

2001 LONG RANGE TRANSPORTATION PLAN FOR LOS ANGELES COUNTY

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METROPOLITAN TRANSPORTATION AUTHORITY**

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DRAFT 2001 LONG RANGE TRANSPORTATION PLAN FOR LOS ANGELES COUNTY

Los Angeles County Metropolitan Transportation Authority

February 2001

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**Draft 2001 Long Range Transportation Plan
Table of Contents**

Section 1.	Introduction & Overview	
	Introduction	1-1
	Transportation Challenge	1-5
	L RTP Policy Direction	1-10
	Plan Recommendations	1-13
	L RTP Performance Summary	1-30
Section 2.	Public Transportation	
	Public Transportation Overview	2-1
	Metro Rapid Program	2-29
	Commuter Rail – Metrolink	2-51
Section 3.	Highway and Arterials	
	Highways	3-1
	Arterials	3-29
	Goods Movement	3-43
	Highway Congestion Relief Programs	3-49
Section 4.	Alternative Transportation Strategies	
	Transportation Demand Management (TDM)	4-1
	Rideshare Program	4-7
	Innovation and New Directions	4-11

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**Draft 2001 Long Range Transportation Plan
Table of Contents
(Continued)**

Section 5.	Non-Motorized Transportation	
	Bikeways	5-1
	Pedestrian Improvements	5-5
Section 6.	Sub-regional Element	
	The Sub-regions	6-1
	Arroyo Verdugo	6-4
	Gateway Cities	6-8
	Las Virgenes/Malibu	6-12
	North Los Angeles County Cities	6-15
	Central Los Angeles County	6-19
	San Fernando Valley	6-22
	San Gabriel Valley	6-25
	South Bay Cities	6-29
	Westside	6-33
Section 7.	Financial Element	7-1
Technical Appendix		
	Appendix A - Travel Demand Model Assumptions & Performance Evaluation	
	Appendix B - Financial Assumptions	
	Appendix C - Community Outreach Meeting Summary	
	Appendix D - Focus Group Meeting Summaries	
	Appendix E - Glossary	

Section 1

Introduction and Overview



2001 Long Range Transportation Plan for Los Angeles County

Introduction

This Long Range Transportation Plan (LRTP) is the first plan update since 1995, and looks ahead at transportation needs over the next twenty-five years, from 2000 through 2025.

MTA is responsible for planning and programming in Los Angeles County, in accordance with Government Code Section 130051. The LRTP is a key element of MTA's planning process, as it proactively identifies transportation needs and challenges that Los Angeles County will face over the next twenty-five year period. The plan helps decision-makers understand the options that are available for improving the transportation system, and how different options work toward improving mobility. Once adopted by the MTA Board, the LRTP becomes the blueprint for implementing future transportation improvements for Los Angeles County.

The LRTP is periodically updated to ensure that transportation decisions are based on a plan that contains current data and assumptions regarding a wide variety of information such as changes in future population and employment assumptions, changes in travel patterns, and changes in revenue and expenditure forecasts. The LRTP is also updated to add new transportation projects as part of MTA's transportation program, and which can be funded in later years as near term LRTP project commitments are completed. State and federal transportation agencies require the LRTP to cover a minimum twenty-year period.

This LRTP has been updated to reflect the following changes:

- Update transportation and financial forecasts from 2015 to 2025 to maintain a federally required minimum 20-year planning horizon.
- Review and update program recommendations for major programs and projects.
- Integrate the results of planning studies and Board actions since the last plan, (e.g., transit restructuring decisions, consent decree commitments, and Board action on three transit corridors).
- Review and update funding level recommendations for future Call for Projects program categories (highway, regional surface transportation improvements, signal coordination, bicycle, pedestrian, transit capital, transportation demand management and environmental enhancement projects).
- Develop a new sub-regional chapter of the LRTP to describe the diverse characteristics, needs and recommendations of Los Angeles County's nine sub-regional areas.



L RTP Planning Process

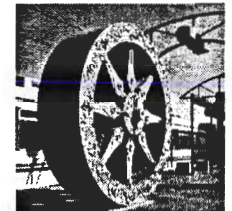
The LRTP is developed using a performance based process that assesses future transportation needs, analyzes the mobility benefit of alternative transportation solutions considering different modes and strategies, and results in a recommended transportation program that benefits mobility, is cost-effective, and supports air quality and environmental improvements.

The steps of the LRTP planning process include the following:

- Establish the MTA's long range planning and programming direction through the development of the LRTP's Vision, Mission, Goals and Strategic Direction.
- Establish performance measures for the LRTP. This LRTP uses performance measures for 1) mobility, 2) cost-effectiveness, 3) air quality, 4) access and 5) community impact.
- Forecast future travel demand for 2025 based on the impact that future population and employment will have on today's transportation system, known as the "baseline system". (The baseline system includes the existing transportation system, projects approved by the MTA Board including its Transportation Improvement Program, and projects in the California Traffic Congestion Relief Program recently approved by the legislature and Governor by passage of AB 2928.)

- Determine future transportation system deficiencies not met by the baseline system.
- Develop and evaluate several alternative scenarios, which are financially constrained, countywide transportation packages that provide different mixes of transportation solutions, and evaluate the performance of each alternative.
- Develop a financially "constrained" transportation program which optimizes the use of funds that are anticipated to be available over the 25-year period. This is called the Constrained Plan.
- Identify "strategic" priorities for projects that are regionally significant, but require new or additional revenue sources to implement. This is called the Strategic Plan.

