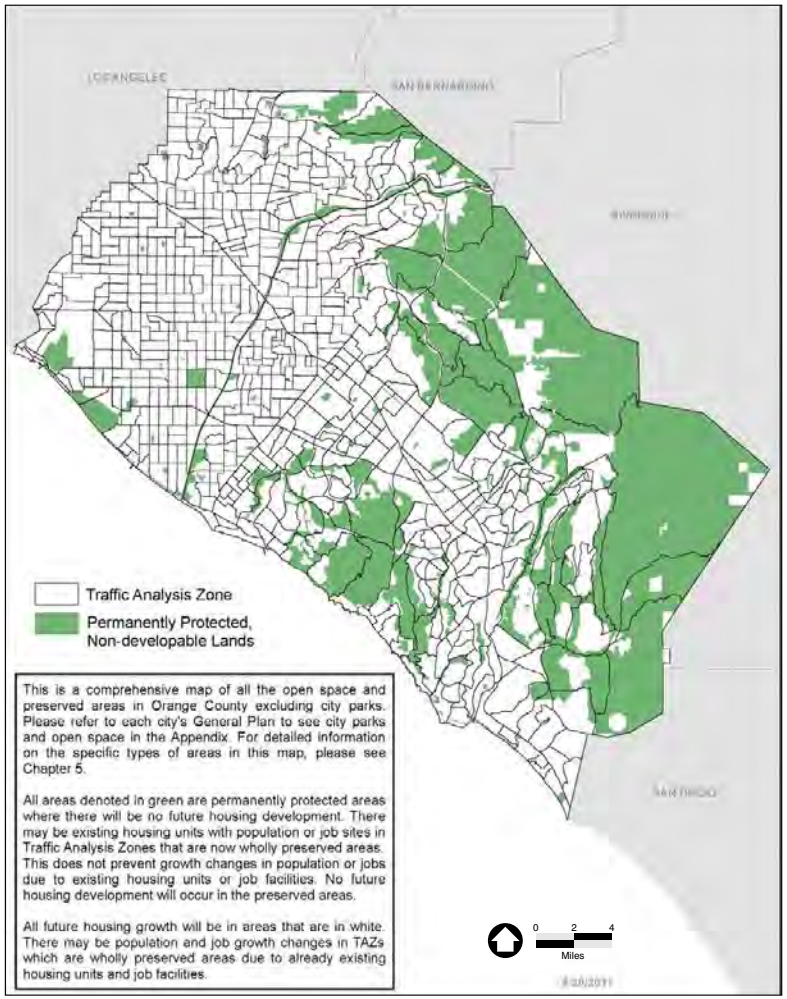


Figure 17B **Orange County Comprehensive Permanently Protected Areas**

To summarize, about three of every four units to be built between 2008 and 2035 are projected to be attached residential, such as a condominium, townhome, or apartment.

In 2008, the majority of TAZs in the County have housing densities of one to under five housing units per TAZ acre. The use of the term "housing density" for a TAZ refers to the housing density of the total TAZ acreage, not the density of any specific housing development within the TAZ. The concentration of TAZs with high densities of housing in the central region of the county follows the trend established in the population density analysis. In other words, the urban cores are experiencing increased infill, reuse of land, and increased developments of multi-unit housing structures to support the growing populations in these regions (see Figure 18).

By 2020, the total number of housing units in Orange County is projected to increase by 65,255, from 1,035,005 to 1,100,260 (see Figure 19). A growing population requires approximately one housing unit per 3.28 residents or 1.5 jobs.[3] The projected housing production by 2020 will continue to satisfy the growing population. Given the forecast growth in population, this projected growth in housing is sufficient to house all the population of Orange County by 2020.

This housing growth will occur throughout the County and there will be fewer large areas without housing. The largest concentration of housing growth between 2008 and 2020 will occur in Brea; the middle section of the County straddling the I-5 Freeway in Irvine; Tustin's Legacy development; and Rancho Mission Viejo in unincorporated South County. Additionally, TAZs with 3,000 or greater housing units are expected to grow in numbers, signaling increased densification (see Figure 20).

Overall, the County is projected to experience an even spread of housing unit growth between 2008 and 2020. During this time, the majority of TAZs will experience an increase of between 1-99 housing units. Figure 21 does show many TAZs that will experience no growth or loss of units that can be explained by the fact that much of Orange County's developable land has already been built on and, therefore, is limited in the number of units that can be added. This is especially true where the housing stock is newer and/or within planned communities. Future developments will be more dense to offset the limited land supply. As previously mentioned, 75 percent of the future housing growth will be an attached or some form of attached unit.

[3] Cervero, Robert. 1991. "Jobs/Housing Balance as Public Policy." Urban Land 50, no.10:10-14; Ewing, Reid. 1996. Best Development Practices: Doing the Right Thing and Making Money at the Same Time. Chicago: Planners Press; Weitz, Jerry. 2003. "Jobs-Housing Balance." Planning Advisory Service Report 516. Michigan: American Planning Association.

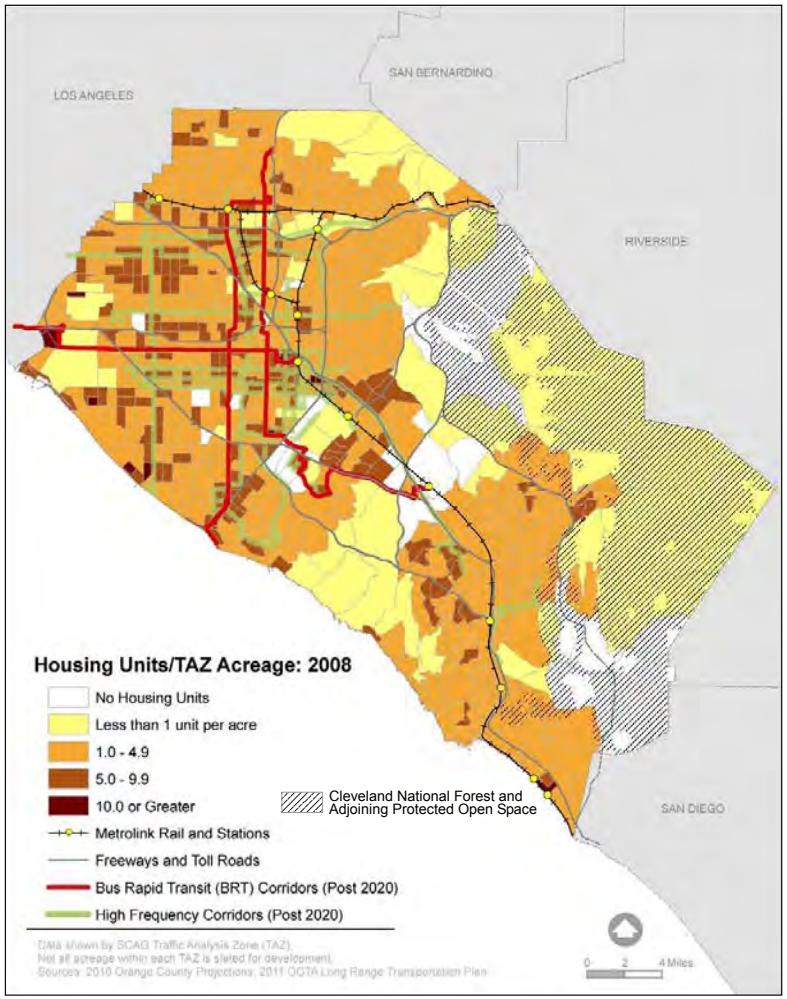


Figure 18 **Existing (2008) Orange County Housing Density**

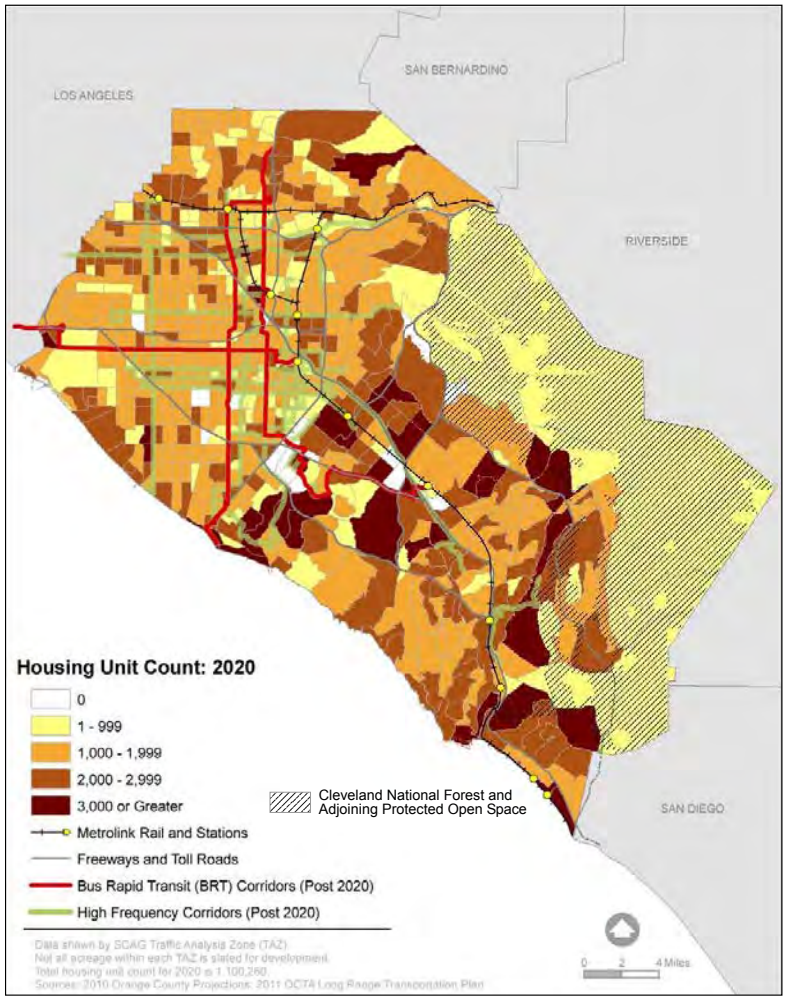


Figure 19 **Year 2020 Orange County Housing Units**

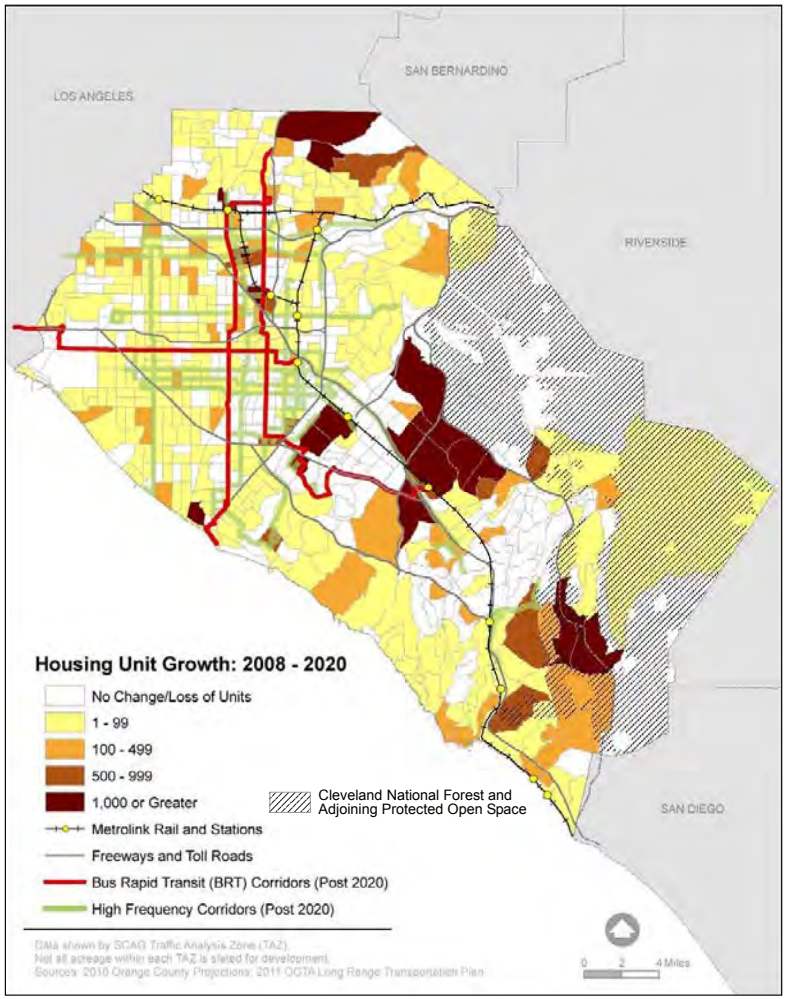


Figure 20 **Orange County Housing Growth 2008 - 2020**

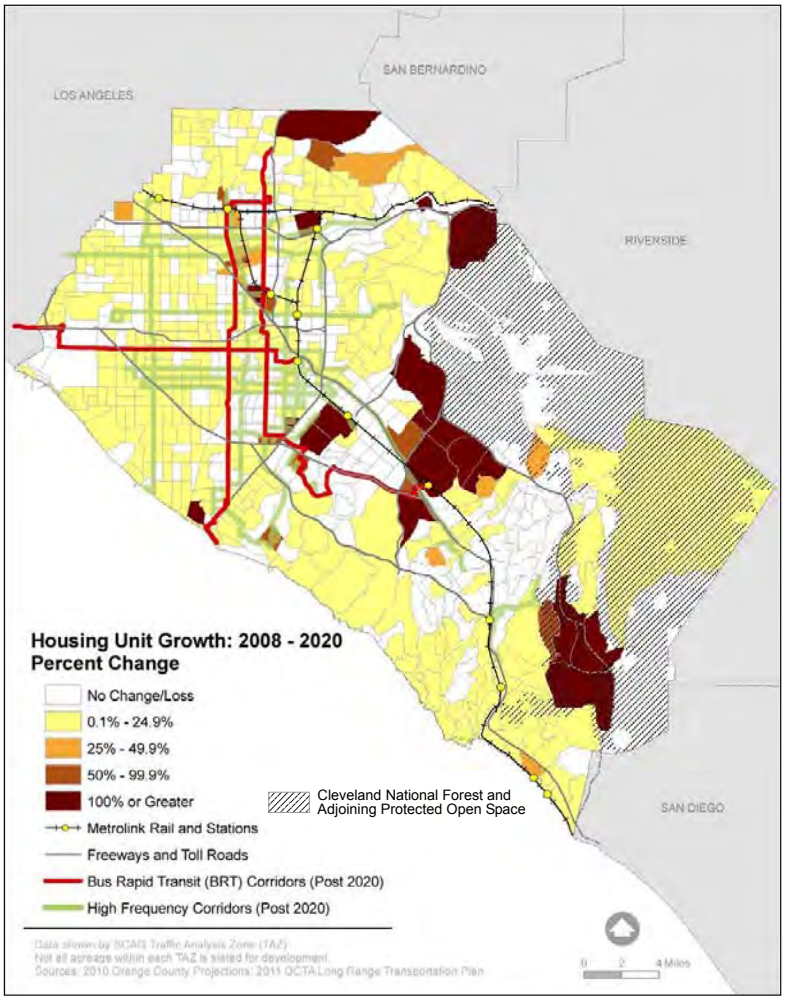


Figure 21 **Orange County Percent Change Housing Unit Growth 2008 - 2020**

Orange County housing unit density in 2020, measured in units per TAZ acre, shows pockets of increasing densification adjacent to transit options, especially around the Metrolink rail line (see Figures 22 and 23).

By 2035, housing totals in Orange County are projected to grow to 1,174,912. This constitutes an increase of 74,652 units between 2020 and 2035. This equates to one housing unit for every 3.02 Orange County residents and one housing unit for every 1.53 jobs.

In 2035, the only TAZs with no housing units are areas of permanently dedicated open space and parkland. The densest TAZs, holding 3,000 housing units or more, become much more prevalent in 2035 and are most notably found in Brea, Fullerton, Anaheim, Tustin, Irvine, Lake Forest, Newport Beach, San Juan Capistrano, Yorba Linda, and unincorporated south county communities of Ladera Ranch and Rancho Mission Viejo (Figure 24).

As shown in Figures 25 and 26, from 2020 to 2035, the majority of high-growth TAZs that grow by 1,000 units or more, and by 100% or more, effectively double the housing units in those areas. These include TAZs in Anaheim, La Habra, Orange, Fullerton, Irvine, Tustin, and the future Rancho Mission Viejo community in unincorporated South County.

In 2035, the continued trend of housing unit densification is clearly seen. Many of the most housing-dense TAZs are concentrated in the centralized urban cores of Orange County, along the commuter rail lines, and the proposed bus rapid transit and high frequency bus routes (Figures 27 and 28).

In summary, from 2008 to 2035, the County is projected to add 139,907 housing units, an increase of 13.5%, of which 75% will be attached units. The projected evolution of the County is for housing unit growth and housing unit density to increase throughout the County, with growth concentrated in the traditional urban cores. The majority of future residential developments on raw land are projected to occur in the central cities of Irvine and Tustin, and the southern region encompassing Rancho Mission Viejo in the unincorporated portion of the County east of San Clemente.

Orange County Sustainable Communities Strategy

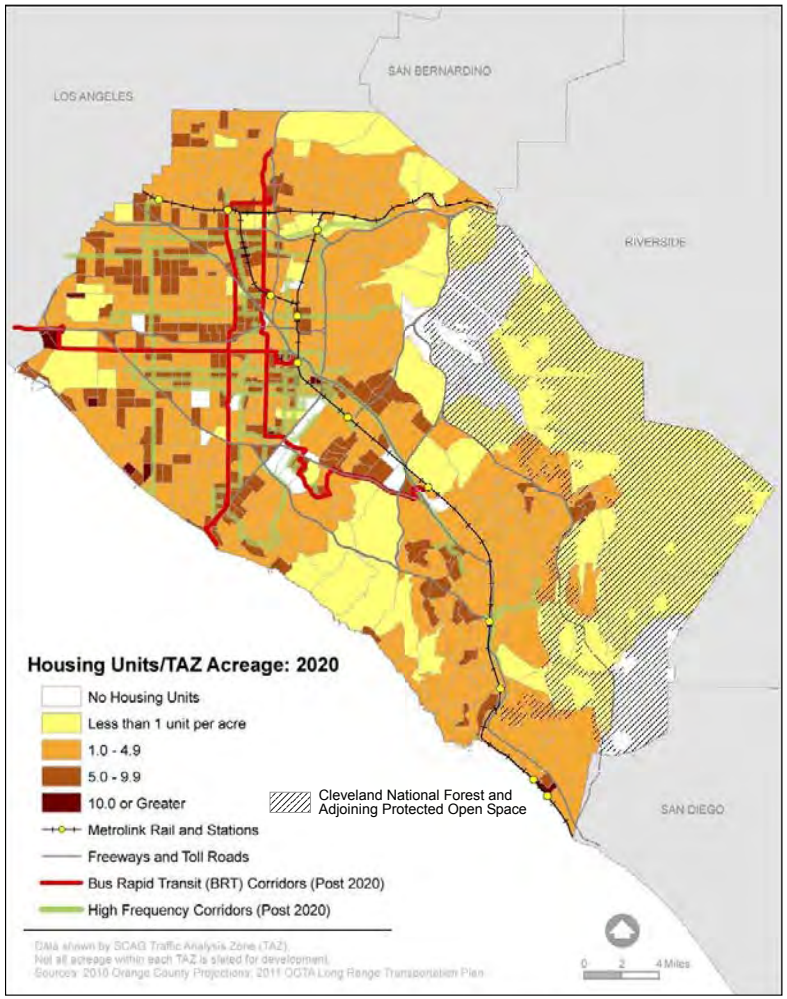


Figure 22

Year 2020
Orange County Housing Density

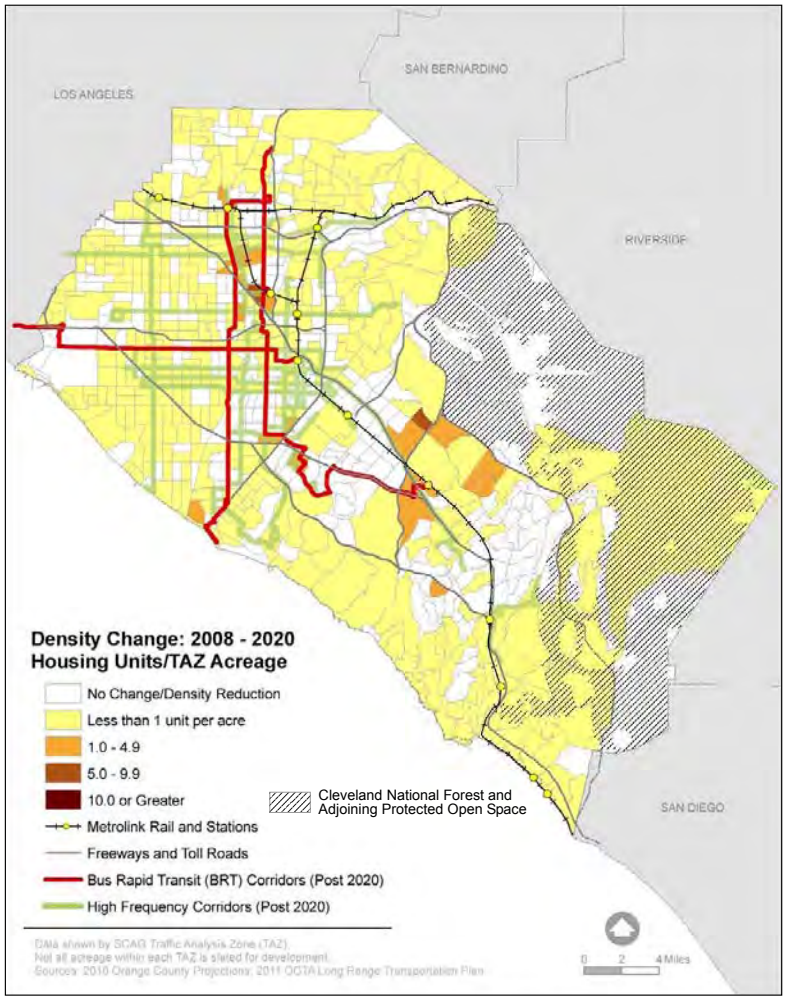


Figure 23 **Orange County Housing Density Change 2008 - 2020**

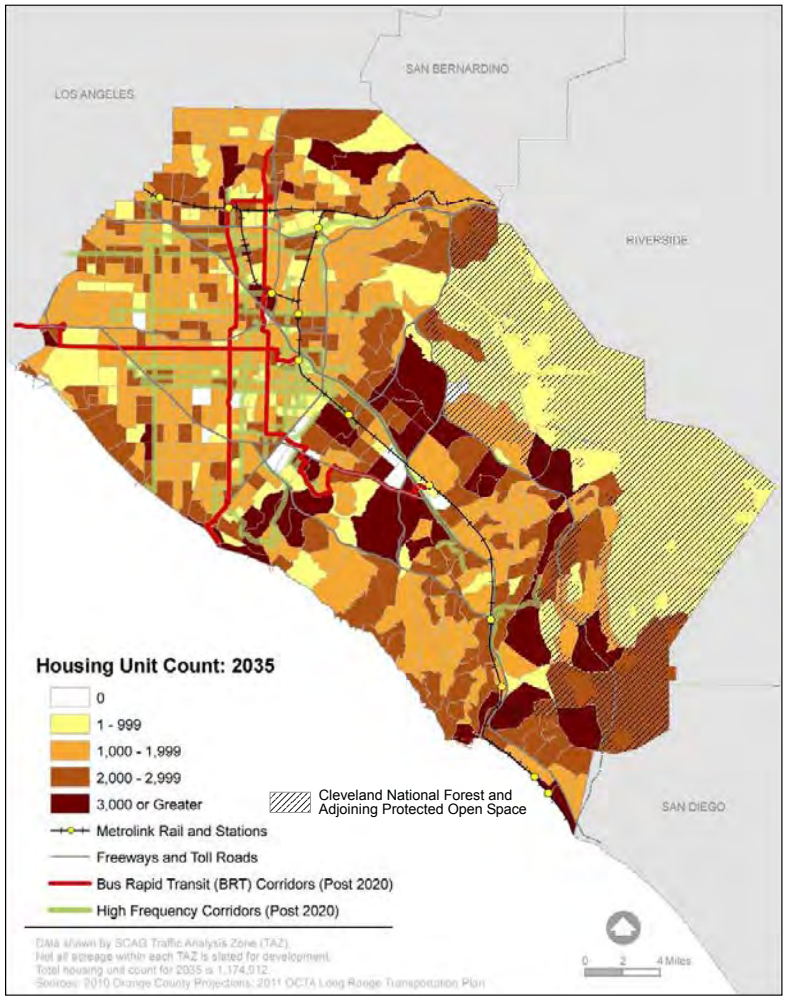


Figure 24 **Year 2035 Orange County Housing Units**

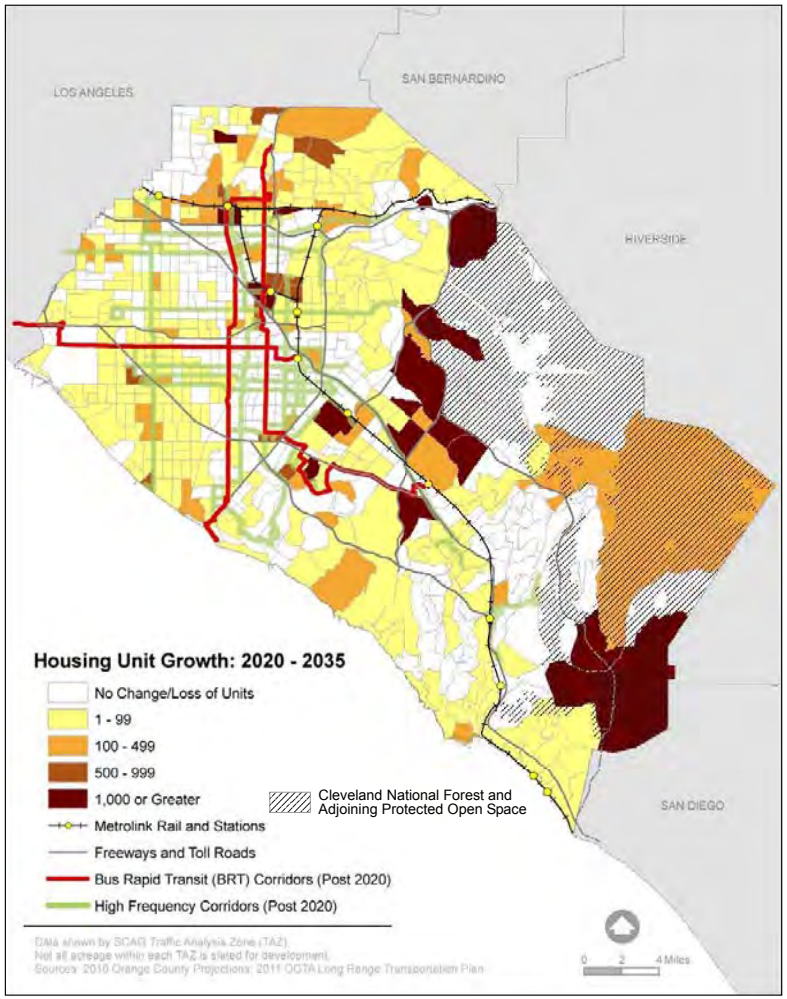


Figure 25 **Orange County Housing Unit Growth 2020 - 2035**

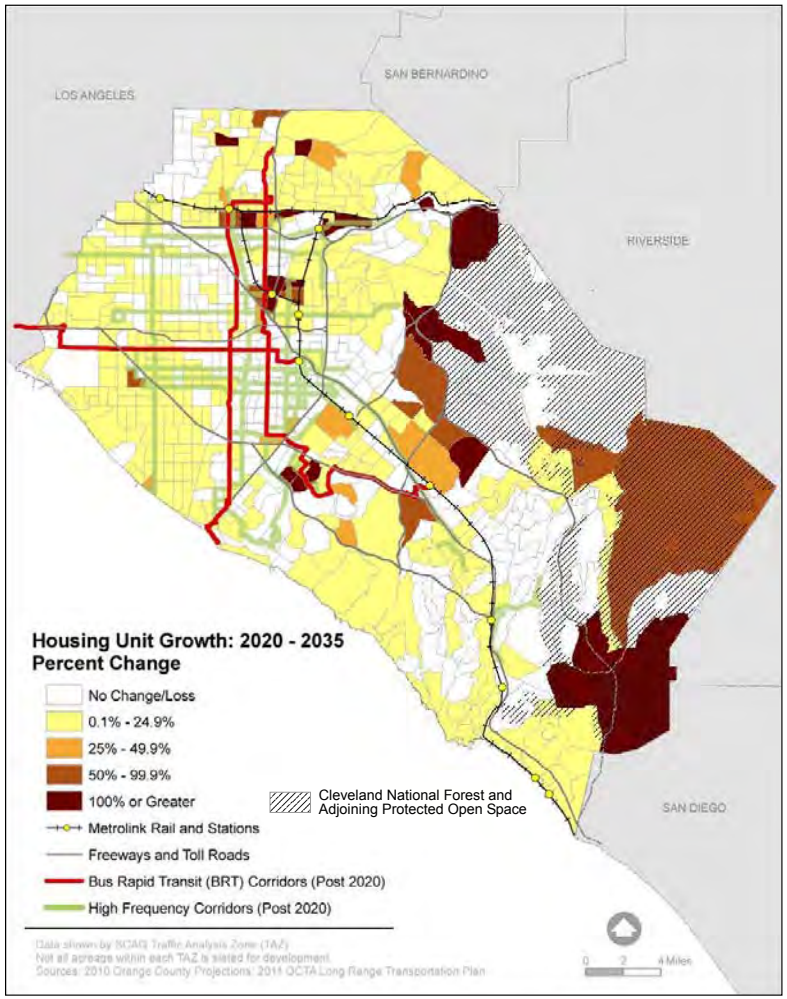


Figure 26 **Orange County Percent Change Housing Unit Growth 2020 - 2035**

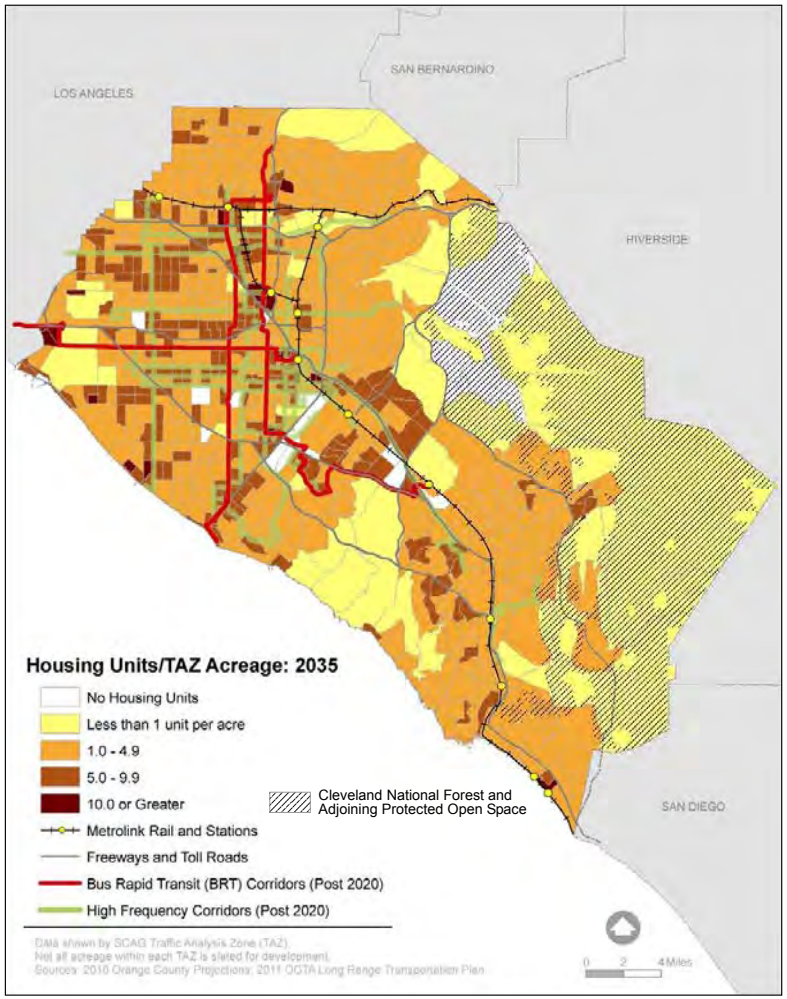


Figure 27 **Year 2035 Orange County Housing Density**

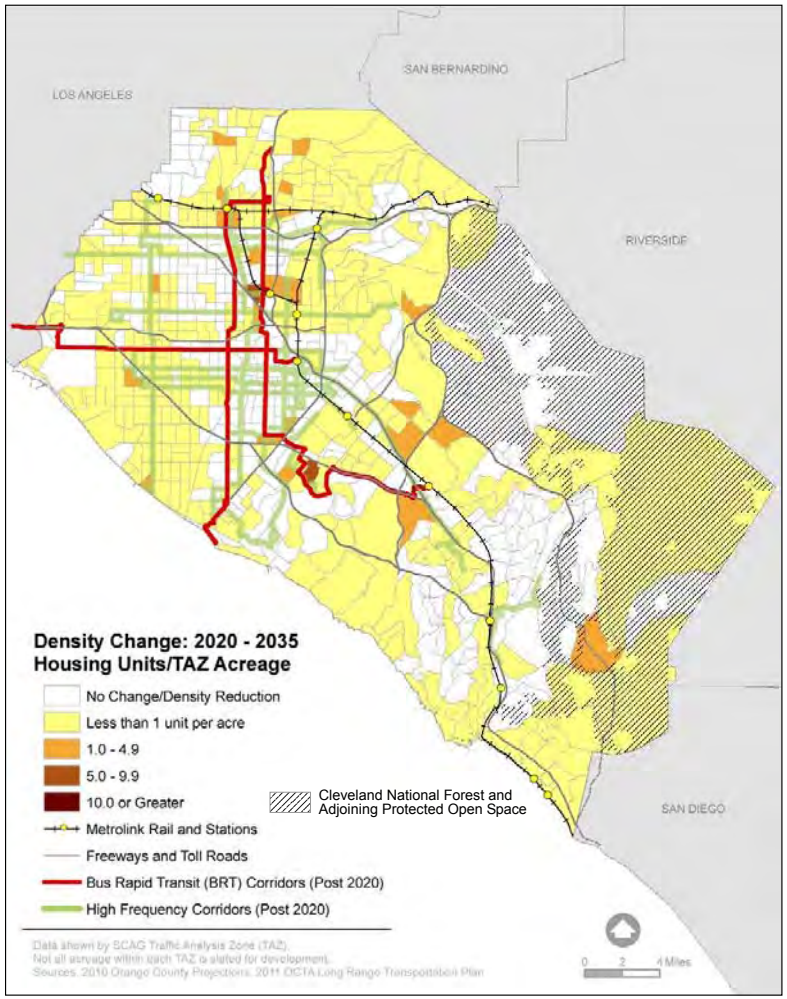


Figure 28 **Orange County Housing Density Change 2020 - 2035**

HOUSING CONCLUSION

Orange County's existing (2008) housing stock includes a variety of densities, and only about half of the housing inventory is single-family detached structures. Approximately three out of every four housing units projected to be built between 2008 and 2035 will be some type of attached unit. The result will be denser housing developments and a future housing stock whose makeup will have a majority of attached units instead of a housing stock with a majority of single-family detached structures.

The number of new housing units is forecast to grow sufficiently to house all the population of the subregion. By 2020, the total number of housing units in Orange County is projected to increase by 65,255 units, resulting in an average of 3.12 Orange County residents per housing unit by 2020 and one housing unit per 1.50 jobs (one housing unit created for every 0.34 jobs created between 2008 and 2020). Between 2008 and 2035, Orange County is projected to create one housing unit for every 1.25 new jobs and one housing unit for every 3.28 new residents, resulting in a 2035 total of one housing unit for every 3.02 Orange County residents and one housing unit for every 1.53 jobs. The standard "healthy" ratio of jobs to housing is 1.50 jobs to 1.0 housing unit.[4]

Because available land is scarce, housing will grow primarily in terms of density. Increased housing density affords greater variety in housing type (i.e., multi-family, flat, apartment, condominium, high-rise, etc.) and increased supply contributes to housing affordability. Increasing the supply of affordable housing within Orange County may result in workers living closer to their jobs, thereby reducing vehicle miles traveled and urban sprawl. The densification of housing is forecast to accommodate population growth and locate proximate to major transportation routes and the priced transportation network, including the High Frequency Corridors and Metrolink stations.

Housing growth is projected to occur in and adjacent to areas that are forecast for increased employment growth. This adjacency will create opportunities to link housing and jobs at a human scale and afford pedestrian, cycling and transit choices for home/work travel.

Additionally, intensification of both employment and housing will enhance the built environment for mixed uses, transit-oriented and transit-adjacent developments, and multi-use projects along pedestrian and bicycle facilities.

[4] Cervero, Robert. 1991. "Jobs/Housing Balance as Public Policy." ***Urban Land*** 50, no.10:10-14; Ewing, Reid. 1996. ***Best Development Practices: Doing the Right Thing and Making Money at the Same Time***. Chicago: Planners Press; Weitz, Jerry. 2003. "Jobs-Housing Balance." ***Planning Advisory Service Report*** 516. Michigan: American Planning Association.

EMPLOYMENT

Orange County's estimated total job market was 1,624,061 jobs in 2008 (see Figure 29). The preponderance of TAZs host fewer than 5,000 jobs in 2008. Only three TAZs hold no employment, and these are located in areas comprised predominantly of parkland. TAZs with 5,000-9,999 employed workers are spread throughout the northern, central, and southern portions of the County along major transportation routes, as are TAZs holding 10,000-14,999 workers. The three largest employment TAZs—those holding 15,000-24,999, or 25,000 or more jobs—are located in the Irvine Business Complex, the Canyon industrial and business area north of the 91 Freeway located in Anaheim.

Figure 30 illustrates Orange County's employment density by jobs per acre in 2008. The northern and central portions of the County contain the majority of TAZs with mid- and high-level employment density.

By 2020, Orange County's total job count is projected to increase to 1,646,437, an increase of 22,376 jobs between 2008 and 2020 (see Figure 31). Employment growth between 2008 and 2020 is apparent near the Irvine Spectrum, Irvine Business Complex, Tustin Legacy, and in and around the Orange County Great Park—most likely developments of mixed-use structures and high-rise structures to offset the scarcity of developable land in the area (see Figures 32 and 33).

In 2020, TAZs with less than five jobs per TAZ acre are projected to make up the majority of TAZs in the County. High-density employment will continue in The Canyon, Anaheim Resort, and Irvine Business Complex. This high density of employment will also be expanded to additional areas including the Santa Ana Civic Center, the Irvine Spectrum, and other areas surrounding these locations (see Figures 34 and 35).

Orange County's net job growth from 2008 to 2020 includes the significant job losses incurred during the latest recession, starting in 2006 and lasting through 2009. The large decrease in overall employment, coupled with the slower-than-average past annual job growth, translates to a slow recovery of the County's employment landscape.

Consistent with employment growth trend projections by the UCLA Anderson School, Chapman University, Cal State Fullerton, and Cal State Long Beach, the estimated recovery of Orange County's employment level—back to its prior peak employment—is anticipated sometime between 2016 and 2020.

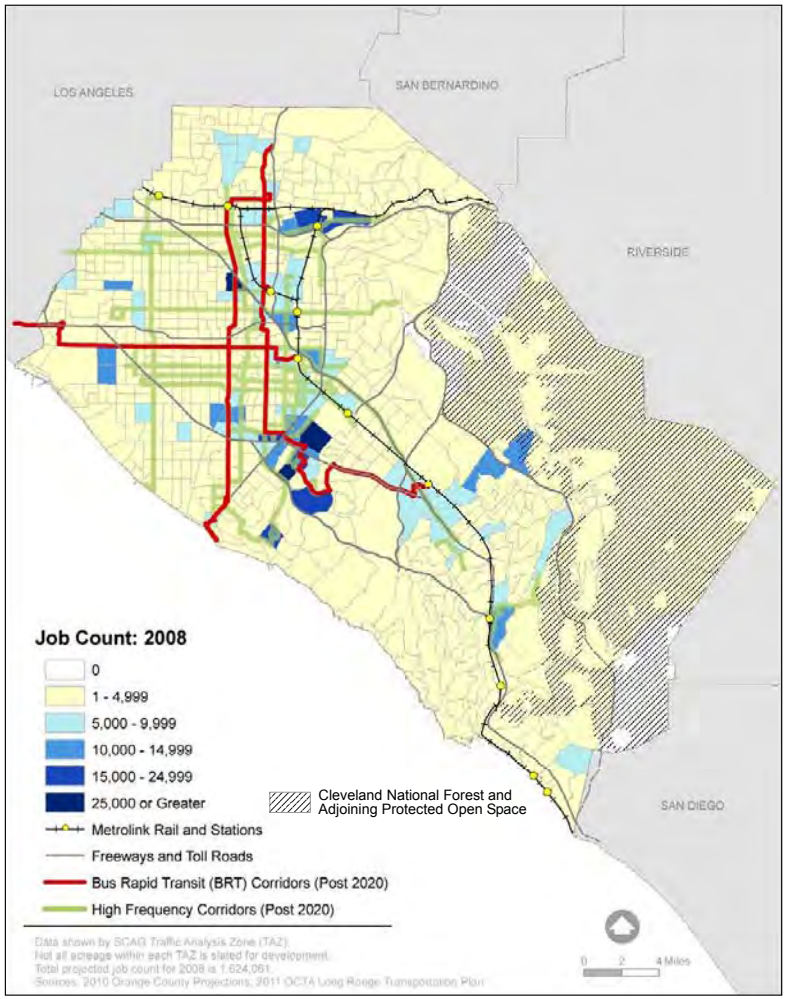


Figure 29 **Existing (2008) Orange County Employment**

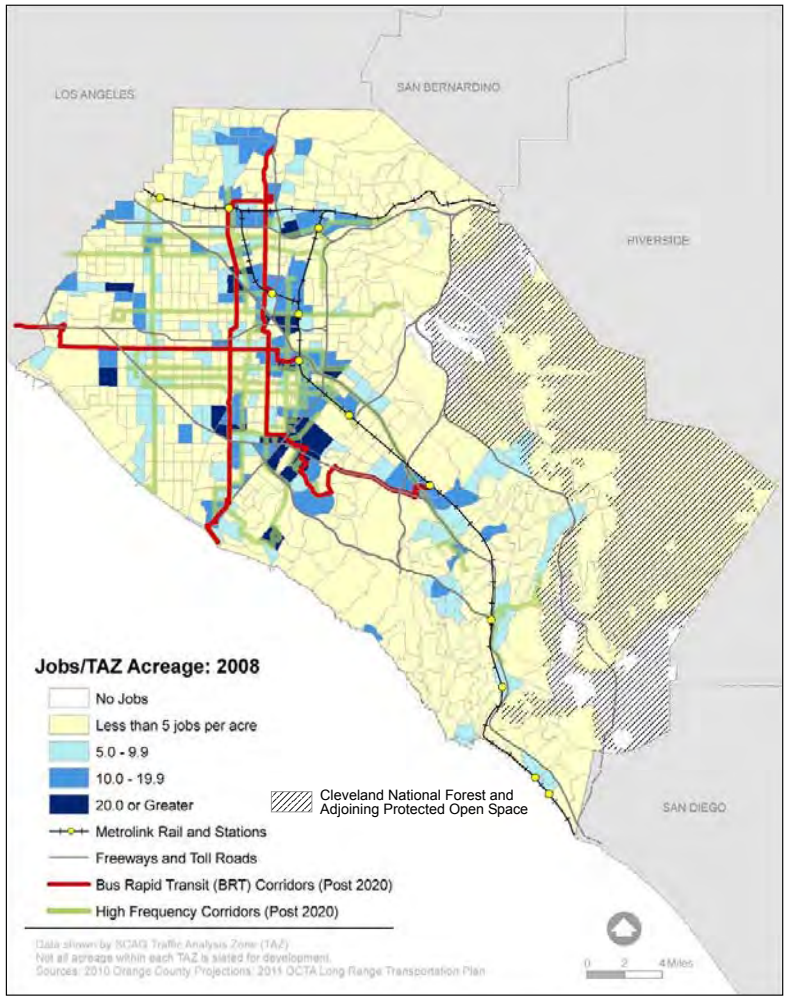


Figure 30 **Existing (2008) Orange County Employment Density**

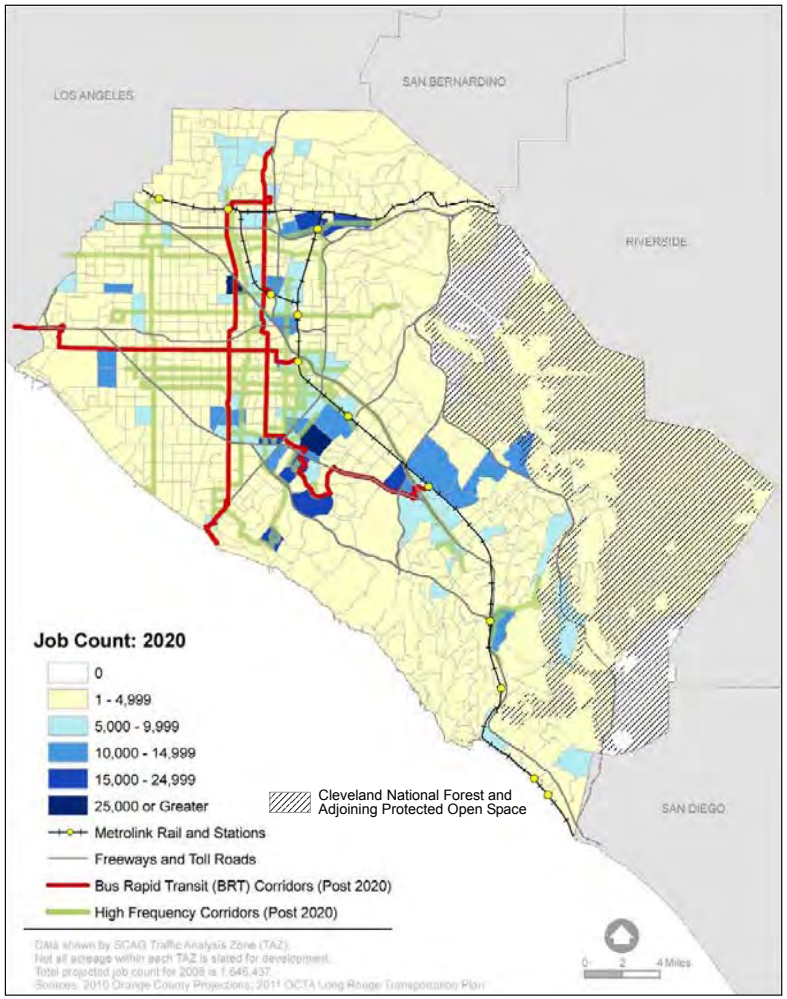


Figure 31 **Year 2020 Orange County Employment**

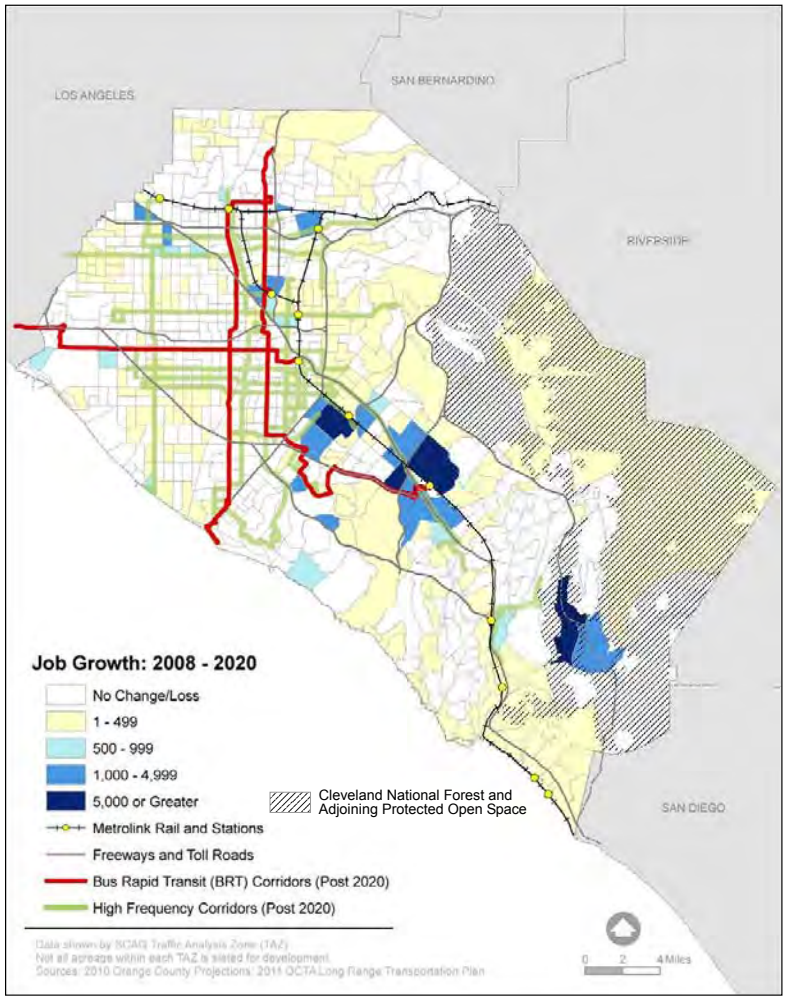


Figure 32 **Orange County Employment Growth 2008 - 2020**

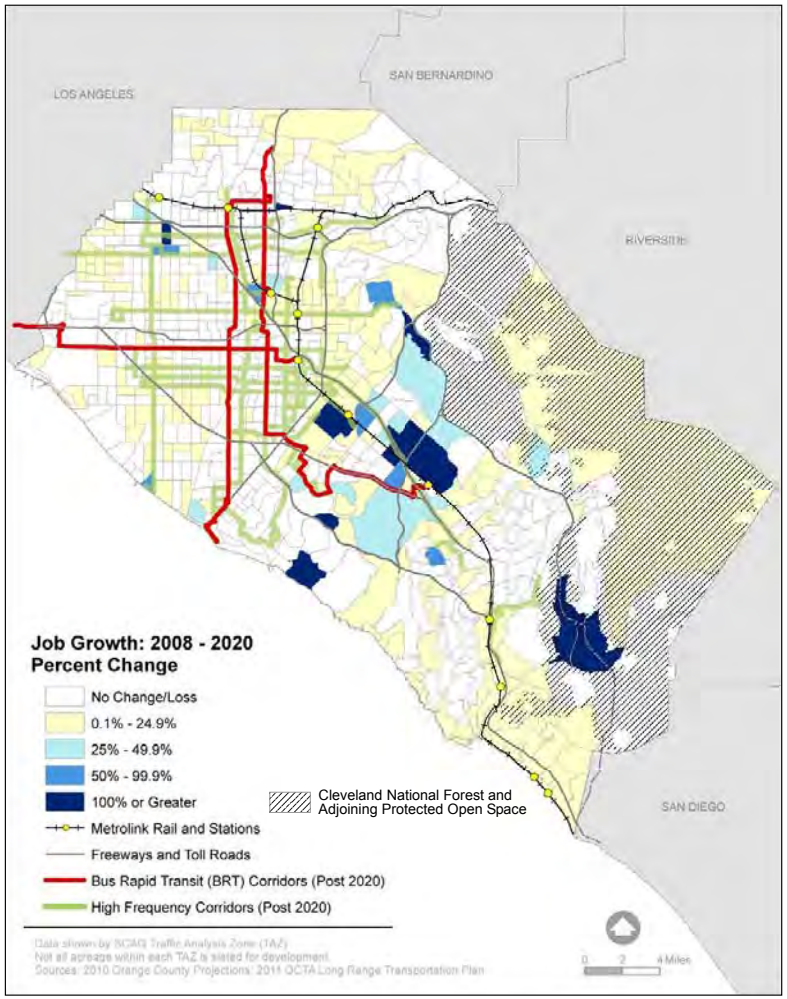


Figure 33 **Orange County Percent Change Employment Growth 2008 - 2020**

Orange County Sustainable Communities Strategy

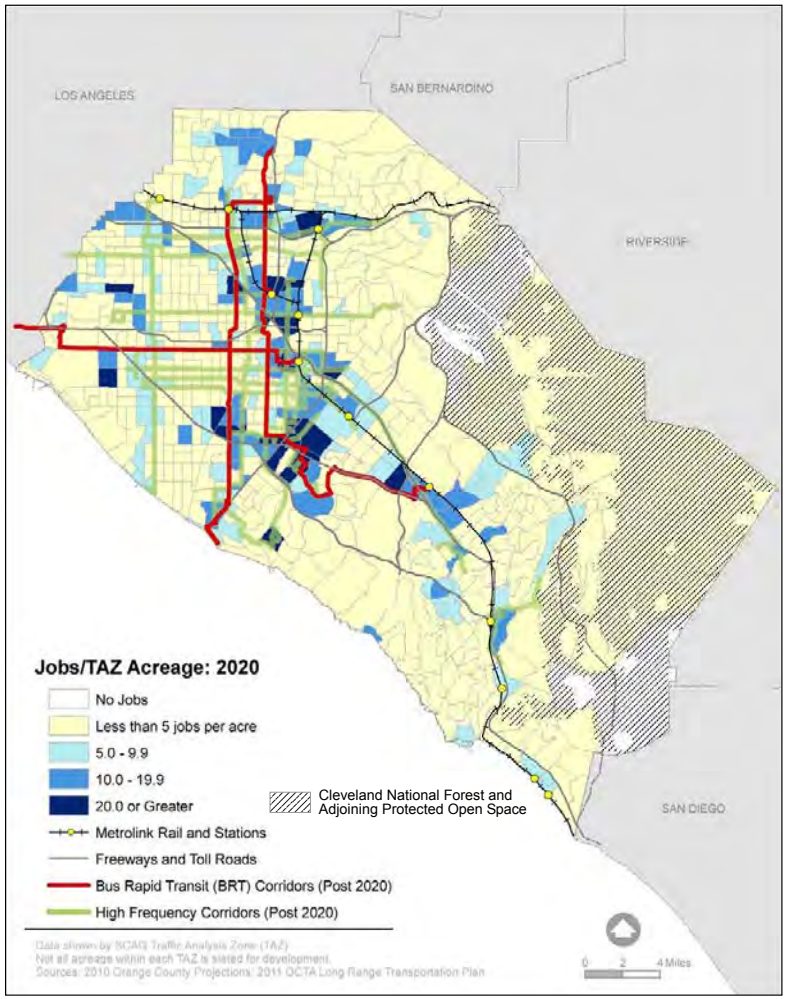


Figure 34 **Year 2020 Orange County Employment Density**

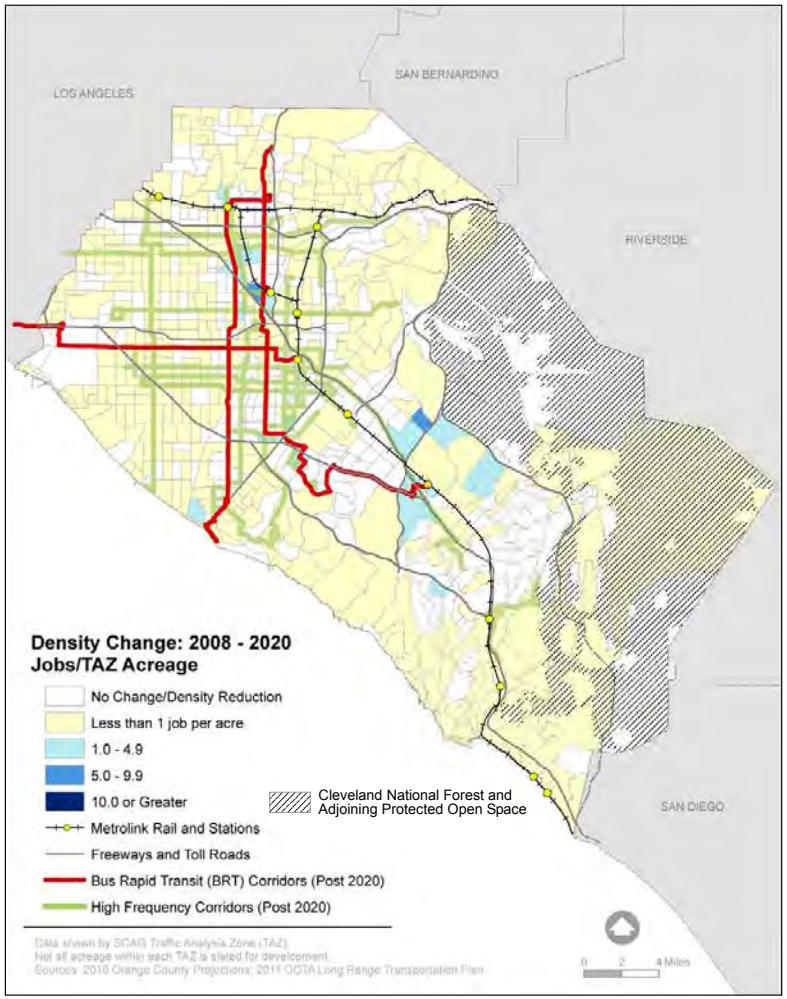


Figure 35

Orange County Employment Density Change 2008 - 2020

By 2035, Orange County is projected to have 1,799,477 jobs, an increase of 153,040 jobs between 2020 and 2035 (see Figure 36). This represents an increase of 9.3% from 2020, and equates to 130,664 jobs or almost seven times more jobs than are projected to be added between 2008 and 2020. The large difference between the numbers of jobs added between these two time periods is attributed to initial job losses in the early phases of the time period and then slow economic recovery leading to sluggish employment growth expected between 2008 and 2020.

The TAZs projected to experience the largest employment growth—additions of 5,000 jobs or more—are primarily located in the cities of Irvine, Anaheim, Tustin, and Orange, all existing employment centers, which are projected to continue to grow as major employment centers (see Figures 37 and 38).

Orange County employment density in 2035 (jobs per acre) is projected to increase throughout the County (see Figure 39). Between 2008 and 2035, Orange County is projected to add 175,416 jobs, the majority of which will be added between 2020 and 2035. While southern regions of Orange County are projected to increase employment and experience employment densification, this will be comparatively small relative to those increases projected to occur in the northern and central regions of the County. Significant employment growth is projected to occur predominantly in the cities of Anaheim and Irvine (see Figure 40). Mixed-use and single-use, higher-density developments will continue to play a large role as population levels increase with employment opportunities.

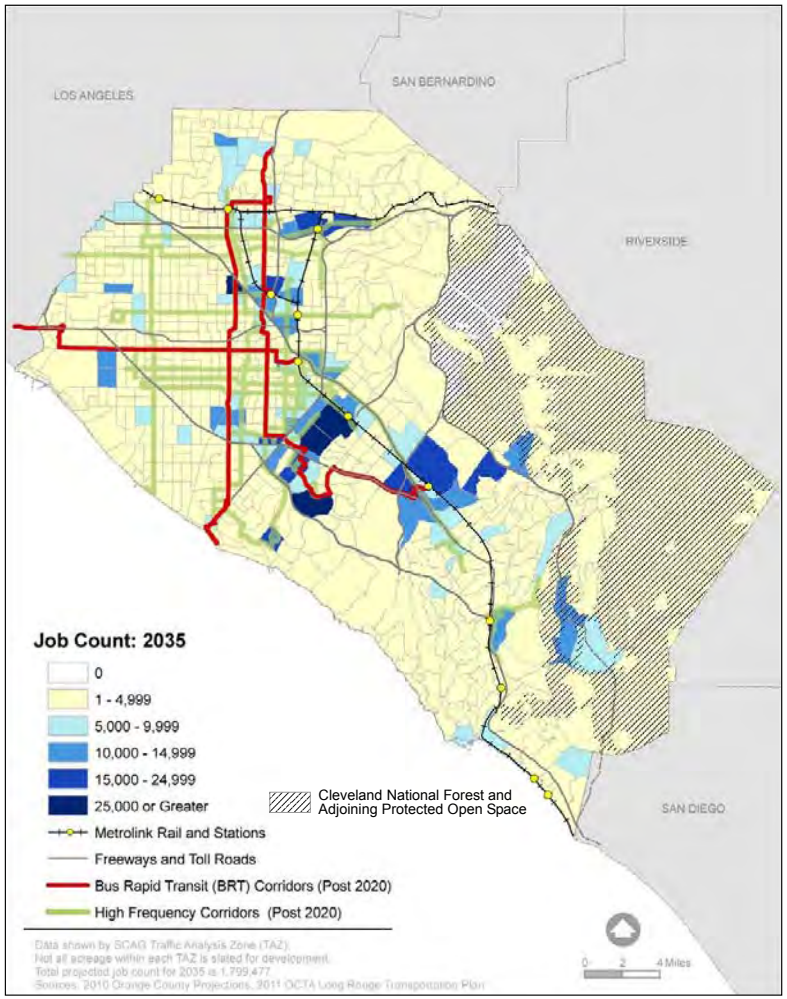


Figure 36 **Year 2035 Orange County Employment**

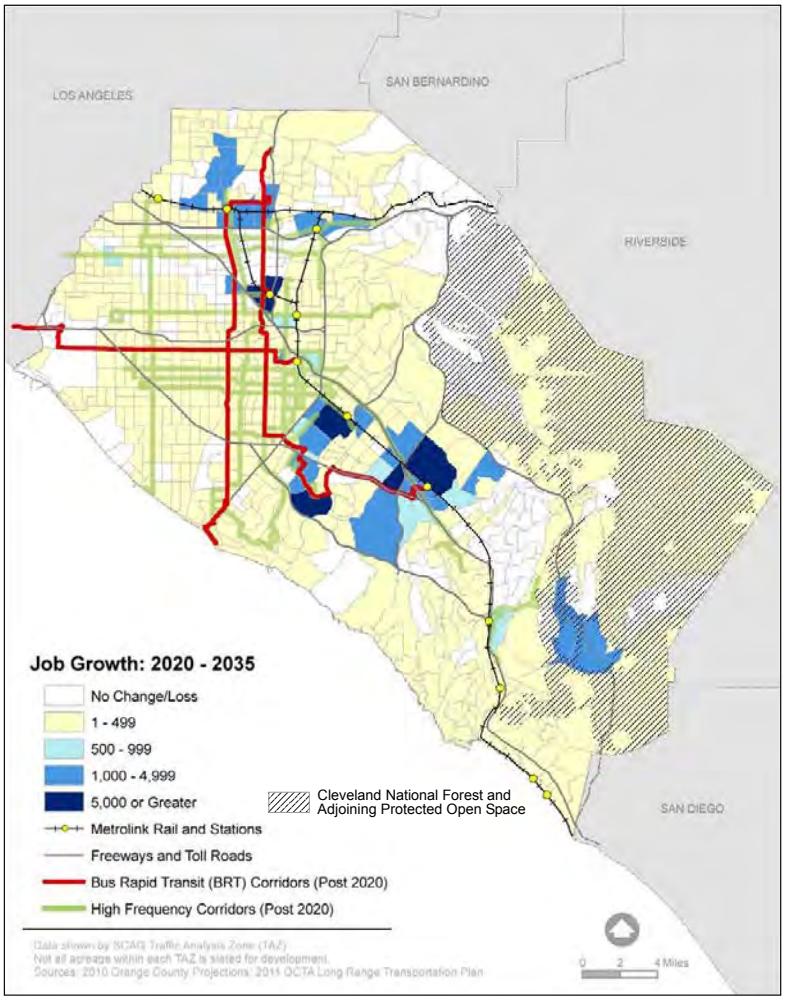


Figure 37 **Orange County Employment Growth 2020 - 2035**

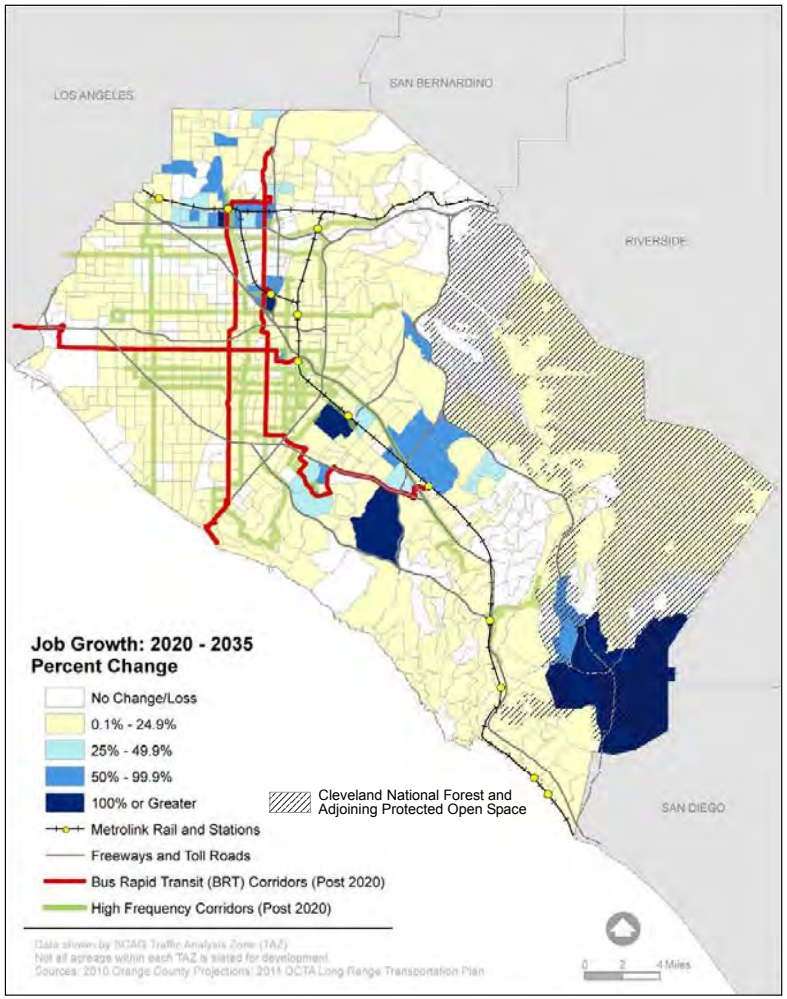


Figure 38 **Orange County Percent Change Employment Growth 2020 - 2035**

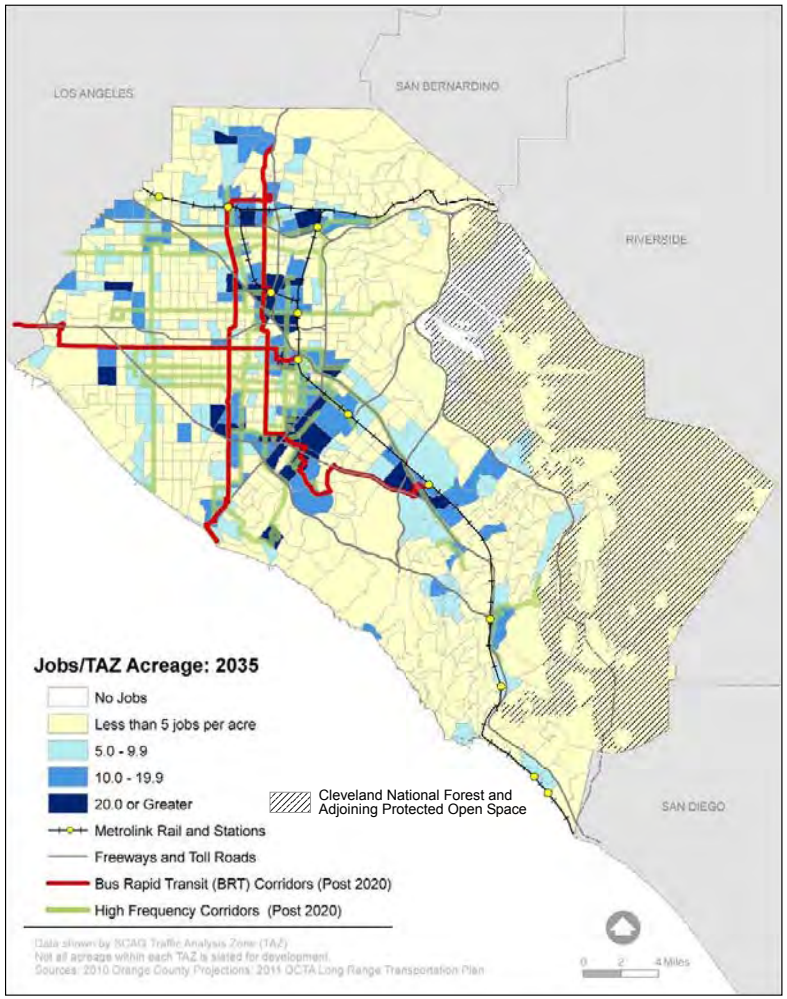


Figure 39 **Year 2035 Orange County Employment Density**

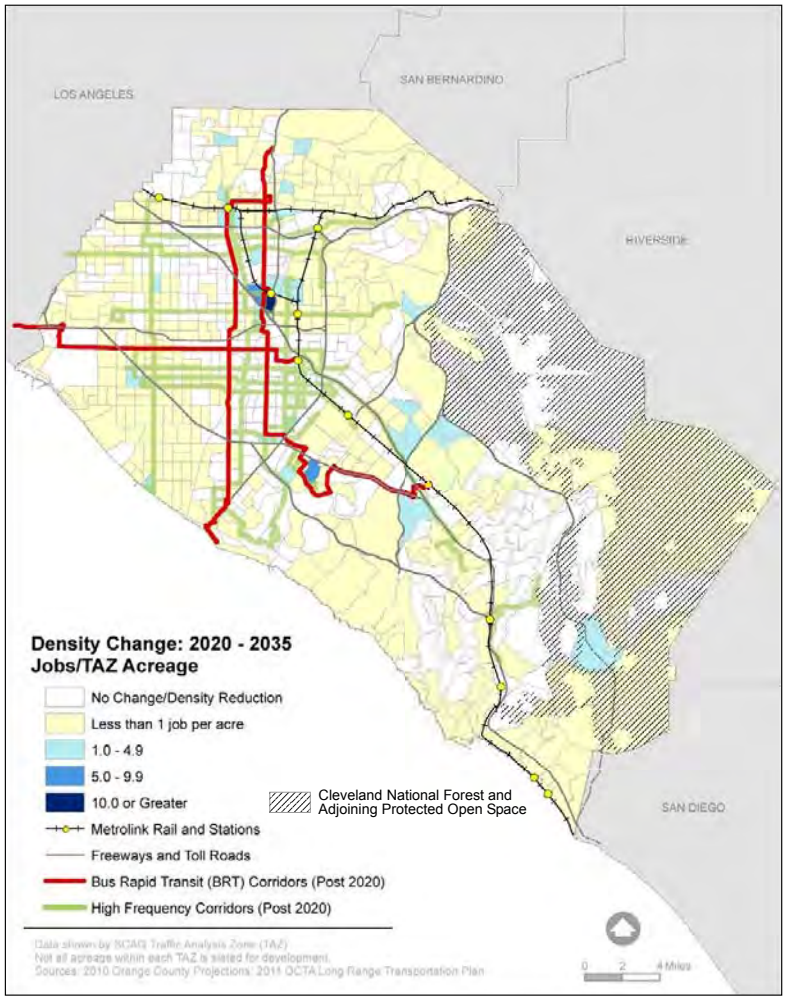


Figure 40 **Orange County Employment Density Change 2020 - 2035**

EMPLOYMENT CONCLUSION

Existing (2008) employment centers are located near major transportation nodes and routes, as commerce requires transportation infrastructure to thrive. Most Orange County employment is aggregated around the major highways (I-5, I-405, SR-22, SR-55, SR-57, and SR-91 freeways).

In more recent developments, job centers have tended to locate near transit stations or areas served by bus service and other transit options. The same trend is expected to occur for projected developments. Major growth in employment is projected to occur near Fullerton, Buena Park, Tustin, and around the Irvine Spectrum and the Anaheim Canyon, all near Metrolink stations. Toll roads also provide access to and from Anaheim and Irvine, both major receptors of future job growth and workers. Growth in employment will continue in these centers. This intensification will result in more of the working population proximate to High Frequency Corridors for rubber tire transit, as well as the Orange County Metrolink stops.

Intensification of employment centers also means increased density of land uses and the creation of synergies and opportunities to mix uses to satisfy a variety of needs. As mixed uses are developed within intense employment nodes, opportunities for pedestrian scale mobility are enhanced. Social and commercial needs, once satisfied only by passenger car due to distance, will be met by walking, cycling, or transit options.

CONCLUSION

Orange County's current and projected growth of population, housing, and employment near existing and future job centers will influence transportation patterns and therefore have the potential to be beneficial to GHG emission reductions.

Higher density vertical developments are being built in many Orange County jurisdictions, such as Anaheim's Platinum Triangle project. The construction of residential towers in Irvine, Anaheim, and Santa Ana illustrates that Orange County is indeed building "up." Such towers are part of a larger set of new developments built inside existing urban areas and known as infill developments. Infill developments may be anything from single-family homes to high-density residential complexes; the key is that they are built within existing urbanized areas, not on the periphery. Even before the start of these high-rise residential developments, many County jurisdictions experienced substantial increases in population density between 1990 and 2005. Gains in density can be attributed in part to jurisdictions' efforts to increase multi-unit housing, and/or to rezoning for higher and more efficient uses (referring to land uses or patterns that will

reduce regional GHG emissions from automobiles or trucks by fostering efficient usage of transportation resources and infrastructure).

Additionally, many Orange County jurisdictions have already begun the process of more strategic growth, with higher densities and housing development concentrated around employment centers, transportation nodes, and transit options. Of the projected net gain of 139,907 housing units in the County between 2008 and 2035, about two out of every three units to be built will be infill/redevelopment that will use and be supported by existing infrastructure. An estimated 51,663 units are planned to be built on raw land (36.9%), but the remaining 88,244 units (63.1%), will be infill or redevelopment projects, demonstrating Orange County's increasingly strategic growth. Further, 38,821 units (27.7%) of the 2008-2035 new housing total will be single-family detached units, while 101,086 (72.3%) will be attached units which tend to be more affordable to a wider range of the regional income spectrum.

Infill development will likely prove an asset for the already-prominent Orange County economy. Young professionals to retirees alike are turning from suburbs to urban areas to find ease of movement and access to services offered by dense, vibrant mixed-use areas. The County already has most of the infrastructure of an urban metropolis, and as revealed by the OCP-2010 data and analysis, the County also has tremendous potential for providing compact, mixed-use development.

In terms of employment, between 2008 and 2020, Orange County is projected to generate 22,376 jobs. Research by Dr. John Landis, Chair of the City and Regional Planning Department at UC Berkeley, and other housing experts and planners, finds that a healthy ratio of housing to jobs is one housing unit for every 1.5 jobs. This ratio is also affirmed as a benchmark by Workforce Housing Scorecards created for Orange County, San Diego County, and Los Angeles County. Workforce housing is housing supply, type, and affordability sufficient to adequately house the broad spectrum of workforce employed in the region. Orange County is expected to create approximately one new housing unit for every 0.34 jobs, which is greater than the projected employment growth that will be required between 2008 and 2020. Between 2008 and 2035, Orange County is projected to create one housing unit for every 1.25 new jobs, resulting in a 2035 total of one housing unit for every 1.53 jobs, nearly matching the standard healthy ratio of 1.0 housing unit for every 1.5 jobs.

MEETING ORANGE COUNTY'S HOUSING NEEDS

The projected growth in Orange County housing units between 2008 and 2035 is sufficient to house the anticipated population growth in the subregion. In fact, Orange County will create more housing units than employment growth will require: one housing unit per 3.12 Orange County residents by 2020 and one housing unit per 1.50 jobs (one housing unit created for every 0.34 jobs created between 2008 and 2020).

The same is true for housing growth between 2008 and 2035. During this time period, Orange County is projected to create one housing unit for every 1.25 new jobs and one housing unit for every 3.28 new residents, resulting in a 2035 total of one housing unit for every 3.02 Orange County residents and one housing unit for every 1.53 jobs.

Of the new housing units created between 2008 and 2035, fully 63% will be created through infill or redevelopment projects. Further, 72% of the total housing units will be attached units, which tend to be more affordable to a wider range of the regional income spectrum.

Based upon Orange County's projected population and job growth, Orange County's projected housing unit supply growth is more than sufficient to meet the subregion's 8-year projected growth. Additionally, it is anticipated the mix and type of units identified through the OCP process will be ample to meet the needs of all income segments of Orange County's population.

Housing growth envisioned in the OC SCS is intended to be consistent with the SCAG region's Regional Housing Needs Assessment (RHNA). However, because the draft RHNA for the SCAG region will not be released until August 2011, it is not possible to address the RHNA or its context with the State housing goals in the OC SCS that is due to SCAG in June 2011. Therefore, it is anticipated that the RHNA and State housing goals will be addressed in SCAG's Regional SCS.

CHAPTER 2: EXISTING TRANSPORTATION SYSTEMS

INTRODUCTION

Orange County's population, housing, employment, and the transportation systems that support them are intricately connected. This chapter describes the transportation systems in place as of 2008, which are both foundational and influential to the socio-economic trends described in the previous chapter.

SB 375 requires the regional SCS to be included in the RTP. The base year for the 2012 RTP is 2008. For consistency, this year—2008—is also the base year for the subregional and regional SCSs. As outlined in the MOU between SCAG, OCCOG and OCTA, the OC SCS uses OCTA's LRTP to define the 2008 base year transportation system.

FREEWAY SYSTEM

Orange County's (County) travel network is anchored by an extensive freeway system that includes toll roads, express lanes, and the most comprehensive HOV network in the nation. As of 2008, the freeway system consisted of 1,100 lane miles of general-purpose travel lanes and 230 lane miles of HOV lanes. The system also included over 280 lane miles of toll roads and 40 lane miles of express lanes. Over 19 percent of the County's freeway system is comprised of priced facilities, the most sophisticated priced transportation network in California. Figure 41 illustrates the existing 2008 freeway system, which totals approximately 1,650 lane miles. The existing freeway system experiences high levels of congestion and delay during peak hours. According to the Orange County Long Range Transportation Plan, only half of the freeway system operates at the minimum acceptable level of service (LOS D), while the other half operates at or above capacity (14 percent at LOS E and 33 percent at LOS F), where speeds and travel times are highly impacted.

Orange County Sustainable Communities Strategy



Figure 41 Existing (2008) Freeway System

ARTERIALS AND LOCAL ROADS

The freeway system is complemented by an arterial roadway system that serves both regional and local travel. Since 1956, the Orange County Master Plan of Arterial Highways (MPAH) has served as the guiding plan for future roadway improvements. The existing 2008 number of lanes over the MPAH is illustrated in Figures 42A and B. Today, the arterial roadway system carries approximately one-half of the daily vehicle miles traveled in the County.

The arterial roadway system also experiences congestion during peak periods. About 10 percent of the system operates at or near capacity. The performance of the countywide system is also affected by the condition of the streets and roads. Potholes and damaged roadway infrastructure can reduce the operational capacity of roads, slow traffic, and contribute to traffic incidents. Local jurisdictions monitor the pavement conditions through a Pavement Management Plan, which is adopted and updated on a biennial basis.

RAIL AND BUS TRANSIT

The County is served by a commuter rail network (Metrolink) that provides both north-south and east-west service on three routes extending past the County's boundaries (Figure 43). The Southern California Regional Rail Authority (SCRRA) is the regional commuter rail agency for Southern California, and operates Metrolink commuter rail service as a joint powers authority (JPA) comprised of the transportation agencies in Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. Metrolink and Amtrak services connect Orange County to San Diego, Los Angeles, Riverside, Ventura and San Bernardino Counties. Amtrak's Pacific Surfliner inter-city rail service and Thruway Bus also operates in Orange County, serving stations in Fullerton, Anaheim, Orange, Santa Ana, Irvine, Laguna Niguel/Mission Viejo, San Juan Capistrano, and San Clemente, and has instituted limited stop service to improve cross-regional travel time. The California Department of Transportation Division of Rail manages and coordinates the intercity Amtrak rail passenger services in the region.

OCTA and local bus transit providers offer over 80 bus routes serving commuters that begin or end their trip within the County, as well as travelers within the County that need local and express bus services. OCTA operates 40 local fixed routes, 14 community and shuttle routes, five intra-county express routes, 13 StationLink Metrolink rail feeder routes and five inter-county express routes. In some cities, such as Anaheim, Brea, Buena Park, Irvine, Laguna Beach, and Laguna Woods, OCTA bus service is complemented by service provided locally, expanding the transit options available to County residents and commuters. Additionally, private providers of bus service and shared ride shuttles such as Greyhound, Disneyland Resort Express, and Airport Shuttle operate in Orange County. Public transit agencies serving adjacent counties also provide limited service into Orange

Orange County Sustainable Communities Strategy

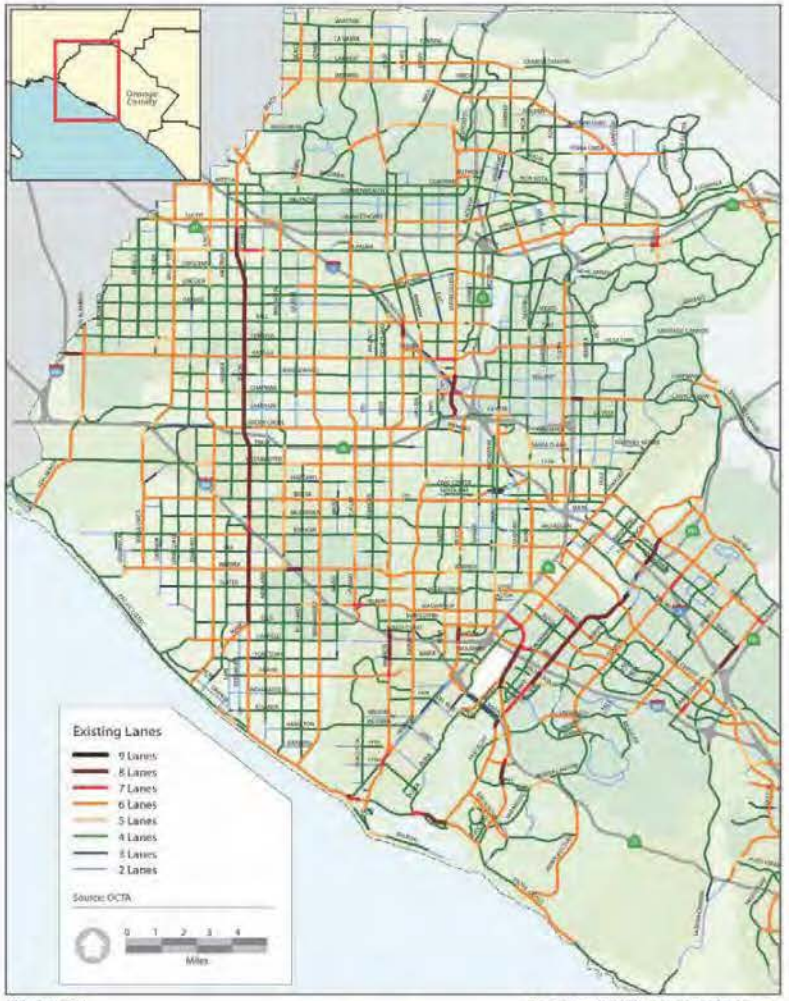


Figure 42A Existing (2008) Arterial Highways (North County)

Orange County Sustainable Communities Strategy



Figure 42B Existing (2008) Arterial Highways (South County)

Orange County Sustainable Communities Strategy

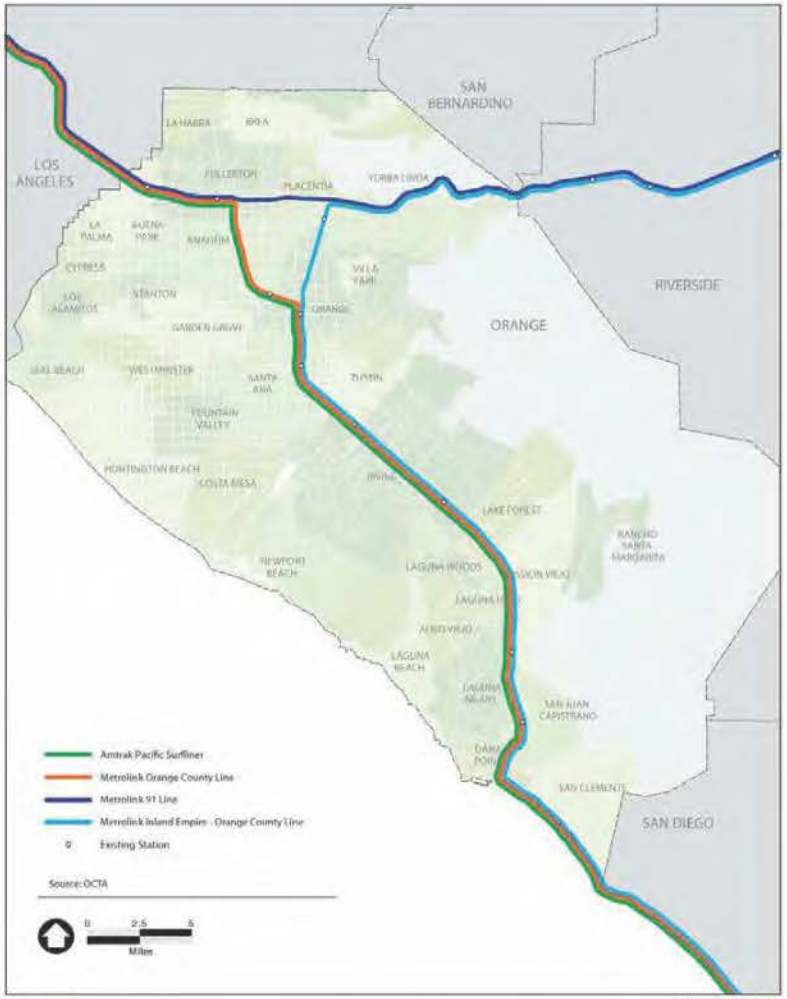


Figure 43 Existing (2008) Commuter Rail Network

County including Los Angeles Metro, Long Beach Transit, Norwalk Transit System, Foothill Transit, Riverside Transit Agency, and North County Transit District.

While there have been extensive investments in commuter rail and transit bus services within Orange County, ridership on public transit has declined during the recent economic crisis. The losses in sales tax and state funding revenues dedicated to transit operations, when combined with the decrease in fare revenue, created a need to reduce bus service levels by about 20 percent between 2008 and 2010.

BIKEWAYS

Orange County's transportation system includes over 1,000 miles of bikeways linking residential communities to employment and activity centers, and to transfer points to other types of transportation (Figures 44A and B). There are three classes of bikeways with different levels of infrastructure complexity. Class I bikeways are off-street paved bike paths which may be shared with pedestrians. Nine percent of the Orange County bicycle network are Class I bikeways. Class II bike lanes are on-road striped and signed bicycle lanes. Class II bike lanes comprise 65 percent of the Orange County bicycle network. Class III bike routes are on-road signed bicycle routes shared with automobiles. Class III bike routes represent 26 percent of the Orange County bicycle network. The bikeway network is denser in the coastal cities and in South Orange County. Bikeways connect business centers to residential areas in some jurisdictions including Irvine, Costa Mesa, and Newport Beach, and provide several good connections to Metrolink stations south of State Route 55 (SR-55).

All OCTA buses are equipped with bicycle racks, located at the front of the vehicle, with capacity to carry two bicycles at a time, expanding the number of potential destinations that can be reached by bicycle. Additionally, all iShuttle buses – which serve the Tustin Metrolink station - have bike racks. Bicycle lockers at Metrolink stations and bicycle racks on Metrolink trains provide safe and secure storage and transport of bicycles for train riders using a bicycle as an access mode to transit. These amenities encourage bicycle use by commuters.

PEDESTRIAN PROGRAMS

Pedestrian friendly environments improve the efficiency and connectivity of other modes of transportation, such as transit. A safe and attractive walking environment also furthers the goals of environmental sustainability by supporting reduced automobile dependence.

While not all public thoroughfares have sidewalks, there are many miles of sidewalks and walkways throughout Orange County that allow pedestrians to complete their trips without the use of motorized vehicles. Progress is being made in adding sidewalks to

Orange County Sustainable Communities Strategy

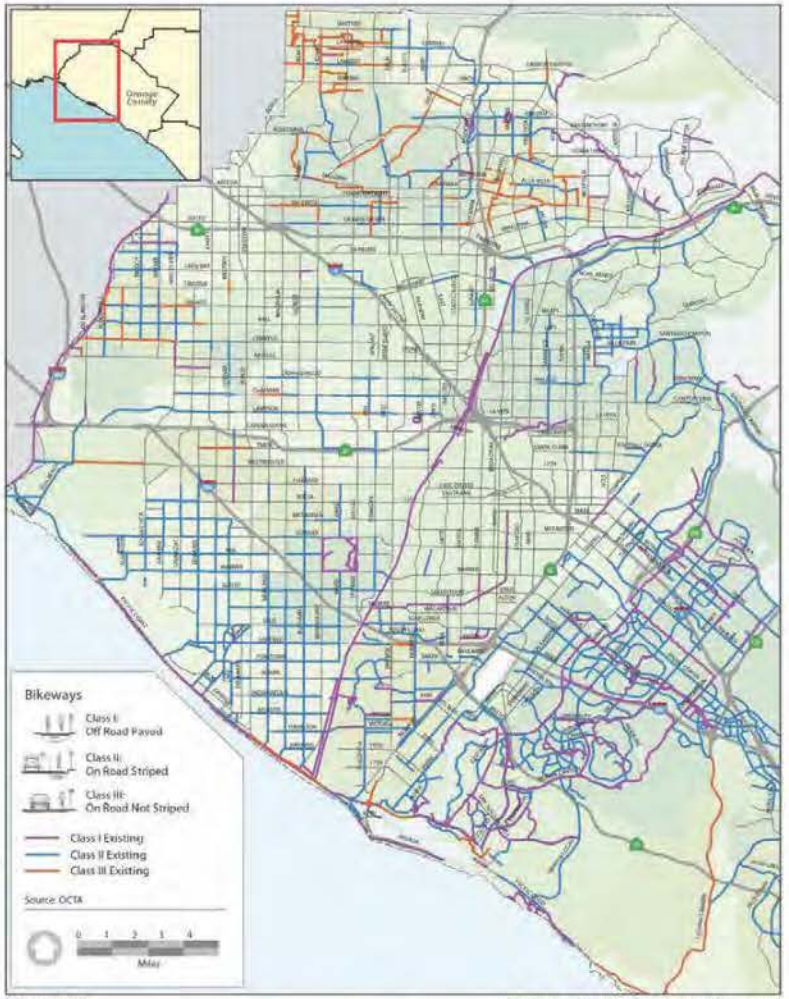


Figure 44A Existing (2008) Commuter Bikeways (North County)



Figure 44B Existing (2008) Commuter Bikeways (South County)

commercial areas that lack them, and in removing obstacles to pedestrian travel where they exist.

OCTA recently incorporated the requirements of the Complete Streets Act into the MPAH guidelines for roadway design and cross sections. This Act requires that jurisdictions' general plan circulation elements and transportation plans meet the needs of all roadway users, including pedestrians, bicyclists and transit users. These requirements will be reflected in the buildout of the MPAH proposed as part of the LRTP Year 2035 Preferred Plan.

DEMAND-RESPONSIVE SERVICES AND TRANSPORTATION DEMAND MANAGEMENT

The County's multi-modal transportation system includes other transportation-related services and programs that reduce demand for auto travel, increase the efficiency of the system, meet legal requirements, and mitigate impacts of freeways on adjacent communities:

- **Paratransit Service:** Demand-responsive transit services are provided for seniors, disabled, and other populations through ACCESS Services. This includes curb-to-curb service (standard), door-to-door service, and same-day taxi service, and meets the requirements of the Americans with Disabilities Act (ADA).
- **Taxi Operations:** The Orange County Taxi Administration Program (OCTAP) is responsible for issuing permits, controlling the number of providers, performing security checks, and monitoring insurance compliance for taxi companies in Orange County. The countywide system in 2010 consists of 25 companies and over 820 taxicabs.
- **Park-and-Ride Services:** Park-and-ride facilities encourage ridesharing, vanpooling, and transit use by providing transit users with a convenient centralized location to meet and connect with various transportation services. Park-and-ride facilities are located throughout Orange County. Park-and-ride facilities are publicly owned either by Caltrans, OCTA, or a local jurisdiction. Many of these facilities are located adjacent to a transit center or Metrolink station, expanding access to alternative transportation modes. Other sites are located on private property, typically in a parking lot owned by a religious institution or other use with low parking demands on weekdays, and leased by a public agency.
- **Rideshare Services:** OCTA participates in regional programs that provide support for carpools, vanpools, and other services that encourage ridesharing. This includes customer call centers, cross-county databases that link individuals

to carpools and vanpools, and support material (e.g., marketing, promotions, and training). A 2007 vanpool program has resulted in the creation of over 300 vanpools that have served over 230 destinations in the County.

- **Southern California 511 Motorist Aid and Traveler's Information System:** The Southern California 511 Motorist Aid and Traveler's Information System (MATIS) is a free traveler information service and provides traffic, transit, and commuter service information via toll-free number or website. The system was launched in Southern California in June 2010.
- **Freeway Call Boxes/Motorist Aid:** OCTA helps fund a network of freeway services to assist motorists in distress. Its call boxes, situated on freeway shoulders at intervals of a quarter mile, provide stranded motorists with the ability to access emergency services. In addition, OCTA funds a network of freeway service patrol tow trucks that monitor freeways to remove stalled vehicles from freeways and minimize the traffic jams that can severely hamper the functioning of the freeway system.

CHAPTER 3: STRATEGIES TO REDUCE GREENHOUSE GAS EMISSIONS

INTRODUCTION

The OC SCS coordinates transportation and land use planning in order to contribute to the reduction of GHG emissions in the SCAG region. This chapter begins with a brief review of practices already occurring in Orange County that integrate land use and transportation elements, or that are known to reduce or avoid the creation of GHG emissions. This is followed by the proposed strategies, collectively called sustainability strategies, set forth by this OC SCS to reduce GHG emissions.

A HISTORY OF INTEGRATING LAND USE AND TRANSPORTATION AND IMPLEMENTING ACTIVITIES

The integration of land use and transportation is not new to Orange County. Examples of integrated planning and community development efforts in Orange County abound; several are described below. On one hand, significant development-related planning has occurred tying a broad range of infrastructure—including transportation—to development. On the other hand, significant transportation-related planning has also occurred whereby land uses are developed and created to maximize the use of transportation systems, such as transit-oriented development near Metrolink routes and development of housing and employment centers along major arterials.

Planned Communities

A significant portion of Orange County was developed as part of master planned communities, where—on a large-scale basis—specific attention was given to the relationship between the planned land uses and the infrastructure needed to support those uses, from transportation to water and waste, to recreation and open space. Examples of planned communities in Orange County that integrated transportation and land use planning include the City of Aliso Viejo, City of Irvine, City of Mission Viejo, City of Rancho Santa Margarita, and the communities of Anaheim Hills, Coto de Caza, Tustin

Ranch, Talega, and Ladera Ranch. Within these communities the integration of transportation into the overall plan was an explicit planning objective. The linkage of transportation and land use minimizes the effects of vehicle travel within these communities.

Traditional Neighborhoods

Many of the older neighborhoods of Orange County were built before car travel was common. Most Orange County cities with historic downtowns still retain patterns of compact development, grid-pattern streets, live-work mixed uses, pedestrian access to local services and neighborhood grocery stores, and most are served by rail or bus service.

Master Plan of Arterial Highways

The MPAH was established in 1956 and is continuously updated to reflect changing development and traffic patterns throughout the County. The MPAH defines a network of surface roadways, showing both built and planned arterial streets that are necessary to serve existing and planned land uses in the County. OCTA is responsible for administering the MPAH, including the review and approval of amendments requested by local agencies. In order to be eligible to receive Measure M2 (M2) funds, cities and the County must ensure their local circulation elements are consistent with the MPAH.

In response to the State of California's recent passage of the Complete Streets Act, OCTA recently amended the MPAH guidelines to encourage local jurisdictions to consider and evaluate all mobility needs when requesting modifications to the MPAH.

Congestion Management Program

With the passage of the Proposition 111 gas tax increase, in 1990, came the requirement for urbanized areas in California to adopt a Congestion Management Program (CMP). The Orange County CMP is regularly updated every two years by OCTA to address and monitor transportation system performance issues. The CMP includes elements developed in coordination with local jurisdictions, the California Department of Transportation, and the South Coast Air Quality Management District. These elements aim to effectively manage traffic congestion and improve regional mobility and air quality. They include the following:

- Traffic LOS Standards
- Transit Service Performance Measures
- Promotion of Transportation Demand Management
- A Capital Improvement Program

- A Land Use Impact Analysis Program
- Deficiency Plan Procedures

Every two years, OCTA monitors local conformance with the CMP. In 2009, OCTA found that all local jurisdictions were in conformance with the CMP. To ensure consistency among CMPs within the SCAG region, OCTA submits each biennial update to SCAG. As the regional planning agency, SCAG evaluates consistency with the Regional Transportation Plan and with the CMPs of adjoining counties, and incorporates the program into the Federal Transportation Improvement Program, once consistency is determined.

OCTA's Mitigation and Resource Protection Program (MRPP)

M2 includes a comprehensive Environmental Mitigation Program that provides landscape-level mitigation to offset environmental impacts for the 13 freeway improvement projects using five percent of M2 freeway program revenue. OCTA is implementing the mitigation program through a collaborative partnership with CDFG, USFWS, Caltrans, and the environmental community.

The M2 mitigation program was among a handful of projects identified by the OCTA Board of Directors that allowed for early planning, advance funding, and implementation. Approximately $42 million has been authorized for the acquisition and long-term management of natural lands as part of the M2 Environmental Mitigation Program. As of June 2011, OCTA has purchased four properties totaling approximately 900 acres through this program (Saddle Creek South ≈ 84 acres, Hayashi ≈ 296 acres, O'Neill Oaks ≈ 119 acres, and Ferber Ranch ≈ 399 acres).

Additional funds are anticipated to be available in the future; the specific amount of funds available will be dependent on the revenue stream from the sale tax measure. A suite of the most biologically valuable properties and those that most closely align with the freeway impacts are under consideration and/or negotiation. This program is conducted through a voluntary process, similar to private open market transactions. Offers have been made to a number of properties and it is conceivable that the initial funding allocation could yield over a thousand acres of acquired open space properties throughout Orange County. OCTA will receive streamlined permits from the resource agencies for its freeway projects.

These protected open space areas provide GHG emissions reduction benefits, by promoting densification of urban areas and impeding sprawl. More compact development encourages fewer, shorter trips, which also help reduce greenhouse gas emissions associated with passenger vehicles.

TCA's Open Space Mitigation Programs

The TCA has an existing 2,200-acre open space mitigation program that is integral to the development of the 67-mile public toll road network. This open space mitigation program includes the Live Oak Preservation Area, Chiquita Canyon, Bonita Creek and portions of Limestone Canyon.

In 1996, TCA placed a conservation easement over a 1,182 acre area, known as Upper Chiquita Canyon. The conservation area was originally planned for development as a golf course and residential area. The TCA has been actively managing the site since 1996 and increasing its habitat values. In 2005, TCA acquired the Live Oak Preservation Area, a 23.2-acre site that sits east of the 241 Toll Road at El Toro Road and Live Oak Canyon. The Bonita Creek Mitigation Site comprises approximately 40 acres of wetland and coastal sage scrub, and is the main wildlife link from Upper Newport Bay to the San Joaquin Hills. The Cactus Wren Habitat Linkage and Restoration Project includes planting cactus in a habitat corridor used by the federally threatened California gnatcatcher bird along the wildlife linkage area that parallels the 73 Toll Road from Upper Newport Bay south through Bonita Channel to Coyote Canyon.
These protected open space areas provide GHG emissions reduction benefits from carbon sequestration. As described above, extensive protected open space contributes to a more compact development form for Orange County, which encourages infill development and fewer, shorter trips, which also help reduce greenhouse gas emissions associated with passenger vehicles.

SUSTAINABILITY STRATEGIES

Particular to the development of the OC SCS, local jurisdictions throughout Orange County were polled about the strategies and policies employed within their cities or the unincorporated areas of the County of Orange. Collectively, they used over 30 different tiered measures tied to reducing greenhouse gas emissions. Many of these measures relate to reducing vehicle miles traveled, such as approving compact building designs with a mix of uses, improving the accessibility of housing to transit, and increasing housing densities within or adjacent to employment. Other measures promote green building and efficiencies, such as developing model green development and green building laws or enhancing energy efficient code enforcement.

Key sustainability strategies related to land use and transportation employed within Orange County are provided below. A listing of Sustainability Strategies being practiced in Orange County is provided in Appendix F. Existing and planned land uses for all

jurisdictions comprising Orange County are provided in the General Plans for jurisdictions, included as Appendix I.

OC SCS Sustainability Strategy A:
Support Transit-Oriented Development.

Creating development around a transit hub can increase people's access to and use of transit. This may shift trips from cars to transit leading to reduced vehicle trips, vehicle miles traveled and greenhouse gas emissions. Several land use actions can support transit-oriented development, including mixed-use development within walking distance of transit facilities, increasing housing density near transit, increasing employment density near transit, and providing transit-oriented amenities. Further, transit agencies may provide new or increased service to a transit hub, positively compounding the use of transit and reduction in vehicle trips. (Sources: ***Draft Policy Brief on the Impacts of Transit Access***, Gil Tal and Susan Handy, UC Davis and Marlon G. Boarnet, UC, Irvine for California Air Resources Board, 2010; and ***Driving Change: Reducing Vehicle Miles Traveled in California***, Louise Bedsworth, Ellen Hanak, Jed Koiko, Public Policy Institute of California, 2011.)

The Metrolink Service Expansion Program (MSEP) will increase the frequency of mid-day rail service through the core of Orange County. This program is expected to begin implementation in 2011. The Measure M2 Go Local Program (M2) (described in greater detail below) will address increases in demand induced by the rail improvements through development of feeder services between rail stations and key destinations. OCTA is also undergoing the Transit System Study to determine where and how to increase public transportation service oriented to existing and future land use and maximizing ridership.

In Orange County, seven jurisdictions report having implemented transit-oriented development policies. New development has already occurred adjacent to, and taking advantage of, transit infrastructure in many jurisdictions. Examples include the following:

- Founders Walk in Buena Park
- SoCo Walk in Fullerton
- The Platinum Triangle in Anaheim
- Depot Walk in Orange
- The Transit Zoning Code in Santa Ana

OC SCS Sustainability Strategy B:
Support infill housing development and redevelopment.

Developing new housing in existing urbanized areas—also known as "infill development"—helps to avoid urban sprawl. Because the majority of Orange County is already developed, and there is limited vacant, buildable land, when infill housing development occurs, it creates an overall increase in housing density throughout the County. As recently as 2004, almost 50% of new residential development in Orange County was infill housing, primarily multiple-family dwelling units. This trend is expected to continue in the future, with 63% of housing units projected from infill or redevelopment between 2008 and 2035.

Infill development can help reduce the number of miles residents have to travel between home and work or other activities, which in turn reduces freeway and arterial congestion and related GHG emissions. Increased housing density has been linked to reduced vehicle travel and related GHG. Policies that support increased housing infill development and residential density therefore support reduced vehicle miles traveled (VMT) and reduced GHG.

Jurisdictions may promote higher residential densities through combinations of infrastructure, zoning, or public finance policies that encourage higher densities—for example, relaxing minimum lot size requirements, increasing the density of allowed development, or focusing development around transit stations. (Source: ***Draft Policy Brief on the Impacts of Residential Density***, Susan Handy, UC Davis and Marlon G Boarnet, UC, Irvine for California Air Resources Board, 2010)

In Orange County, several jurisdictions have adopted land use policies that support infill development and increased housing densities. Seven jurisdictions have reported General Plan policies to add new housing and jobs within a half mile of existing or planned transit stations. Twelve cities have General Plan policies that allow increased residential or commercial density near transit. And twelve cities have General Plan policies that promote accessibility of housing to transit.

OC SCS Sustainability Strategy C:
Support mixed-use development and thereby improve walkabilty of communities.

Jointly developing different types of land uses together within a building, a set of buildings or a specific area is referred to as "mixed use" development. Locating land

uses such as housing, essential neighborhood-serving retail, and employment together may result in shorter distances between individuals' destinations. This facilitates both lower VMT and the use of non-motorized transportation such as walking and biking. (Source: ***Draft Policy Brief on the Impacts of Land Use Mix***, Steve Spears and Marlon G. Boarnet, UC Irvine and Susan Handy, UC, Davis for California Air Resources Board, 2010.)

Nineteen Orange County jurisdictions have developed or planned mixed use communities with housing, employment, retail and recreational facilities co-located. A total of 20 jurisdictions have General Plan policies supporting horizontal or vertical mixed use. Some jurisdictions have created "walkable communities" designed specifically to promote pedestrian use as an alternative to automobile travel. Nineteen jurisdictions have General Plan policies to improve the pedestrian environment through either beautification or facilities construction. Projects to improve the pedestrian environment are ongoing in 25 Orange County jurisdictions.

OC SCS Sustainability Strategy D:
Increase regional accessibility in order to reduce vehicle miles traveled.