While approximately \$106 billion are expected to be available from federal, state, and local sources between 2000 and 2025, much of this money is committed through prior MTA Board action for transportation projects and transit service. Only \$11 billion, approximately 10% of total funds, are available for new commitments. Given the complex travel patterns and demands of many different travel customers, many trade-offs are examined through this process and difficult choices must be made.



L RTP Consultation and Outreach Process

The LRTP is being developed under the leadership and guidance of the MTA Board.

In order to assist and advise the Board and staff, three focus groups have been established to help MTA incorporate a wide range of perspectives from representatives of a wide range of community interests. These three groups are 1) a Transportation System Users group which represents the perspective of users of various travel modes, 2) a Labor/Business group which represents the perspectives of employers and workers, and 3) an Academic/Environmental group which represents the perspectives of transportation experts from major universities and policy institutes and representatives of environmental organizations.

In addition to Focus Group input, MTA has conducted community outreach meetings at many locations across the county and will provide an opportunity for public review of the draft LRTP for a 45-day period.

Finally, MTA has coordinated directly with its many transportation partners, including the Southern California Association of Governments, Caltrans, Metrolink, municipal and local transit operators. MTA has sought local input of cities and the county through coordination with sub-regional organizations that represent each of the county's distinct



geographic areas. MTA also regularly consults with the MTA Technical Advisory Committee and its sub-committees.

Community Outreach, Environmental Justice and Title VI Analysis

MTA complies with Federal environmental justice and Title VI requirements to include transit dependent and minority communities in its community outreach, and to analyze the benefits and impacts of the LRTP on the transit dependent and minority communities. MTA meets these programs through the following: 1) through Focus Group participation of members which include representatives of transit dependent interests and minority communities, businesses and interests, 2) through many community outreach meetings on the LRTP, 3) through coordination with nine sub-regions comprising local elected officials and staff, 4) through media awareness of the LRTP and its development, 5) through periodic LRTP presentations to the MTA Board, 6) through the 45 day public review period for review of the draft LRTP, and 7) through demographic analysis of the results of plan alternatives and recommendations, in particular looking at performance measures for mobility and transit access. Extensive community involvement also occurs on major transportation projects at the project level and through planning and environmental review activities.

The Title VI analysis of LRTP performance for minority and transit dependent communities indicates that the Constrained Plan and Strategic Plan both perform well in

the provision of transit service to these communities. The analysis also indicates that transit services are available at a higher service level in these communities than in the county at large. Further information regarding Title VI analysis is found in the LRTP Performance Summary later in this section as well as in Appendix A, Section V.

Coordination of LRTP with Southern California Association of Governments' Regional Transportation Plan

MTA has worked closely with the Southern California Association of Governments (SCAG) to ensure that as the LRTP develops, its recommendations are included in the SCAG Regional Transportation Plan (RTP) for the six county Southern California region. MTA will submit its LRTP to SCAG and request that it be included in the SCAG RTP.

Implementation of LRTP Projects

Major capital projects that are identified in the Long Range Transportation Plan are MTA's priorities for future funding and construction. While these projects require further Board approval at various stages of the project development process, they are candidates for further planning and preliminary engineering necessary to be ready for funding and construction. Many projects (highway, arterial, signal coordination and bus speed improvement, bicycles, pedestrian, transportation

demand management, transit capital, and transportation enhancements) compete in the Call for Projects process. Through this process, cities and the county, and transportation partners nominate projects that are ready for construction and compete for funding over a four – seven year period. This process is conducted biennially, and projects are competitively evaluated based on their mobility benefit. Major highway projects proposed in the Call for Projects must be consistent with the LRTP recommended highway program. The LRTP does not identify specific projects for all other categories, but sets a funding level for each Call for Projects category and provides broad direction regarding eligible projects. Projects approved for funding through the Call for Projects process are included in the biennial MTA Transportation Improvement Program, which is a list of projects recommended for funding over a four to seven year period. The Transportation Improvement Program is submitted to SCAG and incorporated into a six county Regional Transportation Improvement Program (RTIP). Projects in the RTIP are then eligible for state and federal funding.



Transportation Challenge

Los Angeles County is a large, highly urbanized county consisting of over 4,000 square miles. In 1998, the county had a population of 9.6 million and employment of 4.4 million. Los Angeles County's complex transportation system of highways, arterials, bus, rail, and commuter rail are in demand for large portions of the day. For instance, commute period "rush hour" in Los Angeles extends from 6 - 9 a.m. and from 3 - 7 p.m., a period of seven hours daily.

The transportation challenge that Los Angeles County will face over the next 25 years results from a combination of factors:

Population will increase to approximately 12.5 – 13.1 million – adding an additional 2.9 – 3.5 million residents, which is equivalent to adding a population the size of the City of Los Angeles. Employment will increase to approximately 5.6 million, adding 1.2 million new jobs to our local economy.

As a result of the above mentioned population and employment increases, daily trips will grow by approximately 30 percent, from 29.4 million trips in 1998 to 37.8 million trips in 2025. Within existing funding constraints, it will not be possible to increase the capacity of the transportation system to keep up with this demand.

The problem of meeting future increases in travel demand is compounded by population and employment patterns. Countywide growth and increased sprawl will contribute

to complex travel patterns where traffic is multi-directional, going from everywhere to everywhere, rather than from suburb to city. Each of these factors is explored in more detail in the following sections.

Population and Employment Growth

The LRTP uses the 1998 SCAG adopted socio-economic forecast and distribution to assess where people will live and work in Los Angeles County. (It should be noted that as part of the 2000 RTP update, SCAG is considering changes to its population and employment forecast and distribution. MTA is using the adopted 1998 socio-economic forecast, since any proposed changes will not be adopted by SCAG until later this year.)

Exhibit 1-1 illustrates how population and employment increase in different sub-regions of Los Angeles County. Table 1-1 provide actual population and employment totals by sub-region for 1998 and 2025. All sub-regions share in population and employment growth, with today's urban areas continuing to attract the highest actual increases. In looking at the change in the rate of growth, however, the distribution shows an increasing trend toward development in the outer areas of the county. This trend is a particular challenge in providing transportation services, as it limits the effectiveness of transit strategies and opportunities and puts a greater demand on the need for new road infrastructure.

Exhibit 1-1 LA County Population & Employment Change by Sub-region

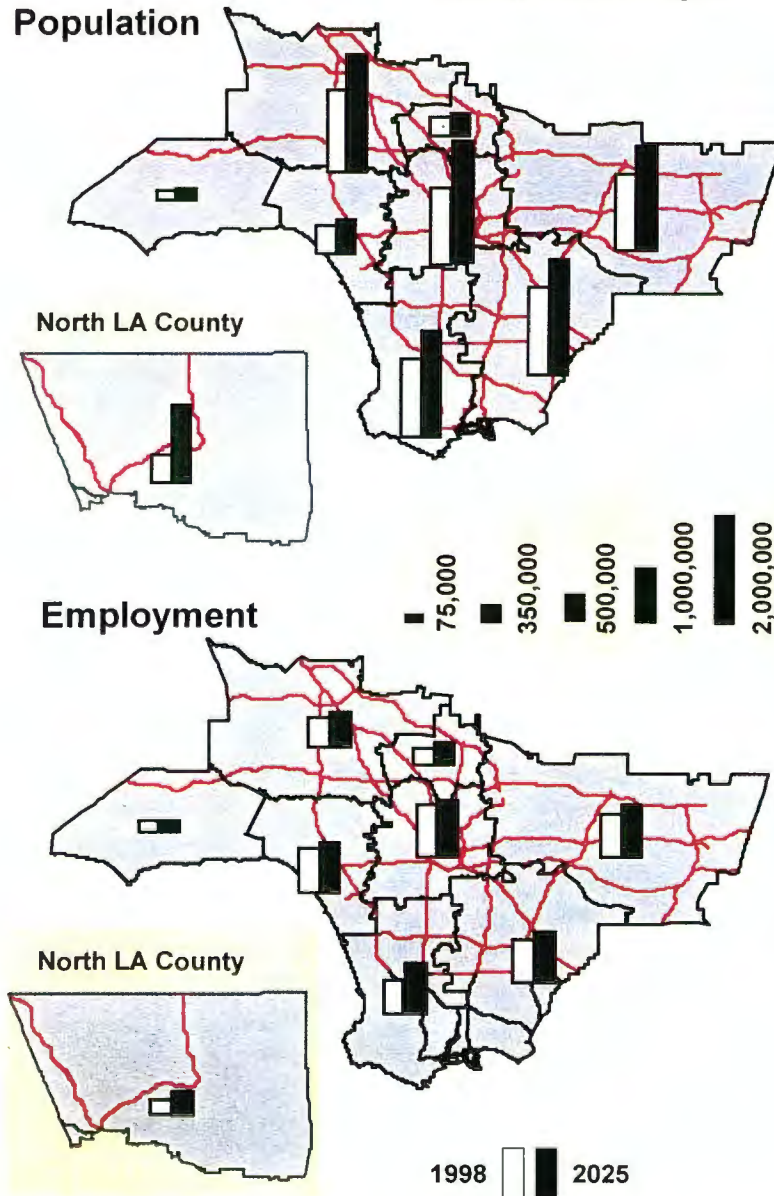


Table 1-1 LA County Population & Employment Statistics

Subregion	POPULATION				EMPLOYMENT			
	1998	2025	Change	% Change	1998	2025	Change	% Change
Central L.A.	1,759,904	2,350,454	590,550	33.6%	932,091	1,079,283	147,192	15.8%
San Gabriel Valley	1,343,575	1,899,379	555,804	41.4%	670,206	892,493	222,287	33.2%
Gateway Cities	1,806,758	2,202,530	395,772	21.9%	722,915	910,839	187,924	26.0%
South Bay Cities	1,420,848	1,718,552	297,704	21.0%	639,693	827,410	187,717	29.3%
Westside Malibu	593,104	755,917	162,813	27.5%	462,471	544,142	81,671	17.7%
San Fern. Valley	79,705	118,057	38,352	48.1%	41,902	54,564	12,662	30.2%
Arroyo Verdugo	1,763,196	2,205,375	442,179	25.1%	576,315	696,268	119,953	20.8%
North County L.A.	331,442	422,402	90,960	27.4%	190,783	259,581	68,798	36.1%
L.A. County	537,873	1,423,207	885,334	164.6%	159,922	378,970	219,048	137.0%
L.A. County	9,636,405	13,095,873	3,459,468	35.9%	4,396,298	5,643,550	1,247,252	33.3%

Increasingly Complex Travel Patterns

While the Los Angeles region is known for long distance commutes, the average home to work trip is approximately 15 miles. Exhibit 1-2 shows countywide and sub-regional travel patterns. The fact that approximately half of commute trips stay within their sub-region demonstrates that while the system is congested, commute trips tend to be relatively short. While half of commute trips go to other sub-regions, these trips are distributed to many sub-regions rather than going to one particular central activity center. The distribution of trips from each sub-region to many destinations creates a highly complex commute trip pattern. Exhibit 1-3 further illustrates the diverse nature of travel by showing total daily trips produced by each sub-region in 1998 and 2025.