Regional accessibility is the ease with which destinations can be reached throughout a region; it encompasses both the proximity of housing to potential destinations like employment, shopping and recreation, and the transportation links to those destinations. Higher regional accessibility results in shorter travel distances on roadways to potential destinations, thereby reducing VMT. When there is higher regional accessibility via a transit system, residents may choose transit or another mode over using an automobile. On the other hand, higher regional accessibility can increase trips, so this may lead to more vehicle miles traveled. In short, the significance of the impact of regional accessibility on VMT depends on the combination of these different effects. (Source: ***Draft Policy Brief on the Impacts of Regional Accessibility***, Susan Handy and Gil Tal, UC Davis and Marlon G. Boarnet, UC Irvine for California Air Resources Board, 2010).

An example of regional accessibility is seen in the Coto de Caza General Store. This store, which has been in existence for over 20 years, serves the community as a local grocery store and deli. While this may seem a commonplace element of any number of neighborhoods in Orange County, it illustrates the importance of the proximity of housing (in the neighborhoods close to the general store) to potential destinations (the grocery/eatery) thereby reducing the need for vehicle trips for residents to pick up household essentials. Regional accessibility is influenced by historical land use and

transportation patterns, which may be preserved and enhanced through land use and transportation policies.

OC SCS Sustainability Strategy E:
Improve jobs to housing ratio.

The concept of creating an improved ratio of jobs to housing suggests that when residence and work locations are closer together, people's travel distance to and from work will be reduced. This, in turn, will reduce vehicle-related greenhouse gas emissions. Policies related to an improved jobs-housing ratio are intended to shorten commute distances (this strategy focuses on work travel as opposed to shortening all travel as described in the regional accessibility strategy described above). Fourteen Orange County jurisdictions have General Plan policies to increase housing density near employment areas. Factors influencing jobs-housing ratio include the necessary match between worker skills and type of jobs, as well as other amenities that might attract residents to a specific area. However, studies show an association between an improved ratio of jobs to housing and reduced VMT. (Source: ***Draft Policy Brief, Impact of Jobs-Housing Balance on Passenger Vehicle Use***, Marlon G. Boarnet and Hsin-Ping Hsu, UC Irvine and Susan Handy, UC Davis for California Air Resources Board, 2011.)

OC SCS Sustainability Strategy F:
Promote land use patterns that encourage the use of alternatives to single-occupant automobile use.

This strategy covers multiple activities undertaken by local jurisdictions. Strategies range from constructing pedestrian and bicycle facilities and improving linkages between these facilities to implementing site planning and design strategies that promote alternative transportation, to parking preferences for rideshare vehicles to support of transit facilities and amenities.

Because a large number of practices fall within this strategy, a few have been selected to highlight parking strategies and bikeway/pedestrian facilities:

- Expansion of parking facilities at all Metrolink stations as part of Metrolink Service Expansion Program.
- Incentivizing affordable housing projects through reductions in parking requirements in Anaheim.

- Preferential parking for alternative fuel vehicles in Huntington Beach.
- Completion of sidewalk system in the Irvine Business Complex as part of developer fee program.
- Promotion of bicycle sharing project in Garden Grove.
- Development of bicycle facilities plan in Newport Beach.
- Review of Downtown Specific Plan for human scale activity in Fullerton.

OC SCS Sustainability Strategy G:
Support retention and/or development of affordable housing.

Because available land is scarce in Orange County, housing will grow primarily in terms of increasing density. Increased housing density affords greater variety in housing type (i.e., multi-family, flat, apartment, condominium, high-rise, etc.) and increased supply contributes to housing affordability. Increasing the supply of affordable housing within Orange County may result in workers living closer to their jobs, thereby reducing vehicle miles traveled and urban sprawl. The densification of housing is forecast to accommodate population growth and locate residents proximate to employment centers, shopping and recreation opportunities and major transportation routes, including the High Frequency Corridors and Metrolink stations.

One of the sustainability strategies identified for reducing GHG emissions is a land use strategy for local jurisdictions to provide affordable as well as market rate housing. Among the jurisdictions that responded to the survey of sustainability strategies, 12 indicated they have completed projects within Orange County employing this land use strategy, and 18 additional jurisdictions report ongoing projects. There are 14 planned future projects that provide affordable housing and 20 local jurisdictions report General Plan policies that promote this strategy.

OC SCS Sustainability Strategy H:
Support natural land restoration and conservation and/or protection offering significant carbon mitigation potential via both sequestration and avoidance of increased emissions due to land conversion.

Leverage existing regional conservation efforts that lead to reduced carbon emissions. Superior resource management, restoration, and resource land protection are emerging means of emissions avoidance or reductions. This conservation or protection may occur through the purchase of natural resource lands. There are a multitude of

benefits and co-benefits for this strategy including decreased need for future infrastructure in less developed regions of the county; avoidance of construction, household, and infrastructure emissions; and avoidance of VMTs that would have been generated if the land was converted.

The OC SCS, by leveraging existing conservation efforts such as Renewed Measure M's Mitigation Program, can lead the way for strategic open space/resource protection as a means of reducing the County's carbon footprint and meeting the goals of SB 375. Through this strategy, local jurisdictions and other organizations may align their planning priorities and land use decisions together with funds necessary to purchase and preserve natural lands. Jurisdictions and organizations have the option to invest early in this open space strategy which offers both near-term and long-term GHG emissions avoidance benefits.

Another example of protected natural lands is the TCA's open space mitigation program described above, which includes the following protected natural lands:

- Cactus Wren Habitat Linkage and Restoration Project (Completed)
- Bonita Creek Mitigation Site (Completed)
- Chiquita Canyon Conservation Area (Partially Completed)
- Live Oak Preservation Area (Planned)

OC SCS Sustainability Strategy I:
Eliminate bottlenecks and reduce delay on freeways, toll roads, and arterials.

Freeway Vision

The freeway vision provides guidance for prioritizing freeway projects within the financially constrained Preferred Plan for the Orange County LRTP.

In order for the freeway vision to serve its intended purpose, and to make certain it contributes toward meeting the OC SCS goals and objectives, the following guiding elements are identified:

- Deliver committed projects, including M2
- Expand access for high-occupancy vehicles
- Improve freeway system operations
- Consider recent transportation studies
- Promote environmental sustainability
- Seek additional funding opportunities

Deliver Committed Projects, including M2

As of 2008, the Orange County freeway network has about 1,650 lane miles in operation, including HOV lanes and toll facilities. The voter-approved M2 program plans for numerous improvements to Orange County freeways, adding roughly 155 lane miles to the system.

Additionally, a number of freeway projects are not part of M2 but have funding commitments within the Federal Transportation Improvement Program. These committed projects will also enhance freeway accessibility and add about 100 lane miles to existing toll facilities and about 90 lane miles of new toll facilities. These improvements (Figure 45) will benefit every mode of travel on Orange County freeways, from single-occupant commuters to commercial truckers.

Expand Access for High-Occupancy Vehicles (HOV)

The continuous access HOV project on the Garden Grove (SR-22) Freeway opened to the public in May 2007, and was the first of its kind in Southern California. Since then, continuous access was expanded on the portion of the Costa Mesa (SR-55) Freeway, between the Riverside (SR-91) Freeway and the Santa Ana (I-5) Freeway. Figure 46 highlights the expansion of the continuous access HOV program. Additionally, through the committed improvements identified in the LRTP, OCTA plans to expand the HOV network by roughly 20 lane miles.

Priced Transportation Travel Options

The Orange County toll road and express lane network currently consists of the San Joaquin Hills Transportation Corridor (SR-73), portions of the Laguna Freeway (SR-133), the Foothill Transportation Corridor (SR-241), and the Eastern Transportation Corridor (SR-261), managed by the Transportation Corridor Agencies, as well as the OCTA-operated 91 Express Lanes on the Riverside (SR-91) Freeway. These facilities total about 325 lane miles and allow the traveling public the option to pay a fee in order to use a more direct and/or less congested route.

The committed improvements contained in the Orange County LRTP and the OC SCS will expand the toll network to roughly 520 lane miles. To leverage these committed investments, priority was given to projects that enhance connectivity between toll facilities in an effort to provide a seamless free-flowing network throughout the County.

Consider Recent Transportation Studies

In recent years, several major investment studies (MISs) have been completed for some of Orange County's most heavily-traveled corridors. MISs study multimodal corridors, collect input from elected officials and the public, and find consensus on a locally

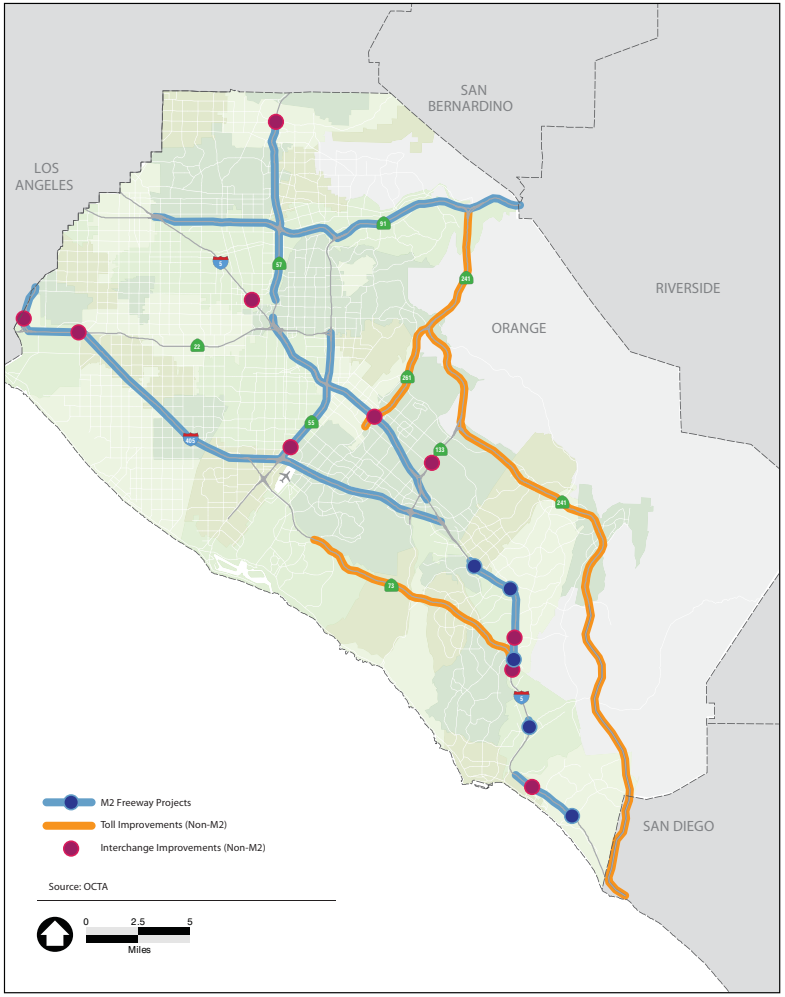


Figure 45 Orange County
Committed Freeway Improvements

Orange County Sustainable Communities Strategy

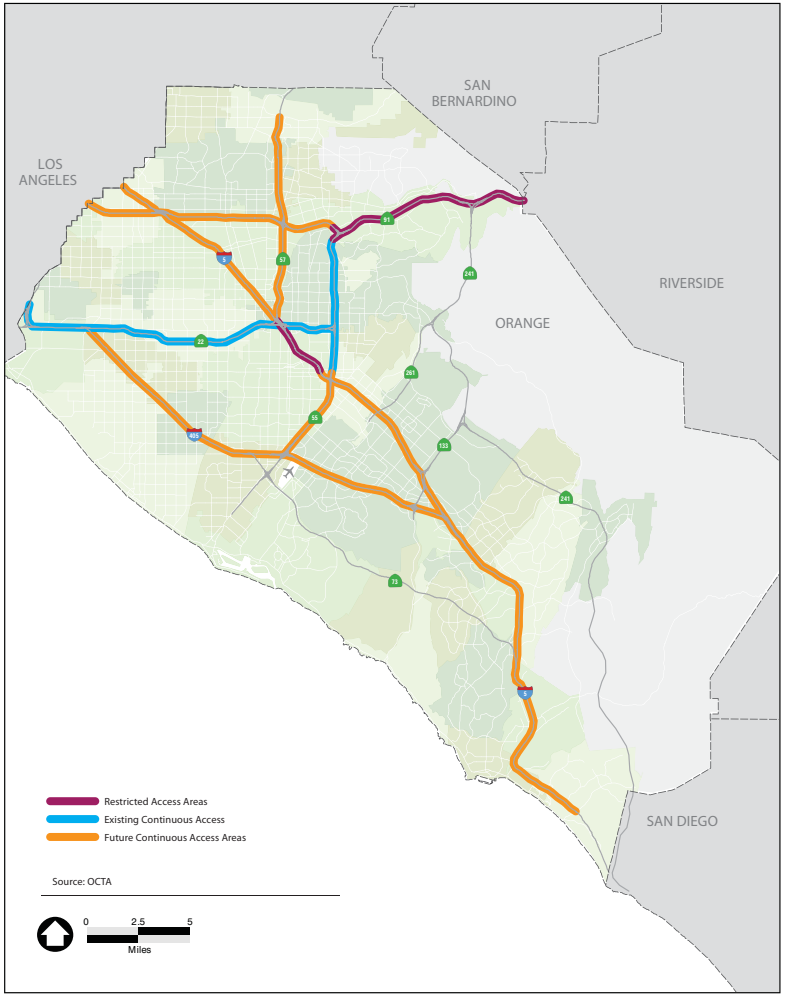


Figure 46 Orange County
Continuous Access HOV Program

preferred alternative that identifies the best projects for Orange County. In addition, Caltrans is currently completing a series of Corridor System Management Plans (CSMPs).

As a result of these studies, Caltrans and OCTA are cooperatively considering augmenting many freeway/tollway-related Transportation System Management (TSM)/Transportation Demand Management (TDM) investments. These investments could include, but are not limited to, increased support for park-and-ride lots, directional lanes, enhanced use of electronic message boards, and improved incident and event management strategies. The Orange County LRTP and OC SCS incorporate selected locally preferred alternatives from the OCTA MISs into the preferred and unconstrained plans. OCTA will also coordinate with Caltrans and consider the proposed improvements from the CSMPs.

Promote Environmental Sustainability

New state requirements for greenhouse gas emissions brought on by SB 375, along with previously existing air quality requirements, have brought environmental concerns to the forefront of planning. Pricing and other TDM and TSM methods will need to be looked at more closely in order for Orange County to contribute toward improving air quality. As previously mentioned, the M2 Mitigation and Resource Protection Program is providing for coordinated environmental benefits on a regional scale rather than a piecemeal project-by-project approach. The mitigation program is currently being implemented under an agreement among OCTA and state and federal resource agencies.

OC SCS Sustainability Strategy J:
Apply Transportation System Management and Complete Street practices to arterials and freeways to maximize efficiency.

Arterial Roadways

Streets and roads form the foundation of Orange County's transportation system. This transportation infrastructure provides residents and commuters with access to the County's freeway network, the OCTA bus system, and it connects residential neighborhoods to jobs, schools, and services.

Master Plan of Arterial Highways

The MPAH was established in 1956 to provide a roadmap for the implementation of a countywide network of roadways that follow consistent standards and design guidelines. Recently, OCTA completed the Regional Capacity Needs Assessment study, which

identifies priority street improvement projects that would be eligible for funding under M2 programs. M2, passed by Orange County voters in 2006, ensures the continuation of an important local funding source for the continued implementation of the MPAH.

The current MPAH reflects the existing roadway plans for the 34 Orange County cities and the County of Orange (Figures 47A and B). Implementation of the MPAH is essential to ensuring the mobility of Orange County residents and commuters into the future. Implementation of the MPAH, along with the complementary elements of the County-wide transportation network, results in a system that operates with improved levels of service when compared to 2008 conditions.

Complete Streets

In 2007 the State of California passed the Complete Streets Act. This act requires local jurisdictions to consider and evaluate the needs of all users of the roadway, including pedestrians, bicyclists, users of public transit, motorists, children, the elderly, and the disabled when they update their General Plans. Orange County cities will comply with the state law when updating the Circulation Elements of their General Plans. Some cities such as Santa Ana, Irvine, and Huntington Beach report they have already begun to adopt and implement a complete streets policy. In addition, OCTA recently amended the MPAH Guidelines to encourage local jurisdictions to consider and evaluate all mobility needs when requesting modifications to the MPAH.

Traffic Light Synchronization Master Plan

In the past, the traffic signals on individual roadways could be coordinated within the boundaries of a particular city, but not necessarily across city limits to the neighboring city. OCTA and local jurisdictions have initiated the Traffic Light Synchronization Master Plan, targeting key roadway corridors throughout Orange County for the implementation of a regional traffic signal synchronization program.

OCTA recently conducted two traffic signal synchronization demonstration projects to examine the potential benefits of regional traffic signal synchronization. Oso Parkway in South County and Euclid Avenue in North County were designated as the demonstration corridors for this program. Both projects showed substantial improvements to travel time and congestion levels within the individual corridors. The success of these demonstration projects led to the development of the Traffic Light Synchronization Master Plan and the identification of a County-wide network of synchronized corridors, allowing for more efficient travel across multiple jurisdictions.

Further, all Orange County jurisdictions adopted a local signal synchronization plan identifying traffic signal system routing consistent with the Regional Traffic Signal Synchronization Master Plan. The implementation of this plan begins with 10 regional

corridors. Eventually, signal synchronization will be implemented along 750 miles of roadways and at over 2,000 intersections (Figure 48). Completion of the traffic signal synchronization projects is a key element of the LRTP and these improvements are funded by M2, local match requirement, and Proposition 1B.

Roadway Pavement Management Plan

Ongoing roadway maintenance is an important element to ensuring that roadways operate at peak efficiency and service levels, and that travelers can move safely and conveniently. As a condition for receiving M2 funds, each city and the County must have a certified Pavement Management Plan, which includes an inventory of pavement conditions, identification of needed pavement rehabilitation or replacement, and a budget to complete the required maintenance.

Transportation System Management. While expansion of the transportation system is vital to responding to the growing needs of Orange County, making the existing system operate as efficiently as possible is critical. TSM strategies are designed to maintain and preserve the transportation system and ensure that it functions at an optimal level. OCTA is activity participating in or exploring several TSM strategies.

Caltrans already incorporates TSM and TDM strategies on many of their facilities, such as metered ramps, traffic monitoring technologies, and park and ride lots, which contribute to improved freeway performance. However, if further investments are made cooperatively with OCTA, there is potential to increase the efficiency of Orange County's facilities. These investments could include, but are not limited to, increased support for park and ride lots, directional lanes, enhanced use of electronic message boards, and improved incident and event management strategies. Augmenting these TSM strategies from the LRTP are sustainability strategies employed by jurisdictions in Orange County, such as improving circulation efficiency through signage, and implementing operational improvements to relieve bottlenecks.

ITS. Technology has long played a role in transportation, from communication and scheduling systems for buses and rail services to vehicle detection sensors under the pavement that control traffic signals. More and more agencies are using technology and applying it regionally so that freeways, roadways, and transit vehicles operate more cohesively and carry more people without needing more lanes or transit vehicles. Intelligent Transportation Systems (ITS) are used to improve the operational efficiency, effectiveness, and safety of ground transportation. ITS technology includes ramp metering, bus fleet management and signal priority, and computerized traffic signal systems. Examples of these systems include the following:

Orange County Sustainable Communities Strategy

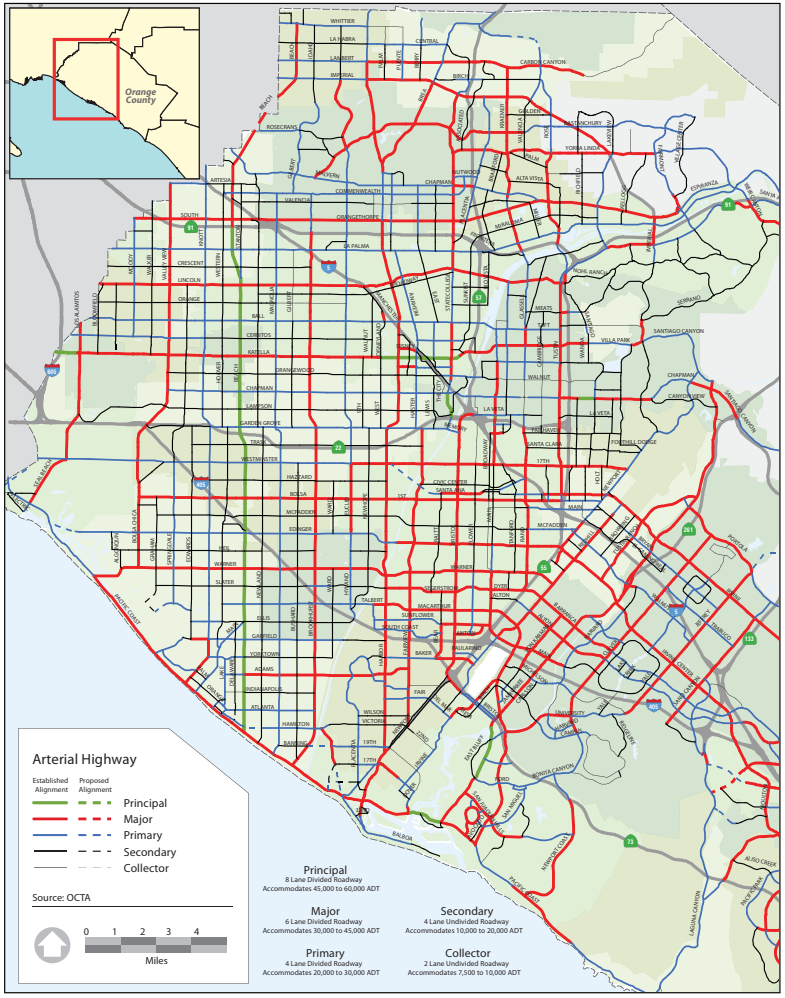


Figure 47A Orange County Master Plan of Arterial Highways (North County)

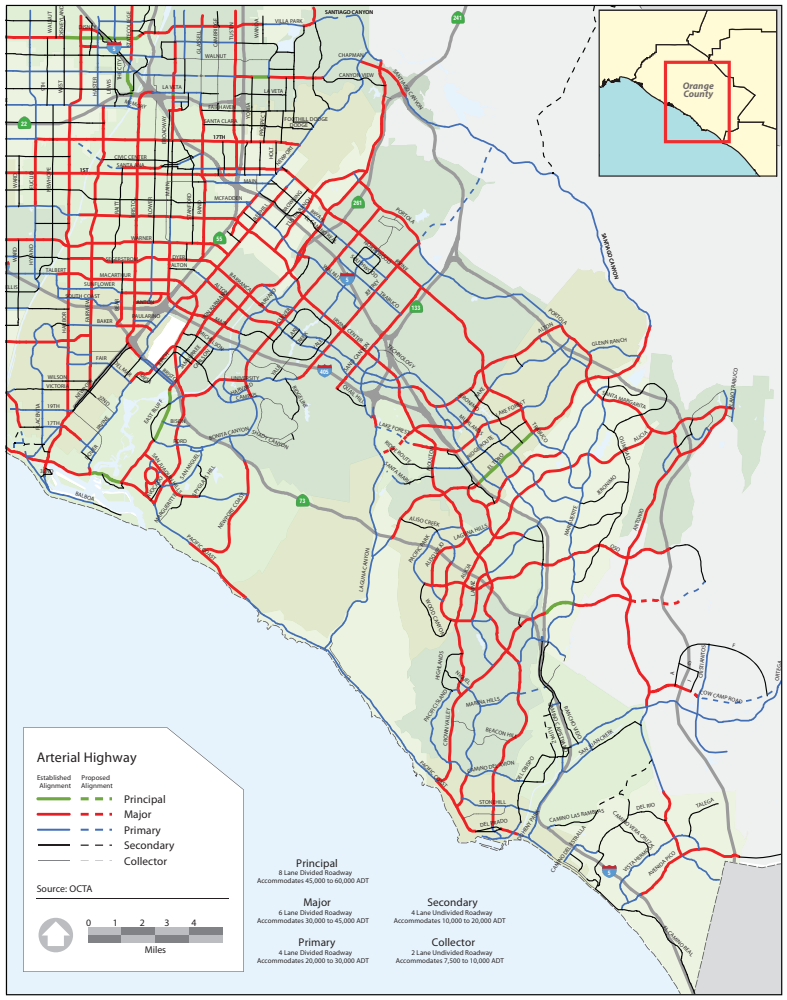


Figure 47B **Orange County Master Plan of Arterial Highways (South County)**

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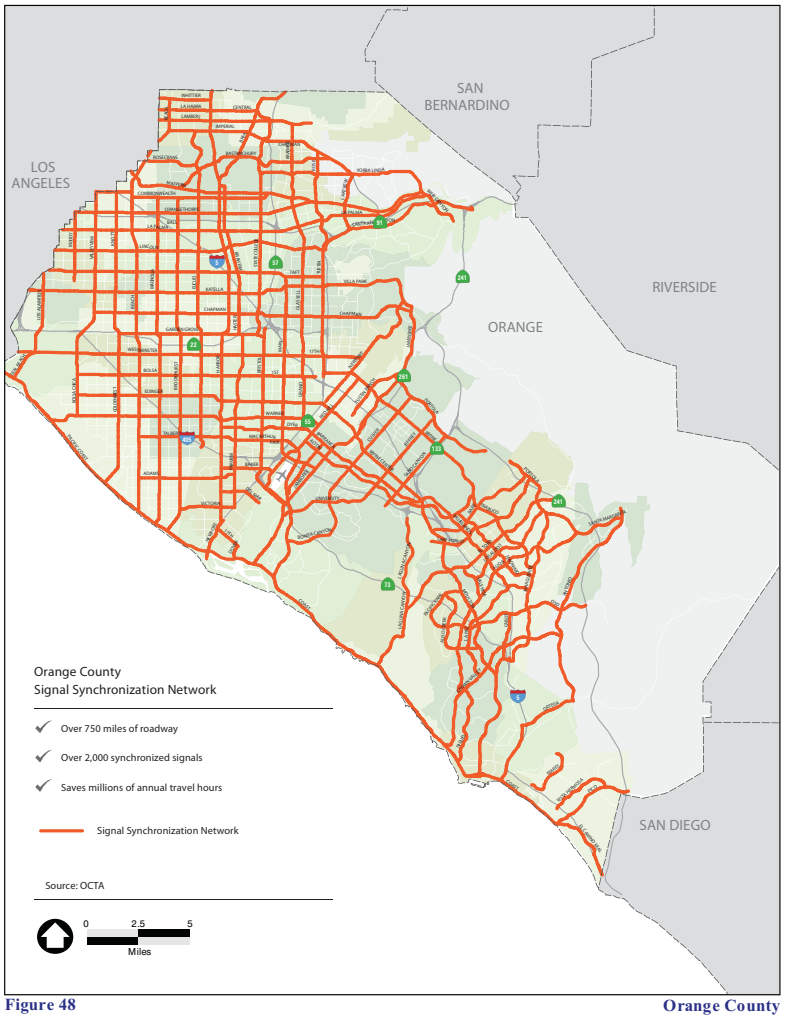


Figure 48 **Orange County Signal Synchronization Plan**

- Arterial management (traffic control, surveillance, information dissemination, parking management, and travel information systems)
- Freeway management (lane management, ramp control, surveillance, information dissemination, special event management, and travel information)
- Crash prevention and safety (warning systems)
- Transit management (operations and fleet management, information dissemination, transportation demand management, and safety and security management systems)
- Electronic payment and pricing (toll collection, pricing, transit fee, parking fee and multi-use payment systems)
- Commercial vehicle operations (credential administration, safety assurance, electronic screening, carrier operations/fleet management, and security operations systems)
- Intermodal freight (freight tracking, asset tracking, freight terminal processes, drayage operations, international border crossing process, and freight-highway connection systems)

Traffic accidents, stalled vehicles, weather-related congestion, and special events at major attractions are all examples of occurrences that can cause nonrecurring congestion. Because nonrecurring congestion is not always predictable, traditional solutions such as adding lanes are not always effective. ITS solutions can help relieve this type of congestion by identifying the type of incident and developing a response plan, such as dispatching assistance or providing information to motorists.

Orange County has developed a framework for coordinating all future ITS projects, called the Orange County Regional ITS Architecture. OCTA, Caltrans, the Federal Highways Administration, and Orange County jurisdictions have collaborated on this foundational plan, which has a 10-year time frame. Orange County's ITS plan is integrated with the Southern California Regional ITS Architecture, completed by the SCAG. It is part of a nationwide mandate to establish national standards and common or interchangeable technologies for transportation management.

OCTA currently uses ITS technologies for a number of purposes ranging from supervising bus fleets to managing traffic on the Riverside (SR-91) Freeway express lanes. In addition, OCTA is in the process of identifying opportunities to implement ITS projects throughout the County within the Orange County Regional ITS Architecture framework.

OC SCS Sustainability Strategy K:
Improve transit modes through enhanced service, frequency, convenience, and choices.

Public Transit Network

Orange County's existing public transportation network is described in detail in Chapter 2. Orange County is served by Metrolink commuter rail service and Amtrak's Pacific Surfliner intercity rail service connecting Orange County to San Diego, Los Angeles, Riverside, San Bernardino, and Ventura Counties. OCTA operates local fixed route bus service, community shuttle routes, StationLink Metrolink rail feeder routes, and express bus routes both within and outside the County. OCTA bus service is complemented by local transit service in the cities of Anaheim, Buena Park, Irvine, and Laguna Beach. Losses in sales tax and state funding revenues, combined with a decrease in fare revenue during the recent economic crisis created a need to reduce bus service levels by about 20 percent between 2008 and 2010.

The transit strategy identifies broad objectives for prioritizing future transit improvements to meet future demand as effectively and efficiently as possible. These objectives will serve to meet as much of the forecast transit demand as financially feasible and support OCTA's existing transit goals:

- Target high-demand corridors for improvements to fixed-route frequencies and hours of operations
- Initiate bus rapid transit (BRT) services
- Invest in Metrolink and Go Local feeders, and support California high-speed rail
- Explore express bus opportunities
- Improve access to regional bus service and local destinations with community circulators and rideshare programs
- Coordinate service planning with local land-use agencies
- Seek to restore transit funding from state and federal sources, as well as new funding and savings for transit operations

Target High-Demand Corridors and Initiate BRT Service

High-demand transit corridors are identified as corridors that received 15-minute or better peak-period headway service, on aggregate, during OCTA's peak level of service observed in June 2008. It is anticipated that these corridors will continue to show enough future demand to support the 15-minute or better peak-period headway transit service by 2035. These corridors are typically located in close proximity to many Orange County

employment centers and higher density residential areas. Figure 49 highlights potential high-demand corridors for high-frequency transit service, including proposed BRT routes. OCTA will continue periodic evaluation of transit demand and potential high-frequency transit corridors. As financial resources become available over the next 25 years, core service areas such as these will be prioritized for fixed-route bus service expansion.

The first three BRT projects being planned are as follows:

- Westminster Avenue/Westminster Boulevard/17th Street: 22-mile fixed route BRT between Santa Ana and Long Beach including bus shelters and rolling stock
- Harbor Boulevard: 19-mile fixed route BRT between Fullerton and Costa Mesa including bus shelters and rolling stock
- Bristol Street-State College Boulevard: 28-mile fixed BRT from Brea Mall to Irvine Transportation Center includes shelters, and rolling stock

Invest in Metrolink and Go Local Feeders and Support California High-Speed Rail

OCTA is implementing the MSEP that involves the addition of more frequent commuter rail service between Fullerton and Laguna Niguel, and the necessary station and infrastructure improvements to accommodate this service. Additionally, OCTA is coordinating with the State on the California High Speed Rail project. To support these future rail services, regional gateway station improvements such as the Anaheim Regional Transportation Intermodal Center (ARTIC) are underway. These efforts will strengthen the backbone of Orange County's transit system.

The MSEP will increase the number of trains operating between Fullerton and Laguna Niguel and expand service outside typical peak commute periods in the morning and evening to provide more mid-day and off-peak services. These improvements, designed to attract additional riders, will enhance the Metrolink services by offering more frequent services throughout the day, providing up to 30-minute headways (Figure 50). Through M2, OCTA's goal is to extend the enhanced Metrolink service levels to Union Station in Los Angeles.

The M2 Go Local Program is intended to address increases in demand induced by the rail improvements noted above. Go Local provides a competitive opportunity for local jurisdictions to develop feeder services between rail stations and key destinations. Figure 51 displays the coordinated efforts between rail service expansion and feeder service. The California High-Speed Rail corridor and Metrolink service improvements are highlighted, along with the proposed Go Local projects.

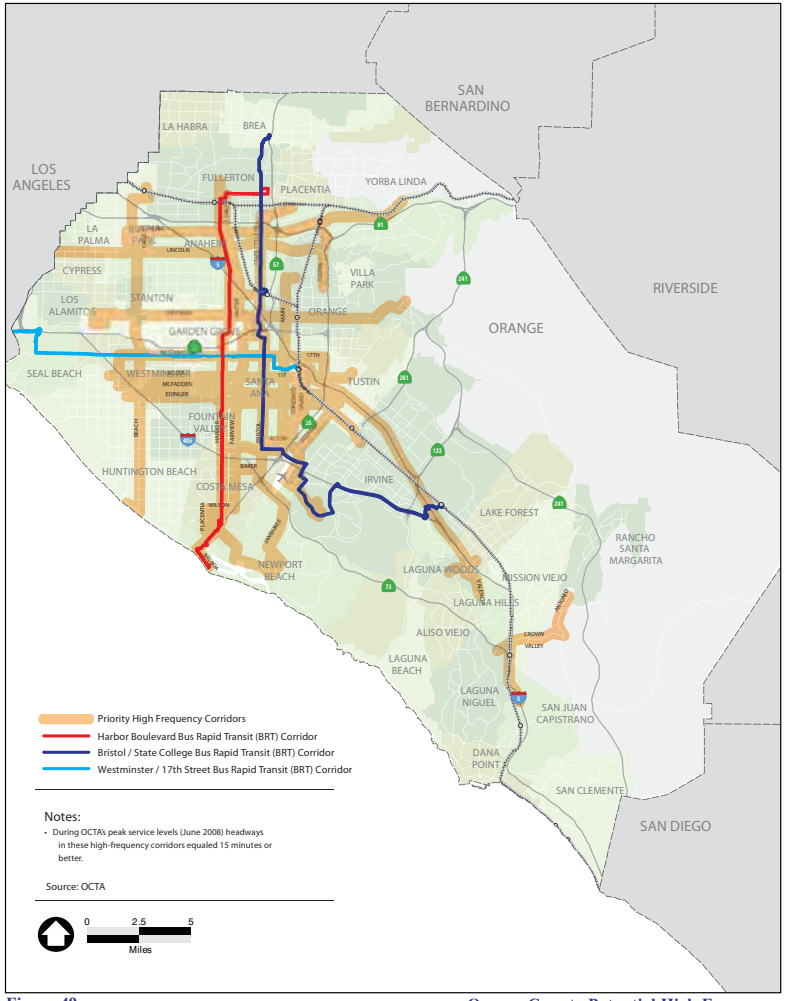


Figure 49 **Orange County Potential High Frequency Public Transportation Corridors**

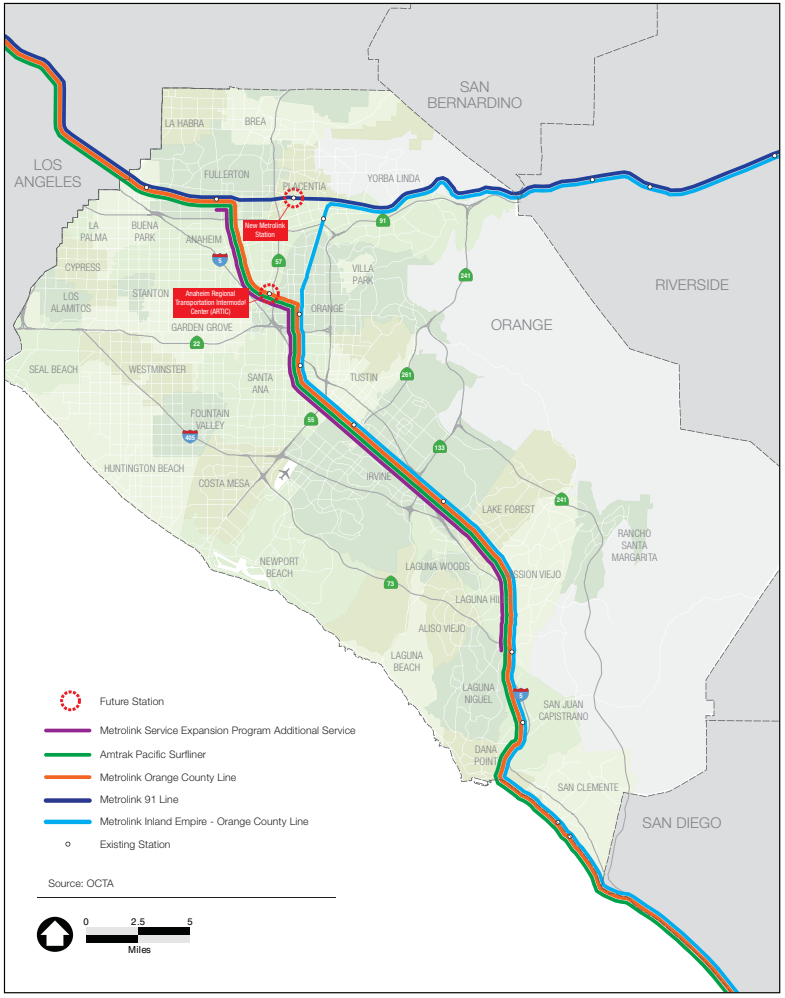


Figure 50 Orange County Metrolink Service Expansion Program

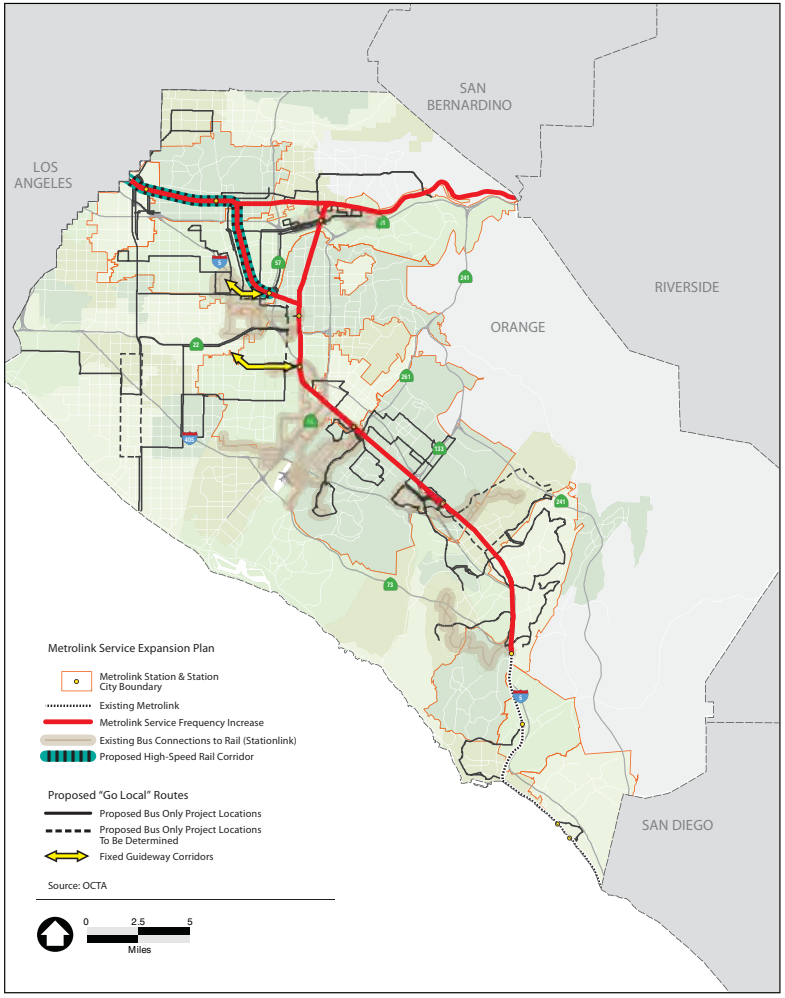


Figure 51 Orange County Rail Service Expansion and Station Feeder Service Plan

OCTA also plans to increase StationLink services as needed to coordinate with Metrolink service.

Explore Express Bus Opportunities

Intercounty and intracounty bus services are planned for those corridors that serve major destination areas and improve regional connectivity. Figure 52 identifies selected potential express bus corridors that will be further studied to determine their viability.

Improve Access to Regional Bus Service and Local Destinations

M2 provides another competitive opportunity to local jurisdictions to develop community circulator shuttles that will provide access to and from regional bus service and local destinations. These services could greatly improve the effectiveness of some major regional services such as BRT and express bus.

Other Transit Enhancements

The LRTP also includes safe transit stops and expanded transit convenience and choices for the elderly and handicapped population. Demand-responsive transit services are provided for the elderly, disabled, and other populations through ACCESS Services. This includes curb-to curb service, door-to-door service, and same-day taxi service, all of which meet the requirements of the ADA. The growth rate in demand for ACCESS services is higher than for traditional bus transit service. This is projected to continue throughout the timeframe covered by the LRTP. Between 2010 and 2035, ACCESS costs are projected to increase from 19% of the transit operating budget to 31%. As a result, OCTA is initiating a review of strategies that could continue to meet the requirements of ADA in a more cost-effective manner.

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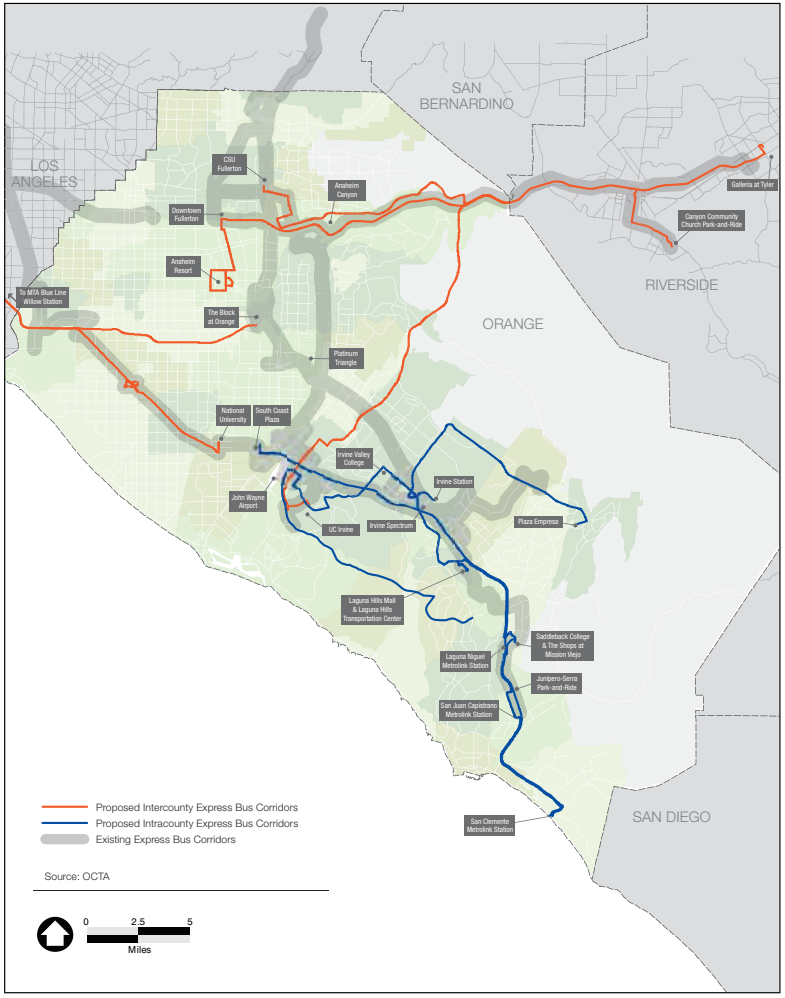


Figure 52 **Orange County Potential Express Bus Corridors**

OC SCS Sustainability Strategy L:

Expand and enhance Transportation Demand Management practices to reduce barriers to alternative travel modes and attract commuters away from single occupant vehicle travel.

TRANSPORTATION DEMAND MANAGEMENT (TDM)

TDM Ordinances

All jurisdictions in Orange County have adopted TDM ordinances that incorporate provisions consistent with rules adopted by the South Coast Air Quality Management District (SCAQMD). There are many programs administered or supported by OCTA to manage travel demand through the use of alternative transportation modes. These services help to reduce single occupant vehicle travel, reduce congestion, and enhance the quality of life for Orange County residents, commuters, and visitors.

Vanpool and Rideshare Programs

Vanpools and ridesharing provide substantial benefits for reducing congestion and reducing vehicle miles traveled. Vanpools and carpools typically reduce the number of long distance commute trips within a particular region, maximizing the congestion reduction and air quality benefits from each trip removed from the transportation system.

The expansion of vanpool services will focus on two target commute markets. The first commute market consists of expanding the long-distance vanpool services by targeting new or expanded services to employment and activity centers that are not currently well served by existing vanpools. Target employment centers include the Irvine Spectrum area, the Santa Ana Civic Center, the South Coast Metro area, and the Anaheim Canyon employment center along the Riverside (SR-91) Freeway.

The second vanpool strategy would explore the potential for shorter distance vanpools that would originate from Metrolink stations in Orange County and provide connections to employment centers that are not currently well served by OCTA's existing Stationlink and local bus services. These employment destinations could be directly served by the vanpool, reducing travel times from the Metrolink station to the commuter's ultimate destination. These services are beneficial in that the Metrolink commuter rail service can fulfill the long-distance portion of the commute and bring together several commuters from a larger area than a traditional vanpool.

Potential opportunity areas for vanpools for the year 2010 and 2035 within Orange County are depicted on Figure 53. These opportunity areas have an employment density

Orange County Sustainable Communities Strategy

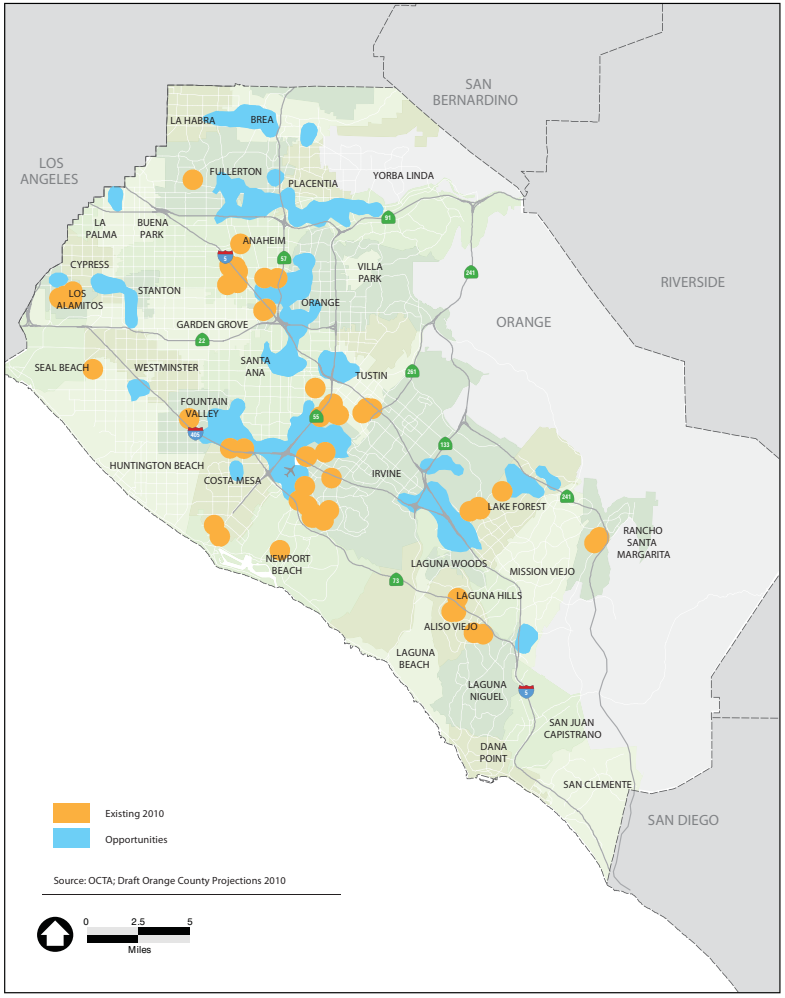


Figure 53 **Orange County Vanpool Opportunities**

of 5,000 jobs per square mile or more and could be served by vanpools developed through either of the strategies described above.

Park-and-Ride

Park-and ride facilities play an important role in increasing commuter access to alternative transportation modes. Orange County will continue to explore opportunities to increase the number of park-and-rides facilities through coordination with Caltrans, local jurisdictions, and private property owners to identify additional suitable park-and-ride sites, and will actively pursue resources to fund the construction and/or lease of new park-and-ride facilities.

Bicycle Programs

Bicycles can be used as the sole mode of transportation or as a complement to bus and rail travel. Bicycles can also play an important role in mitigating the growing challenges imposed by automobile dependence, including congestion and air pollution.

Bikeway planning, implementation, and maintenance efforts are recorded in the Commuter Bikeways Strategic Plan (CBSP). The CBSP was developed through a collaborative process among cities, the County, OCTA, Caltrans, and nonprofit organizations and the general public. The resulting CBSP (shown on Figure 54) includes a compilation of local bikeway plans proposing the addition of a total of 210 miles of Class I bikeways, 480 miles of Class II bikeways, and 95 miles of Class III bikeways. The CBSP also identifies regional bikeway priority locations that include transit stations, major employment centers, and schools. OCTA encourages implementing agencies to give priority to bikeway projects that connect to, or within these locations to improve regional connectivity. OCTA also recommends that projects be prioritized based on CBSP performance criteria that include safety, ease of implementation, and continuity.

Pedestrian Programs

Pedestrian-friendly environments improve the efficiency and connectivity of other modes of transportation, such as transit. A safe and attractive walking environment also furthers the goals of environmental sustainability by supporting reduced automobile dependence. Pedestrian programs and improvements are currently underway in many jurisdictions and will continue to be supported in Orange County.

Other TDM Programs

Multimodal Transportation Hubs. Multimodal transportation hubs are staffed or automated facilities that provide commuters access to multiple transportation modes in order to complete all or a portion of their trip. These facilities are typically located adjacent to a commuter rail station, park-and-ride or transit center and provide access to

Orange County Sustainable Communities Strategy

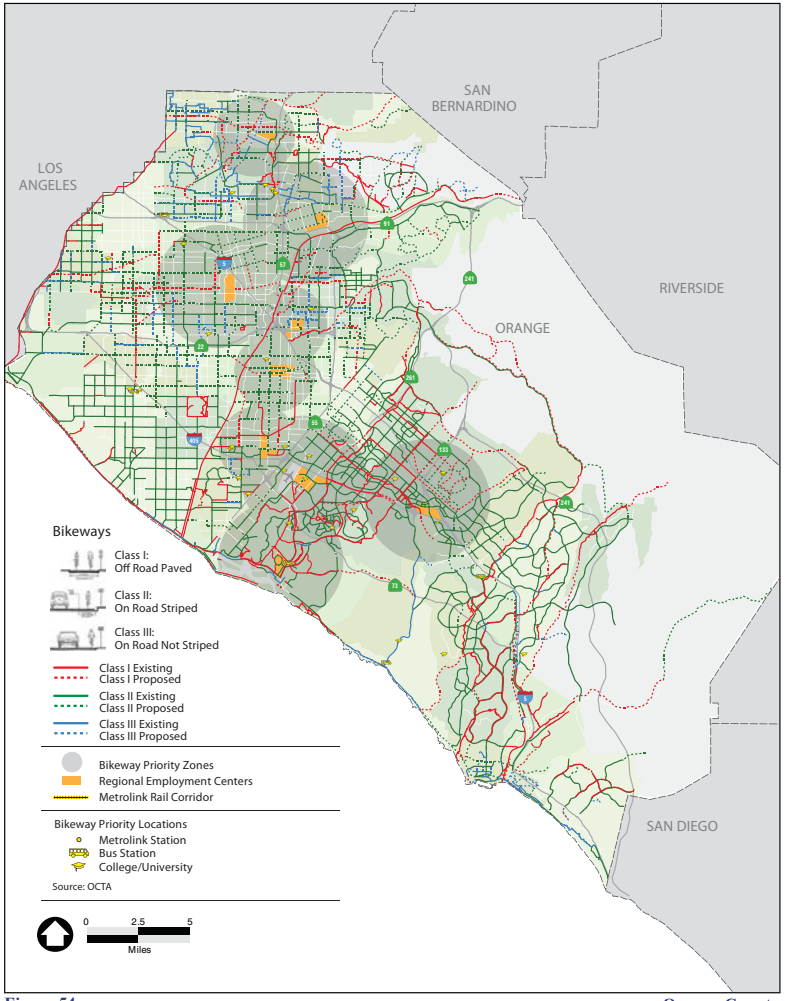


Figure 54 **Orange County Commuter Bikeways Strategic Plan**

bicycle lockers, bicycle rental, and carshare services. In the future, OCTA will explore the potential for implementing these types of facilities at Metrolink stations and transit centers in Orange County and work to identify potential satellite facilities that would supplement and extend the reach and effectiveness of the facilities placed at commuter rail stations and transit centers.

Commuter Financial Incentives. Commuter financial incentives incorporate a wide range of strategies and incentives that are intended to encourage alternative commute modes. Common incentives include employer-subsidized transit, parking, and rideshare benefits offered to commuters who utilize an alternative mode of transportation for a majority of their commute trips. A program that has been implemented elsewhere in the State offers employers the opportunity to provide their employees with discounted transit passes that are deducted pre-tax from employee paychecks, offering tax benefits for both the employer and the employee. Orange County employers are encouraged to explore the potential viability of this and other commuter incentive programs.

OC SCS Sustainability Strategy M:
Continue existing, and explore expansion of, highway pricing measures.

Priced Transportation Network

Orange County already has a unique resource in its priced transportation network. The OC SCS pricing strategy is designed to complete and optimize the scope and capacity of the County's priced transportation network composed of publicly-owned toll and express lanes. Priced facilities are an especially important tool for providing intra-county, inter-county and interregional capacity, while at the same time contributing to sustainability and emission reduction goals related to SB 375 and other state and federal mandates. The existing priced transportation network serves the locations where major employment and housing growth are projected to occur.

Toll roads and express lanes charge users a fee for travel but typically offer less congested traffic lanes than nearby freeways and roadways. Reduced congestion provides improved and more efficient mobility with fewer air pollutant and greenhouse gas emissions caused by congestion.

The toll road system is designed to interrelate with transit service. The toll roads can accommodate Bus Rapid Transit and express bus service, and toll road medians are sized and reserved to provide the flexibility for future transit, if appropriate.

Existing Priced Network

As of 2008, the County's "freeway" system includes over 280 lane-miles of toll roads and 40 lane-miles of express lanes. The existing toll road and express lane network in Orange County includes the following facilities:

- State Route 91 (SR 91) Express Lanes
- Eastern/Foothill Transportation Corridors (SR 261, SR 241, and SR 133)
- San Joaquin Hills Transportation Corridor (SR 73)

The Eastern, Foothill, and San Joaquin Hills Transportation Corridors are owned by Caltrans and operated by the Transportation Corridor Agencies (TCAs). OCTA owns and operates the SR 91 Express Lanes. The Eastern, Foothill, and San Joaquin Transportation Corridors are operated with variable tolls that are adjusted based on peak and non-peak traffic levels and usage. The pricing for the SR 91 Express Lanes is dynamic, with toll rates directly tied to congestion levels in the express lanes and in the adjacent freeway lanes. Both toll programs serve as potential models for future pricing strategies that could be implemented elsewhere in Orange County and the region. The toll roads and the express lanes use the same FasTrak electronic payment system, providing seamless consumer convenience and flexibility.

Future Pricing Facilities and Related Services

Planned future toll projects in Orange County include the Foothill Transportation Corridor South project and the addition of direct toll-to-toll connectors at the State Route 91/State Route 241 interchange. When completed, the southern portion of State Route 241 would enhance the network by an adding 105 new tolled lane-miles.

In addition, TCA's public toll roads can accommodate and facilitate additional future intra-county and inter-county express bus services. The Toll Roads access major future employment growth concentrations in Irvine, Anaheim, Orange and south Orange County, where express bus service may be viable.

Further, TCA is planning to convert its operations to all-electronic tolling, eliminating any potential congestion at toll booths due to cash transactions. This streamlining program will result in further GHG emission reduction associated with congestion.

OC SCS Sustainability Strategy N:

Implement near-term (Transportation Improvement Program and Measure M2 Capital Action Plan) and long-term (LRTP 2035 Preferred Plan) transportation improvements to provide mobility choices and sustainable transportation options.

MEASURE M2 CAPITAL ACTION PLAN: YEAR 2020 STRATEGIES

Following the approval of M2 by Orange County voters in 2006, OCTA prepared the Measure M2 Capital Action Plan (CAP), which outlines a 5-year plan to advance the implementation of M2 projects through the 2011–2012 fiscal year. The primary objectives of the M2 CAP are the following:

- Objective 1: Complete the first major milestone (conceptual engineering) for every M2 freeway project. This ensures that all projects are eligible for matching funds and are ready to enter environmental review, design, and construction.
- Objective 2: Start construction of five major M2 freeway projects on the Riverside (SR-91), Orange (SR-57), and Santa Ana (I-5) Freeways.
- Objective 3: Enable Orange County local agencies to meet eligibility requirements for M2 funds, including new pavement management and signal synchronization programs.
- Objective 4: Award up to $165 million to cities and the County for signal synchronization and road upgrades.
- Objective 5: Implement high-frequency Metrolink service within Orange County with associated railroad crossing safety and quiet zone improvements completed or under construction. Begin project development for at least five major grade separation projects.
- Objective 6: Award up to $200 million in competitive funding for transit projects.
- Objective 7: Complete development work and allocate funds for transit fare discounts and improved services for seniors and persons with disabilities.
- Objective 8: Complete an agreement between OCTA and resource agencies detailing environmental mitigation of freeway improvements and commitments for project permitting. Begin allocation of funds for mitigation.
- Objective 9: Complete program development for road runoff/water quality improvements. Begin allocation of funds to water quality projects.

Major projects completed, currently underway, and planned within a Year 2020 horizon under the M2 CAP include the following:

- Conceptual engineering for all CAP freeway projects (Figure 55)
- Start construction for these freeway projects:
  - Orange (SR-57) Freeway: Add northbound lane from Orangethorpe Avenue to Lambert Road and from Katella Avenue to Lincoln Avenue
  - Riverside (SR-91) Freeway: Add eastbound lane from Eastern Transportation Corridor (SR-241) to the Corona Expressway (SR-71)
  - Riverside (SR-91) Freeway: Lane additions from Costa Mesa (SR-55) Freeway to Eastern Transportation Corridor (SR-241)
  - San Diego (I-5) Freeway interchange at Ortega Highway (SR-74)\
  - Riverside (SR-91) Freeway: Add westbound lane from Santa Ana (I-5) Freeway to Orange (SR-57 Freeway)
- Approval of the M2 Local Agency Eligibility Procedures Manual
- Award of $8 million in funding for traffic signal synchronization along 10 significant street corridors
- Final design for seven railroad grade separation projects in Fullerton and Placentia

Initiation of rail rolling stock purchases for MSEP

- Initiation of rail grade crossing safety enhancements and quiet zone improvements at 51 grade crossings in Orange County
- Initiation of construction on the Sand Canyon Avenue grade separation project
- Approval of $82.3 million in funds to be used towards the completion of Phase 1 for ARTIC
- Ongoing planning and design work for Go Local fixed-guideway and bus/shuttle projects
- Planning for policies related to transit fare discounts for seniors and persons with disabilities
- Initiation of work on the M2 Freeway Environmental Mitigation Program
- Development of program guidelines for water quality programs is currently underway. Implementation of the M2 CAP projects will provide noticeable benefits for Orange County residents. The construction projects proposed in the CAP will also help the local economy by creating jobs within Orange County.

LRTP YEAR 2035 PREFERRED PLAN

OCTA has developed a detailed program of transportation projects and improvements to address the transportation needs and challenges through the Year 2035. Specific focus is placed on the identification of projects that improve connectivity and mobility throughout the County, improvements that provide benefits for person throughput, travel time, and

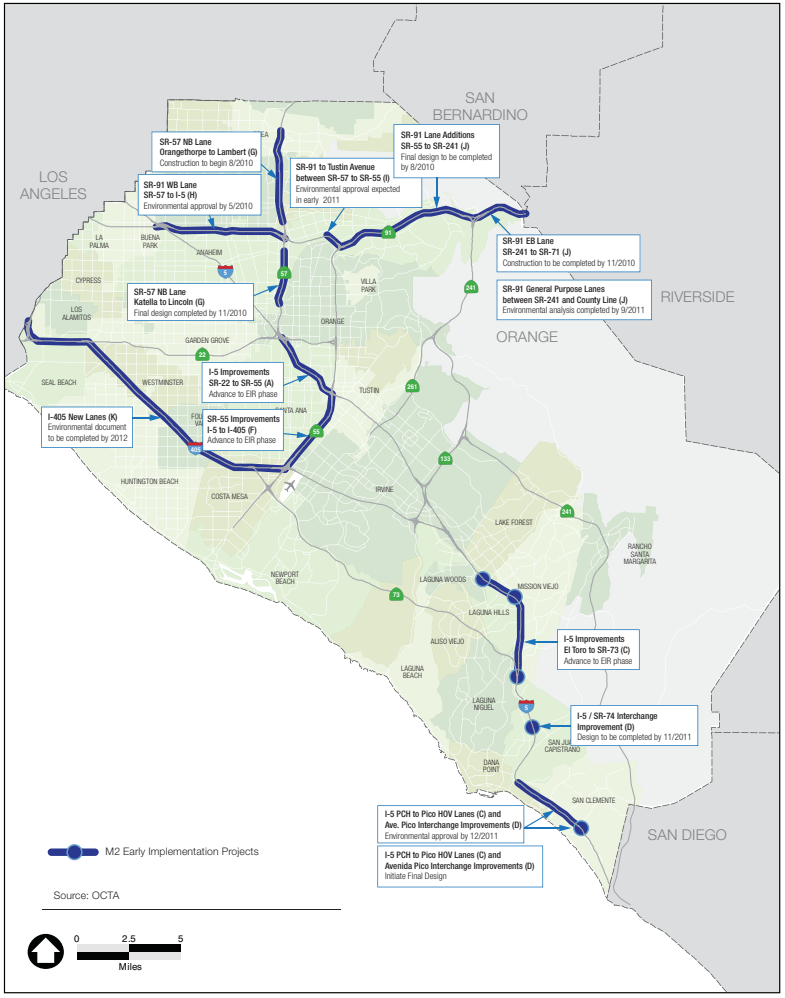


Figure 55 **Orange County Measure M2 Capital Action Freeway Projects**

level of service, and projects that provide for alternative modes of transportation and/or help to offset and minimize the environmental impact of transportation sources. The Year 2035 Preferred Plan represents the financially constrained plan identified in the Orange County LRTP. The Orange County LRTP also includes an unconstrained plan that will be included as part of the RTP development.

Transit Projects

Transit projects contained in the LRTP Year 2035 Preferred Plan range from improvements to OCTA bus services, to expansions of Metrolink commuter rail service, to the construction of regional transit gateways in Orange County that will improve access to a range of transit, including high-speed rail. A brief overview of transit projects contained in the Year 2035 Preferred Plan is provided below. A full list of transit projects with forecast costs is included in the Year 2035 Preferred Plan is provided in Appendix E.

Bus Service

- Fixed Route Service Expansion: Local bus service expansion, providing both capital and operational funding countywide, but primarily in the high-demand corridors identified in Figure 49. Service expansion will return bus service to 2008 levels, which were in place prior to budget and service cuts.
- Express Bus Service: Intercounty and intracounty express bus service will increase.
- Bus Rapid Transit Projects:
  - Westminster Avenue/Westminster Boulevard/17th Street: 22-mile fixed route BRT between Santa Ana and Long Beach.
  - Harbor Boulevard: 19-mile fixed route BRT between Fullerton and Costa Mesa.
  - Bristol Street–State College Boulevard: 28-mile fixed BRT from Brea Mall to Irvine Transportation Center.
- Go Local Bus/Shuttle: Locally-developed rail feeder bus services that provide connections between Metrolink stations and local destinations.
- StationLink: StationLink services focus on creating linkages and necessary connections to Metrolink stations and employment destinations.

Go Local Fixed-Guideway

- The Anaheim Rapid Connection (ARC): The City of Anaheim's fixed guideway project linking the Platinum Triangle/ARTIC and the Anaheim Resort area.

- Santa Ana-Garden Grove Fixed Guideway: Santa Ana and Garden Grove fixed guideway project proposes a transit service linking the Santa Ana Regional Transportation Center to the Santa Ana Civic Center and Garden Grove.

Rail

- Regional Gateways Program: The Regional Gateways program enhances key Orange County Metrolink stations.
- Metrolink Service Expansions: Increased Metrolink service to Los Angeles is planned by 2035.
- High Speed Rail: The California High-Speed Rail will connect Anaheim to Los Angeles and the Bay Area.

Other

- Safe Transit Stops: Promotes safer transit shelters and transit stops
- Vanpool and Park-and-Ride Program Expansion: Expands rideshare services by over 100 percent over existing 2010 levels.
- Elderly and Disabled Assistance: Expands transit convenience and choices for the elderly and disabled populations.

Freeway Projects

A brief overview of freeway projects contained in the Year 2035 Preferred Plan is provided below. A full list of freeway projects and their costs included in the Year 2035 Preferred Plan is provided in Appendix E.

Transportation System Management Projects

- Interstate 5: On Interstate 5 (I-5), from Avenida Pico to Pacific Coast Highway (PCH), add one HOV lane in each direction and improve the Avenida Pico Interchange. On the I-5, from SR-55 to SR-57, add one HOV lane in each direction. HOV ramp improvements at Barranca Parkway.
- Interstate 405: From the SR-73 to the San Gabriel River Freeway (I-605), add two express lanes each direction, converting existing HOV lanes, and adding one new express lane in each direction.
- State Route 57 Projects: On the Orange (SR-57) Freeway, provide an HOV interchange at Cerritos Avenue. Add a southbound deceleration lane at the Imperial Highway interchange. Add a northbound truck climbing auxiliary lane from Lambert Road to the Los Angeles County line and include a ramp improvement at Lambert Road.
- State Route 73 Projects: Add an HOV lane in each direction from MacArthur to the San Diego (I-405) Freeway. Provide an HOV connector at the I-405.

- State Route 91 Projects: Add an HOV connector at the Foothill Transportation Corridor (SR-241).
- Freeway TDM/TSM: Freeway TDM/ TSM design, implementation and operation.
- All—Freeway Service and Patrol Boxes: Maintain the freeway call box program and invest in motorist aid.

General Purpose Improvements

- Interstate 5: Widen from the Costa Mesa (SR-55) Freeway to the San Diego (I-405) Freeway and from the Orange (SR-57) Freeway to the Riverside (SR-91) Freeway providing a new mixed-flow lane in each direction. From Avery Parkway to Alicia Parkway, add one mixed-flow lane in each direction.
- Interstate 405: Add an auxiliary lane northbound from Jeffrey Road to Culver Drive. From SR-73 to the San Gabriel River (I-605) Freeway, add one mixed-flow lane in each direction. From the Santa Ana (I-5) Freeway to the Costa Mesa (SR-55) Freeway, add lanes and improve merging.
- State Route 55: From I-405 to I-5, add one auxiliary lane and one mixed-flow lane in each direction. From I-5 to SR-22, add one mixed-flow lane in each direction.
- State Route 57: On SR-57, widen to provide an additional mixed-flow northbound lane from Orangewood Avenue to Katella Avenue.
- State Route 91: Add a westbound mixed-flow lane from SR-241 to Gypsum Canyon Road. Add one auxiliary lane in each direction from Green River Road to SR-241 with additional improvements sponsored by Riverside County. Add one mixed-flow lane eastbound from the Orange (SR-57) Freeway to the Costa Mesa (SR-55) Freeway.

Interchange Projects

- Interstate 5: Reconfigure interchanges at Avery Parkway, Avenida Pico, La Paz Road, Los Alisos Boulevard, First Street, and Fourth Street. Add an interchange at Marguerite Parkway, Alicia Parkway, and Stonehill Drive. Improve access ramps.
- Interstate 605: Ramp improvements at Katella Avenue.
- State Route 55: Add interchange at Meats Avenue.
- State Route 57: Interchange improvements at Lambert Road.
- State Route 73 Projects: Interchange improvement at Glenwood Drive/Pacific Park Drive.
- State Route 91: Improve interchange at Costa Mesa Freeway (SR-55) and Lakeview Avenue. Improve access ramps at Gypsum Canyon. Add interchange and overcrossing at Fairmont Boulevard.

- State Route 241: Add interchange at Jeffrey Road.

Street Projects

Street projects contained in the Year 2035 Preferred Plan include expanding and extending arterials, ongoing maintenance, transportation demand management, ITS, and signal synchronization. A brief overview of street projects contained in the Year 2035 Preferred Plan is provided below. A full list of street projects included in the Year 2035 Preferred Plan is provided in Appendix E along with forecast costs.

Transportation Demand Management

- Signal Synchronization Program: Implement traffic signal synchronization over 750 miles of roadways.
- Commuter Bikeways Strategic Plan: Implement the Commuter Bikeways Strategic Plan (Figure 54, above). Responsibility for implementation lies with local jurisdictions.

Capacity & Maintenance

- Local Fare Share Program: Local fair share program funded by M2 is allocated to cities proportionally countywide
- Regional Capacity Program: Add over 800 miles of new capacity on the MPAH network. These projects build on previous efforts from the Original Measure M to complete the MPAH. Figure 56 shows the number of roadway lanes by segment to complete the current MPAH plan. Responsibility for implementation lies with local jurisdictions.
- Arterial Overpasses: Add an overpass over the Costa Mesa (SR-55) Freeway at Alton Parkway.

Achievements of the Transportation Strategies

The Year 2035 Preferred Plan makes investments in Orange County's transportation network using available funding over the next 25 years. The Preferred Plan of projects includes the implementation of the projects and programs contained in the M2 program, as well as numerous other transit, freeway, street, and travel demand management projects located throughout Orange County.

Expand Transportation System Choices

The Year 2035 Preferred Plan would result in substantial expansion of options across transportation modes including transit, driving, bicycling, walking, and ridesharing. On the transit side, approximately 400,000 additional bus service hours (restoring service to 2008 levels) would be added to the system, including Go Local projects. Metrolink

Orange County Sustainable Communities Strategy

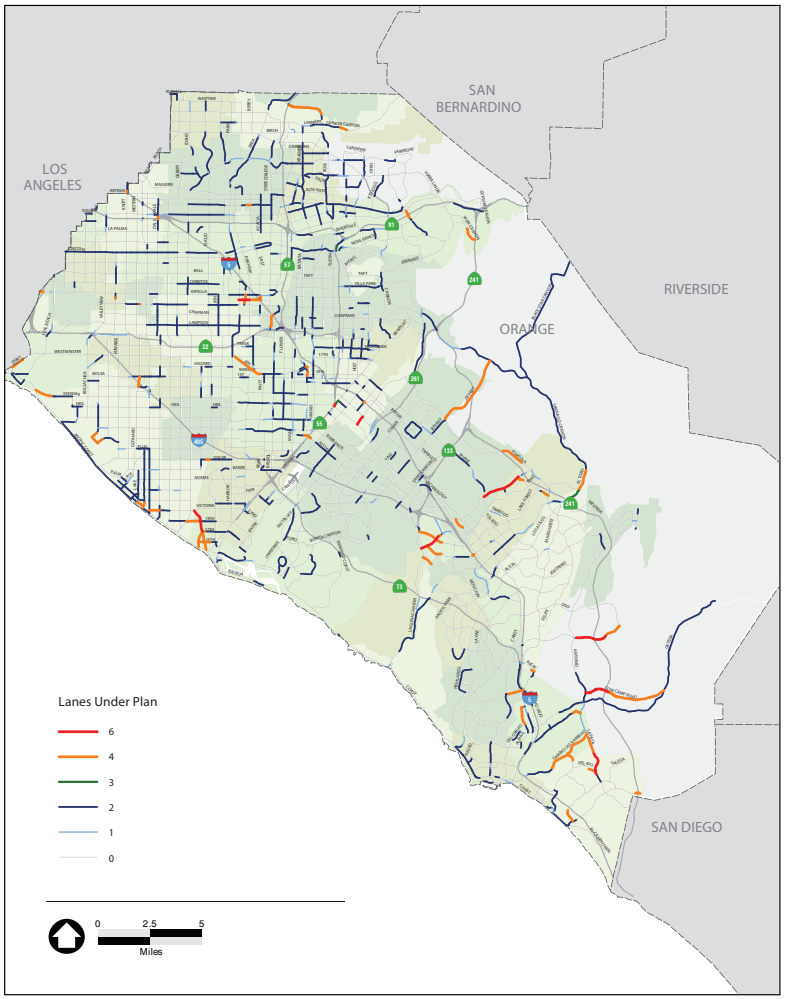


Figure 56 Roadway Lanes to Complete Orange County Master Plan of Arterial Highways

service would be expanding, resulting in up to 30-minute headways between Laguna Niguel and Los Angeles.

Connectivity and access to the freeway system would also be improved. The implementation of the continuous access HOV lanes through nearly all of Orange County will improve access to these facilities and smooth traffic flow. The addition of freeway lane miles and targeted interchange improvements help to increase capacity and access to the freeway system from nearby roadways.

The completion of the MPAH Regional Capacity Plan will expand access to arterial roadways throughout Orange County. The Year 2035 Preferred Plan expands access to alternative transportation modes, including vanpool and rideshare services, bicycle facilities, and other transportation demand management strategies.

Improve Transportation System Performance

The performance of the transportation system with the implementation of the projects outlined in the Year 2035 Preferred Plan has been measured in the OC LRTP. Table F, below, summarizes the level of improvement over the Year 2035 Baseline condition in several transportation performance metrics with the implementation of the projects contained in the Year 2035 Preferred Plan.

As Table F and Figure 57 show, the Year 2035 Preferred Plan is forecast to help reduce travel delays and improve travel speeds on freeways and streets throughout Orange County. The projects are also forecast to contribute an increase in transit ridership over the Year 2035 Baseline condition.

The projects contained in this plan also reduce traffic congestion. Severely congested segments of Orange County's freeway network, defined as segments operating above capacity (LOS F), are forecast to be reduced by 35 percent compared to the Year 2035 Baseline. Similarly, a 40 percent decrease is forecast to occur in the number of roadway segments that are severely congested under the Baseline 2035 scenario.

Table F: Preferred Scenario Performance Analysis (Compared to 2035 Baseline)

Performance Measure	2035 Baseline	2035 Preferred Plan
Daily vehicle hours traveled	3.4 million	Reduced by 24%
Daily hours of delay due to congestion	1.5 million	Reduced by 56%
Average peak period freeway speed (AM)	29 miles per hour	Increased by 22%
Average peak period HOV speed (AM)	35 miles per hour	Increased by 24%
Average peak period roadway speed (AM)	13 miles per hour	Increased by 82%
Daily transit trips	144,000	Increased by 11%

Note: Forecasts prepared by the California High-Speed Rail Authority project an additional 10% increase in transit ridership in Orange County with the Phase I High-Speed Rail project.

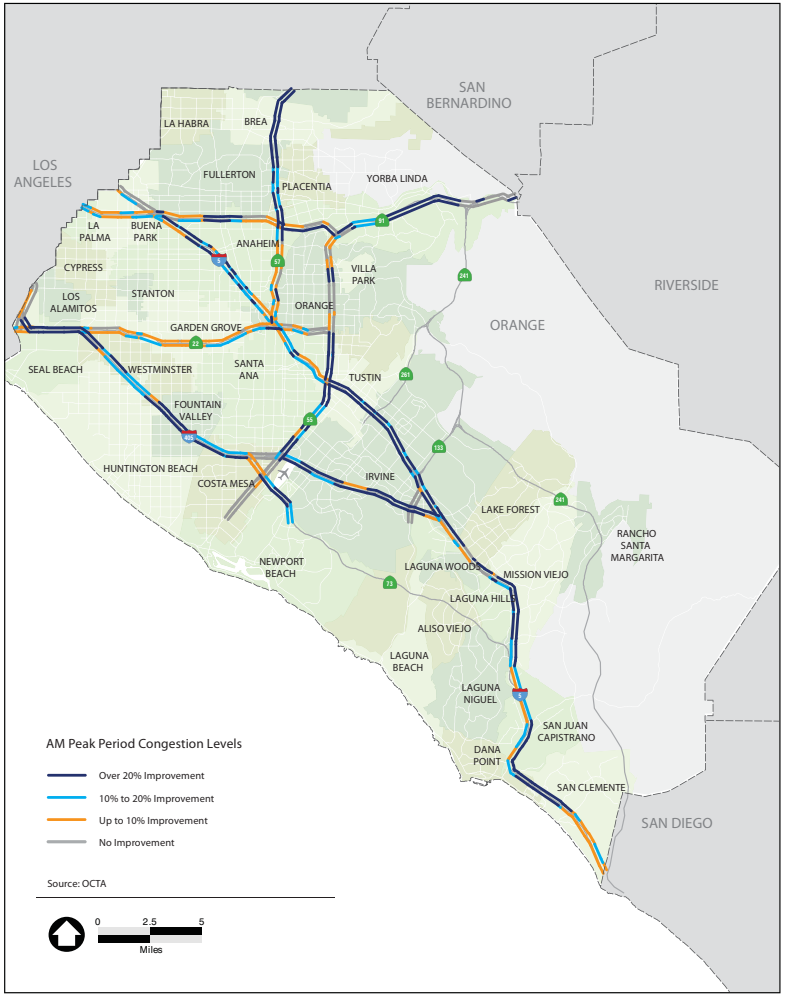


Figure 57 **Performance of Orange County Long Range Transportation Plan**

Ensure Sustainability

The Year 2035 Preferred Plan is forecast to invest over $39.4 billion in transportation improvements over the next 25 years. This investment is allocated in a fiscally sound and responsible manner, timing project implementation to available financial resources. The Plan also includes substantial investments in system maintenance and operations to help ensure that capital investments are maintained and operated at a consistent level for each project's life-cycle.

The environmental and water quality protection programs called for in M2 would be implemented through the Year 2035 Preferred Plan. These measures are designed to help reduce the amount of contaminated water runoff generated on freeways and streets, and to help create and preserve critical habitat in a coordinated fashion, increasing the benefit of these protections. A potential co-benefit of the preservation of these open space lands is the intensification, redevelopment, and infill of existing built environments.

The Preferred Plan includes improvements to transit service and transportation demand management measures. These investments are intended to help address future transit demand and reduce single-occupant vehicle trips to help the performance of the transportation system.

OC SCS Sustainability Strategy O:

Acknowledge current sustainability strategies practiced by Orange County jurisdictions and continue to implement strategies that will result in or support the reduction of GHG emissions.

In the OC SCS, a sustainability strategy is a project or policy that will result in or support the reduction of GHG emissions. For the SCS, an aggregated list of 222 sustainability strategies was created from lists produced by SCAG, CARB, and Orange County agencies. All strategies identified are measures that jurisdictions, agencies, and stakeholders have employed or may employ, and implementation of proposed projects or policies is at their discretion. The resulting list covers a wide range of projects and activities that fall generally within the following categories:

- Alternate Fuel
- Alternate Modes of Transportation
- Alternate Work (telecommuting/flexible work schedules)
- Bicycling
- Co-location of Facilities

- Freight/Goods Movement
- Land Use Policies
- Parking
- Pricing
- Transportation Demand Management (TDM)
- Transportation Infrastructure Investments
- Transportation System Management (TSM)
- Walking
- Other—activities that don't fit cleanly within one of the above

As part of the development process of the OC SCS, all jurisdictions within the County, as well as transportation agencies, stakeholders, and the public, were invited to identify sustainability strategies actively being used, as well as strategies planned for implementation during the SCS growth period from 2008 to 2035. Figure 58 depicts 14 categories of sustainability strategies and the number of Orange County agencies with projects or policies in those areas as of March 2011—a sort of "snapshot in time" of GHG-reducing activities in Orange County.

The list of sustainability strategies should be considered a sampling of measures available to reduce GHG emissions, and not a comprehensive or mandatory list of measures to be applied in any given situation. Some of these policies may be applicable in a general plan or at a regional scale, while others are applicable only to transportation agencies and projects. Still others may be applicable only at a development project level. Others are applicable only to transportation agencies and projects. Still others may be applicable only at a development project level. As such, the list of sustainability strategies should be considered a sampling of measures available to reduce GHG emissions, and not a comprehensive or mandatory list of measures to be applied in any given situation.

Transportation Infrastructure Investment and Transportation System Management
Transportation Infrastructure Investment and Transportation System Management are two of the most common strategies in Orange County. Transportation infrastructure investments are capital expenditures to improve the utility of the transportation system for all users and include strategies such as implementation of smart streets, improving links between travel modes, and providing enhanced bus stops. These are projects identified in addition to conventional municipal Capital Improvement Projects.

Transportation System Management seeks to enhance the performance of transportation infrastructure through better management and operation of the system. These investments demonstrate a commitment by agencies to maximize the utility and efficiency of infrastructure. Examples include traffic signal synchronization, bus fleet management and

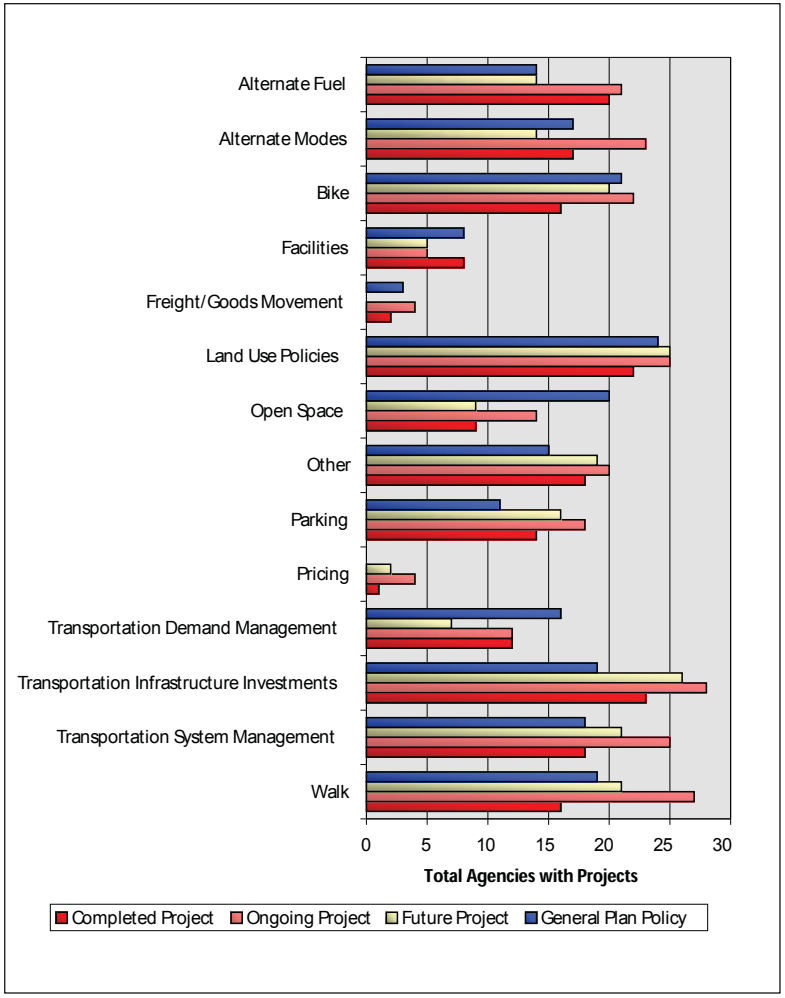


Figure 58 **Orange County Sustainability Strategies Participation**

Orange County Sustainable Communities Strategy

signal priority, freeway information dissemination, ramp control, improvement of circulation efficiency through information (i.e. signage), and improvements to reduce or eliminate bottlenecks. Most jurisdictions also have land use policies designed to encourage residential and commercial development near existing transportation infrastructure.

Transportation infrastructure investments are ongoing with at least 26 agencies and Transportation System Management projects are ongoing with at least 23 agencies. Twenty-four agencies report future transportation infrastructure investments, and 20 agencies report future Transportation System Management projects. These include agencies that serve the County as a whole and some of these projects will be implemented countywide. Twenty-four cities have General Plan policies supporting land use related sustainability strategies. Within the 34 categories of land use strategies, Orange County cities report a total of 251 ongoing projects and 217 future actions. Encouraging placement of land uses near transit assets and investing in the utility of the transportation system will affect the mobility choices for residents of Orange County and will reduce vehicle miles traveled.

Orange County agencies are also active in improving bicycle facilities and the pedestrian environment. At least 20 agencies have ongoing projects to improve the bicycle transportation system or otherwise encourage commuting by bicycle. Eighteen agencies report that future projects are planned. Projects to improve the pedestrian experience are ongoing with at least 25 agencies, and 20 agencies report future planned projects. In addition to directly affecting the non-motorized environment, Orange County agencies also seek to encourage the use of alternate modes of transportation through policies such as encouraging large businesses to develop alternative transportation plans and providing for employer incentives. Improved facilities and experiences for non-motorized users coupled with incentives to seek alternatives to commuting by automobile create the potential to affect residents' mobility choices and reduce GHG emissions.

Alternative Fuels/Vehicles

Alternative fuels and Vehicles are emerging strategies being considered and implemented by jurisdictions and institutions in Orange County. Currently, the city of Newport Beach has constructed electric vehicle fuel stations for city vehicles and general public use. Plans for new neighborhoods in unincorporated areas of south Orange County include provision of neighborhood electric vehicles (NEVs) for short trip purposes. The Brea Lofts project, completed in 2008, included the provision of NEVs for each dwelling unit. Major educational institutions such as UC Irvine have developed a full menu of alternative fuel and vehicle strategies for on-campus and local mobility needs.

A complete listing of sustainability strategies submitted by jurisdictions, agencies, stakeholders and the public is included as Appendix F. The sustainability strategies are compiled as completed projects, ongoing projects, future projects, and General Plan policies. Each of these strategies results in outcomes that affect the planning of land use and mobility in Orange County by supporting regional objectives to reduce GHG. These sustainability strategies are offered for inclusion in the overall regional SCS as evidence of real measures resulting in integrated planning and reduced GHG in Orange County and throughout the SCAG region.

SPECIFIC EXAMPLES OF ORANGE COUNTY SUSTAINABILITY STRATEGIES

To highlight the comprehensive nature of sustainability strategies and their geographic distribution throughout the County, several examples of measures being implemented by Orange County jurisdictions follow. In addition to government agencies, the Orange County community is supported by many interests and organizations. Groups specializing in health care delivery, education, the environment, social justice, and affordable housing all have a role in the future of Orange County. These agencies engage in projects and implement plans that have direct and collateral benefits to mobility and the reduction of GHG emissions. A brief description of a small sample of these programs and plans also follows.

IMPACTS OF ORANGE COUNTY SCS SUSTAINABILITY STRATEGIES

What do we know about the potential impact of the different OC SCS strategies on potential GHG reductions? The California Air Resources Board (CARB) hired researchers from the University of California (Irvine and Davis campuses) to summarize the evidence on how different transportation and land use strategies could reduce greenhouse gas emissions.[1]

Summarizing the CARB Policy Briefs

In 2010, the CARB contracted with UC Irvine and UC Davis to develop 15 policy briefs which summarize the academic literature on land use and transportation policies that can reduce vehicle miles traveled (VMT) and greenhouse gas (GHG) emissions. The policy

[1] See http://arb.ca.gov/cc/sb375/policies/policies.htm.

briefs focused on the magnitude of impact, quantifying how GHG would change based on a specific policy.

The information on impact should be combined with local knowledge about the cost of and support for implementing specific policies. It is possible that a relatively low impact policy might be implemented broadly, while a high impact policy might be either expensive or politically difficult to implement. Consequently, one should not conclude that low impact policies or strategies are necessarily unattractive tools.

Appendix G provides a summary of the CARB briefs. These briefs each contain a discussion of GHG emissions in the context of the evidence summarized in each brief, and readers are referred there for more information: http://arb.ca.gov/cc/sb375/policies/policies.htm.

Grouping CARB Policies by Impact

Based on the CARB evidence, policies to reduce GHG emissions were assessed and grouped into impact categories as shown below.[2]

- **High Impact:** Policies that have a 0.1% or larger impact on VMT, driving, or driving emissions for a 1% policy implementation
- **High-Medium Impact:** Policies that have a 0.05 to 0.1% impact on VMT, driving, or driving emissions for a 1% policy implementation
- **Low-Medium Impact:** Policies that have a 0.01 to 0.05% impact on VMT, driving, or driving emissions for a 1% policy implementation
- **Low Impact:** Policies that have less than a 0.01% impact on VMT, driving, or driving emissions for a 1% policy implementation
- **No Impact:** Polices that can be expected to have no impact on VMT.

Linking OC SCS Sustainability Strategies to the CARB Evidence

Each OC SCS strategy is related to a corresponding CARB strategy. For most cases, clear matches and correspondence between the CARB strategies and those in the OC SCS exist, but the language and description of the strategies sometimes differs slightly. The evidence summarized for the CARB was drawn from the academic literature, while the OC SCS strategies are based on a public input process and consultation with jurisdictions

[2] The evidence reviewed for CARB largely focused on VMT. SB 375 targets GHG reduction. To group policies by impact, it was often necessary to use VMT reduction as a proxy for GHG reduction, which abstracts from questions of vehicle fleet composition, vehicle fuel efficiency, and the carbon content of fuels. For a more complete discussion of the relationship between each policy and GHG reduction, see the CARB policy briefs at http://arb.ca.gov/cc/sb375/policies/policies.htm

within Orange County. For that reason, the OC SCS strategies are typically phrased in ways that link more directly to local land use plans and policies while the evidence from the CARB is often phrased in the more abstract mode of the scholarly literature. Yet a crosswalk between the two nomenclatures was easy to develop.

Having developed such a crosswalk between the category descriptions from the CARB and the OC SCS, the OC SCS strategies are then ranked as high, high-medium, low-medium, and low impact. One strategy is ranked as "no impact" based on the academic literature.

Table G: CARB Policies and OC SCS Strategies, Grouped by Impact Category

Policy	Impact Category	Corresponding OC SCS Strategy or Strategies
Road Pricing	High	Toll road options, highway pricing measures. ***(Sustainability Strategy M)***
Parking Pricing	High	Parking, Pricing ***(Sustainability Strategy O)***
Regional Accessibility to Employment	High	Support infill housing development and redevelopment, and increase regional accessibility. ***(Sustainability Strategies B and D)***
Jobs-Housing Balance	High	Improve jobs-housing ratio. ***(Sustainability Strategy E)***
Neighborhood Design (combination of density, mixed land use, and street network connectivity)	High	Support transit-oriented development, support infill housing development, support mixed use development ***(Sustainability Strategies A, B, C and G)***
Telecommuting	High	Alternate Work: telecommuting/flexible work schedules ***(Sustainability Strategy O)***
Reductions in Distance to Transit	High-Medium	Improve transit service, frequency, convenience, and choices. ***(Sustainability Strategy K)***
Reductions in Transit Fare	High-Medium	Improve transit service, frequency, convenience, and choices. ***(Sustainability Strategy K)***
Increases in Transit Service Hours or Service Miles	High-Medium	Improve transit service, frequency, convenience, and choices. ***(Sustainability Strategy K)***
Increases in Transit Service Frequency	High-Medium	Improve transit service, frequency, convenience, and choices. ***(Sustainability Strategy K)***
Employer-Based Trip Reduction (implemented at a workplace)	High-Medium	Transportation Demand Management ***(Sustainability Strategy L)***
Traffic Incident Clearance Programs	High-Medium	Transportation System Management ***(Sustainability Strategy J)***
Pedestrian Strategies	Low-Medium	Promote land use patterns that encourage the use of alternatives to single-occupant automobile use; Transportation Demand Management ***(Sustainability Strategy F and L)***

Policy	Impact Category	Corresponding OC SCS Strategy or Strategies
Bicycle Strategies	Low	Promote land use patterns that encourage the use of alternatives to single-occupant automobile use; Transportation Demand Management ***(Sustainability Strategy F and L)***
Increases in (Unpriced) Freeway Lane Miles	No Impact	Implement the Transportation Improvement Program and Measure M2 (if unpriced and if does not include HOV or express lane options) ***(Sustainability Strategy N)***

Some strategies were not assessed for impact because they are not tied directly to available CARB research described above or are broadly categorized (some but not all of their elements are included in the categories above.) These include: support retention and/or development of affordable housing (G); support natural land restoration and conservation and/or protection offering significant carbon mitigation potential via both sequestration and avoidance of increased emissions due to land conversion (H); implement near-term (Transportation Improvement Programs and Measure M2 Capital Action Plan) and long-term (LRTP 2035 Preferred Plan) transportation improvements to provide mobility choices and sustainable transportation options (N); and acknowledge current sustainability strategies practiced by Orange County jurisdictions and continue to implement strategies that will result in or support the reduction of GHG emissions (O).

Anaheim Platinum Triangle

Project Location	*City of Anaheim*
Sustainability Strategy Category 	**Land Use Policies:** • Horizontal or vertical mixed-use • Increasing housing densities within/adjacent to employment areas • Increasing residential/commercial density near transit • Integrate affordable and market rate housing • Local housing for local workforce • Making developments transit ready • New housing and jobs within 1/2 mile of existing/planned transit stations **Alternate Modes:** • Increase bike/walk trips with improved streets and facilities
Project Description	Anaheim's Platinum Triangle features high-density housing, millions of square feet of new development opportunities for office and commercial, two national sports teams, an exciting array of dining and entertainment, plus immediate access to and from the rest of Southern California from three freeways and a major transit center. The project includes both vertical and horizontal mixed-use in an infill environment.
Emissions Reductions Benefits	The Platinum Triangle provides pedestrian- and transit-friendly environments both internally and through linkages to regional trails and bikeways, an employment and entertainment destination that encourages transit use to the area, and new energy and water efficient buildings and residences, all of which contribute to a greener future.
Project Status	Project is approved, and construction has begun.

Irvine Business Complex and Vision Plan

Project Location	*City of Irvine*
Sustainability Strategy Category 	**Land Use Policies:** • Horizontal or vertical mixed-use • Increasing housing densities within/adjacent to employment areas • Increasing residential/commercial density near transit • Integrate affordable and market rate housing • Local housing for local workforce • Making developments transit ready • New housing and jobs within ½ mile of existing/planned transit stations or stops **Alternate Modes:** • Increase bike/walk trips with improved streets and facilities **Transit Infrastructure** • Enhanced bus stops • Improve transit options – including the i shuttle • Targeted infrastructure growth
Project Description 	The 2,800-acre Irvine Business Complex (IBC) is a unique part of the City of Irvine. Dating from the 1970s, the IBC was developed solely as a commercial and industrial center serving Southern California as a regional economic and employment base, including hotel, restaurant, commercial, retail, industrial, and office uses. Over time, the IBC began its transition from a suburban mixed-use commercial and industrial center to a more urban regional mixed-use center. In early 2004, the number of applications for residential units within the IBC increased dramatically. The City of Irvine identified the opportunity for a mixed-use community with a coordinated urban design framework within the IBC while ensuring the continued economic viability of existing and future businesses. The IBC Vision Plan aims to develop a comprehensive strategy and guiding urban design framework for future IBC development. The Vision Plan and Irvine Business Complex Residential Mixed-Use Overlay Zone call for creating sustainable urban neighborhoods within a framework of new streets and open spaces, a newer approach than has traditionally been considered in other residential areas of Irvine. The Vision Plan reflects a long-term view of the IBC as a mixed-use community and reflects the best planning techniques available to assist in the evolution of the IBC. In order to achieve a

	balanced urban environment, the IBC needs walkable neighborhoods where people can work, live, and play; feeling part of an evolving and vibrant cosmopolitan city. This requires a mix of uses and places that are activated both day and night, drawing together diverse community segments. The IBC is served by a system of public transportation bus routes. The Tustin Metrolink train station is 1.5 miles north of the IBC. In 2008, the iShuttle, operated by the City of Irvine and designed for the IBC community, went into service. The shuttle allows residents and employees an alternative way to commute to jobs and other destinations throughout the IBC.
Emissions Reductions Benefits	The IBC Vision Plan will provide enhanced pedestrian- and transit-friendly environments both internally and through linkages to the City's extensive trails and bikeways system. Providing public transportation options such as the i shuttle encourages transit use in the area and increases the use of alternate modes, which contribute to a greener future.
Project Status	IBC Vision Plan is approved and individual projects are under construction.



Tustin Legacy

Project Location	***City of Tustin***
Sustainability Strategy Category	**Land Use Policies:** • Develop "complete communities" • Horizontal or vertical mixed-use • Increase housing densities within/adjacent to employment areas • Improve accessibility of housing to transit • Locate major regional activity centers near existing development • Increase residential/commercial density near transit • Integrate affordable and market rate housing • Local housing for local workforce • Locate schools in neighborhoods with student populations • Make developments transit ready • New housing and jobs within 1/2 mile of existing/planned transit stations **Alternate Modes:** • Arterial Improvements • Construct Regional Bikeways • Facilitate Increased Biking Opportunities • Improve Pedestrian Environment (E.G., Beautification, Access, Safety) • Improving Bicycle Infrastructure And Facilities (Lockers, Racks, Valets, Safe Bike Parking, Subsidies) • Improving Pedestrian Infrastructure And Facilities E.G. Pedestrian Bridge • Increase Bike/Walk Trips With Improved Streets And Facilities • Sidewalk Construction • Trail Improvement Project • Upgrade Bike Transportation System
Project Description 	Tustin Legacy is being developed on the site of the nearly 1600-acre former Marine Corps Air Station (MCAS) Tustin. To date, construction of the following has been completed at Tustin Legacy: • 1,680+ homes • "The District" Regional Shopping Center • Various educational institutions • Social services facilities • Neighborhood parks • Major roadways and related infrastructure

Project Location	*City of Tustin*
	Future development calls for an additional 2,100 residences, 6-7 million square feet of non-residential space (office, retail, restaurant, entertainment, research and development), educational facilities, new roadways including a major arterial connection, infrastructure and significant parkland and open spaces. One component will be a vibrant "Urban Community Core," a pedestrian-oriented, mixed-use district integrating a variety of uses and activities including retail, restaurant and entertainment uses, hotels, for-sale and apartment homes, and offices.
Emissions Reductions Benefits	Tustin Legacy is a complete community that provides pedestrian and transit friendly environments both internally and through linkages to the Tustin Metrolink Station and regional trails and bikeways. Linking land uses and trip purposes reduces overall vehicle miles traveled.
Project Status	Project is approved and under construction.

Santa Ana Transit Zoning Code

Project Location	*City of Santa Ana*
Sustainability Strategy Category 	**Land Use Policies:** • Horizontal or vertical mixed-use • Increasing housing densities within/adjacent to employment areas • Increasing residential/commercial density near transit • Integrate affordable and market rate housing • Local housing for local workforce • Making developments transit-ready • New housing and jobs within 1/2 mile of existing/planned transit stations **Alternate Modes:** • Increase bike/walk trips with improved streets and facilities **Transit Infrastructure:** • Enhanced bus stops, improved transit facilities, targeted infrastructure growth
Project Description	The Transit Zoning Code (TZC) is a visionary new land use tool to create a healthier, more livable and more sustainable community. The cornerstone of this policy document is the interconnectedness of zoning and development standards with the creation of walkable communities, which in turn supports the successful creation of new transit opportunities. The 400-acre project area allows for both vertical and horizontal mixed-use in an infill environment. Density /intensity range from 5 to 90 dwelling units per acre, and 0.5 to 5.0 floor area ratio. Buildout potential includes 4,075 new housing units and 260,000 SF of commercial development opportunities.
Emissions Reductions Benefits	The TZC provides the framework for new housing and mixed-use development in a pedestrian and transit friendly environment. The Transit Zoning Code area is in close proximity to Metro East and Downtown/Civic Center employment hubs; as well as the Santa Ana Regional Transportation Center (SARTC) and proposed fixed guideway. Linking complementary land uses with non-motorized and transit travel options reduces overall vehicle miles traveled. . . . Concentration of pedestrian friendly, higher intensity development near transit opportunities promotes use of cleaner alternate modes of travel.
Project Status	The Transit Zoning Code was approved in June 2010. Development proposals are under review for over 140 infill residential units.

Beach and Edinger Corridors Specific Plan

Project Location	***City of Huntington Beach***
Sustainability Strategy Category	**Land Use Policies:** • Horizontal or Vertical Mixed-use • Increasing Housing Densities within/Adjacent to Employment Areas • Increasing Residential/Commercial Density Near Transit • Integrate Affordable and Market Rate Housing • New Housing and Jobs within 1/2 Mile of Existing/Planned Transit Stations **Alternate Modes:** • Increase Bike/Walk Trips with Improved Streets and Facilities **Transit Infrastructure:** • Targeted Infrastructure Growth
Project Description 	The Beach and Edinger Corridors Specific Plan (BECSP) encompasses 459 acres along the City's two major commercial arteries, one a State highway and the other close to the OCTA bus transit station. Both are well-served by bus transit. The BECSP encourages mixed-use development with a focus on improving the pedestrian experience. This is achieved by not having a maximum density cap or floor area ratios, and by requiring public open space and private and public improvements that benefit the pedestrian in all projects. The BECSP requires that all required affordable housing be located within the Plan area.
Emissions Reductions Benefits	The BECSP fosters emission reductions by allowing for over half of the City's anticipated growth within the Plan area, an area well served by existing infrastructure and bus transit, and traversed by an existing rail line that may be used for passenger service in the future. The BECSP standards compel efficient land development, allow for reduced parking standards, and require sustainable building practices in all new development.
Project Status	The BECSP was approved March 2010. Two significant mixed-use projects have been approved and two are in the environmental review stage.

Laguna Niguel Gateway Specific Plan

Project Location	***City of Laguna Niguel***
Sustainability Strategy Category	**Land Use Policies:** • Horizontal or vertical mixed-use opportunities • High density housing opportunities within/adjacent to employment areas • High density residential/commercial density near transit station • New housing and jobs within ½ mile of existing transit station • Housing densities to accommodate both affordable and market rate housing **Alternate Modes:** Increase bike/pedestrian trips with improved bike lane, sidewalk, and trail connectivity throughout Gateway area and to regional systems **Transit Infrastructure:** Improved transit facilities, including expanded station operations and enhanced bus stops
Project Description	Laguna Niguel's Gateway area features high-density housing with as many as 2,994 dwelling units, development opportunities for as much as 2.1 million square feet of office, retail, restaurant or entertainment uses, hotel development opportunities for as many as 350 rooms, opportunities for both vertical and horizontal mixed-use in an infill environment, immediate access to and from the rest of Orange County from both the I-5 and 73 freeways, and a transit station that is the southern terminus of the region's double track system.
Emissions Reductions Benefits	The Gateway Area provides pedestrian- and transit-friendly environments both internally and through linkages to regional trail and bikeway systems; an employment, shopping, and entertainment destination that encourages multi-purpose trips to the area; increased transportation choices increases use of alternate modes, all of which contribute to fewer vehicle-miles traveled and to related emissions reductions.
Project Status	City Council approval of the Specific Plan Project is anticipated in July 2011.

Laguna Hills Urban Village Specific Plan

Project Location	*City of Laguna Hills*
Sustainability Strategy Category	**Land Use Policies:** • Horizontal or vertical mixed-use • Increasing housing densities within/adjacent to employment areas • Increasing residential/commercial density near transit • Integrate affordable and market rate housing • Local housing for local workforce • Making developments transit ready • New housing and jobs within 1/2 mile of existing/planned transit stations **Alternate Modes:** • Increase Bike/Walk Trips With Improved Streets And Facilities
Project Description	The Laguna Hills Urban Village Specific Plan regulates a 240-acre area in the City for the purpose of developing a community core in which a variety of public, regional commercial, recreational, and high density residential uses work in concert to create an urban village. The Laguna Hills Transportation Center is located within this area, which is served by transit. The plan allows for both vertical and horizontal mixed-use in an infill environment.
Emissions Reductions Benefits	The Urban Village Specific Plan provides the framework for new housing and mixed-use development in a pedestrian- and transit-friendly environment. The Laguna Hills Transportation Center is located within this area. Linking complementary land uses with non-motorized and transit travel options reduces overall vehicle miles traveled. Concentration of pedestrian-friendly, higher-intensity development near transit opportunities promotes use of cleaner alternate modes of travel.
Project Status	The Urban Village Specific Plan was adopted in November 2002 and updated in April 2011. The City is actively working with surrounding owners in the area to encourage redevelopment and new infill development.