Exhibit 1-2

DAILY TRIP PRODUCTION BY SUBREGION

Home To Work Trips

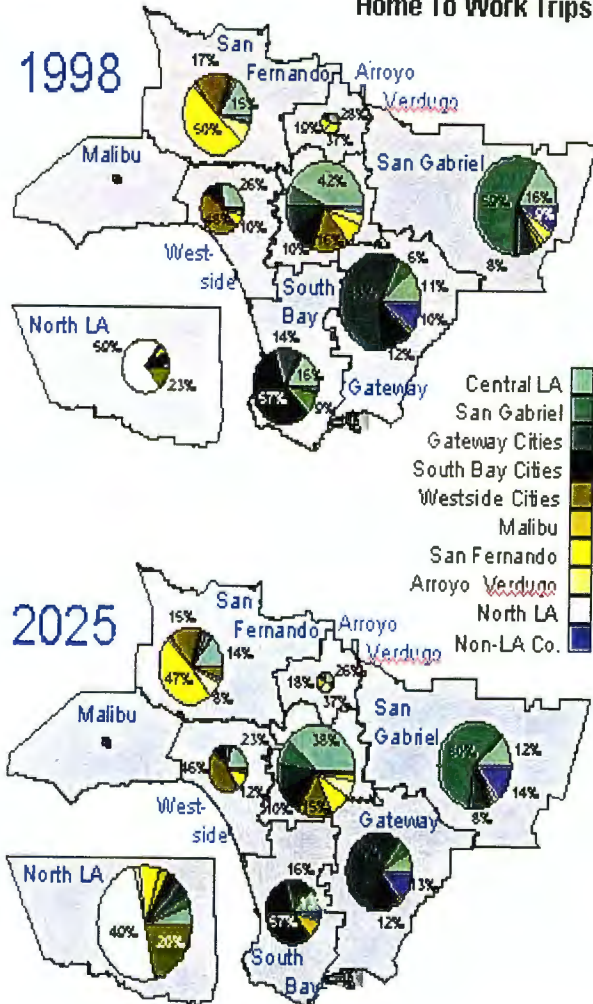
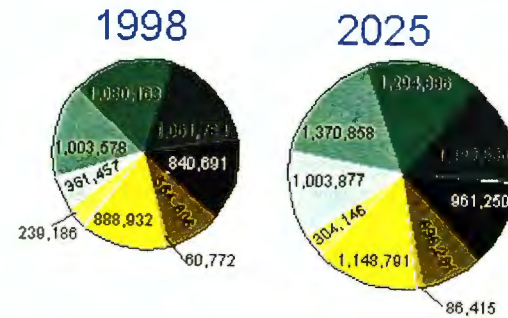