South Brea Lofts

Project Location	*City of Brea*
Sustainability Strategy Category 	**Land Use Policies:** • Redevelopment of underutilized, blighted commercial properties downtown • Vertical mixed-use • Compact building design • Encourage new housing units adjacent to employment areas • Increasing residential/commercial density near Downtown Brea • Local workforce housing • Infill in areas with existing infrastructure • Integrate affordable and market rate housing **Alternative Transportation Modes:** • Each dwelling unit was provided a street-ready electric (NEV/Gem) vehicle • Increase bike/walk trips with improved streets and facilities
Project Description 	South Brea Lofts features 47 residential units in a live/work arrangement and 7,500 square feet of commercial uses with access to City Hall Park and Downtown Brea. The project features a vertical mixed-use design on a 2.8-acre infill site. Key elements of the project include workforce housing for moderate income households, dedicated work space with neighborhood commercial uses, activated street due to improved pedestrian access, and a "GEM" electric vehicle with each loft for local trips to school, post office, Brea Mall, community center, senior center, or businesses nearby.
Emissions Reductions Benefits 	The South Brea Lofts provides a pedestrian friendly environment to nearby community destinations. The project has strong internal and external pedestrian linkages to the Brea Boulevard corridor that connects to the employment and entertainment center of Downtown. By linking multiple land uses within this project, the reduction of overall vehicle trips and miles traveled reduces GHG levels for the region. The project provides Loft owners options that improve use of alternative transportation modes – all of which contribute to a sustainable future for Brea.
Project Status	Project was completed and occupied in 2008.

Transportation Corridor Agencies Habitat Preservation and Restoration Projects

Project Location	***SR 73 Toll Road and SR 241 Toll Road, City of Newport Beach and Orange County***
Sustainability Strategy Category	**Open Space:** Preservation of Habitat
Project Description	Transportation Corridor Agencies (TCA) have set aside 2,200 acres of permanently protected open space. **Cactus Wren Habitat Linkage and Restoration** In partnership, the Nature Reserve of Orange County (NROC), the University of California, Irvine (UCI), and the TCA were awarded a grant in 2010 to enhance and restore habitat for the cactus wren, a small bird declining in the region. The project includes planting cactus in a habitat corridor used by the federally threatened California gnatcatcher bird along the wildlife linkage area that parallels the 73 Toll Road from Upper Newport Bay south through Bonita Channel to Coyote Canyon. Within four months of transplanting the cactus, a new cactus wren pair was observed using the newly transplanted habitat. **Bonita Creek Mitigation Site** The Bonita Creek Mitigation Site is one of 15 locations comprising 2,200 acres in Orange County that TCA conserved to compensate for the effects of constructing the Toll Roads. The approximately 40-acre wetland and coastal sage scrub site is the main wildlife link from Upper Newport Bay to the San Joaquin Hills and was restored in association with construction of the SR 73 Toll Road. The project consisted of restoring a creek from a narrow rip-rap lined ditch to thriving wetland and coastal sage scrub community. Coyote and mountain lion have been recorded using the site. **Live Oak Preservation Area** In 2005 TCA acquired the Live Oak





Project Location	***SR 73 Toll Road and SR 241 Toll Road, City of Newport Beach and Orange County***
	Preservation Area, a 23.2-acre site that sits east of the SR 241 Toll Road at El Toro Road and Live Oak Canyon. The site serves as an important buffer to a national forest and provides habitat for a number of sensitive animal species declining in the region. The site also contains valuable oak woodlands and coastal sage scrub habitat for the California gnatcatcher Riverside fairy shrimp. Protecting the land as open space helps preserve natural wildlife movement corridors in the area. **Upper Chiquita Canyon** In 1996, TCA placed a conservation easement over a 1,182 acre area, known as Upper Chiquita Canyon. The conservation area was originally planned for development as a golf course and residential area. Upper Chiquita provides habitat to the federally threatened California gnatcatcher, as well as the coastal cactus wren and numerous other plants and wildlife. The site serves as an important buffer to regional parks and open space preserves to the south. The TCA has been actively managing the site since 1996 and increasing its habitat values. Protecting the land as open space helps preserve natural wildlife movement corridors in the area.
Emissions Reductions Benefits	Carbon sequestration
Project Status	Completed



Sustainable Transportation at UC Irvine

Project Location	*City of Irvine*
Sustainability Strategy Category	**Alternate Modes:** • Employer incentives for alternative modes • Provide local shuttles • Rideshare programs • Vanpools **Bike:** • Improve bike/walk trips with improved streets and facilities.
Project Description	UC Irvine has 3 full-time and 1 part-time staff committed to implementation of Sustainable Transportation programs including: **Bike Infrastructure:** Extensive bike path network/ Signage/ Bike-Pedestrian bridges. **Bus:** University Pass Program provides annual OCTA access for $95 - an 86% subsidy. **Carpool**: Available for employees; provides reduced-rate parking and preferential parking for participants. **Shuttle**: UCI maintains a shuttle fleet for on-campus and near-campus transportation. **Train**: Provides 20% rebate for 10-day and monthly pass holders. **Vanpool**: UCI has 18 vanpools carrying passengers from various locations to UCI. **Pedestrian Infrastructure:** Extensive pedestrian path network / Signage / Bike-Pedestrian bridges. **ZEV-NET**: Zero-Emission Vehicles stationed at the Irvine Transportation Center for pooling to/from UCI. **Rideshare support** for individuals who do not bring a car to campus: • ZotWheels Bikeshare – The first fully-automated bikeshare program at a U.S. university. • Zipcar Carshare – 11 cars on campus available for hourly or daily use at $7-$8/hour.
Emissions Reductions Benefits	Extensive promotion of non-motorized transportation and alternatives to single-occupant vehicles results in reduced VMT.
Project Status	Programs are in place and ongoing.

Anaheim Resort Transit

Project Location	*City of Anaheim*
Sustainability Strategy Category	**Alternate Modes:** • Convert transit buses to alternative fuels • Provide local shuttles **Transit Infrastructure:** • Improve transit service • Intercity bus transit
Project Description 	The Anaheim Resort Transit (ART) is the transportation system for the residents, employees and guests of the City of Anaheim and the greater Anaheim Resort area, including the cities of Anaheim, Garden Grove and Orange. ART's frequent service with seventeen interchangable routes allow for easy access and convenient connections. The ART runs on alternative fuel which is a clean, comfortable, safe and easy way to access access Disneyland™, Disney California Adventure™, Downtown Disney®, the Anaheim Convention Center, restaurant and shops around The Anaheim Resort™ area. All buses are accessible to persons with disabilities. A unique, stable funding source was established and implemented to provide resources for 17 transit routes in a highly congested area.
Emissions Reductions Benefits	Combined resources have reduced the need for increased taxi service and individual shuttles formerly operated by the lodging establishments.
Project Status	Project is operating successfully and service levels have not been reduced due to economic conditions.

Beach Boulevard Signal Synchronization

Project Location	***Project spans the cities of Anaheim, Buena Park, Fullerton, Huntington Beach, La Habra, Stanton and Westminster.***
Sustainability Strategy Category	**TSM:** Implement Traffic Signal Coordination
Project Description	A study conducted to evaluate the benefits of traffic synchronization along Beach Boulevard (SR-39) resulted in the following improvements: • Travel times improved between 10 percent and 16 percent • Reduced number of stops between 20 percent and 38 percent • Increased average speeds between 11 percent and 19 percent The project synchronized more than 70 intersections along Beach Boulevard.
Emissions Reductions Benefits	Traffic light synchronization allows a series of lights along a street to turn green as traffic approaches during peak traffic hours. The resulting outcome is reduced congestion. Daily traffic along Beach Boulevard near Warner Avenue and the San Diego Freeway (I-405) ranges between 17,000 and 84,000 vehicles. Traffic engineers estimate that during a three-year period the traffic light synchronization along this area will save commuters approximately 2.2 million gallons of fuel.
Project Status	Completed 

FasTrak Tolling/Interoperability Technology

Project Location	***SR 73, 241, 133 and 261 Toll Roads, Orange County***
Sustainability Strategy Category	**TSM:** Implement effective pricing.
Project Description	TCA developed and licenses FasTrak, the technology that enables interoperability on all priced facilities in the region and the state. For example, all priced facilities in Orange and San Diego Counties currently use the FasTrak transponder technology, making the system flow more smoothly with less congestion-related GHG emissions. This technology also provides interoperability on tolled facilities statewide; OCTA's 91 Express Lanes as well as priced lanes in San Diego County and in the Bay Area also employ FasTrak.
Emissions Reductions Benefits	FasTrak is essential to uncongested operation of a broader regional priced transportation network in the future.
Project Status	Electronic tolling via the FasTrak technology is available on 460 lane miles of SR 241, SR 261, SR 133, SR 73 and SR 91. FasTrak will expand to 105 lane miles of SR241 when the facility is completed to the Orange/San Diego County line.



Robinson Ranch Road Traffic Calming Project

Project Location	*City of Rancho Santa Margarita*
Sustainability Strategy Category	**Transportation Infrastructure Investments:** • Traffic calming measures • Develop traffic calming systems
Project Description	The traffic calming project will construct four curb extensions along the north side of Robinson Rancho Road between Briarwood Lane and Morningside Drive, thereby reducing downhill vehicle speeds, and creating added protection for pedestrian crossings at the intersections. In addition, the curb extensions will improve sight distance for motorists exiting residential neighborhoods adjacent to Robinson Ranch Road.
Emissions Reductions Benefits	Traffic calming reduces speeds and volumes on specific roads. Typical strategies include traffic circles at intersections, raised crosswalks, and partial street closures to discourage short-cut traffic through residential neighborhoods. This reduces car use, increases road safety and creates a more pedestrian- and bicycle-friendly environment.
Project Status	Project is included in the City's Seven-Year Capital Improvement Program, and was recently awarded a Highway Safety Improvement Program project grant from the State.

Ladera Ranch and the Ranch Plan Planned Communities

Project Location	*Southeasterly Unincorporated County of Orange*
Sustainability Strategy Category	**Land Use Policies:** • Compact building design with a mix of uses • Develop "complete communities" • Water-wise and ecologically friendly landscape plans • Horizontal or vertical mixed-use • Increasing housing densities within/adjacent to employment Areas • Local housing for local workforce • Preservation of habitat **Alternate Modes:** • Use of neighborhood electric vehicles. • Construct regional bikeways. • Upgrade bike transportation system. • Improve pedestrian infrastructure and facilities (Crown Valley pedestrian bridge).
Project Description 	**Ladera Ranch Planned Community:** In 2006, the prestigious Urban Land Institute chose Ladera Ranch as the winner of its Award of Excellence as the best planned community in the Americas. Begun in 1998 and substantially completed in 2006, Ladera Ranch set a new standard for the development of walkable master planned communities in Southern California. Its final-phase villages of Terramor and Covenant Hills have created a model for sustainable community practices; convincing many national production builders to apply green-building techniques used for the first time in Ladera Ranch to other projects around the country. **Ranch Plan Planned Community:** The Ranch Plan is a long-term land use plan approved in 2004, and likely to be developed over the next two decades. One of the corner-stone principles of the Ranch Plan is to create a community where all residents may easily and safely walk or bike to jobs, shopping, schools, parks and regional open spaces.
Emissions Reductions Benefits	**Ladera Ranch Planned Community:** • Emissions have been reduced through the creation of a Complete Community where homes, schools, shops, restaurants, offices, places of worship, child-care centers, and parks

Project Location	*Southeasterly Unincorporated County of Orange*
	all easily accessible via a short auto trip, or via the system of walking and bicycle trails. • The 1,260 home Terramor village land plan in particular emphasized walkability through the creation of a central Arroyo/Paseo trail network that doubled as a Biofiltration Treatment system. **Ranch Plan Planned Community:** • Builds upon the Ladera Ranch Complete Community model by integrating up to 5.2 million square feet of non-residential uses in addition to the 14,000 homes, including vertically integrated home-based businesses. • Incorporates an extensive system of regional and community level bikeways, hiking and walking trails that will provide linkages within and between each of the future neighborhoods and villages and to surrounding cities, nearby beaches, Caspers Regional Park and the Cleveland National Forest. • The land plan is based on the recognition that neighborhood streets are not just corridors for moving traffic, but should serve as Complete Streets; allowing social interaction, walking, biking and other transportation modes, including neighborhood electric vehicles. • Six villages have been entitled, each to be surrounded by natural open space and ranch/agriculture lands. Three quarters of the 22,815 acre Ranch Plan area will be dedicated to a conservancy to be preserved and privately managed as open space for habitat preservation (including the protection of seven threatened or endangered species, in addition to 25 sensitive species)
Project Status	**Ladera Ranch Planned Community:** • The 8,100 dwelling unit Ladera Ranch community is 99% built-out, implemented primarily between 1999 and 2006. **Ranch Plan Planned Community:** • Construction of Phase One of the Ranch Plan planned community has begun, with home sales beginning in 2013, and office and commercial uses to be built soon thereafter.

City of Aliso Viejo Green City Initiative

Project Location	*City of Aliso Viejo*
Sustainability Strategy Category	**Land Use Policies:** • Compact building design • Water-efficient landscape • Downtown revitalization • Enhanced energy efficiency codes • Land use and building code reform • Horizontal or vertical mixed-use • Increasing housing densities within/adjacent to employment areas • Increasing residential/commercial density near transit • Integrate affordable and market rate housing • Local housing for local workforce • Making developments transit ready • New housing and jobs within 1/2 mile of existing/planned transit stations • Provide recognition programs • Provide regulatory relief • Zoning reform • City educational programs • Reduce vehicle miles traveled • Adopt complete streets policy **Alternate Modes:** • Promote cleaner modes of transport • Trail improvement project • Improve connectivity of streets with pedestrian network • Improve pedestrian environment • Improve pedestrian infrastructure and facilities • Increase bike/balk trips with improved streets and facilities **Transit/Transportation Infrastructure:** • Enhanced bus stops • Improve transit service • Intercity bus transit • Traffic calming measures • Implement traffic signal coordination
Project Description	The Green City Initiative (GCI) will establish goals, policies and implementation actions related to energy conservation, water conservation, vehicle management,

Project Location	*City of Aliso Viejo*
	transportation, air quality, recycling, land use and adaptation to climate change, and will include requirements for a greenhouse gas emissions reduction monitoring program. Furthermore, a GCI Website has been created that posts a variety of information related to the GCI. Together with a new Facebook page, the Website will provide additional important venues for public participation in the Green City Initiative process. Finally, the City will establish a "Green Award Program" to recognize individuals and businesses who take steps to reduce their greenhouse gas emissions footprint.
Emissions Reductions Benefits	Though the impetus to GCI is in response to State legislative requirements, GCI is equally dedicated to creating a more sustainable, livable Aliso Viejo as well as about reducing GHG emissions. Furthermore, the GCI also is intended to enhance Aliso Viejo's ability to promote a healthy economic environment for residents and businesses in the City. The belief is that an enhanced "green" residential and business environment will attract and retain additional investment money and business income into Aliso Viejo – all of which contribute to a greener future.
Project Status	Project is in process, with expected completion date of December 2011.

Costa Mesa Urban Plans

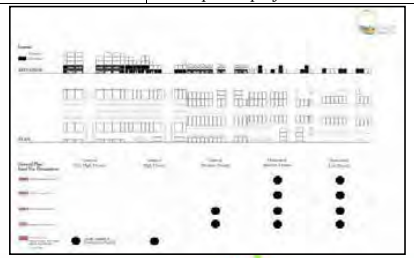
Project Location	*City of Costa Mesa*
Sustainability Strategy Category 	**Land Use Policies:** • Compact building design • Horizontal or vertical mixed-use • Improve accessibility of housing to transit • Increasing residential density near transit • Infill in areas with existing infrastructure • Support revitalization of older, densely settled urban areas. • Zoning reform measures • Shared parking **Alternate Modes:** • Facilitate increased biking opportunities • Improve bicycle infrastructure and facilities **Transit Infrastructure:** • Enhanced bus stops and improve transit facilities.
Project Description 	In 2006, three Urban Plans were developed to establish overlay zones in specific areas of the westside of Costa Mesa: (1) 19 West Urban Plan, (2) Mesa West Bluffs Urban Plan, and (3) Mesa West Residential Ownership Urban Plan. West Costa Mesa is currently developed with mostly marginal commercial and light industrial uses in a great geographical location. The three main purposes of the urban plans are to do the following: • **Encourage Commercial/Residential mixed-use development** that combines residential and nonresidential uses in a single building (vertical mixed-use development) or in proximity on the same site (horizontal mixed-use development). This type of development could include office, retail, business services, personal services, public spaces and uses, and other community amenities to revitalize the area without exceeding the development capacity of the General Plan transportation system. • **Encourage adaptive reuse** of existing industrial or commercial structures, which would result in rehabilitated buildings with

	unique architecture and a wider array of complementary uses. • **Meet demand for a new housing type** from artists, designers, craftspeople, professionals and small-business entrepreneurs.
Emissions Reductions Benefits	The urban plans provide for new housing and mixed-use development. Concentrating and intensifying development within half to one mile of the Harbor Boulevard transit corridor will encourage alternative transportation modes, reduce vehicle miles traveled and generally contribute to greener development.
Project Status	The Urban Plans were approved in 2006. Several projects for mixed-use and live-work units have been approved. One is currently under construction.



Orange 2010 General Plan Update

Project Location	***City of Orange***
Sustainability Strategy Category	**Land Use Policies:** • Horizontal or vertical mixed-use • Increasing housing densities within/adjacent to employment areas • Increasing residential/commercial density near transit • Integrate affordable and market rate housing • Local housing for local workforce • New housing and jobs within 1/2 mile of existing/planned transit stations **Alternate Modes:** • Increase bike/walk trips with improved streets and f acilities **Transit Infrastructure:** • Enhanced bus stops • Improve transit facilities
Project Description	The Plan locates mixed-use districts around major employment and activity hubs including three regional medical centers, County justice facilities, shopping, entertainment, a university, the historic downtown Plaza, and major sports venues. Existing multi-modal transit in these areas are planned for expansion.
Emissions Reductions Benefits	The Plan's Land Use and Circulation and Mobility Elements improve efficiencies between land use and circulation, and encourage pedestrian and multi-modal linkage between neighborhoods, employment, goods, services, and recreation.
Project Status	The Plan was approved in 2010 and is under implementation through development of new mixed-use zoning standards, a transit-oriented specific plan around the Orange Transportation Center, and private development projects.



LAND USE, TRANSPORTATION, AND SUSTAINABILITY STRATEGY CONCLUSION

Orange County is engaged in a collective effort to link transportation and land uses through a wide spectrum of processes and organizations working together. This effort includes a variety of progressive measures undertaken by Orange County jurisdictions, agencies, and groups that lead to changes in the use of automobiles and light duty trucks, resulting in reductions in greenhouse gas emissions.

The scope of current and planned strategies is broad and encompasses significant investment by both the public and private sectors to implement them. They include the following:

- Promoting a land use pattern that accommodates future employment and housing needs.
- Using land in ways that make developments more compact and better links jobs, housing and major activity centers.
- Protecting natural habitats and resource areas.
- Implementing a transportation network of public transit, managed lanes and highways, local streets, bikeways, and walkways built and maintained with available funds.
- Managing demands on the transportation system (TDM) in ways that reduce or eliminate traffic congestion during peak periods of demand.
- Managing the transportation system (TSM) through measures that maximize the efficiency of the transportation network.
- Utilizing innovative pricing policies to reduce vehicle miles traveled and traffic congestion during peak periods of demand.

These strategies are Orange County's contribution to regional strategies to achieve both 2020 and 2035 GHG thresholds established by CARB.

CHAPTER 4: COMPLYING WITH THE CLEAN AIR ACT

INTRODUCTION

SB 375 requires the SCS to allow the regional transportation plan to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Sec. 7506). This chapter describes how the strategies outlined in the OC SCS help to achieve this compliance by reducing air pollution.

AIR POLLUTION REDUCTIONS

While GHG emissions reduction is a significant goal of SB 375, the legislation recognizes that automobiles and light trucks account for 50% of air pollution in California and 70% of petroleum consumption. Established modeling methodology has shown that changes in land use and transportation policy can reduce air pollution.

The SCS strategies help to achieve the SB 375 objective of allowing the RTP to comply with the federal Clean Air Act by accomplishing one or more of the following goals:

- A reduction of Vehicle Miles Traveled (i.e., vehicles travel shorter distances from their origin to destination, by placing residential uses near work and shopping areas);
- A reduction of Vehicle Hours Traveled (i.e., vehicles spend less time on the roadways; they may travel the same distance as before, but reduced congestion and stop-and-start activity improves travel time); and,
- Minimizing the use of gasoline-powered vehicles by increasing the use of non-motorized travel, alternative fuel vehicle use, or shared rides.

Many of the strategies to reduce GHG emissions outlined in the OC SCS, including the sustainability strategies detailed in Appendix F, also will achieve at least one of the above actions. Air pollution can be reduced by avoiding extra miles, reducing traffic congestion, and reducing the number of gasoline-powered vehicles with single occupants. In doing so, they will help meet the federal air pollutant concentration standards, and provide significant assistance to California's goals of implementing the federal and state Clean Air Acts and reducing its dependence on petroleum.

Additionally, OC SCS strategies help to reduce smog-forming and other emissions that pose health risks. Further, many of the strategies provide increased opportunities for people to be physically active which can improve people's general health, potentially reduce costs of transportation by offering alternative choices, and increase social benefits by providing increased mobility for people who do not have the option of using a passenger vehicle (e.g., disabled, economically disadvantaged, etc.).

CLEAN AIR ACT CONCLUSION

Implementation of the strategies outlined in the OC SCS is expected to result in decreased air pollution, allowing the RTP and OC SCS to comply with the federal Clean Air Act.

CHAPTER 5: RESOURCE AREAS AND FARMLAND

INTRODUCTION

SB 375 requires the SCS to gather and consider the best practically available scientific information regarding resource areas and farmland in the region. This chapter provides a summary of the resource areas and farmlands located within Orange County. These lands are considered unavailable for development, thus focusing future development in more dense cores and along major transportation infrastructure.

California Department of Fish and Game: California Natural Diversity Database (CNDDB)

The CNDDB is a "natural heritage program" under the auspices of CDFG and is part of a nationwide network of similar programs, all of which provide location and natural history information on special status plants, animals, and natural communities to the public, other agencies, and conservation organizations. The data help drive conservation decisions, aid in the environmental review of projects and land use changes, and provide baseline data helpful in recovering endangered species and research projects. The CNDDB used here (Figure 59) has been pared down further, to highlight only those species considered rare, threatened, or endangered according to the State of California or the United States government. Sightings that were considered less accurate (greater than an 80m [meter] area) were also omitted.

The CNDDB is updated monthly and contains information that has been mapped at the parcel level to about 1:24,000 scale. The November 2010 CNDDB is used in this document, which is applicable to County-level maps.

National Flood Hazard Layer

The National Flood Hazard Layer (NFHL) created and maintained by Federal Emergency Management Agency (FEMA) is a compilation of effective flood insurance rate maps and Letter of Map Change. In its basic form, NFHL shows areas within the 100-year

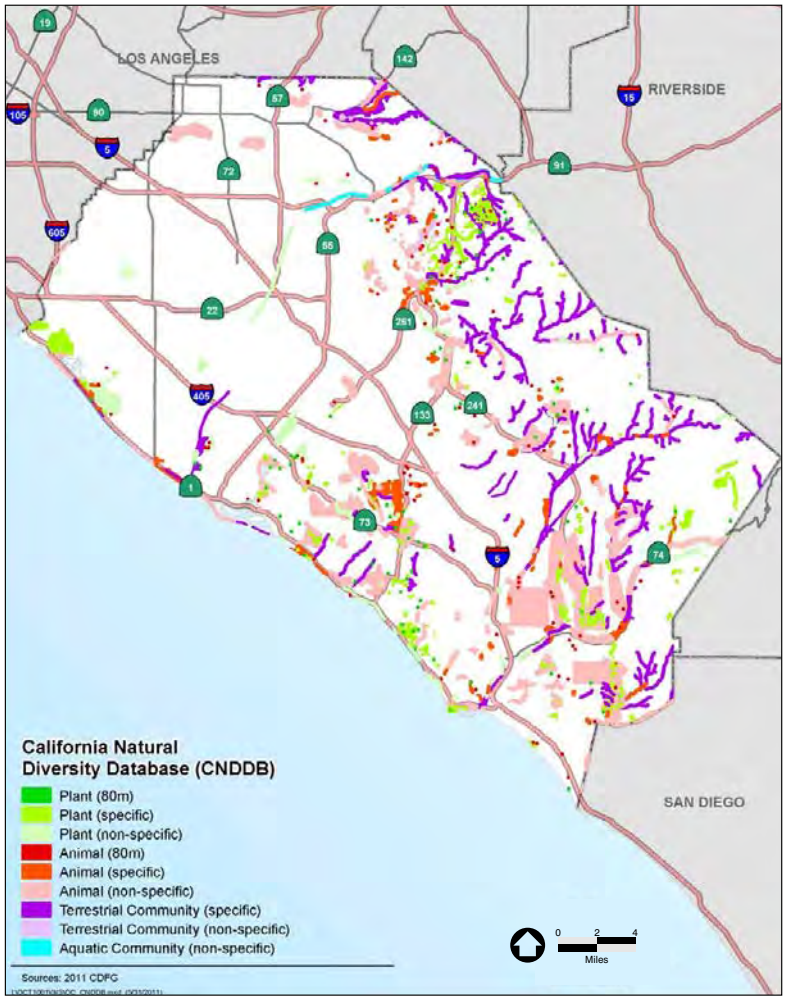


Figure 59 **California Natural Diversity Database**

floodplain at risk of flood damage during such an event. The NFHL on Figure 60 has been mapped at a scale of 1:6,000 or better (i.e., a larger scale) and is applicable for County-level maps. The information is updated approximately quarterly; September 2010 is the date of the information used here.

Natural Community Conservation Planning (NCCP)

In 1991, the California legislature passed the NCCP Act to encourage a collaborative process for regional planning. As a result, natural open space reserves have been set aside in the coastal and central portions of Orange County.

The NCCP is administered by the U. S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), and the County of Orange and is designed to protect open space associated with species preservation. Within each NCCP boundary, set areas are open space reserves and natural corridor linkages that allow for animals to move from one to another. Any potential changes from the existing open space land use to another type of land use must be reviewed thoroughly by USFWS, CDFG, and the County, and be consistent with the goals of the NCCP.

The reserves for the central and coastal NCCP have been established, but the reserve for the southern NCCP has not been fully approved and is still awaiting CDFG approval. That being said, the southern NCCP reserve will not be modified significantly upon CDFG approval and should be viewed as an area where land use changes are discouraged.

For the most part, the NCCP depicted on Figure 61 has been mapped at the parcel level and is applicable for County level maps. The dates for the datasets used in the mapping are as follows:

- NCCP, Central & Coastal: August, 2010
- NCCP, Southern: 2006

California Protected Areas Database (CPAD)

The California Protected Areas Database (CPAD) is a GIS inventory of all lands owned by agencies whose general mission is to continue the open space uses on them. The database contains lands held in fee ownership by public agencies and non-profits; it does not contain data on private conservation and other similar public agency easements. This information is collected and compiled by GreenInfo Networks on an as-needed basis, which usually runs about once a year. The CPAD database highlights public lands owned or managed by the federal government, State of California, Orange County, or local city or non-governmental agency.

Orange County Sustainable Communities Strategy



Figure 60 Flood Hazard Layer

Orange County Sustainable Communities Strategy

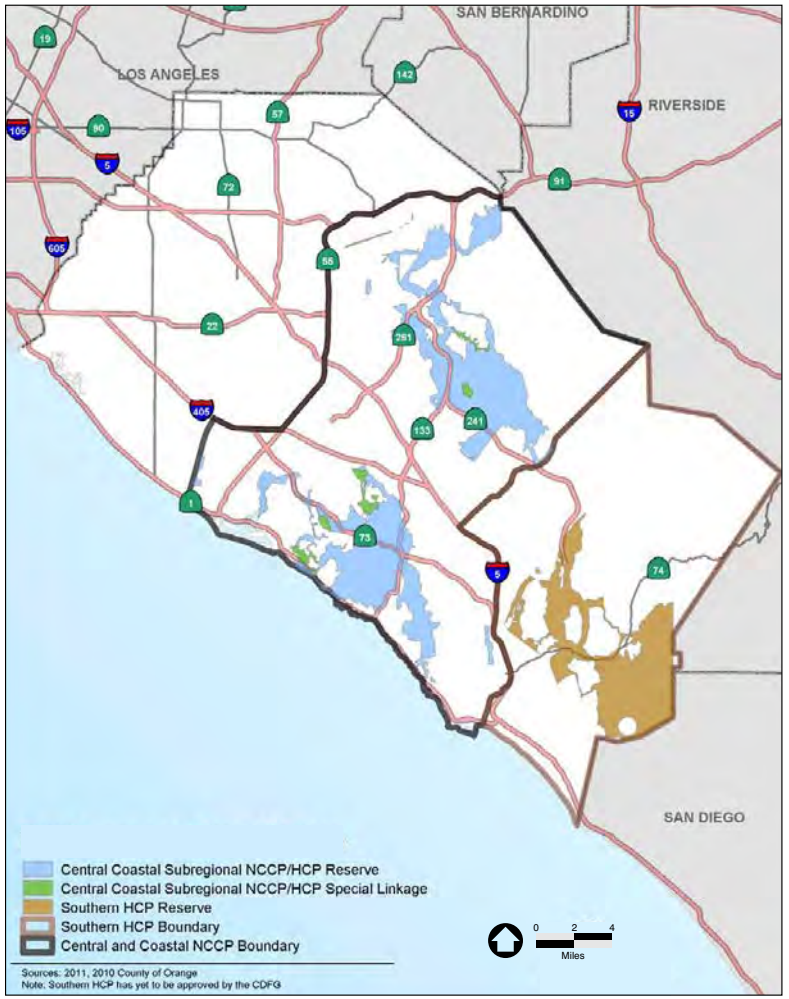


Figure 61 Natural Community Conservation Plan

The CPAD version used for Figure 62 is version 1.5 (June 2010). The data was compiled by GreenInfo Networks. The scale of mapping is done at 1:24,000 (or larger) and is applicable to County level maps.

Farmland Mapping Provided by the USDA Farmland Monitoring and Mapping Program (FMMP)

The FMMP was established in 1982 in response to a critical need for assessing the location, quality, and quantity of agricultural lands, and conversion of these lands over time. FMMP is a non-regulatory program and provides a consistent and impartial analysis of agricultural land use and land use changes throughout California.

Specific farmland was identified using the FMMP dataset created for Orange County in 2008 by the U. S. Department of Agriculture. Of all of the categories of farmland, only Prime Farmland, Farmland of Statewide Importance, and Unique Farmland were identified and used in our mapping. While the conversion of agricultural land to nonagricultural uses represents an important environmental concern which requires appropriate discussion in environmental documents prepared pursuant to the California Environmental Quality Act (CEQA), development of such land is not prohibited by law.

Farmland mapping through the FMMP occurs biennially (depending on governmental funding levels), the most current year for Orange County being 2008. The scale of mapping for Figure 63 is 1:24,000 and is applicable to County level maps.

Williamson Act parcels (separate from the FMMP but part of the overall conservation effort of farmlands) do not exist within Orange County. The last Williamson Act parcels were located in Rancho Mission Viejo in the southern part of Orange County and expired by 2008.

USFWS Critical Habitat

The USFWS creates and manages critical habitat for a variety of species deemed to be endangered or threatened due to habitat loss. These critical habitat areas are identified by the USFWS as areas critical to the species survival and success. Each critical habitat is unique to the species it covers.

The various critical habitats are all mapped on Figure 64 at a scale of 1:24,000 or greater and are applicable to County-level maps. Following are the dates of the various critical habitats mapped in our mapping:

- Arroyo Toad: 2/11/2011
- Braunton's Milk-vetch: 12/14/2006
- Coastal California Gnatcatcher: 12/19/2007

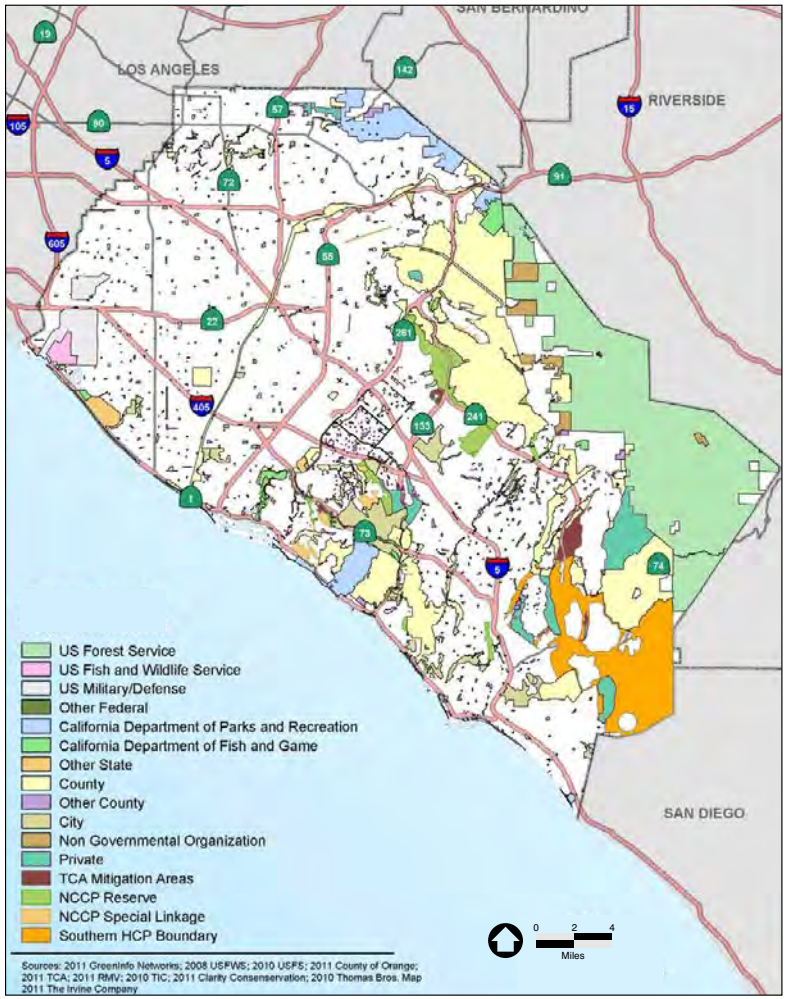


Figure 62 **California Protected Areas Database**



Figure 63 Farmland Monitoring and Mapping Program

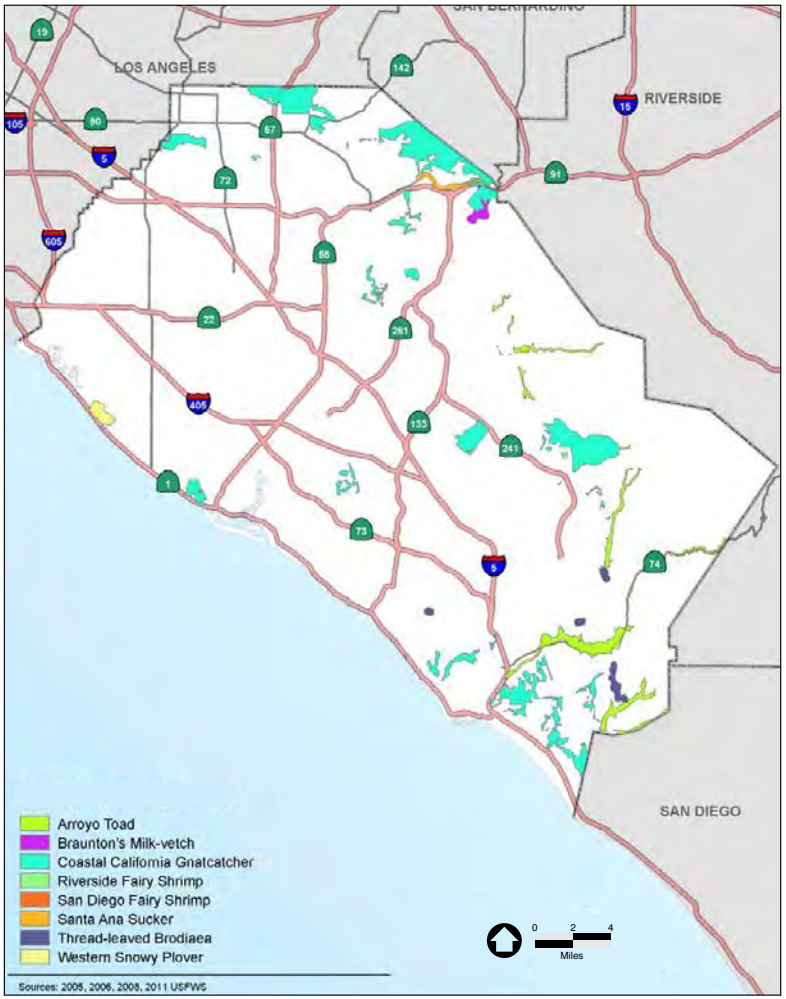


Figure 64 U. S. Fish and Wildlife Service Critical Habitat

- Riverside Fairy Shrimp: 5/12/2005
- San Diego Fairy Shrimp: 1/11/2008
- Santa Ana Sucker: 1/13/2011
- Thread-leaved Brodiaea: 2/11/2011
- Western Snowy Plover: 10/31/2005

Measure M2 Mitigation Program

M2 includes a comprehensive Environmental Mitigation Program that provides landscape-level mitigation to offset environmental impacts for the 13 freeway improvement projects using five percent of M2 freeway program revenue. OCTA is implementing the mitigation program through a collaborative partnership with CDFG, USFWS, Caltrans, and the environmental community.

The M2 mitigation program was among a handful of projects identified by the OCTA Board of Directors that allowed for early planning, advance funding, and implementation. In late 2010, the Board of Directors authorized expenditure of approximately $42 million for acquisition of natural lands (inclusive of long-term management costs) as part of the M2 Environmental Mitigation Program. Additional funds are anticipated to be available in the future; the specific amount of funds available will be dependent on the revenue stream from the sales tax measure. A suite of the most biologically valuable properties and those that most closely align with the freeway impacts are under consideration and/or negotiation. This program is conducted through a voluntary process, similar to private open market transactions. Offers have been made to a number of properties and it is conceivable that the initial funding allocation could yield over a thousand acres of acquired open space properties throughout Orange County. OCTA will receive streamlined permits from the resource agencies for its freeway projects.

Orange County Sustainable Communities Strategy

RESOURCE AND FARMLAND CONCLUSION

Following is a summary of the resource areas and farmland described above:

Areas that fall within a category of the CNDDB would most likely be protected as a natural resource or habitat, so they would not support residential development under SB 375.

SB 375 excludes areas where it has been "determined that the flood management infrastructure designed to protect that land is not adequate to avoid the risk of flooding."

NCCP reserves and/or special linkages (central, coastal, and southern NCCP) do not support residential development under SB 375 and are protected open space areas.

The public lands or open-space lands identified in the CPAD do not support residential development under SB 375. The CPAD areas should be considered as protected open space areas.

Development of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland often constitutes a significant impact under CEQA. Critical habitat represents land that has been preserved for existing natural resources and is therefore not suitable for residential development under SB 375.

Approximately $42 million has been authorized for the acquisition and long-term management of natural lands as part of the M2 Environmental Mitigation Program. Additional funds are anticipated to be available in the future; the specific amount of funds available will be dependent on the revenue stream from the sale tax measure.

APPENDICES

Orange County Sustainable Communities Strategy

APPENDIX A

SCAG LETTER TO CARB CONDITIONING GHG EMISSIONS REDUCTIONS

SOUTHERN CALIFORNIA
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Policy Committee Chairs
Community, Economic and Human Development
Bill Jahn, Big Bear Lake
Energy & Environment
Margaret Clark, Rosemead
Transportation
Greg Pettis, Cathedral City

September 20, 2010

Ms. Mary Nichols
Chair,
California Air Resources Board
PO Box 2815
Sacramento, CA 95812

Dear Chairwoman Nichols:

This letter is to transmit the Regional Council action of September 2, 2010 regarding the upcoming Air Resources Board (ARB) meeting to consider establishing greenhouse gas emission reduction targets for 2020 and 2035 in accordance with SB 375 (Steinberg).

The Regional Council at its September meeting approved the following motion:

"SCAG recommends to ARB the following targets for GHG reductions: in 2020, 6%, and in 2035, 8%. And, if ARB accepts the 11 recommendations or the 11 items that we have (see attached report), including adding in fully funding the redevelopment funds and adding the self-help projects/counties, then SCAG would sit down with ARB as a partner and renegotiate the higher numbers."

Thank you for your consideration of this recommendation. As you may be aware, the recommendation came after a long discussion and hearing public input from numerous stakeholders in our region.

SCAG Regional Council looks forward to working with the ARB to successfully implementing SB 375 requirements. Please feel free to contact Mr. Hasan Ikhrata, SCAG Executive Director or me at 213-236-1800 should you have any questions or comments.

Sincerely,



Larry McCallon
SCAG President
Councilmember, City of Highland

CC: James Goldstein
Lynn Terry
Terry Roberts
Regional Council

The Regional Council is comprised of 84 elected officials representing 189 cities, six counties, six County Transportation Commissions and a Tribal Government representative within Southern California.

6.8.10

REPORT

DATE: September 2, 2010

TO: Regional Council (RC)
Community, Economic, and Human Development Committee (CEHD)
Energy and Environment Committee (EEC)
Transportation Committee (TC)

FROM: Hasan Ikhrata, Executive Director, (213) 236-1844, ikhrata@scag.ca.gov

SUBJECT: SB 375 Final Draft Regional Targets

EXECUTIVE DIRECTOR'S APPROVAL:

RECOMMENDED ACTION:
Support the California Air Resources Board's (ARB) staff recommended SB 375 final draft greenhouse gas (GHG) emission reduction targets of 8% for 2020 and 13% for 2035. This support for the final draft targets are conditioned upon a combination of the following actions or alternative equivalent measures:

- Restoration of previous levels of State funding for transportation, transit in particular.
- Continued leadership by the regional partners to increase availability of State funds for the region.
- Continued partnership by the state and regional partners to increase availability of state funding for the region.
- Continuing partnership and commitment from each County Transportation Commission (CTC) to support the SCS development process, including a focus on non-motorized transportation solutions.
- Continued leadership by the regional leaders to increase availability of federal funding through the next transportation authorization and through climate change legislation.
- ARB will commit to working with MPOs, local governments, state agencies and the Legislature to identify, pursue and secure adequate incentives and sustainable sources of funding for local and regional planning and other activities related to the implementation of SB 375.
- Targeted increase in funding commitments for Transportation Demand Management, non-motorized transportation (walk and bike), transit, transportation, redevelopment and other necessary funding from Federal, State and local agencies.
- Timely implementation of the "30-10" proposed acceleration for Measure R projects in Los Angeles County.
- Improvements in land use planning in cooperation with local governments, mostly at the neighborhood scale.
- Expanded funding for Compass Blueprint demonstration projects, a voluntary city/county grant program directed to sustainable planning objectives (as discussed at the SCAG General Assembly).
- Implementation of Green Cities voluntary recognition and awards program (as discussed at the General Assembly).

EXECUTIVE SUMMARY:
On August 9, 2010, the ARB released a staff report recommending final draft GHG targets for each region pursuant to SB 375. This report summarizes activity leading up to this stage, and recommends action for the Regional Council in response to ARB's staff recommendation. This report contains (A) a

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description of what is required for the region to succeed in meeting targets, (B) a rationale supporting the staff's recommendation, (C) an update and chronology of events leading up to the release of the final draft targets, and (D) identification of anticipated next steps.

STRATEGIC PLAN:

1. Improve Regional Decision Making by Providing Leadership and Consensus Building on Key Plans and Policies
   a. Create and facilitate a collaborative and cooperative environment to produce forward thinking regional plans.
2. Obtain Regional Transportation Infrastructure Funding and Promote Legislative Solutions for Regional Planning Priorities

BACKGROUND:

Since SB 375 went into effect in January 2009, SCAG has worked to ensure this region's successful implementation of this important legislation. The long term importance of this legislation and the efforts and dialogue it has thus far generated, a statewide policy discussion has occurred as to how to best implement SB 375 that ensures California's future regarding the key issues of land use, transportation and emissions reduction.

One of the keys in achieving a successful outcome of SB 375 includes obtaining from the ARB appropriate per capita GHG reduction targets for 2020 and 2035. The appropriate targets for SCAG are those that can be achieved with a sound Sustainable Communities Strategy (SCS) in the Regional Transportation Plan (RTP), while still challenging the region to submit a SCS plan in 2012 that successfully achieved the targets established by the ARB.

ARB has sole discretion to adopt regional targets under SB 375, but has engaged in a collaborative process to enable stakeholder input and collaboration of the MPOs as well as other stakeholders as a part of their final decision-making process. After considerable additional analysis and discussion, both with stakeholders in over 100 outreach meetings within the SCAG region as well as with our major MPO partners throughout California, SCAG staff recommends support of the targets proposed by ARB staff in their August 9 staff report of 8% in 2020 and 13% in 2035, based on the ambitious principal.

In making this recommendation, it is acknowledged that these targets will not be easily achieved and cannot be met by adopting a "business as usual" approach. Successful implementation is predicated on several key assumptions outlined below where SCAG, in partnership with cities, counties, the business community, and county transportation commission's, must work together in the next year to develop and submit a SCS plan that achieves the goals set by ARB. This report outlines certain areas of change that appear to be achievable based on current data, the final and more specific analysis of how these goals can best be met will occur as part of the next phase of the implementation process as we prepare and then complete a SCS for the SCAG region.

These final draft targets for SCAG are on par with those currently proposed by the other three major MPOs in the State (Bay Area, Sacramento and San Diego) and, while certainly challenging for Southern California, they are possibly achievable based on updated assumptions and analysis of the options and resources

REPORT

available to SCAG for the 2012 RTP/SCS. Staff recommends that working together with the Federal and State governments, this region needs to make the effort to do all that it reasonably can to meet these targets. Such an effort will allow this region to be successful both in developing a SCS as required by SB 375 and, more importantly, positioning our region to create opportunities for a substantially improved quality of life for our residents and businesses in the areas of public health, congestion relief, air quality and land use.

A. Path Forward

In March 2009, the Regional Council and policy committees set broad goals for the implementation of SB 375 in the SCAG region. These goals included a strong preference for achieving the GHG target with the SCS contained within the RTP, and not resorting to the optional, unconstrained Alternative Planning Strategy (APS). SCAG has been actively involved in the target setting process, including developing five scenarios for input to ARB. Those initial scenarios demonstrated achievability of targets of 7-8% for 2020 and 5-6% for 2035. Since that time, the three other large MPOs in the State developed scenarios that were more aggressive, achieving up to 19% per capita reductions in 2035. Consequently, SCAG staff performed additional sensitivity testing of 2035 scenarios that considered additional Transportation Demand Management (TDM) and non-motorized measures (equivalent to SANDAG's 2035 scenario), refined forecasting analysis of local socioeconomic input, revised modeling parameters, and off-model analyses. The tests indicate that a 13% or more per capita reduction target in 2035 is very ambitious, but possibly achievable, assuming successful implementation of projected regional projects (including 30-10 plan in Los Angeles County) and commitments from the State and Federal governments as outlined in the staff recommendation. The specific revised analysis to demonstrate achievability of these targets is described further below, under "Rationale and Outcomes."

SCAG has placed a high degree of importance on input and involvement from key partners and stakeholders throughout the target setting process and will continue to do so during the development of the SCS. As part of SCAG's review of ARB's final draft targets, staff has provided briefings to the Plans and Programs Technical Advisory Committee, County Transportation Commission's Executive Officers, Southern California Leadership Council (SCLC), Greater Land Use Economic Council (GLUE), AQMD, individual business meetings, individual and group environmental stakeholders meetings, and others. The staff recommendation reflects input from these groups.

Input from the key regional stakeholders has been summarized below:

- Environmental Groups: Staff conducted several meetings with representatives from the environmental community (including the National Resources Defense Council (NRDC), Environmental Defense Fund (EDF), Climateplan, Clean Air Coalition, and Move LA) During these meetings, staff responded to extensive questioning about the SCAG submitted target setting methodology, modeling assumptions, and whether the proposed seven scenarios considered in setting a target range for 2020 and 2035 GHG reduction were sufficiently ambitious. The general consensus received from these discussions was that SCAG could do more GHG reduction by 2035 than SCAG staff is recommending to the SCAG Board. Further, these environmental groups indicated they intended to transmit correspondence to the Regional Council and ARB. Members requested SCAG staff provide another option which clarifies what it would take (i.e., funding and other actions) to do more than 13% GHG goal proposed by ARB staff. Staff indicated they would continue to consider all relevant information as part of the upcoming development of the SCS Plan.

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

Joint Policy, September 2010

- Business Groups: Staff met several times with business leaders (including the SCLC, GLUE, Building Industry Association of Southern California (BIA), and the Irvine Company, including representatives from Orange County Business Council (OCBC), Orange County Transportation Authority (OCTA) and Orange County Council of Governments (OCCOG) to discuss the SCAG staff recommendation supporting the ARB staff recommendation with the conditions outlined above to achieve the proposed 2020 and 2035 GHG reduction targets. There was general consensus from the meetings, given the state of the California economy, that there is significant risk to the region to support a higher GHG goal than originally submitted to ARB without an ARB Board funding commitment to partner with SCAG. They indicated that it is imperative that ARB Board commit to a funding partnership with SCAG to achieve the 2035 GHG reduction goals by providing incentive funding for activities such as expanded compass program for cities/counties who want to voluntary implement the ARB goals. In addition, the SCLC has transmitted a letter to ARB addressing other actions the Board could take to reduce GHG and at the same time improve the economy.

- Regional Transportation Agencies Executive Officers: Staff has regularly sought input from the Chief Executive Officers (CEOs) of the County Transportation Commissions as the ARB target setting process has preceded. Staff met with the CEOs on August 20 and provided an update on staff's recommendation to support the ARB staff GHG target recommendations pending Regional Council support on September 2. Full partnership with the Commissions is essential to the successful development of a SCS in 2012 and accepted by ARB. Meaningful GHG reduction in the transportation sector can only be accomplished with the support of the Commissions. The Commissions are mandated to fulfill the voter approved local sales tax transportation programs. In addition, program State and Federal transportation funds that will support clean fuel alternatives, provide increased modal alternatives to single occupancy vehicles, reduce congestion chokeholds, increase bikeway program investments, and increase transportation demand management options (such as HOV lane expansion, congestion pricing, signal synchronization, etc.). The overall consensus of the discussion at the CEOs meeting was to support SCAG staff recommendation with the understanding of the need to clarify in writing that ARB will be a full funding partner with the region to implement SB 375 GHG goals. At the point of this report being prepared no Board actions of the CTCs have yet taken place.

A key component of the anticipated path forward is SCAG's commitment to an expanded Compass Blueprint program and the development of a new Green Cities Initiative. The Compass Blueprint program has created a successful collaboration with local government for 84 demonstration projects throughout the SCAG region to implement strategies consistent with the goals of SB 375. These strategies include in-fill development, transit oriented development, mixed use, and neighborhood design to encourage walking and biking. SCAG's new Green Cites Initiative, announced at the General Assembly is anticipated to provide voluntary tools and tracking capacity for local government in preparing sustainability plans. Further, the program will allow local governments to compete for awards and recognition for the communities doing the most to reduce GHG emissions. As part of the staff recommendation included in this report, SCAG will be seeking a commitment from ARB to assist in pursuing and securing further funding for these programs.

B. Rationale and Outcomes

As mentioned, ARB has the sole discretion to determine regional targets. That said, it is important for SCAG to participate in the process of determining targets in order to ensure the appropriate planning is done

REPORT

to best position this region's ability to achieve these targets and to remain competitive with the rest of the State.

The proposed final GHG targets, particularly those for 2035, would be challenging for the SCAG region, in that it would be necessary to move substantially beyond status quo commitments in a number of areas. Nevertheless, staff believes it is important for SCAG, as the largest region in the State, to continue to establish a responsible leadership role in the implementation of SB 375. The targets as currently proposed are in approximate parity with each of the major regions in California, as shown below under "Chronology." This approximate parity with other regions is important, especially if any future State funding opportunities or criteria were to be based on these targets. Each of the other three large MPOs at this point has formally recommended a GHG target as reflected in the ARB staff report.

As noted, SCAG has prepared further scenario analysis that demonstrates that a 13% target, or more, can be attainable with significant funding from State, Federal and regional sources in 2035 assuming certain adjustments to both policy measures and technical assumptions. Specifically, SCAG tested a scenario with the following assumptions beyond those included in the 2008 RTP and the analysis that was performed earlier this year for the initial SCAG draft targets:

a) In conjunction with the Compass Blueprint program already included in the analysis, recent local input on an improved jobs/housing balance was analyzed.

b) A 1% reduction in home-based work trips, 174% increase in vanpools, 144% increase in carpools, and 20% increase in walk/bike to school (e.g., "safe routes to school"), which is similar to the TDM levels assumed by SANDAG in their 2035 scenario;

c) A 2.5 % reduction in VMT associated with non-motorized transportation;

d) Additional auto operating cost increase of $0.02/mile to a total of $0.24/mile (e.g., increases in fuel costs, repairs, maintenance, tires, and accessories); and

e) Capturing on-going local land use and community design improvement through off-model analysis, beyond that which has already been accounted for within the Compass Blueprint program.

As outlined by the conditions that are a part of staff's recommendation, in order to demonstrate achievement of a 13% target through the SCS, SCAG , its partners and the State and Federal governments would need to show commitment to implement and fund the underlying measures, or measures that achieve equivalent results. While the analysis shows the potential for such a target to be met, it should not be interpreted to mean that the region could do so without significant challenge and additional resources.

While the current focus is on target setting, it needs to be recognized that this entire effort and the overall intent behind SB 375 is to encourage regions throughout California to engage in a concerted, but reasonable effort, to put the State on a path toward a more sustainable future. In this light, as compared to the performance of the existing 2008 RTP, achieving the 13% per capita GHG reduction target in 2035 would be expected to result in the following estimated outcomes:

REPORT

- 1.7 million hours reduction in daily vehicle delays, equivalent to $7.7 billion annual cost savings (in 2009 dollars) due to congestion relief
- 3.4 million gallons daily reduction in light and medium vehicle fuel consumption
- 3.2 tons daily reduction in NOx and 2.9 tons daily reduction in PM10

Beyond these important outcomes for increasing the region's livability for 19 million residents, the region would accrue related benefits in public health due to reduced emissions exposure and illness, increased productivity, and economic activity due to reduced congestion and transportation cost.

At present, our current capacity to more specifically measure benefits and outcomes is limited both by time and by the availability of proper data and tools. As a function of the on-going MPO consultation efforts, regions are working to develop a set of performance measures that could be applied to the SCS statewide. Additionally, SCAG is continually working to improve our technical tools, including those made available to the local government members for their own planning processes.

C. Chronology

The chronology leading to ARB's determination of final regional targets includes:

- SCAG region outreach and dialogue among members and stakeholders – on-going, beginning November 2008 (more than 100 meetings to date)
- Completion of statewide Regional Targets Advisory Committee (RTAC) report, establishing parameters and process for target setting – September 2009
- Regional Workshop to review the RTAC report (Ontario) – November 18, 2009
- Consultation with other Metropolitan Planning Organizations (MPOs) on scenario development and other issues – September 2009 to present
- Development of five "sketch" scenarios to establish range of "ambitious/achievable" targets for the SCAG region – January 2010 to May 2010
- Regional Council authorization for SCAG staff to submit target information and recommendation to ARB – April 2, 2010
- General Assembly and Regional Conference (La Quinta) featuring review and discussion on target scenario – May 5-6, 2010
- Formal submittal of target scenarios in coordination with other large MPOs – May 18, 2010
- ARB release of preliminary draft GHG targets – June 30, 2010, as follows:
  - SCAG - 5-10% for 2020, 3-12% for 2035
  - SANDAG - 5-10% for 2020, 5-19% for 2035
  - MTC - 5-10% for 2020, 3-12% for 2035
  - SACOG - 5-10% for 2020, 13-17% for 2035
- Additional analysis testing scenarios assumptions and measures – May 18, 2010 to present
- ARB release of final draft GHG targets – August 9, 2010, as follows:
  - SCAG - 8% for 2020, 13% for 2035
  - SANDAG - 7% for 2020, 13% for 2035
  - MTC - 7% for 2020, 15% for 2035
  - SACOG - 7% for 2020, 16% for 2035
- Comments due to ARB on the final draft targets – September 22, 2010
- Scheduled ARB hearing to adopt targets – September 23, 2010

REPORT

Staff has reported extensively to the Regional Council and policy committees at critical stages of the targets setting process. Background information on target setting, including the RTAC report, SCAG and other regional scenarios, and ARB's staff report on proposed final targets are available on ARB's website - http://www.arb.ca.gov/cc/sb375/sb375.htm, and on SCAG's website, www.scag.ca.gov/sb375.

D. Next Steps

Pending direction from the Regional Council, SCAG will participate in the conclusion of the target setting process, including providing written comments and testimony at the September 23 ARB hearing. Subsequently, the focus will shift to the development of the 2012 RTP/SCS and the process to seek and define commitment to the steps and options as described above.

Of note for SCAG region local jurisdictions, staff is developing a round of workshops that will engage local governments, CTCs, and regional stakeholders (including the business community and environmental community) on the development of the SCS. Finally, SCAG staff continues to take steps to implement the expansion of Compass Blueprint and the Green Cities award and recognition program discussed at the General Assembly. Future staff reports to the Regional Council will request input and discussion on these new initiatives.

Staff has prepared a draft comment letter to ARB in response to their August 9 staff report. The comment letter includes the recommendations contained in this staff report and associated comments. The draft letter is attached to this report.

Staff has attached the correspondence received to date. Subsequently received correspondence received related to this matter will be distributed at the meeting.

FISCAL IMPACT:
SCAG staff work to implement SB 375 is included in the 2010-2011 Overall Work Program 020.SCG0599.

ATTACHMENTS
1) Target scenario and analysis matrix
2) Draft comment letter to ARB
3) Correspondence received as of August 27th

Reviewed by:

Department Director

Reviewed by:

Chief Financial Officer

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS
Joint Policy, September 2010

APPENDIX B

SCAG/OCCOG/OCTA MOU
SCAG Framework and Guidelines

Orange County Sustainable Communities Strategy

OC SCS: THE PROCESS

Public Participation

SCAG is leading the regional public participation process for the SCAG Regional SCS. In December 2009, SCAG approved a Public Participation Plan that includes public involvement in the development of the Regional SCS, as follows:

- Hold at least two informational meetings in each county for members of the Board of Supervisors and/or City Councils in order to present a draft of the SCS and to solicit and consider their input and recommendations.
- Hold at least three iterative public workshops per county (with the exception of Imperial County, where only one is required) in order to provide the public with the information and tools necessary to provide a clear understanding of SCS related issues and policy choices.
- Hold at least three public hearings on the draft SCS in the RTP, in different parts of the region, in order to maximize the opportunity for public participation throughout the region.

In addition to the SCAG outreach described above, the OCCOG Board directed staff to augment the regional effort with local outreach. The following is a brief description of the enhanced public outreach conducted in Orange County by OCCOG.

Local Jurisdictions

Orange County is made up of 34 cities and the County of Orange, which represents the unincorporated communities. Representatives from each of these 35 local jurisdictions participated in the creation of the OC SCS through a variety of means including the following:

- Development and approval of OCP-2010
- Providing input on the OC SCS outline and draft document
- Contributing strategic counsel regarding the approach to creating an OC SCS

Local jurisdictions participated in the development of the OC SCS by providing important background and setting information, incorporation of critical sustainability strategies, including transportation and land use strategies, and opportunities and ramifications for OC SCS implementation.

Public Meetings

All of the OCCOG Board and TAC meetings and meetings of the joint OCTA/OCCOG Sustainable Communities Strategy Joint Working Committee—created to guide and oversee the development of the OC SCS—were open to the public. At various milestones

in the development of the OC SCS (e.g., the project schedule, approval of the OCP-2010 data, the draft outline, and the draft SCS), items were brought to these policy and technical groups for review, discussion and input. Public comments were solicited at each meeting.

Stakeholder Roundtables
OCCOG hosted a series of roundtables with Orange County nonprofit organizations representing housing, health care, environment, transportation, and education. At these roundtables, staff introduced the OC SCS process, provided status reports on the OC SCS, and gathered feedback throughout the development of the OC SCS.

Web Tool
A web tool was created for the OC SCS to facilitate and document public engagement in the local SCS process (www.oc-scs.org). The web tool provided general information about SB 375, the regional and local SCS, and the various organizations involved in the development of the SCS. The web tool also was used for distribution of key OC SCS documents including a draft outline for the OC SCS, and draft and final draft versions of the complete text and maps of the proposed OC SCS. Comments on these documents were compiled and became part of the comprehensive record of public participation in the OC SCS (to be provided as an Appendix to the final document).

Documentation
Clearly outlined in the SCAG/OCCOG/OCTA MOU is a requirement to deliver to SCAG comprehensive documentation of the OC SCS process and public participation, including meeting notices, agendas, minutes, comments and responses to comments, handouts and presentations. This documentation has been compiled and will be included as an Appendix to the final version of the OC SCS.

MEMORANDUM OF UNDERSTANDING NO. C-0-1712

BY AND BETWEEN

ORANGE COUNTY TRANSPORTATION AUTHORITY

AND

ORANGE COUNTY COUNCIL OF GOVERNMENTS

AND

THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

FOR ORANGE COUNTY SUSTAINABLE COMMUNITIES STRATEGY

THIS MEMORANDUM OF UNDERSTANDING (hereinafter referred to as "MOU") is entered by and between the Orange County Transportation Authority, (hereinafter referred to as "AUTHORITY"), the Orange County Council of Governments, (hereinafter referred to as "OCCOG"), and the Southern California Association of Governments, (hereinafter referred to as "SCAG"), collectively referred to as the "Parties."

RECITALS:

WHEREAS, Senate Bill 375 (Chapter 728, laws of 2008, "SB 375") requires SCAG to prepare a regional Sustainable Communities Strategy (hereinafter referred to as "SCS" or "Regional SCS") as part of SCAG's Regional Transportation Plan (RTP) to achieve goals for the reduction of greenhouse gas emissions from automobiles and light trucks in the SCAG region which comprises the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura;

WHEREAS, SB 375 allows AUTHORITY, as the county transportation commission for Orange County, and OCCOG, as a subregional council of governments for Orange County, to develop and submit to SCAG a subregional SCS for Orange County (hereinafter referred to as "Orange County SCS");

WHEREAS, as part of its implementation of SB 375, SCAG has developed and adopted a certain "Framework and Guidelines for the Subregional Sustainable Communities Strategy" (hereinafter

referred to as "Framework and Guidelines"), attached hereto as Exhibit "A" and incorporated herein by this reference.

WHEREAS, SCAG is required by SB 375 to include a subregional SCS in the regional SCS, to the extent consistent with state and federal law, including the SCS conducted by Orange County; and

WHEREAS, AUTHORITY, OCCOG and SCAG desire to enter into this MOU to demonstrate mutual commitments to prepare the Orange County SCS.

NOW, THEREFORE, the Parties enter into the following MOU with respect to the matters set forth herein:

1. This MOU establishes the roles, responsibilities, and requirements for AUTHORITY, OCCOG, and SCAG that are necessary to develop an Orange County SCS that shall be included in the regional SCS prepared by SCAG.

2. AUTHORITY and OCCOG shall prepare the Orange County SCS consistent with SCAG's adopted Framework and Guidelines, as attached hereto, to ensure that the region can successfully incorporate strategies within the Orange County SCS into the Regional SCS, and not inhibit the region from complying with SB 375.

3. AUTHORITY and OCCOG agree to comply with the Milestones Schedule, attached hereto as Exhibit "B" and incorporated by this reference, and work with SCAG and the other subregions to ensure the successful delivery of a regional SCS by using the Deliverables Template, attached hereto as Exhibit "C" and incorporated herein by this reference as the primary template for developing a subregional SCS workplan. The Deliverables Template may be subject to change, based on direction from the SCAG Regional Council or Community, Economic and Human Development Policy Committee, and approval by OCCOG.

4. AUTHORITY shall prepare the transportation element of the Orange County SCS through AUTHORITY'S Long-Range Transportation Plan (LRTP). Such transportation element shall, at a minimum, identify a transportation network (i.e., list of transportation projects) to service the

transportation needs of Orange County, and describe transportation policies (e.g., Transportation Demand Management and Transportation System Management strategies).

5. OCCOG shall prepare the Orange County SCS, and use AUTHORITY'S LRTP as the transportation element of the Orange County SCS.

6. OCCOG and AUTHORITY are encouraged by SCAG to conduct a public participation process in developing the Orange County SCS, above and beyond the process required for the regional SCS required under Section 65080(b)(2)(D)-(E) of the California Government Code. Further, SCAG encourages OCCOG to develop a public participation plan, similar to SCAG's Public Participation Plan adopted in December 2009, for such purposes.

7. OCCOG and AUTHORITY agree to participate in all publicly noticed meetings, workshops, hearings, and other outreach activities organized in Orange County by SCAG at which the regional SCS or Orange County SCS is included on the agenda. All parties shall coordinate with one another during implementation of SCAG's public participation process in order to ensure broad public and stakeholder participation, and to avoid duplication of effort.

8. OCCOG and AUTHORITY shall retain and deliver to SCAG all documentation pertaining to the Orange County SCS from publicly noticed meetings, workshops, and hearings at which the Orange County SCS is included on the agenda. Such documentation shall include but is not limited to meeting notices, agendas, minutes, comments and responses to comments, sign-up sheets, handouts, and copies of power point presentations.

9. AUTHORITY, OCCOG, and SCAG acknowledge that population, housing, and employment estimates are being prepared by the Center for Demographic Research at California State University Fullerton through the Orange County Projection process and the 2012 RTP growth forecasting process (hereinafter referred to as the "OCP dataset"). SCAG agrees to use the OCP dataset as reviewed and approved by OCCOG, for the Regional SCS and the 2012 RTP; provided, that SCAG, in consultation with OCCOG, may make adjustments to the OCP dataset in order to ensure consistency with SCAG's 2012 RTP growth forecast.

10. AUTHORITY and Orange County local agencies shall provide SCAG with population, employment, and housing estimates in transportation analysis zone (TAZ) format consistent with the Orange County Transportation Analysis Model (OCTAM).

11. AUTHORITY agrees to incorporate new land use-transportation interactions into OCTAM, and these shall include, at a minimum, net residential and employment densities, jobs/housing diversity, design characteristics, and destination accessibility.

12. The Parties agree and acknowledge that population, housing, and employment data submitted to SCAG by OCCOG and AUTHORITY shall be accurately reflected in all documentation produced by SCAG that relates to the Orange County SCS and Regional SCS.

13. The Parties agree and acknowledge that RHNA responsibilities shall remain with SCAG, and neither AUTHORITY nor OCCOG shall assume delegation responsibility for RHNA as part of the Orange County SCS development. However, neither AUTHORITY nor OCCOG is precluded by this MOU from assuming delegation responsibility for RHNA as part of a subsequent, separate agreement.

14. SCAG agrees to accept AUTHORITY's LRTP as Orange County's program of transportation projects as input for the 2012 Regional Transportation Plan.

15. SCAG agrees to acknowledge that the Renewed Measure M program is exempt from SB 375 requirements, to the extent consistent with SB 375 and the final, adopted California Transportation Commission RTP guidelines.

16. SCAG agrees that in addition to preparation of the Orange County SCS developed under this MOU, development of an Alternative Planning Strategy (APS) by AUTHORITY and OCCOG is optional. This understanding shall not preclude SCAG from preparing a regional APS pursuant to SB 375.

17. SCAG shall not develop SCS related targets that are attributable to the subregions.

18. SCAG agrees that it will not impose a penalty on the Orange County subregion if the greenhouse gas targets, as established by the California Air Resources Board, are not met by the Regional SCS.

19. SCAG shall accept the Orange County SCS prepared in accordance with this MOU, as the Orange County subregion's input into the Regional SCS prepared by SCAG.

20. AUTHORITY, OCCOG, and SCAG shall separately amend this MOU in writing or develop a separate, mutual funding agreement addressing Orange County SCS costs should state or federal funding become available that can be applied toward preparation of the Orange County SCS.

21. AUTHORITY, OCCOG, and SCAG agree to work closely together throughout the regional SCS process and Orange County SCS process to provide technical input, applicable planning data, and constructive feedback with respect to all documents, products and deliverables developed and associated with the Orange County SCS.

22. The AUTHORITY, OCCOG, and SCAG agree to work together in good faith, using reasonable efforts to resolve any unforeseen issues and disputes arising out of the performance of this MOU.

23. The Parties agree in good faith to provide the resources necessary to implement the provisions of the MOU.

24. AUTHORITY, OCCOG, and SCAG agree to defend, indemnify and hold harmless the other parties, their Officers, agents, elected officials, and employees, from all liability, claims, losses and demands, including defense costs and reasonable attorneys' fees, whether resulting from court action or otherwise, arising out of the acts or omissions of the defending party, its officers, agents, or employees, in the performance of the MOU. When acts or omissions of one party are directed by another party, the party directing the acts or omission shall owe this defense and indemnity obligation to the agencies following the directions. The provisions of this paragraph shall survive termination of this MOU.

25. This MOU shall be governed by all applicable federal, state, and local laws. The signatories warrant that in the performance of this MOU, each shall comply with all applicable federal, state and local laws, statutes and ordinances and all lawful orders, rules and regulations promulgated there under.

26. This MOU may only be modified or amended upon written mutual consent of all signatories. All modifications, amendments, changes and revisions of this MOU in whole or part, and from time to time, shall be binding upon the parties, so long as the same shall be in writing and executed by the signatories.

27. This MOU, including all exhibits and documents incorporated herein and made applicable by reference, constitutes the complete and exclusive statement of the term(s) and condition(s) of the agreement between the parties and it supersedes all prior representations, understandings and communications. The invalidity in whole or part of any term or condition of this MOU shall not affect the validity of the other term(s) or condition(s).

28. Any party may withdraw from this MOU upon 30 days written notice to the other, until the due date set forth in Exhibit "B" for submittal to SCAG of the preliminary Orange County SCS. After such due date, any party may withdraw from this MOU only upon mutual written agreement by all Parties.

29. Each signatory shall be excused from performing its obligations under this MOU during the time and to the extent that it is prevented from performing by an unforeseeable cause beyond its control, including but not limited to: any incident of fire, flood; acts of God; commandeering of material, produces, plants or facilities by federal, state or local government; national fuel shortage; or a material act or omission by any other party; when satisfactory evidence of such cause is presented to the other parties, and provided further such nonperformance is unforeseeable, beyond the control and is not due to the fault or negligence of the party not performing.

30. Any notice sent by first class mail, postage paid, to the address and addressee, shall be deemed to have been given when in the ordinary course it would be delivered. The representatives of the parties who are primarily responsible for the administration of this MOU, and to whom notices, demands and communications shall be given are as detailed in Exhibit "D". If there are any changes in the names and/or addresses listed in Exhibit "D", the party desiring to make such changes shall give a written notice to the other respective parties within five (5) days of such change.

31. This MOU shall continue in full force and effect from the Effective Date up to and until the date that the Regional SCS is adopted by SCAG's Regional Council, unless otherwise terminated earlier in accordance with section 28 of this MOU. The Effective Date of this MOU shall mean the date (last date indicated below) that all parties have fully executed this MOU.

[Signature Page to follow.]

MEMORANDUM OF UNDERSTANDING NO. C-0-1712

IN WITNESS WHEREOF, the Parties hereto have caused this MOU No. C-0-1712 to be executed by their duly authorized representatives.

ORANGE COUNTY TRANSPORTATION AUTHORITY ("Authority")

By _____ Date: 9/21/10
Will Kempton, Chief Executive Officer

ORANGE COUNTY COUNCIL OF GOVERNMENTS ("OCCOG")

By _____ Date: 9/20/10
Kristine Murray, Executive Director

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS ("SCAG")

By _____ Date: 9/15/2010
Hasan Ikhrata, Executive Director

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Exhibit A: SCAG's Adopted Framework and Guidelines

Southern California Association of Governments

(Approved by Regional Council - April 1, 2010)

FRAMEWORK AND GUIDELINES
for
SUBREGIONAL SUSTAINABLE COMMUNITIES STRATEGY

I. INTRODUCTION

SB 375 (Steinberg), also known as California's Sustainable Communities Strategy and Climate Protection Act, is a new state law which became effective January 1, 2009. SB 375 calls for the integration of transportation, land use, and housing planning, and also establishes the reduction of greenhouse gas (GHG) emissions as one of the main goals for regional planning. SCAG, working with the individual County Transportation Commissions (CTCs) and the subregional organizations within the SCAG region, is responsible for implementing SB 375 in the Southern California region. Success in this endeavor is dependent on collaboration with a range of public and private partners throughout the region.

Briefly summarized here, SB 375 requires SCAG as the Metropolitan Planning Organization to:

- Prepare a Sustainable Communities Strategy (SCS) as part of the 2012 Regional Transportation Plan (RTP). The SCS will meet a State-determined regional GHG emission reduction target, if it is feasible to do so.
- Prepare an Alternative Planning Strategy (APS) that is not part of the RTP if the SCS is unable to meet the regional target.
- Integrate SCAG planning processes, in particular assuring that the Regional Housing Needs Assessment (RHNA) is consistent with the SCS, at the jurisdiction level.
- Specific to SCAG only, allow for subregional SCS/APS development.
- Develop a substantial public participation process involving all stakeholders.

Unique to the SCAG region, SB 375 provides that "a subregional council of governments and the county transportation commission may work together to propose the sustainable communities strategy and an alternative planning strategy . . . for that subregional area." Govt. Code §65080(b)(2)(C). In addition, SB 375 authorizes that SCAG "may adopt a framework for a subregional SCS or a subregional APS to address the intraregional land use, transportation, economic, air quality, and climate policy relationships." ***Id.*** Finally, SB 375 requires SCAG to "develop overall guidelines, create public participation plans, ensure coordination, resolve conflicts, make sure that the overall plan complies with applicable legal requirements, and adopt the plan for the region." ***Id.***

The intent of this Framework and Guidelines for Subregional Sustainable Communities Strategy (also referred to herein as the "Framework and Guidelines" or the "Subregional Framework and Guidelines") is to offer the SCAG region's subregional agencies the highest degree of autonomy,

flexibility and responsibility in developing a program and set of implementation strategies for their subregional areas. This will allow the subregional strategies to better reflect the issues, concerns, and future vision of the region's collective jurisdictions with the input of the fullest range of stakeholders. In order to achieve these objectives, it is necessary for SCAG to develop measures that assure equity, consistency and coordination, such that SCAG can incorporate the subregional SCSs in its regional SCS which will be adopted as part of the 2012 RTP pursuant to SB 375. For that reason, this Framework and Guidelines establishes standards for the subregion's work in preparing and submitting subregional strategies, while also laying out SCAG's role in facilitating and supporting the subregional effort with data, tools, and other assistance.

While the Framework and Guidelines are intended to facilitate the specific subregional option to develop the SCS (and APS if necessary) as described in SB 375, SCAG encourages the fullest possible participation from all subregional organizations. As SCAG undertakes implementation of SB 375 for the first time, SCAG has also designed a "collaborative" process, in cooperation with the subregions, that allows for robust subregional participation for subregions that choose not to exercise their statutory option.

II. ELIGIBILITY AND PARTICIPATION

SB 375 allows for subregional councils of governments in the SCAG region to have the option to develop the SCS (and the APS if necessary) for their area. SCAG interprets this option as being available to any subregional organization recognized by SCAG, regardless of whether the organization is formally established as a "subregional council of governments."

County Transportation Commissions (CTCs) play an important and necessary role in the development of a subregional SCS. Any subregion that chooses to develop a subregional strategy will need to work closely with the respective CTC in its subregional area in order to identify and integrate transportation projects and policies. Beyond working with CTCs, SCAG encourages partnership efforts in the development of subregional strategies, including partnerships between and among subregions.

Subregional agencies must formally indicate to SCAG, in writing, by December 31, 2009 if they intend to exercise this option to develop their own SCS. Subregions that choose to develop an SCS for their area must do so in a manner consistent with this Framework and Guidelines. The subregion's intent to exercise its statutory option to prepare the strategy for their area must be decided and communicated through formal action of the subregional agency's governing board. Subsequent to receipt of any subregion's intent to develop and adopt an SCS, SCAG will convene discussions regarding a formal written agreement between SCAG and the subregion, which may be revised if necessary, as the SCS process is implemented.

III. FRAMEWORK

The Framework portion of this document covers regional objectives and policy considerations, and provides general direction to the subregions in preparing their own SCS, and APS if necessary.

A. SCAG's preliminary goals for implementing SB 375 are as follows:

- Achieve the regional GHG emission reduction target for cars and light trucks through an SCS.
- Fully integrate SCAG's planning processes for transportation, growth, intergovernmental review, land use, housing, and the environment.
- Seek areas of cooperation that go beyond the procedural statutory requirements, but that also result in regional plans and strategies that are mutually supportive of a range of goals.
- Build trust by providing an interactive, participatory and collaborative process for all stakeholders. Provide, in particular, for the robust participation of local jurisdictions, subregions and CTCs in the development of the SCAG regional SCS and implementation of the subregional provisions of the law.
- Assure that the SCS adopted by SCAG and submitted to California Air Resources Board (ARB) is a reflection of the region's collective growth strategy and vision for the future.
- Develop strategies that incorporate and are respectful of local and subregional priorities, plans, and projects.

B. Flexibility

Subregions may develop any appropriate strategy to address the region's greenhouse gas reduction goals and the intent of SB 375. While subregions will be provided with SCAG data, and with a conceptual or preliminary scenario to use as a helpful starting point, they may employ any combination of land use policy change, transportation policy, and transportation investment, within the specific parameters described in the Guidelines.

C. Outreach Effort and Principles

Subregions are required to conduct an open and participatory process that includes the fullest possible range of stakeholders. As further discussed within the Guidelines, SCAG amended its existing Public Participation Plan (PPP) to describes SCAG's responsibilities in complying with the outreach requirements of SB 375 and other applicable laws and regulations. SCAG will fulfill its outreach requirements for the regional SCS/APS which will include outreach activities regarding the subregional SCS/APS. Subregions are also encouraged to design their own outreach process that meets each subregion's own needs and reinforces the spirit of openness and full participation. To the extent that subregions do establish their own outreach process, this process should be coordinated with SCAG's outreach process.

D. Communication and Coordination

Subregions developing their own SCS are strongly encouraged to maintain regular communication with SCAG staff, the respective CTC, their jurisdictions and other stakeholders, and other subregions if necessary, to review issues as they arise and to assure close coordination. Mechanisms for on-going communication should be established in the early phases of strategy development.

E. Planning Concepts

SCAG, its subregions, and member cities have established a successful track record on a range of land use and transportation planning approaches through the on-going SCAG Compass Blueprint Program, including approximately 60 local demonstration projects completed to date. Subregions are

encouraged to capture, further develop and build off the concepts and approaches of the Compass Blueprint program. In brief, these include developing transit-oriented, mixed use, and walkable communities, and providing for a mix of housing and jobs.

IV. GUIDELINES

These Guidelines describe specific parameters for the subregional SCS/APS effort under SB 375, including process, deliverables, data, documentation, and timelines. As described above, the Guidelines are created to ensure that the region can successfully incorporate strategies developed by the subregions into the regional SCS, and that the region can comply with its own requirements under SB 375. Failure to proceed in a manner consistent with the Guidelines will result in SCAG not accepting a subregion's submitted strategy.

A. Subregional Process

(1) Subregional Sustainable Communities Strategy

Subregions that choose to exercise their optional role under SB 375 will develop and adopt a subregional Sustainable Communities Strategy. That strategy must contain all of the required elements, and follow all procedures, as described in SB 375. Subregions may choose to further develop an Alternative Planning Strategy (APS), according to the procedures and requirements described in SB 375. If subregions prepare an APS, they must prepare a Sustainable Communities Strategy first, in accordance with SB 375. A subregional APS is not "in lieu of" a subregional SCS, but in addition to the subregional SCS. In part, an APS must identify the principal impediments to achieving the targets within the SCS. The APS must show how the GHG emission targets would be achieved through alternative development patterns, infrastructure, and additional transportation measures or policies. SCAG encourages subregions to focus on feasible strategies that can be included in the SCS.

The subregional SCS must include all components of a regional SCS as described in SB 375, and outlined below:

(i.) identify the general location of uses, residential densities, and building intensities within the subregion;
(ii.) identify areas within the subregion sufficient to house all the population of the subregion, including all economic segments of the population, over the course of the planning period of the RTP taking into account net migration into the region, population growth, household formation and employment growth;
(iii.) identify areas within the subregion sufficient to house an eight-year projection of the regional housing need for the subregion pursuant to Section 65584;
(iv.) identify a transportation network to service the transportation needs of the subregion;
(v.) gather and consider the best practically available scientific information regarding resource areas and farmland in the subregion as defined in subdivisions (a) and (b) of Section 65080.01;
(vi.) consider the state housing goals specified in Sections 65580 and 65581;
(vii.) set forth a forecasted development pattern for the subregion, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the ARB; and

(viii.) allow the RTP to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Sec. 7506). See, Government Code §65080(b)(2)(B).

In preparing the subregional SCS, the subregion will consider feasible strategies, including local land use policies, transportation infrastructure investment (e.g., transportation projects), and other transportation policies such as Transportation Demand Management (TDM) strategies (which includes pricing), and Transportation System Management (TSM) strategies. Technological measures may be included if they exceed measures captured in other state and federal requirements (e.g., AB32).

As discussed further below (under "Documentation"), subregions need not constrain land use strategies considered for the SCS to current General Plans. In other words, the adopted strategy need not be fully consistent with local General Plans currently in place. However, should the adopted subregional strategy deviate from General Plans, subregions will need to demonstrate the feasibility of the strategy by documenting any affected jurisdictions' willingness to adopt the necessary General Plan changes.

The regional SCS shall be part of the 2012 RTP. Therefore, for transportation investments included in a subregional SCS to be valid, they must also be included in the 2012 RTP. Further, such projects need to be scheduled in the RTIP for construction completion by the target years (2020 and 2035) in order to demonstrate any benefits as part of the SCS. As such, subregions will need to collaborate with the respective CTC in their area to coordinate the subregional SCS with future transportation investments. It should also be noted that the California Transportation Commission is updating their RTP Guidelines. This topic is likely to be part of further discussion through the SCS process as well.

SCAG will accept and incorporate the subregional SCS, unless (a) it does not comply with SB 375, (b) it is does not comply with federal law, or (c) it is does not comply with SCAG's Subregional Framework and Guidelines. In the event that a compiled regional SCS, including subregional submissions, does not achieve the regional target, SCAG will initiate a process to develop and consider additional GHG emission reduction measures region-wide. SCAG will develop a written agreement with each subregional organization to define a process and timeline whereby subregions would submit a draft subregional SCS for review and comments to SCAG, so that any inconsistencies may be identified and resolved early in the process. Furthermore, SCAG will compile and disseminate performance information on the preliminary regional SCS and its components in order to facilitate regional dialogue. The development of a subregional SCS does not exempt any subregion from further GHG emission reduction measures being included in the regional SCS. Further, all regional measures needed to meet the regional target will be subject to adoption by the Regional Council, and any additional subregional measures beyond the SCS submittal from subregions accepting delegation needed to meet the regional target must also be adopted by the subregional governing body.

(2) Subregional Alternative Planning Strategy (APS)

Subregions are encouraged to focus their efforts on feasible measures that can be included in an SCS. In the event that a subregion chooses to prepare an APS, the content of a subregional APS should be consistent with what is required by SB 375 (***see***, Government Code §65080(b)(2)(H)), as follows:

(i.) Shall identify the principal impediments to achieving the subregional SCS.

(ii.) May include an alternative development pattern for the subregion pursuant to subparagraphs (B) to (F), inclusive.
(iii.) Shall describe how the alternative planning strategy would contribute to the regional greenhouse gas emission reduction target, and why the development pattern, measures, and policies in the alternative planning strategy are the most practicable choices for the subregion.
(iv.) An alternative development pattern set forth in the alternative planning strategy shall comply with Part 450 of Title 23 of, and Part 93 of Title 40 of, the Code of Federal Regulations, except to the extent that compliance will prevent achievement of the regional greenhouse gas emission reduction targets approved by the ARB.
(v.) For purposes of the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code), an alternative planning strategy shall not constitute a land use plan, policy, or regulation, and the inconsistency of a project with an alternative planning strategy shall not be a consideration in determining whether a project may have an environmental effect.

Any precise timing or submission requirements for a subregional APS will be determined based on further discussions with subregional partners. As previously noted, a subregional APS is in addition to a subregional SCS.

(3) Outreach and Process

SCAG will fulfill all of its outreach requirements under SB 375 for the regional SCS/APS, which will include outreach regarding any subregional SCS/APS. SCAG staff has revised its Public Participation Plan to incorporate the outreach requirements of SB 375, and integrate the SB 375 process with the 2012 RTP development as part of SCAG's Public Participation Plan Amendment No. 2, adopted by SCAG's Regional Council on December 3, 2009. Subsequent to the adoption of the PPP Amendment No. 2, SCAG will continue to discuss with subregions and stakeholders the Subregional Framework & Guidelines, which further describe the Public Participation elements of SB 375.

Subregions that elect to prepare their own SCS or APS are encouraged to present their subregional SCS or APS, in coordination with SCAG, at all meetings, workshops and hearings held by SCAG in their respective counties. Additionally, the subregions would be asked to either provide SCAG with their mailing lists so that public notices and outreach materials may also be posted and sent out by SCAG, or SCAG will provide notices and outreach materials to the subregions for their distribution to stakeholders. The SCAG PPP Amendment No. 2 provides that additional outreach may be performed by subregions. Subregions are strongly encouraged to design and adopt their own outreach processes that mimic the specific requirements imposed on the region under SB 375. Subregional outreach processes should reinforce the regional goal of full and open participation, and engagement of the broadest possible range of stakeholders.

(4) Subregional SCS Approval

It is recommended that the governing board of the subregional agency approve the subregional SCS prior to submission to SCAG. While the exact format is still subject to further discussion, SCAG recommends that there be a resolution from the governing board of the subregion with a finding that the land use strategies included in the subregional SCS are feasible and based upon consultation with the local jurisdictions in the respective subregion. Subregion should consult with their legal counsel as to compliance with the California Environmental Quality Act (CEQA). In SCAG's view, the

subregional SCS is not a "project" for the purposes of CEQA; rather, the 2012 RTP which will include the regional SCS is the actual "project" which will be reviewed for environmental impacts pursuant to CEQA. As such, the regional SCS, which will include the subregional SCSs, will undergo a thorough CEQA review. Nevertheless, subregions approving subregional SCSs should consider issuing a notice of exemption under CEQA to notify the public of their "no project" determination and/or to invoke the "common sense" exemption pursuant to CEQA Guidelines § 15061(b)(3).

Finally, in accordance with SB 375, subregions are strongly encouraged to work in partnership with the CTC in their area. SCAG can facilitate these arrangements if needed.

(5) Data Standards

SCAG is currently assessing the precise data standards anticipated for the regional and subregional SCS. In particular, SCAG is reviewing the potential use of parcel data and development types currently used for regional planning. At present, the following describes the anticipated data requirements for a subregional SCS.

1. Types of Variables
   Variables are categorized into socio-economic variables and land use variables. The socio-economic variables include population, households, housing units, and employment. The land use variables include land uses, residential densities, building intensities, etc, as described in SB 375.

2. Geographical Levels
   SCAG is considering the collection and adoption of the data at a small-area level as optional for local agencies in order to make accessible the CEQA streamlining provisions under SB 375. The housing unit, employment, and the land use variables can be collected at a small-area level for those areas which under SB 375 qualify as containing a "transit priority project" (i.e. within half-mile of a major transit stop or high-quality transit corridor) for purposes of allowing jurisdictions to take advantage of the CEQA streamlining incentives in SB 375.

   For all other areas in the region, SCAG staff will collect the population, household, employment, and land use variables at the Census tract or Traffic Analysis Zone (TAZ) level.

3. Base Year and Forecast Years
   The socio-economic and land use variables will be required for the base year of 2008, and the target years of 2020 and 2035.

(6) Documentation

Subregions are expected to maintain full and complete records related to the development of the subregional SCS, including utilizing the most recent planning assumptions considering local general plans and other factors. In particular, subregions must document the feasibility of the subregional strategy by demonstrating the willingness of local agencies to consider and adopt land use changes necessitated by the SCS. The format for this documentation may include adopted resolutions from local jurisdictions and/or the subregion's governing board.

(7) Timing

An overview schedule of the major milestones of the subregional process and its relationship to the regional SCS/RTP is included below. Subregions must submit the subregional SCS to SCAG by the date prescribed. Further, SCAG will need a preliminary SCS from subregions for the purpose of preparing a project description for the 2012 RTP Program Environmental Impact Report. The precise content of this preliminary submission will be determined based on further discussions. The anticipated timing of this preliminary product is approximately February 2011.

(8) Relationship to Regional Housing Needs Assessment (RHNA) and Housing Element

Although SB 375 calls for an integrated process, subregions are not automatically required to take on RHNA delegation as described in State law if they prepare an SCS/APS. However, SCAG encourages subregions to undertake both processes due to their inherent connections.

SB 375 requires that the RHNA allocated housing units be consistent with the development pattern included in the SCS. ***See***, Government Code §65584.04(i). Population and housing demand must also be proportional to employment growth. At the same time, in addition to the requirement that the RHNA be consistent with the development pattern in the SCS, the SCS must also identify areas that are sufficient to house the regional population by income group through the RTP planning period, and must identify areas to accommodate the region's housing need for the next local Housing Element eight year planning period update. The requirements of the statute are being further interpreted through the RTP guidelines process. Staff intends to monitor and participate in the guideline process, inform stakeholders regarding various material on these issues, and amend, if necessary, these Framework and Guidelines, pending its adoption.

SCAG will be adopting the RHNA and applying it to local jurisdictions at the jurisdiction boundary level. SCAG staff believes that consistency between the RHNA and the SCS may still be accomplished by aggregating the housing units contained in the smaller geographic levels noted in the SCS and including such as part of the total jurisdictional number for RHNA purpose. SCAG staff has concluded that there is no consistency requirement for RHNA purposes at sub-jurisdictional level, even though the SCS is adopted at the smaller geographic level for the opportunity areas.

The option to develop a subregional SCS is separate from the option for subregions to adopt a RHNA distribution, and subject to separate statutory requirements. Nevertheless, subregions that develop and adopt a subregional SCS should be aware that the SCS will form the basis for the allocation of housing need as part of the RHNA process. Further, SCS development requires integration of elements of the RHNA process, including assuring that areas are identified to accommodate the 8 year need for housing, and that housing not be constrained by certain types of local growth controls as described in State law.

SCAG will provide further guidance for subregions and a separate process description for the RHNA.

B. COUNTY TRANSPORTATION COMMISSIONS' ROLES AND RESPONSIBLITIES

Subregions that develop a subregional SCS will need to work closely with the CTCs in their area in order to coordinate and integrate transportation projects and policies as part of the subregional SCS. As discussed above (under "Subregional Sustainable Communities Strategy"), any transportation

projects identified in the subregional SCS must also be included in the 2012 RTP in order to be considered as a feasible strategy. SCAG can help to facilitate communication between subregions and CTCs.

C. SCAG ROLES AND RESPONSIBLITIES

SCAG's roles in supporting the subregional SCS development process are in the following areas:

(1) Preparing and adopting the Framework and Guidelines

SCAG will adopt these Framework and Guidelines in order to assure regional consistency and the region's compliance with law.

(2) Public Participation Plan

SCAG will assist the subregions by developing, adopting and implementing a Public Participation Plan and outreach process with stakeholders. This process includes consultation with congestion management agencies, transportation agencies, and transportation commissions; and SCAG will hold public workshops and hearings. SCAG will also conduct informational meetings in each county within the region for local elected officials (members of the board of supervisors and city councils), to present the draft SCS, and APS if necessary, and solicit and consider input and recommendations.

(3) Methodology

As required by SB 375, SCAG will adopt a methodology for measuring greenhouse gas emission reductions associated with the strategy.

(4) Incorporation/Modification

SCAG will accept and incorporate the subregional SCS unless it does not comply with SB 375, federal law, or the Subregional Framework and Guidelines. As SCAG intends the entire SCS development process to be iterative, SCAG will not amend a locally-submitted SCS. SCAG may provide additional guidance to subregions so that subregions may make amendments to its subregional SCS as part of the iterative process, or request a subregion to prepare an APS if necessary. Further, SCAG can propose additional regional strategies if feasible and necessary to achieve the regional emission reduction target with the regional SCS. SCAG will develop a written agreement with each subregional organization to define a process and timeline whereby subregions would submit a draft subregional SCS for review and comments to SCAG, so that any inconsistencies may be identified and resolved early in the process.

(5) Modeling

SCAG currently uses a Trip-Based Regional Transportation Demand Model and ARB's EMFAC model for emissions purposes. In addition to regional modeling, SCAG is developing tools to evaluate the effects of strategies that are not fully accounted for in the regional model. SCAG is also developing two additional tools – a Land Use Model and an Activity Based Model – to assist in strategy development and measurement of outcomes under SB 375.

In addition to modeling tools which are used to measure results of completed scenarios, SCAG is developing a scenario planning tool for use in workshop settings as scenarios are being created with jurisdictions and stakeholders. The tool will be made available to subregions and local governments for their use in subregional strategy development.

(6) Adoption/Submission to State

After the incorporation of subregional strategies, SCAG will finalize and adopt the regional SCS as part of the 2012 RTP. SCAG will submit the SCS to ARB for review as required in SB 375.

(7) Conflict Resolution

While SB 375 requires SCAG to develop a process for resolving conflicts, it is unclear at this time the nature or purpose of a conflict resolution process as SCAG does not intend to amend a locally-submitted SCS. As noted above, SCAG will accept the subregional SCS unless it is inconsistent with SB 375, federal law, or the Subregional Framework and Guidelines. SCAG will also request that a subregion prepare an APS if necessary. It is SCAG's intent that the process be iterative and that there be coordination among SCAG, subregions and their respective jurisdictions and CTCs. SCAG is open to further discussion on issues which may generate a need to establish a conflict resolution process as part of the written agreement between SCAG and the subregional organization.

(8) Funding

Funding for subregional activities is not available at this time, and any specific parameters for future funding are speculative. Should funding become available, SCAG anticipates providing a share of available resources to subregions. While there are no requirements associated with potential future funding at this time, it is advisable for subregions to track and record their expenses and activities associated with these efforts.

(9) Preliminary Scenario Planning

SCAG will work with each subregion to collect information and prompt dialogue with each local jurisdiction prior to the start of formal SCS development. This phase of the process is identified as "preliminary scenario planning" in the schedule below. The purpose of this process is to create a base of information to inform SCAG's recommendation of a regional target to ARB prior to June 2010. All subregions are encouraged to assist SCAG in facilitating this process.

(10) Data

SCAG is currently developing, and will provide each subregion with datasets for the following:

(1) 2008 Base year;
(2) General Plan/Growth projection & distribution;
(3) Trend Baseline; and
(4) Policy Forecast/SCS.

While the Trend Baseline is a technical projection that provides a best estimate of future growth based on past trends and assumes no general plan land use policy changes, the Policy Forecast/ SCS is derived using local input through a bottom-up process, reflecting regional policies including transportation investments. Local input is collected from counties, subregions, and local jurisdictions.

Data/GIS maps will be provided to subregions and local jurisdiction for their review. This data and maps include the 2008 base year socioeconomic estimates and 2020 and 2035 socioeconomic forecast. Other GIS maps including the existing land use, the general plan land use, the resource areas, and other important areas identified in SB 375. It should be noted that none of the data/ maps provided were endorsed or adopted by SCAG's Community, Economic and Human Development Committee (CEHD). All data/maps provided are for the purpose of collecting input and comments from subregions and local jurisdictions. This is to initiate dialogue among stakeholders to address the requirements of SB 375 and its implementation.

The list of data/GIS maps include:

1. Existing land use
2. Zoning
3. General plan land use
4. Resource areas include:
   (a.) all publicly owned parks and open space;
   (b.) open space or habitat areas protected by natural community conservation plans, habitat conservation plans, and other adopted natural resource protection plans;
   (c.) habitat for species identified as candidate, fully protected, sensitive, or species of special status by local, state, or federal agencies or protected by the federal Endangered Species Act (1973), the California Endangered Species Act, or Native Plant Protection Act;
   (d.) lands subject to conservation or agricultural easements for conservation or agricultural purposes by local governments, special districts, or nonprofit 501(c)(3) organizations, areas of the state designated by the State Mining and Geology Board as areas of statewide or regional significance pursuant to Section 2790 of the Public Resources Code, and lands under Williamson Act contracts;
   (e.) areas designated for open-space or agricultural uses in adopted open-space elements or agricultural elements of the local general plan or by local ordinance;
   (f.) areas containing biological resources as described in Appendix G of the CEQA Guidelines that may be significantly affected by the sustainable communities strategy or the alternative planning strategy; and
   (g.) an area subject to flooding where a development project would not, at the time of development in the judgment of the agency, meet the requirements of the National Flood Insurance Program or where the area is subject to more protective provisions of state law or local ordinance.
5. Farmland
6. Sphere of influence
7. Transit priority areas
8. City/Census tract boundary with ID
9. City/TAZ boundary with ID

(11) Tools

SCAG is developing a Local Sustainability Planning Model (LSPM) for subregions/local jurisdictions to analyze land use impact. The use of this tool is not mandatory and is at the discretion of the Subregion. The LSPM is a web-based tool that can be used to analyze, visualize and calculate the impact of land use changes on auto ownership, mode use, vehicle miles of travel (VMT), and greenhouse gas emissions in real time. Users will be able to estimate transportation and emissions impacts by modifying land use designations within their community.

Other tools currently maintained by SCAG may be useful to the subregional SCS development effort, including the web-based CaLOTS application. SCAG will consider providing guidance and training on additional tools based on further discussions with subregional partners.

(12) Resources and technical assistance

SCAG will assist the subregions by making available technical tools for scenario development as described above. Further, SCAG will assign a staff liaison to each subregion, regardless of whether the subregion exercises its statutory option to prepare an SCS. SCAG staff can participate in subregional workshops, meetings, and other processes at the request of the subregion, and pending funding and availability. SCAG's legal staff will be available to assist with questions related to SB 375 or SCAG's implementation of SB 375. Further, SCAG will prepare materials for its own process in developing the regional SCS, and will make these materials available to subregions.

D. MILESTONES/SCHEDULE

- CARB issues Final Regional Targets – September 2010
- SCS development (preliminary scenario, draft, etc) – through early 2011
- Release Draft RTP/regional SCS for public review – November 2011
- Regional Council adopts RTP/SCS – April 2012

If other milestones are needed, they will be incorporated into the written agreement between SCAG and the Subregion.

Exhibit B: Milestones Schedule

The key milestones and related schedule required as part of the development of the Orange County Subregional SCS are as follows:

1. Status report on Preliminary Subregional SCS – Dec 2010
2. Adopted OCP 2010/Delivery to SCAG – Jan 2011
3. Preliminary SCS / for purposes of preparing PEIR project description (intended to be narrative only project description that describes intended strategies or strategy options that are likely to be incorporated into the final Subregional SCS.) –Feb 2011
4. Status report on Draft Subregional SCS – Feb 2011
5. Draft Subregional SCS (containing all components described above) to be incorporated into draft Regional SCS – April 2011
6. Status report on final Subregional SCS – April 2011
7. Final Subregional SCS for incorporation into Regional SCS – June 2011
8. Iterative process, if necessary to meet target – June to November 2011
9. OCCOG to participate in regional outreach conducted in Orange County – June 2011 to February 2012
10. Regional SCS adoption – April 2012

Exhibit C: Deliverables Template

The Orange County Subregional SCS will consist of the following components:

1. Database (OCP dataset) that allocates population, housing, household, and employment to areas of the county. Geographic area should be the smallest level practicable for the COG to produce, preferably at the parcel level. The database must reflect the base year 2008 and each variable in the two GHG target years (2020 and 2035), in accordance with the Data Standards set forth below.
2. A map or series of maps that illustrates the growth distribution described above, and that further delineates uses, intensities, and residential densities, in accordance with the Data Standards set forth below.
3. A listing of transportation projects that are incorporated in the subregional SCS.
4. A listing and description of transportation policies (e.g. TDM, TSM and others) to be employed.
5. Documentation that establishes the process, including the public participation and outreach process used to develop the SCS, and demonstrates the affected jurisdictions willingness to consider general plan changes.
6. A narrative description of the strategies employed to reduce greenhouse gas emissions. A further description of any other strategies that were considered and not ultimately included.

DATA STANDARDS

The following data standards will be used in the development of a subregional SCS:

1. Types of Variables

Variables are categorized into socio-economic variables and land use variables. The socio-economic variables include population, households, housing units, and employment. The land use variables may include land uses designations, building densities, building intensities, and applicable policies.

2. Geographical Levels

Socio-economic and land-use variables should be provided to SCAG at the smallest geographical level practicable for OCCOG to produce, preferably at the parcel level. At a minimum, such variables will be provided at the Census tract or Traffic Analysis Zone (TAZ) level.

3. Base Year and Forecast Years

The socio-economic data and land use variables will be required for the base year of 2008, and as feasible, for the target years of 2020 and 2035.

DOCUMENTATION

Subregions are expected to maintain full and complete records related to the development of the Subregional SCS, including utilizing the most recent planning assumptions considering local general plans and other factors. In particular, subregions must document the feasibility of the subregional strategy by demonstrating the willingness of local agencies to consider and adopt land use changes necessitated by the SCS. The format for this documentation may include adopted resolutions from local jurisdictions and/or the subregion's governing board. Subregions shall include information regarding the status of the documentation as part of the required status reports to SCAG, and copies of the actual documentation shall be submitted to SCAG as part the final Subregional SCS.

Exhibit D: Notices

Notices, demands and communications between the Parties related to this MOU shall be provided to the following persons:

To Authority/OCCOG:

Kris L. Murray
Executive Director, Government Relations Orange County Transportation Authority
Executive Director Orange County Council of Governments
550 S. Main Street
Orange, CA 92863
Tel: 714-560-5908
Fax: 714-560-5796
Email: kmurray@octa.net

To SCAG:

Huasha Liu
Director, Land Use & Environmental Planning
Southern California Association of Governments
818 W. 7th St., 12th Fl.
Los Angeles, CA 90017
Tel: (213) 236-1836
Fax: (213) 236-9689
Email: Liu@scag.ca.gov

APPENDIX C

REQUIRED DOCUMENTATION

- Correspondence regarding consistency of General Plans
- Electronic copies of Transportation Demand Management Ordinances
- Electronic copies of individual jurisdictions' response to sustainability strategies

OCCOG

Orange County Council of Governments
Member Agencies

MEMORANDUM

DATE: June 13, 2011

TO: Southern California Association of Governments

FROM: Dave Simpson, Executive Director Orange County Council of Governments

SUBJECT: OC SCS Documentation

The Orange County Council of Governments (OCCOG) has reviewed the Southern California Association of Governments (SCAG) Framework and Guidelines for references to required documentation in the Orange County Sustainable Communities Strategy (OC SCS). Two paragraphs in the SCAG Framework and Guidelines describe subregions' obligations for documentation. Both are provided below:

> "As discussed further below (under "Documentation"), subregions need not constrain land use strategies considered for the SCS to current General Plans. In other words, the adopted strategy need not be fully consistent with local General Plans currently in place. However, should the adopted subregional strategy deviate from General Plans, subregions will need to demonstrate the feasibility of the strategy by documenting any affected jurisdictions' willingness to adopt the necessary General Plan changes."
>
> **Documentation**
> "Subregions are expected to maintain full and complete records related to the development of the subregional SCS, including utilizing the most recent planning assumptions considering local general plans and other factors. In particular, subregions must document the feasibility of the subregional strategy by demonstrating the willingness of local agencies to consider and adopt land use changes necessitated by the SCS. The format for this documentation may include adopted resolutions from local jurisdictions and/or the subregion's governing board."

OCCOG interprets these requirements to state that the OC SCS must include agendas, action minutes, and resolutions and declarations related to land use strategies that would require local General Plan Amendments. Land use strategies within the Draft OC SCS are consistent with all Orange County jurisdictions. No actions to General Plans will be necessitated as a result of this OC SCS process or document. Therefore, no documentation of willingness to make these changes is included.

Orange County Council of Governments
300 South Main Street / P.O. Box 14184 / Orange / California 92863-1584 / (714) 560-6282

APPENDIX D

ORANGE COUNTY PROJECTIONS DATA DEVELOPMENT PROCESS

ORANGE COUNTY PROJECTIONS DATA DEVELOPMENT PROCESS

INTRODUCTION

The socioeconomic data and growth forecasts for the OC SCS process and document was developed through the Orange County Projections process, involving extensive data collection, analysis, outreach, and review directed and managed by the Center for Demographic Research (CDR) at Cal State Fullerton.

Orange County Projections (OCP)

The OCP series was developed by the County of Orange in the 1970s to provide County departments and agencies with a consistent set of projections of population, housing, and employment for use in their operations and planning activities. The uses and applications have expanded over time, and numerous private and public agencies use the OCP to serve Orange County in the future. Some of these applications include forecasting traffic, sewer, and water demands; public service needs such as fire, police, social, and health; pollution from mobile sources; and revenues.

In addition, all the requirements of local and regional planning efforts (including transportation and infrastructure planning, congestion management, air quality management, integrated waste management and growth management) have emphasized the importance of an accurate and uniform set of projections for use by all jurisdictions, agencies and programs. For example, as the uniform dataset used in Orange County planning, the OCP is incorporated into each of SCAG's RTP growth forecasts, which are used in environmental impact reports and transportation plans.