Exhibit 1-3

DAILY TOTAL PRODUCTION BY SUBREGION

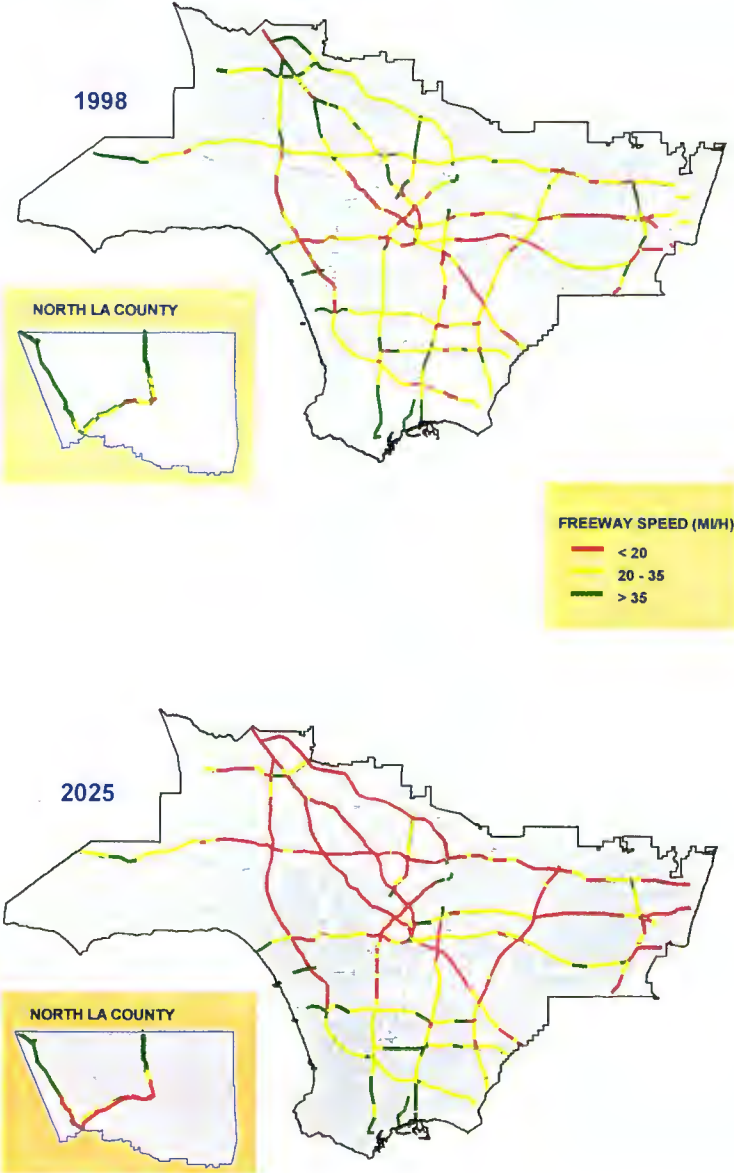


Increasingly Congested System

40 percent of Los Angeles County’s freeway and major arterials currently experience heavy congestion in morning and evening commute periods. Without improvements to our current transportation system or changes in the behavior of traveling public, average current countywide travel speed of approximately 30 miles per hour will decline to less than 20 miles per hour. Exhibit 1-4 illustrates freeway speeds for the morning commute period in 1998 and in 2025. This exhibit illustrates that freeways in many parts of the county operate at less the 35 miles an hour and that freeways in the central Los Angeles area, West Side and San Gabriel Valley operate at less than twenty miles an hour. With population and employment generating 30 percent more travel, that freeway speeds will dramatically decrease and that many parts of the county will operate at less than 20 miles per hour without additional transportation improvements. Exhibit 1-5 demonstrates a similar pattern for arterial speeds as well. As with the highway system, arterials will experience significant reductions in speed between 1998 and 2025.

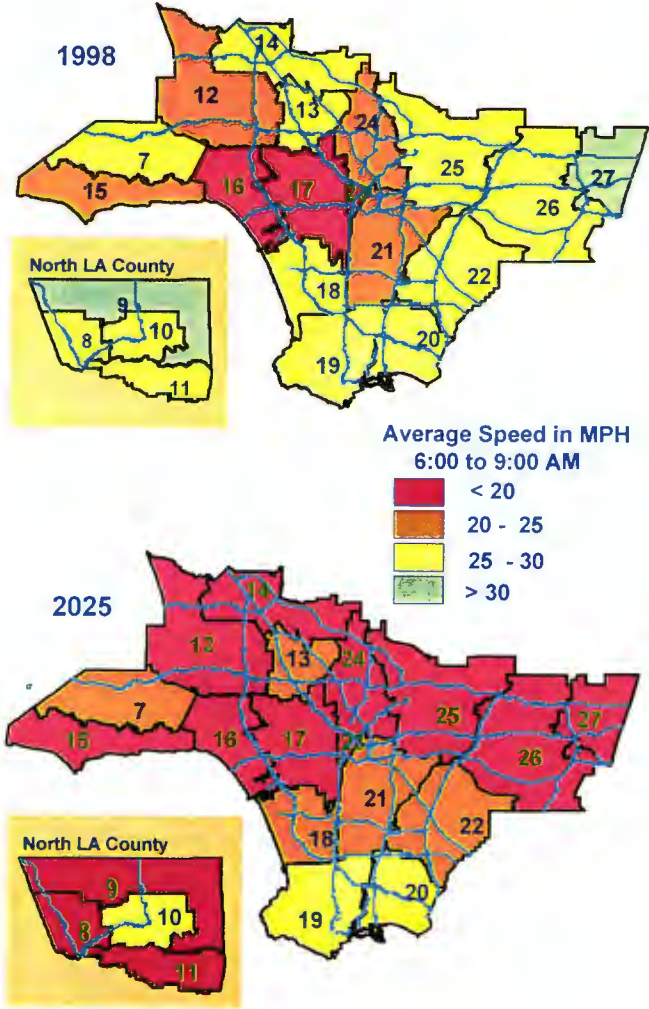
AM Peak Period Freeway Congested Speed

Exhibit 1-4



AM Peak Period Average Arterial Speed by RSA

Exhibit 1-5

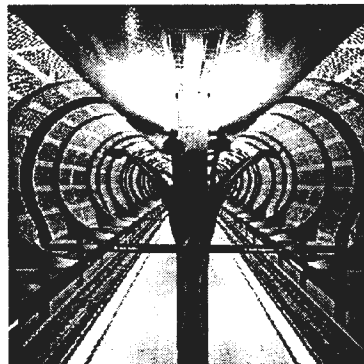


This assessment of Los Angeles County's transportation condition is confirmed by other recent studies:

The Texas Transportation Institute released its Annual Mobility Report in November 1999, ranked Los Angeles as the most congested urban area.

The American Highway Users Alliance released a November 1999 report comparing cities across the nation, and identified three Los Angeles County freeway interchanges (I-405/I-10, I-405/SR-101, and I-405/I-5) among the top ten most congested choke-points nationwide.

Caltrans recently studied the cost of congestion and concluded that the number of average daily hours that people sit in congestion in Los Angeles has increased by 60 percent over the last ten years, from 88,000 in 1988 to 143,000 in 1998. This comes at a cost to the public of approximately \$500,000 per day in the cost of time lost and fuel wasted. This equates to an increase of approximately \$129 million annually.



L RTP Policy Direction

The purpose of this chapter is to identify some of the key transportation challenges that the MTA faces and to develop policy direction statements that will guide the development of the Long Range Transportation Plan.

The mission of the Metropolitan Transportation Authority is to improve the quality of life and the economic well being of the residents, workers, and visitors of Los Angeles County through transportation investments that improve mobility, air quality, and access to opportunities and resources.

Vision, Mission, Goals, and Strategic Direction

In order to guide the direction of the LRTP, staff have proposed a vision, mission, goals, and strategic direction to guide the plan development process. These are described in the following sections.

Vision

The purpose of the vision is to develop a basic statement of what the future transportation system should be in 2025. The vision statement is:

To develop a quality transportation system that provides convenient travel choices for all, improves mobility and air quality, and which enhances access for those who live, work or travel through Los Angeles County.