The OCP series is updated every three to four years. Over time, the update process has expanded to increase the level of countywide coordination, commitment, and review. The OCP contains population, housing, and employment projections at the County level for a 25-30 year horizon, as well as a variety of other geographic areas including the general government jurisdictions (34 cities and the unincorporated county area); the County's 70 Community Analysis Areas (CAAs) and 10 Regional Statistical Areas (RSAs); and the 577 census tracts in the County. These additional geographic distributions of the data have been made available for programmatic applications and information purposes.

Small Area Projections

A major step in developing the 2010 Orange County Projections was the collection of data from each jurisdiction in Orange County. Initially, jurisdictions were asked to respond to draft projections for themselves and for the smaller statistical sub-areas within them. These preliminary numbers were evaluated in the light of jurisdictional policies,

significant trends or anticipated policy changes, or projections the jurisdictions themselves may have developed. Standard supportive documentation citation such as the General Plan and its housing and land use elements, annexation plans, and development phasing schedules also was solicited. The small area projections went through several iterations with the jurisdictions' feedback incorporated into the draft projections until a consensus was achieved. In this way, a large amount of information was collected for small geographic areas across the County.

Data for the OC SCS

In order to provide the most accurate picture possible of the Orange County subregion, and to preserve the detail and integrity of the data submitted by local jurisdictions, the OCP-2010 data set was used for the development of the OC SCS.

In fall 2009, CDR sent out 2008 estimates for jurisdictions to review and provide feedback. Corrections were incorporated. In March 2010, the CDR met with all 35 jurisdictions and distributed the draft projections data. Once again, jurisdictional feedback was incorporated. The final draft projections data were distributed in fall 2010, and final comments and changes incorporated into the final dataset. The OCP-2010 was approved by the CDR TAC and CDR MOC in December 2010. The OCCOG TAC and OCCOG Board approved the OCP-2010 in January 2011.

OCP 2010 Development and Process Schedule

Develop Base Year Estimates	Summer 2009
Develop Population, Housing, and Employment (PHE) Assumptions	September 2009
Review and Approval by CDR Technical Advisory Committee	October 2009
Project Countywide PHE (control totals)	October-November 2009
Approval by CDR Technical Advisory Committee (TAC) & Management Oversight Committee	December 2009
OCCOG Approval of Countywide PHE	January-March 2010
Allocate Countywide PHE to Split Traffic Analysis Zones (TAZ)	Winter 2010
Jurisdictional Review/Adjustment of PHE/Jurisdictional Approval	March-October 2010
Approval by CDR TAC & MOC	December 2010
OCCOG Technical Advisory Committee Approval	January 2011
OCCOG Board of Directors Approval	January 2011

As part of the revision and update process to the Orange County Projections, once the OCP data is approved by the OCCOG Board, the data is then transmitted to SCAG by CDR on behalf of OCCOG and Orange County. During the development process of the OC SCS and SCAG's Regional SCS and RTP, draft and OCP data is provided to SCAG to incorporate into the draft and final versions of the integrated growth forecast.

The OCP-2010 dataset (population, housing and employment) referenced in the OC SCS was approved by the OCCOG Board on January 27, 2011. OCP-2010 is based on the approved OCP update and revision process which took place during 2009-2010; it does not include the 2010 Census data for California released on March 8, 2011.

It is acknowledged that SCAG policy committee actions have directed SCAG staff to revise the draft growth forecast dataset for the Regional SCS and RTP to include the 2010 Census data and the 2010 State EDD employment benchmark. The CDR is coordinating with SCAG on this update process, and is evaluating the timeline and process to revise OCP-2010 to include the new data and be consistent with the growth forecast update effort being undertaken by SCAG.

Consistent with SCAG's process, any update to the growth forecast dataset will be to the 2010 totals for population, housing, and employment, and the growth increments from 2010 to 2035 will remain the same and be applied to the revised 2010 totals. If a revision is made to the OCP-2010, this effort will be completed after the June 2011 submittal deadline of the final OC SCS to SCAG. Further, the updated dataset will be provided to SCAG through a data amendment process and the full OC SCS document will not be revised.

Orange County Sustainable Communities Strategy

APPENDIX E

2010 LONG RANGE TRANSPORTATION PLAN

Available at

www.octa.net/lrtp

Orange County Sustainable Communities Strategy

APPENDIX F

SUSTAINABILITY STRATEGIES

Sustainability Strategy List for Orange County Sustainable Communities Strategy Development

#	CDR #	CARB #	SCAG #	Item	Completed Project	Ongoing Project	Future Project	General Plan Policy	Category
1	23		68,70	Alternative Fuel Infrastructure	Ana, OM, LB, LHb, MV, NB, SA	Ana, F, LW, LHb, MV	Ana, BP	AV, Ana, HB, MV, RSM, SA	Alternate Fuel
2			192	Convert Street Sweeping And Refuse Vehicles To Alternative Fuels	Ana, C, F, Irv, LW, MV, O, RSM, SC, SA, S, T	BP, OM, F, Irv, LB, LHb, MV, T	Irv, B, F	B, HB, MV, SA, T	Alternate Fuel
3			194	Convert Transit Buses To Alternative Fuels	Irv, MV, SA	LB, OCTA, T	LW	AV, B, MV, RSM, SA	Alternate Fuel
4			191	Develop Alternative Fuel Stations	Irv, MV, SA	Ana, B, F, MV, OC, SB	BP, OM, F, LW, SC	AV, B, LH, MV, RSM, SA, S, T, W	Alternate Fuel
5			190	Expand Use Of Alternative Fuels	LP, MV, SA, T	Ana, OM, F, LW, LHb, LP, MV, SA, T	BP, F, LB, LHb, LP	AV, B, LH, MV, RSM, SA, S, T, W	Alternate Fuel
6			195	Replace Gasoline Powered Mowers With Electric Mowers		Ana	B, LW	B, NB, SA	Alternate Fuel
7			193	Replace Local Government Fleets With Alternative Fuel Vehicles	C, DP, Irv, LF, LP, MV, SA, S	Ana, OM, C, DP, F, HB, Irv, LP, MV, SC, T	B, BP, C, F, LB, LP, MV, SC	B, C, HB, MV, O, SA, T, W	Alternate Fuel
8			196	Require Zero Emission Forklifts	B, C	Ana	B	B, MV, SA	Alternate Fuel
9			111	Adopt Best Work Places For Commuters Policies		Ana	LW	SA	Alternate Modes
10			117	Commuter Choice Programs Bundle	SA	SA	HB, SA		Alternate Modes
11			124	Dial-A-Ride	SA	B, OM, LW, MV, SA	SA	AV, B, MV	Alternate Modes
12		65		Eco-Driver Education	SC	Ana, LW	LW	OC, SA	Alternate Modes
13		37		Employer Incentives For Alternative Modes	Irv, SA, S	Ana, BP, HB, Irv, NB, OC, SA, S	LW	HB, LF, MV	Alternate Modes
14			178, 179	Encourage Alternative Transportation - Public And Private	MV, SA	Ana, BP, C, F, Irv, LB, LW, MV, OC, SA, W	F, MV, SA	AV, Ana, B, C, F, HB, LB, LH, LF, MV, O, RSM, SA, S, T, W	Alternate Modes
15			182	Encourage Large Businesses To Develop Alternative Transportation Plans	OCTA	Ana, C, MV, OCTA	LW	Ana, C, MV, O	Alternate Modes
16		39, 67	108, 109, 110, 115, 116, 118, 122	Implement/Promote Telecommuting And Flexible/Alternative Work Schedules	Irv, LH, SC, SA	Ana, B, BP, CM, C, HB, Irv, MV, NB, OC, SA	LW, SA	B, C, HB, LH, MV, W	Alternate Work
17			138	Expand And Improve Rideshare Program	GG, OCTA	GG, MV, O, OCTA	GG, LW	C, GG, LF, MV	Alternate Modes
18	28	52, 40	58, 132	Expand Regional Park And Ride Facilities, Park And Ride Lots	Irv, LH, MV, SA, T	Ana, B, CM, Irv, LB, SA, T	HB, LW, T	Ana, B, HB, LF, MV, RSM, SA, T, W	Alternate Modes
19			112	Guaranteed Ride Home Program (Provide Occasional Incentive For Employees Using Alternative Transportation Who Miss Their Ride, Need A Ride For An Emergency, Etc...)	SA	Ana, HB, OC, SA	F, LW	MV	Alternate Modes
20	29, 30	40, 42	134, 135, 137	Implement/Promote Vehicle Sharing Programs (E.G., Van Sharing, Car Sharing)	SA	Ana, HB, Irv, OC, SA	HB, LW	Ana, B, C, HB, LH, MV	Alternate Modes
21	16		141	Install Bus Bays/Pullouts	NB, SA	SA	LW, SC, SA	MV	Alternate Modes
22			42	Non-Motorized Zones	GG, OCTA	GG, OCTA	GG, LW	GG, MV	Alternate Modes
23			140	Promote Rideshare Marketing Strategies	LP, OCTA	Ana, LP, MV, NB, O, OCTA	LW, LP, MV	Ana, MV	Alternate Modes
24	34	40		Promotion Of Alternative Modes (Rideshare Week, Dump The Pump, Bike To Work Week, Etc...)		Ana, B, BP, HB, Irv, LB, LW, LHb, OC, SA, W	DP, F, Irv, LF, MV, SC, SA	B, MV, SA	Alternate Modes
25		43		Provide Local Shuttles	LHb, MV, SA	Ana, B, MV, SA	LF, MV, SA	Ana, B, MV, SA	Alternate Modes
26		145		Public Transit Coordination Bundle	MV, SA	Ana, B, MV, SA	LW, SA	Ana, GG, LF, MV, W	Alternate Modes
27	26	123		Rideshare Programs	GG, OCTA	Ana, GG, O, OCTA	GG, LW	Ana, GG, LF, MV, W	Alternate Modes
28		160		Tag Funding Sources For Alternative Transportation	Irv, MV, O, RSM, SA	Ana, CM, C, Irv, MV, O, SA	Irv, O, SA	B, HB, LF, MV, RSM, SA	Alternate Modes
29			142	Telecommuting Technologies	MV, RSM, SA	Ana, CM, Irv, LW, MV, OC, SC		MV	Alternate Modes
30			143	Use Of Neighborhood Electric Vehicles	Ana, B	Ana, B, LW, NB	Ana, F, OC, SC	Ana, B	Alternate Modes
31	25		70	Use Of Neighborhood Electric Vehicles For Circulator Transit					
32	27	40	58, 62, 136, 139	Vanpools	C, OCTA	Ana, C, MV, OCTA	LW	Ana, C, MV	Alternate Modes
33	31	40	101, 151	Implement/Promote Bike Sharing	CM, GG	CM, GG, Irv	Ana, CM, F, GG, LW	MV, GG	Bike
34			41	City Bicycle Plan Amendments	Ana, B, DP, HB, Irv, LHb, MV, NB, O, SA, T, W	Ana, F, HB, Irv, MV, NB, SA, SB, W	Ana, Ana, Irv, LW, MV, SC, SA, T	Ana, GG, MV, RSM, SA, S	Bike
35			45	Construct Regional Bikeways	Ana, B, DP, HB, Irv, LHb, MV, NB, O, SA, T, W	Ana, B, F, Irv, LW, LHb, MV, O, OC, SA, TCA	Ana, B, CM, F, Irv, LHb, MV, O, OC, SC, SA, TCA, T	B, GG, Irv, LH, LHb, LF, MV, O, RSM, SC, SA, T	Bike
36			48	Create Signature Bike Projects/Programs	DP, Irv, MV, SA	HB, Irv, MV, NB, SA	AV, Irv, LW, MV, SA	GG, Irv, MV, SA	Bike
37			102	Educational Outreach To Promote Safety Among Cyclists	Ana, HB, Irv, MV, NB, SA, S, W	Ana, HB, Irv, MV, NB, OC, SA, S, W	F, HB, LW, MV	F, GG, MV, O, SA	Bike
38			49	Facilitate Increased Biking Opportunities	B, DP, MV, RSM, T	Ana, LW, C, LW, MV, NB, OC, SA, TCA, T	BP, F, Irv, MV, OC, SC, SA, S, TCA, T	AV, B, F, GG, HB, Irv, LH, LF, MV, O, RSM, SA, S, T	Bike
39		30, 31		Improve Cyclist Environment (E.G., Safety, Access)	Ana, B, DP, Irv, LP, RSM, SA	Ana, B, C, CM, Irv, LW, LP, MV, NB, SA	Ana, F, Irv, LP, SC, SA, S, T	AV, Ana, B, C, F, GG, HB, Irv, LH, LP, MV, O, RSM, SC, SA, S, T, W	Bike
40	16	29, 53	35, 43, 44, 107, 150, 152	Improve Bicycle Infrastructure And Facilities (Lockers, Racks, Valets, Bike Parking, Subsidies)	Ana, HB, MV, RSM, SA, T	Ana, B, C, CM, LW, MV, NB, O, OC, SA, T	Ana, B, F, HB, Irv, MV, SC, SA, T	AV, Ana, B, C, CM, F, GG, HB, LH, MV, RSM, SC, SA, S, T	Bike
41			153	Increase Bike/Walk Trips With Improved Streets And Facilities	Ana, DP, HB, LP, MV, RSM, SA	Ana, CM, C, LW, LP, MV, NB, O, SC, SA, W	AV, B, F, HB, Irv, LP, MV, OC, SA, TCA, T, W	B, C, F, GG, HB, Irv, LH, LF, LP, MV, O, RSM, SA, T	Bike
42			103	Promote Health Through Bicycle Programs By Partnering With Local Health Groups	SA	Ana, NB, SC, SA	F, LW, SA	F, GG, SA	Bike
43			47	Upgrade Bike Transportation System	HB, MV, SA, W	Ana, CM, C, Irv, LW, MV, NB, O, SA, S, W	Ana, B, F, MV, OC, SC, SA, S, TCA, T	Ana, B, C, F, GG, HB, LH, LF, MV, O, RSM, SC, SA, T	Bike
44	13	68		Co-Location/On-Site Facilities E.G. Day Care, Cafeteria...	Ana, C, HB, Irv, SA	Ana, MV, SA	Ana, LW	Ana, C, F, MV, SA	Facilities
45	12	17		Locate Schools In Neighborhoods With Student Populations	Ana, HB, Irv, LP, MV, SC, SA	Irv, SA	Irv, SA, T	C, F, HB, Irv, RSM, SA	Facilities

Sustainability Strategy List for Orange County Sustainable Communities Strategy Development

#	CDR #	CARB #	SCAG #	Item	Completed Project	Ongoing Project	Future Project	General Plan Policy	Category
46			165	Allow Increased Size And Weight Of Trucks		C, HB			Freight/Goods Movement
47			56	Designated Truck Lanes	W	W		AV, SA, W	Freight/Goods Movement
48			163	Encourage Cold Ironing At Ports					Freight/Goods Movement
49			164	Facilitate Freight Logistics Improvements					Freight/Goods Movement
50			166	Facilitate Pre-Clearance At Scale Houses					Freight/Goods Movement
51			53	Feeder Barge Container Services					Freight/Goods Movement
52			54	Increase Rail Capacity And Address Rail Freight System Bottlenecks	OCTA	OCTA			Freight/Goods Movement
53			52	Intermodal Freight Initiatives					Freight/Goods Movement
54			167	Promote Freight Villages/Consolidation Centers					Freight/Goods Movement
55			162	Reduce Locomotive Fuel					Freight/Goods Movement
56			55	Shift Freight Movements From Truck To Rail					Freight/Goods Movement
57			12	"Fix- It First" And Location Efficient Funding Strategies		SA		SA	Land Use Policies
58	7	4		Compact Building Design (With A Mix Of Uses)	Ana, B, CM, C, F, GG, Irv, LP, O, SA, S	Ana, B, CM, C, F, GG, Irv, LP, O, SA	Ana, B, CM, C, F, GG, Irv, LW, LP, SA	AV, Ana, B, CM, C, F, GG, Irv, LP, NB, O, SA, S	Land Use Policies
59	8	8	63	Develop "Complete Communities"	F, Irv, MV, SA	F, Irv, LF, MV, SA	CM, F, Irv, LW, SA, T	Ana, C, F, GG, Irv, MV, O, SA, T	Land Use Policies
60			32	Develop A Species List Of Water Wise And Ecologically Friendly Plants For Use In New Development And Other Landscape Projects	Ana, B, GG, HB, Irv, MV, SC, SA, S	B, CM, GG, Irv, LW, NB, SA, S	B, BP, CM, GG	AV, B, GG, HB, MV, SC, SA, S	Land Use Policies
61			21	Develop Model Green Development And Green Building Laws For Local Governments To Adapt And Adopt	Ana, Irv, LB, LHb, RSM, SA	CM, Irv, MV, NB, SA	Ana, BP, CM, SC	NB, O, SA	Land Use Policies
62			5	Downtown Revitalization	Ana, B, CM, C, DP, F, HB, Irv, SA, T	Ana, B, CM, C, DP, F, HB, Irv, SC, SA, S, T	AV, B, BP, CM, C, DP, F, HB, Irv, SA, S, T	Ana, B, CM, C, DP, F, GG, HB, Irv, O, SC, SA, T	Land Use Policies
63			18	Emphasize Local Authority To Require Low Impact Development	C, DP, Irv, RSM, SA	BP, C, OC, SC, SA	C, SA, W	C, GG, LH, SA	Land Use Policies
64			23	Enhance Energy Efficiency Code Enforcement And Development	B, DP, HB, Irv	B, BP, HB, Irv, LW, MV, NB, OC,	B, CM	AV, B, GG, Irv, NB, SA, S	Land Use Policies
65			25	Ensure Local Enforcement Of The State Energy Code	B, DP, Irv, LB, RSM, SA	Ana, B, BP, CM, DP, F, HB, Irv, LF, LW, NB, OC, SC, SA, SB, S, T	B, CM, Irv, T	AV, B, GG, Irv, OC, SA	Land Use Policies
66	6	5	8,9	Horizontal Or Vertical Mixed Use	Ana, B, C, DP, F, HB, Irv, NB, SC, SA, S, T	Ana, B, CM, C, DP, F, Irv, LW, LP, MV, OC, SA	AV, Ana, B, BP, CM, C, DP, F, HB, Irv, LF, LP, NB, SA, T	Ana, B, CM, C, DP, F, GG, HB, Irv, LB, LH, LP, NB, O, OC, SC, SA, S, T, W	Land Use Policies
67		18		Implement Other Location-Related Policies		Ana	AV, BP, LW	Ana, HB, O, SA	Land Use Policies
68		13		Improve Accessibility Of Housing To Transit	Ana, F, HB, MV, SA, T	Ana, CM, F, LW, MV, OC, T	AV, Ana, B, BP, CM, F, HB, Irv, MV, SA, T	Ana, B, C, F, GG, HB, MV, NB, O, OC, SA, T	Land Use Policies
69		2	3	Increase Opportunities For Redevelopment/Reuse (E.G., Brownfields)	Ana, CM, HB, LP, T	Ana, BP, CM, Irv, LF, LP, OC, S, T	Ana, CM, F, Irv, LP, T	Ana, CM, C, F, GG, LP, O, OC, T	Land Use Policies
70	4		8	Increasing Housing Densities Within/Adjacent To Employment Areas	Ana, B, C, HB, Irv, LH, SA, T	Ana, B, C, Irv, OC, SA, T	AV, Ana, B, BP, C, F, Irv, NB, SA, S, T	Ana, B, C, F, GG, HB, Irv, NB, O, OC, SC, SA, S, T	Land Use Policies
71	3	3,9		Increasing Residential/Commercial Density Near Transit	Ana, B, C, LH, SA, T	Ana, B, C, GG, HB, LW, OC, SA, T	Ana, B, BP, C, DP, F, GG, HB, SA, S, T	Ana, B, C, DP, F, GG, NB, O, OC, SA, S, T	Land Use Policies
72	1	1	1	Infill In Areas With Existing Infrastructure	Ana, B, CM, C, DP, HB, Irv, NB, RSM, SC, SA, T	Ana, B, BP, CM, C, GG, HB, Irv, LW, LF, MV, NB, OC, SA, S, T	AV, Ana, B, CM, C, DP, F, GG, HB, Irv, LH, NB, RSM, SA, SC, T	Ana, B, CM, C, DP, F, GG, HB, LH, NB, O, OC, RSM, SA	Land Use Policies
73	11	12		Integrate Affordable And Market Rate Housing	Ana, B, C, GG, HB, Irv, LB, LP, O, RSM, SA, T	Ana, B, BP, CM, C, GG, HB, Irv, LW, LHb, LF, LP, MV, NB, OC, SC, SA, S	AV, Ana, B, C, DP, F, GG, HB, Irv, LHb, LP, SC, SA, T	Ana, B, CM, C, DP, F, GG, HB, Irv, LB, LF, LP, NB, O, OC, RSM, SC, SA, S, T	Land Use Policies
74			13	Land Use And Building Code Reform	DP, Irv, LB, LP, NB, SA	AV, BP, CM, HB, Irv, LW, LHb, LP, NB, O, OC, SC, SA, SB, S	AV, C, Irv, LP, SA	GG, O, SA	Land Use Policies
75	10	11		Local Housing For Local Workforce	Ana, B, C	Ana, B, BP, CM, C, LW, OC, SA	Ana, B, C, F, SA	AV, Ana, B, CM, C, F, GG, Irv, LF, MV, NB, O, OC, RSM, SC	Land Use Policies
76	5	16	6	Locate Major Regional Activity Centers Near Existing Development	Ana, B, CM, HB, Irv, SA, T	Ana, B, BP, CM, HB, Irv, LW, LF, OC, SA	Ana, B, HB, Irv, SC, SA, T	AV, Ana, B, HB, Irv, OC, SA, T	Land Use Policies
77	15	10	2	Making Developments Transit Ready	Ana, C, HB, MV, SA	Ana, BP, C, HB, LW, LF, MV, OC, SC, SA	Ana, C, F, HB, MV, SA, S	AV, Ana, C, F, HB, LF, MV, OC, SC, SA, S	Land Use Policies
78	2	6	2,4	New Housing And Jobs Within 1/2 Mile Of Existing/Planned Transit Stations	Ana, CM, HB, Irv, NB, SA	Ana, CM, F, Irv, LW, T	Ana, B, BP, CM, F, HB, Irv, LH, NB, SA, S, T	Ana, B, CM, F, LH, O, SA	Land Use Policies
79	9			Plan For A Changing Demand In Types Of Housing	Ana, DP, HB, Irv, SC	Ana, B, CM, Irv, SC	Ana, B, BP, DP, F, LW, NB	Ana, B, CM, C, DP, F, LF, NB, O, OC, SC	Land Use Policies
80			24	Prepare Model Components To Add To Plans Regarding Transit Station Area Plans And Energy Conservation		Irv, MV, SA	LW, SA	AV, SA	Land Use Policies
81			26	Prepare Model Energy Code Enhancement Provisions For Local Adoption	Irv	CM, Irv	AV, LW, SA	SA	Land Use Policies
82		19	33	Provide Financial Incentives (E.G., Grants, Tax Credits) For Non-Transportation Investments Like Housing, Parks, And Storm Water Management	HB, LP, SA, T	CM, HB, LP, MV, SA, T	HB, LW, LP, SA, T	HB, MV, NB, SA, T	Land Use Policies
83		21	30	Provide Recognition Programs	B, Irv	B, CM, HB, LW, RSM, SA	AV, B, O, SA	B, CM	Land Use Policies
84		20	28	Provide Regulatory Relief (E.G., Expedited Permit Processing)	DP, LP, T	Ana, B, CM, DP, HB, Irv, LW, LF, LP, MV, O, RSM, SA, T	AV, B, DP, Irv, LP, NB, T	AV, B, CM, DP, Irv, OC, RSM, T	Land Use Policies
85			10	Smart Growth Planning, Modeling, And Tools	B, HB, T	Ana, B, CM, LW, SA, T	B, SA, T	Ana, B, CM, LH, O, SA, T	Land Use Policies
86			7	Support Revitalization Of Older, Densely Settled Urban Areas	Ana, B, CM, C, HB, SA, T	Ana, B, CM, HB, LW, OC, SA, S, T	AV, Ana, B, CM, C, HB, SA, T	Ana, B, CM, C, HB, NB, O, OC, SA, S, T	Land Use Policies

Sustainability Strategy List for Orange County Sustainable Communities Strategy Development

#	CDR #	CARB #	SCAG #	Item	Completed Project	Ongoing Project	Future Project	General Plan Policy	Category
87			15	Targeted Infrastructure Investment Section Toward Priority Growth Centers	Ana, C, Irv	Ana, C, Irv, LW, SA	Ana, Irv, SA	Ana, C, Irv, NB, SA	Land Use Policies
88			27	Transferable Development Rights (Tdrs)	CM, Irv	CM, Irv	F, Irv, O	B, F, NB, O	Land Use Policies
89			31	Use Plants From Local Gene Pool In City Projects Adjacent To Natural Open Spaces	O, OC, TCA	MV, SA	AV, LF, SA		Land Use Policies
90			16	Zoning Reform Measures	GG, HB, Irv, LP	CM, GG, Irv, LP, O, OC, SC, SA, SB	AV, BP, F, GG, Irv, LP, O, SA	CM, GG, Irv, O, OC, S	Land Use Policies
91	14	14, 15	11, 17, 29	Ensure Adequate Access To Open Space And Preservation Of Habitat	Ana, C, GG, HB, Irv, LB, MV, SC, T	Ana, BP, CM, C, GG, HB, Irv, LW, MV, OC, RSM, SC, SA	AV, Ana, C, F, GG, Irv, SC, T	AV, Ana, B, CM, C, F, GG, HB, Irv, LB, LH, LF, MV, NB, O, OC, RSM, SC, SA, T	Open Space
92				Additional City Technologies	LP, MV, SA, T	LW, LP, MV, SC, SA, T	F, LP, T	F, LP, MV	Other
93				City Educational Programs	DP, Irv, LB, MV	Ana, B, CM, DP, Irv, LW, LF, MV,	B, F, Irv, MV	AV, B, F, Irv, O	Other
94				City Wi-Fi Access To The Internet	BP, Irv, LB, MV, NB	B, DP, F, Irv, LW, LF, OC	B, F, Irv, SA	F, MV	Other
95				Installation Of Artificial Turf	Ana, GG, Irv, NB, O, SC, SA, S	Ana, B, DP, F, Irv, LW, LHb, LF, SA	B, CM, GG, Irv, LHb, LF, MV, O, SC, T	Ana, GG	Other
96			14	Location-Efficient Mortgage		LW			Other
97	32			Online Permitting	B, C, Irv, LH, MV, O, SC, T	Ana, B, C, F, Irv, LB, MV, NB, OC, SC, S, T	AV, B, BP, CM, C, F, HB, Irv, LW, LF, NB, SA, T	B, MV	Other
98				Reduce The Amount Of Evaporative Emissions From City Gasoline Fueling Site	BP, Irv, SA	Ana		SA	Other
99				Reduce The Number Of City Operational Vehicle Miles Traveled		Ana, S	DP	Ana	Other
100				Reduce The Number Of Commuter Vehicle Miles Traveled And The Associated Greenhouse Gas Emissions.	Irv, NB	Ana, Irv, MV, OC, SA	AV, DP, Irv, MV, SC, SA	AV, Ana, HB, Irv, MV, OC, SA, S, T	Other
101	33			Webcasts Of City Council Or Planning Commission Meetings	B, BP, DP, HB, Irv, LB, SC	Ana, B, CM, F, Irv, MV, NB, OC, SA, T	AV, B, Irv, LW, T	B, CM	Other
102	21	37	59, 130	Altering/Reducing Parking Requirements And Supply	Ana, CM, HB, Irv, SC, SA, T	Ana, CM, F, LW, MV, SA	AV, Ana, BP, C, F, O, OC, RSM, S	Ana, CM, DP, F	Parking
103	45			Higher Tax On Free Private Parking					Parking
104			201	Implement Parking Pricing, Excise Tax And/Or Supply Restrictions			T	F	Parking
105	38	41	125	Improve Parking Management (E.G., Employee Parking "Cash Out", Unbundling Parking Cost From Property Cost)			LW	F	Parking
106	19			Managed Parking	Ana, DP, GG	Ana, CM, DP, GG, HB, NB, SC, SA	Ana, CM, GG, O	Ana, DP, GG, SA	Parking
107	22			On-Street Parking	Ana, C, DP, HB, MV, NB, T	Ana, BP, CM, DP, MV, SA, T, W	Ana, MV, T	Ana, MV	Parking
108			133	Parking Pricing		NB, SA		DP	Parking
109			128	Parking Regulation In Suburban Areas	GG	BP, GG, SA	GG	GG	Parking
110			131	Require Village Employees To Park In Perimeter Lots		LB, SA	LW		Parking
111	24		126, 127, 129	Preferred/Reserved Parking For Alternate Fuel , High Occupancy Vehicles And Car Share Programs	Ana, HB, Irv	Ana, LW, MV, OC, SA	AV, Ana, BP, CM, O	Ana, CM, GG, MV	Parking
112	20			Shared Parking	Ana, B, C, GG, HB, Irv, LP, MV, NB, SA, T	Ana, B, BP, CM, GG, LW, LP, MV, SC, SA, T, W	AV, Ana, B, GG, SA, T	Ana, B, CM, C, GG, LH, SA, T	Parking
113		50		Fuel Tax					Pricing
114		46		Implement Congestion Pricing	OCTA		LB		Pricing
115		44		Implement Metered Pricing		LB, NB, SA	F		Pricing
116	43	47	149, 147	Additional Pricing Options: Congestion Pricing, Hot Lane Pricing, Etc. On Major Routes		Ana	MV		TDM
117			114	E-Commerce Incentives					TDM
118			120	Encourage The Use Of Vehicle Navigation Systems	Irv, MV	MV, SA			TDM
119			143	Expand Affordable Public Transportation Coverage	MV	Ana, LB, LW, MV	MV, OCTA	Ana, MV	TDM
120		49	147	Implement Distance-Based (VMT) Pricing					TDM
121			148	Increased Fuel Tax (With Targeted Use Of Revenue Toward Travel Alternatives)					TDM
122			118	On-Site Day Care Programs	Ana, C, Irv, SA	Ana, SA		Ana, HB, LF, MV, OC, SA	TDM
123		69	113, 202	Pay-As-You-Drive Insurance					TDM
124			104	Promote Cleaner Modes Of Transport With Additional Way Finding Signs And Maps	Ana, HB, Irv, MV, SA	Irv, LW, SA, W	AV, F, Irv, SA	F, HB, SA, S	TDM
125			121	Promote Safety Program		HB, LW, MV, OC, SA, TCA	AV	GG, HB, MV, O, SA	TDM
126			106, 154	Promote Transportation Alternative By Third Parties	HB, Irv	Ana, Irv, LW, OC	Irv	Ana, HB, MV, OC	TDM
127			144	Reduced Transit Pricing		Ana			TDM
128			150	Study/Develop Pricing Policies And Structures To Discourage Car Travel Bundle					TDM
129			146	Transportation Demand Management Ordinance	C, HB, Irv, LB, LHb, MV, NB, O, SC, SA, T	Ana, B, Irv, LW, LHb, SA, W	AV, Irv, RSM	AV, Ana, B, C, HB, LF, MV, RSM, SA, T, W	TDM
130			51	Adopt And Implement Complete Streets Policy	Irv	HB, Irv, SA	AV, Ana, B, Irv, RSM, T	C, F, HB, Irv, O, SA	TII
131			75	Arterial Improvements	Ana, B, CM, C, DP, HB, Irv, LH, LHb, LP, MV, OC, SA, TCA, T, W	Ana, B, BP, CM, C, HB, Irv, LH, LW, LHb, LF, LP, MV, NB, O, OC, RSM, SA, S, TCA, T, W	AV, B, CM, C, DP, F, HB, Irv, LH, LHb, LP, MV, OC, SA, TCA, T, W	AV, Ana, B, CM, C, DP, F, HB, Irv, LH, LP, MV, O, RSM, T	TII
132			86	Bus Fleet Measures	GG	LB			TII

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133			82	Bus Rapid Transit	GG	W	Ana, OCTA, W	Ana	TII
134			80	Commuter Transit	BP, GG, OCTA	LB, LF, W	MV, W	Ana, LF, MV	TII
135			91	Converting Car Beaches To Mixed Use Development	Ana	Ana	GG, SA	Ana, GG	TII
136			84	Create Regional Multimodal Transportation Centers	BP, Irv, O, SA, T	Ana, Irv, SA	Ana, F, GG, Irv, SA	Ana, F, Irv, MV, O, SA	TII
137			64	Energy Efficient Lighting Along Transportation Corridors	Ana, C, HB, LP, O	Ana, C, LW, LP, MV, NB, SA	AV, C, LP, O, SC	LP, SA, S	TII
138			95	Enhance Bus Stops	Ana, C, HB, Irv, LP, MV, RSM, SA, T, W	Ana, C, Irv, LW, LHb, LF, LP, MV, SA, W	C, LHb, LP, MV, T	AV, LH, LP, MV, O, SA, T	TII
139		54	61, 74	Expand High Occupancy Toll (Hot Lanes) System				MV	TII
140	40	22	60, 79	Expand Transit Network And Improve Transit Facilities	MV	Ana, LB, MV, OCTA, W	MV	Ana, MV	TII
141			66	Feeder And Distributor Systems – Orbital Routes	OCTA	OCTA, W	LB		TII
142			90	Feeder-Distributor Services	OCTA	OCTA, W	LB		TII
143			76	High Speed Regional Transport System			Ana	Ana, MV	TII
144			57	Highway-Rail Grade Separations	Ana, Irv, T	Ana, Irv, T	Irv, SA, T	Ana, Irv, SA, T	TII
145			71	Implement Automated Speed Enforcement	LF, T	DP, SA, T	LW, T		TII
146	41	32	37, 46	Improve Linkages Between Travel Modes	Ana, Irv, SA, T	Ana, CM, Irv, LW, MV, SA, T	CM, F, MV, T	Ana, F, LH, LF, MV, O, SA, T	TII
147		23		Improve Transit Facilities (E.G., Safety)	Ana, BP, Irv, MV, O	Ana, LF, MV, SA, T	SA, T	Ana, SA	TII
148			99	Improve Transit Service (Frequency, Convenience, And Quality)		Ana, LB, MV, W	AV, Ana, OCTA	Ana, MV	TII
149			81	Intercity Bus Transit	GG, OCTA	GG, LB, OCTA, W	AV, GG	Ana, GG, MV	TII
150			83	Light Rail Transit				MV	TII
151			69	Major Co2/Vmt Reduction Strategies			Irv	S	TII
152			73	Mixed-Flow Lanes	OCTA	OCTA	OCTA		TII
153	42			OCTA Go Local Projects	RSM	LB, LW, LF, MV, OCTA, W	Ana, MV, O, RSM	Ana, GG, MV	TII
154			65	Pavement Management	C, LHb, LP, MV, OCTA	Ana, BP, C, LB, LW, LHb, LF, LP, MV, NB, O, OCTA, RSM	C, LHb, LP, MV	Ana, C, GG, LP, MV, O, RSM	TII
155			98	Public Transport – Coordination Of Routes	OCTA	LB, MV, NB, OCTA		GG, LF, MV	TII
156			96	Public Transport – Hours Of Service	OCTA	LB, MV, OCTA		GG, MV	TII
157			97	Public Transport – Route Structure	OCTA	LB, MV, OCTA		GG, MV	TII
158		59	72	Ramp Metering	Irv				TII
159			92	Reactivation And Use Of Unused Or Lightly Used Rail Row	B, Irv	B, SA	Ana, B, F, HB, Irv, O, SA	B, F, SA	TII
160		34		Rehabilitate And Maintain Pavement	B, C, Irv, LP, MV, OC, TCA, T	B, BP, C, Irv, LW, LF, LP, MV, O, OC, RSM, SC, SA, SB, S, TCA, T	B, C, Irv, LP, MV, OC, SA, TCA, T	B, C, Irv, LH, LP, MV, O, RSM, SA	TII
161			87	Replacement Of Bus Fleets	OCTA	LB, OCTA			TII
162			67	Smart Streets	Ana, B, C, HB, Irv, LHb, OC, S, TCA, T	B, BP, C, HB, Irv, LW, OC, S, TCA, T	AV, B, Irv, OC, SA, TCA, T	Ana, B, C, SA, T	TII
163			88	Statewide Policies On Replacement Of Transit Equipment					TII
164			89	Station Cars		Ana			TII
165			93	Support Extension Of Rail Line	SA	Ana, LW	F	F, HB, MV	TII
166			85	Targeted Infrastructure Growth	Ana, Irv	Ana, Irv, LP, SA	C, Irv, SA	Ana, C, GG, HB, Irv, LP	TII
167			50	Traffic Calming Measures	Ana, B, DP, Irv, LHb, MV, OC, SA, TCA, T, W	Ana, B, BP, CM, DP, LHb, LF, LP, MV, NB, OC, RSM, SC, SA, TCA, T, W	AV, B, DP, LHb, OC, SA, TCA, T, W	AV, Ana, B, CM, C, DP, GG, LH, LP, MV, O, RSM, SA, T	TII
168			78	Transit Marketing, Promotion, And Pricing Incentives	MV, OCTA	Ana, LW, OCTA		Ana, GG, MV	TII
169			100	Transit Oriented Infrastructure Development In Infill Corridors	Ana, DP, MV	Ana, DP, LW, MV, SA	Ana, DP, F, SA, S	Ana, DP, F, GG, MV, SA	TII
170			94	Village Trolley – Trial Basis	Irv	Ana	DP, F, Irv, SC	B	TII
171		25		Adopt Competitive Fare Structure					TSM
172			198	Adopt Emission Based Tolls					TSM
173				Alternatively-Fueled, Heavy Duty Vehicles	Irv, MV	Irv, LW, LP, MV	Irv, SC		TSM
174		62	158, 159	Anti-Idling Traffic Codes For Commercial Vehicles		BP			TSM
175			19	Assess Climate Impacts Of Development	F, LF, O	Ana, CM, HB, Irv, LW, LF, O, OC, SC	AV, LF, O	AV, Ana, CM, LH, O	TSM
176			22	Assessment Of Regional Impact Development Projects For Climate Mitigation	Ana	Ana, Irv, OC	Ana	Ana	TSM
177	44	48	197	Cordon Pricing (E.G. London, Fee For Vehicle Access To Roads Within Specified Area)					TSM
178			203	Convert Existing Roads To Toll Roads					TSM
179			175	Develop Traffic Calming Systems	Ana, DP, Irv, LB, MV, SA	Ana, B, DP, CM, LF, LP, MV, NB, SA, W	AV, B, DP, LF, SA	B, CM, DP, LB, LP, MV	TSM
180			157	Distribute Educational Information	MV	B, BP, CM, DP, LF, MV, SA, W	AV, B, LF, MV, SA	B, SA	TSM
181		51		Eliminate Or Reduce Highway And Arterial Projects That Result In Additional "General Purpose" Lane Miles		LB, LW			TSM
182			172	Encourage Bus Tracking Systems And Information Sharing		LW	LB		TSM
183			187	Encourage Intermodal Travel	MV, OCTA	Ana, LB, LW, MV, OCTA	AV, MV	Ana, MV	TSM
184			189	Encourage Old Vehicle And Equipment Retirement For Construction Vehicles		LP, OC, TCA	AV		TSM
185			188	Encourage Old Vehicle And Equipment Retirement For General Public		Ana, SA	AV		TSM

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186			185	Encourage Regional Transit Programs	OCTA	LB, LW, LP, MV, OCTA, W		Ana, LF, MV	TSM
187			160	Encourage Truck Stop Electrification					TSM
188		63		Enhance Vehicle Inspection And Maintenance Programs		B, LP, SA	SA	LP	TSM
189			183	Expand Transit Services		LB, MV, W	OCTA	Ana, LF, MV	TSM
190			186	Facilitate Intermodal Travel	MV, OCTA	LB, MV, OCTA, W	MV	Ana, LF, MV, O	TSM
191		61		Freeway Travelers Information System	Irv				TSM
192			169	Help Establish Baselines/Guidelines To Create Green Transportation Standards		SA, W	AV, SA		TSM
193		36		Implement Effective Pricing		SA			TSM
194		55		Implement Traffic Signal Coordination	Ana, B, DP, HB, Irv, MV, O, OC, TCA, T, W	AV, Ana, B, BP, CM, DP, HB, Irv, LW, LF, LP, MV, NB, OC, SC, SA, S, TCA, T, W	AV, B, DP, HB, Irv, MV, OC, SA, S, TCA, T, W	AV, Ana, B, DP, HB, Irv, LH, LP, MV, T	TSM
195			199	Implement Urban And Intercity Road Tolls	Ana				TSM
196		38		Improve Circulation Efficiency Through Information (E.G., Signage)	Ana, HB, Irv, SA, T, W	AV, Ana, BP, CM, HB, Irv, LW, LF, LP, SC, SA, T, W	AV, Irv, O, SC, SA, S, T, W	AV, Ana, CM, LP, S	TSM
197			184	Improve Transit Stops And Stations	Ana, MV, O, OCTA, W	Ana, LB, LW, LF, MV, O, OCTA, W	MV, OCTA	Ana, LF, MV, O	TSM
198		60		Incident Management System	OCTA, W	LB, OCTA, W			TSM
199			176	Increase Use Of HOV, Hot And Dedicated BRT Lanes		MV		MV	TSM
200			174	Lower And/Or Enforce Speed Limits	Ana, Irv, T, W	AV, Ana, B, BP, CM, HB, Irv, LW, LF, LP, NB, O, RSM, SA, T, W	Irv, SA, T, W	LP, RSM, SA, T	TSM
201		64		Operation Improvements To Relieve Bottlenecks	Ana, HB, Irv, W	Ana, B, CM, HB, Irv, LW, SA, W	AV, HB	AV, B, HB, SA	TSM
202				Other Reduced VMT	Ana, LF	LF	LF	Ana	TSM
203			156	Promote Maintenance And Driver Training	Ana	Ana, LP, SA			TSM
204			161	Promote Truck Refrigeration Units					TSM
205		56		Queue Jumps/Bus Priority At Intersections			SA		TSM
206	36	57	170, 173	Real-Time Transit Information	DP	Ana, DP, LW	DP, LB, OCTA, W	DP	TSM
207				Reduce Particulate Matter (Pm) Emissions From On-Road Diesel-Powered Heavy-Duty Vehicles	MV	Ana, MV, SA	BP, SA	SA	TSM
208		24		Reduce Passenger Travel Time (E.G., More Frequent Headways)		LB, W	OCTA	Ana	TSM
209		58		Speed Limit Reductions To 55 Mph	RSM				TSM
210			20	Streamlining Development Projects That Reduce VMT, Energy Consumption, Transportation Impact	Ana, HB	Ana, LP	O		TSM
211			168	Support Procurement Of An Efficient Heavy-Duty Vehicle Fleet	Irv, MV	Irv, LP, MV, SA	Ana, Irv	SA	TSM
212			181	Support School Bus Use		CM, HB		AV	TSM
213			200	Use Toll Revenue To Fund Alternative Fuel Vehicles					TSM
214		35		Use Transportation System Management (E.G., Congestion Management)	B, MV, SA, T	B, CM, C, LP, MV, SA, T	AV, B, MV, T	AV, B, C, LH, LF, MV, SA, T	TSM
215	39	33	77, 171, 177	Using Intelligent Transportation System Technologies, Signal Synchronization, Prioritization For Buses	C, MV, OCTA, W	Ana, CM, C, LP, MV, NB, OCTA, RSM, W	C, MV, OCTA, W	Ana, C, MV, RSM	TSM
216		7		Improve Connectivity Of Streets And Pedestrian Network (E.G., Through Streets)	B, C, HB, Irv, MV, SA, T, W	Ana, B, CM, C, Irv, LB, LP, MV, NB, RSM, SA, W	B, C, F, GG, HB, Irv, MV, SC, SA, T, W	AV, Ana, B, C, F, GG, HB, Irv, MV, LH, LF, LP, O, RSM, SA, T	Walk
217		27, 28	34	Improve Pedestrian Environment (E.G., Beautification, Access, Safety)	Ana, B, C, GG, HB, Irv, MV, OC, SA, TCA, T, W	Ana, B, BP, CM, C, GG, Irv, LB, LW, LF, LP, MV, O, OC, RSM, SC, SA, SB, TCA, T, W	AV, Ana, B, C, F, GG, HB, Irv, LF, MV, OC, SC, SA, S, TCA, W	AV, Ana, B, C, F, GG, HB, Irv, LH, LF, LP, MV, O, RSM, SA, S, T	Walk
218	17	26	35, 38	Improving Pedestrian Infrastructure And Facilities E.G. Pedestrian Bridge	Ana, DP, HB, Irv, LF, MV, SA, T, W	Ana, CM, Irv, LB, LF, LW, MV, NB, O, RSM, SC, SA, T, W	Ana, BP, CM, HB, Irv, LF, SA, S, T, W	AV, Ana, GG, HB, Irv, LH, LF, MV, O, RSM, SA, T	Walk
219			105	Increase Bike/Walk Trips With Improved Streets And Facilities	Ana, B, C, DP, HB, Irv, MV, SA, T, W	B, CM, C, DP, Irv, LW, LP, MV, NB, RSM, SC, SA, T, W	AV, B, C, DP, F, HB, Irv, LF, MV, SA, S, T, W	AV, Ana, B, C, DP, F, GG, HB, Irv, LH, LF, MV, O, RSM, SA, T	Walk
220			39	Sidewalk Construction	B, C, DP, Irv, LHb, LF, MV, OC, SA, TCA, T, W	B, BP, CM, DP, F, HB, Irv, LB, LW, LHb, LF, LP, MV, NB, O, OC, RSM, SC, SA, S, TCA, T, W	Ana, B, DP, F, GG, Irv, LHb, LF, MV, OC, SA, TCA, T, W	Ana, B, C, DP, F, GG, Irv, LH, MV, RSM, SA, T	Walk
221			36	Statewide Walkable And Bike Policy	Irv	Irv, LP, W	AV, Irv	GG, Irv	Walk
222			40	Trail Improvement Project	Ana, B, DP, Irv, MV, NB, SA, T, W	Ana, B, CM, DP, F, Irv, LW, MV, O, RSM, SA, W	AV, Ana, B, DP, F, GG, Irv, LHb, LF, MV, SA, T	AV, Ana, B, DP, F, GG, HB, Irv, LHb, MV, RSM, SA, T	Walk

Notes:

CDR	Center for Demographic Research
CARB	California Air Resources Board
SCAG	Southern California Association of Governments
TDM	Transportation Demand Management
TII	Transportation Infrastructure Investments
TSM	Transportation System Management

| | | |

Ensure Adequate Access to Open Space And Preservation Of Habitat [Note that TCA toll roads provide access to beach destinations, as well as recreational areas adjacent to the Cleveland National Forest and HCP/NCCP open space; this access will further expand when the 241 completion project is constructed];

Use Toll Revenue to Fund Alternative Fuel Vehicles [Note that this BMP will not apply to TCA's toll roads, as the bond covenants require all toll revenues collected on TCA facilities to be used to repay existing construction bonds];

Expand High Occupancy Toll (Hot Lanes) System [Note that TCA toll roads are all general purpose lanes, so this BMP would not apply];

Adopt Emission Based Tolls;

Convert Existing Roads to Toll Roads; and

Implement Urban and Intercity Road Tolls.

RECOMMENDATIONS

In light of their potential GHG reduction importance, we suggest that these and all transportation other pricing related BMPs (such as cordon pricing) be grouped together to better convey the full range existing pricing implementation and future options. At present, they are identified as a mix of TDM, TSM and pricing measures. Grouping them will also better correspond to SCAG's SCS guidelines calling for pricing strategies.

We also recommend that the seven tolling related BMPs be expanded to capture the full range of pricing actions and future options being pursued by the TCA on its public toll road system. The following additional measures are either being currently implemented and/or are being considered for future implementation by the TCA. All of them have a high degree of feasibility:

1) Implement Inter-County and Inter-Regional Toll Facilities.

In contrast to the existing BMP that focuses on urban and intercity tolls, this new BMP addresses the type of facility exemplified by the TCA toll corridors that provide intra-county, inter-county and inter-regional access.

Existing Implementation: TCA has constructed and currently operates 460 lanes miles of toll road that serve intra-county, inter-county, and inter-regional trips.

Future Implementation: TCA will add 105 new tolled lanes between 2012 and 2035 to meet intra-county, inter-county and inter-regional travel demand.

2) Reduce congestion and associated GHG emissions through variable toll pricing.

Existing Implementation: TCA currently implements variable peak hour pricing on 460 lane miles of FTC, ETC and SJHTC toll roads.

Future Implementation: TCA will continue to implement variable peak hour pricing on 460 lane miles FTC, ETC and SJHTC toll roads, and will expand this by 105 additional lane miles of variably priced roads by 2030.

3) Reduce congestion and associated GHG emissions through dynamic toll pricing.

Future Implementation: Although TCA tolls do not vary continuously throughout the day in response to congestion at this time, this technique is available for use when and if appropriate on The Toll Roads.

4) **Reduce vehicle trips and associated GHGs by providing express bus transit on toll lanes.**

Existing Implementation: TCA and OCTA currently have in place agreements allowing such routes.

Future Implementation: TCA, OCTA and other providers could expand express/rapid bus service on toll lanes.

5) **Reduce vehicle trips and associated GHGs by providing transit in the dedicated median of existing toll corridors.**

TCA has reserved right of way for future mass transit in the median of its corridors.

6) **Reduce congestion and associated GHGs with a common, transferrable tolling technology for priced facilities.**

Existing Implementation: All priced facilities in Orange and San Diego Counties currently use the FasTrak transponder technology, making the system flow more smoothly with less congestion-related GHG emissions. Electronic tolling via the FasTrak technology is available on 460 lane miles of SR 241, SR 261, SR 133, SR 73 and SR 91. This technology also provides interoperability on tolled facilities statewide; OCTA's 91 Express Lanes as well as priced lanes in San Diego County and in the Bay Area also employ FasTrak.

Future Implementation: Expansions of the priced transportation network should use the same technology to avoid duplication and user confusion. For example, the completion of SR 241, the Foothill Transportation Corridor South, will employ FasTrak technology on 105 additional lane miles. This BMP should also be employed in the SCAG regional SCS to maintain regional and statewide interoperability.

7) **Reduce congestion and associated GHGs with cashless full electronic tolling.**

Mr. Scott Martin
February 10, 2011
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Future Implementation: TCA is planning to implement cashless, full electronic tolling on 460 existing lane miles of SR 241, SR 261, SR 133 and SR 73 between 2012 and 2020. This total will grow to 565 lane miles when the southern portion of 241 is fully built out by 2030.

8) **Reduce vehicle trip and development-related GHG emissions through toll road open space mitigation.**

Existing Implementation: The San Joaquin Hills, Eastern and Foothill Transportation Corridor toll roads have provided approximately 2,200 acres of dedicated open space as environmental mitigation. This acreage will remain undeveloped in perpetuity despite significant future pressure for urban development to accommodate a growing population and economy in Orange County. In doing so, the dedicated open space will contribute to higher densities and more compact development elsewhere in the Orange County subregion, which is beneficial for GHG reduction. In addition, the dedicated open space provides permanent carbon sequestration benefits that the SCS should capture.

Future Implementation: Any additional toll road open space dedications will expand on the benefits described above.

Thank you for the opportunity to comment on the draft BMP list. I am available to discuss any questions or comments you have on the requested additions above. You can reach me at (949) 754-3475 or vmcfall@thetollroads.com.

Sincerely,

Valarie McFall
Deputy Director
Environmental Planning

cc: Tony Petros, LSA Associates

February 18, 2011 — OC School Districts - SCS Info. — prepared by Andrea Sullivan 714/966.4325

OC SCS Questions	ACSD	AUHSD	BOUSD	BPSD	CUSD	CESD	CYSD	FVSD	FJUHSD	FSD	GGUSD	HBCSD	HBUHSD	IUSD	LHCSD	LBUSD	LAUSD	LJSD	MSD	NMUSD	OCDE	OUSD	PYLUSD	Saddleback College	SVUSD	SAUSD	So. Community College	TUSD	WSD
Does your district have any plans to improve parking or access from arterials on campuses?			N	N		N			N		Y	N		Y							N			Y	N	Y	N		
GGUSD- Yes/Maybe. We are hoping to obtain approval for State modernization funding through the School Facilities Program to modernize 66 sites. Parking and access will be improved through these efforts.																													
HBCSD- Last summer we expanded and improved parking lots and access at Huntington Seacliff and Smith Elementary Schools. No further plans.																													
FJUHSD - No, we did that in the last 3 years.																													
CESD - No immediate plans.																													
SOCCD - Not in the immediate future. There are proposals but they appear to be twenty plus years out.																													
IUSD - Parking improvements, such as circulation upgrades/enhancements and increased parking capacity occur at sites being modernized when funding/budget allows																													
SAUSD - We have around 15 parking lot improvement projects. We also are adding parking lots at two schools that do not currently have parking.																													
Walk or bike to school programs/incentives for students/parents/staff?			N	N		N			N		N	N		Y							N			N	N	Y	N		
OCDE - Alternative Ed. Program students are not allowed to drive themselves to school. Our Green Committee encourages green practices.																													
SAUSD - A limited number of District Safety Officers will be deployed at their respective school sites on bicycles to augment patrol and crime prevention coverage. All District Safety Officers were allowed the opportunity to express an interest in this strategy that augments other primary methods of patrol, i.e., foot patrol and golf carts.																													
IUSD -The City of Irvine offers a grant program in coordination with Irvine Unified School District to promote pedestrian travel to schools.																													

1 of 5

OC SCS Questions	ACSD	AUHSD	BOUSD	BPSD	CUSD	CESD	CYSD	FVSD	FJUHSD	FSD	GGUSD	HBCSD	HBUHSD	IUSD	LHCSD	LBUSD	LAUSD	LJSD	MSD	NMUSD	OCDE	OUSD	PYLUSD	Saddleback College	SVUSD	SAUSD	So. Community College	TUSD	WSD
Any new bike accommodations planned? (trail connections, bike lockers)			N	N		N			N		N	N		Y							N			N	N		N		
GGUSD- No funding.																													
HBCSD - No plans. One middle school intends to add skateboard racks in the bike area.																													
IUSD - The City of Irvine's Master Plan incorporates numerous walking and biking trails that connect many of the existing and planned communities to																													
OCDE - We have bike racks at our new school - Harbor Learning Center.																													
Any telecommuting or similar programs ongoing?			N	N		N			N		Y	N		N							N			N	N	N	Y		
GGUSD- As much as possible. The instructional staff (teachers) have access for many of our web-based computer programs (Student system-entering grades at home, viewing test scores of data assessment system, e-mail….)																													
OCDE - We have teleconferencing and videoconferencing capabilities.																													
SAUSD - Just conference calls for the district office and consultants to reduce travel costs.																													
Online courses offered?			N	N		N			Y		Y	N		N							Y			Y	Y	Y	Y		
GGUSD- We have had several on-line courses for high school students, and looking into on-line Independent Study.																													
FJUHSD - Not yet we are starting independent study on line and will be expanding…surprisingly the union is not in support.																													
SVUSD - Health, Civics, Economics, Calculus BC																													
BOUSD - Not at this time, but will in the future.																													
OCDE - At our Pacific Coast High School and at teacher trainings.																													
SOCCD - Including a plan for increase in same																													
SAUSD - Online courses are being currently offered at Century and Valley for credit recovery. Web conferencing and online learning is beginning to be used for professional development. Web conferencing is extensively used for admin planning.																													

OC SCS Questions	ACSD	AUHSD	BOUSD	BPSD	CUSD	CESD	CYSD	FVSD	FJUHSD	FSD	GGUSD	HBCSD	HBUHSD	IUSD	LHCSD	LBUSD	LAUSD	LJSD	MSD	NMUSD	OCDE	OUSD	PYLUSD	Saddleback College	SVUSD	SAUSD	So. Community College	TUSD	WSD
Staggered start times for schools?			Y	Y		N			Y		Y	Y									N			N	Y	N	Y		
GGUSD- We have a few schools with staggered starts – which were negotiated many years ago (decades). Staggered starts are problematic for some as they can extend meal schedules but more efficient for bus transportation (less bus drivers needed.) However, staggered starts complicate employee contractual issues. Many teachers unions have negotiated 'collaboration' time on a specific day each week, and staggered starts make it more difficult to implement collaboration programs among teachers (they like to do this all at the same time – just like taking lunch at the same time each day).																													
HBCSD-Slightly staggered start times(8:05-8:40) to accommodate district bus services.																													
TUSD - Some of our schools in Tustin Ranch and West Irvine have staggered start times but only by 15 min. At these sites kindergarten starts school at say 8:00 a.m. and the others (grades 1-5) start at 8:15 a.m.																													
CESD - No, school start times were standardized this year.																													
IUSD - Some of the elementary schools have staggered start times. In addition, the middle and high schools rely on differentiated schedules through the use of block scheduling, late start, and implementation of zero period.																													
SAUSD - We have suggested adjusting the bell schedules before and likely will again. At the time, it was not a priority and had a large impact on parents and students.																													
Daycare offered on campus? (limits trips)			Y	Y		N			Y		N	Y						Y			N			Y	Y		Y		
GGUSD- We have preschool programs for community students, but not day care for employees and their offspring.																													
HBCSD- Before/after school care to accommodate parent needs for childcare.																													
FJUHSD - Just completed a new facility for 80 students at one location and about 20 employees at another.																													
LJUSD - We offer onsite daycare at a few of our elementary sites.																													
SOCCD - Yes there are daycare services on both campuses. Not sure what you mean by quantify campus utilization in a number if you are asking can we evaluate the number or percentage of students that are served, then yes.																													
SVUSD - We offer daycare before and after school for school aged students for elementary only. Not an all day program.																													

IUSD -Yes, all elementary and K-8 campuses have daycare services offered through the City of Irvine.

SAUSD - We do not have ES student daycare, with the exception of Think together, which houses our afterschool program. We have a cal-safe program that allows parenting teens to bring their kids to school. Not all parenting teens are given a space. Additional information breakdown of schools available upon request.

OC SCS Questions	ACSD	AUHSD	BOUSD	BPSD	CUSD	CESD	CYSD	FVSD	FJUHSD	FSD	GGUSD	HBCSD	HBUHSD	IUSD	LHCSD	LBUSD	LAUSD	LJSD	MSD	NMUSD	OCDE	OUSD	PYLUSD	Saddleback College	SVUSD	SAUSD	So. Community College	TUSD	WSD
Can they quantify campus utilization in a number?			Y			N																		Y			Y?		

FJUHSD - 100 trips each way?

BPSD - Not sure.

GGUSD - ???

SOCCD - Not sure what you mean by quantify campus utilization in a number if you are asking can we evaluate the number or percentage of students that are served, then yes.

Question not answered or understood by most participants

Bus transit offered?			Y	Y		N			Y		N	N		Y							Y			Y	Y	Y	Y		

GGUSD- Not available for employees, but we sure do offer bus passes for the 'homeless' students.

FJUHSD - No home to school but we do sell OCTA bus passes at student rates

SOCCD - Yes, there are bus stop locations at both campuses

SVUSD - Yes for six sites.

OCDE - All Special Ed students are bussed; no bussing for other programs

IUSD - Limited to a few schools.

SAUSD - We do not have any plans to provide transit shuttle services. We only have 3 bus routes for our 54,000+ students, outside of SDC.

Alternative fuel vehicles used?			N	Y		N			Y		Y	N		N							N			N	N	N			

GGUSD- Yes – we have 27 CNG busses, and due to replace another 13 diesel busses in the near future with CNG (110 busses in fleet).

BPSD - CNG

FJUHSD - 13 CNG

OUSD - Since we are in the South Coast Air Quality Management District (SCAQMD), school District must comply with SCAQMD rule 1195. This means we cannot purchase Diesel powered engines. For our white fleet (maintenance & other), we purchase gasoline powered engines. We also purchase the smaller school buses with gasoline powered engines. When we purchase or receive a grant for our larger school buses, we purchase Compressed Natural Gas (CNG) powered engines. currently have six (6) school buses that are powered by CNG. We also have retrofitted most of our Diesel engines with a Particular Trap. This trap replaces the muffler and doesn't allow the particulate matter to get into the air. We also installed a CNG fuelling station at our bus yard.

SOCCD - Electric carts are used in some instances for on campus deliveries and services.

Subject: FW: UCI Information

Attachments: Survey Spreadsheet for Employers 2011.xls; 2010 AQMD Filing Document - Final.pdf

From: Michael Davis [mailto:msdavis@pts.uci.edu]
Sent: Thursday, March 24, 2011 10:11 AM
To: Les Card
Subject: UCI Information

Les:

Sorry this is so slow in coming. Here is a brief description of what we're doing for Sustainable Transportation here at UCI.

STAFF –

UC Irvine has **3 full-time employees**, **1 part-time** dedicated to Sustainable Transportation efforts:

- Mike Davis, Interim Manager
- Antoinette Saenz, Employee Transportation Coordinator
- Ramon Zavala, Employee Transportation Coordinator
- Ken Ezell, Employee Transportation Coordinator (part-time); Charter Services Coordinator

WEB PRESENCE –

www.parking.uci.edu/AT

PROGRAMS –

- Bike – Bike infrastructure: Extensive bike path network / Signage/ Bike-Pedestrian bridges. Safety & Training: B.E.E.P. program. Information: www.bike.uci.edu
- Bus – University Pass Program: Membership provides annual OCTA access for just $95 (next year $155). Presently represent an 86% subsidy (next year 77%). Information: www.parking.uci.edu/AT/modes/OCTA.cfm
- Carpool – Available for employees. Provides reduced-rate parking and preferential parking for participants. Information: www.parking.uci.edu/AT/modes/carpool.cfm
- Shuttle – UCI maintains a shuttle fleet for on-campus and near-campus transportation. The fleet has real-time tracking. Information: www.shuttle.uci.edu
- Train - Provides 20% rebate for 10-day and monthly pass holders. Information: www.parking.uci.edu/AT/modes/train.cfm
- Vanpool – UCI presently has 18 vanpools carrying passengers from various locations to UCI. These vanpools come in during morning rush hour; return at evening rush hour. Information: www.parking.uci.edu/AT/modes/vanpool.cfm
- Walk – Infrastructure: Extensive pedestrian path network / Signage / Bike-Pedestrian bridges. Information: www.parking.uci.edu/AT/modes/walkorbike.cfm
- ZEV-NET – Zero-Emission Vehicles stationed at the Irvine Transportation Center for pooling to/from UCI. Information: www.parking.uci.edu/AT/documents/zevnetflyer.pdf

INCENTIVES – [Complimentary "rainy day" parking permits given to employees for each month in the program.]

- Bike – 5 complimentary "rainy day" parking permits for each month in the program
- Bus – 2 complimentary "rainy day" parking permits
- Carpool – 2 complimentary "rainy day" parking permits
- Shuttle – 2 complimentary "rainy day" parking permits
- Train - 2 complimentary "rainy day" parking permits
- Vanpool - 4 complimentary "rainy day" parking permits
- Walk - 5 complimentary "rainy day" parking permits

"RIDESHARE" SUPPORT – [These give mobility options to those who don't bring a car to campus]

- ZotWheels Bikeshare – The first fully-automated bikeshare program at a U.S. university; the only bikeshare program in the Western U.S. Information: www.parking.uci.edu/zotwheels/main.cfm
- Zipcar Carshare – 11 cars on campus available for hourly or daily use at $7-$8/hour. Gas, insurance, and 180 miles included. Information: www.zipcar.com/uci/
- Zimride – Ride matching site for the UCI campus. Allows people to post or request a ride. Links with Facebook. Information: www.zimride.com/uci
- Holiday Shuttle - Provides complimentary shuttle service for the UCI community to John Wayne Airport and the Irvine Transporation Center before and after the Thanksgiving, Winter, and Spring breaks. Information: www.parking.uci.edu/public/holidayshuttle.cfm
- Pre-Tax Benefit: UCI provides a pre-tax benefit through payroll deduction for those who involved in the Bus, Carpool, and Vanpool Programs.

SAVINGS FROM UCI SUSTAINABLE TRANSPORTATION–

- Financial: $14.5 million saved annually ($12 million in fuel, vehicle, & parking costs for participants; $2.5 million for UCI community via reduction of need for parking construction & maintenance).
- Emissions: More than 23,000,000 Vehicle Miles Traveled (VMT) saved annually through all UCI sustainable programs. This equates to nearly 10,800 metric tons in GHG emissions saved each year.

AWARDS –

- 2011 League of American Bicyclists' "Certified Bicycle Friendly University" - Silver Designation
- 2010 Best Workplaces for Commuters' Race to Excellence - Gold Award
- 2010 Parking Program of the Year Award – California Public Parking Association (CPPA)
- 2010 Best Workplaces for Commuters designation – National Center for Transit Research / U.S. EPA
- 2010 Innovative Achievement in Auxiliary Services Award- National Association of College Auxiliary Services (NACAS)
- 2010 Rideshare Diamond Award – presented by the OCTA, VCTC & MTA
- 2010 Employee Transportation Coordinator (ETC) Champion Award – Mike Davis - Association for Commuter Transportation
- 2010 Honoree - Spirit of Volunteerism Award – Volunteer Center of Orange County (VCOC renamed OneOC)
- 2010 Bright Idea Award – Zotwheels Automated Bikeshare - Harvard University's Ash Center for Democratic Governance and Innovation
- 2010 Innovators Award – Student Systems and Services Category - Campus Technology
- 2010 Leadership Award – Transportation Category - Green California / California EPA
- 2009 Best Workplaces for Commuters Race to Excellence Silver Award
- 2009 OCTA Share the Ride Challenge Award
- 2009 Perfect 10 - Transportation Category - Sierra Club
- 2009 Environmental Achievement Award - US EPA Region IX
- 2009 Rideshare Diamond Award - presented by the OCTA, VCTC & MTA
- 2009 Best Work Places for Commuters - US EPA National Transit Research Center

- 2008 Governor's Environmental and Economic Leadership Award (GEELA) - Climate Change - State of California
- 2008 Clean Air Award - Innovative Transportation Program - SCAQMD
- 2008 Award - Innovation and Collaboration from the McHenry County Economic Development Corporation's Business Accelerator Program - ZotWheels Design
- 2008 Best Practice Award - TDM Category – UC / CSU / CCC Sustainability (Project Greenlight)
- 2007 Best Practice Award - TDM Category – UC / CSU / CCC Sustainability (Strategic Mobility Program)
- 2007 Best Practice Award - Fleet Category – UC / CSU / CCC Sustainability (Biofuel conversion)

Also attached is a form we completed for SCAG, our last AQMD survey (showing our Average Vehicle Ridership and describing our programs).

Let me know if you have any questions.

Mike

Michael Davis
Interim Manager,
Sustainable Transportation
UCI Parking & Transportation Services
200 Public Services Bldg, Irvine, CA 92697 - Zot: 4525

Phone: 949.824.5060 Fax: 949.824.2387
www.parking.uci.edu

APPENDIX G

CARB POLICY BRIEF RANKING ANALYSIS

Summarizing the ARB briefs leads to the rankings of policies based on impact shown in the table below.

Table H: Summary of ARB Policy Briefs

Policy	Change in Policy	Reduction in VMT or change in other policy variable when noted	Impact Category	ARB policy brief
Road Pricing	1% increase in toll or price	0.1 to 0.45% reduction in traffic volumes	High	Road user pricing
Parking Pricing	Offering employees parking cash out[a]	12% reduction for employees accepting cash out	High	Parking pricing
Regional Accessibility to Employment	1% increase in access to employment [b]	0.13 to 0.25% reduction in VMT	High	Regional Accessibility
Jobs-Housing Balance	1% improvement in jobs-housing balance	0.29 to 0.35% reduction in VMT	High	Jobs-Housing balance
Neighborhood Design	Changes in density, mixed use, and street connectivity simultaneously	0.25% reduction in VMT [f]	High	
Residential Density	1% increase in neighborhood residential density [c]	0.05 to 0.12% reduction in VMT		Residential Density
Mixed Land Use	1% increase in land use mix [d]	0.02 to 0.11% reduction in VMT		Land Use Mix
Street Network Connectivity	1% increase in connectivity [e]	0.06 to 0.12% reduction in VMT		Network Connectivity
Telecommuting	Per individual telecommuter	17% VMT reduction on average weekday [g]	High	Telecommuting
Transit				
Distance from transit station	1 mile reduction in distance to nearest station	1.3% to 5.8% reduction in VMT	High-Medium	Distance to Transit (Transit Access)
Fare	1% reduction in fare	0.4% increase in transit ridership [i]	High-Medium	Transit Service
Service hours or service miles	1% increase in service hours or miles	0.7% increase in transit ridership [i]	High-Medium	Transit Service
Service frequency	1% increase in service frequency	0.5% increase in transit ridership [i]	High-Medium	Transit Service
Employer-Based Trip Reduction	Implementation of program at a worksite	4% to 6% reduction in commute VMT for employees at work site	High-Medium	Employer-Based Trip Reduction
Traffic Incident Clearance Programs	Regional implementation of a freeway incident clearance program	Approximate 1% reduction in two criteria pollutants, CO and NOx	High-Medium [h]	Traffic Incident Clearance Programs
Pedestrian Strategies	1% increase in sidewalk coverage,	0.09 to 0.27% increase in walking [i]	Low-Medium	Pedestrian Strategies

Policy	Change in Policy	Reduction in VMT or change in other policy variable when noted	Impact Category	ARB policy brief
	length, or width			
Bicycle Strategies	1% increase in either bicycle lane density (miles of lane per square mile of land) or spending share of federal transportation funds on bicycle infrastructure (per capita)	0.32% increase in bicycle commute mode share [i]	Low	Bicycle Strategies

Notes:

[a] Parking cash-out offers employees income equal to the value of free parking at work, and then charges employees for parking.

[b] Access to employment is measured by a distance-weighted gravity variable that sums all jobs in region or metropolitan area, inversely weighting jobs by a function of the distance from a residence to the job location.

[c] Neighborhoods were typically census tracts or transportation analysis zones, or approximately ¼ to ½ mile distances around residences.

[d] In the academic literature, land use mix is often measured by entropy or dissimilarity indices. See http://arb.ca.gov/cc/sb375/policies/mix/landusemix_bkgd.pdf.

[e] Measured as percent of street intersections that are four-way or by average block size.

[f] From National Research Council (2009) based on Bento et al. (2005). See http://www.arb.ca.gov/cc/sb375/policies/density/density_brief.pdf.

[g] Includes both telecommute and non-telecommute days. (Adjusts for the fact that telecommuters typically telecommute some but not all days per week.)

[h] Classification as "high-medium" is based on fact that regional impact (approximate 1% reduction in two criteria pollutants) is of same magnitude as regional VMT reduction from regional implementation of employer-based trip reduction programs, where region is a metropolitan area.

[i] Increases in walking, bicycling, and transit ridership will not lead to one-for-one reductions in driving, as low market shares for walking, bicycling, and transit imply that large percentage increases in walk, bicycle, or transit mode share will be associated with smaller decreases in driving share. Paulley et al. (2006), cited in the ARB transit service policy brief, gives evidence that changes in transit service are associated with about 1/10th of the impact on driving as on transit service, and a factor of 1/10 is used to scale the impacts for walking, bicycling, and transit ridership in Table 1 when organizing the policies into impact categories in Table 2.

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Orange County Sustainable Communities Strategy

APPENDIX H

CEQA STREAMLINING: EXISTING LAND USE, DENSITY, AND BUILDING INTENSITY DATA

CEQA Streamlining: Existing Land Use, Density, and Building Intensity Data

SB 375 provides incentives in the form of CEQA streamlining to support community designs that help reduce GHG emissions. To take advantage of these CEQA streamlining provisions in SB 375, projects must prequalify based on two criteria:

- A project must be consistent with the land use designation, density, building intensity, and applicable policies in an approved SCS or Alternative Planning Strategy.[1]
- A project must be considered a Transit Priority Project (TPP) or a Residential/ Mixed Use Residential Project (as defined in SB 375).

To help OCCOG jurisdictions take advantage of the CEQA streamlining provisions in SB 375, SCAG will include maps in the regional 2012 RTP/SCS in order to show the uses, densities, intensities and locations for future development, and in order to facilitate subsequent project consistency findings. These maps will use the Orange County Projection dataset as reviewed and approved by OCCOG. SCAG, in consultation with OCCOG and OCCOG jurisdictions, may provide more detail in order to allow interested jurisdictions to take advantage of the CEQA streamlining provisions in SB 375. SCAG will only show more land use detail where a jurisdiction has acknowledged that the land use information is based on their input and approved of its being displayed in the adopted plan.

To facilitate SB 375 CEQA Streamlining, individual Orange County jurisdictions are asked to provide detailed land use information (uses, densities, intensities at a defined geographic level) to SCAG. These data are called out in the SCAG Framework and Guidelines and the legislation specific to the streamlining provisions. Additionally, or in lieu of detailed land use information, jurisdictions may work with SCAG in designating the appropriate regional "development type" in locations for potential future projects. Jurisdictions themselves will determine whether a particular project meets the CEQA streamlining qualifications, including making the consistency finding. If a jurisdiction does not participate in the SCS data collection effort for existing land use, density, and building intensity, there is no direct adverse consequence due to not providing input.

In order to provide the most accurate data possible for the Orange County subregion, and to preserve individual jurisdictions' general plan and existing data accuracy, detail, and integrity, and to meet the requirements under SB 375 for purposes of CEQA

[1] CARB will review the regional SCS to accept or reject SCAG's determination whether or not the implementation of the SCS would achieve the GHG emission reduction targets for the region. If the regional targets cannot be achieved by the regional SCS, then SCAG must prepare an Alternative Planning Strategy (APS). An APS is a separate document from the RTP and describes how the targets could be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

streamlining, SCAG prepared and provided Orange County local jurisdictions with a set of data/ GIS maps of detailed land use information, including General Plan, zoning, and existing general land use designation, density and building intensity data and maps, all for the jurisdictions' review and comment. Data/Maps Guides and Review Packets were provided by SCAG in electronic and hard copy format to OCCOG on February 11, 2011, for individual Orange County jurisdiction's review by April 29, 2011.

The information contained in the data packets document was developed and/or collected by the staff in the Data and GIS group in the Department of Research, Analysis, and Information Services (RAIS) under the Land Use and Environmental Planning (LUEP) Division at SCAG. The SCAG Data/Map Guide included information on the sources, methodologies, and contents of each dataset. These data/ GIS maps are identified in SB 375 as required to be considered in the SCS development to address the requirements of SB 375 and its implementation for purposes of CEQA streamlining. Comments and corrections from subregions and local jurisdictions are due to SCAG by April 29, 2011.

The list of data/GIS maps included in the SCAG map and data packets, along with the review requested of Orange County jurisdictions, appears as Table F, below.

Table F: Contents of the SCAG Map and Data Packets, with Review of Orange County Jurisdictions

Category	Action	GIS Shapefile available?
Land Use		
General Plan	review & comment	Yes
Zoning	review & comment	Yes
Existing Land Use as of 2008	review & comment	Yes
Geographical boundaries		
Jurisdiction Boundary & Sphere of Influence	review & comment	Yes
Census Tract Boundary	None	Yes
TAZ Boundary	None	Yes
Transit Priority Projects		
Major Stops & High Quality Transit Corridors	review & comment	Yes
Resource Areas & Farmland		
Endangered Species and Plants	review & comment	Yes
Flood areas	review & comment	Yes
Natural Habitat	review & comment	Yes
Open Space and Parks	review & comment	Yes
Farmland	review & comment	Yes

BACKGROUND: EXISTING LAND USE, DENSITY, AND BUILDING INTENSITY

In 2008 and early 2009, SCAG began to collect the general plan and zoning information from local jurisdictions, with year adopted ranging from 1971 to 2009 by jurisdiction. The general plan and zoning documents, maps, and/or GIS shapefiles collected were coded into GIS shapefiles at parcel level. Parcel data were acquired from Digital Map Product for Orange County. Beginning in July 2009, SCAG communicated with local jurisdictions, and revised the general plan and zoning data based on the results of the local review. Through a process of collecting general plan and zoning documents and receiving comments from local jurisdictions, information included in the data packets reflected the local inputs received by January 31, 2010. SCAG continues to receive local input, and will incorporate them into the database. General Plan data are shown at a parcel level; in many areas, they depict a local agency's adopted documents accurately. However, the data shown in some areas may be generalized or inaccurate for many reasons, a primary reason because the parcel level database representing general plan does not support multiple uses or designations on a single parcel (either splitting the parcel or representing overlays). Additionally, data on building size, existing use, and other specific parcel-related information that SCAG collected from other original data sources such as the Orange County Assessor's Office may have been in error and/or not up to date. Due to these inaccuracies and limitations, if site specific data is necessary, users should always reference a local agency's adopted documents or field surveys to determine actual land use designations.

At the jurisdiction level, both general plan land use and zoning maps are prepared with the land use or zoning codes used in each local jurisdiction. General Plan land use maps are also available at larger geographic levels, such as subregion, county, or the entire SCAG region with SCAG's standardized General Plan codes. For detailed information on the standardized codes, please refer to SCAG's General Plan Code Table.

SCAG prepared three sets of land use maps (General Plan Land Use, Zoning and 2008 Existing Land Use) at parcel level. The three land use maps were originally provided to local jurisdictions in September/October 2009. Based on one-on-one meetings and communication with local jurisdictions throughout the 1st round outreach (July 2009-January 2010) the Data/Map packets of existing land use, density, and building intensity data transmitted to Orange County jurisdictions in February 2011 reflect the local inputs received by January 31, 2010. Data was also incorporated for the cities of Irvine, San Clemente and San Juan Capistrano that was received after January 31st. The City of Costa Mesa is continuing to work with SCAG to correct the existing land use map for their jurisdiction.

Orange County Jurisdiction Review Process

OCCOG distributed the electronic files and hard copies to Orange County cities and the County of Orange for review. They were asked to review and submit updates and comments for purposes of SB 375 CEQA streamlining, a description of which is attached. All Orange County jurisdictions received the SCAG datasets in both electronic and hard copy format. Most but not all OC jurisdictions reviewed for purposes of SB 375 CEQA Streamlining.

SCAG staff presented a data orientation and review session to the OCCOG TAC on March 1, 2011 and additionally at a broader meeting of SCS stakeholders on March 9, 2011. Additionally, SCAG staff was available and conducted meetings at CDR during the last week of March 2011 to provide technical data and GIS assistance to Orange County jurisdictions with limited data/GIS capability that needed assistance in the Data/Map review.

Based upon parcel level data originally provided by SCAG, Orange County jurisdictions reviewed the data to various degrees for purposes of CEQA streamlining.

Results

The results of that process are attached as data elements and appendices to this document. General Plan, zoning, and existing land use (density and building intensity) data are identified and provided at the parcel level in attached Excel files by Orange County jurisdiction.

In Appendix I, individual jurisdiction General Plans are presented along with web address links to individual jurisdictions' General Plans. Individual jurisdiction General Plans are always considered the final and ultimate authority on land use and zoning, especially for those jurisdictions that opted not to review the SCAG data.

For those jurisdictions that did not fully review, there are some limitations, conditions, and caveats to the existing land use, density, and building intensity data. Data provided by SCAG on land use is in some areas inaccurate and/or generalized. Because the parcel level database representing existing land use, general plan, and zoning data does not support multiple uses or designations on a single parcel (either splitting the parcel or representing overlays, such as zoning overlays), the data ultimately shown may generalize the data and thus not accurately depict a local government's adopted general plan or zoning or the existing land use on the site (including land use designated through a development or other legal agreement).

Due to these caveats and limitation, if site-specific data is necessary, users should always reference and rely on individual City and County of Orange general plans as the final authority. A local agency's adopted documents are always the final say on allowable land

use designations and zoning, and actual site visits or field surveys to determine densities and building intensities should be undertaken.

Orange County Sustainable Communities Strategy

APPENDIX I

JURISDICTION GENERAL PLANS

REGIONAL TRANSPORTATION PLAN
2012–2035 RTP
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future

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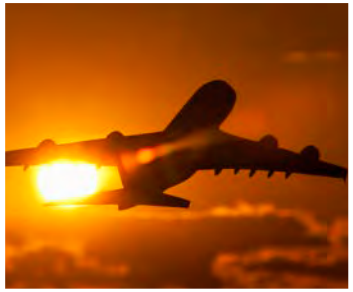
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TRANSIT APPENDIX









REGIONAL TRANSPORTATION PLAN
2012–2035
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future
RTP











Southern California Association of Governments

ADOPTED APRIL 2012

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Overview and Description

The transit system in our six-county region is comprised of an extensive network of services provided by dozens of operators. The network includes fixed-route local bus, community circulators, express bus, bus rapid transit (BRT), demand response, commuter rail, heavy rail, and light rail. The operators include well established agencies in mature service areas as well as smaller municipal operators whose services are developing smartly in their respective parts of the region. Ridership in our region continues to grow, and significant progress is being made in making transit more available and attractive by virtue of a burgeoning rail network, transit oriented development (TOD) and other service improvements. However, this progress has been slowed by recent cutbacks in funding and decreases in revenue.

As of FY2009, our region's transit system represents approximately 8,700 miles of bus routes, 70 miles of heavy and light rail, and 512 miles of commuter rail service. Almost 5 percent of commuters in the SCAG region used transit to reach their place of employment as of 2009. However, this is significantly below the percentage of commuters using transit in other large metropolitan areas such as Chicago or the Bay Area. As of FY2009, transit agencies in the SCAG Region reported 747.3 million boardings. This represents a net growth of nearly 20 percent between 2000 and 2010; however, there has been only a 4 percent growth in per capita trips, meaning that most of the growth in boardings could be explained by population growth.

While Southern California has a national reputation for auto-centricity, our region has an extensive transit network. According to APTA's Public Transportation Fact Book, the Los Angeles-Long Beach-Santa Ana Urbanized Statistical Area (UZA) ranked number two nationally in several important measures. Only the New York-Newark UZA reported more Vehicles Operated Maximum Service, Vehicles Available for Maximum Service, Vehicle Revenue Miles, Vehicle Revenue Hours, and Unlinked Passenger Trips. Los Angeles-Long Beach-Santa Ana ranked third in Passenger Miles Travelled, behind the New York-Newark and Chicago UZAs. LA Metro is the fifth largest operator nationally, when ranked in terms of service hours. Eight other properties, The City of Santa Monica's Big Blue Bus, Orange County Transportation Authority (OCTA), Access Services Incorporated (ASI), Foothill

Transit Modes in the SCAG Region

Transit service in the SCAG region is composed of five modes of service:

- **Fixed Route Bus Service**, referred to as Motor Bus in the National Transit Database and defined as "a transit mode comprised of rubber tired vehicles operating on fixed routes and schedules over roadways."
- **Demand Response**, defined as "a transit mode comprised of passenger cars, vans, or small buses operating in response to calls from passengers or their agents to the transit operator, who then dispatches a vehicle to pick up the passengers and transport them to their destinations."
- **Light Rail**, defined as "a transit mode that typically is an electric railway with a light volume traffic capacity compared to heavy rail (HR). It is characterized by passenger rail cars operating on fixed rails in shared or exclusive right-of-way (ROW) and vehicle power drawn from an overhead electric line via a trolley or a pantograph."
- **Heavy Rail**, defined as "a transit mode that is an electric railway with the capacity for a heavy volume of traffic. It is characterized by separate ROWs from which all other vehicular and foot traffic are excluded and high speed and rapid acceleration passenger rail cars operating singly or in multi-car trains on fixed rails."
- **Commuter Rail (CR)**, defined as "a transit mode that is an electric or diesel propelled railway for urban passenger train service consisting of local short distance travel operating between a central city and adjacent suburbs. Service must be operated on a regular basis by or under contract with a transit operator for the purpose of transporting passengers within urbanized areas (UZAs), or between urbanized areas and outlying areas." Discussion of this mode is included in the Passenger Rail Appendix.

Coupled with the revenue setbacks, costs for transit providers are heading in the opposite direction by rising faster than inflation. Each mode has shown cost per passenger mile traveled (PMT) increase over the past decade: bus service by 24 percent, Metro Rail by 41 percent, and Metrolink by 48 percent. Transit providers' fare revenue, or "farebox recovery," has decreased from 32 percent of the cost of providing service to just 27 percent since 2000.

These cost and revenue trends weaken the long term stability of transit services in the SCAG Region. Unless transit operators in our region find ways to improve the fare revenue to cost ratio, transit services will require much greater subsidies or services will continue to be cut. This conflict will grow as new operational funds will need to be applied towards new capital projects currently in development once they are ready for revenue service.

The State of the System

A detailed analysis was completed to gauge the state of SCAG's transit system. The analysis studied the 25 inter-jurisdictional operators in our region over the last ten years. The goals of the analysis were to:

- Assess the region's ability to attract and retain new transit riders
- Assess the region's utilization of transit resources
- Show transit availability and connectivity to smart growth/TOD
- Show the effects of the recession

TABLE 1 Transit Properties Included in 2012–2035 RTP/SCS Transit Performance Analysis

Antelope Valley Transit Authority	Beach Cities Transit
Culver CityBus	Foothill Transit
Gardena Municipal Bus Lines	Gold Coast Transit
Imperial Valley Transit	Long Beach Transit
Los Angeles Department of Transportation	Los Angeles County Metropolitan Transportation Authority (Metro)
Southern California Regional Rail Authority (Metrolink)	Montebello Bus Lines
Morongo Basin Transit Authority	Mountain Area Regional Transit Authority (MARTA)
Norwalk Transit District	Omnitrans
Orange County Transportation Authority	Riverside Transit Agency
Santa Clarita Transit	City of Santa Monica Big Blue Bus
Simi Valley Transit	SunLine Transit Agency
Torrance Transit	Ventura Intercity Service Transit Authority
Victor Valley Transit Authority	

The analysis shows that transit usage continues to grow in our region. This is especially true when fixed guideway projects such as rail and BRT are implemented and result in new riders to transit. As of FY2009, transit agencies in the SCAG Region reported 747.3 million boardings. This represents growth of nearly 20 percent in the ten years between 2000 and 2010, but only 4 percent growth in per capita trips due to population growth. Metrolink and Metro Rail (L.A. County) have seen ridership growth of 6 percent to 8 percent a year, while traditional local bus has grown 1.5 percent a year. This rate is well below the region's rate of population growth, meaning that bus transit is actually losing ground in the SCAG Region, even though local buses carry 86 percent of our region's transit riders. Bus transit's per capita ridership loss is troubling, given that this mode forms the backbone of the SCAG Region's transit network. This loss also demonstrates the importance of introducing "premium" transit services, such as rail, BRT, limited-stop and point-to-point express services, to our region.

Transit ridership growth is important, but so is the availability of transit: frequency, span-of-service, and the location of stops and services affect residents' ability to travel by transit. The provision of transit service in the SCAG region is growing faster than the growth in boardings. In the past ten years, total transit service hours are up 26 percent, while boardings are up only 20 percent. This trend results in slightly lower productivity, or boardings per hour, meaning transit resources are being used slightly less efficiently.

As our region becomes more and more congested, transit speed is also important. The analysis shows that over the last ten years, transit modal speeds have remained relatively constant. Metrolink's average speed is about 40 mph, Metro Rail about 23 mph, and local bus about 13 mph. Auto speeds remain very competitive with transit. Freeway speeds are about 40 mph, and 26 mph for major arterials. Metrolink speeds are competitive with highway speeds, but overall travel times for Metrolink passengers are likely longer due to the time needed to travel to and from the Metrolink stations on each end of the trip.

Transit costs and revenues are not fairing as well over the last decade. Farebox recovery is down significantly, from 32 percent to 27 percent. Even more concerning, each transit mode has seen costs per passenger mile traveled increase: bus service 24 percent, Metro Rail 41 percent and Metrolink 48 percent, in constant dollars.

FIGURE 1 Per Capita Transit Trips 2000–2009

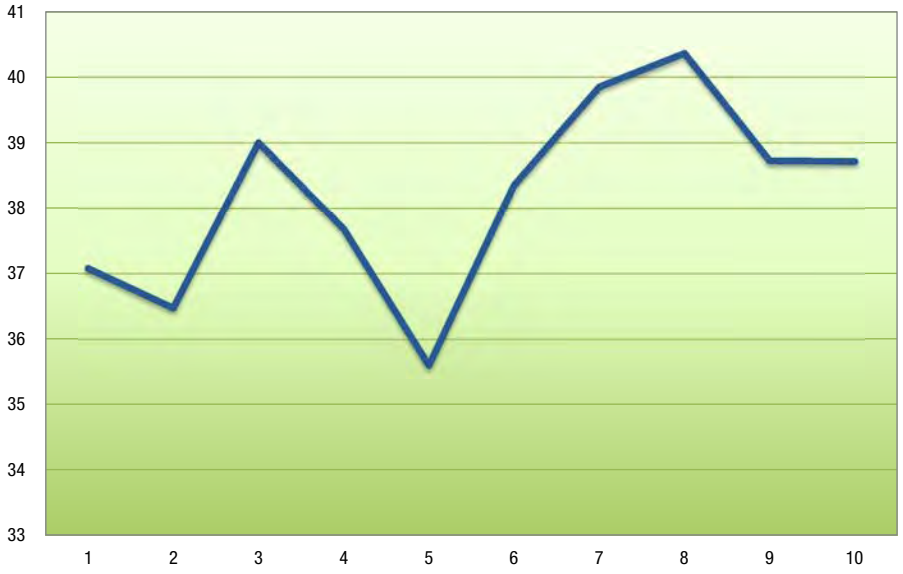


FIGURE 2 Cost per Bus Passenger 2000–2009

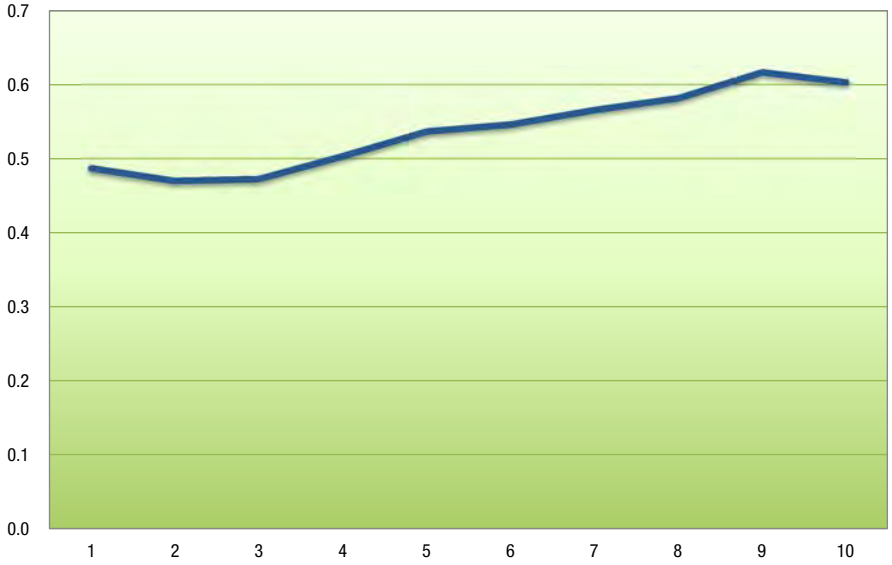


FIGURE 3 Regional Farebox Recovery



Availability Analysis

Another part of the analysis looked at the region's availability of transit. Transit services were separated by mode to see what percentage of jobs, housing and population have available transit. The modes are commuter rail, heavy and light rail, express bus, BRT, and local bus in four frequency subcategories. Availability is defined as being within a half-mile of the rail services, express bus and BRT, and within a quarter-mile of the local bus services. Findings show that the Metrolink system offers good availability to our region's employment sites: Anywhere from 22 percent to 34 percent of jobs are within a half-mile of a Metrolink station.

In Los Angeles County, the Metro Rail system is within a half-mile of 19 percent of jobs, and about 14 percent of households. Metro's Metro Rapid service however, is available to 51 percent of jobs, and about 42 percent of households. Also of importance is frequency of regular local fixed-route bus service; more frequent transit services obviously benefit residents more than less frequent services. Outside of L.A. County, only 23 percent

of Orange County residents have access to transit service with 15 minutes or better frequency, only 11 percent of Riverside and San Bernardino county residents have this access, and no residents in Imperial or Ventura counties have such access. This analysis shows the need to introduce rail and BRT services in our region outside of Los Angeles County and also to improve the frequency of local bus service.

TABLE 2 Modal Availability

County	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Imperial
Total Employment	4,335,967	1,624,508	663,948	700,603	347,720	61,504
Commuter Rail Employment	970,302	450,561	166,454	169,166	118,625	0
Availability	22.38%	27.74%	25.07%	24.15%	34.12%	0.00%
Heavy/Light Rail Employment	816,450	0	0	0	0	0
Availability	18.83%	0.00%	0.00%	0.00%	0.00%	0.00%
BRT Employment	2,204,346	0	0	0	0	0
Availability	50.84%	0.00%	0.00%	0.00%	0.00%	0.00%
Express Bus Employment	3,402,872	631,829	203,174	127,940	176,539	19,414
Availability	78.48%	38.89%	30.60%	18.26%	50.77%	31.57%
<15 Min Local Bus Employment	2,231,969	377,098	72,555	77,816	0	0
Availability	51.48%	23.21%	10.93%	11.11%	0.00%	0.00%
16 to 30 Min Local Bus Employment	3,940,937	1,526,306	250,960	405,293	159,941	0
Availability	90.89%	93.95%	37.80%	57.85%	46.00%	0.00%
31 to 60 Min Local Bus Employment	3,838,088	1,381,993	514,882	470,597	208,814	0
Availability	88.52%	85.07%	77.55%	67.17%	60.05%	0.00%
>60 Min Local Bus Employment	3,531,079	1,301,926	441,147	379,301	239,361	48,540
Availability	81.44%	80.14%	66.44%	54.14%	68.84%	78.92%
Total Population	10,343,450	3,123,318	2,090,251	2,052,926	831,787	177,454
Commuter Rail Population	1,666,935	619,254	285,310	344,078	178,771	0
Availability	16.12%	19.83%	13.65%	16.76%	21.49%	0.00%
Heavy/Light Rail Population	1,434,325	0	0	0	0	0
Availability	13.87%	0.00%	0.00%	0.00%	0.00%	0.00%
BRT Population	4,476,785	0	0	0	0	0
Availability	43.28%	0.00%	0.00%	0.00%	0.00%	0.00%

County	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Imperial
Express Bus Population	7,006,824	787,031	427,241	266,887	281,556	75,006
Availability	67.74%	25.20%	20.44%	13.00%	33.85%	42.27%
<15 Min Local Bus Population	4,620,479	641,781	139,197	125,069	0	0
Availability	44.67%	20.55%	6.66%	6.09%	0.00%	0.00%
16 to 30 Min Local Bus Population	8,902,591	2,740,960	498,647	1,068,186	185,937	0
Availability	86.07%	87.76%	23.86%	52.03%	22.35%	0.00%
31 to 60 Min Local Bus Population	8,463,355	2,381,944	1,374,927	1,147,388	431,145	0
Availability	81.82%	76.26%	65.78%	55.89%	51.83%	0.00%
>60 Min Local Bus Population	7,227,064	2,165,566	1,290,987	871,362	399,027	142,361
Availability	69.87%	69.34%	61.76%	42.44%	47.97%	80.22%
Total Households	3,268,083	999,527	675,472	608,023	267,740	49,785
Commuter Rail Households	464,998	187,385	87,679	93,975	53,945	0
Availability	14.23%	18.75%	12.98%	15.46%	20.15%	0.00%
Heavy/Light Rail Households	446,395	0	0	0	0	0
Availability	13.66%	0.00%	0.00%	0.00%	0.00%	0.00%
BRT Households	1,447,131	0	0	0	0	0
Availability	44.28%	0.00%	0.00%	0.00%	0.00%	0.00%
Express Bus Households	2,280,031	246,988	132,539	79,125	98,239	20,849
Availability	69.77%	24.71%	19.62%	13.01%	36.69%	41.88%
<15 Min Local Bus Households	1,476,478	174,422	42,571	31,708	0	0
Availability	45.18%	17.45%	6.30%	5.21%	0.00%	0.00%
16 to 30 Min Local Bus Households	2,833,606	870,606	159,922	298,123	63,296	0
Availability	86.71%	87.10%	23.68%	49.03%	23.64%	0.00%
31 to 60 Min Local Bus Households	2,683,939	760,625	439,872	340,934	133,417	0
Availability	82.13%	76.10%	65.12%	56.07%	49.83%	0.00%
>60 Min Local Bus Households	2,319,526	687,402	401,481	257,071	132,616	41,634
Availability	70.98%	68.77%	59.44%	42.28%	49.53%	83.63%

The Great Recession

The impacts of the Great Recession on transit operators in the SCAG region are significant. Up until this time, transit ridership nationally was at near modern record levels, and had been continually growing in Southern California, as Los Angeles County has continued to add new transit facilities and other operators have continued to increase and improve their services as well.

Transit ridership is growing in conjunction with the growth and maturation of urbanized areas in Southern California, realizing important transformations in land use and travel behavior. More and more transit-oriented development is being built, and more and more citizens are moving back into the urban core where "old towns" are being re-developed.

Beyond our region, fiscal challenges for transit properties are nationwide. Cuts to state and local operating subsidies are forcing transit properties to raise fares, reduce service, and lay off employees. According to a March 2011 survey conducted by the American Public Transit Association, of 117 responding agencies 71 percent saw static or decreasing local funding, and 83 percent saw static or decreased state funding. 79 percent of those agencies reduced service after January 2010, and 51 percent had already reduced service prior to January 2010.

Beginning in FY 2008, the state began diverting the majority of the State Transit Assistance Program (STA) from transit operators in order to help balance its general fund (completely eliminated in FY 2010). Since FY 2008, the state has diverted $759 million from transit operators in our region. The California State Supreme Court recently ruled that these fund diversions were illegal, but no funds have been returned to date.

In addition to the STA funds, sales tax revenues that many operators use for operations were down considerably as well. In fact, the decrease in sales tax revenues has had an even greater impact on transit operators. For example, the Local Transportation Fund (LTF), which is a ¼ cent of the sales tax dedicated to transit, was down 2 percent between FY 2007 and FY 2008, 11 percent between FY 2008 and FY 2009, and 10 percent between FY 2009 and FY 2010 for the SCAG region. Overall FY2010 LTF funds were down 21 percent from pre-recession FY 2007 levels.

Twenty-five transit operators in the SCAG region were surveyed regarding their boardings, service hours and fares from FY 2008 to FY 2010. Information was also collected for FY 2011. Findings include:

- About half of transit operators have cut service hours due to the recession, by between 2 percent and 20 percent. Of those, four agencies have cut service by more than 10 percent. However, an interesting finding is that this happened mostly with operators who have more established service areas. Operators in rapidly growing service areas have tended to add hours. These areas include the Victor and Imperial Valleys, and operators who are actively developing or expanding their system such as VISTA and Gold Coast Transit. Cuts range from relatively mild, like Santa Clarita Transit and Omnitrans, to OCTA, which has cut over 20 percent of its service.
- Boardings are also generally down, by between 2 percent and 27 percent. Four agencies have seen boardings reduced by more than 15 percent. But again, in the burgeoning areas, it tends to have increased. In this study, a unique experience in ridership increase was experienced by Santa Monica's Big Blue Bus. They established an institutional pass arrangement where Santa Monica College students can ride free with their student IDs. The college is served by their number one and two lines in terms of boardings so this has increased their system-wide ridership overall. Another interesting fact is that while Metro Bus ridership is down 5.4 percent, its rail is up slightly in the last two years. The opening of the Metro Gold Line Eastside Extension may be a factor in this growth. Employment is generally the number one factor affecting transit boarding levels. Most of the decrease seen is due to the contraction of jobs in the SCAG region. Only a minor amount is due to the reduction in hours. This is because as agencies reduce service hours, they do so to affect the least amount of riders first. Generally, frequencies and span-of-service are reduced first, before outright line truncations or cancellations, which has happened at a few of these agencies. However, OCTA has reduced service at such a significant level that a large share of the boardings decrease is attributable to the cuts alone.
- Almost all agencies surveyed raised fares, with some still planning additional increases in the coming year. Fare increases generally correspond to a decrease in boardings, at least initially. The amount of decrease varies by operator, and the overall structure of the fare adjustment and elasticities for that operator.

SYSTEM PERFORMANCE: BENCHMARKING TO PEER REGIONS

Analysis of the region's transit network's performance via Key Performance Indicators (KPIs) revealed a worrying trend: the growth in costs of transit provision is growing far faster than inflation, and far faster than the rate of growth in consumption. This analysis focused on twenty-five transit properties from throughout the region that a) provide service between jurisdictions, and b) report performance data to the National Transit Database (NTD). The report included a section focused on transit KPIs including ridership, productivity, mobility, and cost.

Analysis of the findings of the KPI exercise led to the comparison of our regional transit system's performance to those other regions. Doing so establishes a frame of reference for the cost effectiveness of current operations, and identifies areas where other regions are providing service at a lower cost. Further, doing so will allow regional stakeholders to identify areas of possible improvement, and to identify peer regions and peer agencies who might provide best practices examples.

Performance benchmarking through peer comparison is relatively new in transit--peer comparison exercises by public agencies are more commonly performed in the education and public safety fields. Increasingly though, transit properties are using the availability of NTD data to measure agency performance in comparison to peer agencies. It is also an emerging practice at the regional level.

Over the past ten years, several performance benchmarking exercises have been performed at the system level by regional bodies. Beginning in 2003, The Metropolitan Council of Minneapolis has added a benchmarking component to its quadrennial transit system performance audit. The Atlanta Regional Council (ARC) performed similar analysis in 2005, focusing on peer regions with similar populations, growth rates, density, and travel characteristics. The State of Illinois Department of Transportation's Performance Audit of Mass Transit Agencies in Northeastern Illinois: RTA, CTA, Metro and Pace, included comparison of each mode in the region with five peer services.

Methodology

In order to perform the analysis, staff began by constructing a peer regions group. Previously, SCAG has performed performance benchmarking activities in the context of the State of the Region Report, where our region's performance was measured and compared along a broad axis of multi-sectoral indicators. Historically, the peer group in this analysis has been regions with populations over 5 million.

For the purposes of this exercise, that peer group metric has been retained. Using US Census 2009 estimates, a cohort of 10 Consolidated Statistical Areas (CSAs) and one Metropolitan Statistical Area (MSA) with more than 5 million residents was built (the Miami Fort Lauderdale Pompano Beach MSA in not part of a CSA).

TABLE 3 Peer Regions Comparison Group

CSA / MSA Designation	2009 Estimated Population, US Census
New York-Newark-Bridgeport, NY-NJ-CT-PA CSA	22,232,494
SCAG REGION	17,987,767
Chicago-Naperville-Michigan City, IL-IN-WI CSA	9,804,845
Washington-Baltimore-Northern Virginia, DC-MD-VA-WV CSA	8,440,617
Boston-Worcester-Manchester, MA-RI-NH CSA	7,609,358
San Jose-San Francisco-Oakland CA CSA	7,427,757
Dallas-Fort Worth, TX CSA	6,805,275
Philadelphia-Camden-Vineland, PA-NJ-DE-MD CSA	6,398,896
Houston-Baytown-Huntsville, TX CSA	5,968,586
Atlanta-Sandy Springs-Gainesville, GA-AL CSA	5,831,778
Miami-Fort Lauderdale-Pompano Beach, FL MSA	5,564,635
Detroit-Warren-Flint, MI CSA	5,327,764

The peer regions group contains 109 million residents as of the 2009 Census estimates, roughly one-third of the national population. The peer group also represents a significant portion of the nation's transit investment, service, and ridership. There are 192 separate agencies reporting data within the peer regions comparison group, across a variety of transit modes. To contextualize, the table below presents the amount of service and productivity of various modes in the peer regions comparison group.

For rail modes, the small number of agencies allows direct comparisons. As such, ridership and cost performance data were compared evenly by agency across the regions. For the purposes of fixed route bus analysis, the SCAG Region's transit properties were tiered and compared to a series of peer region comparison group performance over time. In order to capture data at the system level, and represent each of the included transit agencies, analysis was conducted through unweighted averages. This is helpful for understanding performance at the operator level, but does not reflect total volume or consumption of service. To give more a comparative perspective, different data years were employed, allowing comparisons of national trends to regional trends.

Our region is very competitive in service consumption. Southern California ranks fourth in per capita unlinked bus trips, behind New York-Newark, San Jose-San Francisco-Oakland, and Chicago–Naperville Michigan CSAs. Southern California's heavy and light rail network is not as competitive. Of ten regions with heavy or light rail systems, the SCAG Region ranks 8th in per capita urban rail trips. One reason for this may be the limited extent of the network. Southern California operates 0.78 directional route miles of rail for every 100,000 residents, which ranks 9th out of ten nationally.

FIGURE 4 Motor Bus Cost per Passenger Mile, Large Tier Agencies, 2010 NTD

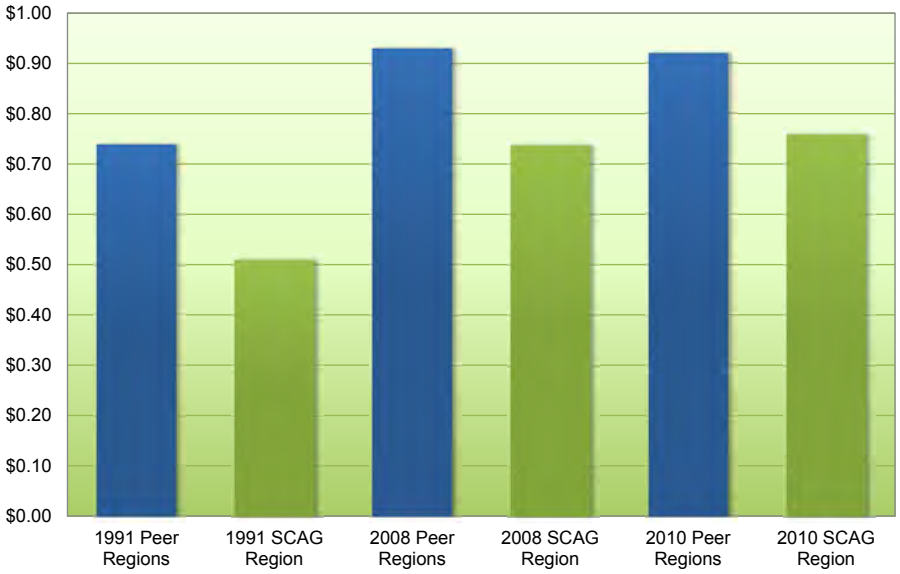


FIGURE 5 Motor Bus Cost per Passenger Mile, Medium Tier Agencies, 2010 NTD

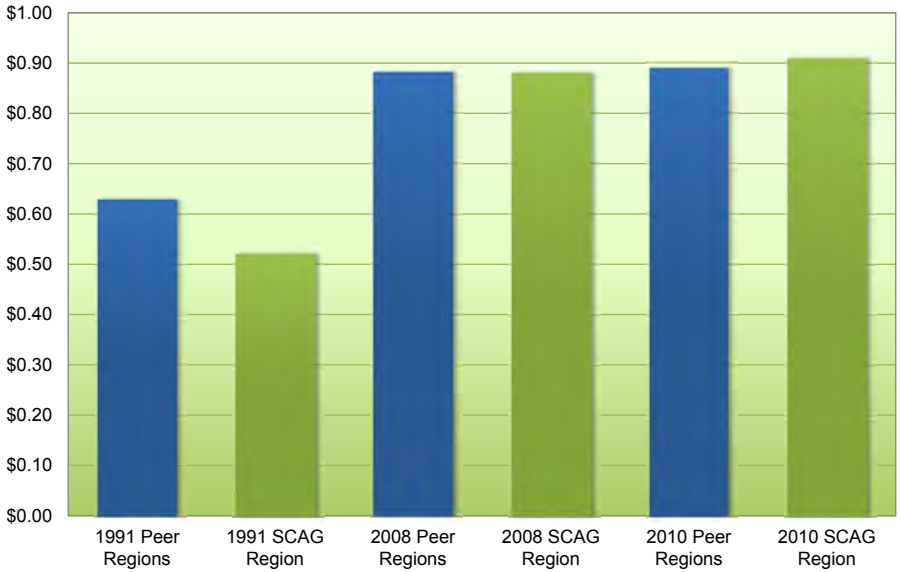


FIGURE 6 Motor Bus Cost per Passenger Mile, Smaller Tier Agencies, 2010 NTD

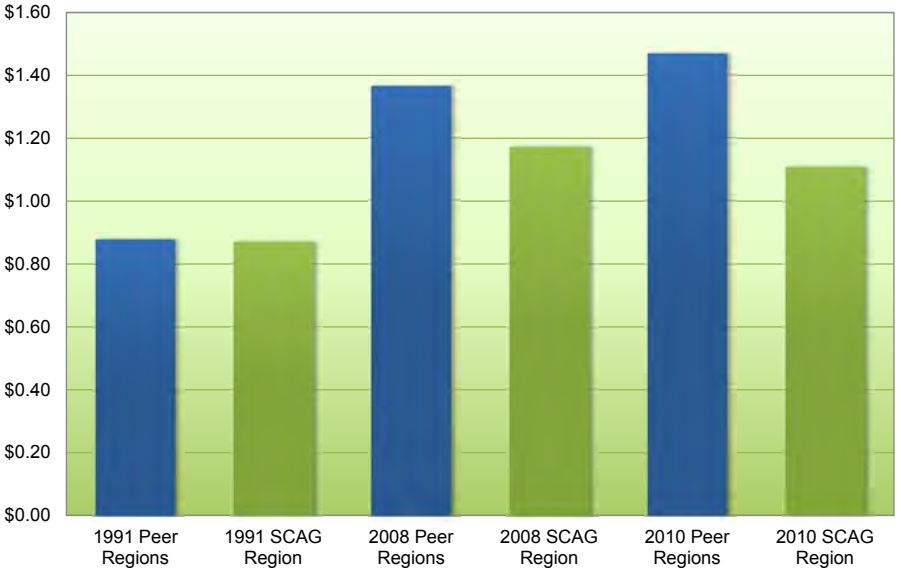


FIGURE 7 Light Rail Cost per Passenger Mile, Peer Regions Comparison Group, 2008 NTD

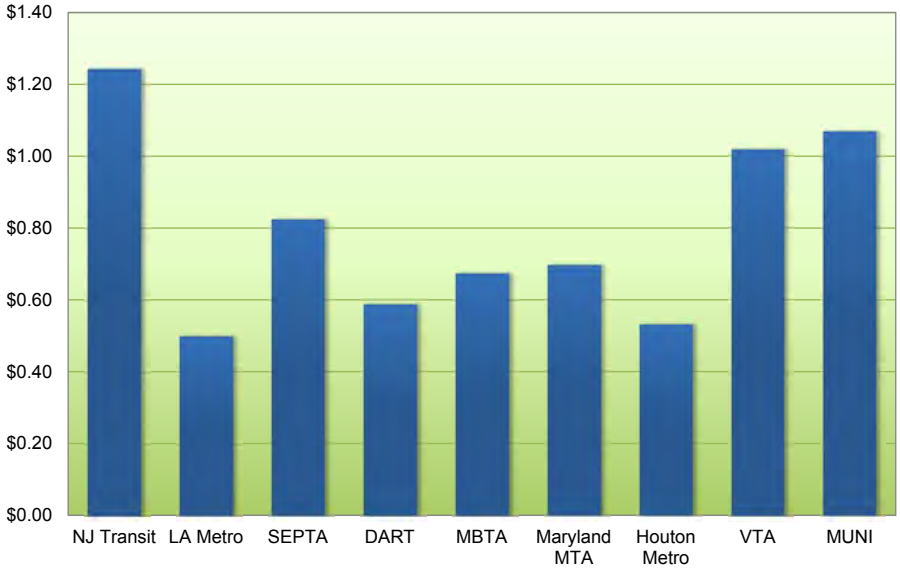


FIGURE 8 Heavy Rail Cost per Passenger Mile, Peer Regions Comparison Group, 2008 NTD

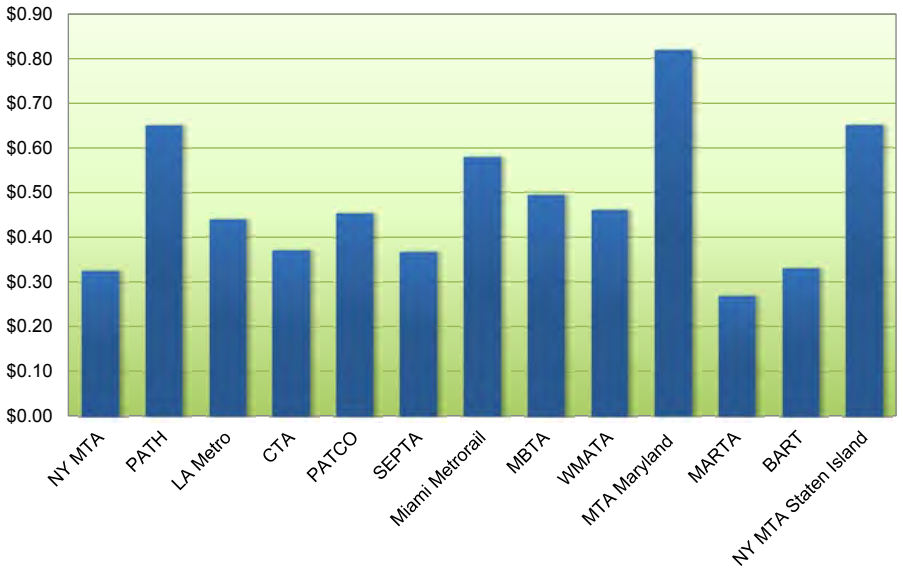


FIGURE 9 Motor Bus Passengers per Hour, Large Tier Agencies, 2010 NTD

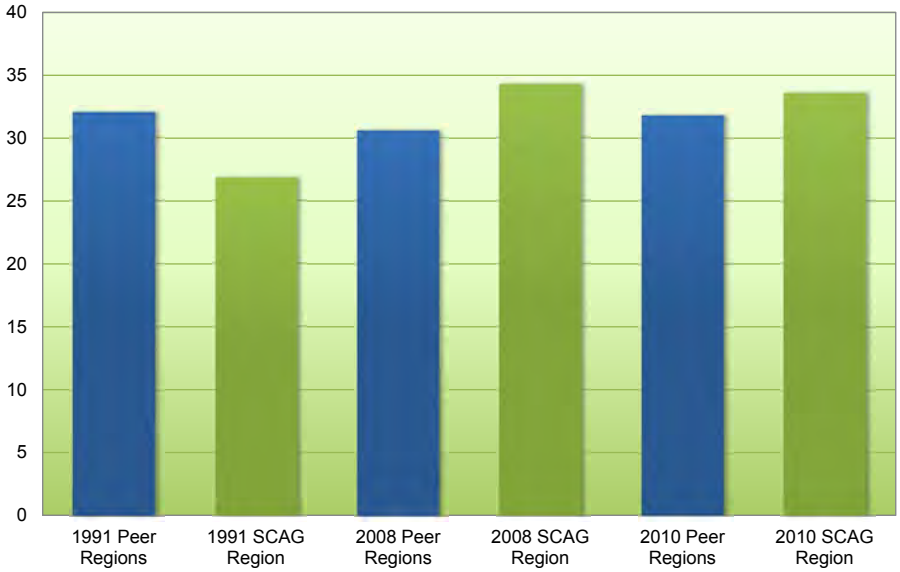


FIGURE 10 Motor Bus Passengers per Hour, Medium Tier Agencies, 2010 NTD

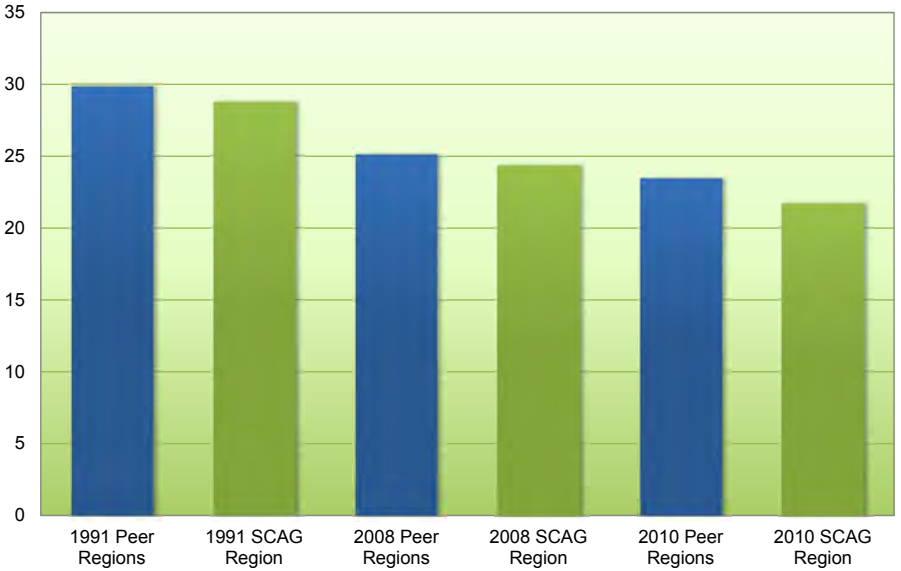


FIGURE 11 Motor Bus Passengers per Hour, Smaller Tier Agencies, 2010 NTD

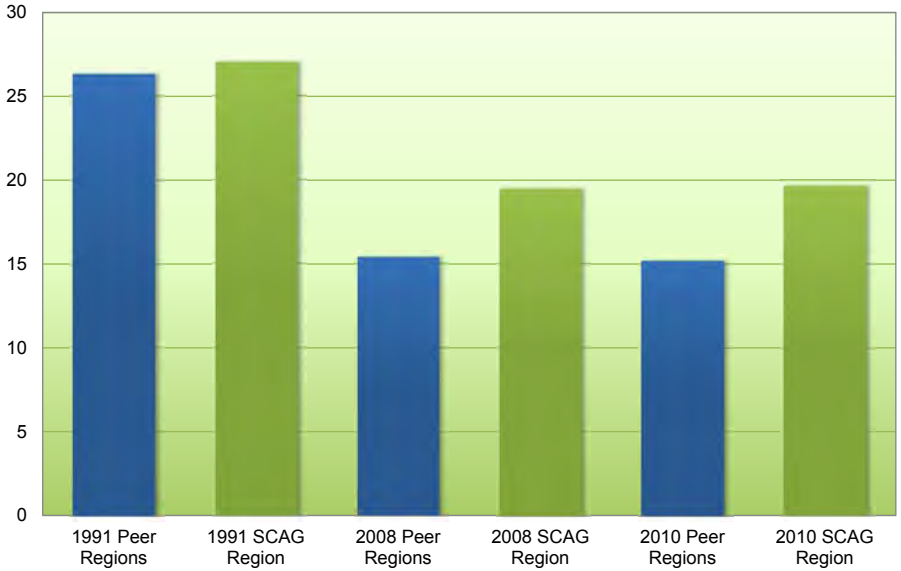


FIGURE 12 Light Rail Passengers per Hour, Peer Regions Comparison Group, 2008 NTD

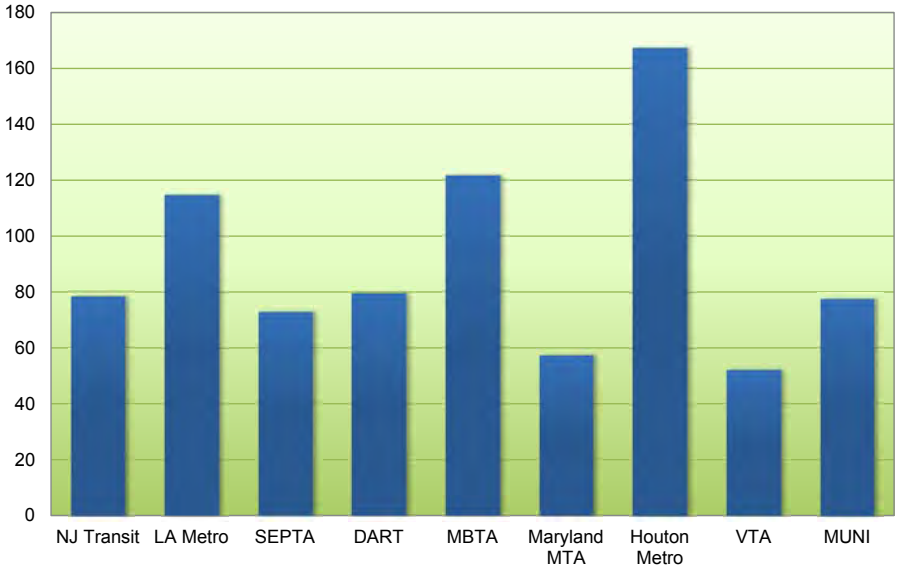


FIGURE 13 Heavy Rail Passengers per Hour, Peer Regions Comparison Group, 2008 NTD

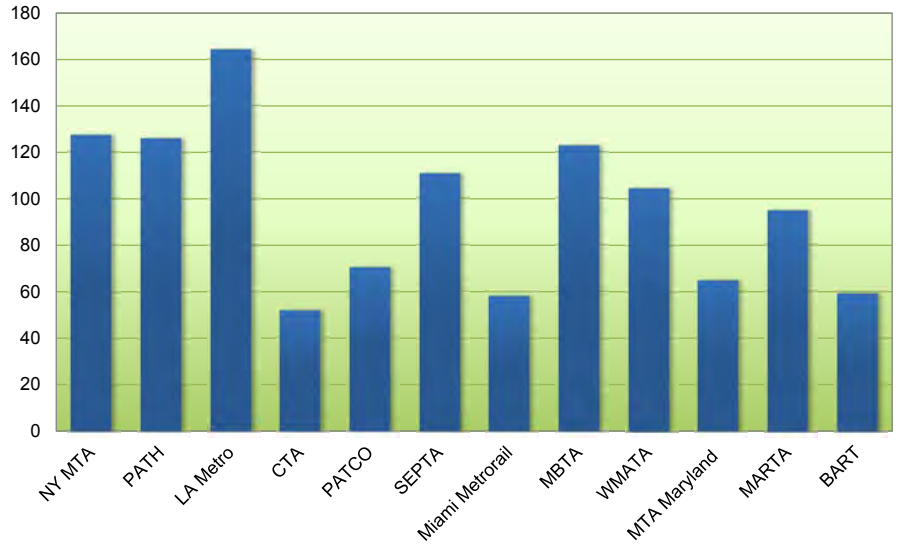


FIGURE 14 Motor Bus Cost per Service Hour, Large Tier Agencies, 2010 NTD

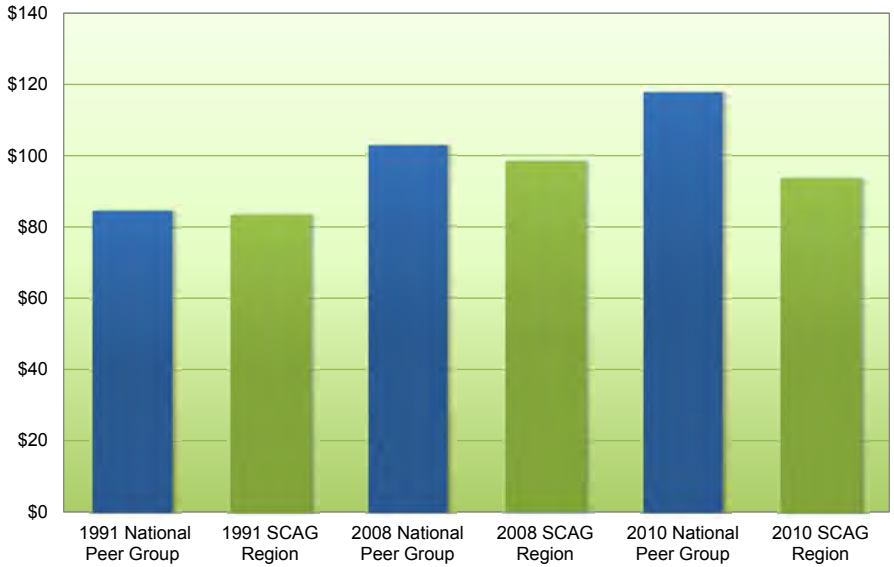


FIGURE 15 Motor Bus Cost per Service Hour, Medium Tier Agencies, 2010 NTD

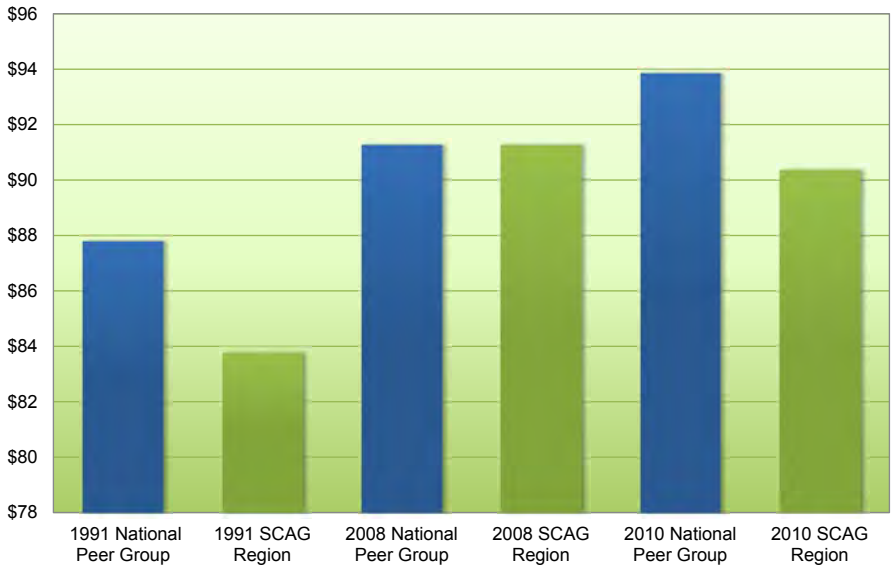


FIGURE 16 Motor Bus Cost per Service Hour, Smaller Tier Agencies, 2010 NTD

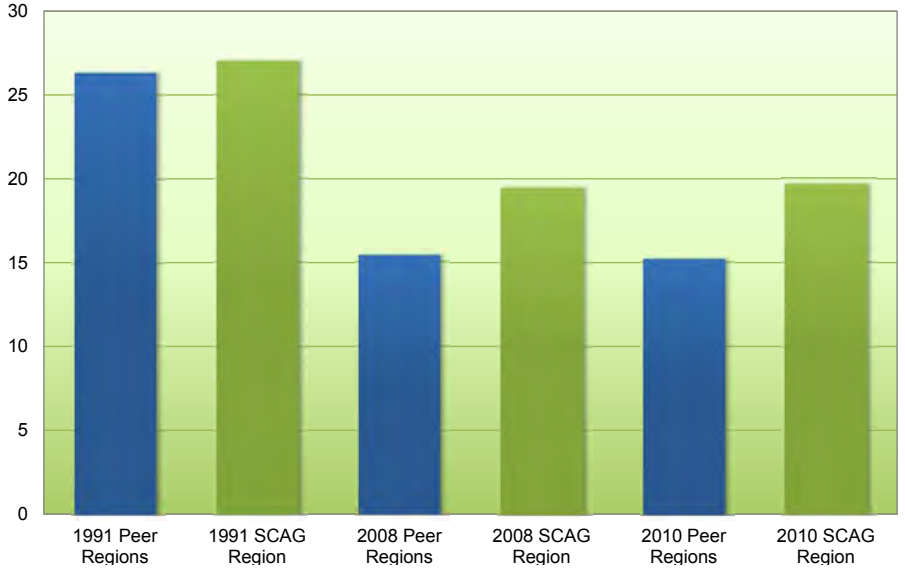


FIGURE 17 Light Rail Cost per Service Hour, Peer Regions Comparison Group, 2008 NTD

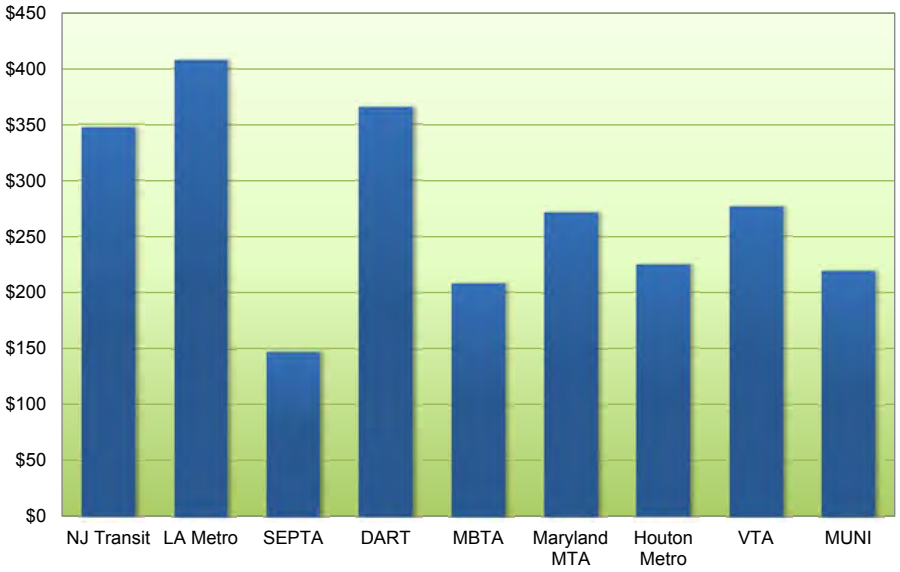
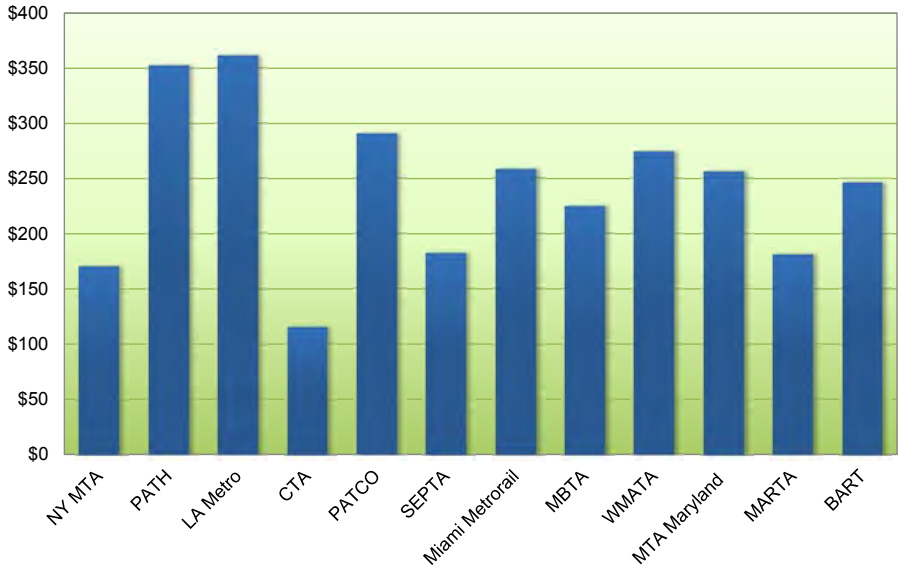


FIGURE 18 Heavy Rail Cost per Service Hour, Peer Regions Comparison Group, 2008 NTD



The SCAG Region is performing relatively well compared to other regions. LA Metro's heavy rail system is the most productive in the country, but this is partially a product of providing a relatively small number of service hours. Metro recorded 265,149 service hours in FY2008, slightly more than the total at the Maryland Transit Administration (214,285) and slightly less than Miami Dade Transit's 318,765. In contrast, two of the three most productive systems after Metro offer vastly more service. New York's MTA delivered over 19 million service hours in FY2008, and Boston's MBTA provided 1.2 million. PATH Transit, which connects New York City and New Jersey, provided only 146,102. Other less productive services, including SEPTA, MARTA, BART, and WMATA, offered over 500,000 service hours. These data present a strong argument for service expansion of Metro's existing Purple and Red lines, and suggest that Metro's "More trains, More Often" pilot program may be very successful.

LA Metro's Light Rail Service is the third most productive of the national peer group. Houston Metro carries 167 passengers an hour, MBTA 122, and LA Metro 115. DART is

the next most productive at 80 per hour, nearly double the service on a system that is 42 percent of LA Metro's total route miles. LA Metro's existing light rail system is actually the largest of any in the peer region's group; NJ Transit, the second largest, offers on 84 percent of LA Metro's total route miles. DART, SEPTA, MUNI, and Santa Clara VAT all operate systems at roughly 66 percent to 80 percent of the route miles of the LA Metro system. The SCAG Region is somewhat unique among large metropolitan areas in using light rail technology over large geographic areas, as opposed to more highly concentrated areas such as San Francisco, San Jose, or Boston. That the system can do so at such high comparative productivity levels is an achievement.

Small bus properties in the SCAG Region are also more productive than their national counterparts. **FIGURE 11** displays the productivity performance of bus services providing less than 100,000 service hours in FY1991, FY2008, and FY2010. While in 1991 performance was roughly similar at the national and regional levels, by 2008 the SCAG region was outperforming the unweighted national average by roughly 30 percent. This remained true in 2010. However, these data points represent a drop of 41 percent for the national group, and 28 percent for the SCAG Region. Our region's productivity is simply declining much more slowly than that of the national peer group.

FIGURE 12 displays the unweighted average productivity of operators offering between 100,000 and 200,000 hours of service. Both the national peer group and the SCAG region are declining. While service in this tier has grown 49 percent nationally between 1991 and 2010, in the SCAG Region the hours provided by medium tier operators have grown by 160 percent. This growth significantly outpaces the diminishing productivity, and suggests that properties in this tier should be working to target service expansions to the most productive corridors.

The vast bulk of fixed route bus service in the SCAG Region is provided by a handful of very large operators. As displayed in **FIGURE 9**, in FY 1991, those services were 16 percent less productive than their national counterparts; by FY 2008 they were 12 percent more productive. This trend continued into FY 2010. It should also be noted here that while productivity diminished between 1991 and 2008 at the national level, it grew by 27.5 percent over the same period in the SCAG Region.

FIGURE 6 displays the cost per passenger mile for small tier bus properties. In FY1991, cost per passenger mile were almost exactly the same. Cost growth is significant for both the peer group and the regional operators, but much more pronounced at the national level. Adjusted for inflation, costs grew 55 percent for the peer group between FY 1991 and FY 2008, but only 35 percent for the SCAG Region. Between FY 2008 and FY 2010, costs in the SCAG Region actually declined by 5 percent. However, 30–35 percent in inflation adjusted growth is still deeply problematic.

In FY 1991, the SCAG Region was significantly outperforming the peer group, but by FY 2008 the performance was almost exactly even ($0.8820/mile vs. $0 8801/mile). In FY 2010, the region and the peer group performance remained similar. However, this indicates that costs in the SCAG Region are growing at a much faster rate; our region's costs grew by 69 percent versus the national average of 40 percent. As displayed in **FIGURE 2**, these costs are growing at a troubling rate.

Costs per passenger mile are also growing rapidly for properties delivering large amounts of service.

TABLE 4 Findings of Peer Comparison Benchmarking Exercise

Measure	Outperforming National Peer Group	Underperforming National Peer Group	Roughly Even
Cost per PMT, Large Bus Properties, 1991	X		
Cost per PMT, Large Bus Properties, 2008	X		
Cost per PMT, Large Bus Properties, 2010	X		
Cost per PMT, Medium Bus Properties, 1991		X	
Cost per PMT, Medium Bus Properties, 2008			X
Cost per PMT, Medium Bus Properties, 2010	X		
Cost per PMT, Small Bus Properties, 1991			X
Cost per PMT, Small Bus Properties, 2008	X		

Measure	Outperforming National Peer Group	Underperforming National Peer Group	Roughly Even
Cost per PMT, Small Bus Properties, 2010	X		
Cost per Service Hour, Large Bus Properties, 1991			X
Cost per Service Hour, Large Bus Properties, 2008	X		
Cost per Service Hour, Large Bus Properties, 2010	X		
Cost per Service Hour, Medium Bus Properties, 1991	X		
Cost per Service Hour, Medium Bus Properties, 2008			X
Cost per Service Hour, Medium Bus Properties, 2010	X		
Cost per Service Hour, Small Bus Properties, 1991		X	
Cost per Service Hour, Small Bus Properties, 2008		X	
Cost per Service Hour, Small Bus Properties, 2010		X	
System Productivity, Large Bus Properties, 1991		X	
System Productivity, Large Bus Properties, 2008	X		
System Productivity, Large Bus Properties, 2010	X		
System Productivity, Medium Bus Properties, 1991		X	
System Productivity, Medium Bus Properties, 2008		X	
System Productivity, Medium Bus Properties, 2010		X	
System Productivity, Small Bus Properties, 1991			X
System Productivity, Small Bus Properties, 2008	X		
System Productivity, Small Bus Properties, 2010	X		
Cost per PMT, Heavy Rail, 2008			X
Cost per Service Hour, Heavy Rail, 2008		X	
System Productivity, Heavy Rail, 2008	X		
Cost per PMT, Light Rail, 2008	X		
Cost per Service Hour, Light Rail, 2008		X	
System Productivity, Light Rail, 2008	X		

Of thirty-three measures surveyed in the peer comparisons exercise, The SCAG Region outperformed the national peer group in seventeen, and was roughly even with the peer group in six. In ten measures of unweighted average performance, the peer comparison group outperformed our region; however, of those measures, four were historical data points from 1991. Moreover, our system is very competitive where the bulk of the service is; nine of the measures where the SCAG Region is outperforming the peer group are rail or large bus providers.

At the agency level, the SCAG Region's transit system is very high performing compared to other peer regions. Our costs and our productivity are in no way atypical of large metropolitan regions; rising operations costs are typical nationally. However, rising operations costs will continue to pose a challenge to our ability to provide transit service, to meet air quality conformity targets, and to comply with laws such as SB 375. In subsequent regional transportation plans, cost containment strategies will need to be an important piece of the overall transit strategy.

Transit and Sustainable Communities

Transit availability and attractiveness are crucial elements of sustainable communities. The ability of our region to continue to attract new riders in greater numbers calls for implementing strategies and policies to meet this goal.

While these new facilities are mostly in Los Angeles County, other counties in our region have BRT and rail projects in the planning phases. Most of these corridors will serve new transit oriented development (TOD) offering residents the availability of transit trips, or bicycling or walking, over auto trips. High Quality Transit Areas (HQTAs) are an element of SB 375 that are designed to align regional transportation, land use, housing and greenhouse gas emissions planning through the SCS. A HQTA is an area within a ½-mile of a rail stop or a bus corridor that provides or will provide at least 15-minute frequency service during peak hours by the year 2035.

Strategic and cooperative planning among various levels of government will result in a greater level of Greenhouse Gas (GHG) reductions. Following is a discussion of strategies and policies to further improve the public transit and land use nexus.

SB 375

In addition to connecting regional planning processes, SB 375 was also designed to make it easier for communities to expand housing and transportation choices. A key element of SB 375 is the option for regions and their local governments to provide significant CEQA regulatory streamlining incentives for Transit Priority Projects (TPPs). TPPs are housing or mixed-use projects with 20 dwelling units per acre or more that are located within a HQTA. CEQA streamlining can provide certainty, cost and speed benefits needed by infill and TOD.

Transit agencies and local governments should take full advantage of these opportunities to plan transit service to serve these new development opportunities. In addition to the 15-minute frequency defined by SB 375, SCAG's SCS emphasizes this transit/land use nexus to transit corridors where 30-minute of better service is or will be provided.

While many of these strategies would be implemented by transit agencies in their service areas, local cities can add to these opportunities by adding or adjusting local circulators within their jurisdiction to serve TOD and increase transit mode share.

HIGH-SPEED RAIL

In 2008 California voters passed Proposition 1A authorizing nearly $10 billion in bonds to build the California High-Speed Train (HST) system between San Francisco through Los Angeles and continuing to Anaheim. Once completed, the project will attract a significant amount of travelers who now travel by airline or auto. This could significantly reduce GHGs. CA HST stations will provide new or enhanced nodes for real estate development, approximating the growth and uses currently seen at small to medium sized airports. In addition, the proper planning of feeder bus and rail systems to these stations should increase passenger trips for all carriers involved. Following are some general and specific recommendations for the region:

- Encourage the development of new transit modes in our subregions such as BRT, rail, limited-stop service, and point-to-point express services utilizing the HOV and HOT lane networks.
- Encourage transit providers to increase frequency and span-of-service in TOD/HQTA areas and along targeted corridors where there is latent demand for transit usage.
- Encourage regional and local transit providers to develop rail interface services at Metrolink, Amtrak and HST stations.
- Collaborate with local jurisdictions to plan and develop residential and employment development around current and planned transit stations.
- Collaborate with local jurisdictions to provide a network of local community circulators that serve new TOD and HQTAs, providing an incentive for residents and employees to make trips on transit.
- Develop first-mile/last-mile strategies on a local level to provide an incentive for making trips by transit, bicycling or walking.

- Encourage transit fare discounts and local vendor product and service discounts for residents and employees of TOD/HQTAs, or for a jurisdiction's local residents in general who have fare media.
- Work with the California High-Speed Rail Authority and local jurisdictions to plan and develop optimal levels of retail, residential and employment development that fully takes advantage of new travel markets and rail travelers.
- Lobby the state to provide funding for increased transit service in TOD/HQTA areas in support of reaching SB 375 goals.
- Continue to work with neighboring Metropolitan Planning Organizations to provide alternative modes for interregional travel, including Amtrak and other passenger rail services.

Needs Assessment and Transit Challenges

Our region will undergo an impressive expansion of transit facilities and service over the next 25 years. The local county sales tax programs, most recently Measure R in Los Angeles County, are providing for most of this expansion in facilities and services.

Los Angeles County will greatly expand its rail network, adding entire new corridors and lengthening existing ones by 2035. Metro's 30/10 initiative seeks to speed up these Measure R projects by building 12 new services in the next ten years. Orange County will introduce its first BRT services, greatly expand Metrolink service, and introduce new transit systems in Santa Ana, Anaheim, and Garden Grove. Riverside County will also introduce its first BRTs and introduce the Metrolink Perris Valley Line. San Bernardino County will introduce BRT service as well and the Redlands Rail.

This expansion of premium transit services beyond Los Angeles County is critical for attracting new riders to transit. Also of importance is frequency of regular local fixed-route bus service. Outside of L.A. County, only 23 percent of Orange County residents have access to transit service with 15 minutes or better frequency, only 11 percent of Riverside and San Bernardino county residents have this access, and no residents in Imperial or Ventura counties have such access.

While these capital projects will provide our region with a much more mature public transportation system, operational improvements and new transit programs and policies will also contribute greatly to attracting more trips to transit and away from single occupant vehicle (SOV) travel. First, the expanding HOV and HOT lane networks call for the development of an extensive express bus point-to-point network. Second, transit oriented and COMPASS 2 percent land use developments call for increasing the frequency and quality of fixed-route bus service by virtue of adding new BRT service, limited-stop service, increased frequencies along targeted corridors, and the introduction of local community circulators to provide residents of smart growth developments with the option of taking transit over using a car to make short, local trips.

Another emphasis on transit network improvements includes transit priority facilities, like bus lanes and traffic signal priority. Our region has virtually no bus lanes, especially compared to other major metropolitan areas. The Los Angeles County Metro Rapid Bus network employs bus signal priority that gives buses up to 10 percent more green light time from the normal green light phase. This should be expanded to other counties in our region.

Additional enhancements to our region's transit services include expanding bike-carrying capacity on transit vehicles, implementing regional and intercounty fare agreements and media like L.A. County's EZ Pass, and expanding and improving real-time passenger information systems.

Economics and Funding

Transit faces significant funding challenges in the SCAG region. While five of the six Counties in the region have passed or extended local option sales taxes dedicated to transportation within the last decade, state and federal revenues for transit have been diminishing, particularly from the state's State Transit Assistance (STA) and Local Transportation Fund (LTF). These two funds provide transit operations funding, and if they continue to diminish transit, sustainable communities strategies in the SCAG region will need to be geared toward low cost incremental improvements, operational enhancements, and policies that increase access to transit rather than increasing transit service to appropriate levels and corridors to meet passenger demand.

These positive developments have been significantly impacted however by recent revenue declines and cutbacks in funding. The Great Recession and its anemic recovery have led to serious fiscal challenges for our transit operators. Since FY2008, transit providers within the SCAG region have seen a decrease in State Transit Account (STA) funds of approximately $759 million. Local Transportation Fund (LTF) allocations for FY2010 were

21 percent lower than FY2007. By February of 2011, half of the surveyed agencies had cut service by between 2 percent and 20 percent. Of those, four agencies had cut service by more than 10 percent. During this same period, 14 out of 25 of these operators had seen their boardings fall between 2 percent and 27 percent. Of those, four agencies had boardings fall by more than 15 percent. To offset this large revenue decline, almost all operators have raised fares. While this has increased fare revenues in the region, it does not provide an incentive for increased passenger boardings.

Coupled with the revenue setbacks, costs for transit providers are heading in the opposite direction by rising faster than inflation. Each mode has shown cost per passenger mile traveled (PMT) increase over the past decade: bus service by 24 percent, Metro Rail by 41 percent, and Metrolink by 48 percent. Transit providers' fare revenue has decreased from 32 percent of the cost of providing service to just 27 percent since 2000.

These cost and revenue trends weaken the long term stability of transit services in the SCAG Region. Unless transit operators in our region find ways to improve the fare revenue to cost ratio, transit services will require much greater subsidies or services will continue to be cut. This conflict will grow as new operational funds will need to be applied towards new capital projects currently in development once they are ready for revenue service.

Coordinated Planning

As per 49 U.S.C. Sections 5302, 5303, 5310, 5311, 5314, 5316, and 5317; SAFETEA-LU Section 3046, metropolitan regions or component parts of metropolitan regions are required to produce a Coordinated Human Services Transportation Plan. Projects receiving Federal Transit Administration funds in the 5310 Transportation for Elderly Persons and Persons with Disabilities, some 5311 Formula Grants for Other than Urbanized Areas, 5316 Jobs Access Reverse Commute, and 5317 New Freedoms Programs must be consistent with that plan.

In the SCAG region, Consolidated Transportation Service Agencies (CTSAs) are responsible for producing Coordinated Plans. These agencies, often incorporated within County Transportation Commisions, operate at the county level, and since the passage of SAFETEA-LU have produced coordinated plans at that level.

Coordinated Human Services Plans in effect in the SCAG Region include:

- The Human Service Transportation and Transit Service Coordination Study, Approved by the VCTC in 2007
- The Imperial County Coordinated Human Services Transportation Plan, approved by the Imperial Valley Association of Governments in 2008
- The Public Transit – Human Services Transportation Coordination Plan for Orange County, adopted by OCTA in 2008
- The Public Transit-Human Services Transportation Coordination Plan For San Bernardino County, adopted by SANBAG in 2007
- Action Plan: A Locally Developed, Coordinated Public Transit Human Services Transportation Plan for Los Angeles County, adopted by Access Services Incorporated in 2007
- The Public Transit – Human Services Transportation Coordination Plan for Riverside County, adopted by RCTC in 2008

Constrained Plan

Baseline Transit Investments and Policies

Public transportation in Southern California is highly varied. As the geographically largest metropolitan region in the country, the SCAG Region has a diverse set of transportation needs across the six county area. Transportation providers within that area use a diverse set of strategies and services to meet those needs.

Since the 2008 RTP, Los Angeles, San Bernardino, and Riverside Counties have increasingly seen capital project development as a strategy to meet transit needs within their respective counties.

In November 2008, the voters of Los Angeles County approved a third Local Option Sales Tax to fund both capital and operations within Los Angeles County. The Los Angeles County Metropolitan Transportation Authority (Metro), which already administers Proposition A and C funds, will use 35 percent of Measure R revenues to develop a series of major transit capital projects.

TABLE 5 Major Transit Capital Projects Funded with Measure R Revenues

Major Transit Capital Projects Funded with Measure R Revenues	
Exposition Transit Corridor, Phase 2	South Bay Metro Green Line Extension
Regional Connector Transit Corridor	Sepulveda Pass Transit Corridor
Crenshaw LAX Transit Corridor (includes project acceleration)	San Fernando Valley (East) North South Rapidways
Eastside Transit Corridor Phase 2	Metro Orange Line Extension (includes project acceleration)
Gold Line Foothill Extension, Phase 2a	Pacific Electric Right of Way / West Santa Ana Branch Corridor
Metro Green Line to LAX	Westside Subway Extension[1]

[1] Measure R Expenidute Plan Adopted by Metro Board of Directors July 24, 2008 (http:/www.metro.net/measurer/images/expenditure_plan.pdf)

Since the 2008 RTP was released, Metro completed construction and began operations of the Edward R. Roybal Metro Gold Line Eastside Extension, which extended Gold Line service to Boyle Heights and East Los Angeles. Metro and the Exposition Construction Authority staff also plan to begin revenue service between downtown L.A. and Culver City in early 2012.

Additionally, the San Bernardino Associated Governments (SANBAG) is working with local transit properties to provide more travel options in the San Bernardino Valley. Two capital projects of note include the E street sbX BRT Corridor, and the Downtown San Bernardino Passenger Rail Project, which will extend Metrolink service into Downtown San Bernardino.

Similarly, the Riverside County Transportation Commission continues to develop the Perris Valley Line, a 24 mile extension of Metrolink's 91 Line service to South Perris. RCTC also continues to evaluate further extensions of Metrolink service.

In Ventura, Orange, and Imperial counties, transit planning has recently been more focused on operational changes. The Imperial County Transportation Commission is currently initiating a Comprehensive Operational Analysis for Imperial Valley Transit, which will seek to assess whether existing transit service can be altered to more efficiently and effectively meet existing travel demand. Given that Imperial County has had approximately 33 percent growth over the past ten years, this project is especially timely.

In Orange County, while bus service has been significantly cut due to local and state operational funding shortfalls, OCTA is moving forward with three transit initiatives. One is the Orange County Metrolink Service Expansion which is funded by Measure M, Orange County's half cent transportation Local Option Sales Tax. This $382.5 million program expands Metrolink service between Fullerton and Laguna Nigel / Mission Viejo, funds capital improvements to facilitate increased train traffic, and builds a new Metrolink station in the City of Placentia.

OCTA is developing strategies to complement these service expansions through the Measure M-funded Go Local Program. After measure M was renewed in 2006, OCTA partnered with each of the 34 cities in Orange County to study alternatives for local circulators to connect with Metrolink stations. As a result of these studies, OCTA is partnering with the Cities of Anaheim and Santa Ana to develop two local circulator projects,

the Anaheim Rapid Connection and the Santa Ana-Garden Grove Fixed Guideway. These projects will provide onward connectivity from the Anaheim Regional Transportation Intermodal Center and the Santa Ana Regional Transportation Center.

As a response to the financial pressures which have forced service cuts, OCTA has also been investigating service realignment. OCTA's Transit System Study seeks to find financially sustainable service delivery strategies, and to more closely tie bus and rail services to passenger demand. A final plan will be issued in the fall of 2011 and its guiding principles will be to:

1. Invest in high performing services,
2. Replace lower performing services with lower cost services,
3. Integrate city shuttles to connect Metrolink service and community circulators with the fixed route network,
4. Match service products to markets, and
5. Improve service efficiency and speeds in an integrated network.

Planned Investments

The 2035 RTP includes significant investment in public transit across all transit modes. There is a $56.6 billion dollar investment in transit capital, a $47.7 billion dollar investment in Passenger Rail, and a $139.3 billion investment in transit operations and maintenance. Transit represents 64 percent of total operations and maintenance in the 2012 RTP, and 20 percent of capital investments. Passenger rail, including Phase I of the California HST program, accounts for another 18 percent of total capital investment in the 2012 RTP. Many major capital projects that were part of county level sales tax expenditure plans have been amended into the 2008 RTP. These include Los Angeles County's Measure R projects, and Orange County's Measure M projects.

TABLE 6 Investment in Transit and Passenger Rail

Investment in Transit and Passenger Rail	
Mode	**Total Investment in Nominal Billions**
BRT	$ 4.6
Bus	$20.9
Commuter Rail	$ 3.9
Light Rail	$13.1
Heavy Rail	$11.1
High Speed Rail	$47.7

TABLE 7 Major Transit Capital Projects in the 2012 RTP

Major Transit Capital Projects in the 2012 RTP	
Exposition Transit Corridor-Phase 2 to Santa Monica	Green Line South Bay Extension
Regional Connector Transit Corridor	Sepulveda Pass Transit Corridor (funded outside the outside the planning horizon of the 2012 RTP)
Crenshaw/LAX Transit Corridor	San Fernando Valley (East) North/South Rapidways
Eastside Transit Corridor-Phase 2	Orange Line Canoga Extension
Gold Line Extension to Glendora	West Santa Ana Branch Corridor
Green Line LAX Extension	Westside Subway Extension (to Westwood)
Redlands Passenger Rail Project	E Street BRT (sbX)
OCTA Bravo BRTs	Perris Valley Line Metrolink Extension
OCTA Metrolink Service Expansion Program	Anaheim Rapid Connection
Santa Ana/Garden Grove Fixed Guideway	Fixed Guideway Gap Closures

The 2012 RTP includes major capital projects that extend the scope and reach of "premium" transit throughout the SCAG Region. By 2035, the projects detailed in this plan will begin to provide an integrated network of transit options for travellers in the region. This plan calls for a drastic expansion of heavy rail, light rail, rapid bus and BRT service throughout the region. Especially in Los Angeles and Orange Counties, travellers will have greatly increased ability to access the transit network, and the ability to connect onward to high speed, intercity, and commuter rail.

TABLE 8 Total Tier 2 Travel Analysis Zones Served by Transit in 2035

	Tier 2 TAZs with more than 150 Residents or 50 Jobs per acre	Tier 2 TAZs with more than 50 Residents or Jobs per acre	Tier 2 TAZs with more than 30 Residents or Jobs per acre	Tier 2 TAZs with more than 15 Residents or Jobs per acre
Total 2035 Transit Network	100%	100%	99.6%	99.4%
Premium Transit Services	88.8%	77.6%	67.3%	53.6%
Rapid Transit Services	63.7%	77.6%	41.5%	29.9%

The 2035 total transit network represents a large step for connectivity and the ability of transit riders to access both the system and their destinations. The 2035 network does an excellent job of serving the densest areas of the region. As seen in **TABLE 8**, 100 percent of Traffic Analysis zones with over 150 residents or 50 jobs will have access to transit within a quarter mile radius; 88.8 percent of those zones will have access to premium transit services including Rapid buses, Express buses, BRT, Urban Rail, or Commuter Rail. A further 63.7 percent of TAZs will have all or part of their area within a half mile buffer of Rapid Transit Services, including BRT, Urban rail and Commuter Rail.

Areas of compact development, including those TAZs with more than 50 jobs or residents, are similarly well served. All zones have transit access, and 77.6 percent have access to both premium and rapid transit. Slightly less dense TAZs, with more than 30 jobs or residents, are also well served by the 2035 regional transit network. Only .04 percent will have no transit access, and two thirds will have access to premium transit. Slightly over 40 percent are located within a half-mile of rapid transit.

Almost all TAZs with more than 15 jobs or residents are served by some form of transit in 2035 (99.4percent); however only half are served by premium transit and less than a third are served by rapid transit. Sparser zones tend to be less productive for transit agencies, leading to more limited services.

Several sets of projects will provide a massive expansion of mobility in our region. Three mega-projects, the Westside Subway extension, the Regional Connector Transit Corridor, and the Exposition Transit Corridor have the potential to connect residents to employment centers in the highly congested central Los Angeles area and the similarly congested Westside Subregion, providing important alternatives to car travel. These three projects also represent a large increase in the SCAG Region's capacity to move passengers. The Regional Connector will also radically change the operational environment for rail transit in Los Angeles County. Light rail vehicles will use the Regional Connector tracks to connect between now unconnected Blue, Gold, and Exposition rail corridors. Upon completion, passengers boarding a rail vehicle in Pasadena or Azusa will be able to travel to Long Beach without transferring; similarly, passengers boarding at the terminus of the Metro Gold Line Phase 2 will be able to travel to Culver City or Santa Monica without transferring.

Other Measure R projects will extend the reach of the Metro Rail system to a large portion of Los Angeles County. The South Bay Metro Green Line extension will extend rail transit much deeper into the South Bay Subregion, and connect residents of the South Bay cities to an important jobs center in El Segundo. Similarly, the Foothill and Eastside Gold Line Extensions will increase the ability of residents of eastern Los Angeles County to access the Metro Rail System, and travel to important regional centers.

The Pacific Electric Right Of Way / West Santa Ana Branch Corridor represents an enormous opportunity for the SCAG region. While final modal and alignment decisions remain to be made, this corridor will be an important step forward for regional mobility. It will serve a currently underserved market in the Northeastern and Central Gateway Cities area, and provide important links to the Metro Green Line and a variety of transit options in downtown Los Angeles. Many corridor area residents are in low income households and have limited vehicle access; the corridor serves them by connecting it to important recreational and shopping opportunities, in addition to employment centers.

EXHIBIT 1 2035 Planned and Existing Urban Rail Network



EXHIBIT 2 2035 Bus Rapid Transit

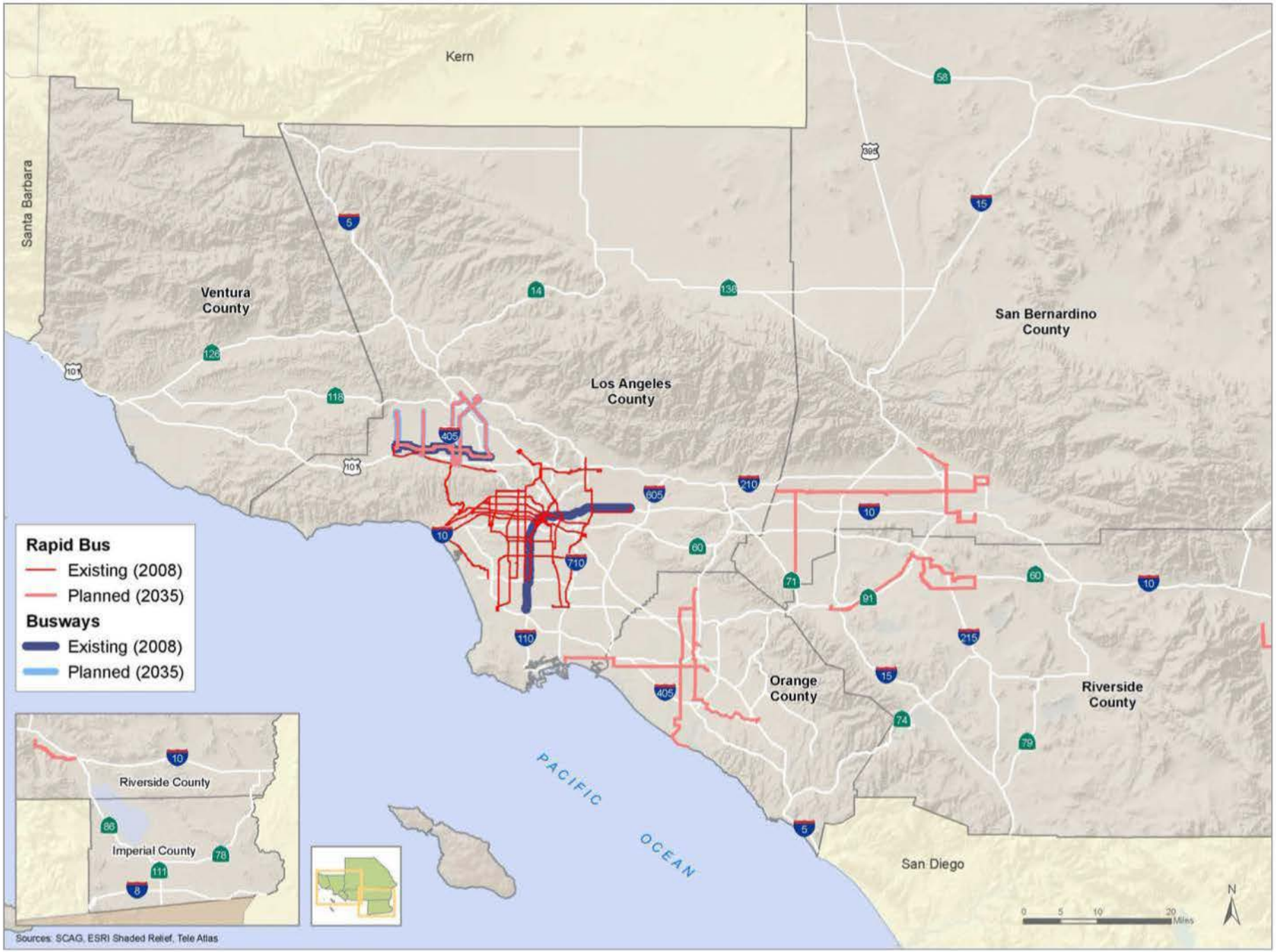
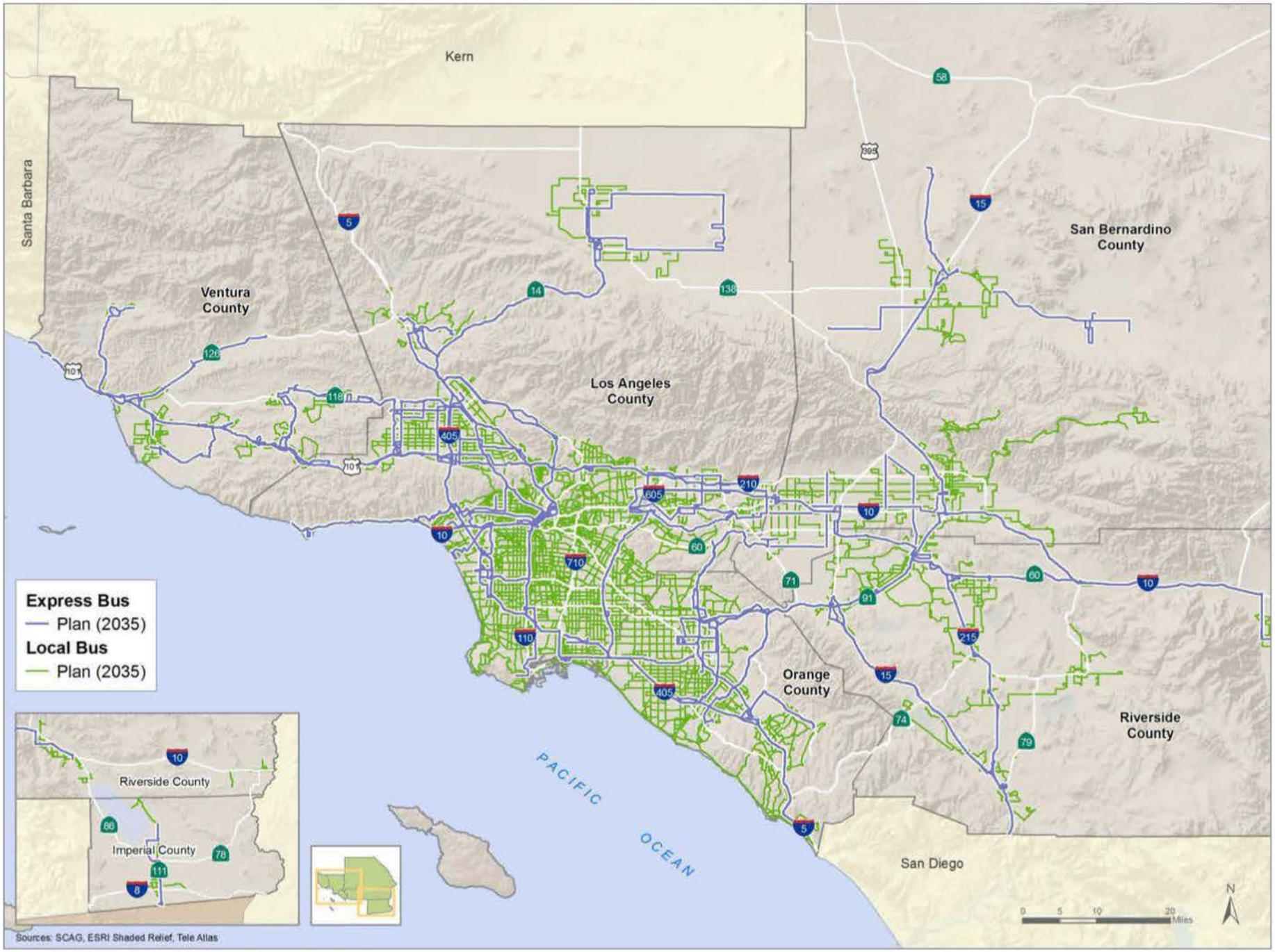


EXHIBIT 3 Local and Express Bus Network



Orange County's Measure M investments will also greatly expand access to rapid transit. Orange County will initiate BRT on three initial corridors. Westminster, Harbor, and Bristol and State College boulevards will be the site of these initial investments. These corridors will connect into Priority High Frequency Corridors, where local bus bus service operating at high frequencies will provide heightened mobility for travelers.

Two additional Measure M investments will also connect to the growing BRT network. The Go Local program will offer connectivity between the existing Metrolink network and important regional destinations. The Anaheim Rapid Connection (ARC) will offer onward connectivity to the Anaheim Resort from the planned Anaheim Regional Transportation Intermodal Center (ARTIC). Travelers on ARC will be able to transfer to the Harbor Blvd BRT line, Metrolink, Amtrak's Pacific Surfliner, and High-Speed Rail at ARTIC. Similarly, the Santa Ana Garden Grove Fixed Guideway will connect the central business district of Santa Ana to the Santa Ana Regional Transportation Center, allowing transfers to Metrolink and the Pacific Surfliner. The other terminus of the Santa Ana Garden Grove Fixed Guideway, at Harbor Blvd, will also offer connectivity to two separate BRT routes.

In the Inland Empire, new projects will also increase transit mobility. New BRT services in San Bernardino will complement the soon-to-open E street sBX BRT line, connecting to multiple Metrolink stations and extending the reach of our region's commuter rail network. Furthermore, the Redlands Rail project will extend Metrolink's service area deeper into the eastern San Bernardino Valley, and provide access to one of San Bernardino County's major universities.

In order to further develop the integrated transit passenger rail networks, SCAG staff developed a list of fixed guideway gap closures for the 2012 RTP. These projects were developed by reviewing performance data from county transportation commission strategic planning documents, and were analyzed from a list of over 32 potential projects developed in these plans and studies. The resulting projects were analyzed on the basis of several factors:

1. Did the project close a gap in the existing rapid transit network?
2. Did the projects serve comparatively dense areas?
3. Did the projects provide intermodal connectivity?
4. Did the projects serve important regional or subregional centers for housing or employment?
5. Using locally generated performance data, what was the capital cost per out-year boarding?

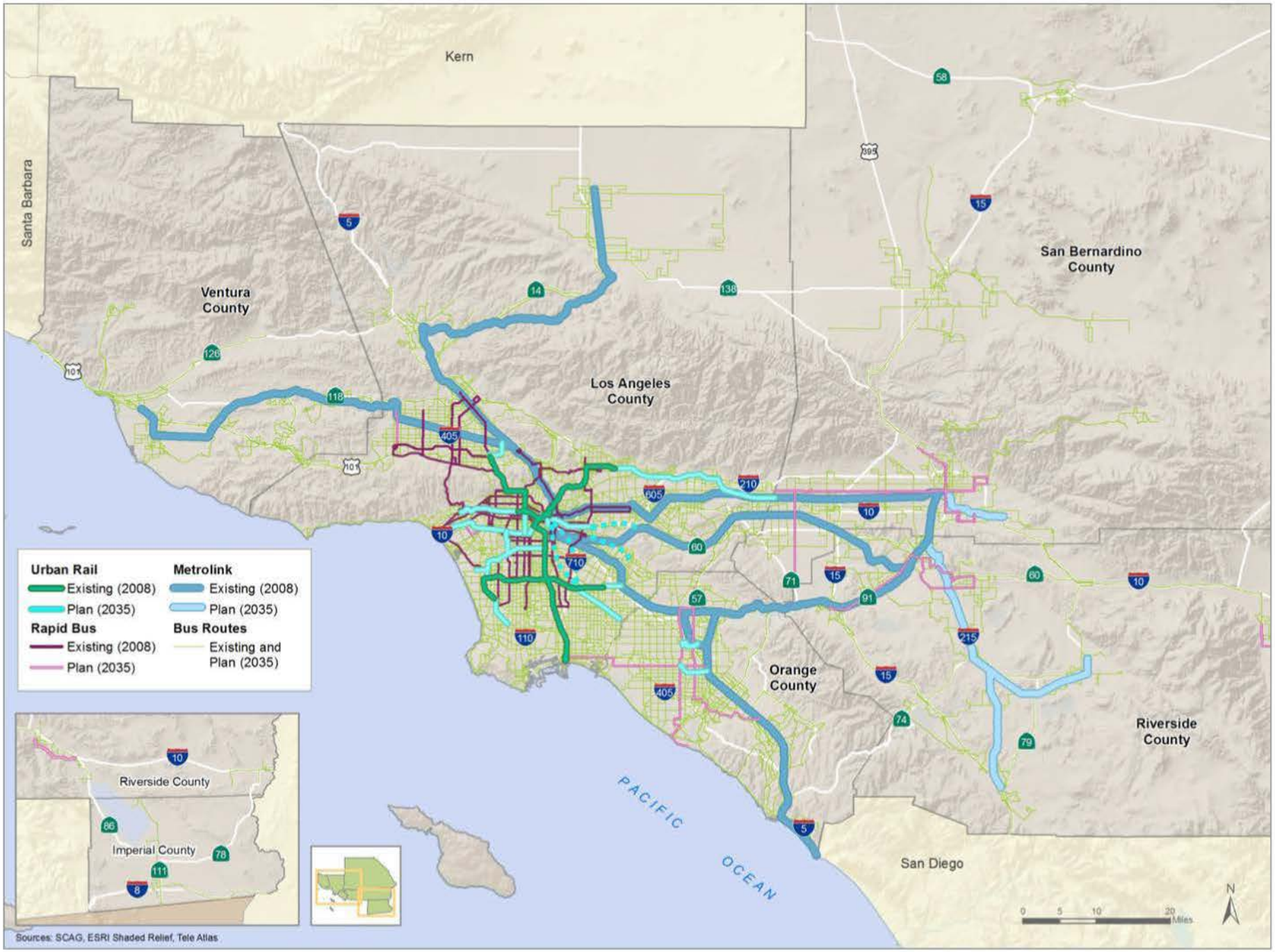
Five projects were selected using this analysis. These projects, collectively titled the "fixed guideway gap closures," will provide important links in our 2035 transit network. All but one of the five projects serve a minimum of 20 tier 2 Travel Analysis Zones (TAZ) projected to contain over 15 jobs or residents in 2035. All five projects connect a minimum of two other fixed guideway transit corridors, leverage those connections in to additional transit mobility, and produce at least a million annual boardings by the 2035 forecast year.

TABLE 10 Number of TAZs Served by Fixed Guideway Gap Closure Projects

	Tier 2 TAZs with more than 150 Residents or 50 Jobs per acre	Tier 2 TAZs with more than 50 Residents or Jobs per acre	Tier 2 TAZs with more than 30 Residents or Jobs per acre	Tier 2 TAZs with more than 15 Residents or Jobs per acre
Metro Red Line Extension	0	2	13	21
Vermont Short Corridor	7	39	60	66
Slauson Light Rail	0	10	39	77
Metro Green Line Norwalk Extension Extension	0	0	0	23
Metro Foothill Goldline Extension Phase 2b	0	0	0	14

The fixed guideway gap closure projects leverage existing investments in rail transit technology to expand the connectivity of the rail travel network, creating a system of seamless transferability throughout the network.

EXHIBIT 4 2035 Transit Network



The Vermont Short Corridor is a 3 mile southward extension of the Metro Red Line serving one of the most important transit markets in Southern California. Vermont Avenue has long been Metro's second most productive bus corridor, and its ridership is often competitive with the entirety of the Metrolink system. On the north end, the Vermont Corridor will allow transferability to the completed Metro Westside Subway extension, allowing access to important employment, residential, and cultural centers on the Westside. On the southern end, the short corridor will allow onward transfers to the Metro Exposition Line, allowing passengers to travel to Culver City, Santa Monica, or to transfer to the Crenshaw Corridor and travel to South Los Angeles, Inglewood, or LAX.

Important regional destinations including the University of Southern California, Pico Union, and Koreatown are directly served by the Vermont Short Corridor. Similarly, the corridor has a high proportion of low income transit dependent residents; the corridor will allow them greater ability to access job centers on the Westside, in the South Bay, and in downtown Los Angeles.

The Northward extension of the Metro Red line to the California High-Speed Rail Authority's planned Burbank station will similarly allow greater access to intermodal transportation. The likely Burbank station for Phase I of the HST project is at Bob Hope Burbank Airport, which is also served by Metrolink and Amtrak. By using tunnels and people mover technology in the new Red Line station, the station could serve all three transportation facilities. This extension will allow users to access intercity rail, commuter rail, high speed rail, and air travel facilities.

Together, these two projects form a new vision for the Metro Red Line, allowing "one–seat" travel between the Burbank HST station and University of Southern California, or any point in between.

Similarly the Norwalk Green Line Extension will increase the ability of travellers in the South Bay and Gateway Cities to access the proposed California HST station in Norwalk. This station, which is already served by Metrolink and the occasional Surfliner train, also provides good connectivity to bus transit via the Norwalk Transit System.

The Slauson Light Rail would connect the Crenshaw Corridor with the Metro Blue line, and provide important mobility improvements in a dense corridor with a high percentage of transit dependent residents. As noted in Chapter 6 of the Harbor Subdivision Alternatives Analysis, the corridor is currently underserved by transit and would provide many stops within close distance to dense population and employment nodes.

Phase 2b of the Metro Gold Line Foothill Extension will extend the reach of the Metro Gold Line an additional 12.6 miles in to the San Gabriel Valley, adding stations in Glendora, San Dimas, La Verne, Pomona, Claremont, and Montclair along a former Atchison Topeka Santa Fe right-of-way.

TABLE 9 Fixed Guideway Gap Closures Initial Performance Analysis

Corridor	Boundaries	Length (miles)	Cost	Locally Estimated Annual Boardings	Rail Transit Connections
Vermont Short Corridor	Wilshire/Vermont to Exposition and Vermont	3.0	$1,177.9	3,709,332	Metro Purple Line, Metro Red Line, Metro Exposition Line
Slauson Light Rail	Crenshaw Corridor to Metro Blue Line Slauson Station	5.4	$ 554.0	5,213,808	Metro Crenshaw Corridor, Metro Blue Line
Metro Red Line Extension	From North Hollywood Station to Burbank Airport Metrolink	2.4	$ 933.3	5,350,818	Metro Red Line, California High Speed Rail, Amtrak Pacific Surfliner, Metrolink
Metro Green Line Norwalk Extension	Norwalk Transit Center to Norwalk Metrolink (aerial option)	2.3	$ 480.2	1,495,006	Amtrak Pacific Surfliner, California High Speed Rail, Metro Green Line, Metrolink
Metro Gold Line Foothill Extension Phase 2b	Sierra Madre Villa Station to Montclair Metrolink station	13.1	$ 998.4	3,023,603	Metro Gold Line, Metrolink,

TABLE 11 SCAG Regional Annual Transit Ridership

	2001	2005	2008	2009	2035 Plan*
Metro Rail	61,802,000	74,243,000	86,707,000	92,919,000	150,000,000
Commuter Rail	7,398,000	10,693,000	12,681,000	12,242,000	25,000,000
Bus	548,728,000	609,795,000	622,286,000	625,082,000	806,000,000
Total	**617,928,000**	**694,731,000**	**721,674,000**	**730,243,000**	**981,000,000**

Source: National Transit Database (NTD) for past years and SCAG model estimates for 2035 based on the 2012–2035 RTP/SCS

TABLE 12 SCAG Region Annual Passenger Miles Traveled

	2001	2005	2008	2009	2035 Plan*
Metro Rail	339,800,000	442,916,000	524,813,000	554,998,000	1,428,409,000
Commuter Rail	274,625,000	359,938,000	436,565,000	419,885,000	871,495,000
Bus	2,206,840,000	2,375,502,000	2,461,654,000	2,546,884,000	3,255,693,000
Total	**2,821,266,000**	**3,178,357,000**	**3,423,033,000**	**3,521,767,000**	**5,555,597,000**

Source: National Transit Database (NTD) for past years and SCAG model estimates for 2035 based on the 2012–2035 RTP/SCS

TABLE 13 SCAG Region Annual Per Capita Transit Trips

	2001	2005	2008	2009	2035 Plan*
Metro Rail	3.67	4.41	5.15	5.52	8.91
Commuter Rail	0.44	0.64	0.75	0.73	1.49
Bus	32.61	36.24	36.98	37.15	47.90
Total	**36.73**	**41.29**	**42.89**	**43.40**	**58.30**

Source: National Transit Database (NTD) for past years and SCAG model estimates for 2035 based on the 2012–2035 RTP/SCS

Plan Performance

Our region's investment in transit and passenger rail, coupled with its commitment to attaining sustainable communities, pays heavy dividends. In 2035, we will have realized a 36 percent increase in transit and rail boardings. This includes a 30 percent increase for bus, a 73 percent increase for light and heavy rail, and an almost doubling of 97 percent for Metrolink. Passenger miles are also up significantly, for all types of bus service including BRT and Local, and especially for rail, reflecting a higher percentage of transit trips on to rail due to the new rail facilities being built between now and 2035.

On a per capita level, growth in transit ridership is also fairly aggressive. The region will see 23.8 percent population growth, 21.9 percent employment growth, and 26 percent more households by 2035. The rate of growth for per capita transit trips is much higher. Between 2008 and 2035, per capita Metro Rail trips will grow by 73 percent, and per capita Metrolink and Amtrak trips will grow by 97 percent. Bus trips will grow by 30 percent, meaning that the overall growth in per capita transit ridership will be 30 percent.[1]

Vehicle Miles Traveled (VMT) Reduction

The host of new investments in transit facilities, from new rail on fixed guideways to smaller capital projects for BRT, such as bus signal priority and bus lanes, will produce a large reduction in vehicle miles traveled (VMT) as these new services garner new riders to transit and reduce SOV commuting.

Some of this plans's transit initiatives and strategies that are not capital-intensive will also reduce VMT. These include the expansion and improvement of real-time passenger information systems on our region's transit systems, the expansion of bicycle carrying capacity on our region's transit and rail vehicles, and the implementation of regional fare media consolidation and agreements. The improvement of real-time passenger information systems makes taking transit more appealing and convenient to non-regular or new users. This plan estimates a 2 percent increase in transit boardings by 2020, and 5percent increase by 2035 due to these improvements. This corresponds to a reduction of 1 million vehicle miles by 2020, and 2.6 million by 2035. The regional (intercounty) fare

[1] RTP/SCS, population estimates from SCAG and California Department of Finance

consolidation and agreements and the expansion of bicycle carrying capacity strategies also will encourage new and more frequent riders to transit. The plan estimates the effect on boardings for both at an additional 1 percent by 2020 and an additional 3 percent by 2035. This corresponds to a reduction of 500,000 vehicle miles by 2020, and 1.6 million by 2035.

Strategies and Recommendations

Much progress is being made in our region. The many new transit facilities and services programmed through 2035 will certainly increase the transit modal share as they serve the developing sustainable communities, jobs/housing balance and population increases. But aside from capital projects, there are many improvements that can be made in transit accessibility and operations. Our transit strategy calls for a number of transit initiatives including:

Operational Strategies

- Implement and Expand Transit Priority Systems. Transit priority systems include traffic signal priority, queue jumpers and bus lanes. Signal priority is a highly effective treatment that has proven to speed up bus service and attract new transit riders. Metro's Metro Rapid program has increased speeds by over 20 percent compared to the local service on the same street. It also has brought new riders to its system. Bus lanes are even more effective at increasing speeds, yet, in our region, there is a dearth of such lanes. Transit agencies should heavily lobby local jurisdictions in which they operate to implement them, at least for peak-period operation.
- Implement Regional and Intercounty Fare Agreements and Media. Implementing additional inter-jurisdictional fare agreements and media like L.A. County's EZ Pass will make transit more attractive and available. A pass that would cover all transit services in L.A. and Orange counties, or the whole SCAG region, is an example. The Pacific Surfliner also has fare agreements with some local transit operators along its corridor where an Amtrak ticket is good for connecting transit fare. This could be expanded to all operators along its corridor.
- Implement new BRT and limited-stop bus service. As noted above, BRT service is a good 20 percent faster than traditional local bus service. It is viewed as a "premium" service, and has proven to attract new riders to transit. BRT implementation does require a capital outlay, so in an environment of scare funding, offering limited-stop service is an excellent alternative. Limited-stop service has been shown to be about 15 percent faster than traditional local service, yet very few transit agencies in our region offer it.
- Implement increased frequencies in targeted corridors. With additional funding, there are many corridors in our region that would benefit from an increased frequency of service. In many of our subregions outside of L.A. County, frequencies are seldom 15-minutes or better, and often 30, 45, or even 60-minutes on primary arterials. Orange County shaved their frequencies generally across the board due to their financial crisis. Increasing frequencies in targeted corridors where there is TOD/TPP developments, along with latent demand due to low frequencies, can increase transit mode share.

Accessibility Strategies

- Increasing bicycle carrying capacity on bus and rail vehicles. Bicycling for commute or other trip purposes is taking off in our region. The implementation of bike facilities is only starting to catch up. Most transit systems have two-bike racks on their buses, some have three. Metro and Metrolink have recently adjusted their bike-on-railcar guidelines to allow more bicycles. Allowing more bikes on transit vehicles, to a reasonable point, will increase transit ridership.
- Expanding and improving real-time passenger information systems. Most medium to large size transit agencies have implemented real-time passenger information systems. These have shown to attract and keep new transit riders. Knowing exactly when a bus will arrive provides an incentive to the potential transit user. Continuing to implement and expand these systems will increase transit modal share.
- Implementing First Mile/Last Mile strategies to extend the effective reach of transit. This is an area of study with recent focus. Making transit available for that first mile to a transit station, or from a transit station, or both, will encourage more transit usage, and also reduce GHGs. More than 90 percent of Metrolink riders drive to their origin station.
- Implementing new point-to-point express bus service in key corridors in the region's HOV and HOT lane network. Our region's HOV network is being transferred from a patchwork to a complete system of freeway-to-freeway connectivity. In addition,

HOT lanes are scheduled to begin on the Harbor Transitway at the end of 2012, and the El Monte Busway in early 2013. Yet, these facilities are currently underserved by express bus services. Implementing new express point-to-point services, at least in the peak-periods, will prove an attractive option to the SOV commuter.

- Implementing Local Circulators. Many local cities already have impressive networks of local community circulators and fixed-route systems. As more TOD/HQTA is built, and as the jobs/housing balance improves, more of these services should be implemented or expanded to encourage residents of these developments to not use their auto to make short, local trips.

Strategic Plan: Looking Ahead – Beyond the Horizon

The RTP strategies discussed in Chapter 2: Transportation Investments, represent the region's collective vision for addressing our transportation needs within the constraints of committed, available, or reasonably available revenue sources. Despite the substantial commitments of over $500 billion contained in the RTP and the associated benefits discussed in Chapter 5: Measuring Up, this level of investment does not meet the full needs identified through the RTP development process. If we truly want to address all the needs set forth in this RTP, we must look toward additional strategies and investments to get us there. Often this will entail controversial and difficult choices that will push the envelope and test the boundaries of what is politically acceptable. For now, these elements are contained in the Strategic Plan with the recognition that they merit further study and that, over time and with further consensus-building, these programs and policies may move forward into the constrained RTP.

The concept of a Strategic Plan was first incorporated into the 2008 RTP. It was envisioned that the 2012 and subsequent RTPs would draw from the projects contained in the Strategic Plan. This has in fact occurred. The 2012–2035 RTP/SCS investments discussed in Chapter 2 attest to the success of the 2008 Strategic Plan, since several of its projects and strategies have now moved to the constrained portion of the 2012–2035 RTP/SCS. These include:

Preservation investments – The 2008 Strategic Plan called for a higher level of investment to preserve the region's multi-modal system. The 2012–2035 RTP/SCS includes $65 billion in additional preservation funding.

Operations investments (TSM) – The 2008 Strategic Plan recommended increasing funding to the cost-effective transportation system management strategies that increase the productivity of the existing system. The 2012–2035 RTP/SCS allocates $5 billion to TSM.

Dedicated Lanes for Clean-Technology Trucks on the East West Corridor – The 2008 Strategic Plan called for more detailed study of the different east west corridors and recommending one for inclusion in the RTP. The 2012–2035 RTP/SCS includes the recommended East West Freight Corridor and provides full funding for it.

Metrolink and LOSSAN Rail Improvements – The 2008 Strategic Plan included unfunded improvements to Metrolink and the LOSSAN Rail corridor. The 2012–2035 RTP/SCS fully funds these improvements, partially using newly available federal and state funds.

The Westside Purple Line Extension – The 2008 Strategic Plan included the unfunded Purple Line Extension to Westwood. The 2012–2035 RTP/SCS now fully funds this extension, relying on the recently adopted Measure R in Los Angeles.

The 2008 Strategic Plan strongly influenced the 2012 Constrained Plan as originally intended. Moving forward, it is again envisioned that future updates to the 2012–2035 RTP/SCS would draw from the projects contained in this Strategic Plan; exceptions would be handled on a case-by-case basis.

TABLE 11 Strategic Plan

County	Category	Route Name
Los Angeles	BRT	Metro Orange Line
Los Angeles	Light Rail	Metro Blue Line
Los Angeles	Light Rail	Metro Gold Line
Los Angeles	Light Rail	Metro Green Line
Los Angeles	Light Rail	Metro Gold Line
Los Angeles	High-Speed Rail	Orangeline
Los Angeles	High-Speed Rail	Orangeline
Los Angeles	Heavy Rail	Metro Purple Line
Orange	Bus	Systemwide Local Bus Service Expansion
Orange	BRT	Service Increase to Express Bus Routes in Central County
Orange	BRT	New Express Bus Service from Industry to Anaheim
Orange	BRT	New Express Bus Service from Anaheim to Laguna Hills
Orange	BRT	New Express Bus Service from Orange to Long Beach
Orange	BRT	New Express Bus Service from South Coast Metro to Long Beach
Orange	BRT	New Express Bus Service from Irvine to Norwalk
Orange	BRT	New Express Bus Service from Riverside to Brea
Orange	BRT	New Express Bus Service from Riverside to Anaheim
Orange	BRT	New Express Bus Service from Riverside to Irvine
Orange	BRT	New Express Bus Service from Rancho Santa Margarita to Irvine
Orange	BRT	New Express Bus Service from Laguna Niguel/ Aliso Viejo to Irvine
Orange	BRT	New Express Bus Service from San Clemente to South Coast Metro
Orange	BRT	New Express Bus Service from Anaheim to Laguna Hills
Orange	BRT	Katella Avenue BRT
Orange	BRT	Edinger Avenue BRT
Orange	BRT	Beach Boulevard BRT
Orange	BRT	La Palma Avenue BRT
Orange	BRT	South County BRT
Orange	BRT	Enhance BRT Routes
Orange	Commuter Rail	Metrolink Service Expansion Program
Orange	High-Speed Rail	California-Nevada Super Speed Train
Orange	Commuter Rail	LOSSAN Capacity Increase to San Diego Border
San Bernardino	Commuter Rail	Redlands Rail Phase III
Riverside	Intercity Rail	Coachella Valley Rail Service
DesertXpress	High-Speed Rail	DesertXpress

REGIONAL TRANSPORTATION PLAN
2012–2035 RTP
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future

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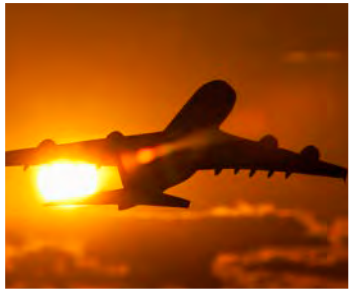
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TRANSPORTATION CONFORMITY ANALYSIS APPENDIX









REGIONAL TRANSPORTATION PLAN
2012–2035
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future
RTP











Southern California Association of Governments

ADOPTED APRIL 2012

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Executive Summary

The federal Clean Air Act (CAA) establishes air quality standards and planning requirements for certain air pollutants. To comply with the CAA in achieving the National Ambient Air Quality Standards (NAAQS), the California Air Resources Board (ARB) develops State Implementation Plans (SIPs) for federal non-attainment and maintenance areas. In California, SIP development is a joint effort of the local air agencies and ARB working with federal, state, and local agencies (including the Metropolitan Planning Organizations [MPOs]). Local Air Quality Management Plans (AQMPs) are prepared in response to federal and state requirements.

Transportation conformity is required under the CAA to ensure that federally supported highway and transit project activities "conform to" the purpose of the SIP. Conformity to the purpose of the SIP means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS. Conformity currently applies to areas that are designated non-attainment and those re-designated to attainment after 1990 ("maintenance areas") for the following transportation-related criteria pollutants: ozone, particulate matter ($PM_{2.5}$ and PM_{10}), carbon monoxide (CO), and nitrogen dioxide (NO_2).

Under the U.S. Department of Transportation (DOT) Metropolitan Planning Regulations and U.S. Environmental Protection Agency's (EPA) Transportation Conformity Rule requirements, SCAG's 2012 Regional Transportation Plan (RTP) needs to comply with four tests upon adoption by the SCAG Regional Council in order for the RTP to conform:

- Regional Emissions
- Timely Implementation of Transportation Control Measures
- Financial Constraint
- Interagency Consultation and Public Involvement

The analyses in this report demonstrate a positive conformity finding for each of these tests and, therefore, for the 2012 RTP.

Preface

The federally required conformity analyses and findings for the 2012 RTP are set forth in the following sections. The conformity sections cover all federally required analyses for the conformity determination of the 2012 RTP. These analyses also update the 2011 Federal Transportation Improvement Program (FTIP). All transportation and air quality conformity analyses in this document are in compliance with applicable federal and state law, including conformity and transportation planning regulations. This report contains four sections that specifically address the conformity analyses required for federal approval.

- Section I summarizes the conformity requirements and findings.
- Section II provides modeling methodologies and assumptions and results of the regional emissions analyses for the 2012 RTP.
- Section III highlights the conformity findings of the Timely Implementation of Transportation Control Measures (TCMs) analysis and describes the implementation status of all applicable TCMs in the SCAG Region.
- Section IV summarizes the conformity comments and responses.

Section I: Conformity Requirements and Findings

Federal and State Requirements

SCAG, the MPO for Southern California, is mandated to comply with federal and state transportation and air quality regulations. Federal transportation regulations authorize federal funding for highway, highway safety, transit, and other surface transportation programs. The federal CAA establishes air quality standards and planning requirements for various criteria air pollutants.

REGIONAL TRANSPORTATION PLAN AND FEDERAL TRANSPORTATION IMPROVEMENT PROGRAM

Federal transportation law requires that SCAG develop an RTP for a 20-year minimum period. SCAG must also develop an FTIP that allocates monies over a four-year period to implement the RTP. The FTIP must be consistent with the RTP (e.g., projects, scope, implementation schedules, etc.).

FEDERAL NON-ATTAINMENT AND MAINTENANCE AREAS

The U.S. EPA may make a federal "non-attainment area" designation to any area that has not met CAA health standards for one or more pollutants. A non-attainment area designation may require additional air-quality controls for transportation plans, programs, and projects. The ARB recommends the federal non-attainment area boundaries to U.S. EPA for final designations. Subsequently, the EPA finalizes and defines the boundaries of the federally designated non-attainment areas for each criteria pollutant.

STATE IMPLEMENTATION PLANS

To comply with the CAA in achieving the NAAQS, the ARB develops SIPs for federal non-attainment and maintenance areas. The SIP is a plan which provides for implementation, maintenance, and enforcement of the national primary ambient air quality standard in each air quality control region within the state. 42 U.S.C. § 7410(a)(1). Each state must submit a SIP to EPA within three years after the promulgation of a national primary ambient air quality standard (or any revision thereof) for any air pollutant. In California, SIP development is a joint effort of the local air agencies and ARB working with federal, state, and local agencies (including the MPOs). Local AQMPs are prepared in response to federal and state requirements.

In California, all SIPs have to go through three steps: air district action, ARB action, and finally EPA action. Each air district submits its respective AQMPs/SIPs to ARB. ARB is the official State agency that submits the SIPs to EPA for all federal non-attainment and maintenance areas in California.

The SIP includes two important components relative to transportation and air quality conformity requirements—emissions budgets and TCMs. Emissions budgets set an upper limit which on-road mobile sources are permitted to emit. TCMs are strategies to reduce emissions from on–road mobile sources. The 2012 RTP must conform to the applicable SIPs [i.e., emissions budgets and TCMs] in the SCAG region.

FEDERAL TRANSPORTATION CONFORMITY RULE

Transportation conformity is required under CAA section 176(c) to ensure that federally supported highway and transit project activities "conform to" the purpose of the SIP. Conformity currently applies to areas that are designated non-attainment, and those re-designated to attainment after 1990 ("maintenance areas" with plans developed under CAA section 175[A]) for the specific transportation-related criteria pollutants. Conformity to the purpose of the SIP means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS. The transportation conformity regulation is found in 40 CFR part 93.

Clean Air Act Designations in the SCAG Region

APPLICABLE CRITERIA POLLUTANTS IN THE SCAG REGION

Four criteria pollutants are subject to air quality conformity for the RTP and FTIP:

- CO – a product of automobile exhaust. CO reduces the flow of oxygen in the bloodstream and is particularly dangerous to persons with heart disease.
- Ozone – formed by the reaction between volatile organic compounds (VOC) and oxides of nitrogen (NO_X) in the presence of sunlight. Ozone negatively impacts the respiratory system.

- NO2 – created under the high pressure and temperature conditions in internal combustion engines. It impacts the respiratory system and degrades visibility due to its brownish color.
- PM_{10} and $PM_{2.5}$ – extremely small particles and liquid droplets associated with dust, soot and combustion products. Particulate pollution has been linked to significant health problems, including aggravated asthma, increases in adverse respiratory problems, chronic bronchitis, decreased lung function, and premature death.

AIR BASINS AND AIR DISTRICTS IN THE SCAG REGION

SCAG is a six-county region that contains four air basins administered by five air districts:

- The South Coast Air Basin (SCAB) covers the urbanized portions of the Los Angeles, Riverside, and San Bernardino counties as well as the entire County of Orange and is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD).
- The South Central Coast Air Basin (SCCAB), Ventura County portion, is within the jurisdiction of the Ventura County Air Pollution Control District (VCAPCD).
- The Mojave Desert Air Basin (MDAB) covers the desert portions of Los Angeles, Riverside, and San Bernardino counties. A small portion of this air basin is in Kern County and outside of the SCAG region. The SCAG portion of this air basin is under the jurisdiction of three air districts:
  - The Mojave Desert Air Quality Management District (MDAQMD) administers portions of the MDAB situated in San Bernardino County and eastern Riverside County. The Riverside County portion is known as the Palo Verde Valley Area.
  - The SCAQMD administers the portion of MDAB in Riverside County situated between the Salton Sea Air Basin and the Palo Verde Valley Area.
  - The Antelope Valley Air Quality Management District (AVAQMD) administers the Los Angeles County portion of the MDAB.
- The Salton Sea Air Basin (SSAB) covers all of Imperial County and the eastern portion of Riverside County (excluding the MDAB portion). This air basin is under jurisdiction of two air districts:
  - The Imperial County Air Pollution Control District (ICAPCD) administers the Imperial County portion of the SSAB.
  - The SCAQMD administers the Riverside County portion of the SSAB , Coachella Valley, situated between the SCAB and the MDAB.

NON-ATTAINMENT / MAINTENANCE AREAS IN THE SCAG REGION

The Federal non-attainment/maintenance areas in the SCAG region are as follows:

- Ventura County Portion of SCCAB – non-attainment area for 8-hour ozone
- SCAB – non-attainment or maintenance area for: NO_2; CO; PM_{10}; $PM_{2.5}$; and 8-hour ozone
- Western MDAB (Antelope Valley portion of Los Angeles County and San Bernardino County portion of MDAB excluding Searles Valley) – non-attainment area for 8-hour ozone
- San Bernardino County portion of MDAB:
  - Searles Valley – non-attainment for PM_{10}
  - San Bernardino County (excluding the Searles Valley area) – non-attainment area for PM_{10}
- Riverside County Portion of SSAB (Coachella Valley) – non-attainment area for: PM_{10} and 8-hour ozone
- Imperial County Portion of SSAB – non-attainment for 8-hour ozone; $PM_{2.5}$; and PM_{10}

The boundaries of the air basins, air districts, and non-attainment and maintenance areas are illustrated in Exhibits 1 through 7 at the end of the report.

APPLICABLE EMISSIONS BUDGETS IN THE SCAG REGION

For the 2012 RTP conformity determination, the applicable emissions budgets are established in the SIPs as described below.

- Ventura County Portion of SCCAB
  - 2008 8-Hour Ozone Early Progress Plan
- SCAB
  - 2007 Ozone SIP (using budgets found adequate by EPA May 2008)
  - 2007 $PM_{2.5}$ SIP (using budgets found adequate by EPA November 2011)
  - 2007 CO SIP (Maintenance Plan)

  - 2007 NO2 SIP (Maintenance Plan) (using budgets found adequate by EPA January 2010)
  - 2003 PM_{10} SIP
- Riverside County Portion of SSAB (Coachella Valley)
  - 2008 8-Hour Ozone Early Progress Plan (using budgets found adequate by EPA May 2008)
  - 2003 PM_{10} SIP
- Western MDAB (Antelope Valley and portion of Los Angeles County and San Bernardino County portion of MDAB excluding Searles Valley)
  - 2008 8-Hour Ozone Early Progress Plan
- Imperial County Portion of SSAB (Ozone)
  - 2008 8-Hour Ozone Early Progress Plan

SIP STATUS IN OTHER AREAS OF THE SCAG REGION

In absence of applicable emissions budgets for conformity, SCAG has to conduct interim emissions tests for regional emissions analysis of the 2012 RTP. At the present time, there is no federally approved SIP for the following areas.

- San Bernardino County Portion of MDAB (PM_{10})
- Searles Valley Portion of MDAB (PM_{10})
- Imperial County Portion of SSAB ($PM_{2.5}$ and PM_{10})

APPLICABLE TCMS

The SIP documents for the applicable TCMs in the SCAG region are listed below:

- SCAB – The TCM01 established in the 1994 Ozone SIP functions as the applicable TCM categories for the conformity finding (timely implementation of TCM analysis). The TCM categories in the 2007 AQMP/SIP as well as the 2003 Ozone AQMP/SIP and the 1997 (as amended in 1999) Ozone AQMP/SIP are consistent with the TCM01 categories listed in the 1994 Ozone AQMP/SIP.
- The Ventura County portion of SCCAB – The TCM strategies incorporated in the 1994 (as amended in 1995) Ozone AQMP/SIP function as the applicable TCMs for conformity finding.

There are no applicable TCMs in any other federal non-attainment or maintenance areas in the SCAG region. For more information on TCMs and timely implementation of the TCMs, see Section III of this document.

Conformity Status of Current RTP and FTIP

The FHWA and FTA approved the conformity determination for the amended 2008 RTP and the 2011 FTIP on December 8 and 14, 2010 respectively for the following non-attainment and maintenance areas:

- SSCCAB (Ventura County portion) – Ozone
- SCAB – Ozone, PM_{10}, $PM_{2.5}$, CO and NO_2
- Western MDAB (Antelope Valley and San Bernardino County portion excluding Searles Valley) – Ozone
- MDAB (San Bernardino County and Searles Valley portion) – PM_{10}
- SSAB (Coachella Valley portion) – Ozone, PM_{10}
- SSAB (Imperial County portion) – Ozone, PM_{10}, and $PM_{2.5}$

Conformity Analysis and Findings for the 2012 RTP

Under the U.S. DOT Metropolitan Planning Regulations and EPA's Transportation Conformity Rule requirements, SCAG's 2012 RTP needs to pass four tests.

- Regional Emissions Analysis (40 CFR, Sections 93.109, 93.110, 93.118, and 93.119)
- Timely Implementation of Transportation Control Measures Analysis (40 CFR, Section 93.113)
- Financial Constraint Analysis (40 CFR, Section 93.108 and 23 CFR, Section 450.322)
- Interagency Consultation and Public Involvement Analysis (40 CFR, Sections 93.105 and 93.112 and 23 CFR, Section 450.324)

CONFORMITY DETERMINATIONS

SCAG has made the following conformity findings for the 2012 RTP under the required federal tests.

Regional Emissions Tests

These findings are based on the regional emissions test analyses shown in **TABLES 13–40**.

Finding: The regional emissions analyses for the 2012 RTP update the regional emissions analyses for the 2011 FTIP.

Finding: The 2012 RTP regional emissions analysis for $PM_{2.5}$ and its precursors meet all applicable emission budget tests for all milestone, attainment, and planning horizon years in the SCAB.

Finding: The 2012 RTP regional emissions for the Ozone precursors meet all applicable emission budget tests for all milestone, attainment, and planning horizon years for the SCAB, SCCAB (Ventura County portion), Western MDAB (Los Angeles County Antelope Valley portion and San Bernardino County western portion of MDAB), and SSAB (Riverside County Coachella Valley and Imperial County portions).

Finding: The 2012 RTP regional emissions for NO2 meet all applicable emission budget tests for all milestone, attainment, and planning horizon years in the SCAB.

Finding: The 2012 RTP regional emissions for CO meet all applicable emission budget tests for all milestone, attainment, and planning horizon years in SCAB.

Finding: The 2012 RTP regional emissions for PM_{10} and its precursors meet all applicable emission budget tests for all milestone, attainment, and planning horizon years in SCAB and the SSAB (Riverside County Coachella Valley portion).

Finding: The 2012 RTP regional emissions for PM_{10} meet the interim emission test (build/no-build test) for all milestone and planning horizon years for the MDAB (San Bernardino County portion excluding Searles Valley portion and Searles Valley portion of San Bernardino County) and for the SSAB (Imperial County portion).

Finding: The 2012 RTP regional emissions analysis for $PM_{2.5}$ and its precursors meet the interim emission test (build/no-build test) for all milestone, attainment, and planning horizon years for the SSAB (urbanized area of Imperial County portion).

Timely Implementation of TCM Test

Finding: The TCM project categories listed in the 1994/1997/2003/2007 Ozone SIPs for the SCAB area were given funding priority, are expected to be implemented on schedule, and, in the case of any delays, any obstacles to implementation have been or are being overcome.

Finding: The TCM strategies listed in the 1994 (as amended in 1995) Ozone SIP for the SCCAB (Ventura County) were given funding priority, are expected to be implemented on schedule, and, in the case of any delays, any obstacles to implementation have been or are being overcome.

Financial Constraint Test

Finding: The 2012 RTP is fiscally constrained. SCAG's 2012 RTP demonstrates financial constraint in the financial plan by identifying all transportation revenues including local, state, and federal sources available to meet the region's programming totals.[1]

Inter-agency Consultation and Public Involvement Test

Finding: The 2012 RTP complies with all federal and state requirements for interagency consultation and public involvement. SCAG's Transportation Conformity Working Group has served as a forum for interagency consultation and, additionally, there were many ad-hoc meetings held between the stakeholder agencies for this purpose. SCAG's RTP public outreach effort is documented in a separate Public Participation and Consultation Report. To view a summary of comments received on the Draft 2012 RTP Conformity Report, refer to Section IV. All comments and responses on the Draft RTP/SCS can be foundat www.scag.ca.gov.

[1] See the 2012 RTP Financial Plan

Section II: Regional Emissions Analysis

Background

SCAG's Regional Travel Demand Model is an advanced four step model that meets and in many cases exceeds the state of the practice. The Model meets all the requirements of the Transportation Conformity Rule, specifically 40 CFR 93.122(b) (see **TABLE 10**).

The results from the Regional Travel Demand Model are input to the ARB's EMFAC model for calculating regional emissions.

Regional Travel Demand Model Overview

SCAG is the primary agency responsible for the development and maintenance of travel demand forecasting models for the SCAG Region. SCAG has been developing and improving these travel demand forecasting models since 1967. SCAG's Modeling Task Force, consisting of modeling technical peers from the various county and state agencies and private firms, meets every other month at SCAG to discuss regionally significant modeling projects and modeling issues, including the development, maintenance, and application of SCAG's Regional Travel Demand Model as well as the travel demand models used by other stakeholders agencies. The SCAG model has undergone periodic peer reviews, the latest occurring in June 2011 (see SCAG Regional Travel Model Enhancement Program and Year 2008 Model Validation Report).

SCAG's regional transportation modeling area covers the entire SCAG region, including Counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. This modeling area is divided into 11,267 Transportation Analysis Zones (TAZ's) with an additional 40 external cordon stations, 12 airport nodes, and 31 port nodes for the Ports of Los Angeles and Long Beach. The Model was validated for the Year 2008, which is the base year for the 2012 RTP (see Year 2008 Model Validation Report).

Model Inputs and Assumptions

SCAG's modeling methodologies, parameters, and inputs are regularly updated to reflect current travel conditions and demographic changes.

Socioeconomic Data by Census Block Group – Socioeconomic data (SED), which describes population, households, and employment at Block Group level, are used as major input to SCAG's Regional Travel Demand Model. The concept is that travel is a derived demand, which is directly related to the demographics and economic characteristics of households. The model uses both aggregate and disaggregate SED. The aggregate data are counts of population, households and employment for each TAZ. The disaggregate data are Public Use Microdata Sample (PUMS) records from the Census, which contain detailed information about person and household characteristics in the region.

Highway Networks – The highway networks were originally developed from the Thomas Brothers GIS database and then updated with street inventory survey data (the latest SCAG region street inventory survey was conducted in year 2008) in the TransCAD environment. The networks include detailed coding of the region's freeway system (mixed-flow lane, auxiliary lane, HOV lane, HOT lane, toll lane, truck lane, etc.) as well as arterials, major collectors, and some minor collectors. Separate highway networks for each time period were developed to simulate time of day differences in roadway capacity and vehicle travel restrictions, such as arterial parking restrictions during peak hours, HOV lane minimum vehicle occupancy requirement, and heavy-duty vehicle restrictions on certain roadways.

Land Use and Accessibility for Auto Ownership Model – Accessibility refers to the ease of reaching goods, services, activities, and destinations. Many factors affect accessibility, including the quality and affordability of transport options, transport system connectivity, and land use patterns. The auto and non-auto accessibilities of a zone directly influence household auto ownership. Land use patterns, in particular high density, mixed-use developments also directly influence household auto ownership.

Land Use, Parking, Pricing, TDM, Walk and Bike for Mode Choice Model – Land use, zonal parking, roadway pricing, and Travel Demand Management (TDM) are inputs to mode choice, in addition to the modal level of service obtained from the highway, transit, and non-motorized networks. Parking fees/restrictions, road pricing cost/policies, and land use densities have direct influence on travelers' mode choice. For example, increasing parking fees encourages travelers to shift from auto to transit. Also, high employment and residential densities encourage the use of transit and non-motorized modes.

Transit Networks – The transit networks include more than 3,300 transit routes/patterns, representing approximately 70 transit operators with fixed route service over

the entire SCAG region. The transit routes are completely compatible with the highway geography. Separate transit networks are developed for five time periods based on the transit service information contained in the up-to-date Los Angeles County Metropolitan Transportation Authority (LACMTA) Transit Trip Master database and data collected from transit agencies not included in the TripMaster database. Transit services are grouped into 8 transit modes (Local Bus, Rapid Bus, Express Bus, Bus Rapid Transit (BRT), Transit Way, Urban Rail, Commuter Rail, and High Speed Rail (HSR), according to their service characteristics and fare structures. The transit networks include detailed representation of all rail stations, transfer opportunities among the different modes and between transit routes and park-and-ride locations. A TeleAtlas street network along with Census Block level data is used to calculate walk accessibilities and to develop walk access to transit.

External Trips – External trips (i.e., inter-regional trips) are trips with one or both ends located outside the SCAG modeling area. SCAG model includes 40 cordon locations consisting of freeways and arterials leading into and out of SCAG modeling area. A cordon traffic origin-destination survey was conducted in year 2003 and the results were used to develop inter-regional Light and Medium (LM) duty vehicle trip matrices, including External-to-External (E-E), External-to-Internal (E-I), and Internal-to-External (I-E) trips. The origin-destination survey is updated for the 2012 RTP.

Airport Trips – Airports trips include passenger trips and cargo trips, and are represented by approximately 100 zones in the SCAG modeling area. The daily airport passenger trips are disaggregated into regional model TAZ (using employment data for business trips and household data for non-business trips) and further split into five time periods by four modes of travel: drive alone, 2-person carpool, 3~person carpool, and 4-or-more person carpool. The airport vehicle trips are merged with the other auto vehicle trips prior to the network assignment step. Air cargo truck trips are disaggregated into the regional model TAZs based on the North American Industry Classification System (NAICS) employment data. The daily air cargo trips are split into five time periods by three heavy-duty truck (HDT) types (light HDT, medium HDT, and heavy HDT) and merged with the HDT truck trips prior to network assignment.

Employment, Commodity Flow, Ports, and Warehouse Activities – These inputs to the transportation model are data related to the freight activities, including employment by industrial classification, commodity flows, seaports, warehousing, trucking and wholesale trade, etc.

Model Modules and Procedures

Household Classification and Population Synthesizer – This module classifies zonal households into several household segments. Prior to the application of Auto Ownership module, households are classified across the following four attributes:

1. Household Size (4 categories): the number of one-person households, two-person households, three-person households, and four or more person households.
2. Number of Workers (4 categories): the number of households with no worker, one worker, two workers, and three workers or more.
3. Household Income (4 categories): the number of households with annual household income (in 1999 dollars) less than $25K (Low), $25K–$50K (Medium), $50K–$100K (High), and $100K or more (Very High).
4. Type of Dwelling Unit (2 categories): single-family detached, and multi-family/ attached and group quarters.

For Home-Based-Work (HBW) trip generation, households are aggregated across the dwelling unit type and size attributes, and then further disaggregated into four Age of Head of Household groups (18 to 24 years old, 25 to 44 years old, 45 to 64 years old, and 65 years old or older).

The Population Synthesizer is a module that generates a synthetic population by expanding existing disaggregate sample data (from 2000 Census PUMS data) to mirror known aggregate distributions of household and person attributes (from SCAG zonal data). A set of population and household variables of interest are used as control variables in the population synthesizer. A synthetic population is generated for the entire SCAG region using this procedure.

Auto Ownership Model – The auto ownership model provides an estimate of households by auto ownership level (0, 1, 2, 3, 4 or more) for each zone. This information is used in trip generation models to estimate zonal person trips. The basic structure of the auto ownership model is a multinomial logit formulation, using input socioeconomic variables (household size, household income, number of workers, and type of dwelling unit) and land use and accessibility variables (mixed residential and employment, intersection density, transit accessibility, and non-motorized accessibility).