Mission

The purpose of the mission stated is to provide a basic description of how the LRTP will create the vision. The mission statement is:

Goals

The purpose of the goals is to describe the end result toward which effort is directed necessary to achieve the vision. The goals are:

- 1. Mobility – The MTA shall pursue activities and make investments that improve traffic flow, relieve congestion, and enable residents, workers, and visitors to travel freely and quickly throughout Los Angeles County. The MTA shall also pursue activities and make investments that support and enhance our region’s economy by enabling the safe and efficient movement of goods to and from our international seaports and airports.*
- 2. Air Quality – The MTA shall pursue activities and make investments that improve air quality by reducing mobile source emissions, increasing the number and percentage of people using transit or ridesharing, and improving the efficiency of the transportation system.*
- 3. Access – The MTA shall pursue activities and make investments that enable all residents, workers, and visitors, to access the many economic, educational, social, medical, cultural, recreational, and governmental opportunities and resources in Los Angeles County.*

Strategic Direction

Given the magnitude of the transportation challenges identified in the previous section, the LRTP proposes to focus on the following actions to define the LRTP's strategic plan direction, guiding further LRTP development:

- **Manage Existing System**
Protect the integrity of transportation infrastructure and systems currently in place.
- **Maximize System Efficiency.**
Make most efficient use of the existing transportation system.
- **Increase System Capacity.**
With limited dollars available for future funding, determine infrastructure and service improvements that are most effective in maximizing mobility.
- **Manage Demand.**
Examine traditional and innovative ways to reduce the use of the single occupant vehicle or reduce the need for travel.

The following summarizes strategies and examples of actions that are implemented through the LRTP:

Plan Strategy #1:

Manage Existing System

- Work with its transportation partners to ensure the preservation and system management of the existing highway, arterial, and transit system.
- Develop and implement programs, projects, and strategies that improve the safety of transportation facilities.

- Focus resources towards the innovation and advancement of new transportation related technologies.

Plan Strategy #2:

Maximize System Efficiency

- Utilize Transportation System Management and Intelligent Transportation System measures, increased ridesharing, freeway service patrol and other programs to maximize the movement of people and goods on the arterial and freeway system.

Work with transit agency partners to develop a regional transit master plan that maximize use of transit resources.

- Develop a transit fare system that is easy to understand and allows for a coordinated payment mechanism for those that need to make use of the services of multiple operators.
- Provide adequate transit support structure (i.e., parking, feeder services and encourage transit oriented land uses) which facilitates transit access.
- Promote safety enhancements, bike lockers, supporting infrastructure, and marketing to encourage greater bicycle use.
- Work with local jurisdictions to develop pedestrian facilities which enhances the linkage between the transportation system and activity centers.
- Implement transportation demand management strategies that that increase carpool and transit use.
- Provide funding priority to projects and services that increase transit usage and/or demonstratively improve the functioning of the existing transit system.

Plan Strategy #3:

Increase System Capacity

- Remove bottlenecks and complete highway/HOV gap closures and construct freeway-to-freeway HOV connectors.
- Remove bottlenecks and gaps on the regional arterial system and implement transportation system management (TSM) measures to increase the person capacity of the arterial system.

Fund construction of additional bikeways, encourage bicycle links to transit stations, and fund innovative solutions to maximize on-street bike lanes.

- Construct three transit corridor projects under study and initiate the planning process for additional transit corridors.
- Provide resources and guidance to SCRRA and local jurisdictions in implementing projects which meet anticipated demand for safe and reliable commuter rail service.
- Work to enhance multi-modal connections by improving pedestrian access to transit facilities.

Plan Strategy #4:

Manage Demand

- Focus resources on those programs which encourage the use of alternatives to single occupant vehicle travel or reduce peak hour demand.
- Focus TDM resources towards the innovation and advancement of new strategies, such as telecommuting, parking management, pricing strategies and carsharing, which reduce the need for travel.



Plan Recommendations

The Long Range Transportation Plan identifies recommendations for each major transportation mode. Recommendations are made for 1) Baseline Plan, 2) Constrained Plan, and 3) Strategic Plan.

The Baseline Plan includes projects and funding commitments already approved by the MTA Board, primarily through the MTA Transportation Improvement Program (TIP) or Call for Projects. The Baseline Plan recommends projects for funding through the \$11.2 billion of uncommitted funds available for allocation over the next twenty-five years. The Strategic Plan identifies high priority projects that would be funded if additional revenue becomes available.

The following sections summarize LRTP recommendations. Table 1-4 summarizes Constrained and Strategic Plan project and program recommendation, and provides costs and scheduling information as well.

Public Transportation

Public transportation includes modes of travel from rail services on dedicated rights of way through all elements of the bus system, from Bus Rapid Transit (bus service on dedicated bus lanes) and new Metro Rapid services to local and community based operations and ridesharing services. The section examines how these modes can be integrated and the potential to retain existing and attract new riders. A central theme of this section is working

with our transit partners in developing a tiered, seamless, countywide transit system.

The centerpiece of the Constrained Plan recommendations for public transportation is the aggressive implementation of 22 Metro Rapid lines, illustrated in Exhibit 1-6. In addition, the Constrained Plan recommends expanded transit capital funds through the Call for Projects and other funding processes. However, since little additional operating funds are projected to be available until after 2015, any operational modifications can only be accomplished through improved efficiencies of existing services. Most of the operating costs of the Rapid Bus program can be accomplished through transit service restructuring, which create efficiencies within existing resources as was done on Wilshire Boulevard.

The Strategic Plan recommends that if additional funding became available, additional capital and operating funding would be dedicated for regionally significant public transportation priorities, such as additional fixed guideway projects, faster and broader implementation of Metro Rapid-type service with expanded amenities, and greater funding for community based transit services (i.e.; local circulators and shuttles).