Trip Generation Model – Trip generation is the process of estimating daily person trips generated by (i.e., trip production) and attracted to (i.e., trip attraction) each TAZ on an average weekday. The trip generation model contains 9 trip purposes: home-based work (HBW), home-based school (HBSC), home¬based college/university (HBCU), home-based shopping (HBS), home-based social-recreational (HBSR), home-based serving-passenger (HBSP), home-based other (HBO), work-based other (WBO), and other-based other (OBO) trips. HBW trips are further split into 10 types based on trip categories ("Direct" versus "Strategic") and market segmentation (zero car households, households with fewer cars than workers, other households with income less than $25,000, income between $25,000 and $50,000, and income equal to or higher than $50,000). "Direct" home-work trips go directly between home and work. "Strategic" home-work trips include one or more intermediate stops between home and work. In total, there are 16 trip types: 8 types for home-based work, and one type for each of the other 8 trip purposes.

Trip Distribution Models – The trip distribution model estimates the number of trips from each TAZ to each other TAZ. Destination choice models are developed for HBW, HBS, HBSR, HBSP, HBO, WBO, and OBO trip purposes while a gravity model approach is used to distribute trips for HBSC and HBCU trip purposes. The trip distribution is estimated as a function of the attractiveness of the destination zone and the travel impedance from origin to destination. The destination choice models include other variables, such as intrazonal indicators, employment or residential density variables, and flags for special generators. For each of the 9 trip purposes, the productions and attractions are split into both peak and off-peak periods.

Mode Choice Models – Mode choice is the process of taking the zone-to-zone person trips by trip purpose from the trip distribution model, and determining how many of these trips are made by various travel modes. The SCAG mode choice model is a nested logit model. The top branch of the nesting structure includes Auto, Transit, and Non-Motorized. The branch under Auto includes Drive Alone and Shared Ride which is further split into 2-person carpool, 3-person carpool, and 4-or-more person carpool. The branch under Transit includes Local Bus, Rapid Bus, Express Bus, BRT, Transit Way, Urban Rail, Commuter Rail, and High Speed Rail (HSR). The branch under Non-Motorized includes Walk and Bicycle. Separate mode choice models are estimated for each trip purpose and time period. Mode choice is a function of level of service attributes (in-vehicle travel time, out-of-vehicle travel time, fares, parking fees, roadway tolls, auto operating costs), household attributes such as income, and zonal attributes such as residential and employment densities.

Heavy Duty Truck (HDT) Model – HDT trucks are defined by ARB as a truck with a gross vehicle weight of 8,500 pounds or more. The SCAG HDT Model includes internal truck and external truck trip models. The internal truck trips are generated using a cross¬classification method by applying truck trip rates for a two-digit NAICS code by the number of employees in that category and the number of households within each zone. The daily truck trip ends are distributed using a gravity model to create daily truck trips for each of the three truck types: I) light HDT, 2) medium HDT, and 3) heavy HDT. The external truck trips are developed using an econometric model to estimate inbound and outbound commodity flows by counties. The county to county commodity data are allocated to the zonal level based on NAICS employee distribution and then converted to trucks trips using observed data collected during model development. Seaport and airport related truck trips were included as special generator truck trips. The daily truck trips by truck types are allocated to five time periods and merged with the auto trips in trip assignment.

Network Assignment Model – Network assignment is the process of loading vehicle trips on the appropriate networks. For highway assignment, the Regional Model consists of a series of multi-class simultaneous equilibrium assignments for eight classes of of vehicles (drive alone, 2-person carpool using HOV, 2-person carpool using general purpose lanes, 3 or more person carpool using HOV, 3 or more person carpool using general purpose lanes, light HDT, medium HDT, and heavy HDT) and for each of the five time periods. During this assignment process, trucks are converted to Passenger Car Equivalent (PCE) for each link and each truck type based on 1) percentage of trucks, 2) percentage of grade, 3) length of the link, and 4) level of congestion (v/c ratios). Transit vehicles are also included in the highway assignment. For transit trip assignment, the final transit trips from the last loop mode choice models are aggregated by access mode and time period, and then assigned to transit networks for each time period. The vehicle trip tables obtained from mode choice, airport, and heavy duty models are aggregated to the 4,109 Tier1 zone system prior to network assignment.

Model Convergence – In order to maintain consistency between the speeds predicted by the highway assignment and the travel times input to the entire travel demand model chain, the predicted speeds are used to re-compute highway and transit travel times, and

the entire model sequence are repeated until input and output speeds are consistent with each other.

Highway Performance Monitoring System (HPMS) VMT-based Post-Process – In this step, the outputs from the Network Assignment Model, which including traffic volumes, speeds, VMT, Vehicle Hours Traveled (VHT), and Vehicle Hours of Delay (VHD) are adjusted so that the base-year model VMT by air-basin by county is consistent with HPMS VMT as appropriate.

Model Outputs

Population Synthesizer Outputs – The synthetic households by Number of Workers, Household Size, Household Income, and Type ofDwelling Unit, and a separate classification of households by Number of Workers, Age of Household Head, and Household Income are the outputs from the Population Synthesizer module and the inputs to the Trip Generation Model.

Auto Ownership Model Outputs – The auto ownership model generates households by auto ownership, in other words, the number of households with 0 car, I car, 2 cars, 3 cars, and 4 or more cars for each zone, which are the inputs to the Trip Generation Model.

Trip Generation Model Outputs – The output from trip generation model includes person trip tables by 9 trip purposes, of which HBW trips are further split into 8 types by 4 income groups and Direct/Strategic categories for both peak and off-peak periods. These 32 person trip tables are used individually in the Trip Distribution step.

Trip Distribution Model Outputs – The Trip Distribution Model distributes person trips from each trip production zone to each and every attraction zones, resulting in 32 person trip Production/Attraction (PIA) matrices, which are the inputs to the Mode Choice Model.

Mode Choice Model Outputs – The outputs from the Time of Day Model include passenger vehicle trip matrices in OD format by time period and occupancy level. These matrices are then combined with external trips, airport trips, and HDT trips to produce final vehicle OD matrices (3 passenger vehicle classes and 3 HDT classes in 5 time periods) for Network Assignment step. The 3 passenger vehicle classes are drive alone, 2-person carpool, and 3-person carpool. The 3 HDT classes are light HDT, medium HDT, and heavy HDT. Transit person trips matrices for each of five time periods are also produced in this step for transit assignment.

Network Assignment Model Outputs – Major outputs of the Network Assignment Model are highway and transit level of service attributes, including traffic flows and the associated speeds, VMT, VHT, and VHD on the highway networks as well as transit boarding and passenger loads on each transit line for each time period.

2012 RTP Modeling Assumptions

Socio-Economic Data – **TABLES 1** and **2** show population and employment summaries by county and air basin which reflect current trends. This forecast has been in development since 2010 under direction from the SCAG's Regional Council Community, Economic and Human Development Policy (CEHD) Committee and in collaboration with SCAG's subregions and local jurisdictions. The process involved several major steps outlined as follows:

1. Analysis of regional growth trends and estimates from sources ranging from the U.S. Departments of Commerce, Health and Human Services, Bureau of Labor Statistics and Internal Revenue Service and the California Department of Finance and Employment Development Department.
2. Analysis of key assumptions (fertility rate, mortality rate, net immigration, labor force rates, headship rates, etc.) and methodologies (cohort-component and shift-share models).
3. Review and feedback by SCAG's Plans and Programs Technical Advisory Committee, three Panel of Forecasting Experts, counties, subregions and cities including subregional workshops and one-on-one meetings.

The comprehensive discussion of the socio-economic data is included in the 2012 RTP Growth Forecast Report.

TABLE 1 Summary of Population Data

County	Air Basin	2008	2012	2014	2020	2030	2035
Imperial	SSAB	170,000	185,000	200,000	244,000	273,000	288,000
Los Angeles	SCAB	9,398,000	9,550,000	9,648,000	9,937,000	10,502,000	10,781,000
	MDAB	373,000	397,000	413,000	459,000	530,000	565,000
Orange	SCAB	2,989,000	3,070,000	3,119,000	3,266,000	3,411,000	3,421,000
Riverside	SCAB	1,683,000	1,786,000	1,842,000	1,994,000	2,304,000	2,460,000
	MDAB	28,000	34,000	38,000	48,000	65,000	73,000
	SSAB	418,000	462,000	486,000	553,000	719,000	803,000
San Bernardino	SCAB	1,510,000	1,560,000	1,592,000	1,684,000	1,865,000	1,956,000
	MDAB	506,000	531,000	547,000	591,000	722,000	788,000
Ventura	SCCAB	813,000	839,000	852,000	890,000	936,000	959,000
SCAG Region	SSAB	588,000	647,000	686,000	797,000	993,000	1,091,000
	SCAB	15,580,000	15,966,000	16,201,000	16,881,000	18,083,000	18,618,000
	MDAB	907,000	962,000	998,000	1,098,000	1,317,000	1,425,000
	SCCAB	813,000	839,000	852,000	890,000	936,000	959,000
	Total	**17,890,000**	**18,410,000**	**18,740,000**	**19,670,000**	**21,330,000**	**22,090,000**

Rounded to nearest thousand

TABLE 2 Summary of Employment Data

County	Air Basin	2008	2012	2014	2020	2030	2035
Imperial	SSAB	62,000	66,000	81,000	102,000	117,000	121,000
Los Angeles	SCAB	4,244,000	4,125,000	4,263,000	4,440,000	4,638,000	4,678,000
	MDAB	92,000	89,000	92,000	112,000	137,000	144,000
Orange	SCAB	1,624,000	1,510,000	1,535,000	1,626,000	1,738,000	1,779,000
Riverside	SCAB	495,000	484,000	574,000	709,000	887,000	933,000
	MDAB	7,000	7,000	8,000	11,000	14,000	14,000
	SSAB	162,000	158,000	187,000	220,000	279,000	295,000
San Bernardino	SCAB	591,000	568,000	619,000	676,000	824,000	868,000
	MDAB	110,000	106,000	115,000	136,000	177,000	191,000
Ventura	SCCAB	348,000	337,000	355,000	382,000	408,000	413,000
SCAG Region	SSAB	224,000	224,000	268,000	321,000	396,000	416,000
	SCAB	6,954,000	6,687,000	6,991,000	7,451,000	8,087,000	8,257,000
	MDAB	209,000	202,000	215,000	259,000	328,000	350,000
	SCCAB	348,000	337,000	355,000	382,000	408,000	413,000
	Total	**7,740,000**	**7,450,000**	**7,830,000**	**8,410,000**	**9,220,000**	**9,440,000**

Rounded to nearest thousand

Networks – A summary of the transportation system attributes for the highway and transit networks for Years 2008 to 2035 are shown in Tables 3, 4 and 5. Lane mile data includes freeway to freeway connectors. Other freeway ramps, freeway Type 3 lanes, and centroid connectors are not included. Note that values in the tables in this Report may not add exactly due to rounding. A detailed list of modeled projects is in the Modeling List Appendix.

TABLE 3 Summary of Highway Network Lane Miles

Network	Freeway/Toll	HOV/HOT	Arterials	Collectors	Total
SCAB					
2008	8,101	859	28,487	7,252	44,699
2012	8,172	909	28,785	7,269	45,135
2014 No Build	8,245	977	28,799	7,394	45,415
2014	8,293	977	29,044	7,396	45,710
2020 No Build	8,392	1,036	28,849	7,420	45,697
2020	8,678	1,307	30,192	7,736	47,913
2030 No Build	8,455	1,036	28,850	7,420	45,761
2030	9,000	1,470	30,653	8,024	49,147
2035 No Build	8,455	1,036	28,850	7,420	45,761
2035	9,261	1,578	31,155	8,143	50,137
SCCAB					
2008	503	0	1,852	684	3,039
2012	529	0	1,879	684	3,092
2014 No Build	529	8	1,879	684	3,100
2014	529	8	1,892	684	3,113
2020 No Build	529	8	1,885	695	3,117
2020	551	8	1,908	695	3,162
2030 No Build	529	8	1,885	695	3,117
2030	551	8	1,949	695	3,203
2035 No Build	529	8	1,885	695	3,117
2035	551	8	1,949	695	3,203

Network	Freeway/Toll	HOV/HOT	Arterials	Collectors	Total
MDAB					
2008	1,873	23	4,637	6,243	12,776
2012	1,876	23	4,710	6,277	12,886
2014 No Build	1,876	23	4,725	6,280	12,904
2014	1,891	23	4,888	6,347	13,149
2020 No Build	1,876	23	4,752	6,290	12,941
2020	2,119	69	5,745	6,553	14,486
2030 No Build	1,876	23	4,752	6,290	12,941
2030	2,208	78	5,832	6,737	14,855
2035 No Build	1,876	23	4,752	6,290	12,941
2035	2,208	81	5,843	6,840	14,972
SSAB (Coachella)					
2008	388	0	1,373	791	2,552
2012	388	0	1,414	804	2,606
2014 No Build	388	0	1,414	810	2,612
2014	388	0	1,476	808	2,672
2020 No Build	388	0	1,416	810	2,614
2020	393	0	1,667	894	2,954
2030 No Build	388	0	1,416	810	2,614
2030	422	0	1,791	1,001	3,214
2035 No Build	388	0	1,416	810	2,614
2035	422	0	1,800	1,039	3,261

Network	Freeway/Toll	HOV/HOT	Arterials	Collectors	Total
SSAB (Imperial)					
2008	379	0	1,068	2,464	3,911
2012	380	0	1,119	2,463	3,962
2014 No Build	380	0	1,117	2,465	3,962
2014	380	0	1,120	2,463	3,963
2020 No Build	380	0	1,117	2,465	3,962
2020	380	0	1,160	2,463	4,003
2030 No Build	380	0	1,117	2,465	3,962
2030	417	0	1,147	2,463	4,027
2035 No Build	380	0	1,117	2,465	3,962
2035	418	0	1,186	2,452	4,056
Total SCAG Region					
2008	11,244	882	37,417	17,434	66,977
2012	11,345	932	37,907	17,497	67,681
2014 No Build	11,418	1,008	37,934	17,633	67,993
2014	11,481	1,008	38,420	17,698	68,607
2020 No Build	11,565	1,067	38,019	17,680	68,331
2020	12,121	1,384	40,672	18,341	72,518
2030 No Build	11,628	1,067	38,020	17,680	68,395
2030	12,598	1,556	41,372	18,920	74,446
2035 No Build	11,628	1,067	38,020	17,680	68,395
2035	12,860	1,667	41,933	19,169	75,629

TABLE 4 Summary of Transit Route Pattern Miles

Network	Local Bus	Express Bus	Rail	HSRT	Total
2008	23,431	5,942	3,070	-	32,442
2012	23,441	6,019	3,088	-	32,548
2014 No Build	23,481	5,942	3,136	-	32,558
2014	23,520	6,066	3,136	-	32,722
2020 No Build	23,481	5,942	3,153	-	32,575
2020	23,659	6,066	3,208	-	32,933
2030 No Build	23,481	5,942	3,153		32,575
2030	23,739	6,259	3,524		33,522
2035 No Build	23,481	5,942	3,153	-	32,575
2035	25,022	7,143	3,415	184	35,764

TABLE 5 Summary of Transit Service Miles

Network	Local Bus	Express Bus	Rail	HSRT	Total
2008	646,939	113,275	32,431	-	792,646
2012	647,426	116,971	34,937	-	799,334
2014 No Build	651,039	113,275	35,513	-	799,827
2014	653,522	123,133	35,513	-	812,169
2020 No Build	651,039	113,275	38,318	-	802,632
2020	662,813	123,133	44,549	-	830,495
2030 No Build	651,039	113,275	38,318		802,632
2030	667,988	132,429	67,178		867,595
2035 No Build	651,039	113,275	38,318	-	802,632
2035	716,744	159,686	70,240	5,719	952,388

Work-at-Home and Telecommuting – Home-Based-Work trips were reduced for Work-at-Home and Telecommuting. In year 2000, Work-at-Home trips were 3.58 percent and Telecommute trips were 3.34 percent for a total Home-Based-Work trip reduction of 6.92 percent. Trip rates used in trip generation are based on the 2000 Travel Survey. **TABLE 6** below shows the total reductions to the home-based-work person trips over the 2000 base as applied in the trip generation model.

TABLE 6 Total Home–Based-Work Person Trip Reductions

Category	2000	2008	2012	2014	2020	2030	2035
Work-at-Home	3.58%	4.41%	4.62%	5.03%	5.65%	6.69%	7.21%
Telecommute	3.34%	3.73%	4.74%	5.86%	11.10%	13.51%	14.90%
Total Trip Reductions	6.92%	8.14%	9.36%	10.89%	16.75%	20.20%	22.11%
Increase over 2000 Base	0.00%	1.22%	2.44%	3.97%	9.83%	13.28%	15.19%

Auto Operating Cost – There are two components used in calculating auto operating cost: the cost of gasoline and "other" costs. The "other" costs category includes costs for repairs, light maintenance, lubrication, tires, and accessories. The assumption used in the modeling work is that if an auto is available at the household then the depreciation of the car and the insurance costs are already being paid for whether the car is left at home or used for commuting to work. **TABLE 7** lists the auto operating costs used for 2012 RTP. All costs are in 1999 constant dollars. Note: costs are expressed in 1999-dollar values for input into the mode choice models. Auto Operating costs are calculated using the following formula: Auto Operating Cost = Fuel Cost / Fuel Economy + Other Costs.

TABLE 7 Auto Operating Costs

Category	2008	2012	2014	2020	2030	2035
Auto Operating Cost *	20.63	21.58	22.05	23.47	23.67	25.77

** Cents/mile; year 1999 constant $. 2035 includes a two cents vmt fee.*

Transit Fares – The transit network includes three types of transit fares: base boarding fares, zone fares, and transfer fares; and two types of fare factors: base fare factor and transfer fare factor. Fare values were collected through the Transit Level of Service Data Collection program. Considering the complex fare structure for most carriers only published full cash fares for initial boarding and transfers are used to represent the base fare and transfer fare. To account for the revenue composition of different fare types, such as one-way walkup fares, daily/weekly/monthly passes, Senior/Student/Disabled fares, and other special fares, base fare factors and transfer fare factors are estimated from the boarding and revenue data provided by transit operators. By applying fare factors to the published full cash fare, the resulting fares represent actual fares paid by an average passenger. Finally, all boarding fares (base fare and transfer fare) are converted into 1999 dollars using a CPI adjustment factor derived from the CPI factor published by the US Department of Labor for the Los Angeles-Riverside-Orange County metropolitan area.

The fare structure varies significantly by operator and by service for the same operator. For example, LACMTA has both local and express bus service. For local bus, the general fare is a flat rate of $1.25. For express bus, there is a surcharge of $0.60 for each zone in addition to the $1.25 fare. As However, OCTA, another major operator in the region, charges a general fare of $1.50 for local bus. For express bus, the fare is a flat rate of $3.00 or $4.50 depending on the route. To accommodate variations in the fares for different routes, the transit network codes general flat fares (i.e., base fares, transfer fares) at the route level, while the fare factors are calculated at the carrier level.

Two other major operators, Metrolink and Amtrak, follow a zone-based fare structure. For example, Metrolink fares are calculated with a distance-based formula using the shortest driving distance between stations, with an 80-mile maximum charge. To capture the published cash fare between two station pairs, a fare matrix was developed for Metrolink and Amtrak. Similarly, the LACMTA Express bus and LADOT Commuter Express bus that have zone-based fare are also included as a zone-to-zone fare matrix.

Similar to the development of fare factors for flat-rate routes, a fare factor matrix was developed based on Metrolink sales and boarding data to represent the weighted average fare for each station pair. In addition, regression analysis was conducted to generate the relationship between the distance and fares for Metrolink to predict future fares for new stations.

No real cost increase in transit fares was assumed from 2008 to 2035.

Non-Motorized Trips – 2035 Plan scenario assumes that there will be a shift of approximately one percent of the motorized trips to non-motorized forms of travel (i.e., walking and bicycling) due to the RTP's investment in active transportation.

Capacity and Free Flow Speed – Highway capacities (including for heavy duty truck) used in the Model for each of the facility types vary, depending on area location (i.e., CBD, urban, suburban, rural, or mountain). Free flow speeds are based on posted speeds.

TABLE 8 Highway Capacities and Free Flow Speeds Used in the Model

Facility Type	Vehicles / Lane / Hour	Free Flow Speed (MPH)
Freeway (MF, HOV)	1,900 – 2,100	60 – 75
Principal Arterial	475 – 975	21 – 56
Other Arterial	475 – 975	19 – 55
Collector	375 – 975	17 – 52

Toll Roads – There were approximately 325 lane miles of toll roads in 2008, increasing to about 1,600 toll/HOT lanes in 2035. This includes a regional Express Lane network (**TABLE 9**) that would build upon the success of the 91 Express Lanes and TCA Toll Roads in Orange County and two demonstration projects in Los Angeles County.

TABLE 9 Express/HOT Lane Network

County	Route	From	To
Los Angeles	I-405	I-5 (North SF Valley)	LA/OC County Line
Los Angeles	I-110	Adams Blvd (s/o I-10)	I-405
Los Angeles	I and SR-110	Adams Blvd	US-101
Los Angeles	US-101	SR-110	I-10
Los Angeles	I-10	US-101	I-710
Los Angeles	I-10	I-710	I-605
LA, Orange	SR-91	I-110	SR-55
LA, SB	I-10	I-605	I-15
Orange	I-405	LA/OC Line	SR-55
Orange	I-5	SR-73	OC/SD County Line
Orange	SR-73	I-405	MacArthur
Riverside	SR-91	OC/RV County Line	I-15
Riverside	I-15	Riv/SB County Line	SR-74
Riverside	I-15	SR-74	Riv/SD County Line
San Bernardino	I-10	I-15	SR-210
San Bernardino	I-10	SR-210	Ford St
San Bernardino	I-15	SR-395	Sierra Ave
San Bernardino	I-15	Sierra Ave	6th St
San Bernardino	I-15	6th St	Riv/SB County Line

The effect of the toll charges on the toll roads was incorporated into the highway assignment procedure. The toll charge was added to each toll facility by inserting the cost to the appropriate link and identifying the link with a unique Toll Class Number. Toll costs (in 1999 dollars) were converted to a time value (in minutes) in the network assignment step.

ITS – The speeds and capacities on Smart Streets were increased by 5 percent to reflect the improved traffic flow due to the ATT/IVHS.

TABLE 10 Conformity Requirements Related to Travel Demand Model

CFR	Requirement	How Requirement is Satisfied
93.122(b)(1)(i)	Network-based travel models must be validated against observed counts (peak and off-peak, if possible) for a base year that is not more than 10 years prior to the date of the conformity determination. Model forecasts must be analyzed for reasonableness and compared to historical trends and other factors, and the results must be documented.	The SCAG travel demand models were estimated and calibrated using data from SCAG's Year 2000 Post-Census Regional Travel Survey, 2003 External Travel Survey, the 2010 US Census and various Transit on-board Surveys. The model was validated against 2008 ground counts and 2008 HPMS data.
93.122(b)(1)(ii)	Land use, population, employment, and other network-based travel model assumptions must be documented and based on the best available information.	All land use, population, households, employment, and network-based model assumptions were updated for 2012 RTP and documented in 2012 RTP Growth Forecast Report and this Conformity Report.
93.122(b)(1)(iii)	Scenarios of land development and use must be consistent with the future transportation system alternatives for which emissions are being estimated. The distribution of employment and residences for different transportation options must be reasonable.	Land development and use are consistent with future transportation systems. The distribution of employment, population, and household is reasonable with respect to the transport systems.
93.122(b)(1)(iv)	A capacity-sensitive assignment methodology must be used, and emissions estimates must be based on a methodology which differentiates between peak and off-peak link volumes and speeds and uses speeds based on final assigned volumes.	The SCAG travel demand model includes separate multi-modal user equilibrium assignments for peak and off-peak time periods. The network assignments are capacity-sensitive. Link speeds are calculated based on final assigned volumes.
93.122(b)(1)(v)	Zone-to-zone travel impedances used to distribute trips between origin and destination pairs must be in reasonable agreement with the travel times that are estimated from final assigned traffic volumes. Where use of transit currently is anticipated to be a significant factor in satisfying transportation demand, these times should also be used for modeling mode splits.	The SCAG travel demand model includes full feedback of travel time among trip generation, trip distribution, mode choice, and trip assignment steps. Both highway and transit times are included in the mode choice model.

SUMMARY OF REGIONAL VEHICLE MILES TRAVELED

Table 11 on the next page is a summariy of VMT in 1,000-mile increments by air basin. VMT data were produced from the SCAG Regional Travel Model and does not include VMT from school buses, urban buses, and motor homes (non-modeled). These non-modeled VMT were provided by the ARB and are included in the emissions analysis.

TABLE 11 VMT Summary (in Thousands)

AIR BASIN	L&MD	HD	TOTAL	L&MD	HD	TOTAL
		2008			**2012**	
SCCAB	18,679	954	19,633	18,872	953	19,824
SCAB	355,042	21,724	376,766	355,171	20,423	375,594
MDAB	27,822	5,028	32,850	28,870	5,317	34,186
SSAB	14,100	2,494	16,594	15,409	2,565	17,974
Total	415,642	30,201	445,843	418,321	29,258	447,579
		2014 NO-BUILD			**2014**	
SCCAB	19,364	988	20,352	19,174	992	20,166
SCAB	363,817	21,255	385,072	361,309	21,368	382,677
MDAB	30,101	5,604	35,705	29,903	5,610	35,514
SSAB	16,964	2,783	19,747	16,812	2,782	19,594
Total	430,246	30,630	460,876	427,199	30,752	457,950
		2020 NO-BUILD			**2020**	
SCCAB	19,917	1,156	21,073	19,267	1,118	20,385
SCAB	377,563	25,046	402,609	364,660	24,791	389,451
MDAB	34,313	6,390	40,702	34,254	6,678	40,933
SSAB	19,425	3,531	22,956	18,889	3,489	22,378
Total	451,218	36,123	487,341	437,070	36,076	473,147
		2030 NO-BUILD			**2030**	
SCCAB	20,386	1,348	21,734	19,622	1,362	20,984
SCAB	392,193	30,899	423,092	389,184	28,852	418,036
MDAB	41,385	9,251	50,636	40,530	9,391	49,921
SSAB	23,069	5,048	28,118	22,285	5,025	27,309
Total	477,032	46,547	523,579	471,619	44,630	516,250
		2035 NO-BUILD			**2035**	
SCCAB	20,814	1,486	22,301	19,089	1,498	20,588
SCAB	402,256	35,517	437,772	380,976	33,802	414,779
MDAB	44,829	11,649	56,478	42,622	12,065	54,687
SSAB	24,631	5,772	30,403	22,711	5,762	28,472
Total	492,530	54,423	546,954	465,398	53,127	518,525

2012 RTP Regional Emissions Analysis

EPA's Transportation Conformity Rule requires that the 2012 RTP regional emissions be consistent with (i.e., not exceed) the motor vehicle emissions budgets in the applicable SIPs. Consistency with emissions budgets must be demonstrated for each year that the applicable emissions budgets are established, for the transportation planning horizon year, and for any milestone years as necessary so that the years for which consistency is demonstrated are no more than ten years apart. Where there are no EPA approved SIP budgets, an interim emission test is used for conformity. For the interim emissions tests, the build scenario's emissions must be less than or equal to the no-build scenario's emissions and/or the build scenario's emissions must be less than or equal to the base year. Listed below is a description of the various network scenarios.

2012 RTP Conformity Base Year – The conformity base year for 8-hour ozone and $PM_{2.5}$ is 2002; for all other pollutants the conformity base year is 1990.

2012 RTP No Build – The "No Build" scenario includes all existing regionally significant highway and transit projects, all ongoing TDM or TSM activities, and all projects which are undergoing right-of-way acquisition, are currently under construction, have completed the NEPA process, or are in the first year of the previously conforming FTIP (2011).

2012 RTP Build – The "Build" scenario is generally defined as all RTP projects, including the 2012 RTP No Build, and the future transportation system that will result from full implementation of the 2011 FTIP and the 2012 RTP.

For more specific individual project information as part of the RTP modeling and regional emissions analysis, refer to the 2012 RTP Modeled Projects list available at www.scag.ca.gov/rtp2012.

Section 93.122(d)(2) of the EPA Transportation Conformity Rule requires that in PM non-attainment and maintenance areas for which the SIPs identify construction-related fugitive dust as a contributor to the area problem, the regional emissions analysis should include construction-related fugitive PM. Of the SCAG PM non-attainment areas, only the SCAB and the Coachella Valley portion of SSAB have PM SIPs. The relevant emissions budgets for these two areas include construction emissions, and the 2012 RTP PM regional emissions analyses includes construction emissions as appropriate.

The on-road motor emissions estimates for the 2012 RTP were analyzed using the EMFAC2007 emission model developed by ARB. For paved road dust, SCAG uses the approved South Coast AQMD methodology, which uses EPA's AP-42 for the Base Year and a combination of additional growth in center-line miles and VMT for future years.

Required Regional Emissions Tests for 2012 RTP

The required regional emissions tests for the 2012 RTP are presented in Table 12. Since transportation conformity findings are needed out to the RTP's horizon year (i.e. 2035), the latest budget years deemed adequate by U.S. EPA serve as the budgets for future years in each emissions test.

TABLE 12 Required Regional Emissions Test for 2012 RTP

Year	8-hr Ozone	$PM_{2.5}$	PM_{10}	CO	NO_2
2012	CV	SC			
2014	CV, IMP, SC, VEN, WMD	IMP*, SC	CV, IMP*, MD*, SC		SC
2015**				SC	
2017**	SC				
2020	CV, IMP, SC, VEN, WMD	IMP*, SC	CV, IMP*, MD*, SC	SC	SC
2030	CV, IMP, SC, VEN, WMD	IMP*, SC	CV, IMP*, MD*, SC	SC	SC
2035	CV, IMP, SC, VEN, WMD	IMP*, SC	CV, IMP*, MD*, SC	SC	SC

SC = South Coast Air Basin; CV = Coachella Valley (SSAB); VEN = Ventura County (SCCAB); WMD = Western Mojave (Antelope/Victor Valleys); MD = Mojave Desert (San Bernardino Portion and Searles Valley portions); IMP Imperial County (SSAB);
** Build/No-Build test (all other are budget tests); ** Interpolated per conformity rule.*

Summary of Regional Emissions Analysis

The following tables summarize the required regional emission analyses for each of the non-attainment areas within SCAG's jurisdiction. For those areas which require budget tests, the RTP emissions values in the summary tables below utilize the rounding convention used by ARB to set the budgets (i.e., any fraction rounded up to the nearest ton), and are the basis of the conformity findings for these areas.

SOUTH CENTRAL COAST AIR BASIN – VENTURA COUNTY PORTION

TABLE 13 8-Hour Ozone (Summer Planning Emissions [Tons/Day])

Pollutant		2014	2020	2030	2035
ROG	Budget	13	13	13	13
	Plan	9	7	5	5
Budget – Plan		4	6	8	8
NOx	Budget	19	19	19	19
	Plan	14	9	6	6
Budget – Plan		5	10	13	13

SOUTH COAST AIR BASIN

TABLE 14 8-Hour Ozone (Summer Planning Emissions [Tons/Day])

Pollutant		2014	2017	2020	2030	2035
ROG	Budget	150	131	116	116	116
	Plan	141	125	108	82	74
Budget – Plan		9	6	8	34	42
NOx	Budget	287	232	190	190	190
	Plan	267	219	170	124	119
Budget – Plan		20	13	20	66	71

TABLE 15 $PM_{2.5}$ (Annual Emissions [Tons/Day])

Pollutant		2012	2014	2020	2030	2035
ROG	Budget	154	132	132	132	132
	Plan	145	124	105	73	66
Budget – Plan		9	8	27	59	66
NO_X	Budget	326	290	290	290	290
	Plan	308	270	184	111	109
Budget – Plan		18	20	106	179	181
$PM_{2.5}$	Budget	37	35	35	35	35
	Plan	35	33	25	18	19
Budget – Plan		2	2	10	17	16

TABLE 16 PM_{10} (Annual Emissions [Tons/Day])

Pollutant		2014	2020	2030	2035
ROG	Budget	251	251	251	251
	Plan	138	105	79	71
Budget – Plan		113	146	172	180
NO_X	Budget	549	549	549	549
	Plan	286	184	126	120
Budget – Plan		263	365	423	429
PM_{10}	Budget	166	166	166	166
	Plan	162	154	158	162
Budget – Plan		4	12	8	4

TABLE 17 CO (Winter Emissions [Tons/Day])

Pollutant		2015	2020	2030	2035
CO	Budget	2,137	2,137	2,137	2,137
	Plan	1,219	875	590	523
Budget – Plan		918	1,262	1,547	1,614

TABLE 18 NO_2 (Winter Emissions [Tons/Day])

Pollutant		2014	2020	2030	2035
NO_2	Budget	680	680	680	680
	Plan	306	196	133	126
Budget – Plan		374	484	547	554

WESTERN MOJAVE DESERT AIR BASIN – ANTELOPE VALLEY PORTION OF LOS ANGELES COUNTY AND SAN BERNARDINO COUNTY PORTION OF MDAB EXCLUDING SEARLES VALLEY

TABLE 19 8-Hour Ozone (Summer Planning Emissions [Tons/Day])

Pollutant		2014	2020	2030	2035
ROG	Budget	22	22	22	22
	Plan	13	10	8	8
Budget – Plan		9	12	14	14
NO_X	Budget	77	77	77	77
	Plan	34	24	20	22
Budget – Plan		43	53	57	55

MOJAVE DESERT AIR BASIN – SAN BERNARDINO COUNTY PORTION

TABLE 20 PM_{10} (Annual Emissions [Tons/Day])

		2014	2020	2030	2035
PM_{10}	No Build	6.2	6.4	7.5	8.3
	Build	5.6	5.9	7.1	7.9
No Build – Build		0.6	0.5	0.4	0.4

MOJAVE DESERT AIR BASIN – SEARLES VALLEY PORTION

TABLE 21 PM_{10} (Annual Emissions [Tons/Day])

		2014	2020	2030	2035
PM_{10}	No Build	0.1	0.1	0.1	0.1
	Build	0.1	0.1	0.1	0.1
No Build – Build		0.0	0.0	0.0	0.0

SALTON SEA AIR BASIN – COACHELLA VALLEY PORTION

TABLE 22 8-Hour Ozone (Summer Planning Emissions [Tons/Day])

Pollutant		2012	2014	2020	2030	2035
ROG	Budget	7	7	7	7	7
	Plan	6	6	5	4	4
Budget – Plan		1	1	2	3	3
NO_X	Budget	26	26	26	26	26
	Plan	19	18	12	11	11
Budget – Plan		7	8	14	15	15

TABLE 23 PM_{10} (Annual Emissions [Tons/Day])

		2014	2020	2030	2035
PM_{10}	Budget	10.9	10.9	10.9	10.9
	Plan	8.0	7.6	7.5	7.7
Budget – Plan		2.9	3.3	3.4	3.2

Note: budget set to one decimal place by 2003 Coachella SIP.

SALTON SEA AIR BASIN – IMPERIAL COUNTY PORTION

TABLE 24 Ozone (Summer Planning Emissions [Tons/Day])

Pollutant		2014	2020	2030	2035
ROG	Budget	7	7	7	7
	Plan	5	4	4	4
Budget – Plan		2	3	3	3
NO_X	Budget	17	17	17	17
	Plan	13	9	9	10
Budget – Plan		4	8	8	7

TABLE 25 $PM_{2.5}$ (Annual Emissions [Tons/Day])

Pollutant		2014	2020	2030	2035
PM_{10}	No Build	1.0	1.0	1.1	1.2
	Build	0.9	0.9	1.1	1.1
No Build – Build		0.1	0.1	0.0	0.1

TABLE 26 PM_{10} (Annual Emissions [Tons/Day])

Pollutant		2014	2020	2030	2035
PM_{10}	No Build	3.7	4.4	4.9	5.2
	Build	3.5	4.2	4.6	4.8
No Build – Build		0.2	0.2	0.3	0.4

Detailed Emissions Analyses

The following tables present further detail of the emissions analyses for all non-attainment and maintenance areas within SCAG's jurisdiction.

SOUTH CENTRAL COAST AIR BASIN – VENTURA COUNTY PORTION

TABLE 27 8-Hour Ozone (Summer Planning Emissions [Tons/Day])

Pollutant		2014	2020	2030	2035
ROG	2012 RTP	8.6	6.8	5.0	4.3
Total Emissions		9	7	5	5
Emission Budget		13	13	13	13
Budget – Emissions		4	6	8	8
NOx	2012 RTP	13.2	8.6	5.7	5.2
Total Emissions		14	9	6	6
Emission Budget		19	19	19	19
Budget – Plan		5	10	13	13

SOUTH COAST AIR BASIN

TABLE 28 8-Hour Ozone (Summer Planning Emissions [Tons/Day])

Pollutant		2014	2017	2020	2030	2035
ROG	2012 RTP	141.4	125.1	108.9	81.9	73.8
Baseline Adjustments *		-0.7	-1.0	-1.2	0.0	0.0
Sum		140.7	124.1	107.7	81.9	73.8
Total Emissions		141	125	108	82	74
Emission Budget **		150	131	116	116	116
Budget – Emissions		9	6	8	34	42
NO_X	2012 RTP	280.4	230.3	180.2	123.8	118.3
Baseline Adjustments *		-13.4	-12.0	-10.4	0.0	0.0
Sum		267.0	218.3	169.8	123.8	118.3
Total Emissions		267	219	170	124	119
Emission Budget		287	232	190	190	190
Budget – Emissions		20	13	20	66	71

** Provided by ARB*

TABLE 29 $PM_{2.5}$ (Annual Emissions [Tons/Day])

Pollutant		2012	2014	2020	2030	2035
ROG	2012 RTP	154.1	137.5	104.9	78.5	70.9
Adjustment for Adopted State and Local On-road Measures*		-0.4	-0.6	n/a	-1.5	-1.5
State Strategy-On-road Reductions*		-8.7	-13.6	n/a	-4.8	-4.3
Sum		145.0	123.3	104.9	72.2	65.1
Total Emissions		145	124	105	73	66
Emission Budget		154	132	132	132	132
Budget – Emissions		9	8	27	59	66
NO_X	2012 RTP	332.3	285.9	183.4	125.5	119.6
Adjustment for Adopted State and Local On-Road Measures*		-1.4	-1.4	n/a	-0.1	-0.1
State Strategy – On-road Reductions*		-23.7	-15.1	n/a	-15.1	-11.2
Sum		307.2	269.4	183.4	110.3	108.3
Total Emissions		308	270	184	111	109
Emission Budget		326	290	290	290	290
Budget – Emissions		18	20	106	179	181
$PM_{2.5}$	2012 RTP	15.6	15.2	14.1	14.0	14.2
Re-entrained Road Dust Paved		19.1	19.4	19.8	21.4	22.0
Re-entrained Road Dust Unpaved *		1.0	1.0	1.0	1.0	1.0
Road Construction Dust *		0.2	0.2	0.2	0.2	0.2
Adjustment for Adopted State and Local On-road Measures*		-0.1	-0.2	n/a	-0.3	-0.3
State Strategy – On-road Reductions*		-1.4	-2.8	n/a	-0.5	-0.3
Adjustment from NO_X to $PM_{2.5}$ Trading**		N/A	N/A	-10.6	-17.9	-18.1
Sum		34.4	32.8	24.5	17.9	18.7
Total Emissions**		35	33	25	18	19
Emission Budget		37	35	35	35	35
Budget – Emissions		2	2	10	17	16

** The detailed $PM_{2.5}$ emission budgets are provided by ARB on March 8, 2012 (Table 29A).*
*** The Plan $PM_{2.5}$ emissions for years after 2014 are calculated with the NO_X to $PM_{2.5}$ (10 to 1) trading mechanism as approved by EPA on November 9, 2011*

TABLE 29A South Coast $PM_{2.5}$ Plan Transportation Conformity Budgets (Annual Emissions [Tons/Day])

	2012	2014	2023	2030	2035
South Coast Air Basin – ROG					
Baseline Emissions (EMFAC 2007 Default)	162.6	146.1			
Adjustments for Adopted State and Local On-road Measures	-0.4	-0.6	-1.5	-1.5	-1.5
AB1493	-0.2	-0.4	-1.5	-1.5	-1.5
Moyer (on-road portion)	-0.1	-0.1	0.0	0.0	0.0
State Strategy - On-road Reductions* (Estimated)	-8.7	-13.6	-6.2	-4.8	-4.3
Smog Check	0.0	-4.7	-2.8	-2.8	-2.8
Reformulated Gasoline	-4.2	-3.9	-2.3	-2.3	-2.3
Cleaner in use HD Diesel Trucks	-4.5	-5.0	-1.1	0.4	0.8
Proposed Local Strategy – On-road Reductions					
SUM	153.5	131.9			
Budget	154	132			
South Coast Air Basin - NO_X	2012	2014	2023	2030	2035
Baseline Emissions (EMFAC 2007 Default)	350.8	305.7			
Adjustments for Adopted State and Local On-road Measures	-1.4	-1.4	-0.1	-0.1	-0.1
AB1493	0.0	0.0	-0.1	-0.1	-0.1
Moyer (on-road portion)	-1.4	-1.4	0.0	0.0	0.0
State Strategy – On-road Reductions*	-23.7	-15.1	-28.8	-15.1	-11.2
Smog Check	0.0	-2.7	-1.2	-1.2	-1.2
Cleaner in use HD Diesel Trucks	-23.7	-12.4	-27.6	-13.9	-10.0
Proposed Local Strategy – On-road Reductions					
SUM	325.6	289.2			
Budget	326	290			

	2012	2014	2023	2030	2035
South Coast Air Basin – $PM_{2.5}$	2012	2014	2023	2030	2035
Baseline Emissions (EMFAC 2007 Default)	17.5	17.2			
Paved Road Dust	18.8	19.0			
Un-paved Road Dust	1.0	1.0	1.0	1.0	1.0
Road Construction Dust	0.2	0.2	0.2	0.2	0.2
Adjustments for Adopted State and Local On-road Measures	-0.1	-0.2	-0.3	-0.3	-0.3
AB1493	0.0	-0.2	-0.3	-0.3	-0.3
Moyer (on-road portion)	-0.1	-0.1	0.0	0.0	0.0
State Strategy – On-road Reductions*	-1.4	-2.8	-1.1	-0.5	-0.2
Smog Check	0.0	-0.2	-0.2	-0.2	-0.2
Cleaner in use HD Diesel Trucks	-1.4	-2.6	-0.9	-0.3	0.0
Proposed Local Strategy – On-road Reductions					
SUM	36.1	34.5			
Budget	37	35			

TABLE 30 PM_{10} (Annual [Tons/Day])

Pollutant		2014	2020	2030	2035
ROG	2012 RTP	137.5	104.9	78.5	70.9
	Total Emissions	138	105	79	71
	Emission Budget	251	251	251	251
	Budget – Emissions	113	146	172	180
NO_X	2012 RTP	285.9	183.4	125.5	119.6
	Total Emissions	286	184	126	120
	Emission Budget	549	549	549	549
	Budget – Emissions	263	365	423	429
PM_{10}	2012 RTP	22.1	21.1	21.4	21.7
	Re entrained Road Dust Paved	128.4	130.9	141.5	145.2
	Re entrained Road Dust Unpaved*	8.7	8.7	8.7	8.7
	Road Construction Dust*	2.2	2.2	2.2	2.2
	AQMD Backstop**	0.0	-9.0	-16.0	-16.0
	Sum	161.4	153.9	157.8	162.0
	Total Emissions	162	154	158	162
	Emission Budget	166	166	166	166
	Budget – Emissions	4	12	8	4

**Provided by SCAQMD.*

***AQMP Backstop Measure: There is projected long-term growth in direct PM10 emissions due to increased vehicle travel on paved and unpaved roads. To address this increase in primary PM10 emissions from travel while continuing to provide for attainment after 2006, the 2003 AQMP included the "Transportation Conformity Budget Backstop Control Measure" which commits to achieve additional PM10 reductions from transportation-related PM10 source categories in future years to offset the increased emissions.*

TABLE 31 CO (Winter Emissions [Tons/Day])

Pollutant		2015	2020	2030	2035
CO	2012 RTP	1218.9	874.4	589.7	522.8
Total Emissions		1,219	875	590	523
Emission Budgets		2,137	2,137	2,137	2,137
Budget – Emissions		918	1,262	1,547	1,614

TABLE 32 NO_2 (Winter Emissions [Tons/Day])

Pollutant		2014	2020	2030	2035
NO_2	2012 RTP	305.6	195.1	132.3	125.6
Total Emissions		306	196	133	126
Emission Budgets		680	680	680	680
Budget – Plan		374	484	547	554

WESTERN MOJAVE DESERT AIR BASIN – ANTELOPE VALLEY PORTION OF LOS ANGELES COUNTY AND SAN BERNARDINO COUNTY PORTION OF MDAB EXCLUDING SEARLES VALLEY

TABLE 33 8-Hour Ozone (Summer Planning Emissions [Tons/Day])

Pollutant		2014	2020	2030	2035
ROG	2012 RTP	12.2	9.4	7.9	7.7
Total Emissions		13	10	8	8
Emission Budget		22	22	22	22
Budget – Emissions		9	12	14	14
NOx	2012 RTP	33.3	23.2	20.0	21.9
Total Emissions		34	24	20	22
Emission Budget		77	77	77	77
Budget – Emissions		43	53	57	55

MOJAVE DESERT AIR BASIN – SAN BERNARDINO COUNTY PORTION

TABLE 34 PM_{10} (Annual Emissions [Tons/Day])

	2014	2020	2030	2035
2012 RTP No-Build				
Re-entrained Road Dust	4.0	4.4	5.3	5.7
Motor Vehicle	2.2	2.0	2.2	2.6
Total Emissions	6.2	6.4	7.5	8.3
2012 RTP Build				
Re-entrained Road Dust	4.0	4.5	5.3	5.6
Paving Unpaved Roads	-0.6	-0.6	-0.4	-0.3
Motor Vehicle	2.2	2.0	2.2	2.6
Total Emissions	5.6	5.9	7.1	7.9
No Build – Build	0.6	0.5	0.4	0.4

MOJAVE DESERT AIR BASIN – SEARLES VALLEY PORTION

TABLE 35 PM_{10} (Annual Emissions [Tons/Day])

		2014	2020	2030	2035
PM_{10}	No Build	0.1	0.1	0.1	0.1
	Build	0.1	0.1	0.1	0.1
No Build – Build		0.0	0.0	0.0	0.0

SALTON SEA AIR BASIN – COACHELLA VALLEY PORTION

TABLE 36 8-Hour Ozone (Summer Planning Emissions [Tons/Day])

Pollutant		2012	2014	2020	2030	2035
ROG	2012 RTP	5.8	5.2	4.2	3.5	3.4
Total Emissions		6	6	5	4	4
Emission Budget		7	7	7	7	7
Budget – Emissions		1	1	2	3	3
NO_X	2012 RTP	20.7	17.9	11.8	10.1	10.6
Baseline Adjustment *		-2.0	0.0	0.0	0.0	0.0
Sum		18.3	17.9	11.8	10.1	10.6
Total Emissions		19	18	12	11	11
Emission Budget		26	26	26	26	26
Budget – Emissions		7	8	14	15	15

** Provided by ARB.*

TABLE 37 PM_{10} (Annual [Tons/Day])

Pollutant	2014	2020	2030	2035
2012 RTP	1.1	1.0	1.1	1.2
Re-entrained Road Dust Paved	3.1	3.3	3.5	3.6
Re-entrained Road Dust Unpaved *	3.7	3.3	2.8	2.8
Road Construction Dust *	0.1	0.1	0.1	0.1
Total Emissions	8.0	7.6	7.5	7.7
Emission Budget	10.9	10.9	10.9	10.9
Budget – Emissions	2.9	3.3	3.4	3.2

** Provided by SCAQMD.*

SALTON SEA AIR BASIN – IMPERIAL COUNTY PORTION

TABLE 38 8-Hour Ozone (Summer Planning Emissions [Tons/Day])

Pollutant		2014	2020	2030	2035
ROG	2012 RTP	4.5	3.7	3.5	3.6
Total Emissions		5	4	4	4
Emission Budget		7	7	7	7
Budget – Emissions		2	3	3	3
NO_X	2012 RTP	12.2	8.7	8.8	9.5
Total Emissions		13	9	9	10
Emission Budget		17	17	17	17
Budget – Plan		4	8	8	7

TABLE 39 $PM_{2.5}$ (Annual [Tons/Day])

	2014	2020	2030	2035
2012 RTP No-Build				
Re-entrained Road Dust	0.5	0.6	0.6	0.7
Motor Vehicle	0.5	0.4	0.5	0.5
Total Emissions	1.0	1.0	1.1	1.2
2012 RTP Build				
Re-entrained Road Dust	0.4	0.5	0.6	0.6
Motor Vehicle	0.5	0.4	0.5	0.5
Total Emissions	0.9	0.9	1.1	1.1
No Build – Build	0.1	0.1	0.0	0.1

TABLE 40 PM_{10} (Annual [Tons/Day])

	2014	2020	2030	2035
2012 RTP No-Build				
Re-entrained Road Dust	3.1	3.8	4.2	4.4
Motor Vehicle	0.6	0.6	0.7	0.8
Total Emissions	3.7	4.4	4.9	5.2
2012 RTP Build				
Re-entrained Road Dust	2.9	3.6	3.9	4.0
Motor Vehicle	0.6	0.6	0.7	0.8
Total Emissions	3.5	4.2	4.6	4.8
No Build – Build	0.2	0.2	0.3	0.4

Section III: Timely Implementation of Transportation Control Measures

Introduction

This section itemizes and reports the findings of timely implementation of TCM projects as specified in the fiscally constrained portion, or the first two years (i.e., FY 2010/11-2011/12), of the 2011 FTIP. These projects comprise the committed TCMs in the 2012 RTP. The findings are required only for the applicable TCM projects contained in the approved SIPs which, in the SCAG Region, are the ozone attainment plans for the SCAB and the Ventura County portion of the SCCAB.

Transportation Conformity Rule

The criteria for identifying TCM projects and the requirements for timely implementation of these projects are defined in the U.S. EPA's Transportation Conformity Rule, 40 CFR Part 93:

A TCM is any measure that is specifically identified and committed to in the applicable implementation plan, including a substitute or additional TCM that is incorporated into the applicable SIP through the process established in CAA section 176(c)(8), that is either one of the types listed in CAA section 108, or any other measure for the purpose of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions. Notwithstanding the first sentence of this definition, vehicle technology-based, fuel-based, and maintenance-based measures which control the emissions from vehicles under fixed traffic conditions are not TCMs for the purposes of this subpart.

Section 108(f)(1)(A) of the federal CAA lists the following sixteen measures as illustrative of TCMs. However, this list should not be considered exhaustive.

- Programs for improved use of public transit;
- Restriction of certain roads or lanes to, or construction of such roads or lanes for use by, passenger buses or high occupancy vehicles;
- Employer-based transportation management plans, including incentives;
- Trip-reduction ordinances;
- Traffic flow improvement programs that achieve emission reductions;
- Fringe and transportation corridor parking facilities, serving multiple occupancy vehicle programs or transit service;
- Programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration, particularly during periods of peak use;
- Programs for the provision of all forms of high-occupancy, shared-ride services;
- Programs to limit portions of road surfaces or certain sections of the metropolitan area to the use of non-motorized vehicles or pedestrian use, both as to time and place;
- Programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists, in both public and private areas;
- Programs to control extended idling of vehicles;
- Programs to reduce motor vehicle emissions, consistent with Title II of the Clean Air Act, which are caused by extreme cold start conditions;
- Employer-sponsored programs to permit flexible work schedules;
- Programs and ordinances to facilitate non-automobile travel, provision and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts of a locality, including programs and ordinances applicable to new shopping centers, special events, and other centers of vehicle activity;
- Programs for new construction and major reconstruction of paths, tracks or areas solely for the use by pedestrian or other non-motorized means of transportation, when economically feasible and in the public interest; and
- Programs to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks.

In addition to the types of measures listed above, other measures may be considered as TCM projects if they reduce emissions or concentrations of air pollutants from transportation sources by modifying vehicle use, changing traffic flow, or mitigating traffic congestion conditions. TCM projects may be voluntary programs, incentive-based programs,

regulatory programs, as well as market- or pricing-based programs. However, all TCM categories must be listed in the applicable (EPA-approved) SIP to be considered TCMs.

It should be noted, however, that measures and projects that use technology to reduce emissions—such as innovations in fuel formulation technologies, or the promotion of zero-emission vehicles, or of alternative fueled engines—cannot be considered TCM projects. Roadway capacity enhancement projects are also not typically considered TCMs.

The transportation conformity process is designed to ensure timely implementation of TCM strategies, thus reinforcing the link between AQMP/SIPs and the transportation planning process. If a TCM cannot be implemented or is only partially implemented, the shortfall must be made up by either substituting a new TCM strategy or by enhancing other control measures through the substitution.

CRITERIA AND PROCEDURES FOR THE TIMELY IMPLEMENTATION OF TCMS

The Transportation Conformity Rule (40 CFR 93.113) states:

a. The transportation plan, TIP, or any FHWA/FTA project which is not from a conforming plan and TIP must provide for the timely implementation of TCMs from the applicable implementation plan.
   1. For transportation plans, this criterion is satisfied if the following two conditions are met: The transportation plan, in describing the envisioned future transportation system, provides for the timely completion or implementation of all TCMs in the applicable implementation plan which are eligible for funding under title 23 U.S.C. or the Federal Transit Laws, consistent with schedules included in the applicable implementation plan.
   2. Nothing in the transportation plan interferes with the implementation of any TCM in the applicable implementation plan.

b. For TIPs, this criterion is satisfied if the following conditions are met:
   1. An examination of the specific steps and funding source(s) needed to fully implement each TCM indicates that TCMs which are eligible for funding under title 23 U.S.C. or the Federal Transit Laws are on or ahead of the schedule established in the applicable implementation plan, or, if such TCMs are behind the schedule established in the applicable implementation plan, the MPO and DOT have determined that past obstacles to implementation of the TCMs have been identified and have been or are being overcome, and that all State and local agencies with influence over approvals or funding for TCMs are giving maximum priority to approval or funding of TCMs over other projects within their control, including projects in locations outside the nonattainment or maintenance area.
   2. If TCMs in the applicable implementation plan have previously been programmed for Federal funding but the funds have not been obligated and the TCMs are behind the schedule in the implementation plan, then the TIP cannot be found to conform if the funds intended for those TCMs are reallocated to projects in the TIP other than TCMs, or if there are no other TCMs in the TIP, if the funds are reallocated to projects in the TIP other than projects which are eligible for Federal funding intended for air quality improvement projects, e.g., the Congestion Mitigation and Air Quality Improvement Program.
   3. Nothing in the TIP may interfere with the implementation of any TCM in the applicable implementation plan.

c. For FHWA/FTA projects which are not from a conforming transportation plan and TIP, this criterion is satisfied if the project does not interfere with the implementation of any TCM in the applicable implementation plan.

Applicable SIPs in the SCAG Region

In the SCAG region, SIPs developed in the SCAB and the Ventura County portion of the SCCAB contain TCM strategies and thus are the applicable SIPs per EPA's Transportation Conformity Rule. The other SIPs do not contain any TCM strategies. The two SIPs with TCM strategies are:

2007 OZONE SIP (SCAB)

The 2007 Ozone AQMP for the SCAB was approved by the SCAQMD Board on June 1, 2007 and by the ARB as part of the SIP on September 27, 2007. The EPA has approved the 2007 South Coast Ozone SIP effective April 30, 2012. The TCM categories in the 2007 Ozone AQMP/SIP are consistent with the TCM01 categories established in the 1994 Ozone SIP.

1994 OZONE SIP (VENTURA COUNTY PORTION OF SCCAB)

The EPA approved the 1994 Ozone SIP revisions on January 8, 1997. The 2007 Ozone AQMP/SIP revision (pending EPA approval) makes no changes to previously approved TCMs contained in the 1994 SIP (as amended in 1995).

It is noted that the Ventura County SIP does not claim emission reduction credits from TCM projects. They have been included to assist transportation and air quality agencies to identify projects that have the potential of reducing vehicle emissions, vehicle trips and vehicle miles traveled.

TCM Reporting Process in the SCAG Region

Only those TCM-category projects that have been committed for implementation are considered for purposes of timely implementation reporting. As such, only those projects designated as TCMs in the first two years (the fiscally constrained portion) of the prevailing FTIP are considered for reporting. The projects reported on in this report are those TCM-category projects which have been committed to right-of-way acquisition, construction or implementation in the Fiscal Year 2010–2011 and 2011–2012 portions of the 2011 FTIP. In addition, those TCM projects designated for reporting in previous FTIPs, and which are still under construction or implementation, will continue to be reported. Further, completed TCM projects are also reported. Thus, this Timely Implementation Report provides the programmed completion dates as set forth in the 2011 FTIP and current status for the 2012 RTP.

Although project implementation remains an enforceable commitment by project sponsor agencies, SCAG is responsible for assuring the timely implementation of TCMs. Per a request from the federal agencies, beginning with the 2003 AQMP/SIP, SCAG began to develop a protocol for tracking currently anticipated project completion dates against previously reported completion dates, as provided by the County Transportation Commissions (CTCs). It is SCAG's intention that project completion dates reported when a TCM is first listed in an approved FTIP will be reported in all subsequent Timely Implementation Reports alongside any changes to these completion dates that may arise, until such a time as the project is completed or open to use. In this case, ongoing and completed projects include the date listed in the 2004 FTIP, which was the first FTIP to include this reporting requirement.

SCAG has traditionally relied on the established project status update process used for the RTP and the FTIP to provide the initial structure for the Timely Implementation Report. This data, which is submitted to SCAG by the CTCs, is then tabulated into a Timely Implementation Report and then re-circulated to the CTCs so as to obtain the most current project information available with regard to implementation status. This final data on project implementation status, and on currently anticipated completion dates, is then used to establish the final Timely Implementation Report. SCAG's process integrates an assessment of the specific steps and funding sources needed to fully implement each TCM, and confirms that the projects are on or ahead of schedule; or, in the case that some particular project is delayed, the analysis establishes that the obstacles to implementation have been or are being overcome, and that the project is henceforth expected to be expeditiously implemented.

Timely Implementation of TCM Projects in the SCAG Region

The federal Transportation Conformity Rule states that timely implementation is to be measured against the TCM projects in the applicable SIP. SCAG evaluates the TCM-category projects to determine the anticipated level and current status of implementation. The enforceable commitment is to report on the funding and implementation of TCM projects in the first two years of the six-year FTIP. In each FTIP, TCM category projects roll forward and the enforceable commitment is automatically revised to encompass the first two-year schedule of TCM-category projects without the need for a SIP revision. The implementation status of each of these TCM projects then continues to be reported on in subsequent FTIPs, until the TCM project is reported as having been completed, or the suitably replaced or substituted project has been completed.

TCM FUNDING SOURCES

The following types of funding sources contribute to demonstrating timely implementation of TCM projects:

- SAFETEA-LU programs provide federal funds for eligible TCM projects under EPA requirements.
- TCMs are eligible expenditures under funds provided for the National Highway System (NHS), Congestion Mitigation and Air Quality Improvement (CMAQ) Program, and the Surface Transportation Program (STP). TCMs listed in federal CAA Section

108 (f)(1)(A) [other than clauses xii and xvi] are specifically listed as eligible uses for federal funding.

- Under CMAQ, funds are targeted for TCMs and may not be used for projects that do not contribute to the attainment of NAAQS. CMAQ funds may not be provided for a project resulting in the construction of new capacity available to single occupancy vehicles, except on the HOV portion of a larger freeway project, or where the project consists of a HOV facility made available to single occupancy vehicles only during non-peak travel times.

SOUTH COAST AIR BASIN

The 2007 AQMP/SIP includes the following three TCM project categories:

- High Occupancy Vehicle (HOV) Measures,
- Transit and Systems Management Measures, and
- Information-based Transportation Strategies.

It should be noted that the TCM project categories in Appendix IV-C, Regional Transportation Strategy and Control Measures, of the 2007 Ozone AQMP/SIP, are consistent with those of TCM01 specified in the 1994 and subsequent Ozone SIPs, and are updated by the list provided in the Timely Implementation Report section of this document.[2]

VENTURA COUNTY PORTION OF SCCAB

The applicable TCM projects in Ventura County include the following strategies:

- Ridesharing
- Non-Motorized Strategies
- Traffic Flow Improvement Strategy
- Land Use Strategy
- Transit Strategies

[2] SCAG will continue working with EPA, ARB and SCAQMD to understand the full implications of the recent Ninth Circuit Court ruling in the *Association of Irritated Residents et al. v. EPA* case (Nos. 09-71383 and 09-71404) related to the Transportation Control Measures (TCMs) for the severe or extreme ozone non-attainment area contained within this plan. SCAG will amend the plan (if required) once the EPA has completed its analysis and provided any direction that may be needed.

LISTING OF TCMS SUBJECT TO TIMELY IMPLEMENTATION AND COMPLETED/CORRECTED PROJECTS

The information in the following tables demonstrates timely implementation of TCMs (by county).

TABLE 41.1 Los Angeles County TCMs Subject to Timely Implementation

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
BALDWIN PARK	LAFA141	BALDWIN PARK METROLINK TRANSPORTATION CENTER. FUNDED THRU STIP AUGMENTATION CONSTRUCTION A TRANSPORTATION CENTER AND PARKING STRUCTURE AT THE BALDWIN PARK METROLINK STATION.	2012	11/1/2012	11/1/2014	OBSTACLES ARE BEING OVERCOME. THE PROJECT IS IN ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED). DELAY IS THE RESULT OF THE ENVIRONMENTAL DOCUMENT PROCESSING TAKING LONGER THAN ORIGINALLY EXPECTED.
FOOTHILL TRANSIT ZONE	LA0B311	PARK AND RIDE FACILITY TRANSIT ORIENTED NEIGHBORHOOD PROGRAM SAFETEA-LU # 341 (E-2006-BUSP-092) (E-2006-BUSP-173)	2003/2005	12/31/2013	12/31/2013	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. AGENCY IS FINALIZING PLANS FOR THE NEW SITE FOR THE PARK AND RIDE. PROJECT IN ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED).
GLENDALE	LA0G406	FAIRMONT AVE. PARK-N-RIDE FACILITY (83 PARKING SPACES) TO SERVE COMMUTERS USING SR-134, I-5. THE LOCATION OF THE PARK-N-RIDE IS FAIRMONT AVENUE AND SAN FERNANDO RD.	12/30/2012	12/30/2012	12/30/2013	OBSTACLES ARE BEING OVERCOME. ONE YEAR DELAY DUE TO COORDINATION AND LAG TIME BETWEEN PROJECT COMPONENTS AS THE PROJECT WAS COMBINED WITH FAIRMONT AVE GRADE SEPARATION. AGENCY HAS AN APPROVED MOU WITH METRO AND THE PROJECT IS UNDERWAY.
LOS ANGELES COUNTY	LAF1514	EMERALD NECKLACE BIKE TRAIL PROJECT. DESIGN AND CONSTRUCT 1.1 MILES OF CLASS I BIKE PATH TO CONNECT DUARTE ROAD TO THE SAN GABRIEL RIVER BICYCLE TRAIL.	2011	12/31/2011	6/30/2013	OBSTACLES ARE BEING OVERCOME. DELAY DUE TO REQUIRED COORDINATION WITH CORPS OF ENGINEER AND CITY OF DUARTE TO EXECUTE NECESSARY AGREEMENTS FOR INSTALLATION OF BIKE PATH THROUGH SANTA FE DAM RECREATIONAL AREA. REVISED PLANNED OBLIGATION DATE FOR THIS PROJECT IS JUNE 2012 WITH AWARD OF CONTRACT IN SEPTEMBER 2012 AND CONSTRUCTION COMPLETION BY JUNE 2013.
LOS ANGELES COUNTY MTA	LA0G270	EXPANSION AND IMPROVEMENT TO EXISTING TRANSIT CENTER IN THE CITY OF PALMDALE. E2009-BUSP-137.	9/30/2012	9/30/2012	9/30/2013	OBSTACLES ARE BEING OVERCOME. THE PROJECT IS IN THE ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED). ADDITIONAL TRAFFIC STUDIES WERE REQUESTED BY THE FTA PRIOR TO THE APPROVAL OF THE ENVIRONMENTAL DOCUMENTS. ADDITIONAL YEAR NEEDED TO CONDUCT TRAFFIC STUDIES, INCORPORATE THE INFORMATION INTO THE ENVIRONMENTAL DOCUMENT AND SEEK APPROVAL FROM FTA.
LOS ANGELES COUNTY MTA	LA0F021	EXPOSITION LIGHT RAIL TRANSIT SYSTEM PHASE II – FROM CULVER CITY TO SANTA MONICA		12/31/2017	12/31/2017	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT IN ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
LOS ANGELES COUNTY MTA	LA29202W	MID -CITY TRANSIT CORRIDOR: WILSHIRE BLVD. FROM VERMONT TO SANTA MONICA DOWNTOWN- MID-CITY WILSHIRE BRT INCL. DIV. EXPANSION AND BUS ONLY LANE	2009/2010	12/31/2012	12/31/2014	OBSTACLES ARE BEING OVERCOME. AFTER INITIAL DELAYS WITH PROCESSIG ENVIRONMENTAL DOCUMENTS, PROJECT IN ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED). NOTE: 2011 FTIP TCM TIMELY IMPLEMENTATION REPORT PROJECT DESCRIPTION AND COMPLETION DATE ONLY ACCOUNT FOR FIRST PHASE OF PROJECT.
LOS ANGELES COUNTY MTA	LA0G194	ACQUIRE FOUR (4) ALTERNATE FUEL BUSES FOR THE CITY OF ARTESIA TO BE USED FOR NEW FIXED ROUTE SERVICE EARMARK ID #E2008-BUSP-0694	10/31/2011	10/31/2011	10/31/2012	OBSTACLES ARE BEING OVERCOME. GRANT HAD BEEN APPROVED BY FTA. ACQUIRING NEW VEHICLES BEING COORDIATED WITH THE COMPLETION OF A REDEVELOPMENT PROJECT TO BETTER UNDERSTAND THE NEEDS FOR BUS STOPS AND ROUTING.
LOS ANGELES COUNTY MTA	LA0C10	MID-CITY/EXPOSITION CORRIDOR LIGHT RAIL TRANSIT PROJECT PHASE I TO VENICE-ROBERTSON STATION	2011/2012	12/31/2012	12/31/2012	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. THE PROJECT IS UNDER CONSTRUCTION.
LOS ANGELES COUNTY MTA	LA0G431	MULTI-MODAL TRANSIT CENTER AT CSUN TO INCLUDE PASSENGER LOADING AREAS AND BUS SHELTERS	10/1/2012	10/1/2012	10/1/2012	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. THE GRANT FOR THE PROJECT HAS BEEN APPROVED BY FTA. PROJECT IN ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED).
LOS ANGELES COUNTY MTA	LA974165	MACARTHUR PARK STATION IMPROVEMENTS INCLUDE DESIGN AND CONSTRUCTION OF A PLAZA TO ACCOMMODATE PUBLIC ACCESS (PEDESTRIAN ENTRANCES, WALKWAYS, BICYCLE FACILITIES) PPNO# 3417	2002/2007	12/30/2011	12/30/2011	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)
LOS ANGELES, CITY OF	LA0G155	LACRD – TRANSIT SIGNAL PRIORITY IN THE CITY OF LOS ANGELES.	12/31/2011	12/31/2011	02/28/2012	OBSTACLES ARE BEING OVERCOME. IN CONSTRUCTION/IMPLEMENTATION PHASE.
PASADENA	LAE3790	THE PASADENA ITS INTEGRATES 3 COMPONENTS; TRAFFIC SIGNAL COMMUNICATION AND CONTRL, TRANSIT VEHICLE ARRIVAL INFO AND PUBLIC PARKING AVAILABILITY INFO. SAFETEA-LU PRJ #3790 AND #399	2010	06/2011	6/30/2013	OBSTACLES ARE BEING OVERCOME. FUNDS HAVE BEEN OBLIGATED. THE PROJECT IS CURRENTLY IN THE DESIGN PHASE AND THE WORK IS 95% COMPLETE. DELAY DUE TO ADDITIONAL COORDINATION REQUIRED WITH THE LOCAL STAKEHOLDERS REGARDING THE PROJECT.

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
PICO RIVERA (PREVIOUSLY LEAD AGENCY WAS SGVCOG)	LA0C57	ACE/GATEWAY CITIES-CONSTRUCT GRADE SEP. AT PASSONS BLVD IN PICO RIVERA (& MODIFY PROFILE OF SERAPIS AV,)(PART OF ALAMEDA CORR EAST PROJ.)SAFETEA-LU HPP # 1666 (TCRP #54.3)	2006	12/31/2010	12/31/2012	OBSTACLES ARE BEING OVERCOME. UNDER CONSTRUCTION. THE PROJECT ENCOUNTERED SEVERAL DELAYS FOR ISSUES RELATED TO ROW CERTIFICATION AND SEVERAL CASES OF EMINENT DOMAIN. THE CONSTRUCTION PHASE OF THIS PROJECT STARTED 12/6/10 AND THE UNDERPASS (BRIDGE) IS ESTIMATED TO BE COMPLETED WITHIN 19-20 MONTHS.
ROLLING HILLS ESTATE	LAF1529	PALOS VERDES DRIVE NORTH BIKE LANES. CONSTRUCTION OF CLASS II BIKE LANE AND RELATED IMPROVEMENTS ON PALOS VERDES DRIVE NORTH	12/31/2012	12/31/2012	12/31/2013	OBSTACLES ARE BEING OVERCOME. DELAY DUE TO TIME NECESSARY FOR CALTRANS TO REVIEW AND APPROVE THE ENVIRONMENTAL DOCUMENT. PROJECT HAS RECEIVED ITS E-76 FOR PE (PS&E). THE CITY WORKED WITH METRO TO UPDATE THE SCHEDULE AND REPROGRAM THE CONSTRUCTION FUNDS; PLANNING TO OBTAIN CONSTRUCTION ALLOCATION BY JUNE 30, 2013 AND COMPLETE CONSTRUCTION BY DECEMBER 31, 2013.
SANTA CLARITA	LAF1424	MCBEAN REGIONAL TRANSIT CENTER PARK AND RIDE. PURCHASE LAND, DESIGN, AND CONSTRUCT A REGIONAL PARK-AND-RIDE LOT ADJACENT TO THE MCBEAN REGIONAL TRANSIT CENTER IN THE CITY OF SANTA CLARITA.	2012	10/1/2012	10/1/2013	OBSTACLES ARE BEING OVERCOME. PROJECT CURRENTLY IN PRE-CONSTRUCTION PHASE. DELAYED TO ALLOW NEGOTIATIONS WITH THE CURRENT PROPERTY OWNER AND COMMUNITY OUTREACH. FUNDING IS IN AN APPROVED FTA GRANT CA-95-X137 AND CA-96-X071
WHITTIER	LA0G257	WHITTIER GREENWAY TRAILHEAD PARK. EXTENSION OF WHITTIER GREENWAY TRAIL FROM MILLS AVENUE TO 300 FEET EAST OF MILLS AVENUE ON CITY OWNED RIGHT-OF-WAY IN CONJUNCTION WITH THE CONSTRUCTION OF NEW TRAILHEAD PARK WITH A PARK AND RIDE PARKING LOT FOR NEARBY PUBLIC TRANSIT STOP. NEW 20 SPACE PARKING LOT WOULD BE CONSTRUCTED OF “GREEN” PERMEABLE PAVEMENT IN COMPLIANCE WITH NPDES REQUIREMENTS. INCLUDES THE INSTALLATION OF PARK AMENITIES, DRINKING FOUNTAIN FOR THE CONVENIENCE OF PEDESTRIAN AND BICYCLE PATRONS OF THE WHITTIER GREENWAY TRAIL. CONSTRUCTION OF NEW SIDEWALKS ALONG MILLS AVENUE TO PROVIDE WHITTIER GREENWAY TRAIL CROSSING CONNECTION AT THE SIGNALIZED INTERSECTION OF MILLS AVENUE AT LAMBERT ROAD.	9/30/2012	9/30/2012	9/30/2014	OBSTACLES ARE BEING OVERCOME. THE CITY OF WHITTIER HAS PLACED THIS PROJECT ON TEMPORARY HOLD DUE TO RESUMED NEGOCIATIONS WITH THE UNION PACIFIC RAILROAD (UPRR) FOR ACQUISITION OF A PORTION OF RAILROAD ROW ADJACENT TO CITY OWNED PROPERTY TO BE DEVELOPED INTO THE WHITTIER GREENWAY TRAILHEAD PARK. CITY IS ATTEMPTING TO SECURE A PORTION OF RAILROAD ROW FOR EXTENDING THE WHITTIER GREENWAY TRAIL FURTHER EAST TO THE EAST CITY LIMITS OF WHITTIER (LOS ANGELES/ORANGE COUNTY BOARDER). THE PRELIMINARY DESIGN LAYOUT OF THE PROPOSED PARK AND PARKING LOT COULD BE REARRANGED IF THE CITY IS SUCCESSFUL IN OBTAINING THE ADDITIONAL LAND FOR THE GREENWAY TRAIL EASTERN EXTENSION.

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
ARTESIA	LAF1607	SOUTH STREET PEDESTRIAN, BIKEWAY AND TRANSIT IMPROVEMENT. IMPROVE PEDESTRIAN ENVIRONMENT AND TRANSIT STOP LOCATIONS WITH LANDSCAPED MEDIANS, TRANSIT SHELTERS, BENCHES, SIDEWALK ENHANCEMENTS AND LIGHTING. CLOSE EXISTING BIKE LANE GAP.	2014	10/1/2014	10/1/2014	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT IN ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)
AVALON	LAF1501	COUNTY CLUB DRIVE BIKEWAY IMPROVEMENT PROJECT. CONSTRUCTION OF A 4-FOOT WIDE CLASS II BIKE LANE IN BOTH DIRECTIONS ALONG A ONE MILE SECTION OF COUNTRY CLUB DRIVE.	2013	10/1/2013	10/1/2013	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT IN ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)
AZUSA	LAF3434	AZUSA INTERMODAL TRANSIT CENTER. CONSTRUCT REGIONAL AZUSA INTERMODAL TRANSIT CENTER TO ACCOMMODATE EXISTING AND FUTURE PARKING DEMAND AND SUPPORT EFFECTIVE TRANSIT USE.	6/30/2015	6/30/2015	6/30/2015	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT IN ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)
BALDWIN PARK	LAE0076	CONSTRUCT ADD'L VEHICLE PARKING (200 TO 400 SPACES), BICYCLE PARKING LOT AND PEDESTRIAN REST AREA AT THE TRANSIT CENTER	2010	2014	12/31/2014	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT IN ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)
BALDWIN PARK	LAF1654	BALDWIN PARK METROLINK PEDESTRIAN OVERCROSSING. CONSTRUCT A PEDESTRIAN OVERCROSSING OVER BOGART AVE AND THE METROLINK LINE TO LINK THE STATION WITH VITAL BUS TRANSFER POINTS AND TO PROVIDE ACCESS TO PARKING OVERFLOW AREAS.	2015	10/1/2015	10/1/2015	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT IN ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)
BURBANK	LAF1502	SAN FERNANDO BIKEWAY. IMPLEMENT A CLASS I BIKEWAY ALONG SAN FERNANDO BLVD, VICTORY PLACE AND BURBANK WESTERN CHANNEL TO COMPLETE THE BURBANK LEG OF A 12 MILE BIKEWAY.	2014	6/30/2014	6/30/2014	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT IN ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
CALTRANS	LA000358	ROUTE 5: – FROM ROUTE 134 TO ROUTE 170 HOV LANES (8 TO 10 LANES) (CFP 346)(2001 CFP 8355). (EA# 12180, 12181,12182,12183,12184, 13350 PPNO 0142F,151E,3985,3986,3987) SAFETEA LU # 570. CONSTRUCT MODIFIED IC @ I-5 EMPIRE AVE, AUX LNS NB & SB BETWEEN BURB	2012/2010	12/31/2014	12/31/2014	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT IS IN ENGINEERING/PLANS, SPECIFICATIONS AND ESTIMATES (PS&E) PHASE.
CALTRANS	LA000548	ROUTE 10: FROM PUENTE TO CITRUS HOV LANES FROM 8 TO 10 LANES (C-ISTEA 77720) (EA# 117080, PPNO# 0309N)	2030/2015	2/12/2016	2/12/2016	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT IS IN ENGINEERING/PLANS, SPECIFICATIONS AND ESTIMATES (PS&E) PHASE.
CALTRANS	LA0B875	ROUTE 10: HOV LANES FROM CITRUS TO ROUTE 57/210 – (EA# 11934, PPNO# 0310B)	2015	3/15/2016	3/15/2016	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT IS IN ENGINEERING/PLANS, SPECIFICATIONS AND ESTIMATES (PS&E) PHASE.
CALTRANS	LA0D73	ROUTE 5: LA MIRADA, NORWALK & SANTA FE SPRINGS-ORANGE CO LINE TO RTE 605 JUNCTION. WIDEN FOR HOV & MIXED FLOW LNS, RECONSTRUCT VALLEY VIEW (EA 2159A0, PPNO 2808). TCRP#42.2&42.1	2014	12/1/2016	12/1/2016	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT IS IN ENGINEERING/PLANS, SPECIFICATIONS AND ESTIMATES (PS&E) PHASE.
CALTRANS	LA000357	ROUTE 5: FROM ROUTE 170 TO ROUTE 118 ONE HOV LANE IN EACH DIRECTION (10 TO 12 LANES) INCLUDING THE RECONSTRUCTION OF THE I-5/SR-170 MIXED FLOW CONNECTOR AND THE CONSTRUCTION OF THE I-5/SR-170 HOV TO HOV CONNECTOR (CFP 345) (2001 CFP 8339; CFP2197).	2008/2010	12/31/2011	12/31/2013	OBSTACLES ARE BEING OVERCOME. PROJECT UNDER CONSTRUCTION. DELAY DUE TO ADDITIONAL TIME NEEDED TO UPDATE ENGINEERING DESIGNS IN ORDER TO INCORPORATE SLAB REPLACEMENT AND GRINDING/RESURFACING ALL FREEWAY LANES.
CALTRANS	LA01342	ROUTE 10: RT 10 FROM RT 605 TO PUENTE AVE HOV LANES (8+0 TO 8+2) (EA# 117070, PPNO 0306H) PPNO 3333 3382 AB 3090 REP (TCRP #40)	2008/2010	10/28/2013	10/28/2013	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT UNDER CONSTRUCTION
CALTRANS	LA996134	ROUTE 5: RTE. 5/14 INTERCHANGE & HOV LNS ON RTE 14 – CONSTRUCT 2 ELEVATED LANES – HOV CONNECTOR (DIRECT CONNECTORS) (EA# 16800)(2001 CFP 8343) (PPNO 0168M)	2014/2009	5/24/2013	5/24/2013	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT IS UNDER CONSTRUCTION.

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
CLAREMONT	LAF1510	CLAREMONT PORTION OF THE CITRUS REGIONAL BIKEWAY. THIS PROJECT PROPOSES THE IMPLEMENTATION OF THE CLAREMONT PORTION OF THE CITRUS REGIONAL BIKEWAY UTILIZING BONITA AVENUE AND FIRST STREET AS PRIMARY CLASS II BIKE ROUTES.	10/1/2012	10/1/2012	10/1/2012	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT HAS HAD CONTRACT/PROJECT AWARD
EL MONTE	LAF1504	EL MONTE: TRANSIT CYCLE FRIENDLY. EL MONTE PROPOSES TO IMPLEMENT THE 1ST PHASE OF THE EL MONTE BIKE-TRANSIT HUB COMPONENT (METRO BICYCLE TRANSPORTATION STRATEGIC PLAN) A COUNTYWIDE EFFORT TO IMPROVE BIKE FACILITIES	2013	10/1/2013	10/1/2013	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)
LONG BEACH	LAE1296	LONG BEACH INTELLIGENT TRANSPORTATION SYSTEM	2011	9/30/2012	9/30/2012	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)
LONG BEACH	LAF1530	BICYCLE SYSTEM GAP CLOSURES & IMPROVED LA RIVER BIKE PATH. PROJECT WILL CONSTRUCT PRIORITY CLASS I & III BICYCLE SYSTEM GAP CLOSURES IN LONG BEACH AND IMPROVE CONNECTION TO LA RIVER.	2014	10/1/2014	10/1/2014	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)
LOS ANGELES COUNTY MTA	LA0D198	CRENSHAW TRANSIT CORRIDOR	12/31/2018	12/31/2018	12/31/2018	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT IS IN ENGINEERING/PLANS, SPECIFICATIONS AND ESTIMATES (PS&E) PHASE.
LOS ANGELES COUNTY MTA	LA0G010	REGIONAL CONNECTOR – LIGHT RAIL IN TUNNEL ALLOWING THROUGH MOVEMENTS OF TRAINS, BLUE, GOLD, EXPO LINES. FROM ALAMEDA / 1ST STREET TO 7TH STREET/METRO CENTER	12/31/2019	12/31/2019	12/31/2019	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT IS IN ENGINEERING/PLANS, SPECIFICATIONS AND ESTIMATES (PS&E) PHASE.

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
LOS ANGELES COUNTY MTA	LA0G154	LACRD – EL MONTE TRANSIT CENTER IMPROVEMENTS AND EL MONTE BUSWAY IMPROVEMENTS, INCLUDING BIKE LOCKERS, TICKET VENDING MACHINES AT EL MONTE BUSWAY STATIONS AND UP TO 10 BUS BAYS.	12/31/2010	12/31/2010	12/31/2012	OBSTACLES ARE BEING OVERCOME. DELAY IN OBTAINING ENVIRONMENTAL CLEARANCE AND DISCOVERY OF CONTAMINATED SOILS DURING INITIAL EXCAVATION AT EL MONTE TRANSIT CENTER. CHANGE ORDER REQUIRED THE CONTRACTOR TO INVESTIGATE AND SEGREGATE SOIL TYPES PRIOR TO HAULING TO VARIOUS LANDFILLS DEPENDING ON TYPE OF CONTAMINATION. THIS ADDITIONAL PROCESS HAS DELAYED CONSTRUCTION FOR TWO YEARS. LACMTA IS WORKING WITH ITS CONTRACTOR TO REMOVE CONTAMINATED SOIL AS QUICKLY AS POSSIBLE AND WORKING WITH SHPO AND FTA TO EXPEDITE APPROVALS.
LOS ANGELES COUNTY MTA	LA0G447	METRO PURPLE LINE WESTSIDE SUBWAY EXTENSION SEGMENT 1 – WILSHIRE/WESTERN TO FAIRFAX	12/31/2019	12/31/2019	12/31/2019	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT IS IN ENGINEERING/PLANS, SPECIFICATIONS AND ESTIMATES (PS&E) PHASE.
LOS ANGELES COUNTY MTA	LA0C8114	LA CITY RIDESHARE SERVICES; PROVIDE COMMUTE INFO, EMPLOYER ASSISTANCE AND INCENTIVE PROGRAMS THROUGH CORE & EMPLOYER RIDESHARE SERVICES & MTA INCENTIVE PROGRAMS. PPNO 9003	2009	12/30/2016	12/30/2016	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. CONSTRUCTION/PROJECT IMPLEMENTATION BEGINS
LOS ANGELES COUNTY MTA	LA963542	ACQUISITION REVENUE VEHICLES – 2,513 CLEAN FUEL BUSES: LEASED VEH, FY02 (370) FY03 (30 HC) + FY04 (70 HC) + (200 ARTICS); FY05-FY10 TOTAL OF 1000 BUSES.	2005	6/30/2014	6/30/2014	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. FIRST VEHICLE/EQUIPMENT DELIVERED. PROJECT ONGOING.
LOS ANGELES COUNTY MTA	LAE0036	WILSHIRE/ VERMONT PEDESTRIAN PLAZA IMPROVEMENTS AND INTERMODAL PEDESTRIAN LINKAGES	2011	2012	2012	PROJECT UNDER CONSTRUCTION
LOS ANGELES COUNTY MTA	LAE0195	DESIGN AND CONSTRUCT IMPROVED PEDESTRIAN LINKAGES BETWEEN LOS ANGELES PIERCE COLLEGE AND MTA'S RAPID BUS TRANSIT STOPS TO INCLUDE PASSENGER AMENITIES, 2007 CFP # F1658	2010	10/1/2014	10/1/2014	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT IN ENGINEERING/PLANS, SPECIFICATIONS AND ESTIMATES (PS&E) PHASE.

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
LOS ANGELES, CITY OF	LA0C8164	EXPOSITION BLVD RIGHT-OF-WAY BIKE PATH-WESTSIDE EXTENSION. DESIGN AND CONSTRUCTION OF 2.5 MILES OF CLASS 1 BIKEWAY, LIGHTING, LANDSCAPING & INTERSECTION IMPROVEMENTS. (PPNO# 3184)	2009	2/2/2011	2/2/2012	OBSTACLES ARE BEING OVERCOME. IN ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED) DELAYS DUE TO UNANTICIPATED STAGING ISSUES WITH THE CONSTRUCTION OF THE EXPO LINE (PHASE I & II). AGENCY HAD TO WAIT FOR SOME STATION AND ROW CONSTRUCTION ACTIVITIES TO BE COMPLETED BEFORE STARTING CONSTRUCTION ACTIVITIES. THE DESIGN-BUILD OF THE BIKE PATH WILL BEGIN AFTER THE FINAL SIGN-OFF FROM CALTRANS ON THE ENVIRONMENTAL DOCUMENT.
LOS ANGELES, CITY OF	LAF1704	DOWNTOWN L.A. ALTERNATIVE GREEN TRANSIT MODES TRIAL PROGRAM. OFFER SHARED RIDE-BICYCLE AND NEIGHBORHOOD ELECTRIC VEHICLE TRANSIT SERVICES TO LA CITY HALL AS AN ALTERNATIVE TO OVERCROWDED DASH SERVICE	2014	6/27/2014	6/27/2014	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ENGINEERING/PLANS, SPECIFICATIONS AND ESTIMATES (PS&E)
LOS ANGELES, CITY OF	LA002738	BIKEWAY/PEDESTRIAN BRIDGE OVER LA RIVER AT TAYLOR YARD CLASS I (CFP 738, 2077) (PPNO# 3156)	2009	7/31/2015	7/31/2015	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)
LOS ANGELES, CITY OF	LA0B7330	SAN FERNANDO RD ROW BIKE PATH PHSE II – CONSTRUCT 2.75 MILES CLAS I FRM FIRST ST TO BRANFORD ST,ON MTA-OWND ROW PARLEL TO SAN FERNANDO RD. LINK CYCLSTS TO NUMEROUS BUS LNE. PPNO 2868.	2005	11/30/2011	1/30/2014	OBSTACLES ARE BEING OVERCOME. CONSTRUCTION IS ANTICIPATED TO START EARLY 2012 AND COMPLETE IN JANUARY 2014. CONSTRUCTION HAD STARTED IN 2010 BUT THERE WAS A BREACH OF A UTILITY LINE WHICH HALTED CONSTRUCTION. THE REPAIR OF THE UTILITY LINE HAD TAKEN APPROXIMATELY 18 MONTHS.
LOS ANGELES, CITY OF	LAF1450	ENCINO PARK-AND-RIDE FACILITY RENOVATION. RENOVATION OF THE ENCINO PARK-AND-RIDE FACILITY IN ORDER TO ADDRESS PHYSICAL AND STRUCTURAL DEFICIENCIES AND ADD CAPACITY TO THIS HEAVILY UTILIZED FACILITY. INCLUDES 50 NEW PARKING SPACES AND BIKE LOCKERS.	2013	10/1/2013	10/1/2013	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. BID/ADVERTISE PHASE
LOS ANGELES, CITY OF	LAF1520	IMPERIAL HIGHWAY BIKE LANES. THIS PROJECT INVOLVES THE MODIFICATION OF THE MEDIAN ISLAND AND THE WIDENING OF IMPERIAL HIGHWAY ALONG 1000 FT EAST OF PERSHING DRIVE TO ACCOMMODATE BIKE LANES.	6/1/2014	6/1/2014	6/1/2014	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
LOS ANGELES, CITY OF	LAF1524	SAN FERNANDO RD. BIKE PATH PH. IIIA/IIIB – CONSTRUCTION. RECOMMEND PHASE IIIA-CONSTRUCTION OF A CLASS I BIKE PATH WITHIN METRO OWNED RAIL RIGHT-OF-WAY ALONG SAN FERNANDO RD. BETWEEN BRANFORD ST. AND TUXFORD ST INCL BRIDGE.	10/1/2015	10/1/2015	10/1/2015	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)
LOS ANGELES, CITY OF	LAF1615	EASTSIDE LIGHT RAIL PEDESTRIAN LINKAGE. IMPROVE LINKAGES WITHIN 1/4 MILE OF METRO'S GOLD LINE LRT.	2012	6/29/2012	6/29/2012	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ENGINEERING/PLANS, SPECIFICATIONS AND ESTIMATES (PS&E)
LOS ANGELES, CITY OF	LAF1657	LOS ANGELES VALLEY COLLEGE (LAVC) BUS STATION EXTENSION. PROJECT WILL EXTEND THE ORANGE LINE STATION AT THE LA VALLEY COLLEGE BY PROVIDING A DIRECT PEDESTRIAN CONNECTION FROM THE STATION TO A NEW PEDESTRIAN ENTRANCE TO LAVC.	2013	10/1/2013	10/1/2013	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)
LOS ANGELES, CITY OF	LAF1708	HOLLYWOOD INTEGRATED MODAL INFORMATION SYSTEM. INSTALLATION OF ELECTRONIC, DIRECTION AND PARKING AVAILABILITY SIGNS WITH INTERNET CONNECTIVITY TO PROVIDE ADVANCE AND REAL-TIME INFORMATION INTENDED TO INCREASE TRANSIT RIDERSHIP	2015	9/21/2015	9/21/2015	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)
LOS ANGELES, CITY OF	LAF3419	SUNSET JUNCTION PHASE 2. CREATE A MULTI-MODAL TRANSIT PLAZA TO INTEGRATE PUBLIC TRANSPORTATION, PEDESTRIAN & BICYCLE IMPROVEMENTS THAT WOULD RESULT IN REGIONAL & LOCAL BENEFITS (CFP3844). TRIANGLE PROPERTY ON SUNSET BLVD BWT MANZANITA AND SANTA MONICA.	6/30/2017	6/30/2017	6/30/2017	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)
MONROVIA	LAE0039	TRANSIT VILLAGE – PROVIDE A TRANS. FACILITY FOR SATELLITE PARKING FOR SIERRA MADRE VILLA GOLD LINE STA, P-N-R FOR COMMUTERS, A FOOTHILL TRANSIT STORE.	2010	12/31/2012	12/31/2012	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
PORT OF LOS ANGELES	LAF3170	PORT TRUCK TRAFFIC REDUCTION PROGRAM: WEST BASIN RAILYARD. INTERMODAL RAILYARD CONNECTING PORT OF LA WITH ALAMEDA CORRIDOR TO ACCOMMODATE INCREASED LOADING OF TRAINS AT THE PORT, THEREBY REDUCING TRUCK TRIPS TO OFF-DOCK RAILYARDS.	12/1/2014	12/1/2014	12/1/2014	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ENGINEERING/PLANS, SPECIFICATIONS AND ESTIMATES (PS&E)
RANCHO PALOS VERDES	LAF1506	BIKE COMPATIBLE RDWY SAFETY AND LINKAGE ON PALOS VERDES DR. THE PROJECT WILL HAVE A CLASS II BIKE LANE ON BOTH SIDES OF PALOS VERDES DRIVE SOUTH, WITH AN UNPAVED SHOULDER FOR EMERGENCY USE.	2014	10/9/2014	10/9/2014	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)
RANCHO PALOS VERDES	LAF1605	PEDESTRIAN SAFE BUS STOP LINKAGE. LINKING 11 BUS STOPS CURRENTLY INACCESSIBLE BECAUSE OF LACK OF SIDEWALKS ON BOTH THE EAST AND WEST SIDE OF HAWTHORNE BLVD. FROM CREST RD. TO PALOS VERDES DR. SOUTH (ABOUT 13,000')	2013	12/9/2013	12/9/2013	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)
SAN DIMAS	LAF1503	BIKEWAY IMPROVEMENTS ON FOOTHILL BLVD. AT SAN DIMAS WASH. THE BWY IMPROVEMENTS ON FOOTHILL BLVD. AT SAN DIMAS WASH; WILL CLOSE THE GAP ON A BRIDGE & CONNECT THE EXISTING CLASS II BIKE LANES TO THE EAST & WEST OF SAN DIMAS WASH CROSSING.	12/1/2013	12/1/2013	12/1/2013	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)
SAN GABRIEL VALLEY COG	LA990359	GRADE SEP XINGS SAFETY IMPR; 35- MI FREIGHT RAIL CORR. THRGH SAN.GAB. VALLEY – EAST. L.A. TO POMONA ALONG UPRR ALHAMBRA &L.A. SUBDIV – ITS 2318 SAFETEA #2178;1436 #1934 PPNO 2318	2003/2009	6/30/2018	6/30/2018	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. CONSTRUCTION/PROJECT IMPLEMENTATION BEGINS
SANTA FE SPRINGS	LA0F096	NORWALK SANTA FE SPRINGS TRANSPORTATION CENTER PARKING EXPANSION AND BIKEWAY IMPROVEMENTS. PROVIDE ADDITIONAL 250 PARKING SPACES FOR TRANSIT CENTER PATRONS AND IMPROVE BICYCLES ACCESS TO THE TRANSIT CENTER	2011	8/23/2011	6/30/2012	OBSTACLES ARE BEING OVERCOME. THE PARK-N-RIDE LOT PORTION OF THE PROJECT IS COMPLETE. DELAY OF THE BIKEWAY PORTION OF THE PROJECT IS DUE TO ADDITIONAL TIME REQUIRED FOR INTERAGENCY COORDINATION AND SPECIALIZED ENGINEERING NEEDS.
SANTA MONICA	LAE0364	CONSTRUCT INTERMODAL PARK AND RIDE FACILITY AT SANTA MONICA COLLEGE CAMPUS ON SOUTH BUNDY DRIVE NEAR AIRPORT AVENUE	2010	12/31/2012	12/31/2013	OBSTACLES ARE BEING OVERCOME. PROJECT IN BID/ADVERTISE PHASE. DELAY IN GRANT PROCESSING AND THE PROJECT ENCOUNTERED PROTESTS REGARDING TREE REMOVAL REQUIRING REDESIGN OF BUS STOP SHELTERS.

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
TORRANCE	LA0G358	SOUTH BAY REGIONAL INTERMODAL TRANSIT CENTER PROJECT. THE LAND IS IN THE PROCESS OF BEING PURCHASED AND ESCROW WILL CLOSE ON DECEMBER 17, 2009. PRESENTLY, THE LOT IS VACANT/OPEN LAND WITH NO EXISTING STRUCTURE UPON IT. THE ADDRESS IS 465 N. CRENSHAW BLVD., TORRANCE, CA 90503.	12/31/2015	12/31/2015	12/31/2015	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ENVIRONMENTAL DOCUMENT/PRE-DESIGN PHASE (PAED)
WESTLAKE VILLAGE	LA960142	LINDERO CANYON ROAD FROM AGOURA TO JANLOR DR CONSTRUCT BIKE PATH, RESTRIPE STREET, INTERSECTION WIDENING, SIGNAL COORDINATION	2003/2005	1/30/2013	1/30/2013	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. CONSTRUCTION/PROJECT IMPLEMENTATION BEGINS

TABLE 41.2 Los Angeles County Completed/Corrected Projects

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Project Status
BALDWIN PARK	LA0D281	DESIGN AND CONSTRUCT PARKING IMPROVEMENTS AT AND ADJACENT TO THE CITY'S EXISTING METROLINK STATION	12/30/2010	12/30/2010	NOT A COMMITTED TCM – NO ROW/CON IN FIRST TWO YEARS OF 2011 FTIP.
CALTRANS	LA996137	ROUTE 60: RTE. 60 HOV LNS. FROM RTE. 605 TO BREA CANYON RD. – CONSTRUCT ONE HOV LANE IN EACH DIRECTION) (CFP: 358, 4262, 6137=67,150+IIP: 5,100) (EA#129410, 129421, PPNO 0482R,0482RA)	2008/2007	5/1/2011	COMPLETEED
CULVER CITY	LAF1717	REAL-TIME MOTORIST PARKING INFORMATION SYSTEM DEMONSTRATION. THIS PROJECT WILL PROVIDE A REAL-TIME INFORMATION SYSTEM TO COMMUNICATE AND GUIDE MOTORISTS TO AVAILABLE PARKING SPACES IN SELECTED PARKING STRUCTURES IN THE CITY OF CULVER CITY.	2011	6/30/2011	NOT A TCM – A DEMONSTRATION PROJECT
CALTRANS	LA0G138	ROUTE 010: LACRD – HOT LANES ON THE I-10 FROM ALAMEDA ST./UNION STATION TO I-605, AND ON I-110 FROM 182 ST./ARTESIA TRANSIT CENTER TO ADAMS BLVD. CONVERSION OF HOV LANES TO HOT LANES.(INFRASTRUCTURE/PAVEMENT)(1HL08D01, 1HL08D03)	12/30/2011	12/30/2011	NOT A TCM – A DEMONSTRATION PROJECT

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Project Status
CALTRANS	LA0G139	ROUTE 010: LACRD – EXPAND CAPACITY OF THE I-10 HOT LANE (RESTRIPING AND BUFFER CHANGES). RESTRIPE TO ADD A SECOND LANE (WB – SANTA ANITA TO I-710; EB – I-710 TO BALDWIN AVE) FOR HOT LANES ON THE I-10. (RTP# 1HL08D01)	12/30/2011	12/30/2011	NOT A TCM – A DEMONSTRATION PROJECT
FOOTHILL TRANSIT ZONE	LA0G142	LACRD – 10 BUSES FOR THE I-10 EL MONTE BUSWAY. HOT LANE. (RTP# 1TR08D08 & 1TR08D07A)	12/31/2012	12/31/2012	NOT A TCM – A DEMONSTRATION PROJECT
TORRANCE	LA0G145	LACRD – 4 BUSES FOR THE I-110 HARBOR TRANSITWAY HOT LANE (TORRANCE TRANSIT). (RTP# 1TR204)	12/31/2010	12/31/2010	NOT A TCM – A DEMONSTRATION PROJECT
GARDENA MUNICIPAL BUS LINES	LA0G147	LACRD – I-110 HOT LANE OPERATIONS – NEW TRANSIT SERVICES.(CITY OF GARDENA)(RTP# 1TR204)	12/31/2011	12/31/2011	NOT A TCM – A DEMONSTRATION PROJECT
TORRANCE	LA0G148	LACRD – I-110 HOT LANE OPERATIONS – NEW TRANSIT SERVICES. (RTP# 1TR204)	12/31/2011	12/31/2011	NOT A TCM – A DEMONSTRATION PROJECT
FOOTHILL TRANSIT ZONE	LA0G149	LACRD – I-10 HOT LANE OPERATIONS – NEW TRANSIT SERVICES.(RTP# 10M08D02).	12/31/2011	12/31/2011	NOT A TCM – A DEMONSTRATION PROJECT
LOS ANGELES COUNTY MTA	LA0G150	LACRD – I-10 AND I-110 HOT LANE OPERATIONS (O & M), INCLUDING SECURITY, TVM AND REVENUE COLLECTION SERVICES, MARKETING, NEW TRANSIT (RTP ID 1TR08D7B & 10M08D01; LA0G150, LA0G151, LA0G152,10M08D02)	12/31/2011	12/31/2011	NOT A TCM – A DEMONSTRATION PROJECT.
LOS ANGELES COUNTY MTA	LA990305	LIGHT RAIL TRANSIT FLEET – 50 NEW RAIL CAR (26 EXP (10 FOR METRO GOLD LINE EASTSIDE & (16) FOR EXPOSITION LRT) 24 REPLACEMENT CARS – .PPNO 3225.	2010	2012	COMPLETED
LOS ANGELES COUNTY MTA	LA29202U3	SAN FERNANDO VALLEY NORTH/SOUTH BRT EXTENSION PHASE I: METRO RAPID SERVICE ALONG RESEDA BLVD. AND SEPULVEDA BLVD. SAFETEA-LU # 183	2005	12/31/2011	COMPLETED
LOS ANGELES COUNTY MTA	LAE0388A	DESIGN AND CONSTRUCT IMPROVED PEDESTRIAN LINKAGES BETWEEN LOS ANGELES MISSION COLLEGE AND PUBLIC TRANSIT SERVICES TO INCLUDE LIGHTING, LANDSCAPIND, AND PASSENGER AMENITIES	2010	12/31/2010	COMPLETED
LOS ANGELES COUNTY MTA	LA29202U4	SAN FERNANDO VALLEY NORTH/ SOUTH BRT EXTENSION PHASE II: BUS SPEED IMPROVEMENTS ALONG METRO RAPID CORRIDORS AND EXPANSION OF EXISTING PARK & RIDE FACILITY.	2005/2007	12/31/2010	COMPLETED

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Project Status
LOS ANGELES COUNTY MTA	LA29202U5	SAN FERNANDO VALLEY NORTH/ SOUTH BRT EXTENSION PHASE III: STATION ACCESSIBILITY AND PEDESTRIAN ENHANCEMENTS ON RESEDA BLVD., SEPULVEDA BLVD., AND LANKERSHIM BLVD.	2005/2008	2012	COMPLETED
LOS ANGELES, CITY OF	LA0C8380	CHINATOWN/COLLEGE STREET GOLD LINE STATION – INTERMODEL TRANS. CENTER ENHANCE MENT (PEDESTRIAN WALKWAY BRIDGE, BUS STATION, AND A BIKE STATION)	2004/2008	2012	NOT A TCM – STATION IMPROVEMENT PROJECT TO ENHANCE TRANSIT RIDERS' EXPERIENCE.
MONTEBELLO	LA0G354	CONSTRUCTION OF TRANSIT CENTER AT THE COMMUNITY REC FACILITY LOCATED AT THE TAYLOR RANCH PARK AND RIDE FACILITY, 737 NORTH MONTEBELLO BOULEVARD, MONTEBELLO.	12/31/2010	12/31/2010	NOT A TCM – A BUS STOP ENHANCEMENT PROJECT FOR THE EXISTING PARKING-N-RIDE FACILITY.
PASADENA	LA0D47	SR 710 MITIGATION PROJECT-TRAFFIC CONTROL AND MONITORING SYSTEM-INTELLIGENT TRANSPORTATION SYSTEMS (ITS). CONSTRUCT AND INSTALL ITS TECHNOLOGY AND VARIOUS DEGREES OF SMART SIGNALS	2008	12/30/2010	COMPLETED
COVINA	LA0D206	METROLINK PEDESTRIAN BRIDGE PROJECT. THIS FACILITY WILL BE CONSTRUCTED ON THE WEST SIDE OF CITRUS AVE. THE METROLINK STATION IS ON THE EAST SIDE OF CITRUS AVE.	12/31/2012	12/31/2012	NOT A REPORTABLE TCM
CULVER CITY MUNI BUS LINES	LA0C8382	SEPULVEDA BLVD BUS STOP IMPROVEMENT PROGRAM. BUS STOP AMENITIES INC LIGHTING SIGNAGE, LANDSCAPING, SHELTERS, SEATING, LANDINGS AND TRASH RECEPTACLES.	2008/2010	6/30/2010	SUBSTITUTED WITH LAF1601-SAN GABRIEL CITY-WIDE BUS SHELTER INSTALLATION IN APRIL 2009.
PALMDALE	LAF1507	AVENUE S BIKEWAY PHASE 2. CLASS I BIKEWAY IMPROVEMENTS ALONG THE GENERAL ALIGNMENT OF AVENUE S IN THE CITY OF PALMDALE. THIS PROJECT WILL INCLUDE CLOSING GAPS IN OUR LOCAL BICYCLE PLAN.	2014	10/1/2014	NOT A REPORTABLE TCM.
ANTELOPE VALLEY TRANSIT AUTHORITY	LA0G490	THREE (3) EXPANSION HYBRID LOCAL TRANSIT BUSES	1/31/2011	1/31/2011	COMPLETED
LOS ANGELES COUNTY	LA990353	ALAMEDA CORRIDOR EAST – NOGALES ST GRADE SEP (T21-491, SGVCG)	12/29/2010	12/29/2010	DELETED PROJECT IN 2011 FTIP – COMBINED INTO LA990359.
LOS ANGELES COUNTY MTA	LAE0036	WILSHIRE/ VERMONT PEDESTRIAN PLAZA IMPROVEMENTS AND INTERMODAL PEDESTRIAN LINKAGES	2011	2012	AHEAD OF SCHEDULE. PROJECT UNDER CONSTRUCTION

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Project Status
SANTA MONICA	LAF1533	DOWNTOWN SANTA MONICA BIKE TRANSIT STATION. STORE FRONT BIKE CENTER IN DOWNTOWN PARKING STRUCTURE WITH ATTENDED & SELF PARKING FOR 250 BIKES.	6/30/2012	6/30/2012	COMPLETED
SANTA MONICA	LAF1534	BIKE TECHNOLOGY DEMONSTRATION. PROJECT WILL CONSIST OF DESIGN, INSTALLATION AND EVALUATION OF SEVERAL BICYCLE TECHNOLOGIES, INCLUDING BICYCLE ACTIVATED DETECTION AT INTERSECTIONS, BIKE BOXES, AND BIKE PARKING.	2015	6/30/2015	NOT A TCM – A DEMONSTRATION PROJECT
TORRANCE	LA0D379	AUTOMATIC VEHICLE LOCATOR (AVL) PROJECT – PHASE 2	2007	12/31/2011	COMPLETED
CARSON	LAE2932	213TH ST. PEDESTRIAN SIDEWALK BRIGE OVER DOMINGUEZ CHANNEL. CONSTRUCT 213TH ST. PEDESTRIAN BRIDGE TO PROVIDE SAFE PASSAGE FOR PEDESTRIANS & WHEELCHAIRS OVER DOMINGUEZ CHANNEL.	2010	12/31/2012	NOT A REPORTABLE TCM
CULVER CITY MUNI BUS LINES	LA0C8382	SEPULVEDA BLVD BUS STOP IMPROVEMENT PROGRAM. BUS STOP AMENITIES INC LIGHTING SIGNAGE, LANDSCAPING, SHELTERS, SEATING, LANDINGS AND TRASH RECEPTACLES.	2008/2010	6/30/2010	SUBSTITUTED WITH LAF1601-SAN GABRIEL CITY-WIDE BUS SHELTER INSTALLATION IN APRIL 2009.
LOS ANGELES COUNTY MTA	LA0G196	ACQUIRE ALTERNATE FUEL BUSES FOR RIO HONDO COLLEGE	10/31/2011	10/31/2011	NOT A REPORTABLE TCM
LOS ANGELES COUNTY	LA990353	ALAMEDA CORRIDOR EAST – NOGALES ST GRADE SEP (T21-491, SGVCG)	12/29/2010	12/29/2010	DELETED PROJECT 2011 FTIP – COMBINED INTO LA990359.
PASADENA	LA0D372	SOUTH ACCESS PEDESTRIAN BRIDGE TO SIERRA MADRE VILLA LIGHT RAIL STATION. THIS PEDESTRIAN BRIDGE OVER THE ROUTE 210 FREEWAY WILL PROVIDE A DIRECT AND SAFE APPROACH FOR PEDESTRIANS	6/29/1905	9/30/2012	NOT A REPORTABLE TCM.
GLENDALE	LAE0001A	PURCHASE OF CNG BUSES FOR GLENDALE BEELINE TRANSIT SYSTEM	2010	12/1/2011	NOT A REPORTABLE TCM
LA MIRADA	LA0D349	PURCHASE EXPANSION BUSES WITH ALTERNATE FUEL (HYBRID/ELECTRIC)	2008	6/30/2011	NOT A REPORTABLE TCM
LOS ANGELES, CITY OF	LA0B416	ROUTE 101: IN LOS ANGELES – DOWNTOWN OVER FREEWAY 101 – PEDESTRIAN BRIDGE ENHANCEMENT	2010	6/30/2010	NOT A REPORTABLE TCM.

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Project Status
LOS ANGELES, CITY OF	LA0B416	ROUTE 101: IN LOS ANGELES – DOWNTOWN OVER FREEWAY 101 – PEDESTRIAN BRIDGE ENHANCEMENT	2010	6/30/2010	NOT A REPORTABLE TCM.
SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY	LA0G153	LACRD – PLATFORMS AND PARKING IMPROVEMENTS AT THE METROLINK POMONA STATION. ADDITION OF 100 PARKING SPACES AND EXTENSION OF PLAT-FORM.(G# CA-37-X052-00)	12/31/2010	12/31/2010	COMPLETED

TABLE 42.1 Orange County TCMs Subject to Timely Implementation

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
ANAHEIM	ORA000100	GENE AUTRY WAY WEST @ I-5 (I-5 HOV TRANSITWAY TO HASTER) ADD OVERCROSSING ON I-5 (S)/ MANCHESTER AND EXTEND GENE AUTRY WAY WEST FROM I-5 TO HASTER (3 LANES IN EA DIR.)	2004	2/28/2012	11/16/2012	OBSTACLES ARE BEING OVERCOME. PROJECT UNDER CONSTRUCTION. DELAY DUE TO UTILITIES RELOCATION.
CALTRANS	ORA000193	HOV CONNECTORS FROM SR-22 TO I-405, BETWEEN SEAL BEACH BLVD. (I-405 PM 022.558) AND VALLEY VIEW ST. (SR-22 PM R000.917), WITH A SECOND HOV LANE IN EACH DIRECTION ON I-405 BETWEEN THE TWO DIRECT CONNECTORS.	2010	9/1/2013	2/1/2015	OBSTACLES ARE BEING OVERCOME. CONSTRUCTION STARTED ON SEPT. 7, 2010. DELAY DUE TO UNDERESTIMATE OF TIME TO COMPLETE THE PROJECT.
CALTRANS	ORA000194	HOV CONNECTORS FROM I-405 TO I-605, BETWEEN KATELLA AVE. (I-605 PM R001.104) AND SEAL BEACH BLVD. (I-405 PM 022.643), WITH A SECOND HOV LANE IN EACH DIRECTION ON I-405 BETWEEN THE TWO DIRECT CONNECTIONS.	2010	9/1/2013	7/1/2015	OBSTACLES ARE BEING OVERCOME. CONSTRUCTION STARTED ON JAN. 4, 2011. DELAY DUE TO UNDERESTIMATE OF PROJECT COMPLETION DATE.
FULLERTON	ORA020113	FULLERTON TRAIN STATION – PARKING STRUCTURE, PHASE I AND II. TOTAL OF 800 SPACES (PPNO 2026)	2004	6/30/2011	5/31/2012	OBSTACLES ARE BEING OVERCOME. CONSTRUCTION STARTED MARCH 2011.
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA041501	PURCHASE (71) STANDARD 30FT EXPANSION BUSES – ALTERNATIVE FUEL – (31) IN FY08-09, (9) IN FY09-10, (7) IN FY11-12, (6) IN FY12-13 AND (18) IN FY13-14	2012	6/30/2016	6/30/2016	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. DUE TO CUT TO TRANSIT SERVICES, THERE IS NO NEED FOR ADDITIONAL BUSES FOR THE TIME BEING.
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA110633	RIDESHARE VANPOOL PROGRAM – CAPITAL LEASE COSTS	2012	9/30/2012	9/30/2012	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ONGOING CAPITAL LEASE COSTS FOR VANPOOL PROGRAM.
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA65002	RIDESHARE SERVICES RIDEGUIDE, DATABASE, CUSTOMER INFO, AND MARKETING (ORANGE COUNTY PORTION).	2010	6/30/2016	6/30/2016	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. ONGOING INFORMATION FOR RIDESHARE SERVICES
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA0826016	PURCHASE (72) PARATRANSIT EXPANSION VANS – (21) IN FY09/10, (51) IN FY10/11.	6/30/2016	6/30/2016	6/30/2016	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. DUE TO CUT TO TRANSIT SERVICES, THERE IS NO NEED FOR ADDITIONAL BUSES FOR THE TIME BEING.
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA082618	PURCHASE PARATRANSIT VEHICLES EXPANSION (MISSION VIEJO) (11) IN FY09/10. ON-GOING PROJECT.	6/30/2030	6/30/2030	6/30/2030	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. DUE TO CUT TO TRANSIT SERVICES, THERE IS NO NEED FOR ADDITIONAL BUSES FOR THE TIME BEING.

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
TCA	10254	SJHC, 15 MI TOLL RD BETWEEN I-5 IN SAN JUAN CAPISTRANO & RTE 73 IN IRVINE, EXISTING 3/M/F EA.DIR.1 ADD'L M/F EA DIR, PLUS CLIMBING & AUX LNS AS REQ, BY 2020 PER SCAG/TCA MOU 4/5/01	2015/2008	12/31/2020	12/31/2020	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ONGOING IMPLEMENTATION PER SCAG/TCA MOU.
TCA	ORA050	ETC (RTE 241/261/133) (RTE 91 TO I-5/JAMBOREE) EXISTING 2 M/F EA.DIR, 2 ADD'L M/F IN EA. DIR, PLUS CLIMB AND AUX LNS AS REQ, BY 2020 PER SCAG/TCA MOU 4/05/01.	2015/2010	12/31/2020	12/31/2020	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ONGOING IMPLEMENTATION PER SCAG/TCA MOU.
TCA	ORA051	(FTC-N) (OSO PKWY TO ETC) (13MI) EXISTING 2 MF IN EA. DIR, 2 ADDITIONAL M/F LANES, PLS CLMBNG & AUX LANS AS REQ BY 2020 PER SCAG/TCA MOU 4/05/01.	2015/2010	12/31/2020	12/31/2020	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ONGOING IMPLEMENTATION PER SCAG/TCA MOU.
TCA	ORA052	(FTC-S) (I-5 TO OSO PKWY) (15MI) 2 MF EA. DIR BY 2013; AND 1 ADDITIONAL M/F EA. DIR. PLS CLMBNG & AUX LANES AS REQ BY 2030 PER SCAG/TCA MOU 4/05/01. #1988	2015/2010	6/15/2030	6/15/2030	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ONGOING IMPLEMENTATION PER SCAG/TCA MOU. TCA IS DEVELOPING ENGINEERING PLANS, ENVIRONMENTAL ASSESSMENTS AND FINANCIAL STRATEGY TO BUILD THE 241 EXTENSION FROM THE EXISTING SOUTHERLY TERMINUS AT OSO PARKWAY TO THE VICINITY OF ORTEGA HIGHWAY WHILE CONTINUING TO PURSUE THE BALANCE OF THE ALIGNMENT THAT CONNECTS TO INTERSTATE 5.
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA120357	TRAFFIC SIGNAL SYNCHRONIZATION SUBSTITUTION TCM (REPLACING BRTS)	6/15/2012	6/15/2012	6/15/2012	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. UNDER CONSTRUCTION.

TABLE 42.2 Orange County Completed/Corrected Projects

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Project Status
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA110501	BUS RAPID TRANSIT – 28MI FIXED BRT FRM BREA MALL TO IRVINE TRANS CNTR. INCLUDES STRUCTURES, (32) ROLLING STOCK, AND FEEDER SVC & IBC SHUTTLE- CNG SHUTTLES FROM JWA TO IBC.	2010	6/15/2010	SUBSTITUTED WITH ORA120357
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA120531	BUS RAPID TRANIST (HARBOR BOULEVARD BRT) – 19MILE FIXED RT BRT BETWEEN FULLERTON AND COSTA MESA; INCLUDES STRUCTURES AND (23) ROLLING STOCK	NA	6/30/2011	SUBSTITUTED WITH ORA120357
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA120532	BUS RAPID TRANIST (WESTMINSTER/17TH BRT) – 22MILE FIXED RT BRT BETWEEN SANTA ANA AND LONG BEACH; INCLUDES STRUCTURES AND (23) ROLLING STOCK	2011	6/30/2011	SUBSTITUTED WITH ORA120357
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA55241	PURCHASE (1) STANDARD 40 FT REPLACEMENT ALT FUEL BUSES – (1) IN FY15/16	2007/2010	6/30/2016	NOT A TCM – ALT FUEL BUSES REPLACEMENT PROJECT
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA041502	PURCHASE (48) PARATRANSIT EXPANSION VANS – (22) IN FY10/11, (12) IN FY11/12, AND (14) IN FY13/14	2012	6/30/2012	NOT A COMMITTED TCM (CORRECTED IN 2009 FTIP AMENDMENT #44)
VARIOUS AGENCIES	ORA990906	LUMP SUM. TEA FUNDS FOR BICYCLE AND PEDESTRIAN FACILITY PROJECTS THROUGHOUT ORANGE COUNTY (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126,127,128, EXEMPT TABLES 2 & 3)	2009	12/30/2015	NOT A REPORTABLE TCM.

TABLE 43.1 Riverside County TCMs Subject to Timely Implementation

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV010212	ON SR91 – ADAMS TO 60/215 IC: ADD ONE HOV LN IN EACH DIRECTION, RESTRIPE TO EXTEND 4TH WB MIXED FLOW LANE FROM 60/215 IC TO CENTRAL OFF-RAMP, RESTRIPE TO EXTEND 5TH WB MIXED FLOW LANE FROM 60/215 IC TO 14TH ST OFF-RAMP, AUX LNS (MADISON-CENTRAL), BRIDGE WIDENING & REPLACEMENTS, EB/WB BRAIDED RAMPS, IC MOD/ RECONSTRUCT + SOUND/RETAINING WALLS	2002	8/3/2015	8/3/2015	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. CONSTRUCTION IS PENDING E-76 APPROVAL FROM FHWA.
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV050555	ON I-215 (N/O EUCALYPTUS AVE TO N/O BOX SPRINGS RD) & SR60 (E/O DAY ST TO SR60/I-215 JCT): RECONSTRUCT JCT TO PROVIDE 2 HOV DIRECT CONNECTOR LNS (SR60 PM: 12.21 TO 13.6) AND MINOR WIDENING TO BOX SPRINGS RD FROM 2 TO 4 THROUGH LANES BETWEEN MORTON RD AND BOX SPRINGS RD/FAIR ISLE DR IC (EA: 449311)	2011	4/29/2013	4/29/2013	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE. PROJECT UNDER CONSTRUCTION.
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV051201	IN CORONA – CONTINUE THE IMPLEMENTATION OF A 60 SPACE PARK-AND-RIDE LOT (VIA ANNUAL LEASE AGREEMENT) AT LIVING TRUTH CHRISTIAN FELLOWSHIP AT 1114 W. ONTARIO AVE.	9/30/2009	6/30/2013	6/30/2013	NO CHANGE IN COMPLETION DATE FROM 2011 FTIP TCM REPORT. ON SCHEDULE.
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV070303	ON SR60 IN NW RIV CO: CONTINUE THE IMPLEMENTATION OF THE EXPANDED SR60 FREEWAY SERVICE PATROL (FSP) (BEAT #7 PATROL , 2 TRUCKS) BETWEEN MILIKEN AVE & MAIN ST (SR60 HOV LN CHANGE TCM SUBSTITUTION PROJECT)	2010	2010	ON GOING TCM PROGRAM IN RIVERSIDE COUNTY	ON-GOING TCM PROGRAM IN WESTERN RIVERSIDE COUNTY. PARK-N-RIDE LOTS ARE PART OF RCTC'S ON-GOING TCM FOR THE REGION. CURRENT LEASE WILL EXPIRE ON 6/30/2013. RCTC WILL MOST LIKELY REQUEST RENEWAL OF THE LEASE TO CONTINUE THE OPERATION OF THE PARK-N-RIDE LOT BEYOND 6/30/2013.
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV070304	ON I-215 IN SW RIV CO: CONTINUE THE IMPLEMENTATION OF I-215 FREEWAY SERVICE PATROL (FSP) (BEAT #19, 2 TRUCKS) BETWEEN SR74/4TH ST AND ALESSANDRO BLVD (SR60 HOV LANE CHANGE TCM SUBSTITUTION PROJECT)	2010	2010	ON-GOING TCM PROGRAM IN RIVERSIDE COUNTY	ON-GOING TCM PROGRAM IN WESTERN RIVERSIDE COUNTY. RCTC CONTINUED THE FSP BEAT #19 IN FY 2010/2011 AND WILL MOST LIKELY CONTINUE TO PROVIDE THE SERVICE IN FY 2011/2012 AND BEYOND.

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV070307	ON SR60 IN MORENO VALLEY: CONTINUE THE IMPLEMENTATION OF SR60 FREEWAY SERVICE PATROL (FSP) (BEAT #8, 2 TRUCKS) BETWEEN DAY ST AND REDLANDS BLVD (SR60 HOV LANE CHANGE TCM SUBSTITUTION PROJECT)	2010	2010	ON-GOING TCM PROGRAM IN RIVERSIDE COUNTY	ON-GOING TCM PROGRAM IN WESTERN RIVERSIDE COUNTY. RCTC CONTINUED THE FSP BEAT #8 IN FY 2010/2011 AND WILL MOST LIKELY CONTINUE TO PROVIDE THE SERVICE IN FY 2011/2012 AND BEYOND.
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV520109	RECONSTRUCT & UPGRADE SAN JACINTO BRANCH LINE FOR RAIL PASSENGER SERVICE (RIVERSIDE TO PERRIS) (PERRIS VALLEY LINE) (FY 07 5307) (UZA: RIV-SAN)	2012	12/30/2012	2014	OBSTACLES ARE BEING OVER COME. RCTC CERTIFIED THE PERRIS VALLEY LINE CEQA FINAL EIR AND APPROVED THE PROPOSED PROJECT ON JULY 25, 2011. UPON COMPLIANCE WITH CEQA AND NEPA, RCTC WILL PROCEED TO COMPLETE FINAL DESIGN, APPLY FOR A PROJECT CONSTRUCTION GRANT AGREEMENT (PCGA), AND OBLIGATE FEDERAL FUNDS FOR START OF CONSTRUCTION ANTICIPATED IN 2012.
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV520111	REGIONAL RIDESHARE – CONTINUING PROGRAM.	2009	12/30/2011	ON-GOING TCM PROGRAM IN RIVERSIDE COUNTY	ON GOING TCM IN RIVERSIDE COUNTY. REGIONAL RIDESHARE PROGRAM WILL CONTINUE BEYOND FY 2011/2012.
RIVERSIDE TRANSIT AGENCY	RIV041030	IN THE CITY OF HEMET – CONSTRUCT NEW HEMET TRANSIT CENTER (WITH APPROXIMATELY 4 BUS BAYS) AT 700 SCARAMELLA CR., HEMET, CA (5309C FY 04 + 05 EARMARKS).	6/30/2010	6/30/2012	6/30/2013	OBSTACLES ARE BEING OVER COME. THE CITY OF HEMET HAS IDENTIFIED THE POTENTIAL SITE FOR THE HEMET COURTHOUSE WITH AN ADJACENT TRANSIT CENTER AT STATE AND DEVONSHIRE. ONCE THE HEMET COURTHOUSE FUNDING IS SECURED, THE PROJECT DESIGN AND CONSTRUCTION CAN PROCEED.
RIVERSIDE TRANSIT AGENCY	RIV050553	IN TEMECULA – CONSTRUCT NEW TEMECULA TRANSIT CENTER AT 27199 JEFFERSON AVE. (SW OF JEFFERSON AVE & SE OF CHERRY ST) (04, 05, 06, 07, E-2006-091, E-2007-0131, & 2008-BUSP-0131, SAFETEA-LU).	12/30/2010	6/30/2013	12/30/2014	OBSTACLES ARE BEING OVERCOME. ORIGINAL SITE AT 27199 JEFFERSON AVE IS NO LONGER FEASIBLE DUE TO ENVIRONMENTAL CONCERNS BY ARMY CORP OF ENGINEERS. TEMECULA & MURRIETA ARE WORKING TO CHOOSE A NEW SITE. RTA WILL BE CONDUCTING A CONSULTANT LED FEASIBILITY STUDY OR ALTERNATIVE ANALYSIS TO IDENTIFY THE PREFERRED ALTERNATIVE OR SITE.

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
RIVERSIDE TRANSIT AGENCY	RIV090609	IN WESTERN RIVERSIDE COUNTY FOR RTA: INSTALL ADVANCE TRAVELER INFORMATION SYSTEMS (ATIS) ON VARIOUS FIXED ROUTE VEHICLES AND INSTALLATION OF ELECTRONIC MESSAGE SIGNS AT APPROX. 60 BUS STOPS (FY 'S 05, 07, 08, 09, AND 10 – 5309).	2011	12/30/2011	12/30/2012	90% COMPLETED – RTA HAS INSTALLED ELECTRONIC MESSAGE SIGNS AT THE RIVERSIDE DOWNTOWN TERMINAL, PERRIS TRANSIT CENTER, AND THE CORONA TRANSIT CENTER; AND STRATEGICALLY PLACED SEVERAL OTHER ATIS SIGNS IN THE CITY OF MORENO VALLEY (8) AND CITY OF RIVERSIDE (4) – A TOTAL OF 40 SIGNS INSTALLED YEAR-TO-DATE. PRELIMINARY DESIGN FOR ADDITIONAL SIGNS AND CORRESPONDING SHELTERS IS UNDERWAY FOR GALLERIA AT TYLER TRANSFER LOCATION AND THE ADJACENT STOP ON MAGNOLIA AVE IN RIVERSIDE.
TEMECULA	RIV62029	AT HWY 79 SO AND LA PAZ ST: ACQUIRE LAND, DESIGN AND CONSTRUCT PARK-AND-RIDE LOT – 250 SPACES (FY 05 HR4818 EARMARK)	2004/2007	12/31/2012	12/31/2015	INTERIM 240-SPACE PARK-N-RIDE FACILITY LOCATED IN SPENCER'S CROSSING AT THE CORNER OF BIGGS AND LOS ALAMOS (NE OF THE CITY IN THE VICINITY OF THE FRENCH VALLEY AREA) ARE OPEN. THE ORIGINAL P-N-R FACILITY AT HWY 79 SO AND LA PAZ WILL BE BUILT BY 2015 – MAX NUMBER OF SPACES IS 157. THE REMAINING 93 SPACES WILL BE PROVIDED THROUGH THE INTERIM FACILITY AT SPENCER'S CROSSING AND/OR A COMBINATION OF SPENCER'S CROSSING AND NEW CIVIC CENTER PARKING STRUCTURE.

TABLE 43.2 Riverside County Completed/Corrected Projects

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Project Status
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV011211	AT N. MAIN ST/E. GRAND BLVD – CONSTRUCT NEW 1,000 SPACE PARKING STRUCTURE & CCTV/SEC ENHANCE. AT CORONA N. MAIN METROLINK STN (EA: CORSTN, PPNO: 0079D) (FY 07 5307) (UZA: RIV-SAN)	2005	6/30/2011	COMPLETED
RIVERSIDE TRANSIT AGENCY	RIV031207	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF CORONA – CONSTRUCT NEW CORONA TRANSIT CENTER AT 31 EAST GRAND BLVD (5309C FY 03+04+06+08 (E-2006-BUSP-080 & E-2008-BUSP-0688) EARMARKS)).	2009	12/31/2010	COMPLETED

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Project Status
RIVERSIDE TRANSIT AGENCY	RIV041029	IN RIVERSIDE – CONSTRUCT NEW RIVERSIDE TRANSIT CENTER AT 4141 VINE ST., IN THE VICINITY OF DOWNTOWN METROLINK STATION (5309C FY 03+04+06+08, E-2006-BUSP-156 & E-2008-BUSP-0688 EARMARKS) (FY 09 5309) (UZA: RIV-SAN) (TE)	12/30/2010	12/30/2012	NOT A TCM THE RIVERSIDE TRANSIT CENTER IS A RELOCATION/ REPLACEMENT PROJECT WITH SIMILAR CAPACITY. THE CURRENT TRANSIT CENTER ON MISSION INN BLVD WILL CLOSE ONCE THE NEW TRANSIT CENTER PROPOSED FOR THE VICINITY OF METROLINK STATION OPENS TO THE PUBLIC.
RIVERSIDE TRANSIT AGENCY	RIV080929	IN WESTERN RIVERSIDE COUNTY FOR RTA – PURCHASE 9 – 40 FT. CNG EXPANSION BUSES TO IMPLEMENT EXPRESS AND/OR BRT TYPE SERVICES IN WESTERN RIVERSIDE COUNTY, PER RECENTLY COMPLETED COMPREHENSIVE ANALYSIS (COA).	12/30/2010	12/30/2010	NOT A TCM. BUS REPLACEMENT PROJECT, NOT EXPANSION. INFORMATION INPUT ERROR IN 2011 FTIP TCM TIMELY IMPLEMENTATION REPORT. THE APPROVED 2011 FTIP DESC READS: PURCHASE OF 19 – TYPE VII REPLACEMENT BUSES FOR EXISTING FIXED RTE SVC & PURCHASE OF SOLAR PANELS FOR EXISTING BUS SHELTERS.
RIVERSIDE TRANSIT AGENCY	RIV990902	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF PERRIS – CONSTRUCT NEW MULTIMODAL TRANSIT FACILITY (BUS & RAIL) AT 4TH AND D STREETS	2006	12/30/2010	COMPLETED
CORONA	RIV010227	CORONA ADVANCED TRAFFIC MANAGEMENT SYSTEM (ATMS) – AND REGIONAL ITS INTEGRATION PHASE 2.	2005	12/31/2010	COMPLETED
SOUTHERN CALIF REGIONAL RAIL AUTHORITY	RIV010214	RCTC SHARE OF PURCHASE OF METROLINK CARS & LOCOMOTIVES – UP TO 47 CARS/ CABS & 8 LOCOS TO BE ORDERED BY 6/30/06 (FY 03 & 04 5307) (SHARES AMONG LAOC8231, SBD20020801, & ORA090302)	2005/2007	12/30/2012	COMPLETED
SOUTHERN CALIF REGIONAL RAIL AUTHORITY	RIV011242	PURCHASE EXPANSION ROLLING STOCK (2 CAB CARS AND 3 LOCOMOTIVES) FOR METROLINK IEOC AND RIVERSIDE/ FULLERTON/LA LINES (EA: RIVFUL, PPNO: 0079E)	2004/2009	12/30/2012	COMPLETED

TABLE 44.1 San Bernardino County TCMs Subject to Timely Implementation

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
OMNITRANS	981118	BUS SYSTEM – PASSENGER FACILITIES: DESIGN AND BUILDING OF ONTARIO TRANSCENTER	2005/2008	8/31/2010	5/31/2012	OBSTACLES ARE BEING OVERCOME. CALTRANS ENCROACHMENT PERMIT APPLICATIONS AND PLANS RE-SUBMITTED.
RIALTO	200450	RIALTO METROLINK STATION – INCREASE PARKING SPACES FROM 225-775	2006	12/1/2011	12/1/2012	OBSTACLES ARE BEING OVERCOME. DELAY DUE TO DIFFICULTIES GETTING STAKEHOLDERS TO BUY IN ON LEVEL OF EFFECTIVENESS AND LAND VALUE COST ESTIMATES. FTA FUNDS AWARDED FOR JULY 2011 PROJECT IS MOVING FORWARD.
SANBAG	200074	LUMP SUM – TRANSPORTATION ENHANCEMENT ACTIVITIES PROJECTS FOR SAN BERNARDINO COUNTY-BIKE/ PED PROJECTS (PROJECTS CONSISTENT W/40CFR PART 93.126,127,128, EXEMPT TABLE 2 & 3).	2004	12/1/2011	12/1/2015	ONGOING PROJECTS. PAST PROJECTS HAVE BEEN COMPLETED AND NEW PROJECTS HAVE BEEN AWARDED FUNDING.
SANBAG	20040827	RIDESHARE PROGRAM FOR SOUTHCOAST AIR DISTRIST	2009	12/1/2009	12/1/2015	ONGOING PROJECT. ALL FUNDS TO DATE HAVE BEEN OBLIGATED ON THIS PROJECT WHICH IS ON GOING. CMAQ FUNDING SECURED FOR FUTURE ALLOCATIONS FOR THIS PROGRAM
VARIOUS AGENCIES	713	I-215 CORRIDOR NORTH – IN SAN BERNARDINO, ON I-215 FROM RTE 10 TO RTE 210 – ADD 2 HOV & 2 MIXED FLOW LNS (1 IN EA. DIR.) AND OPERATIONAL IMP INCLUDING AUX LANES AND BRAIDED RAMP	2013	12/1/2010	9/1/2013	ON SCHEDULE THIS PROJECT IS OPEN TO TRAFFIC ON THE FREEWAY PORTION. INTERCHANGES ARE NOW BEING CONSTRUCTED ON THE NORTH END OF THE PROJECT. ORANGE SHOW RD. INLAND EMPIRE, MILLS AND 5TH STREET INTERCHANGES AND OFFRAMPS ARE COMPLETED. THE LARGER 215/210 INTERCHANGE IS CURRENTLYUNDER CONSTRUCTION ALL FUNDS HAVE BEEN OBLIGATED FOR THIS PROJECT

TABLE 44.2 San Bernardino County Completed/Corrected Projects

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Project Status
FONTANA	200431	INLAND PACIFIC ELECTRIC TRAIL – ON OLD SP ABANDONED RR BETWEEN I-15 TO MAPLE AVE. – CONSTRUCT CLASS 1 BIKE LANE (APPROX. 7 MILES LONG)	2006	12/1/2011	COMPLETED
OMNITRANS	20060607	CHAFFEY COLLEGE TRANSCENTER – CONSTRUCT TRANSFER FACILITY AT CHAFFEY COLLEGE	2009	12/1/2010	COMPLETED
SAN BERNARDINO, CITY OF	20020802	METROLINK ADD'L PARKING STRUCTURE – CONSTRUCT 5 LEVEL PARKING STRUCTURE TO SERVE EXISTING METROLINK STATION AT SANTA FE DEPOT LOCATION	2008	6/30/2009	COMPLETED
SANBAG	SBD031505	VARIOUS LOCATIONS – LUMP SUMS LTF, ARTICLE 3 BICYCLE/ PEDESTRIAN PROJECTS (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, 127,128, EXEMPT TABLES 2 & 3)	2004	12/1/2010	NOT A REPORTABLE TCM.
VARIOUS AGENCIES	20620	UPLAND TO SAN BERNARDINO FROM LA CO LINE TO RTE 215 – 8 LN FREEWAY INCLUDING 2 HOV LNS (6+2)-210 CORR. W/AUX LNS THRUOUT SEGS. 9-11(SEG.11 INCL CONNECTOR BETWEEN 210 & 215 (MORE)	2007/2009	12/1/2010	COMPLETED

TABLE 45.1 Ventura County TCMs Subject to Timely Implementation

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
CAMARILLO	VEN040502	SANTA ROSA ROAD FROM UPLAND ROAD TO WOODCREEK ROAD WIDEN FROM TWO TO FOUR LANES AND ADD BIKE LANES	9/30/2008	12/31/2012	12/31/2012	OBSTACLES ARE BEING OVERCOME. UNDER DESIGN; CONSTRUCTION IS EXPECTED TO BEGIN WITHIN 12 MONTHS. (CORRECTED FROM "NON-EXEMPT" TO "COMMITTED TCM" IN 2012 RTP)
OJAI	VEN010203	OJAI VALLEY BIKE TRAIL EXTENSION/FULTON ST EXTENSION.	2002/2004	7/1/2011	7/1/2012	OBSTACLES ARE BEING OVERCOME. CONSTRUCTION WAS AUTHORIZED BY FHWA 8/25/11 AND WILL GO TO BID.
OJAI	VEN54164	BICYCLE & PEDESTRIAN TRAIL EXTENSION: FOX CYN BARRANCA FROM RT 150 TO OJAI VALLEY TRAIL	2003/2006	12/31/2011	12/31/2013	OBSTACLES ARE BEING OVERCOME. PROJECT DELAYED DUE TO WORK WITH THE WATERSHED PROTECTION DISTRICT TO OBTAIN ROW APPROVAL. NEW CITY ENGINEER HAS BEEN HIRED TO REPLACE PREVIOUS STAFF AND STAFF IS WORKING WITH THE WPD TO OBTAIN APPROVAL.
OXNARD	VEN053403	EAST VENTURA BOULEVARD FROM NYLAND AVENUE TO EAST OF ALMOND DRIVE - LANDSCAPE ENHANCEMENT, PEDESTRIAN AND BICYCLE FACILITIES, DRAINAGE IMPROVEMENT AND PAVEMENT REHABILITATION	12/31/2008	12/31/2013	12/31/2013	OBSTACLES ARE BEING OVERCOME. UNDER DESIGN; CONSTRUCTION IS EXPECTED TO BEGIN WITHIN 12 MONTHS. (CORRECTED FROM "NON-EXEMPT" TO "COMMITTED TCM" IN 2012 RTP)
OXNARD	VEN990317	OXNARD BLVD 5TH/VINEYARD & ON 5TH ST (RT 34) OXNARD BLVD/ROSE AVE CONSTRUCT NEW BICYCLE & PEDESTRIAN FACILITIES	2003/2008	7/1/2012	12/31/2012	OBSTACLES ARE BEING OVERCOME. DESIGN IS COMPLETE, RIGHT-OF-WAY OBTAINED, PROEJECT CAN GO OUT TO BID AROUND JULY AND CONSTRUCTION WILL FOLLOW SOON.
SAN BUENAVENTURA	VEN061007	MILLS ROAD AT MAPLE ADJACENT TO PACIFIC VIEW MALL – BUS TURNOUTS WITH BUS SHELTERS, AND OTHER BUS STOP AMENITIES	2008	6/1/2011	12/31/2012	OBSTACLES ARE BEING OVERCOME. PROJECT FURTHER DELAYED DUE TO COMMUNITY DESIGN CONCERNS. TTHE ISSUES HAVE BEEN RESOLVED AND FINAL DESIGN IS UNDERWAY. INSTALLATION OF OTHER NEW STANDARD SHELTERS HAS BEEN COMPLETED
SIMI VALLEY	VEN051201	WEST LOS ANGELES AVENUE FROM WEST CITY LIMIT TO EASY STREET CLASS II BIKE LANES	2010	12/31/2010	7/1/2012	OBSTACLES ARE BEING OVERCOME. DELAY IN OBTAINING A RAILROAD ENCROACHMENT PERMIT. THE PERMIT HAS BEEN OBTAINED AND THE PROJECT IS OUT TO BID.

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Completion Date	2012 RTP Project Status
THOUSAND OAKS	VEN056407	HILLCREST DRIVE FROM TELLER ROAD TO CONEJO BLVD – CLASS II BIKE LANES	2009	4/1/2011	3/31/2013	OBSTACLES ARE BEING OVERCOME. PROJECT DELAYED TO ALLOW COMMUNITY INPUT REGARDING DESIGN ISSUES. THE ISSUES ARE RESOLVED AND PROJECT IS IN FINAL DESIGN.
THOUSAND OAKS	VEN090503	LYNN ROAD FROM HILLCREST DRIVE TO AVENIDA DE LOS ARBOLES CONSTRUCT CLASS II BIKE LANES FOR 3 MILES (TEA21#221).	12/31/2010	12/31/2010	12/31/2012	OBSTACLES ARE BEING OVERCOME. DELAY DUE TO A SPACE CONSTRAINT DESIGN ISSUE. THE ISSUE HAS BEEN RESOLVED AND THE DESIGN IS NOW COMPLETE. THE PROJECT IS READY TO GO OUT TO BID. CONSTRUCTION AUTHORIZATION IS BEING REQUESTED FROM CALTRANS. CONSTRUCTION SHOULD BEGIN IN SPRING, 2012.
VENTURA COUNTY TRANS COMMISSION (VCTC)	VEN070204	SMARTCARD UPGRADE	2008	12/31/2010	10/1/2012	OBSTACLES ARE BEING OVERCOME. DELAYED DUE TO LENGTHY PROJECT MANAGER DISABILITY LEAVE. STAFF RECENTLY RETURNED AND IS PROCEEDING WITH PROJECT. THE PROJECT SPECIFICATIONS ARE UNDER DEVELOPMENT AND THE CONTRACT SHOULD BE APPROVED SOON.
VENTURA COUNTY TRANS COMMISSION (VCTC)	VEN93017	REGIONAL RIDESHARE PROGRAM – LUMP SUM, INCL RIDESHARING PROGRAM FOR 08/09, 09/10, 10/11, 11/12, 12/13 – INCLUDES VENTURA COUNTY BIKE MAP UPDATE	2010	6/30/2015	6/30/2015	ONGOING – DURING FY 10/11 PROCESSED 16,990 SURVEYS, GENERATED 2,646 RIDEGUIDES AND 13,610 RIDESMART TIPS

TABLE 45.2 Ventura County Completed/Corrected Projects

Lead Agency	Project ID	Project Description	Original Completion Date	2011 FTIP Completion Date	2012 RTP Project Status
GOLD COAST TRANSIT	VEN090107	EIGHT (8) CNG-FUELED 25-FOOT TO 40-FOOT BUSES FOR EXPANSION. BUSES WILL BE USED ON ALL GOLD COAST LINES TO REDUCE SPARE RATIO AND INCREASE FREQUENCY WHERE WARRANTED BY DEMAND.	7/1/2011	10/1/2010	COMPLETED
GOLD COAST TRANSIT	VEN090201	MARKET/VALENTINE INDUSTRIAL PARK SHUTTLE SERVICE ON MARKET STREET, VALENTINE ROAD, AND TELEPHONE ROAD	12/31/2012	7/11/2012	NOT A TCM. A DEMONSTRATION PROJECT.
SANTA PAULA	VEN54168	FACILITY INCL BIKEWAY/WALKWAY FROM SANTA PAULA CREEK TO PECK RD FENCING, LANDSCAPING, BRIDGE & DRAINAGE, PUBLIC ACCESS POINTS/ SAFETY ITEMS	2003/2007	6/30/2011	COMPLETED
SIMI VALLEY	VEN055401	EXPAND TRANSIT MAINTENANCE FACILITY TO ACCOMMODATE SYSTEM EXPANSION	2008	7/1/2011	COMPLETED
THOUSAND OAKS	VEN054605	CONEJO CREEK PARK BIKE PATH – CLASS I BIKE PATH FOR 1.4 MILES IN CONEJO CREEK PARK FROM ROUTE 23 TO JANSS ROAD AND PAIGE LANE	2009	12/31/2009	COMPLETED
THOUSAND OAKS	VEN056403	LYNN ROAD FROM ROUTE 101 TO AVENIDA DE LAS FLORES SIGNAL SYNCHRONIZATION IMPROVEMENT (PHASE III)	11/30/2008	10/1/2011	COMPLETED
THOUSAND OAKS	VEN031212	EXPAND TRAFFIC SIGNAL COORDINATION SYSTEM	2007	6/30/2010	COMPLETED
VENTURA COUNTY TRANS COMMISSION (VCTC)	VEN040501	NEAR CAMARILLO LEWIS RD WIDEN FROM 2 TO 4 LANES PLUS BIKE LANES BETWEEN RT 101 & HUENEME RD, & PROVIDE SIGNAL IMPROVEMENTS – CON PHASE (PE & ROW IN 07-VEN54122) – INCL FINANCE COST	2004/2010	4/27/2010	COMPLETED

Section IV: Summary of Public Comments and Responses

As discussed previously, SCAG's Transportation Conformity Working Group served as the forum specifically for interagency consultation relative to conformity and, additionally, there were many ad-hoc meetings held between the stakeholder agencies for this purpose. The comprehensive public participation and interagency consultation conducted for the 2012 RTP is detailed in the 2012 RTP Public Participation and Consultation Report.

The public review and comment period for the Draft 2012 RTP Conformity Report began in December 2011 and closed in February 2012. Six non-substantive comments on confomrity were received during the public review period. The comments sought clarification, provided update or minor revisions to the information in the Draft Conformity Report or the conformity summary information included in the main RTP document. Appropriate changes were made to to reflect the comments.

All comments and responses on the Draft 2012 RTP can be accessed at http://rtpscs.scag.ca.gov/Pages/default.aspx.

EXHIBIT 1 Air Basins in the SCAG Region



EXHIBIT 2 Air Districts in the SCAG Region

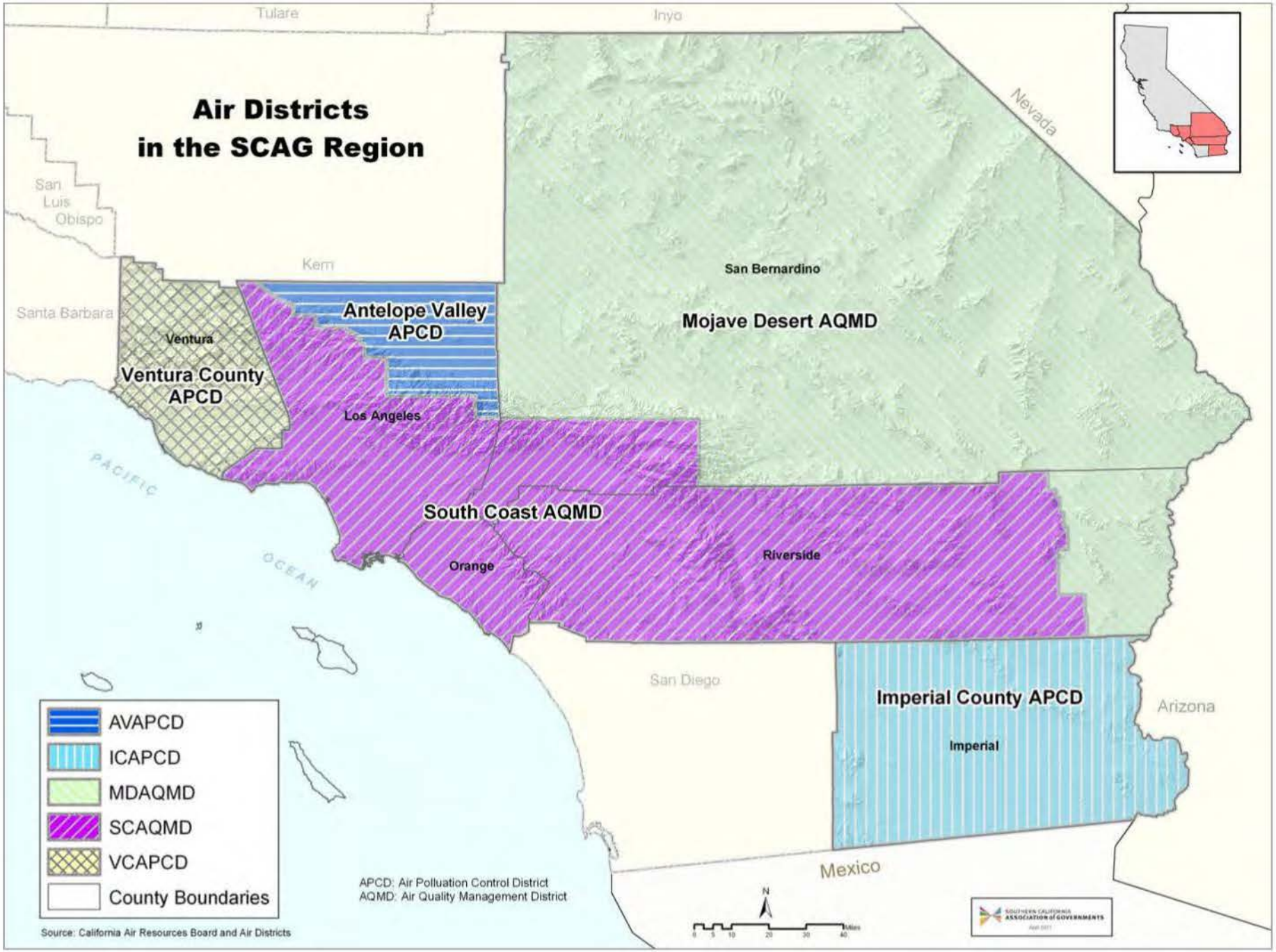


EXHIBIT 3 Federal Non-attainment Areas in the SCAG Region – Ozone (8-Hour Standards)

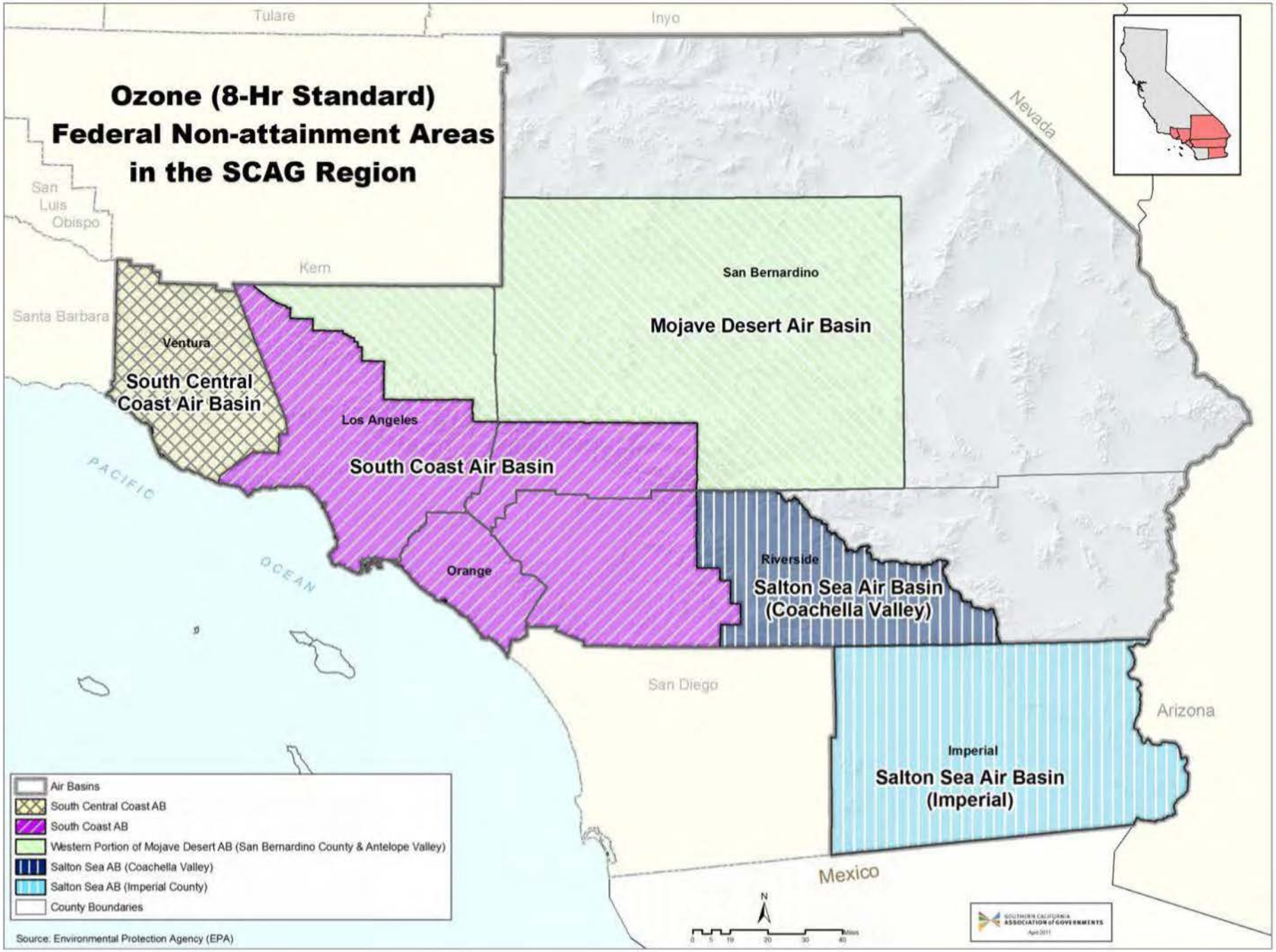


EXHIBIT 4 Federal Non-attainment Areas in the SCAG Region – $PM_{2.5}$

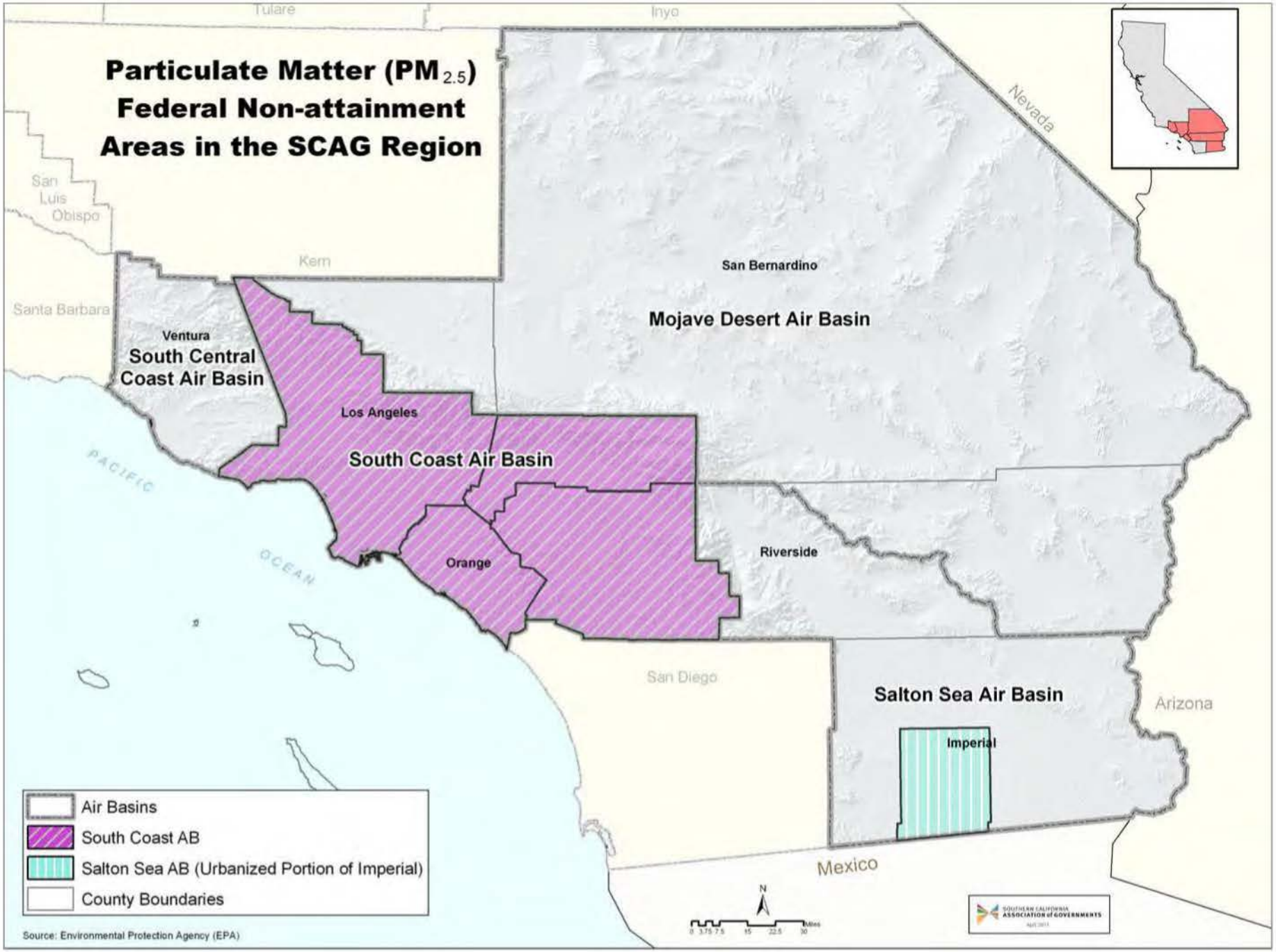


EXHIBIT 5 Federal Non-attainment Areas in the SCAG Region – PM_{10}

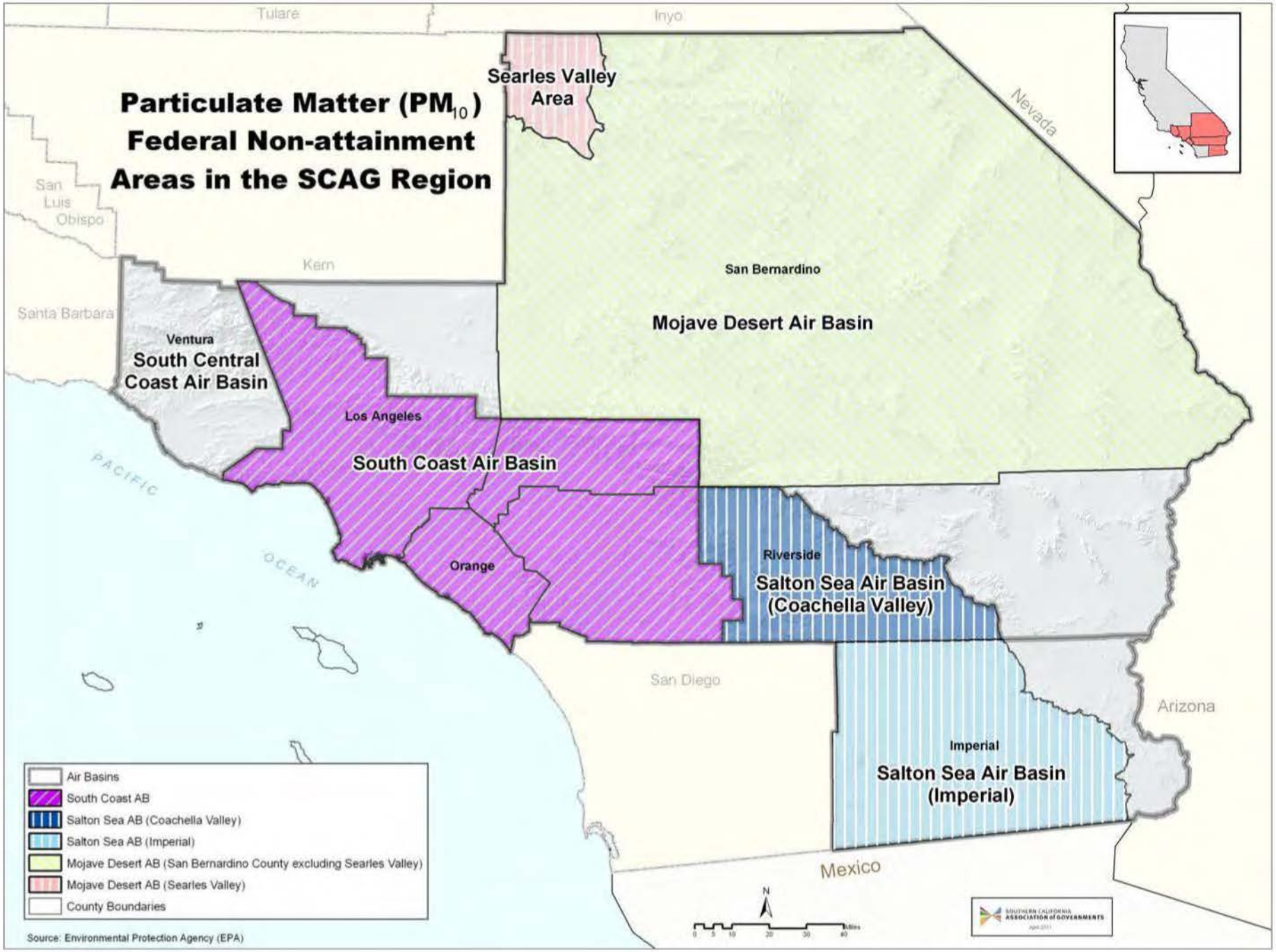


EXHIBIT 6 Federal Maintenance Areas in the SCAG Region – NO_2

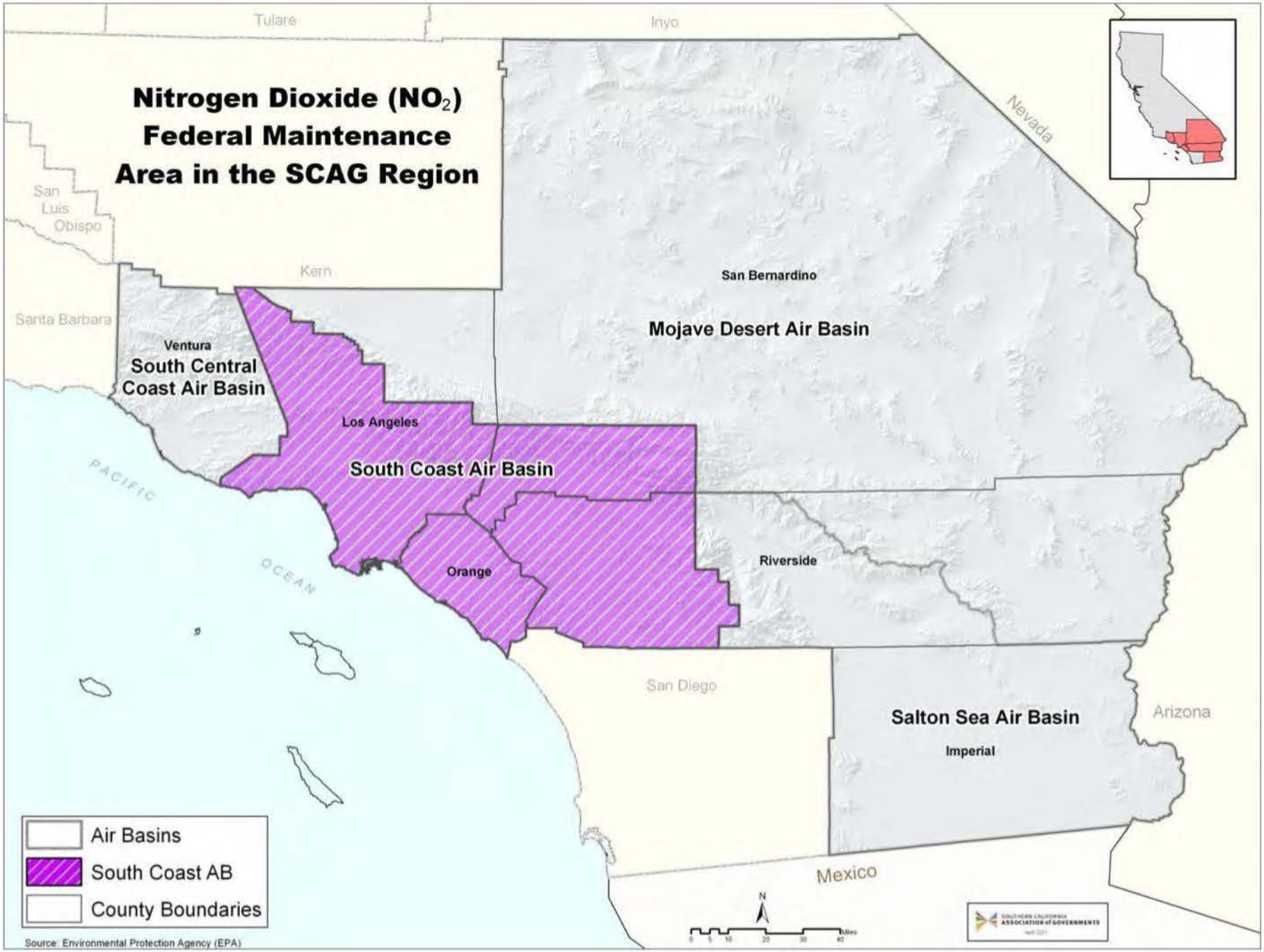
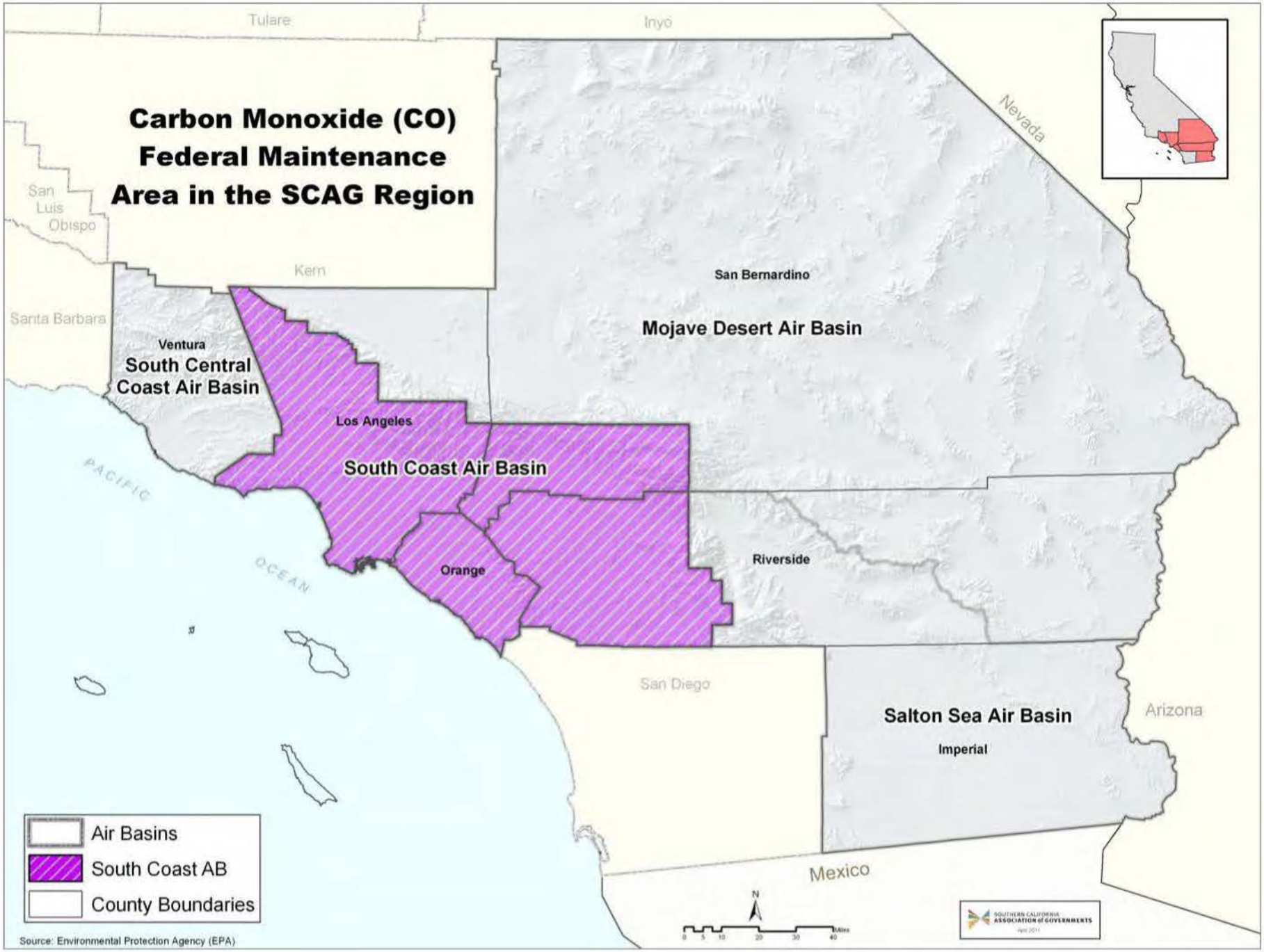


EXHIBIT 7 Federal Maintenance Areas in the SCAG Region – CO



REGIONAL TRANSPORTATION PLAN
2012–2035 RTP
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future

SOUTHERN CALIFORNIA
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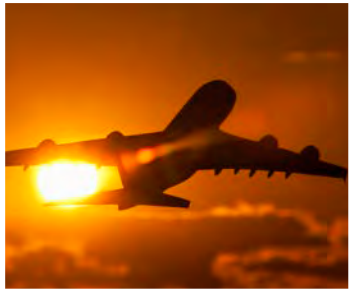
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TRANSPORTATION SAFETY APPENDIX









REGIONAL TRANSPORTATION PLAN
2012–2035
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future
RTP











Southern California Association of Governments

ADOPTED APRIL 2012

TRANSPORTATION SAFETY

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Executive Summary

In 2008, over 1500 people died on roadways in the SCAG region and just under 125,000 were injured. While both fatalities and injuries have declined over the past 10 years, the impacts, both emotional and financial, are still far too high. The average costs for each traffic death, traffic injury, or property damage crash were (in 2005):

Death – $1,150,000

Nonfatal Disabling Injury – $52,900

Property Damage, including non-disabling injuries – $7,500

In 2006, the State of California initiated the Strategic Highway Safety Plan (SHSP), as a way of setting targets and strategies to reduce transportation fatalities in the State in absolute numbers by 2010 in 16 challenge areas (impaired driving, street crossing, bicycling, older drivers, etc). While the targets in most challenge areas were met by 2010, a new goal is to reduce fatalities even further. The SHSP Steering Committee is establishing new targets, which will be finalized in 2012, including a 17th Challenge Area, Distracted Driving.

While the California SHSP sets 152 various actions that State agencies can perform to reduce fatalities, there are complementary strategies that can be performed by local governments that can help further reduce transportation fatalities.

The safety of people and goods as they travel is one of the key characteristics of any transportation system. The importance of providing a safe and secure transportation system is emphasized by transportation and law enforcement agencies at all levels, and is recognized as one of the chief responsibilities of transportation planners.

SCAG's safety goal is to ensure transportation safety, security, and reliability for all people and goods in the region.

SCAG is recommending 69 actions for local governments that complement the State actions in the 17 SHSP Challenge Areas. A large portion of traffic collisions amongst many of the challenge areas occur at intersections. The mixing of various travel modes, combined with changes in cross traffic provides a greater potential for collisions. By placing the highest emphasis on intersection safety within each challenge area, SCAG hopes to have the greatest effect in reducing traffic fatalities.

This report reviews each SHSP Challenge Area within the SCAG region, noting trends in fatalities and injuries, and makes the following recommendations for local governments to help further reduce transportation fatalities throughout the region and State.

Recommended Policies and Actions

Challenge Area 1. Reduce Impaired Driving Related Fatalities

- Local jurisdictions should increase frequency, consistency and publicity of sobriety checkpoints in areas with high DUI caused accidents
- Local jurisdictions should pursue grant funds to new Portable Evidential Breath Testing devices
- Local jurisdictions should extend and promote late night transit during holiday weekends and after major sporting/special events
- Consider reviewing the SHSP "tool kit" which will identify programs, providers, and resources that assist communities in implementing effective community-based, comprehensive, multijurisdictional DUI task forces.
- Local jurisdictions should implement and maintain anti-DUI programs such as, Teenage Party Prevention, Enforcement and Dispersal, Minor Decoy Program, the Shoulder Tap Program, and the Target Responsibility For Alcohol Connected Emergencies (TRACE) program.

Cities/Counties can continue this work by pursuing National Highway Traffic Safety Administration (NHTSA) Incentive/Transfer Program Grants under 23 U.S.C. 402 or 23 U.S.C. 410.

Challenge Area 2. Reduce the Occurrence and Consequence of Leaving the Roadway and Head-on Collisions

- Local jurisdictions should incorporate into highway construction/ reconstruction methods to warn drivers (such as rumble strips, "Botts' Dots," pavement markers, curve warning signs/beacons) they are leaving the highway or wandering into other lanes.

- Continue the deployment of high visibility signage and road striping that enhance driver's ability to notice, recognize and respond to warning signs during nighttime or periods of inclement weather.

Challenge Area 3.
Ensure Drivers are Licensed and Competent

- Local jurisdictions can support the State in developing driver education components for teens and new drivers.

Challenge Area 4.
Increase Use of Safety Belts and Child Safety Seats

- Local jurisdictions should support State authorities in the education and enforcement of safety device violations.

Challenge Area 5.
Improve Driver Decisions about Rights of Way and Turning

- Encourage the installation of improved visibility traffic signals as part of the normal traffic signal replacement cycle
- Local jurisdictions should support the use of traffic control devices, traffic calming, and speed reduction design practices to reduce the likelihood and severity of crashes related to turning movements.
- Local jurisdictions should consider redesigning the geometry at high accident locations as an option to restrict unsafe turns by motor vehicles.
- Local jurisdictions should support the use of advanced technology and ITS to reduce collisions.
- Local jurisdictions should incorporate ITS at high incident intersections to reduce red-light violations causing collisions.

Challenge Area 6.
Reduce Young Driver Fatalities

- Local jurisdictions can support the State in developing driver education components for teens and new drivers.
- Local jurisdictions should support State authorities in the education and enforcement of safety device violations.
- Local jurisdictions should increase frequency, consistency and publicity of sobriety checkpoints in areas with high DUI caused accidents.
- Local jurisdictions should implement and maintain anti-DUI programs such as, Teenage Party Prevention, Enforcement and Dispersal, Minor Decoy Program, the Shoulder Tap Program, and TRACE.

Challenge Area 7.
Improve Intersection and Interchange Safety for Roadway Users

- Local jurisdictions should incorporate intersection safety into the Compass Blueprint strategies.
- Local jurisdictions should incorporate ITS at high-incident intersections to reduce red-light violations causing collisions.
- Local jurisdictions should encourage clearly marked, visible crosswalks.
- Local jurisdictions should support installation of adequate lighting around crosswalks to provide better visibility of pedestrians crossing streets at night.
- Local jurisdictions should consider installation of improved visibility traffic signals as part of the normal traffic signal replacement cycle.
- Local jurisdictions should incorporate median sanctuaries for pedestrians at appropriate intersections.
- Local jurisdictions should incorporate signalization at problem non-signalized intersections.
- Local jurisdictions should consider changing intersection geometries, where applicable. (offset intersection to aligned intersection, intersection to interchange, intersection to roundabout).
- Local jurisdictions should plan for, and develop roadway, intersection and interchange improvements that support improving rights of way decision by older drivers.
- Local jurisdictions should review existing or potential high-crash at-grade railroad/highway crossings for contributing factors and implement Median Island Programs or make other improvements such as visibility, advance warning, and geometrics.

Challenge Area 8.
Make Walking and Street Crossing Safer

- Local jurisdictions should develop pedestrian safety action plans based on FHWA criteria.
- Local jurisdictions should ensure all sidewalks and intersections are ADA compliant.
- Local jurisdictions should consider pedestrian needs in all roadway and transit projects.
- Local jurisdictions should improve pedestrian striping and include standard safety upgrades in routine maintenance and striping projects.
- Local jurisdictions should incorporate median sanctuaries for pedestrians at appropriate intersections.
- Local jurisdictions should increase pedestrian crossing times to account for older or slower pedestrians.
- Local jurisdictions should incorporate pedestrian safety into smart growth, land use planning, and other local plans.
- Local jurisdictions should continue the enforcement of violations of pedestrian law by pedestrians and motorists.
- Local jurisdictions should participate in programs to educate all roadway users regarding the rights and responsibilities of pedestrians.
- Local jurisdictions should incorporate ITS at high-incident intersections to reduce vehicle-pedestrian collisions.
- Local jurisdictions should consider installation of lighting surrounding crosswalks at intersections and mid block locations to provide better visibility of pedestrians crossing streets at night.
- Local cities should develop citywide Safe Routes to School strategies to guide measures around local schools.
- Local jurisdictions should continue to improve pedestrian safety expertise among transportation professionals and others involved in roadway and land-use design.

Challenge Area 9.
Improve Safety for Older Roadway Users

- Support roadway, intersection and interchange improvements that support improving rights of way decision by older drivers.
- Local jurisdictions should consider installation of improved visibility traffic signals as part of the normal traffic signal replacement cycle.
- Support signage and striping that enhance driver's ability to notice, recognize and respond to warning signs during nighttime and/or inclement weather conditions.
- Local jurisdictions should incorporate median sanctuaries for pedestrians at appropriate intersections.
- Support JARC/New Freedom, para-transit to include those over 65 years of age.
- Encourage formation and expanded use of Supplemental Transportation Systems (STPs), particularly in locations where standard public transit is sparse or unavailable.

Challenge Area 10.
Reduce Speeding and Aggressive Driving

- Local jurisdictions should use ITS and traffic signalization as a strategy to reduce speeding on arterials during light traffic conditions.
- Traffic Management Centers should contact police or CHP when traffic cameras observe reckless speeding on arterials and freeways.
- Local jurisdictions can support the State in developing driver education components for teens and new drivers.
- Local jurisdictions should increase frequency, consistency and publicity of sobriety checkpoints in areas with high DUI caused accidents.

Challenge Area 11.
Improve Commercial Vehicle Safety

- Local jurisdictions should support the use of dedicated truck capacity on corridors with significant truck traffic in order to separate commercial vehicles from passenger vehicles.

- Local jurisdictions should identify intersections and interchanges prone to high commercial vehicle collisions, identify appropriate infrastructure improvements and make adjustments as needed.
- Local jurisdictions should support the use of truck climbing lanes as a method to segregate commercial vehicles from passenger vehicles.

Challenge Area 12. Improve Motorcycle Safety

- Local jurisdictions should focus motorcycle-related law enforcement activities on areas with high motorcycle volumes.

Challenge Area 13. Improve Bicycling Safety

- Local jurisdictions should develop and regularly update bicycle master plans.
- Local jurisdictions should fund and install dedicated bicycle facilities where appropriate and safe.
- Local jurisdictions should incorporate applicable Complete Streets policies—providing safe access for all modes—as fundamental principles of transportation plans.
- Local jurisdictions should consider bicycle and pedestrian safety as part of Compass Blueprint Land Use Planning.
- Local jurisdictions should consider pedestrian and bicycle safety in all maintenance projects where new striping will be required or existing striping is to be replaced.
- Local jurisdictions should consider the use of intersection control devices that detect bicyclists, particularly left turn signals.

Challenge Area 14. Enhance Work Zone Safety

- Local jurisdictions should ensure that work zones accommodate all modes of transportation.
- Local jurisdictions should ensure that work zones have signs warning of pavement irregularities and other work zone issues that could be collision factors.
- Local jurisdictions should consider temporary traffic signal changes to mitigate congestion around work zones.

Challenge Area 15. Improve Post Crash Survivability

- Local jurisdictions should utilize Intelligent Transportation System technology to improve response time for EMS to and from collision sites.

Challenge Area 16. Improve Safety Data Collection, Access and Analysis

- Local jurisdictions should improve data collection and analysis regarding trip characteristics, level of service, injuries and fatalities on roadways.
- Local jurisdictions should use Geographical Information Systems or the Web Based Transportation Injury Mapping System to better identify high-accident locations
- Local jurisdictions should work with the State and county transportation commissions to improve the quality, timeliness, accessibility and usefulness of traffic safety data.

Challenge Area 17: Reduce Distracted Driving

- Local jurisdictions should increase frequency, consistency and publicity of Distracted Driving enforcement.
- Local jurisdictions should participate in the annual statewide cell phone/texting observational survey.

Introduction

The safety of people and goods as they travel is one of the key characteristics of any transportation system. The importance of providing a safe transportation system is emphasized by transportation and law enforcement agencies at all levels, and is recognized as one of the chief responsibilities of transportation planners.

Safety is defined as the protection of persons and property from unintentional damage or destruction caused by accidental or natural events.

In 2005, Congress passed the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which required states to develop Strategic Highway Safety Plans (SHSPs).

The California Department of Transportation (Caltrans) responded by developing its SHSP through a participatory process with over 300 stakeholders throughout California. The overarching goal was to reduce the California roadway fatality rate to less than 1.0 fatality per 100 million vehicle miles traveled (VMT) by 2010. Caltrans is currently updating the SHSP to reflect new goals, actions and challenge areas to further reduce transportation fatalities in the State.

The following report documents how the SCAG region is meeting the SHSP goals, and details what steps should be taken to further reduce traffic fatalities in the SCAG region.

Existing Conditions

The rate of fatal and injury collisions on California's highways has declined dramatically since the California Highway patrol began keeping such data in the 1930s. California has led the nation in roadway safety for much of the past 20 years. Only recently have roadways nationally become as safe as those in California.

California's 2008 Mileage Death Rate (MDR) – Fatalities per 100 million miles traveled (100 Million VMT) is 1.05, much lower than the national MDR of 1.25. Of the five largest states in terms of total traffic fatalities, (CA, FL, TX, GA, & NC), California has the best rate.

FIGURE 1 California Mileage Death Rate (1933–2009)



Source: SWITRS

Consequences of Accidents in the SCAG Region

While the trend indicates a long-term decline in fatalities compared to VMT, it represents an unacceptable personal burden on those involved. There is also a regional burden in lost productivity, increased traffic congestion and pollution.

The National Safety Council reports that the calculable costs of motor-vehicle crashes are wage and productivity losses, medical expenses, administrative expenses, motor vehicle damage, and employers' uninsured costs. The average costs for each traffic death, traffic injury, or property damage crash were (in 2005):

- Death – $1,150,000
- Nonfatal Disabling Injury – $52,900
- Property Damage, including non-disabling injuries – $7,500

While the California SHSP focuses on activities at the State level, local governments can supplement these activities providing additional benefit. This document provides a brief overview of how jurisdictions can help in the implementation of each strategy laid out in the SHSP.

As SCAG is a planning agency, and does not coordinate enforcement, education or emergency response, this document will focus on engineering improvements. Where funding information is available for education, enforcement or emergency response, that information is provided.

Existing Conditions

The SCAG region has an extensive transportation system with over 50,000 freeway and arterial lane-miles. The region had 11.1 million licensed drivers and 13.4 million registered vehicles in 2008. The same year, over two million people rode public transit daily. Unfortunately, 1,533 people died and 124,975 were injured in traffic collisions in the SCAG region.

The primary source for collecting accident data in the California SHSP is the Statewide Integrated Traffic Reporting System (SWITRS). The California Highway Patrol collects collision data from local and State agencies. Data collected for 2008 in the SCAG region are summarized in **TABLES 1** and **2**.

TABLE 1 Traffic Fatalities in the SCAG Region (2008)

County	Driver Killed	Passenger Killed	Pedestrian Killed	Cyclist Killed	Motorcyclist Killed	Total Killed
Imperial	25	10	3	1	1	39
Los Angeles	354	117	212	32	111	715
Orange	89	32	31	10	33	162
Riverside	153	63	28	9	33	253
San Bernardino	165	79	39	7	34	290
Ventura	46	18	8	2	11	74
Regional Totals	**832**	**319**	**321**	**61**	**223**	**1,533**
Statewide Totals	**1,910**	**719**	**642**	**130**	**529**	**3,401**
Regional Percentage	**43.60%**	**44.40%**	**50.00%**	**46.90%**	**42.20%**	**45.10%**

TABLE 2 Traffic Injuries in the SCAG Region (2008)

County	Driver Injured	Passenger Injured	Pedestrian Injured	Cyclist Injured	Motorcyclist Injured	Total Injured
Imperial	422	303	25	25	22	775
Los Angeles	45,217	21,071	5,280	3,325	2,935	74,893
Orange	12,047	4,942	818	1,084	794	18,891
Riverside	7,898	3,939	359	369	621	12,565
San Bernardino	7,509	4,326	456	280	567	12,571
Ventura	**3,368**	**1,364**	**240**	**308**	**248**	**5,280**
Regional Totals	**76,461**	**35,945**	**7,178**	**5,391**	**5,187**	**124,975**
Statewide Totals	**147,981**	**68,727**	**13,405**	**11,760**	**11,764**	**241,873**
Regional Percentage	**51.70%**	**52.30%**	**53.50%**	**45.80%**	**44.10%**	**51.70%**

TABLE 3 Traffic Fatality Summary 1996–2009

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Imperial	35	65	62	35	55	45	49	45	56	46	42	42	39	37
Los Angeles	863	764	624	684	749	768	728	816	750	745	801	759	715	589
Orange	197	175	157	175	164	207	193	215	215	205	210	193	162	154
Riverside	278	253	269	231	266	262	312	303	321	333	349	318	253	219
San Bernardino	333	312	300	297	318	334	334	357	409	425	397	354	290	236
Ventura	71	61	58	59	87	73	66	79	70	71	82	74	74	62
SCAG Region	**1,777**	**1,630**	**1,470**	**1,481**	**1,639**	**1,689**	**1,682**	**1,815**	**1,821**	**1,825**	**1,881**	**1,740**	**1,533**	**1,297**
California, Excluding SCAG Region	**2,195**	**2,041**	**1,989**	**2,078**	**2,091**	**2,237**	**2,407**	**2,410**	**2,273**	**2,479**	**2,316**	**2,227**	**1,868**	**1,779**

TABLE 4 Traffic Injury Summary 1996–2009

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Imperial	1,191	1,212	1,313	1,264	1,172	1,324	1,219	1,231	1,159	1,040	1,133	963	775	680
Los Angeles	91,540	82,096	82,218	83,978	88,801	91,443	92,744	92,557	90,042	86,582	83,941	82,480	74,893	73,107
Orange	22,326	22,611	23,070	22,780	22,996	23,043	22,782	24,173	23,917	23,028	21,671	20,082	18,891	18,735
Riverside	11,216	10,941	11,358	11,752	12,968	12,700	14,291	15,105	15,805	15,966	15,720	14,601	12,565	11,705
San Bernardino	15,408	14,695	14,743	15,255	15,786	16,107	16,517	17,022	17,299	16,929	16,628	15,090	12,571	11,735
Ventura	6,274	6,096	6,167	5,912	6,418	6,646	6,892	7,085	6,587	6,266	5,965	5,562	5,280	4,747
SCAG Region	**147,955**	**137,651**	**138,869**	**140,941**	**148,141**	**151,263**	**154,445**	**157,173**	**154,809**	**149,811**	**145,058**	**138,778**	**124,975**	**120,709**
California, Excluding SCAG Region	**152,151**	**147,220**	**151,829**	**147,786**	**154,882**	**154,644**	**156,244**	**149,993**	**147,548**	**142,987**	**82,516**	**127,909**	**116,898**	**112,068**

TABLE 5 Drivers in Fatal Collisions by Type of Collision by Movement Preceding Collision

	Collision Type								
	Head-On	Sideswipe	Rear End	Broadside	Hit Object	Overturned	Auto/ Pedestrian	Other	Total
Movement Preceding Collision									
Stopped	9	11	115	43	4	5	7	3	197
Proceeding straight	382	218	333	722	279	94	520	75	2,623
Ran off road	11	8	10	5	370	122	11	8	545
Making right turn	1	3	4	12	6	3	22	9	60
Making left turn	34	7	8	186	8	6	37	10	296
Making U turn		1	1	7			2	1	12
Backing	2		2	4			5	3	16
Slowing/stopping	6	5	33	4	2	3	2	1	56
Passing other vehicle	24	6	7	6	9	4	3		59
Changing lanes		42	26	4	9	2	6	1	90
Parking maneuver				1	1		1		3
Entering traffic		1	3	10	1	3	3	2	23
Other unsafe turning	12	5	8	7	74	32	5	5	148
Crossed into opposing lane	139	17	1	24	8	5		2	196
Parked			2						2
Merging		1	1	1		1	1	2	7
Traveling wrong way	28	3		3	4	1			39
Other	5	14	10	15	165	59	8	3	279
Not stated	2	2	1	3	3		9	3	23
Total	**655**	**344**	**565**	**1,057**	**943**	**340**	**642**	**128**	**4,674**

TABLE 6 Drivers in Injury Collisions by Type of Collision by Movement Preceding Collision

	Collision Type								
Movement Preceding Collision	Head-On	Sideswipe	Rear End	Broadside	Hit Object	Overturned	Auto/ Pedestrian	Other	Total
Stopped	954	1,562	41,281	3,379	192	105	275	538	48,286
Proceeding straight	9,465	15,288	55,064	54,369	8,489	3,592	5,688	3,528	155,483
Ran off road	236	143	167	123	6,094	2,272	74	157	9,266
Making right turn	531	1,243	1,219	3,244	565	222	1,717	797	9,538
Making left turn	4,859	1,871	1,009	19,494	807	359	2,094	982	31,475
Making U turn	105	228	106	1,554	57	25	29	77	2,181
Backing	35	87	376	360	66	17	512	231	1,684
Slowing/stopping	151	449	15,269	433	189	241	134	212	17,078
Passing other vehicle	71	573	157	352	107	63	37	43	1,403
Changing lanes	68	4,180	1,970	507	782	321	31	173	8,032
Parking maneuver	4	58	49	20	27	1	35	15	209
Entering traffic	165	521	240	3,076	66	64	187	195	4,514
Other unsafe turning	248	619	466	301	2,206	816	71	97	4,824
Crossed into opposing lane	893	500	29	221	142	72	13	22	1,892
Parked	14	114	123	41	22	2	23	55	394
Merging	18	192	160	65	48	19	10	17	529
Traveling wrong way	225	62	11	77	62	11	13	11	472
Other	83	987	522	385	4,669	1,172	100	120	8,038
Not stated	106	154	593	328	81	45	170	220	1,697
Total	**18,231**	**28,831**	**118,811**	**88,329**	**24,671**	**9,419**	**11,213**	**7,490**	**306,995**

FIGURE 2 Drivers in Fatal Collisions by Type of Collision by Movement Preceding Collision

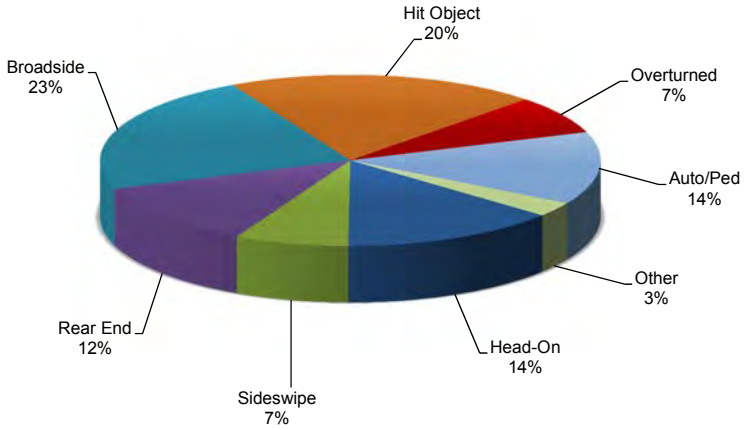
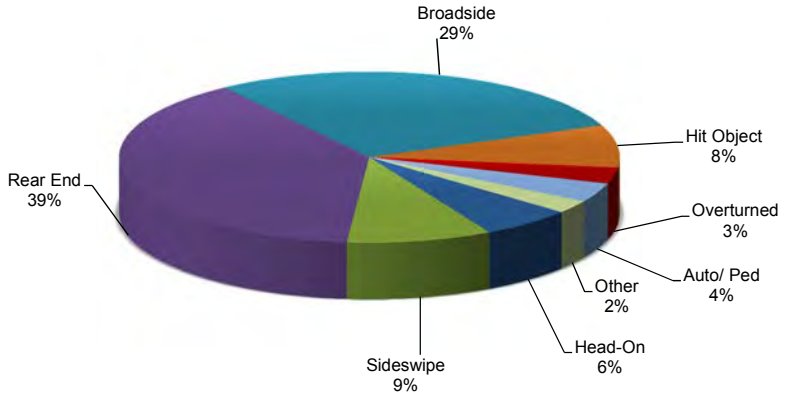


FIGURE 3 Drivers in Injury Collisions by Type of Collision by Movement Preceding Collision



In research for the SHSP, the data indicates that intersections and turns/rights of way are significant factors in many collisions within the various challenge areas (drunk driving, elderly drivers, bicycling, etc.). By placing the highest emphasis on intersection safety within each challenge area, SCAG hopes to meet the goals of the SHSP to reduce transportation fatalities as well as increase transportation safety in the region.

TABLE 7 Persons Killed by Primary Collision Factor

Persons Killed by Primary Collision Factor	2005	2006	2007	2008	2009
Driving or Bicycling Under Influence of Alcohol or Drug	23.47%	23.42%	22.89%	23.23%	23.05%
Improper Turning	20.07%	19.28%	20.09%	19.17%	19.90%
Unsafe Speed	15.85%	15.20%	17.34%	16.55%	15.02%
Pedestrian Violation	9.08%	9.44%	8.77%	10.47%	10.24%
Wrong Side of Road	7.18%	7.60%	7.03%	6.85%	5.82%
Automobile Right-of-Way	6.06%	6.43%	5.52%	6.20%	5.88%
Traffic Signals and Signs	5.23%	5.38%	5.70%	4.44%	5.43%
Unsafe Lane Change	2.21%	2.29%	2.47%	2.15%	2.99%
Unknown	2.16%	2.31%	1.79%	1.85%	2.70%
Pedestrian Right-of-Way	1.84%	2.29%	2.09%	2.71%	2.60%
Other Than Driver	1.72%	1.57%	1.13%	1.68%	2.24%
Not Stated*	1.70%	1.60%	1.69%	2.12%	1.63%
Other Hazardous Violation	1.25%	1.19%	1.34%	0.79%	0.39%
Improper Passing	1.00%	1.07%	0.73%	0.71%	0.94%
Unsafe Starting or Backing	0.42%	0.19%	0.53%	0.47%	0.33%
Other Improper Driving	0.37%	0.31%	0.33%	0.21%	0.29%
Impeding Traffic	0.05%	0.12%	0.18%	0.00%	0.20%
Following Too Closely	0.21%	0.14%	0.10%	0.12%	0.13%
Other Equipment	0.07%	0.02%	0.20%	0.15%	0.10%
Hazardous Parking	0.05%	0.10%	0.05%	0.12%	0.07%
Lights	0.02%	0.05%	0.00%	0.03%	0.07%

Challenge Area 1:
Reduce Impaired Driving-Related Fatalities

California SHSP Goal: By 2010, reduce the number of roadway user fatalities attributed to alcohol and drug use by 15 percent from their 2004 level.

TABLE 8 Traffic Deaths Related to Alcohol or Drugs

	2004	2005	2006	2007	2008	2009	Goal (15% Below 2004 Levels	% Increase/ Decrease from Goal
Imperial	20	11	4	13	6	7	17	-58.82%
Los Angeles	259	240	276	268	258	204	220	-7.34%
Orange	67	78	80	75	62	62	57	8.87%
Riverside	116	112	136	129	101	87	99	-11.76%
San Bernardino	138	120	133	105	94	98	117	-16.45%
Ventura	19	16	31	28	27	23	16	42.41%
SCAG Region	**619**	**577**	**660**	**618**	**548**	**481**	**526**	**-8.58%**
Total	**1,462**	**1,387**	**1,420**	**1,347**	**1,239**	**1,146**	**1,243**	**-7.78%**

While the SCAG region has seen a decline in DUI/Drug collision fatalities since 2004 exceeding the goal set by the State, Orange County and Ventura County still exceed the goal. In addition, there was a sharp rise in fatalities in most SCAG counties in 2006 indicating that a reversal in the trend of reduced DUI fatalities could easily occur.

In addition, data indicates a significant rise in alcohol related fatalities beginning when drivers turn 18.

FIGURE 4 Persons Killed in Alcohol Involved Collisions by Age of Victim



SCAG Response

SCAG has no implementation authority, so can do little to enforce traffic laws, educate travelers, or provide EMS. What SCAG can do is work with the state and county transportation commissions to develop projects that promote the goals of the strategic highway safety plan, in conjunction with the enforcement, education and EMS goals. Local Governments should consider the following strategies from the SHSP Implementation Plan:

1.1 Consider increasing frequency, consistency, and publicity of sobriety checkpoint operations by law enforcement agencies in areas with the highest fatality rates.

Law enforcement increased the number of checkpoints in 2010 compared to a year earlier at the 50 cities with the highest rates of DUI fatalities. DUI arrests at the checkpoints increased by almost 25 percent.

Cities/counties can continue this work by pursuing NHTSA Incentive/Transfer Program Grants under S23 U.S.C. 402 or 23 U.S.C. 410

1.2 Encourage and increase statewide crime laboratory support and distribution of portable evidential breath testing devices to allow for increased use by law enforcement personnel.

The California Office of Traffic Safety (OTS) solicited counties to apply for funding for new PEBT devices. Kern and Ventura Counties were awarded 2010 grants. OTS funded $1.7 million toward support and infrastructure to the Department of Justice's (DOJ) project to replace existing PEBT devices.

Cities/Counties can continue this work by pursuing NHTSA Incentive/Transfer Program Grants under Section 410: Alcohol Impaired Driving Countermeasure Incentive Grants.

Cities and Counties should consider many of the following additional strategies as they relate to local measures to reduce DUI fatalities.

1.3 Implement and maintain the Traffic Safety Resource Prosecutor program including specialized (DUI) prosecution training statewide and DUI prosecutor mentoring.

1.4 Promote implementation of vertical prosecution of DUI offenders.

1.5 Institute programs that provide intense monitoring of "worst of the worst" repeat DUI offenders.

1.6 Develop uniform and consistent system for hospital staff to notify law enforcement upon the arrival of a person who has been involved in a traffic collision in which alcohol may have been involved.

1.7 Design and develop a study to identify discrepancies in county DUI rates and develop recommendations for system improvements.

1.8 Increase, by 15 percent, the number of law enforcement officers who are trained and certified as Drug Recognition Evaluator officers.

1.9 Develop protocol and staffing to expand use of Screening and Brief Intervention Programs in hospitals and trauma centers, and encourage courts to obtain pre-sentence alcohol and drug screening investigations as authorized in Vehicle Code Section 23249.50 and include resulting recommended treatments in sentencing of convicted DUI offenders.

1.10 Track and report in the Department of Motor Vehicles (DMV) DUI Management Information System annual report the enrollment and completion rates of DUI offenders into alcohol programs.

1.11 Increase the use of Minor Decoy and Decoy Shoulder Tap Programs to detect and deter the furnishing of alcohol to minors.

1.12 DUI countermeasure evaluations including an increase in the use of home arrest (electronic confinement) for nonviolent DUI offenders.

1.13 Develop and distribute a "tool kit" identifying programs, providers, and resources that will assist communities in implementing effective community-based, comprehensive, multijurisdictional DUI task forces.

1.14 Encourage Licensee Education on Alcohol and Drugs training to retail licensees and their employees.

1.15 Encourage full law enforcement, forensic laboratory, and DMV compliance and application of the administrative license suspension law provisions, through ongoing administrative training and outreach to law enforcement agencies, and by continuously tracking and reporting statewide and regional administrative operation trends.

1.16 Facilitate the development and distribution of reference materials for use by judicial officers in court at entry of plea and sentencing proceedings to include mandatory sentencing requirements for license suspension, treatment programs, ignition interlock requirements, enhancements for elevated Blood Alcohol Content (BAC) levels, and open container laws.

1.17 Increase publicity of the DUI Management Information System annual report to law enforcement, alcohol program providers, and the courts.

Challenge Area 2: Reduce the Occurrence and Consequence of Leaving the Roadway and Head-On Collisions

California SHSP Goal: By 2010, reduce the number of fatalities attributed to vehicles leaving the roadway by 15 percent from their 2004 level.

"Within California, data shows that the number of fatalities from vehicles leaving the roadway and head-on collisions accounted for 34 percent of total fatalities from

2002–2004. Although lower than the national average, further safety improvements are possible. In order to reduce the fatalities and injuries resulting from vehicles leaving the road, efforts must be made to: (1) keep vehicles from leaving the road, (2) reduce the likelihood and severity of errant vehicles crashing into fixed objects, and (3) reduce the likelihood of errant vehicles overturning."

California intends to employ the following strategies to reduce the occurrence and consequence of leaving the roadway:

1. Keep vehicles on the roadway.
2. Minimize the consequences of leaving the roadway.
3. Reduce head-on collisions.
4. Apply advanced technology to reduce collisions.

SCAG Response

Work with subregions and county transportation commissions to continue to incorporate into highway construction/reconstruction methods to warn drivers (such as rumble strips, "Botts' Dots," pavement markers, curve warning signs/beacons) they are leaving the highway or wandering into other lanes.

Support the continuing deployment of high visibility signage and road striping that enhance driver's ability to notice, recognize and respond to warning signs during nighttime or periods of inclement weather.

Strategies that the State is pursuing where local governments can provide assistance include:

2.1 Implement a program to reduce run-off-road collisions on local roadways.

2.2 Develop a collision severity reduction program for local roadways.

2.3 Enhance existing collision concentration identification programs (specifically the Tables C and C Wet in the Traffic Accident and Surveillance Analysis System (TASAS) database) on the State Highway System.

2.4 Develop a program for local roadways that monitors 2- and 3- lane roadways for cross centerline collision concentrations.

2.5 Enhance the existing 2- and 3- Lane Monitoring Program on State Highway System.

2.6 Enhance the 210.015 Collision Severity Reduction Program on the State Highway System.

2.7 Continue to implement and enhance the Run Off Road Program on the State Highway System.

2.8 Continue to implement and enhance the Median Barrier Monitoring System on the State Highway System.

Challenge Area 3: Ensure Drivers are Properly Licensed

California SHSP Goal: By 2010, reduce the number of fatalities attributed to drivers with no license, invalid license, or not licensed for class of vehicle by 15 percent from their 2004 level.

California intends to employ the following strategies to address the challenge of unlicensed and incompetent drivers:

1. Improve the initial licensing process.
2. Improve the competency of licensed California drivers.
3. Improve how California manages unlicensed drivers.
4. Improve how California manages drivers who operate vehicles with a suspended or revoked license.

SCAG Response

While SCAG has an interest in ensuring drivers are [properly licensed, SCAG has no implementation authority with regard to the strategies and implementation plan. Implementation is at a State level.

For reference, the implementation strategies from the Strategic Highway Safety Plan are listed below.

3.1 Improve driver competency assessment tools to improve the renewal driver licensing process.

3.2 Improve educational components to inform the public about the new laws as new initial licensing and renewal licensing laws are implemented and established.

3.3 Encourage and increase vehicle impoundment for drivers whose licenses are suspended or revoked, or who are unlicensed.

3.4 Create a public awareness campaign addressing the consequences of driving without a valid license.

3.5 Improve driver competency assessment tools to improve the initial driver licensing process.

3.6 Examine the reasons why some individuals choose to drive without a proper license rather than reinstate licensing privileges when eligible and based on this information propose ways to increase the reinstatement rate.

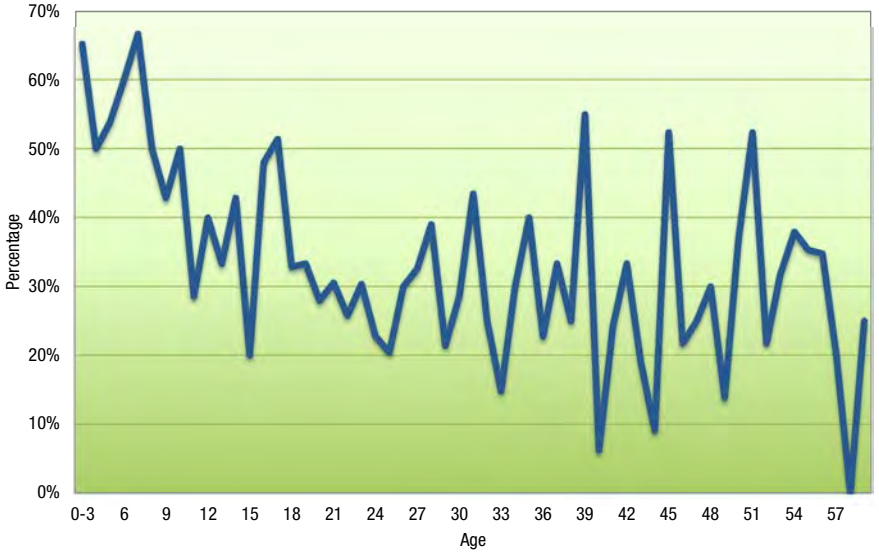
3.7 Increase the integrity of the written testing process for driver license

Challenge Area 4: Increase Use of Safety Belts and Child Safety Seats

California SHSP Goal: By 2010, increase statewide safety belt usage from the 2005 level of 92.5 percent to 95 percent, improve the use of child safety seats from 2005 level of 86.9 percent to 90.0 percent, and increase the percent of all vehicle occupant fatalities that are restrained to 70 percent.

The combination of air bags and lap and shoulder safety belts offers the most effective safety protection available for passenger vehicle occupants. California reports a 92.5 percent usage of safety belts in motor vehicles for 2005, yet in 60 percent of traffic fatalities involving victims under age 9 in California, safety devices were not used.

FIGURE 5 Percentage of California Traffic Fatalities Where Safety Equipment Was Not Used (by Age) 2009



Nearly 150 children under age 5 were killed in vehicle collisions within the SCAG region between 2004 and 2009, an average of 24.6/year.

TABLE 9 Passenger Victims Aged 5 and Under Killed in Collisions by County

	2004	2005	2006	2007	2008	2009
Imperial	2	2	0	1	0	1
Los Angeles	7	8	5	5	5	7
Orange	3	1	0	3	3	1
Riverside	9	6	3	7	6	5
San Bernardino	8	7	10	11	6	5
Ventura	0	3	1	1	2	1
Total	**29**	**27**	**19**	**28**	**22**	**20**

TABLE 10 Fatalities as a Percentage of All Traffic Fatalities

Primary Collision Factor	2004	2005	2006	2007	2008	2009
Improper Turning	18.76%	20.07%	19.28%	20.09%	19.17%	19.90%
Wrong Side of Road	7.60%	7.18%	7.60%	7.03%	6.85%	5.82%
Automobile Right-of-Way	7.67%	6.06%	6.43%	5.52%	6.20%	5.88%
Unsafe Lane Change	2.81%	2.21%	2.29%	2.47%	2.15%	2.99%
Pedestrian Right-of-Way	2.30%	1.84%	2.29%	2.09%	2.71%	2.60%
Ventura	0	3	1	1	2	1
Total	**29**	**27**	**19**	**28**	**22**	**20**

While SCAG has an interest in ensuring vehicle safety equipment is used, SCAG has no implementation authority with regard to the strategies and implementation plan. Implementation is at a State level and local level.

Localities can provide increased enforcement, particularly for child safety device usage and seat belt use among young (15–24) drivers and passengers.

For reference, the implementation strategies from the Strategic Highway Safety Plan are listed below.

4.1 Implement occupant protection programs targeted at ages 15–24 years.

4.2 Encourage increased enforcement and education campaigns for occupant protection programs.

4.3 Implement education campaigns for child passenger safety usage.

4.4 Develop and implement a social norms (media) campaign targeted to ages 15–24 years to influence or promote seat belt usage.

4.5 Initiate a project to develop a system that links the California Emergency Medical Services Information System (CEMSIS), SWITRS, and medical data (for example, data on injuries treated in hospitals and emergency departments.

4.6 Encourage prioritization of child passenger safety enforcement statewide.

4.7 Enhance occupant protection curriculum and oversight in all traffic related education programs.

4.8 Incorporate child passenger safety training (from certified child passenger safety trainers) into firefighter, health care, law enforcement, community-based organizations, and child care curricula/training for both initial and continuing education.

4.9 Promote the establishment of permanent child passenger safety fitting stations with paid staff, targeting counties based on need.

4.10 Develop a program that increases the accuracy of California child safety occupant protection misuse data.

4.11 Improve the child passenger safety violator process.

4.12 Implement substantially more child passenger violator educational programs statewide.

Challenge Area 5: Improve Driver Decisions about Rights-of-way and Turning

California SHSP Goal: By 2010, reduce the number of fatalities attributed to improper rights of way and turning decisions by 10 percent from their 2004 level.

In 2009, California was 17.7 percent below the goal, a remarkable achievement. However, driver errors in rights of way and turning represent nearly 40 percent of all traffic fatalities in California. Improper turning represented the most frequently cited collision factor representing nearly 20 percent of all traffic fatalities in 2009.

TABLE 11 Fatalities by Primary Collision Factor as a Percentage of All Traffic Fatalities

	Crossing in crosswalk - at intersection	Crossing in crosswalk – not at intersection	Crossing – not in crosswalk	In roadway – includes shoulder	Not in roadway	Approach/leave school bus	Not Stated	Total
0–4	2.30%	2.70%	6.30%	3.30%	5.30%		3.30%	3.80%
5–14	13.90%	14.70%	23.90%	9.90%	11.80%	18.20%	13.10%	15.80%
15–24	22.20%	24.90%	20.00%	24.10%	19.20%	18.20%	25.70%	21.80%
25–34	12.60%	10.50%	9.80%	17.50%	13.40%	9.10%	14.80%	12.70%
35–44	10.50%	12.30%	9.30%	15.30%	12.00%	9.10%	10.90%	11.10%
45–54	13.90%	10.50%	12.70%	14.70%	14.30%	36.40%	10.90%	13.70%
55–64	10.60%	9.90%	7.90%	7.80%	10.50%	9.10%	10.40%	9.40%
65 and over	13.30%	13.50%	9.30%	6.50%	13.20%		8.70%	11.00%
Total	**44.20%**	**2.40%**	**27.30%**	**16.50%**	**8.10%**	**0.10%**	**1.30%**	**100.00%**

The Challenge Area Team defined Rights of Way and Turning as the following:

RIGHT OF WAY is a driving concept that is fundamental to the most important decision that a driver makes. It is more commonly associated with decisions to cross or enter an intersection, but it also applies to maneuvers performed along a uni-directional flow of traffic (e.g. weaving, passing, merging and diverging).

IMPROPER TURNING is the primary collision factor (PCF) most often reported when vehicles traveling on highway segments (i.e. between access points) leave their lane, then the highway, and then crash along the roadside.

UNSAFE LANE CHANGING – is also used to report collisions on highway segments, but with one difference: the offending vehicle collides with a vehicle in an adjacent or other lane before it can leave the highway. IMPROPER TURNING and UNSAFE LANE CHANGING are closely related, and can be mitigated with the same improvement strategies.

The Challenge Area Team developed the following hypotheses concerning the conditions causing improper Rights of Way and Turning decisions. The two most prevalent operating conditions that occur on a regular (at least daily) basis at high collision locations include:

a. Combination of high volumes and speeds
b. Combination of unstable flow and speed differential between adjacent lanes; this condition is noteworthy because it is the primary source of abrupt or last second lane changing that appears to present a higher risk or potential for collisions than ordinary lane changing.

The most common physical (geometric) conditions or deficiencies at locations or segments with concentrated collisions are:

a. Access points that meet, or violate the minimum spacing requirements (per Caltrans or AASHTO policy)
b. Cross-sections of eight or more lanes (4 or more lanes in one direction of travel)
c. High ramp density due to closely spaced access points and multiple ramps serving single interchanges (due to high volumes seeking to enter or exit a freeway).

The most complex combination of geometrics, operational maneuvers and decision-making occurs along freeway corridors containing HOV lanes, especially when limited access design and operation is employed (the standard practice in Southern California). These facilities usually have the highest volume of traffic, the widest cross sections, a high level of recurrent and non-recurrent congestion, and left-side access openings between the HOV lane and adjacent freeway lanes that are superimposed over the existing right-side access ramps in a way that violates standard interchange spacing requirements.

A large percentage of collisions for this Challenge Area are located in the Los Angeles Basin - the area comprised of LA and Orange Counties, and parts of Ventura, Riverside and San Bernardino Counties.

This area contains:

- The highest volume highways (freeways) in the state
- The most congested highways (freeways) in the state
- The most lane miles of HOV lane found anywhere in the state (or nation)
- The highest density of freeway access points in the state (especially where HOV access openings have been superimposed on the existing freeway system)
- The longest commutes in the state (in terms of both distance and duration).