The Constrained Plan makes significant improvements to the availability of public transportation and significantly increases its mode share. However, if additional operating



funds were available, based on national trends and the success of the Metro Rapid project locally, it is reasonable to assume even greater increases in public transportation's mode share.

Public Transportation recommendations

Baseline

- Countywide fleet of approximately 3,300 buses
- Metro Rapid Demonstration on 2 Lines: Wilshire /Whittier and Ventura Blvd (in operation)
- Red Line Wilshire/Vermont to North Hollywood (in operation)
- Pasadena Line – downtown to Sierra Madre Villa
- Green line improvements
- Eastside Transit Corridor (downtown to Atlantic)
- Mid-cities Transit Corridor
- San Fernando Valley East-West Transit Corridor
- Metrolink: New stations at Sun Valley, Newhall, and Palmdale
- Rail rehabilitation and replacement cars
- Call for Projects Funding for Transit Capital Projects
- Other miscellaneous public transportation projects
- Local return and program administration

Constrained Plan

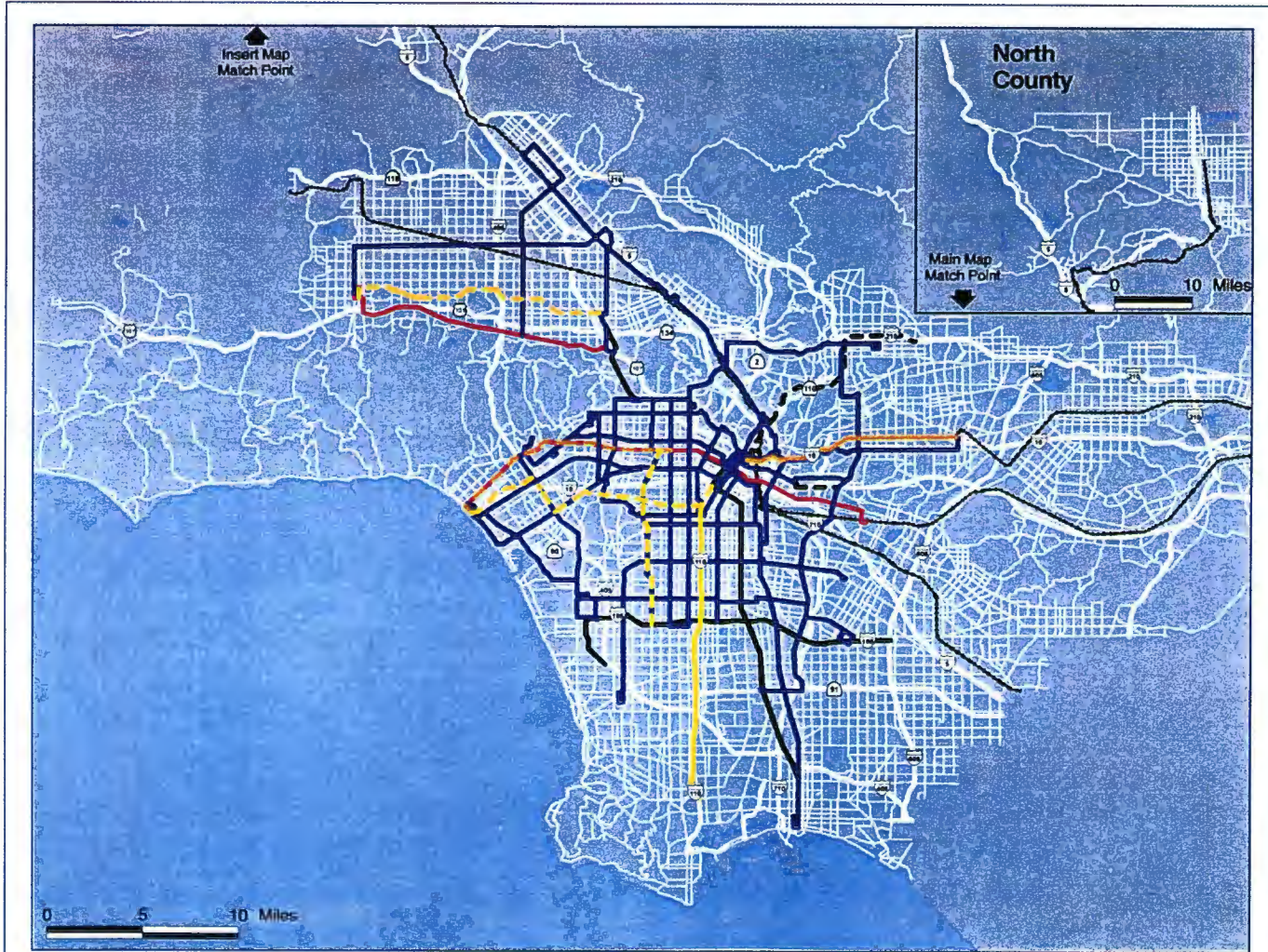
- Additional countywide bus service improvements (countywide fleet of approximately 4,400 buses)
- Metro Rapid program: Implement 22 additional lines.
- Implement Tiered Transit System with Municipal and Local Transit Operators
- Crenshaw Transit Corridor* (Wilshire /Crenshaw to Green Line/LAX)

- Exposition Transit Corridor* (Crenshaw to Santa Monica)
- San Fernando Valley North/South Transit Corridor* (Sylmar to Ventura Blvd.)
- Metro Green Line Extension to LAX**
- Metrolink expansion
- \$13.5 million per year for Transit Capital projects funded through the Call for Projects.
- * Actual transit technology (rapid bus, bus or light rail guideway) and phased length to be determined through alternatives analysis.
- ** Assumes non-MTA funding of Green Line extension.