Finally, it is important to recognize that millions of decisions related to operational maneuvers occur throughout the entire highway network on a daily basis, yet collisions are concentrated over a very small portion of the infrastructure, and only when a certain combination of conditions exist. This clearly suggests that the frequency of maneuvers is not by itself responsible for collision concentrations. In fact, the presence of specific geometric features (including deficiencies) and operating conditions are prerequisites for collision concentrations.

STRATEGIES

California intends to employ the following strategies to reduce the number of fatalities attributed to improper rights of way and turning decisions:

1. Educate drivers on turning rules to support proper turning decisions.
2. Increase enforcement of drivers who make unsafe turns.
3. Employ traffic control devices, traffic calming, and speed-reduction design practices to reduce the likelihood and severity of crashes related to turning movements.
4. Improve roadway geometrics to restrict unsafe turns by motor vehicles.
5. Apply advanced technology to reduce collisions.

SCAG Response

Support the use of traffic control devices, traffic calming, and speed-reduction design practices to reduce the likelihood and severity of crashes related to turning movements.

Support improved roadway geometrics to restrict unsafe turns by motor vehicles.

Support the use of advanced technology and ITS to reduce collisions.

Encourage local governments to use the Transportation Injury Mapping System (TIMS) [See http://tims.berkeley.edu/index.php] to identify high crash locations within their jurisdictions.

5.1 Develop and encourage implementation of a systematic approach to the identification and improvement of existing and potential “high crash concentration locations” involving improper driver decisions about rights-of-way and turning.

5.2 Develop and encourage implementation of a systematic approach for the review of traffic control devices to identify devices in need of replacement, relocation or upgrade prior to the routine maintenance cycle.

5.3 Review driver education materials and procedures to include turning rules to support proper turning decisions.

5.4 Explore and implement approved technologies being used by other states and countries to reduce severe traffic collisions associated with turning and lane changing on high-speed, multilane facilities.

5.5 Expand the use of existing technology-based tools and strategies that have been demonstrated to correct or minimize the traffic operating conditions that are a primary cause of collisions related to abrupt lane changing near freeway merge and diverge points.

5.6 Improve and update highway design and operational policy, standards, and practices to reflect safety-related lessons learned and research findings. Apply new policy, standards, and practices during the planning and design of improvement projects on high-speed, multilane highway facilities.

5.7 Support new and ongoing research and development projects associated with in-vehicle communication and information technologies to help detect and warn drivers of potential collision with other vehicles in the adjacent lane during lane change maneuvers.

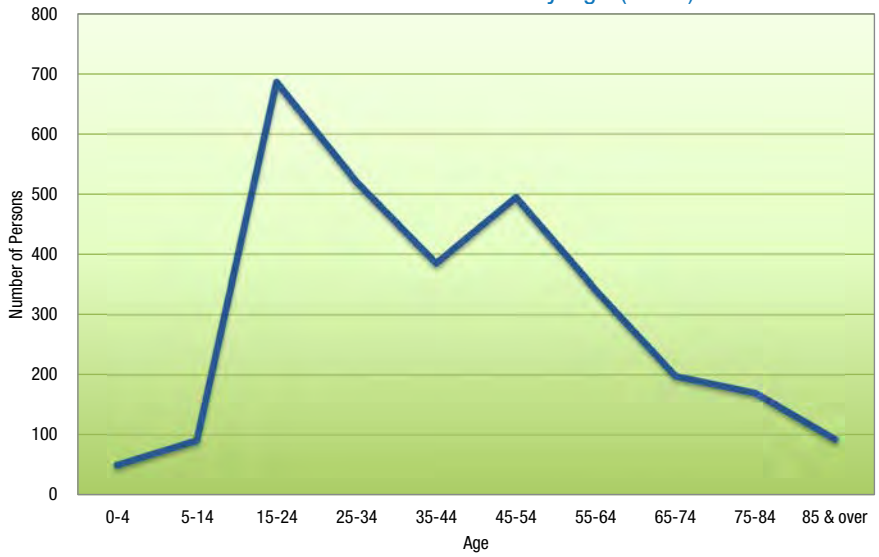
Challenge Area 6: Reduce Young Driver Fatalities

California SHSP Goal: By 2010, reduce the number of fatalities attributed to drivers age 15–20 by 15 percent from their 2004 level.

In 2004, 983 persons aged 15–24 were killed on roadways in California. Nearly 550 of them were drivers of motor vehicles. To reach the goal, driver deaths in this age group would have to decline to below 468 by 2010. In 2009, 372 drivers, aged 15–24 were killed, exceeding the goal set in the Strategic Highway Safety Plan.

Motor Vehicle accidents are the leading cause of death for young drivers. As the Figure 8 indicates, fatalities rapidly increase by age up until age 25, where they decline to levels normally associated with older, more experienced drivers.

FIGURE 6 Persons Killed in Traffic Collisions by Age (2009)



STRATEGIES

As part of its SHSP Implementation Plan, Caltrans developed the following strategies:

6.1 Implement the Driver Performance Evaluation drive test, as originally developed, to include freeway driving.

6.2 Establish a task force to resolve issues and make recommendations related to improving driver education and training.

6.3 Increase the use of law enforcement for graduated driver licensing outreach programs and proactive enforcement.

6.4 Initiate a program that promotes usage of parent-teen contracts related to driving privileges.

6.5 Expand the implementation of young driver programs such as: Smart Start, Right Turn, Teen Smart, Every 15 minutes, Friday-night Live, Sober Graduation, and Target Responsibility for Alcohol Connected Emergencies (TRACE), and encourage development of new programs.

6.6 Modify completion certificates for the required driver education and training courses to allow the DMV to include information on the driver record reflecting the modality of course offered as well as the type of organization that conducted the training.

6.7 Implement program to have DMV send a congratulatory letter to every provisional licensee that goes six months without any violations or collisions, until the provisional status is terminated at age 18 years. Encourage the insurance industry to provide discounts for parents and teens who receive a letter.

6.8 Increase schools district awareness of the State-legislated Safe Routes to School Program (SR2S) and the federal Safe Routes to School (SRTS) Program and encourage implementation of elements of these programs whenever possible if funding is insufficient for a comprehensive implementation.

6.9 Establish a task force to work with existing statewide media campaigns and to develop and pursue use of public service announcements to convey traffic safety messages related to young drivers and use of alcohol and drugs.

6.10 Encourage additional local communities to implement and maintain anti-DUI programs such as, Teenage Party Prevention, Enforcement and Dispersal, Minor Decoy Program, the Shoulder Tap Program, and TRACE.

SCAG Response

SCAG has no jurisdiction regarding the licensing of drivers

Challenge Area 7: Improve Intersection and Interchange Safety for Roadway Users

California SHSP Goal: By 2010, reduce the number of intersection crash fatalities by 15 percent from their 2004 level.

Over 166,000 people were injured or killed at intersections in the SCAG region between 2003 and 2005 (an annual average of 55,333), representing nearly 22 percent of traffic fatalities and 35 percent of all traffic injury and fatality victims.

The Challenge Area Team noted that in California, on average, during 2003-2005, more than 97,000 people were injured or killed each year attempting to navigate the unique characteristics of roadways crossing another road or railroad tracks. There are several major aspects of the fatal intersection safety problem. Fatal collisions tended to:

- Occur on local roads (80 percent),
- Involve broadside collisions (64 percent), and/or
- Involve violations of traffic signals, stop signs, or another user's right of way (58 percent).

Collisions at intersections represent the greatest factor in a majority of the challenge areas. Pedestrians, young drivers, older drivers and impaired drivers each represent over 20 percent of fatalities and injuries at intersections.

STRATEGIES

Seven strategies were developed that, along with relevant strategies from other challenge areas, have the potential to reduce fatalities at intersections and interchanges. These include:

7.1 Review existing or potential high-crash intersections and implement appropriate safety countermeasures, including but not limited to: visibility, advance warning, signal timing, access control, geometrics, operation and safety of all transportation modes, the use of roundabouts, intelligent transportation system tools, and targeted law enforcement.

7.2 Review existing or potential high-crash interchanges and implement appropriate safety countermeasures, including but not limited to: visibility, advance warning, access control, geometrics, operation and safety of all transportation modes, intelligent transportation system tools, and targeted law enforcement.

7.3 Establish a program, or utilize an existing program, for proactive review and safety improvements at rural high-crash concentration locations.

7.4 Review existing or potential high-crash at-grade railroad-highway crossings for contributing factors and implement Median Island Program or make other improvements such as visibility, advance warning, and geometrics.

7.5 Review existing or potential high-crash offset "T" intersections and convert to four-legged, signalized intersections as appropriate to improve traffic operations and safety.

7.6 Assess both the DMV's current California Driver Handbook and standard traffic school curriculum for information on intersection/interchange safety and make necessary additions and revisions.

7.7 Establish a State program to encourage local agencies to participate in blueprint visioning planning with participating MPOs/RTPA to provide streetscapes that incorporate land use and traffic measures that increase the safety of the intersections for pedestrian, bicyclists, and motorists.

SCAG Response

SCAG is working with communities as part of the blueprint process in order to coordinate local land use with transportation. This process incorporates transit oriented development and walkable communities. This can include:

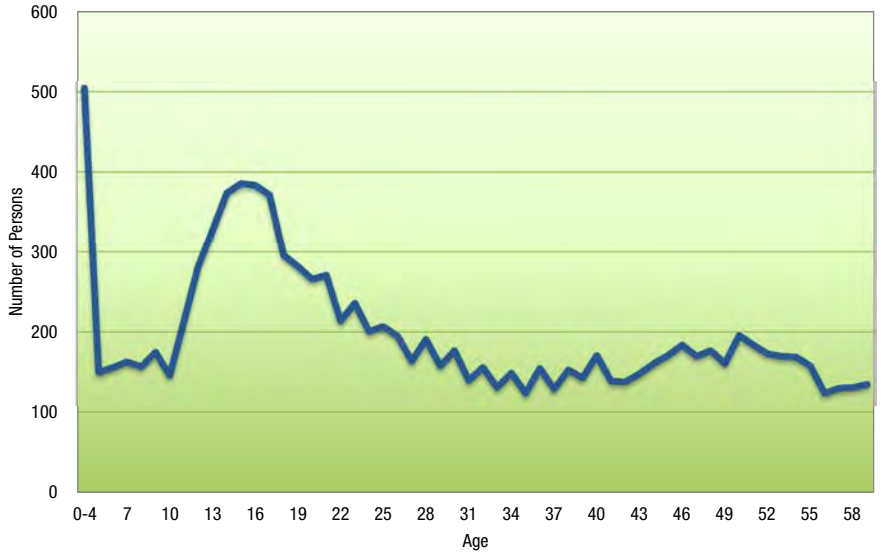
- Incorporate intersection safety into the compass blueprint strategy.
- Incorporate ITS at high incident intersections to reduce red-light violations causing collisions.

- Encourage clearly marked, visible crosswalks
- Encourage the installation of improved visibility traffic signals as part of the normal traffic signal replacement cycle.
- Encourage development of median sanctuaries for pedestrians
- Support signalization at problem non-signalized intersections
- Encourage changing intersection geometries, where applicable. (offset intersection to aligned intersection, intersection to interchange, intersection to roundabout)

Challenge Area 8: Make Walking and Street Crossing Safer

California SHSP Goal: By 2010, reduce the number of pedestrian fatalities attributed to vehicle collisions by 25 percent from their 2000 level.

FIGURE 7 Pedestrians Injured by Age



Over 7,500 pedestrians were injured or killed in the SCAG region in 2009. Los Angeles County, the most urbanized, has the highest number of killed and injured. In looking at percentages, Los Angeles County leads also (the lower absolute number of fatalities and injuries in Imperial County skews the data).

One goal of the California Strategic Highway Safety Plan is "By 2010, reduce the number of pedestrian fatalities attributed to vehicle collisions by 25 percent from their 2000 level." The SCAG region had 349 pedestrian fatalities in 2000. That would entail reducing pedestrian fatalities to less than 280 by 2010. In 2009, SCAG had 312 pedestrian fatalities. While progress is being made, the region is still significantly higher than the goal.

SCAG reviewed the SWITRS fatality and injury data. The results of this data indicate:

- The months of October through January have disproportionately high numbers of pedestrian injuries.
- Fridays and Saturdays have disproportionately high numbers of pedestrian fatalities and severe injuries.
- The highest percentage of pedestrian injuries and fatalities (44 percent) occurred while crossing in a crosswalk at an intersection
- Although the bulk of walking trips take place during daylight hours, 60 percent of pedestrian fatalities occur during the hours of 7 PM to 7 AM.
- Two-thirds of pedestrians killed in the State and 60 percent of those injured were male.
- Older pedestrians (65 and over) account for 19 percent of pedestrian injuries, but 25 percent of pedestrian fatalities.
- Children 14 and under account for 20 percent of pedestrian injuries, yet only 5 percent of pedestrian fatalities.
- Somewhat lower vehicle speeds in urban areas increase survivability of vehicle occupants in a collision, increasing the proportion of pedestrian fatalities to all traffic fatalities.

STRATEGIES

The California SHSP intends to employ the following overall strategies to reduce pedestrian fatalities:

1. Incorporate pedestrian safety into smart growth, land use planning, and other local plans.

2. Enhance the enforcement of violations of pedestrian law by pedestrians and motorists.
3. Educate all roadway users regarding the rights and responsibilities of pedestrians.
4. Promote and improve roadway safety infrastructure for pedestrians including the use of advanced technology.
5. Improve the visibility of pedestrians on the roadway.
6. Improve the safety of pedestrians traveling to and from schools.
7. Improve data collection and analysis regarding pedestrian trip characteristics, level of service, injuries and fatalities on California roadways.
8. Improve pedestrian safety expertise among transportation professionals and others involved in the design process.
9. Consider pedestrian needs in all roadway and transit projects.
10. Reduce vehicle speeds on urban thoroughfares and rural highways.

SCAG Response

- Encourage cities and counties to develop funding mechanisms to maintain and improve sidewalks and intersections to make them ADA compliant
- Encourage every city to develop Safe Routes to School policies and plans
- Encourage cities and counties to consider the needs of elderly and persons with disabilities crossing streets and develop appropriate countermeasures for their safety.
- Encourage cities and counties to integrate pedestrian safety into general & specific plans, non-motorized transportation plans and other land use policy documents
- Encourage the development of Pedestrian Safety Action Plans in all urban and rural communities
- Incorporate applicable Complete Streets policies—providing safe access for all modes—as fundamental principles of transportation plans
- Encourage safe, convenient, high visibility pedestrian crossings at mid-block and intersection locations on urban thoroughfares and rural highways.
- Encourage clearly marked, visible crosswalks at intersections and mid block locations
- Encourage the use of advanced signalization at intersections
- Encourage pedestrian and bicycle safety in all maintenance projects where new striping will be required or existing striping is to be replaced

8.1 Expand the SRTS to implement a comprehensive, age-appropriate approach to school traffic safety, including school facilities planning, collaboration, and coordination among those responsible for education, transportation, and land use planning to maximize safety for children walking to and from schools.

8.2 Develop pedestrian safety improvement programs to identify and improve safety at high-crash concentration locations involving pedestrians.

8.3 Form a task force to assist in development of pedestrian safety action plans, to facilitate training delivery, and to establish pedestrian safety improvement programs in California's urban and rural communities.

8.4 Promote pedestrian safety audits and implementation of recommendations.

8.5 Establish a Pedestrian Safety Data Think Tank to develop and implement a comprehensive Pedestrian Safety Data Plan which improves and institutionalizes pedestrian safety data collection and analysis, ensures that existing data collection efforts include information on pedestrian fatalities, injuries, and exposure, and implements a readily available format for local research and investigation.

8.6 Improve pedestrian striping and include standard safety upgrades in routine maintenance and striping projects.

8.7 Assess both the DMV's California Driver Handbook and standard traffic school curriculum for information on pedestrian-related laws, collision factors, and defensive walking and make additions/revisions as necessary. Develop and provide complementary ongoing pedestrian safety education materials reinforced with public information programs.

8.8 Implement Complete Streets—providing safe access for all modes—and model pedestrian safety principles as fundamental in transportation and land use plans with incentives to cities, counties, and regions to integrate pedestrian safety in general and specific land use plans, transportation plans, and other policy documents.

Challenge Area 9: Improve Safety for Older Roadway Users

California SHSP Goal: By 2010, reduce the number of fatalities attributed to drivers age 65 and older by 10 percent from their 2004 level.

Older drivers tend to self-regulate, driving less, avoiding rush hour and nighttime driving unless necessary. However, that means that older drivers are over represented when taking into account vehicle miles traveled. In addition, the frailty associated with advancing years means that older drivers are more likely to succumb to injuries in a minor collision than a younger person.

Intersections pose a particular safety problem for older drivers. Navigating through intersections requires the ability to make rapid decisions, react quickly, and accurately judge speed and distance. As these abilities can diminish through aging, older drivers have more difficulties at intersections and are more likely to be involved in a fatal crash at these locations. Research shows that 37 percent of traffic-related fatalities involving drivers aged 65 and older occur at intersections compared with 18 percent for drivers aged 26 to 646.

"Failure-to-yield crashes occurred most often when drivers were turning left and occurred more frequently at stop signs than at signalized intersections. One reason was because failure-to-yield crashes at traffic signals were coded only for drivers turning left or right (going straight through a red light was coded as ran traffic control), whereas failure-to-yield crashes at stop signs were coded for drivers traveling straight as well as turning left or right. However, even among failure-to-yield crashes when drivers were turning left or right, a greater percentage occurred at stop signs (45 percent) than at signalized intersections (29 percent)..."

"...Compared with drivers of other ages, drivers ages 70–79 made more evaluation errors in failure-to-yield crashes, and these errors generally occurred when drivers saw the other vehicles but misjudged whether there was enough time to proceed."[7]

This may occur because of the level of cooperation needed at unsignalized intersections. At signalized intersections, the light dictates who moves. At a stop sign, there is greater interaction within the intersection proper. Some drivers enter the intersection "out of order" or come close to other cars already in the intersection "Among the oldest drivers, failure to see other vehicles may be due to age-related declines in visual ability or decreased ability to process multiple sources of information simultaneously." At "two way stop" intersections, the problems include, determining two-way or four-way stop, and assessing speed of non-stopping cars.

Recognizing that intersections are particularly problematic for older drivers, the FHWA's top priority in its Highway Design Handbook for Older Drivers and Pedestrians is intersection improvements. Practices to improve older drivers' ability to navigate intersections include using bigger signs with larger lettering to identify street names, consistent placement of lane use signs and arrow pavement markings, aligning lanes to improve drivers' ability to see oncoming traffic, and using reflective markers on medians and island curbs at intersections to make them easier to see at night.

STRATEGIES

California intends to employ the following strategies to reduce older driver crashes:

1. Improve driver licensing testing and assessment procedures to more accurately reflect behind-the-wheel capabilities.
2. Create and promote wellness and behavioral strategies for older persons, making it possible for them to drive safely for added years.
3. Enhance law enforcement training to recognize older driver behaviors that may necessitate priority driver license re-examinations, and provide law enforcement with a broader understanding of older driver sensitivities.
4. Develop public education materials, programs and tactics that clearly explain how the aging process affects driving and what families, friends and the public can do to help seniors (1) drive for more years safely and (2) transition comfortably to alternate forms of transportation when driving ceases.
5. Explain and encourage older persons' self-assessment of driving abilities and how to take advantage of that information to make appropriate decisions about driving.
6. Seek the cooperation and coordination of the transit (bus, light rail, etc.) community to make these transportation options more accommodating and practical for older persons who can no longer drive.
7. Implement advancements in highway lighting, striping, signing and engineering practices to make the highway environment safer for older drivers.

8. Leverage the programs and resources of the Older Californian Traffic Safety Task Force to help with accomplishment of stated objectives.
9. Promote the establishment and enhanced capacity of occupational therapy driving evaluation and rehabilitation programs that serve seniors.
10. Improve the ability of health care professionals to provide effective assessment, counseling, and remediation to improve safe mobility of seniors.

SCAG Response

- Support JARC/New Freedom, paratransit to include those over 65 years of age.
- Support roadway, intersection and interchange improvements that support improving rights of way decision by older drivers.
- Encourage formation and expanded use of Supplemental Transportation Systems (STPs), particularly in locations where standard public transit is sparse or unavailable.
- Support signage and striping that enhance driver's ability to notice, recognize and respond to warning signs during nighttime and/or inclement weather conditions.

9.1 Implement and widely disseminate older driver safety and mobility programs of partner organizations.

9.2 Improve left-turn options and intersections to meet the needs of older drivers.

9.3 Provide statewide training, tools, and outreach to physicians and other health care providers on driving and dementia.

9.4 Continue to hold the yearly Senior Safe Mobility Summit to:
(1) Stimulate communities to assess the need for, and if needed, offer transportation choices more responsive to the needs of older adults, and
(2) Assist seniors to remain safe drivers for as long as possible.

9.5 Encourage implementation and installation of traffic control devices included in California Manual on Uniform Traffic Control Devices (CAMUTCD) to accommodate older drivers and pedestrians, particularly in areas with senior populations.

9.6 Provide training to local and county design engineers and others on CAMUTCD-approved recommendations for accommodating older drivers and pedestrians.

9.7 Expand senior orientation and travel training by all major transit systems initially and smaller systems eventually.

9.8 Implement a multimedia education campaign to:
(1) broaden senior awareness of transportation options
(2) increase senior willingness to use these options; and
(3) enlist the support of families, friends, and the community in helping seniors transition to alternative forms of transportation.

9.9 Encourage all California law enforcement agencies to adopt a policy to use the revised Form DS427, Notice of Priority Re-Examination, to standardize the process throughout the state.

9.10 Encourage formation and expanded use of supplemental transportation systems, particularly where standard public transit is sparse or unavailable.

9.11 Seek approval from the Commission on Peace Officers Standards and Training to incorporate the National Highway Traffic Safety Administration National Older Driver Law Enforcement Curriculum into the core curriculum taught at California's law enforcement academies.

9.12 Develop models for funding occupational therapist evaluation of older persons' functional driving skills.

9.13 Encourage efforts to establish a mobility action plan as described in Senate Bill 910 for California and to form a Mobility Council, which would oversee activities to ensure the action plan is carried out. Recommend that the Mobility Council include consumer representation.

Challenge Area 10. Reduce Speeding and Aggressive Driving

California SHSP Goal: By 2010, reduce the number of fatalities attributed to speeding and other forms of aggressive driving by 15 percent from their 2004 level.

The SHSP Challenge Area Team performed a review of the statistics from SWTRS reports between 2003 and 2005. The results indicate a number of trends in California:

The five counties having the highest number of aggressive driving fatalities in the state are Los Angeles (25.1 percent), San Diego (9.5 percent), San Bernardino (7.6 percent), Riverside (7.1 percent) and Orange (4.8 percent).

STRATEGIES

California intends to employ the following strategies to reduce speeding and aggressive driving collisions.

The SHSP Implementation Plan will present specific action items to implement these strategies:

1. Change our social norms to reduce the acceptability of speeding and other forms of aggressive driving.
2. Provide targeted enforcement to locations prone to speeding and other forms of and aggressive driving.
3. Employ engineering methods to deter speeding and other forms of aggressive driving (e.g. traffic calming).
4. Ensure consistent adjudication of drivers cited for speeding and other forms of aggressive driving.
5. Apply advanced technology to reduce collisions.
6. Reduce the presence of speeding, unsafe and aggressive driving on the television and in movies.

SCAG Response

Work with the State and county transportation commissions to determine if various project submissions have potential benefit to safety in this challenge area.

10.1 Develop a statewide definition for aggressive driving.

10.2 Conduct public information and education media outreach campaign.

10.3 Develop and encourage implementation of a systematic approach to identify and improve safety in high-crash concentration locations involving speeding and aggressive driving.

10.4 Form multijurisdictional traffic enforcement teams to address speeding and aggressive driving.

10.5 Employ vehicle impounding as a potential deterrent to speeding and aggressive driving.

10.6 Educate traffic commissioners and judges with consistent training programs on speeding and aggressive driving.

10.7 Develop a pilot re-education program to assess the effectiveness of behavior modification training on recidivism rates of repeat aggressive driving offenders

Challenge Area 11. Improve Commercial Vehicle Safety

California SHSP Goal: By 2010, reduce the number of commercial vehicle crash fatalities by 10 percent from their 2004 level.

Commercial Vehicle Safety is critical to the SCAG region. The region hosts three seaports and six active commercial airports that represent a significant amount of imported and exported cargo passing into and through the region. In addition, agriculture, particularly in Imperial and Ventura counties represent time-critical commercial transportation.

The State has exceeded its goal, reducing fatal collisions involving commercial vehicles in 2009 by 31 percent from 2004.

TABLE 11 Pedestrians Killed and Injured by Action – 2009

Collisions	2004	2009	Percent Decline
Total fatal collisions	3,701	2,805	24.20%
Fatal truck collisions	342	236	31.00%
Percent of total	9.20%	8.40%	
Total injury collisions	203,386	163,524	19.60%
Injury truck collisions	7,949	4,874	38.70%
Percent of Total	**3.90%**	**3%**	

The SCAG region represented 52.1 percent of the State's 5110 truck collisions that involved a fatality or injury in 2009. Of the 5110 truck involved collisions in the State, 2,124, or 42 percent had truck drivers at fault.

The majority of the 5,110 truck involved collisions in the State occurred when the truck was going straight (3,058), stopped (390) followed by changing lanes (331).

SCAG Response

- Support the use of dedicated truck capacity on corridors with significant truck traffic in order to separate commercial vehicles from passenger vehicles.
- Support the continued modernization of intersections and interchanges prone to high commercial vehicle collisions to promote safety
- Support the use of truck climbing lanes as a method to segregate commercial vehicles from passenger vehicles.

11.1 Establish minimum training standards for new commercial vehicle drivers.

11.2 Increase the number of strike force operations.

11.3 Conduct joint studies at high-crash collision locations involving commercial vehicles, identify appropriate infrastructure improvements, and make adjustments as needed.

11.4 Enhance the Commercial Industry Education Program.

11.5 Increase Biennial Inspection of Terminal inspections from 2006 levels.

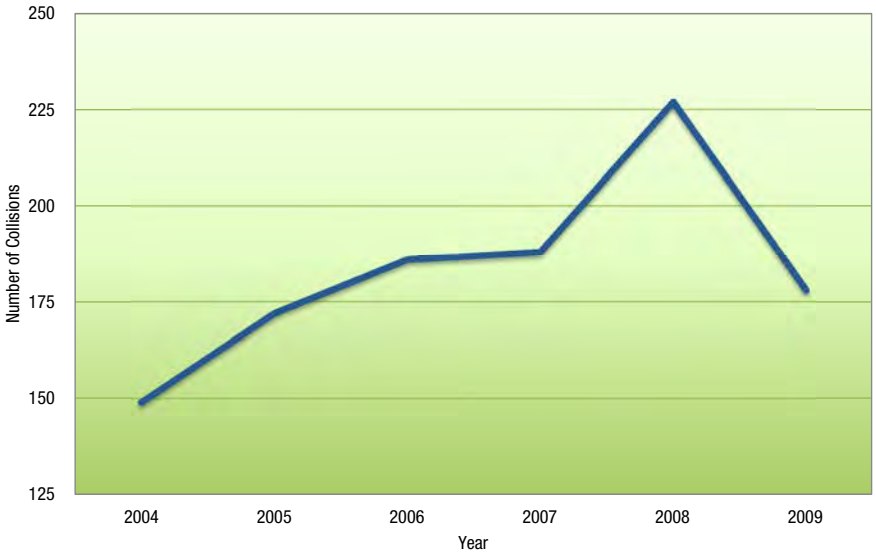
11.6 Study the feasibility of improving commercial vehicle safety by adding additional rest stops in identified locations, and increase the number of rest stops as needed.

11.7 Advertise next rest stop location, use rest stop smart technology, and add rest stop information on the Caltrans website.

Challenge Area 12: Improve Motorcycle Safety

California SHSP Goal: By 2010, reduce the number of motorcycle rider fatalities by 10 percent from their 2004 level. In 2004 in the SCAG region, there were over 3,853 motorcycle collisions, of which 149 were fatal. In 2009, there were 4,789 motorcycle collisions, of which 178 were fatal. This represents a 19.5 percent increase in motorcycle fatalities in the SCAG region. In contrast, while State motorcycle fatalities increased in the same period, it did so by only 10.5 percent.

FIGURE 8 Fatal Motorcycle Collisions 2004–2009



In the State of California, motorcycles are involved in 13.9 percent of all fatal collisions, and 6.2 percent of all injury collisions. Within the SCAG region, motorcycles are involved in 14.7 percent of all fatal traffic collisions.

In researching the data for this challenge area, motorcyclists in their 20s were more than twice as likely as most other age groups to be at fault in a collision.

The primary collision factors for motorcycle collisions in 2009 were: unsafe speed, improper turning and driving under the influence (DUI) of alcohol and/or drugs.

- Alcohol impairment is a substantial problem for motorcyclists, more so than for drivers of other motor vehicles.
- Unsafe speed and improper turning indicate a need for an emphasis on rider education and training.
- Licensing (written/practical testing) and training standards for motorcyclists are lower than for drivers of passenger vehicles. This is despite the fact riding a motorcycle requires higher levels of both vehicle control and cognitive skills.

The greatest primary collision factor with motorcycle collisions is unsafe speed. Also noted in the table is that the 20–24 age group is significantly higher in collisions with a primary collision factor of unsafe speed. Younger motorcycle drivers have the highest number of collisions in 12 primary collision factors.

STRATEGIES

California intends to employ the following strategies to reduce motorcyclist fatalities:

1. Educate the public on motorcycle safety.
2. Improve the training, testing, and licensing of motorcyclists.
3. Enhance the enforcement of motorcyclist violations and violations by the operators of other vehicles.
4. Increase the use of safety equipment by motorcyclists.
5. Improve motorcyclist visibility to other roadway users.
6. Improve roadway design to enhance motorcycle safety.
7. Promote the use of helmets that meet USDOT standards.

SCAG Response

- Work with the State and county transportation commissions to determine if various project submissions have potential benefit to safety in this challenge area.
- Work with local governments to help identify motorcycle high-collision concentration locations and help develop plans to mitigate possible causes.

12.1 Develop a monitoring program to identify motorcycle high-collision concentration locations and implement engineering, enforcement, and education improvements.

12.2 Hold a motorcycle safety summit to review the SHSP actions and create an action plan for statewide motorcycle safety initiatives. Include stakeholders representing riders, government, safety organizations, law enforcement, insurance companies, and dealers.

12.3 Assess both the DMV's California Driver Handbook and standard traffic school curriculum for information on sharing the road with motorcycles and make additions and revisions as necessary.

12.4 Create and implement an on-line traffic violator school curriculum specifically for motorcyclists.

12.5 Install signs and markings at high-crash concentration locations involving motorcycles, that are consistent with the CAMUTCD; remove, relocate, make breakaway or shield fixed objects; consider crashworthy barriers that are more "forgiving" to motorcyclists, or make curve corrections.

12.6 Identify owners of motorcycles who are not licensed to operate a motorcycle and alert them to California's requirement to be licensed in order to operate their motorcycle.

12.7 Educate judges, judge pro-tems, and court commissioners through DMV court liaisons to make them aware that the Basic Rider Course can be used to educate violators and to help them recognize proper and legal safety equipment.

12.8 Focus motorcycle-related law enforcement activities on areas with high motorcycle volumes.

12.9 Develop and implement motorcycle media campaigns such as "Ride like you're invisible, not invincible!" using a social marketing approach and using new media (YouTube, My Space, etc.).

12.10 Encourage the development and distribution of the CHP brochure, a DVD, and new media that describe the difference between the United States Department of Transportation (USDOT) approved helmet and other helmets.

12.11 Encourage use of approved USDOT helmets. Establish opportunities for helmet exchange and discount certificates towards the purchase of a safer helmet.

12.12 Create a Motorcycle Initiatives Review Committee to increase quality, continuity, and relevance of materials as well as to promote sharing of information related to motorcyclist-safety or motorcycle-awareness.

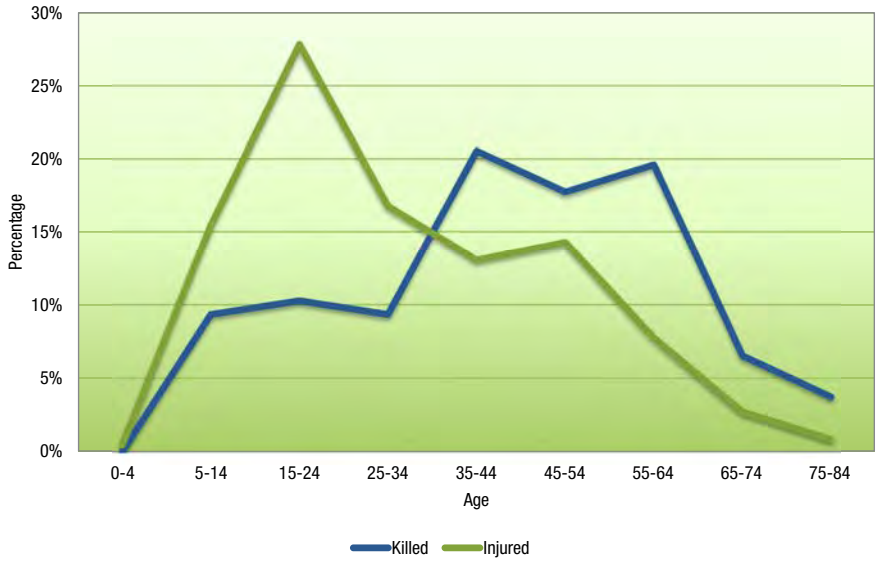
Challenge Area 13. Improve Bicycling Safety

California SHSP Goal: By 2010, reduce the number of bicycle roadway fatalities by 25 percent from their 2000 level.

In 2000, 118 bicyclists were killed on roads in the SCAG region, and 12,074 were injured. In contrast, in 2009, 107 bicyclists were killed and 12,043 were injured, a 9.3 percent and .26 percent decline, respectively.

The highest bicycle collision injuries are within the 15–24 age range (27.9 percent as a percentage of all bicycle collision injuries). It slowly declines, but then has a slight uptick in the 45–54 age range. The highest percentages of bicycling fatalities are within the 35–44 range (20.6 percent) and 55–64 (19.6 percent)

FIGURE 9 Bicyclists Killed and Injured by Age



Bicycling fatalities as a percentage of all traffic fatalities are low when compared to the number of motor vehicle deaths. The 107 bicyclists killed in 2009 represented 3.5 percent of all traffic fatalities in the State. Bicyclist injuries represented 5.2 percent of all traffic injury collisions in the State during the same period.

Collisions involving bicyclists tend to peak in late summer and fall, declining after October, before rising again in March.

FIGURE 10 Percentage of Bicyclist Collisions by Month



Historically, the primary goal of roadway design for urban thoroughfares and rural highways has been to increase vehicular traffic flow particularly at peak congestion times. This has created situations where slow speed bicycles are traveling at speeds less than 25 miles per hour are sharing lanes with cars often going at much greater speeds. This speed differential, coupled with the physics of a 30 pound bicycle colliding with, or being struck by, a 3000+ pound vehicle, is a factor in the severity of injuries.

The increasing popularity of bicycling for commuting, utilitarian and recreational use has created increasing conflicts between motor vehicles and bicyclists. One obvious potential solution is to build more dedicated bicycle facilities in order to separate bicyclists from

motorists whether through bike paths or bike lanes. Anecdotal evidence from New York City, Portland and other cities indicate that increasing facilities for bicycles both increase the number of bicyclists while also increasing their safety.

STRATEGIES

California intends to employ the following strategies to reduce bicyclist fatalities on California's roadways:

1. Improve data collection regarding bicyclist trips, injuries, and fatalities on California roadways.
2. Incorporate bicyclists into smart growth, land use planning, and other local plans.
3. Enhance the enforcement of bicyclist and motorist roadway laws.
4. Educate all roadway users regarding the rights and responsibilities of bicyclists.
5. Promote and improve roadway safety infrastructure for bicyclist use.
6. Improve the visibility of bicyclists on the roadway.
7. Improve the safety of bicyclists traveling to and from schools, utilizing education, encouragement, enforcement and engineering techniques.
8. Increase the use of helmets and enforcement of related laws.
9. Improve bicycle safety expertise among transportation professionals.

SCAG Response

- Encourage every city in the SCAG region to be connected via bicycle facilities, including wayfinding signage
- Develop regionally significant bicycle corridors for bicycle travel throughout the region
- Encourage every city to fully implement their bicycle master plans
- Encourage all local jurisdictions to develop Active Transportation Master Plans.
- Incorporate applicable Complete Streets policies—providing safe access for all modes—as fundamental principles of transportation plans.
- Encourage the consideration of bicycle and pedestrian safety as part of Blueprint Land Use Planning.
- Encourage pedestrian and bicycle safety in all maintenance projects where new striping will be required or existing striping is to be replaced
- Encourage the use of intersection control devices that detect bicyclists, particularly left turn signals.
- Encourage bicycle education in lieu of fines for bicyclists and motorists who commit bicycle related traffic violations
- Support expanding Safe Routes to School programs for non-infrastructure projects focusing on education, bicyclist visibility, motorist awareness, and accommodation of bicyclists
- Develop a standardized database of bicycle data, including safety, counts, surveys, etc. for use throughout the SCAG region.

13.1 Establish a bicycle safety improvement program-with project selection criteria-for State highways and local roads. Establish more bicycle and pedestrian corridors and create partnerships in high-collision incident areas.

13.2 Increase bicycle helmet usage through education and promotion.

13.3 Enhance bicycling information in DMV materials and procedures.

13.4 Enhance bicycling information in current Peace Officer Standards and Training, California Vehicle Code, and traffic law enforcement modules.

13.5 Support and expand the California Bicycle Coalition Complete Streets Sub-Committee to develop a curriculum and design standards for complete streets, traffic calming, safe intersection design, and appropriate vehicle speeds for environments where pedestrians and bicyclists are legal users.

13.6 Provide improved guidance and standards in the CAMUTCD for safely accommodating bicyclists in work zones.

13.7 Provide information about policies concerning bicycling to transportation professionals-including State and local agencies and transportation consultants.

13.8 Implement and encourage bicycle safety inspections, training, and education at schools as part of physical education or other programs.

13.9 Support expanding Safe Routes to School programs for non-infrastructure projects focusing on education, bicyclist visibility, motorist awareness, and accommodation of bicyclists.

13.10 Improve data collection-from various sources-regarding bicycle trips and bicycle collisions.

13.11 Develop and implement a bicycle safety public education, information, and enforcement program for all age groups of road users.

Challenge Area 14. Enhance Work Zone Safety

California SHSP Goal: By 2010, reduce work zone fatalities by 10 percent from their 2004 level.

A work zone is an area of the road where maintenance or construction occurs and may involve lane closures, detours, shoulder work and moving equipment. In the SCAG region, the work zone can be any time of year. On many of SCAG roadways, the work often occurs at night. Many fatalities occur because of excessive speed, impaired, and distracted driving.

In 2009, there were 46 work zone fatalities in California, a 58 percent reduction from the 109 work zone fatalities in 2004. Those killed included drivers, vehicle occupants, workers, bicyclists and pedestrians.

Highway work zones create a major safety concern for roadway users and workers alike. In 2003, national fatalities in work zones totaled 1,068. This number included 117 pedestrians, most of whom were construction workers, and 943 vehicle drivers and occupants.

STRATEGIES

California intends to employ the following strategies to reduce work zone fatalities:

1. Enhance safe driving through work zones with education and enforcement.
2. Improve traffic control in work zones.
3. Reduce worker exposure and improve worker visibility.
4. Apply advanced technology to enhance work zone area.
5. Improve data collection and analysis.

For California Temporary Traffic Control Zones" http://dot.ca.gov/hq/traffops/signtech/signdel/pdf/PedBrochure.pdf

14.1 Expand present efforts to create and implement a joint training program for field personnel and law enforcement officers to better understand each others' responsibilities and coordinate activities in the work zone.

14.2 Improve collection, storage, and evaluation of work zone crash data.

14.3 Encourage present efforts to increase use of dynamic merge systems to reduce rear-end collisions and aggressive driving.

14.4 Encourage and permanently fund present efforts to influence driver behavior with Slow for the Cone Zone and Work Zone Awareness campaigns and to reduce traffic through work zones using project specific public awareness campaigns.

14.5 Encourage present efforts to deploy more and better mobile and temporary barriers and attenuators (rather than just cones) to provide positive protection for workers and safe deflection of errant vehicles.

14.6 Increase work zone safety training and proficiency of workers and traffic control staff.

14.7 Encourage present efforts to consider full closures early in the project design process with the goal of increasing the use of this option.

14.8 Develop a web-based system that records or gathers in one location information about the number, duration, and location of actual major, minor, blanket, and rolling work zones. Local road work by counties and cities, including utility companies, will be gathered at a minimum, but other data needs should be identified as well.

14.9 Encourage incorporation of the Safety Edge in construction paving projects.

14.10 Assess the DMVs' California Drivers Handbook for information on work zone safety and update or expand it as necessary.

14.11 Form a team to develop industry standards to evaluate innovative technology on a routine basis as practitioners propose new methods and technologies to improve work zone safety.

14.12 Encourage present efforts to improve access and detours for bicyclists and pedestrians near work zones.

14.13 Expand improvements to traffic control and encourage use of project specific websites to provide motorists with work zone delay information.

14.14 Form a team to evaluate best work zone safety practices in other states and to develop a request for proposal purchasing process for innovative technology to allow routine use with minimum legal challenges.

SCAG Response

Encourage work zone safety training and proficiency for all transportation modes) at city and county governments.

Encourage efforts to improve access and detours for bicyclists and pedestrians near work zones, such the brochure on "Pedestrian Considerations

Challenge Area 15. Improve Post Crash Survivability

California SHSP Goal: By 2010, reduce crash-related fatalities in California at least 5 percent from their 2004 level through focused improvements in Emergency Medical Services (EMS) system communications, response and safety education.

In 2004, 302,176 persons in California required Emergency Medical Service (EMS) response as a result of a serious motor vehicle collision.

Challenge Area 15 focuses on the person that survives a serious motor vehicle collision. Improving EMS response time to the collision, transport time, and inter-facility transfer time (when appropriate) will result in achieving the targeted "Golden Hour" (the time period from the incident until the victim receives definitive specialized trauma care; ideally no longer than 60 minutes) Adherence to the "Golden Hour" concept is critical to survival and optimum outcome.

The first peak in post-crash deaths is within seconds or minutes of injury. If the number of these deaths is to be reduced, it must be through effective prevention programs. The second peak in deaths occurs within the first four hours after incident and is due to undiagnosed and untreated injuries. These patients, whose numbers are significant, would benefit most from appropriate level of trauma care. Regionalized trauma care facilitates rapid transport to the nearest trauma center appropriate for the severity of injury. These complications can be positively affected by prompt initial resuscitation efforts in an appropriate level trauma center.

STRATEGIES

California intends to employ the following strategies to improve post-crash survivability:

1. Improve technology for locating crash sites and for improving EMS access routes and response times.
2. Ensure interoperability of communications systems between all responders to crash sites.
3. Improve patient transportation and destination from crash location.
4. Increase availability of appropriate-level trauma centers, with emphasis on rural areas.
5. Improve access to trauma-related training courses for Emergency Medical Technicians and paramedics.
6. Encourage Emergency Medical Dispatch programs to train dispatchers to assist victims awaiting arrival of EMS.
7. Improve data access to meet the needs of EMS.
8. Increase public access to first aid, cardio pulmonary resuscitation CPR, and automated external defibrillation training.

15.1 Implement the CEMSIS with appropriate linkage to other data systems, which include but are not limited to the SWITRS, Office of Statewide Health Planning and Development, and Vital Statistics.

15.2 Increase hospital participation in an inclusive State Trauma System, supporting the California Statewide Trauma Planning: Assessment and Future Direction Document.

15.3 Encourage the increased communication linkage between all emergency response agencies.

15.4 Develop a multifaceted educational program with common language for identifying location of crash, destination, and appropriate transportation of injured persons. The education will be aimed at the public (e911 cellular phone calls), law enforcement, Caltrans, and all pre-hospital personnel.

15.5 Implement a full-spectrum education program developing collaborative practice for rural trauma care. To cover the continuum of care, this education will encompass the bystander public, pre-hospital responders, and hospital personnel.

SCAG Response

- Utilize Intelligent Transportation System technology to improve response time for EMS to and from collision sites.

Challenge Area 16.
Improve Safety Data Collection, Access and Analysis

California SHSP Goal: Improve the quality, timeliness, accessibility, and usefulness of traffic safety data.

STRATEGIES

California intends to employ the following strategies to improve safety data collection, access, and analysis:

1. Improve the quality, completeness, and uniformity of data collection practices.
2. Improve data sharing among State, federal, and local agencies and stakeholders.
3. Improve accessibility to real-time information by California roadway users.
4. Enhance accessibility of traffic safety data.
5. Improve data collection and analysis regarding trip characteristics of all roadway users, level of service, injuries, and fatalities on California roadways.
6. Coordinate traffic safety information system improvements through the State Traffic Records Coordinating Committee.

SCAG Response

- Work with the State and county transportation commissions to improve the quality, timeliness, accessibility and usefulness of traffic safety data.
- Publish SHSP safety data and statistics in the annual State of the Region or State of the Commute report.

Challenge Area 17.
Reduce Distracted Driving

Interim California SHSP Goal: By 2014, based on the California Traffic Safety Survey, reduce the percentage of drivers who "regularly" talk on a hand-held cell phone, hands-free cell phone, or text while driving by 10% from the 2010 level.

STRATEGIES

California added this Challenge Area in response to collisions where cell phone usage was listed as a factor and developed the following three strategies to reduce fatalities caused by distracted driving.

17.1 Develop and implement a statewide campaign to change social norms related to distracted driving

17.2 Conduct increased enforcement and public awareness annually during National Distracted Driving Awareness Month

17.3 Document driver behavior through an annual statewide cell phone/texting observational survey.

SCAG Response

The focus of this challenge area is primarily enforcement and education. SCAG encourages local jurisdictions to develop enforcement and education programs designed to discourage distracted driving.

California Five Percent Report for the SCAG Region

The following tables represent the SCAG portion of the California Five Percent Report. The Five Percent Report is in response to the Federal requirement that each state describe at least 5 percent of its locations currently exhibiting the most severe highway safety needs, in accordance with 23 U.S.C. Sections 148(c)(1)(D) and 148(g)(3)(A). The Tables include:

- Five Percent of State Highway Locations
- Five Percent of State Highway Intersections/Interchanges
- Five Percent of State Highway Ramp Locations
- Five Percent of Local Streets and Roads

The Five Percent Report is intended to educate the State of California and local governments where problem locations are, and allow them to take steps to provide solutions. The report is for educational purposes and cannot be used in legal proceedings.

In identifying State highway locations, Caltrans used the SHS location information from its Traffic Accident Surveillance and Analysis System (TASAS) Table C Report, which generates a list of high-collision-concentration locations requiring traffic safety investigation. The TASAS Table C Report provides information for the 36-month period from January 1, 2006, through December 31, 2008. It considers collisions for 3-, 6-, 12-, 24-, and 36-month periods; traffic volumes; collision rates; average collision rates; and roadway types. The locations on the TASAS Table C Report were sorted into three lists: roadway segments (0.2-mile segments), intersections (each intersection location includes 250 feet on all approaches), and ramps (each ramp location includes entry, exit, and body of ramp). For each of these lists, the top 2.5 percent locations by fatal and injury collision rates and the top 2.5 percent locations by the number of fatal and injury collisions were identified. Combined, these figures comprise the 5 percent SHS locations for this Report.

The California Highway Patrol's Statewide Integrated Traffic Records System was used to obtain collision information for identifying locations on local streets and roads for this Report. The local streets and roads were divided into 0.5-mile segments within each county, resulting in a total of 280,166 segments. Collision concentrations were determined for segments on which at least one fatal or severe injury collision occurred from 2006 through 2008, with the assumption that these areas could have potential safety needs. There were 17,535 segments identified and sorted to generate lists by county. Each county list was sorted from high to low by the number of fatal or severe injury collisions for each segment. Following that, the top 5 percent segments for each of these county lists were identified. Segments with at least three or more fatal or severe injury collisions were included in this Report as locations.

Discovery and admission into evidence of certain reports, surveys, and information.—Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for any purpose directly relating to paragraph(1) or subsection(c)(1)(D), or published by the Secretary in accordance with paragraph(3), shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location identified or addressed in such reports, surveys, schedules, lists, or other data.

The information in this Report is also protected by title 23 United States Code section 409, "Discovery and admission as evidence of certain reports and surveys."

TABLE 12 California State Highway System Roadway Segment Locations

County	Route	Location (0.2-Mile Segment with Beginning Post Mile)	County	Route	Location (0.2-Mile Segment with Beginning Post Mile)
Los Angeles	2	029.658 to 029.858	Los Angeles	110	023.250 to 023.450 North
Los Angeles	2	030.298 to 030.498	Los Angeles	110	028.984 to 029.184 South
Los Angeles	2	033.216 to 033.416	Los Angeles	405	025.910 to 026.110 North
Los Angeles	5	004.360 to 004.560 North	Los Angeles	405	030.169 to 030.369 South
Los Angeles	5	017.072 to 017.272 South	Los Angeles	405	030.726 to 030.926 South
Los Angeles	5	017.512 to 017.712 South	Los Angeles	405	031.525 to 031.725 South

County	Route	Location (0.2-Mile Segment with Beginning Post Mile)	County	Route	Location (0.2-Mile Segment with Beginning Post Mile)
Los Angeles	10	R011.329 to R011.529 West	Los Angeles	605	R008.389 to R008.589 North
Los Angeles	60	R024.257 to R024.457 West	Los Angeles	605	R010.369 to R010.569 South
Los Angeles	91	R006.850 to R007.050 West	Orange	5	030.823 to 031.023 South
Los Angeles	91	R017.420 to R017.620 West	Orange	5	031.023 to 031.223 South
Los Angeles	91	R018.068 to R018.268 West	Orange	22	R008.726 to R008.926 East
Los Angeles	101	009.206 to 009.406 South	Orange	22	R009.271 to R009.471 East
Los Angeles	101	014.920 to 015.120 North	Riverside	15	004.135 to 004.335 South
Los Angeles	110	020.540 to 020.740 North	San Bernardino	10	012.910 to 013.110 East
Los Angeles	110	022.006 to 022.206 South	San Bernardino	38	029.509 to 029.709
Los Angeles	110	022.486 to 022.686 South	Ventura	33	016.568 to 016.768
			Ventura	33	032.098 to 032.298

TABLE 13 California State Highway System Intersection/Interchange Locations

County	Route	Location (Post Mile)
Los Angeles	2	49.701 Entrance Lower Chilao
Los Angeles	19	7.403 Somerset Blvd
Los Angeles	138	47.761 40th St East
Los Angeles	210U	3.431 Fruit St
Orange	39	1.63 Adams Ave
Orange	39	4.131 Slater Ave
Orange	39	5.471 Stark Ave
Orange	39	5.641 Edinger Ave
Riverside	74	38.48 Sanderson Ave
Ventura	1	20.14 Vineyard Ave

TABLE 14 California State Highway System Ramp Locations

County	Route	Location (Post Mile)
Los Angeles	14	R 54.38 NB Off-ramp
Los Angeles	91	R 17.004 WB On-ramp
Los Angeles	110	25.488 NB Off-ramp
Los Angeles	710	12.871 SB On-ramp
Orange	5	35.023 NB Off-ramp
Riverside	215	R 35.6 NB Off-ramp
San Bernardino	15	7.977 NB Off-ramp
Ventura	101	14.663 SB On-ramp

TABLE 15 5 percent Locations, Local Streets and Roads

County	Primary	Secondary	From	To
Los Angeles	S Figueroa St	W Manchester Ave	–1225	1415
Los Angeles	W Rosecrans Ave	Larch Ave	–125	2515
Los Angeles	S Normandie Ave	W 103rd St	–240	2400
Los Angeles	Hollywood Blvd	N Western Ave	–1340	1300
Los Angeles	S Western Ave	W 29th St	–579	2061
Los Angeles	N Highland Ave	W Sunset Blvd	–11	2629
Los Angeles	N Vermont Ave	Rosewood Ave	–2058	582
Los Angeles	Crenshaw Blvd	W 120th St	–885	1755
Los Angeles	W Jefferson Blvd	McClintock Ave	–1405	1235
Los Angeles	W Imperial Hwy	Hawthorne Blvd	–46	2594
Los Angeles	S La Cienega Blvd	Hill St	–2112	528
Los Angeles	W Florence Ave	8th Ave	–1268	1372
Los Angeles	S Normandie Ave	W 95th St	95	2735
Los Angeles	S Central Ave	E Florence Ave	–2224	416
Los Angeles	S Central Ave	E 46th St	–1536	1104
Los Angeles	Avalon Blvd	E 88th Pl	–855	1785
Los Angeles	Broadway Pl	W 38th St	–2178	462
Los Angeles	Wilshire Blvd	Bonsall Ave	–1325	1315
Los Angeles	Victory Blvd	Dempsey Ave	–1060	1580
Los Angeles	Ventura Blvd	Radford Ave	–714	1926
Los Angeles	Sierra Hwy	W Ave G	–1108	1533
Los Angeles	S La Brea Ave	Dockweiler St	–2006	634
Los Angeles	S Western Ave	W 57th St	–2379	261
Los Angeles	S Western Ave	W 37th Dr	–2311	329
Los Angeles	S Vermont Ave	W 115th St	–421	2219
Los Angeles	S Vermont Ave	W 83rd St	–2139	501
Los Angeles	S Vermont Ave	W 74th St	–214	2426

County	Primary	Secondary	From	To
Los Angeles	W El Segundo Blvd	S Budlong Ave	–830	1810
Los Angeles	S Prairie Ave	W Century Blvd	–1174	1466
Los Angeles	Crenshaw Blvd	W Florence Ave	–1527	1113
Los Angeles	E Anaheim St	Loma Ave	–1398	1242
Los Angeles	Venice Blvd	Menlo Ave	–1063	1577
Los Angeles	Culver Blvd	Berryman Ave	–1274	1366
Los Angeles	Jefferson Blvd	S La Brea Ave	–1908	732
Los Angeles	W Imperial Hwy	S Vermont Ave	–2708	–68
Los Angeles	E Imperial Hwy	Wadsworth Ave	–2277	363
Los Angeles	S La Cienega Blvd	W 18th St	–1038	1602
Los Angeles	W 3rd St	S Kenmore Ave	–2016	624
Los Angeles	E Vernon Ave	Avalon Blvd	–2200	440
Los Angeles	S Hoover St	W 41st St	–2108	532
Los Angeles	S Central Ave	E 87th Pl	–1517	1123
Los Angeles	E Olympic Blvd	Amalia Ave	–2636	4
Los Angeles	Beverly Blvd	Ben Alder Ave	–136	2504
Los Angeles	Paramount Blvd	Cade St	–230	2410
Los Angeles	W Willow St	Easy Ave	–861	1779
Los Angeles	W Sunset Blvd	N Gower St	–493	2147
Los Angeles	W Olympic Blvd	S Kingsley Dr	–2325	315
Los Angeles	Victory Blvd	Winnetka Ave	–1095	1545
Los Angeles	Pearblossom Hwy	25th St E	–2102	538
Los Angeles	50th St E	E Ave P8	–4040	–1400
Los Angeles	Balboa Blvd	Westbury Dr	–890	1750
Los Angeles	De Soto Ave	Strathern St	–2389	251
Los Angeles	Sherman Way	Balboa Blvd	–2571	69
Los Angeles	Roscoe Blvd	Noble Ave	–689	1951
Los Angeles	Van Nuys Blvd	Arleta Ave	–1126	1514

County	Primary	Secondary	From	To
Los Angeles	S Western Ave	W 110th St	–683	1957
Los Angeles	S Western Ave	W 104th St	–435	2205
Los Angeles	N Western Ave	Elmwood Ave	–2680	–40
Los Angeles	N San Fernando Rd	Fletcher Dr	–399	2241
Los Angeles	Vermont Ave	Sepulveda Blvd	–1529	1111
Los Angeles	S Vermont Ave	W 11th St	–2313	327
Los Angeles	Vista Del Mar Ave	W Imperial Hwy	370	3010
Los Angeles	Marine Ave	Hawthorne Blvd	–2209	431
Los Angeles	Prairie Ave	W 141st St	–1943	697
Los Angeles	Prairie Ave	W 135th St	–1148	1492
Los Angeles	Crenshaw Blvd	W 135th St	–851	1789
Los Angeles	Crenshaw Blvd	W 28th St	–1423	1217
Los Angeles	E Anaheim St	Dawson Ave	–2043	597
Los Angeles	S Centinela Ave	W Washington Blvd	–319	2321
Los Angeles	Culver Blvd	W Jefferson Blvd	313	2953
Los Angeles	Admiralty Way	Mindanao Way	–2099	541
Los Angeles	W Slauson Ave	S Budlong Ave	–2275	365
Los Angeles	Imperial Hwy	Carmenita Rd	–160	2480
Los Angeles	Century Blvd	S Vermont Ave	–500	2140
Los Angeles	Century Blvd	S La Cienega Blvd	–494	2146
Los Angeles	W Washington Blvd	Arlington Ave	–1273	1367
Los Angeles	W Martin Luther King Jr	S Hobart Blvd	–1603	1037
Los Angeles	N La Cienega Blvd	Clifton Way	–2534	106
Los Angeles	W 6th St	S Grand View St	–756	1884
Los Angeles	Fountain Ave	N Flores St	–1528	1112
Los Angeles	Fountain Ave	N Spaulding Ave	–647	1993
Los Angeles	W 3rd St	S Larchmont Blvd	–1755	885
Los Angeles	W 3rd St	S Alvarado St	–1994	646

County	Primary	Secondary	From	To
Los Angeles	Fountain Ave	N Ardmore Ave	–1773	867
Los Angeles	Santa Monica Blvd	N New Hampshire Ave	–1356	1284
Los Angeles	W Florence Ave	Denver Ave	–1034	1606
Los Angeles	E Florence Ave	Compton Ave	–1439	1201
Los Angeles	Florence Ave	Emil Ave	–782	1858
Los Angeles	W Florence Ave	Haas Ave	–1551	1089
Los Angeles	W Vernon Ave	S Broadway	–861	1779
Los Angeles	E Vernon Ave	McKinley Ave	–890	1750
Los Angeles	W 54th St	S Saint Andrews Pl	–2114	526
Los Angeles	S Figueroa St	W 52nd St	–1035	1605
Los Angeles	S Hoover St	W 59th Pl	–1719	921
Los Angeles	Normandie Ave	253rd St	–1294	1346
Los Angeles	S Normandie Ave	W 50th St	–1657	983
Los Angeles	Normandie Ave	W Jefferson Blvd	–1213	1427
Los Angeles	S Central Ave	E 105th St	–234	2406
Los Angeles	S Central Ave	E 95th St	–1024	1616
Los Angeles	Avalon Blvd	E 111th Pl	–548	2092
Los Angeles	S Broadway	W 97th St	–2097	543
Los Angeles	S Broadway	W 48th St	–2194	446
Los Angeles	S Broadway	W 133rd St	–1888	752
Los Angeles	S Main St	Winston St	–1850	790
Los Angeles	S San Pedro St	E 7th St	5	2645
Los Angeles	Long Beach Blvd	E 47th St	–1661	979
Los Angeles	Long Beach Blvd	E 69th St	–2059	581
Los Angeles	S Grand Ave	W Adams Blvd	–2549	91
Los Angeles	E 1st St	N Eastman Ave	–1261	1379
Los Angeles	Whittier Blvd	S Ditman Ave	–2277	363
Los Angeles	S Lorena St	Whittier Blvd	–2183	457

County	Primary	Secondary	From	To
Los Angeles	Pacific Ave	19th Ave	–819	1821
Los Angeles	W Pico Blvd	S Tremaine Ave	–1204	1436
Los Angeles	S Atlantic Ave	Alondra Blvd	–587	2053
Los Angeles	Martin Luther King Jr Blvd	Hulme Ave	–2734	–94
Los Angeles	Downey Ave	2nd St	–185	2455
Los Angeles	E 7th St	Mira Mar Ave	–855	1785
Los Angeles	Sepulveda Blvd	Haynes St	–2054	586
Los Angeles	Sepulveda Blvd	Lanark St	–2293	347
Los Angeles	W Sunset Blvd	Napoli Dr	–22	2618
Los Angeles	W Sunset Blvd	N Sherbourne Dr	–168	2472
Los Angeles	W Sunset Blvd	Havenhurst Dr	–2639	1
Los Angeles	W Sunset Blvd	N Vista St	–2125	515
Los Angeles	W Sunset Blvd	N Alta Vista Blvd	–905	1735
Los Angeles	W Sunset Blvd	Morningside Ct	–1492	1148
Los Angeles	W Sunset Blvd	N Hobart Blvd	–273	2367
Los Angeles	Wilshire Blvd	S Park View St	–1295	1345
Los Angeles	Wilshire Blvd	S Bonnie Brae St	–764	1876
Los Angeles	Wilshire Blvd	S Barrington Ave	–1243	1397
Los Angeles	Vanowen St	Woodley Ave	–453	2187
Los Angeles	Victory Blvd	White Oak Ave	–1250	1390
Los Angeles	Victory Blvd	Calhoun Ave	–613	2027
Los Angeles	Victory Blvd	Beck Ave	–2575	65
Los Angeles	S Reservoir St	Philadelphia St	–2157	483
Los Angeles	Pearblossom Hwy	40th St E	–1907	733
Los Angeles	Reseda Blvd	Devonshire St	–1567	1073
Los Angeles	Foothill Blvd	Sayre St	–747	1893
Los Angeles	Balboa Blvd	Jolette Ave	–1400	1240
Los Angeles	Ventura Blvd	Kester Ave	–1748	892

County	Primary	Secondary	From	To
Los Angeles	Ventura Blvd	Mary Ellen Ave	–172	2468
Los Angeles	Sherman Way	Wilbur Ave	–2549	91
Los Angeles	Sherman Way	Milwood Ave	–759	1881
Los Angeles	Devonshire St	Amestoy Ave	–1208	1432
Los Angeles	Roscoe Blvd	Mason Ave	–1766	874
Los Angeles	Nordhoff St	Langdon Ave	–1713	927
Los Angeles	Plummer St	Noble Ave	–377	2263
Los Angeles	Woodman Ave	Wyandotte St	–148	2492
Los Angeles	Saticoy St	Tujunga Ave	–287	2353
Los Angeles	Vineland Ave	Burbank Blvd	–505	2135
Los Angeles	Vineland Ave	Sherman Way	–541	2099
Los Angeles	N La Brea Ave	Fountain Ave	–1952	688
Los Angeles	N La Brea Ave	W Sunset Blvd	–636	2004
Los Angeles	S La Brea Ave	W Slauson Ave	–1591	1049
Los Angeles	S La Brea Ave	Don Lorenzo Dr	1741	4381
Los Angeles	Franklin Ave	Argyle Ave	–1093	1547
Los Angeles	Franklin Ave	N Mariposa Ave	–994	1646
Los Angeles	S Western Ave	W 89th St	–446	2194
Los Angeles	S Western Ave	W 78th St	–2448	192
Los Angeles	S Western Ave	W 46th St	–1220	1420
Los Angeles	S Western Ave	144th St	–1382	1258
Los Angeles	S Western Ave	W 127th St	–2100	540
Los Angeles	N Gower St	Fountain Ave	–1328	1312
Los Angeles	S Central Ave	W Acacia Ave	–1099	1541
Los Angeles	N San Fernando Rd	W Ave 26	–1539	1101
Los Angeles	San Fernando Rd	Irving Ave	–2516	124
Los Angeles	Hyperion Ave	Ettrick St	–767	1873
Los Angeles	S Vermont Ave	W 120th St	–737	1903
Los Angeles	S Vermont Ave	W 104th Pl	–1968	672
Los Angeles	S Vermont Ave	W 99th St	–1082	1558
Los Angeles	S Vermont Ave	W 6th St	–1715	925
Los Angeles	N Vermont Ave	W Sunset Blvd	–1110	1530
Los Angeles	S Glendale Ave	E Chevy Chase Dr	–1334	1306
Los Angeles	Colorado Blvd	El Verano Ave	–959	1681
Los Angeles	Colorado Blvd	Loleta Ave	–1866	774
Los Angeles	Tujunga Canyon Blvd	Elmhurst Dr	87	2727
Los Angeles	E Ave M	3rd St E	–760	1880
Los Angeles	N Figueroa St	N Ave 60	–597	2043
Los Angeles	Atlantic Blvd	W Garvey Ave	–1723	917
Los Angeles	10th St W	W Ave N	–26	2614
Los Angeles	10th St W	W Ave H12	–1497	1143
Los Angeles	Main St	E El Segundo Blvd	0	2640
Los Angeles	Vista Del Mar Ave	Sandpiper St	–1091	1549
Los Angeles	W Rosecrans Ave	Vermont Ave	–2114	526
Los Angeles	Rosecrans Ave	N Willowbrook Ave	–1246	1394
Los Angeles	Manhattan Beach Blvd	Freeman Ave	–1214	1426
Los Angeles	190th St	S Normandie Ave	–488	2152
Los Angeles	S Prairie Ave	W 107th St	–1367	1273
Los Angeles	Prairie Ave	W 147th St	–2454	186
Los Angeles	Inglewood Ave	W 119th Pl	–339	2301
Los Angeles	S Inglewood Ave	W 93rd St	–2297	343
Los Angeles	Crenshaw Blvd	Skypark Dr	–3636	–996
Los Angeles	Crenshaw Blvd	W 78th St	–2179	461
Los Angeles	Crenshaw Blvd	W 54th St	–389	2251
Los Angeles	Crenshaw Blvd	W 48th St	–258	2382
Los Angeles	Crenshaw Blvd	W Jefferson Blvd	–2036	604

County	Primary	Secondary	From	To
Los Angeles	Carson St	Figueroa St	–490	2150
Los Angeles	E Anaheim St	Stanley Ave	–390	2250
Los Angeles	W Anaheim St	N Neptune Ave	–2157	483
Los Angeles	E Anaheim St	N Avalon Blvd	–1503	1137
Los Angeles	E Anaheim St	Watson Ave	–801	1839
Los Angeles	Washington Blvd	Via Dolce	–1322	1318
Los Angeles	Washington Blvd	Palawan Way	–518	2122
Los Angeles	Venice Blvd	Hauser Blvd	–766	1874
Los Angeles	Venice Blvd	Marcasel Ave	–1975	665
Los Angeles	Lincoln Ct	Palms Blvd	–670	1970
Los Angeles	W Jefferson Blvd	2nd Ave	–2283	357
Los Angeles	W Jefferson Blvd	S Harvard Blvd	–720	1920
Los Angeles	W Jefferson Blvd	Walton Ave	–1656	984
Los Angeles	W Jefferson Blvd	Hauser Blvd	–375	2265
Los Angeles	W Slauson Ave	Denver Ave	–646	1994
Los Angeles	E Slauson Ave	McKinley Ave	–2353	287
Los Angeles	E Slauson Ave	Santa Fe Ave	–1059	1581
Los Angeles	Slauson Ave	Norwalk Blvd	–1126	1514
Los Angeles	W Slauson Ave	S Victoria Ave	–1790	850
Los Angeles	W Slauson Ave	6th Ave	–1753	887
Los Angeles	E Imperial Hwy	S Grandee Ave	–1807	833
Los Angeles	Imperial Hwy	Downey Ave	–965	1675
Los Angeles	W Imperial Hwy	Prairie Ave	–79	2561
Los Angeles	W Century Blvd	Doty Ave	–1797	843
Los Angeles	Century Blvd	Crenshaw Blvd	–544	2096
Los Angeles	S Robertson Blvd	Monte Mar Dr	–145	2495
Los Angeles	S Robertson Blvd	W Pico Blvd	–532	2108
Los Angeles	S Robertson Blvd	W 3rd St	–2119	521
Los Angeles	S Bundy Dr	Ocean Park Blvd	–1726	914
Los Angeles	Beverly Blvd	N Carondelet St	–819	1821
Los Angeles	Melrose Ave	N Hobart Blvd	–1973	667
Los Angeles	W Washington Blvd	Park Grove Ave	–1024	1616
Los Angeles	E Washington Blvd	Telegraph Rd	–2410	230
Los Angeles	Washington Blvd	Paramount Blvd	–2774	–134
Los Angeles	Washington Blvd	Lambert Rd	–789	1851
Los Angeles	W Adams Blvd	S Bronson Ave	–2019	621
Los Angeles	Exposition Blvd	7th Ave	–1433	1207
Los Angeles	N San Vicente Blvd	Rosewood Ave	–2097	543
Los Angeles	San Vicente Blvd	S Cochran Ave	–2622	18
Los Angeles	S La Cienega Blvd	Cadillac Ave	–723	1917
Los Angeles	S La Cienega Blvd	Clemson St	–1411	1229
Los Angeles	S La Cienega Blvd	Rodeo Rd	320	2960
Los Angeles	S La Cienega Blvd	Industrial Ave	–1119	1521
Los Angeles	W 6th St	S Hill St	–1723	917
Los Angeles	E 6th St	S San Pedro St	–2103	537
Los Angeles	E 6th St	Stanford Ave	–383	2257
Los Angeles	W 8th St	S Westmoreland Ave	–937	1703
Los Angeles	Fountain Ave	N New Hampshire Ave	–1572	1068
Los Angeles	Santa Monica Blvd	N Mariposa Ave	–1990	650
Los Angeles	W Florence Ave	S Vermont Ave	–1247	1393
Los Angeles	W Florence Ave	S Broadway	–56	2584
Los Angeles	E Florence Ave	Malabar St	–2216	424
Los Angeles	E Florence Ave	Arbutus Ave	–1027	1613
Los Angeles	E Florence Ave	N Locust St	–1133	1507
Los Angeles	Florence Ave	Downey Ave	–743	1897
Los Angeles	Lennox Blvd	Dalerose Ave	–351	2289

County	Primary	Secondary	From	To
Los Angeles	W Rancho Vista Blvd	Dunbar St	–2553	87
Los Angeles	S Prairie Ave	E Nutwood St	–1491	1149
Los Angeles	W Vernon Ave	S Figueroa St	–2174	466
Los Angeles	E Gage Ave	Marconi St	–2407	233
Los Angeles	E Gage Ave	Compton Ave	–525	2115
Los Angeles	S Figueroa St	W 79th St	–1425	1215
Los Angeles	S Normandie Ave	W 76th St	–2419	221
Los Angeles	S Normandie Ave	W 71st St	–1409	1231
Los Angeles	S Normandie Ave	W 56th St	–1992	648
Los Angeles	S Normandie Ave	W 42nd St	–2496	144
Los Angeles	S Normandie Ave	W Adams Blvd	–1198	1442
Los Angeles	S Central Ave	E 120th St	–1859	781
Los Angeles	S Central Ave	E 27th St	–2122	518
Los Angeles	Nadeau St	Bell Ave	–34	2606
Los Angeles	Avalon Blvd	E 104th St	–818	1822
Los Angeles	Avalon Blvd	E 78th St	–2569	71
Los Angeles	Avalon Blvd	E 59th Pl	–1105	1535
Los Angeles	Avalon Blvd	E Carson St	–2585	55
Los Angeles	S Broadway	W El Segundo Blvd	–1028	1612
Los Angeles	S San Pedro St	E 23rd St	–637	2003
Los Angeles	S San Pedro St	E 7th St	–2635	5
Los Angeles	Compton Ave	E 83rd St	–1025	1615
Los Angeles	S Alameda St	E 14th St	–508	2132
Los Angeles	S Alameda St	E 4th St	–1724	916
Los Angeles	Compton Ave	E 118th St	–578	2062
Los Angeles	Compton Ave	E Century Blvd	–2477	163
Los Angeles	Wilmington Ave	E 105th St	–574	2066
Los Angeles	E 112th St	Croesus Ave	–2034	606

County	Primary	Secondary	From	To
Los Angeles	Long Beach Blvd	Euclid Ave	–1175	1465
Los Angeles	Missouri Ave	San Antonio Ave	–1645	995
Los Angeles	State St	Hope St	–111	2529
Los Angeles	Wilmington Ave	W El Segundo Blvd	–2240	400
Los Angeles	Tweedy Blvd	Orange Ave	–2584	56
Los Angeles	E 4th St	S Fickett St	–1397	1243
Los Angeles	W Sunset Blvd	Mohawk St	–1123	1517
Los Angeles	W Sunset Blvd	Marion Ave	–2596	44
Los Angeles	W Cesar E Chavez Ave	N Broadway	–2391	249
Los Angeles	E Cesar E Chavez Ave	N Hazard Ave	–1186	1454
Los Angeles	E 8th St	S Concord St	–2410	230
Los Angeles	Whittier Blvd	S Downey Rd	–2433	207
Los Angeles	Whittier Blvd	S Eastern Ave	–1640	1000
Los Angeles	E Whittier Blvd	S Woods Ave	–1174	1466
Los Angeles	Garvey Ave	Central Ave	–2294	346
Los Angeles	Garvey Ave	Nevada Ave	–14	2626
Los Angeles	E Mission Rd	S Chapel Ave	–112	2528
Los Angeles	Pacific Ave	Brooks Ave	–598	2042
Los Angeles	Beverly Blvd	Citrus Ave	–1787	853
Los Angeles	W Pico Blvd	S Robertson Blvd	–1055	1585
Los Angeles	W Pico Blvd	S Plymouth Blvd	–1659	981
Los Angeles	W Pico Blvd	S Ardmore Ave	–2347	293
Los Angeles	W Pico Blvd	S Bonnie Brae St	–1261	1379
Los Angeles	W Pico Blvd	S Bundy Dr	–1973	667
Los Angeles	11th St	California Ave	–257	2383
Los Angeles	Telegraph Rd	Victoria Ave	–1302	1338
Los Angeles	Paramount Blvd	Holbrook St	–1888	752
Los Angeles	John S Gibson Blvd	Figueroa St	–1014	1626

County	Primary	Secondary	From	To
Los Angeles	S Pacific Ave	W 19th St	–2104	536
Los Angeles	N Pacific Ave	W Channel St	–1872	768
Los Angeles	E Artesia Blvd	Orange Ave	–577	2063
Los Angeles	Alondra Blvd	S Atlantic Ave	–1217	1423
Los Angeles	Alondra Blvd	Mcnab Ave	–1856	784
Los Angeles	Alondra Blvd	Leibacher Ave	–2415	225
Los Angeles	E Alondra Blvd	S Bullis Rd	–2491	149
Los Angeles	W Compton Blvd	S Matthisen Ave	–1668	972
Los Angeles	E Compton Blvd	N Willowbrook Ave	–2057	583
Los Angeles	Santa Fe Ave	Rosecrans Ave	–136	2504
Los Angeles	E 7th St	Cerritos Ave	–1979	661
Los Angeles	E 7th St	Obispo Ave	–1180	1460
Los Angeles	E 10th St	Walnut Ave	–796	1844
Los Angeles	Alamitos Ave	E 10th St	–2130	510
Los Angeles	E Ocean Blvd	Alamitos Ave	–1615	1025
Los Angeles	Carson St	Orange Ave	–1719	921
Los Angeles	Sepulveda Blvd	Covello St	–1087	1553
Los Angeles	W Sunset Blvd	N Gunston Dr	–1043	1597
Los Angeles	W Sunset Blvd	N Doheny Dr	–376	2264
Los Angeles	W Sunset Blvd	Brooktree Rd	–836	1804
Los Angeles	Norwalk Blvd	Cheshire St	–906	1734
Los Angeles	Leffingwell Rd	Colima Rd	–173	2467
Los Angeles	Santa Monica Blvd	6th St	–2031	609
Los Angeles	Wilshire Blvd	S Citrus Ave	–1320	1320
Los Angeles	Wilshire Blvd	S Wilton Pl	–1124	1516
Los Angeles	Wilshire Blvd	Manning Ave	–2414	226
Los Angeles	Valley View Ave	Adoree St	–1774	866
Los Angeles	Workman Mill Rd	Mission Mill Rd	–170	2470
Los Angeles	Workman Mill Rd	Alanwood Rd	–2152	488
Los Angeles	W Olympic Blvd	S Le Doux Rd	–605	2035
Los Angeles	W Olympic Blvd	S Tremaine Ave	–2233	407
Los Angeles	W Olympic Blvd	West Blvd	–1622	1018
Los Angeles	W Olympic Blvd	Gramercy Dr	–2218	422
Los Angeles	W Olympic Blvd	S Catalina St	–2222	418
Los Angeles	W Olympic Blvd	Menlo Ave	–834	1806
Los Angeles	W Olympic Blvd	Beacon Ave	–416	2224
Los Angeles	Painter Ave	Walnut St	–1625	1015
Los Angeles	Lambert Rd	Mills Ave	–1036	1604
Los Angeles	Lower Azusa Rd	El Monte Ave	–1177	1463
Los Angeles	Temple City Blvd	E Naomi Ave	–88	2552
Los Angeles	Ramona Blvd	Lexington Ave	–1521	1119
Los Angeles	Santa Anita Ave	Bryant Rd	–2867	–227
Los Angeles	Peck Rd	Garvey Ave	–1584	1056
Los Angeles	Peck Rd	Ramona Blvd	–1198	1442
Los Angeles	Peck Rd	Lower Azusa Rd	–2582	58
Los Angeles	Gale Ave	Coiner Ct	–1530	1110
Los Angeles	Maplegrove St	Aileron Ave	–558	2082
Los Angeles	Fullerton Rd	Colima Rd	–2033	607
Los Angeles	E Arrow Hwy	Sunflower Ave	–891	1749
Los Angeles	Vanowen St	Geyser Ave	–1078	1562
Los Angeles	Vanowen St	Etiwanda Ave	–1743	897
Los Angeles	Vanowen St	Tyrone Ave	–1799	841
Los Angeles	Vanowen St	Coldwater Canyon Ave	–490	2150
Los Angeles	Vanowen St	Independence Ave	–2371	269
Los Angeles	Vanowen St	De Soto Ave	–385	2255
Los Angeles	Victory Blvd	Forbes Ave	–1833	807

County	Primary	Secondary	From	To
Los Angeles	Victory Blvd	Sylmar Ave	–1932	708
Los Angeles	Victory Blvd	Vineland Ave	–1255	1385
Los Angeles	S Towne Ave	E Grand Ave	–27	2613
Los Angeles	Rye Canyon Loop	Ave Scott	–2008	632
Los Angeles	Palos Verdes Dr S	Narcissa Dr	–3508	–868
Los Angeles	Reseda Blvd	Plummer St	–1557	1083
Los Angeles	Reseda Blvd	Victory Blvd	–2211	429
Los Angeles	Reseda Blvd	Dearborn St	–2214	426
Los Angeles	Rinaldi St	Indian Hills Rd	–1184	1456
Los Angeles	Tampa Ave	Superior St	–1149	1491
Los Angeles	Foothill Blvd	Whitegate Ave	–1091	1549
Los Angeles	San Fernando Rd	Fox St	540	3180
Los Angeles	San Fernando Rd	Kagel Canyon St	–2237	403
Los Angeles	Woodley Ave	Nordhoff St	–585	2055
Los Angeles	Ventura Blvd	Lindley Ave	–1092	1548
Los Angeles	Ventura Blvd	Beverly Glen Blvd	–27	2613
Los Angeles	De Soto Ave	Valerio St	–1059	1581
Los Angeles	De Soto Ave	Gresham St	–2596	44
Los Angeles	Canoga Ave	Chase St	–886	1754
Los Angeles	Saticoy St	Louise Ave	–2258	382
Los Angeles	Sherman Way	Ranchito Ave	–1325	1315
Los Angeles	Devonshire St	Balboa Blvd	109	2749
Los Angeles	Roscoe Blvd	Hayvenhurst Ave	–2069	571
Los Angeles	Roscoe Blvd	Sepulveda Blvd	–1545	1095
Los Angeles	Roscoe Blvd	Tobias Ave	–1135	1505
Los Angeles	Roscoe Blvd	Hazeltine Ave	–1891	749
Los Angeles	Roscoe Blvd	Oakdale Ave	–459	2181
Los Angeles	The Old Rd	Constitution Ave	–2563	77

County	Primary	Secondary	From	To
Los Angeles	Nordhoff St	De Soto Ave	–698	1942
Los Angeles	Chatsworth St	Encino Ave	–1684	956
Los Angeles	Saticoy St	Kester Ave	–701	1939
Los Angeles	Oxnard St	Donna Ave	–1616	1024
Los Angeles	Big Tujunga Canyon Rd	Vogel Flat Rd	4717	7357
Los Angeles	Van Nuys Blvd	Plummer St	–726	1914
Los Angeles	Woodman Ave	Willard St	–231	2409
Los Angeles	Woodman Ave	Filmore St	–653	1987
Los Angeles	Woodman Ave	Albers St	–1426	1214
Los Angeles	Woodman Ave	Vanowen St	–2110	530
Los Angeles	Kester Ave	Friar St	–1581	1059
Los Angeles	Sierra Hwy	Soledad Canyon Rd	–1397	1243
Los Angeles	Sierra Hwy	Vasquez Way	961	3601
Los Angeles	Sierra Hwy	Angeles Forest Hwy	–205	2435
Los Angeles	Laurel Canyon Blvd	Dona Pegita Dr	–2278	362
Los Angeles	Laurel Canyon Blvd	Brand Blvd	–87	2553
Los Angeles	Paxton St	Haddon Ave	–1329	1311
Los Angeles	Haskell Ave	Napa St	–1882	758
Los Angeles	Glenoaks Blvd	Randall St	–985	1655
Los Angeles	N Glenoaks Blvd	E Orange Grove Ave	–2264	376
Los Angeles	Glenoaks Blvd	Vaughn St	–2293	347
Los Angeles	Sheldon St	Cayuga Ave	–2299	341
Los Angeles	Sunland Blvd	Wheatland Ave	–2462	178
Los Angeles	N Hollywood Way	Tulare Ave	–745	1895
Los Angeles	Lankershim Blvd	Sherman Way	–634	2006
Los Angeles	Lankershim Blvd	Victory Blvd	–619	2021
Los Angeles	Tujunga Ave	Woodbridge St	–518	2122
Los Angeles	Hollywood Blvd	Whitley Ave	–1956	684

County	Primary	Secondary	From	To
Los Angeles	N Fairfax Ave	Santa Monica Blvd	–1903	737
Los Angeles	S La Brea Ave	W Adams Blvd	–2466	174
Los Angeles	N La Brea Ave	Rosewood Ave	–2105	535
Los Angeles	S La Brea Ave	Don Lorenzo Dr	–899	1741
Los Angeles	Cahuenga Blvd W	Mulholland Dr	506	3146
Los Angeles	Colfax Ave	Weddington St	–1357	1283
Orange	El Toro Rd	Rockfield Blvd	–1999	641
Orange	E Chapman Ave	S Seranado St	–1970	670
Orange	Santiago Canyon Rd	Jamboree Rd	–148	2492
Orange	W 1st St	S Gunther St	–2299	341
Orange	1st St	N Ross St	–164	2476
Orange	E 1st St	Maple St	–301	2339
Orange	Westminster Ave	Bowen St	–2230	410
Orange	Superior Ave	Ticonderoga St	–1642	998
Orange	N Euclid St	Westminster Ave	–2559	81
Orange	N Bristol St	W Washington Ave	–713	1927
Orange	W McFadden Ave	S Sail St	–981	1659
Orange	W McFadden Ave	S Douglas St	–916	1724
Orange	W Warner Ave	S Van Ness Ave	–2206	434
Orange	W Ball Rd	Euclid St	–1484	1156
Orange	Harbor Blvd	Princeton Dr	–1456	1184
Orange	Jamboree Rd	State Rte 1	–877	1763
Orange	Jamboree Rd	Bayview Way	–1924	716
Orange	University Dr	Ridgeline Dr	–1080	1560
Orange	W 1st St	Euclid St	–1460	1180
Orange	1st St	Fairview St	–692	1948
Orange	E Lincoln Ave	N Olive St	–2042	598
Orange	Culver Dr	Barranca Pkwy	56	2696

County	Primary	Secondary	From	To
Orange	Michelson Dr	Parkside Dr	–588	2052
Orange	Newport Ave	Walnut Ave	–2533	107
Orange	Brookhurst St	Heil Ave	–1552	1088
Orange	Gilbert St	Harle Ave	–2506	134
Orange	Irvine Blvd	Tustin Ranch Rd	–7	2633
Orange	Chapman Ave	Santa Rosalia St	–47	2593
Orange	Crown Valley Pkwy	Via Valle	–851	1789
Orange	Alicia Pkwy	Po Ave	–2293	347
Orange	Antonio Pkwy	Ave Empresa	–1109	1531
Orange	El Toro Rd	Jeronimo Rd	–100	2540
Orange	Muirlands Blvd	Entrados Dr	–2583	57
Orange	Los Alisos Blvd	Via Noveno	–507	2133
Orange	Live Oak Canyon Rd	Hunky Dory Ln	–161	2479
Orange	Katella Ave	Dale Ave	–1485	1155
Orange	Katella Ave	Jean St	–2578	62
Orange	Katella Ave	S Nutwood St	–1446	1194
Orange	Westminster Ave	Newhope St	–2612	28
Orange	Euclid St	Acacia Pkwy	–638	2002
Orange	Brea Blvd	Marion Blvd	–1911	729
Orange	S Harbor Blvd	W Orangewood Ave	–1803	837
Orange	S Main St	E Edinger Ave	–2388	252
Orange	Fairview St	W Mcfadden Ave	–1115	1525
Orange	N Fairview St	Edna Dr	–1628	1012
Orange	Garden Grove Blvd	Harbor Blvd	–1945	695
Orange	Garden Grove Blvd	Court St	–1670	970
Orange	Garden Grove Blvd	Yockey St	–563	2077
Orange	W Orangethorpe Ave	S Brookhurst Rd	–2684	–44
Orange	Red Hill Ave	Warner Ave	–903	1737

County	Primary	Secondary	From	To
Orange	Santiago Canyon Rd	Silverado Canyon Rd	2988	5628
Orange	Oso Pkwy	Nellie Gail Rd	–3802	–1162
Orange	E Edinger Ave	Orange Ave	–347	2293
Orange	Yorktown Ave	Brookhurst St	–263	2377
Orange	Talbert Ave	Ward St	–1424	1216
Orange	Slater Ave	Magnolia St	–23	2617
Orange	Bolsa Ave	Magnolia St	–2588	52
Orange	Westminster Ave	Seal Beach Blvd	–1672	968
Orange	W Wilson St	Colgate Dr	–1826	814
Orange	W Oceanfront	22nd St	–621	2019
Orange	W Balboa Blvd	26th St	–988	1652
Orange	Magnolia Ave	Lincoln Ave	–41	2599
Orange	N Magnolia Ave	W La Palma Ave	–115	2525
Riverside	Ramona Expy	Webster Ave	–1950	690
Riverside	Ramona Expy	Bridge St	–2271	369
Riverside	Van Buren Blvd	Chicago Ave	–971	1669
Riverside	Van Buren Blvd	56th St	–2355	285
Riverside	Palm Dr	Dillon Rd	–1188	1452
Riverside	Clay St	General Rd	–1291	1349
Riverside	Jefferson Ave	Larchmont Ln	–1917	723
Riverside	Ramona Expy	Rider St	5286	7926
Riverside	Cary Rd	Ushy 371	3711	6351
Riverside	Warren Rd	Borel Rd	–1375	1265
Riverside	Fred Waring Dr	Portola Ave	–586	2054
Riverside	River Rd	Bluff St	–1394	1246
Riverside	W 6th St	S Sheridan St	–304	2336
Riverside	La Sierra Ave	Norwood Ave	–2795	–155
Riverside	Cajalco Expy	Seaton Ave	–1360	1280
Riverside	3rd St	Lime St	–1902	738
Riverside	Rubidoux Blvd	26th St	–623	2017
Riverside	Rubidoux Blvd	Market St	–883	1757
Riverside	Van Buren Blvd	Suttles Dr	–3191	–551
Riverside	Van Buren Blvd	Washington St	–579	2061
Riverside	E La Cadena Dr	Palmyrita Ave	–1832	808
Riverside	Chicago Ave	3rd St	–397	2243
Riverside	Limonite Ave	Wineville Ave	–2743	–103
Riverside	Reche Canyon Rd	Woodson Rd	–2898	–258
Riverside	Goetz Rd	Mapes Rd	–205	2435
Riverside	Arlington Ave	Barcelona Way	–1035	1605
Riverside	Warren Rd	Devonshire Ave	2049	4689
Riverside	Mission Blvd	Opal St	–718	1922
Riverside	S State St	W 7th St	–214	2426
Riverside	Temescal Canyon Rd	Hostettler Rd	381	3021
Riverside	E Palm Canyon Dr	Smoke Tree Ln	–900	1740
Riverside	E Palm Canyon Dr	S Linden Way	–1449	1191
Riverside	Mountain View Rd	Varner Rd	0	2640
Riverside	Bob Hope Dr	State Rte 111	0	2640
Riverside	Magnolia Ave	Merrill Ave	98	2738
Riverside	Jefferson St	Evans St	–813	1827
Riverside	Jurupa Ave	Chester St	–740	1900
San Bernardino	N Riverside Ave	E Holly St	–1369	1271
San Bernardino	Valley Blvd	Hemlock Ave	–1857	783
San Bernardino	N Grove Ave	E 5th St	–1818	822
San Bernardino	W Base Line Rd	N Maple Ave	–1323	1317
San Bernardino	W 5th St	N E St	–2025	615
San Bernardino	5th St	Cooley St	–2458	182

County	Primary	Secondary	From	To
San Bernardino	Main St	Maple Ave	–3161	–521
San Bernardino	Hermosa Ave	Placer St	–956	1684
San Bernardino	Phelan Rd	Sheep Creek Rd	–898	1742
San Bernardino	Ramona Ave	Riverside Dr	–3011	–371
San Bernardino	Riverside Dr	13th St	–151	2489
San Bernardino	W Valley Blvd	S Willow Ave	–842	1798
San Bernardino	W Merrill Ave	S Linden Ave	–340	2300
San Bernardino	Bear Valley Rd	Cypress Ave	–6	2634
San Bernardino	Bear Valley Rd	Shooting Star Dr	–165	2475
San Bernardino	Amargosa Rd	Maricopa Rd	–1567	1073
San Bernardino	Amargosa Rd	Placida Rd	–2210	430
San Bernardino	Hesperia Rd	Terra Linda St	–1383	1257
San Bernardino	Main St	La Verne Ave	–2712	–
San Bernardino	Cedar Ave	13th St	–2214	426
San Bernardino	Cedar Ave	Santa Ana Ave	–2976	–336
San Bernardino	Bloomington Ave	Vine St	–740	1900
Ventura	W Channel Islands Blvd	S N St	–1806	834
Ventura	N Rose Ave	Cesar Chavez Dr	–2722	–82
Ventura	Saviers Rd	E Elm St	–2308	332
Ventura	W Potrero Rd	White Stallion Rd	–2566	74
Ventura	Moorpark Rd	E Wilbur Rd	–1135	1505
Ventura	Telegraph Rd	College Dr	–1600	1040
Ventura	E Gonzales Rd	Entrada Dr	–969	1671
Ventura	S Ventura Rd	E Bay Blvd	–2071	569
Ventura	S Ventura Rd	W Hemlock St	–491	2149

REGIONAL TRANSPORTATION PLAN
2012–2035 RTP
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future

SOUTHERN CALIFORNIA
ASSOCIATION of GOVERNMENTS

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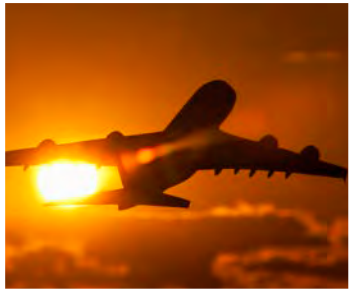
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VEHICLE TECHNOLOGY APPENDIX









REGIONAL TRANSPORTATION PLAN
2012–2035
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future
RTP











Southern California Association of Governments

ADOPTED APRIL 2012

THE ROLE OF VEHICLE TECHNOLOGY IN MEETING LONG-TERM AIR QUALITY AND ENERGY CHALLENGES

SCAG's Collaborative Efforts Relative to Clean Vehicle Technology **1**

The Air Quality / Energy Connection 1

The SCAG region has a long history of addressing the need for significant regional emission reductions in order to attain the federal air quality standards. Of particular concern for air agencies and stakeholders is the significant amount of emission reductions necessary to meet the standards, and that a substantial portion are included in long term measures that are not yet clearly defined. More recently, concerns related to GHG emissions and future energy costs/sustainability have entered the discussion.

From the related air quality and energy discussions, stakeholders have focused on the role that technology will play for transportation sources and which concepts or strategies may possibly be incorporated into SCAG's 2012–2035 RTP/SCS to that end.

It is important to note that SCAG has consistently promoted or otherwise put forth concepts, performed necessary planning, or set forth policies that have helped move the region to a more efficient and cleaner transportation system. To name a few:

- Facilitating the linkage of a regional HOV system
- Initial planning for Metrolink
- Conceptualization of the Alameda Corridor
- Telecommuting
- Planning for a comprehensive, clean technology goods movement system
- System efficiency through improved urban form
- Administering the Southern California Clean Cities Coalition

SCAG will continue to champion such strategies and to seek ways, within the constraints set forth by regulation and jurisdictional authority, to set the framework for the strategies within the 2012–2035 RTP/SCS or otherwise facilitate moving such concepts forward.

SCAG's Collaborative Efforts Relative to Clean Vehicle Technology

The Air Quality / Energy Connection

To stimulate more active dialogue and begin to comprehensively addressing the related issues of air quality and energy costs and sustainability, ARB, South Coast AQMD, and SCAG have released a joint brochure entitled: Powering the Future: A Vision for Clean Energy, Clear Skies, and a Growing Economy in Southern California. This brochure discusses the economic, mobility, energy security and climate benefits of transitioning from traditional combustion of fossil fuels in cars, trucks and factories, to broad use of clean energy such as electricity. It includes "10 Steps for Governments" and "10 Steps for Business and Individuals" for "powering clean growth."

SCAG's policy with regard to alternative fuels is technology neutral and does not favor any one technology over any other. SCAG's alternative fuel goals are to promote emissions reduction and improved mobility in ways that are effective and cost-effective. Alternative fuels for transportation include, but are not limited to, the following commercially available and emerging fuels[1]:

Commercially Available Alternative Fuels

- Biodiesel
- Electricity
- Ethanol
- Hydrogen
- Natural Gas
- Propane

Emerging Alternative Fuels

- Biobutanol
- Biogas

[1] U.S. Department of Energy, Alternative Fuels and Advanced Vehicles Data Center, http://www.afdc.energy.gov/afdc/fuels/index.html

- Hydrogenation-Derived Renewable Diesel (HDRD)
- Methanol
- P-Series
- xTL Fuels (Fischer-Tropsch)

COMPREHENSIVE GOODS MOVEMENT PLANNING

The 2012–2035 RTP/SCS delineates a path forward—a series of steps and decision points to move the region to a near-zero and zero emission freight system. Broad deployment of near-zero and zero emission transportation technologies in the 2023 to 2035 timeframe is a critical undertaking, but with significant technological, cost and operational challenges. To achieve this objective requires industry stakeholder participation, as well as the efforts of numerous state and federal resources agencies, transportation agencies, along with commercial technology developers/manufacturers and logistics experts. The 2012–2035 RTP/SCS developed in coordination with many of these stakeholders reiterates this as a priority and establishes the regional path forward to such a system. Please refer to Goods Movement Technical Appendix to review the 2012–2035 RTP/SCS Goods Movement Environmental Strategy and Action Plan for Technology Advancement.

ELECTRIC VEHICLE PLANNING GRANTS

SCAG and regional partner agencies have successfully collaborated on submission of federal and state grant applications to the specific end of planning for accelerated penetration of electric vehicles into the market. The objective of the U.S. Department of Energy (DOE) grant is to develop a comprehensive, statewide PEV readiness project. To advance the state of readiness in California, the Bay Area AQMD, Plug-In Electric Vehicle Collaborative, South Coast AQMD, and Clean Cities Coalitions in California will form the California PEV Coordinating Council (CalPEVCC). The CalPEVCC will oversee the creation of a PEV Readiness Guidelines document, six Regional Infrastructure Plans, and a compiled Statewide Infrastructure Plan. The objective is to create a unified statewide approach to planning critical PEV charging infrastructure activities with regional implementation plans in order to support and expand the market for PEVs in California. DOE awarded this coalition $1,000,000 in September 2011, with allocations of $200,000 for SCAG and $100,000 for SCAG's Clean Cities partners.

SCAG, along with key regional partners, was awarded $200,000 from the California Energy Commission grant solicitation, Regional Plans to Support Plug-In Electric Vehicle Readiness. Core partners include South Coast AQMD, Southern California Edison (SCE), South Bay Cities Council of Governments (SBCCOG), and Western Riverside Council of Governments (WRCOG), and also includes many cities and stakeholders working together to develop the first-ever regional plug-in electric vehicle (PEV) strategic plan. The purpose of the project is to develop two subregional PEV Readiness Plans; establish best practices for "PEV-ready" building and public works guidelines; and streamline PEV electric vehicle supply equipment permitting, installation, and inspection processes. This Plan will also become part of a larger effort to provide support the forecasted growth in PEVs throughout California while promoting economic development within the green technology sector. The project will complement the proposed work outlined for the creation of a California PEV Readiness Plan outlined in the U.S. DOE proposal. Two complementary subregional Charge Port Infrastructure Plans will also be developed as part of this CEC project. Two subregions were selected based on their differing land use characteristics, allowing other subregions to relate to one of the models. This will facilitate the gradual development of PEV Readiness Plans at the subregional scale throughout Southern California.

NEIGHBORHOOD ELECTRIC VEHICLES

Neighborhood Electric Vehicles (NEV) provide a low speed, zero emission transportation option that can assist communities and regions in improving mobility while reducing carbon-based vehicle emissions and related pollution. Existing law authorizes certain local agencies to establish a NEV transportation plan subject to certain requirements.

NEVs have the following key benefits:

- Reduce reliance upon fossil fuels;
- Improve utilization of existing Class I and Class II bicycle lanes through shared use where appropriate;
- Provide safe and efficient transportation alternatives for short trips;
- Offer sustainable/livable community planning tool; and
- Enabling broad use of zero emission vehicles aids in attainment of GHG emission reductions outlined in SB 375 and AB 32;

With funding in part from the SCAG Blueprint Demonstration Project Program, the Western Riverside Council of Governments (WRCOG) conducted a four-city study in 2010 that evaluated how small electric vehicles could fit into the region's road network. The purpose of the WRCOG 4-City NEV Transportation Plan is to further the vision of creating a sustainable development that reduces gasoline demand and vehicle emissions by offering a cleaner, more economical means of local transportation within the plan area.

As a result of this effort, WRCOG sponsored legislation (AB61, Jeffries), signed by Governor Brown into law on August 4, 2011, that authorizes the County of Riverside or any city in the county to establish a NEV transportation plan. NEV transportation plans are needed to overcome connection issues, identify safe routes, and enable clear communication about where residents can go in low speed vehicles. The WRCOG 4-City NEV Transportation Plan presents a multi-jurisdiction transportation planning approach to leverage existing and future public street networks for maximum transportation benefit. This Plan identifies low speed connectors and potential NEV/bike lane backbone facilities within and between the cities of Corona, Norco, Riverside and Moreno Valley. The Plan also benefits unincorporated communities within the study area.

The Plan provides the necessary tools for local jurisdiction Plan adoption and may be used as a template for other communities contemplating similar transportation network enhancements.

The Plan includes Near Term and Long Range (Future) routes. Near Term routes are assumed as an initial implementation phase in the one to three year time frame. Near Term routes rely on existing or planned Class II bike lanes suitable for shared use with NEVs. These routes can be converted for NEV use with little or no capital cost. Not all Class II bike lanes are appropriate for shared use with safety as a primary determining factor. Long Range (Future) routes include select existing and planned Class II bike lanes to complete the backbone NEV network. Long range routes can be implemented over time and concurrent with future road improvements. The Backbone network map also includes low speed connector roads. These low speed connectors also provide easy transition to potential NEV / bike lanes leading to more places and increased mobility.

In another part of the SCAG region, the South Bay Cities Council of Government (SBCCOG) commissioned the report Neighborhood Electric Vehicles in Mature Suburbs (funded by South Coast AQMD) on a demonstration of NEVs in the South Bay sub-region. This effort is part of the Sustainable South Bay Strategy, adopted by the Board of Directors of SBCCOG in October 2010, as the basis for the sub-regions contribution to the regional SCS and as a guide to land use planning and transportation. In a related effort funded by SCAG's Compass Blueprint Program, SBCCOG, in conjunction the South Bay Livable Communities Working Group, developed a presentation to promote the South Bay Smart Suburban Vision to City Councils and Planning Commissions in the South Bay. The vision set forth a strategy that would intensify commercial uses at the corners of major arterials, transition mid-block strip commercial to residential, and encourage street-fronting buildings with parking at the rear. Taken together, these land use changes are intended to address the goals of SB 375 while creating an urban form supportive of NEVs. The study included potential NEV travel networks, mobility case studies, development models supportive of NEVs, land use analyses, and an economic analysis.

SUSTAINABLE COMMUNITIES STRATEGY / LAND USE

As part of the 2012–2035 RTP/SCS development process, SCAG has worked collaboratively with local jurisdictions on comprehensive growth forecasts and land use strategies. This dialogue has coalesced around a series of land use scenarios under consideration for the 2012–2035 RTP/SCS that seek create land use patterns with the following objectives (among others):

- promote and enable shifts to non-auto transportation modes (transit, walk, bike);
- reduce trip lengths by promoting mixed use development and access to daily needs at the neighborhood scale; and
- increase overall energy and resource efficiency by allowing for a greater mix of unit types.

The 2012–2035 RTP/SCS workshops scenarios captured a range of land use strategies that vary in aggressiveness from scenario to scenario. The package of strategies includes increasing densities at priority locations in order to maximize investment in transit, increasing the share of development in more urban typologies in order to promote mixed use and neighborhood oriented development, and shifting the locations of projected jobs and housing to achieve an improved regional balance. Further, all scenarios attempted to improve the region's responsiveness to housing market conditions by addressing a greater share of development to housing types where there is expected to be more demand (e.g. attached, rental, and small lot single family). The resulting land use policy

encourages overall efficiencies in energy consumption and emissions associated with both transportation and building energy use.

Other Related Efforts for Fleet Conversion

Numerous efforts are underway to require and facilitate zero and/or near-zero emission vehicles throughout the State. Foremost, ARB has recently adopted their proposed Advanced Clean Car package of regulations on January 26, 2012. The Advanced Clean Cars program combines the control of soot, smog-causing pollutants and greenhouse gas emissions into a single coordinated package of requirements for model years 2017 through 2025. The new rules will clean up gasoline and diesel powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles and hydrogen fuel cell cars. According to ARB, in 2025, average consumers will see nearly $6,000 in fuel cost savings over the life of the car. Further, an ARB economic analysis indicates that the overall savings generated by the proposed rules will result in an additional 21,000 jobs in California in 2025, rising to 37,000 in 2030. The proposed Advanced Clean Cars package of regulations is further designed to deliver a total of 1.4 million zero-emission and plug-in hybrid vehicles on the road in California by 2025.

The Luskin Center for Innovation, UCLA, recently prepared the study, Realizing the Potential of the Los Angeles Electric Vehicle Market, to estimate the number of electric vehicles that would be purchased by City of Los Angeles residents over the next decade, and examine the effectiveness of policies to increase this number.

The Plug-in Hybrid & Electric Vehicle Research Center, under a grant from the California Energy Commission, prepared a plan to facilitate PEV market growth (TAKING CHARGE: Establishing California Leadership in the Plug-In Electric Vehicle Marketplace). The California Plug-In Electric Vehicle Collaborative, an ad hoc group of high-level stakeholders, played a guiding and consulting role in developing the plan that leverages their ongoing and extensive activities and recommends new actions that require their coordination. This plan aspires to facilitate PEV market growth so that, by the end of the decade, hundreds of thousands of PEVs are sold annually in California and the market contributes significantly to California's ongoing economic, energy, and environmental policy objectives. Its strategic focus intends to solidify California as a technological, manufacturing, economic, and policy leader that benefits from—and shapes—the global PEV market for decades to come.

Southern California Clean Cities Coalition is currently assisting with the marketing and education outreach for three projects funded through U.S. Department of Energy (DOE) Clean Cities ARRA 2009 Petroleum Reduction Technology Projects solicitation. These projects include two initiatives with the South Coast Air Quality Management District (SCAQMD) totaling nearly $16 million: the UPS Ontario–Las Vegas LNG Corridor Expansion Project and the Heavy-Duty Natural Gas Drayage Truck Replacement Initiative. The third project is being implemented in partnership with the San Bernardino Associated Governments (SANBAG) and Ryder Truck Rental, Inc. to implement the largest heavy-duty natural gas truck project in the U.S. SANBAG received $19.2 million from the Department of Energy and the California Energy Commission to deploy 202 heavy-duty natural gas trucks and construct two liquefied natural gas fueling stations.

SCAG will continue to champion and work with our stakeholders on innovative and technology neutral, yet practicable approaches to the air quality and energy challenges facing our Region. As one means of doing so, the efforts of SCAG and other stakeholders, as described above, promises a synergistic impact on accelerating the penetration of zero and/or near-zero emission transportation technologies.

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Towards a Sustainable Future

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