Strategic Plan

- Additional 14 Metro Rapid Bus lines
- Additional Community Transit Services (i.e. shuttles, local circulators)
- Consider additional Transit Corridors such as:
 - Wilshire Red Line extension
 - East Los Angeles Transit Corridor to Norwalk/Whittier
 - Pasadena Line extension to Claremont
 - Vermont Transit Corridor (Vermont Green Line Station to Hollywood Blvd.
 - Burbank/Glendale Transit Corridor – Union Station to Burbank Transit Station
 - Metro Green Line Southern extension to South Bay Galleria
 - Extensions and/or upgrades to transit corridor projects identified in constrained plan.
- Additional Metrolink expansion
- \$20 million in funding for Transit Capital category of Call for Projects.

EXHIBIT 1-6



EXISTING AND PROPOSED METRO RAPID ROUTES

- | | |
|---|--|
|  Metro Rapid phase I |  Metro Rail - current |
|  Metro Rapid phase II |  Metro Rail - future |
|  Transitways - existing |  Metro Link |
|  Transitways - under study | |

Commuter Rail

Metrolink is Southern California's regional commuter rail system. MTA, along with 4 other counties, is a member of and provides funding and oversight to the Southern California Regional Rail Authority (SCRRA), the joint powers authority which operates Metrolink. The Commuter Rail Section describes Metrolink's growth in ridership and service improvements over the past five years and identifies resources/improvements necessary to enable this system to accommodate projected increase in demand.

MTA has worked with staff from SCRRA and other SCRRA member agencies to develop a 30-Year Expenditure Plan. The plan contains a list of capital improvements, operational, and financial forecasts needed to meet anticipated demand.



Commuter Rail Recommendations

Constrained Plan

Based on the SCRRA 30-Year Expenditure Plan, the following recommendations are made for the financially constrained plan.

- Continue funding of SCRRA's annual operations and maintenance financial requirements at current MTA Board policy level incremented annually for inflation.
- Continue support through the Call for Projects Transit Capital category for station construction and expansion, and platform, track and signal construction needed for optimal station operation.
- Provide additional MTA funding at the constrained level of \$580 million (inflated dollars) over the life of the plan. With this amount plus significant matching funds from other SCRRA member agencies and state and federal sources, SCRRA could implement approximately 66% of the capital improvements proposed in the SCRRA's Expenditure Plan plus provide additional operating and maintenance funds needed to sustain an approximate 3% to 4% annual ridership growth.
- Continue to monitor efforts to implement high speed or very high speed operations in Southern California.
- Encourage SCRRA to enhance efficiency, productivity, and speed through a variety of measures.

Strategic Plan

Pursue all of the projects and strategies proposed under the constrained funding, as well as additional MTA funding totaling \$960 million (inflated dollars) over the life of the plan, rather than \$580 million. With an

assumption of matching funds available from other SCRRRA member agencies and state and federal sources, SCRRRA could implement 100% of the capital improvements proposed in its 30-Year Expenditure Plan plus additional operation and maintenance funds to accommodate a 4 % annual ridership growth or more.

Highways

With over 50 percent of the traffic in Los Angeles County transported via freeways, the pivotal role of the freeways in sustaining the regional economic vitality, population growth, environmental and air quality, mobility, and quality of life is recognized. However, given the enormous scale of Los Angeles County, and the extensive urban development in place, more emphasis is placed in focusing highway improvements in those projects that will result in moving more persons and in improving the efficiency of freeway traffic operations. Accordingly the highway program has prioritized the completion of the high occupancy vehicle (HOV) network including freeway to freeway carpool interchange connectors, and Intelligent Transportation System (ITS) technology applications.

Preliminary data which has been collected through the "HOV Performance Evaluation Program" indicates that there is an average of 20 percent more people transported via HOV lanes. These ridesharers are realizing travel time savings of roughly 1 minute per mile. The current estimated ridesharing level of 529,000 persons is projected to increase to more than 1 million by 2015 with the proposed improvements.

Elements of the highway infrastructure that are proposed for improvement in the Constrained and Strategic elements of the LRTP include 1) completion of the HOV Network including recommendations for HOV connectors, 2) freeway widening and gap closures, 3) Intelligent Transportation System (ITS) development, and 4) soundwall program delivery. The sequencing of highway projects is illustrated in Exhibit 1-7.



Highway Recommendations:

Baseline

Freeway Improvements and Gap closures:

- Rt. 71 Widening
- Rt. 90 Freeway Extension
- I-210 Gap Closure
- I-405 Auxiliary lanes: Mullholland Dr. to Ventura Blvd

HOV Lanes

- I-5: Rt. 170 to Rt. 14¹
- I-10: Baldwin Ave. to San Bernardino County line
- Rt. 14: I-5 to Pearblossom
- Rt. 60: I-605 to Brea Canyon Road
- I-405: Rt. 101 to I-10 (southbound)¹
I-10 to Rt. 101 (northbound)^{1, 2}
Century Blvd. to Rt. 90
- I-605: Orange County line to South Street

Freeway Interchanges

- I-5/Carmenita Road¹
- I-5/Empire Avenue
- I-5/Rt. 126
- Rt. 101: Ramirez Flyover Interchange

Los Angeles Street to Center Street

- I-405/101 Near Greenleaf¹ and Ventura Blvd to Kester

HOV Connectors

- I-5/Rt. 14 (partial connector – east to south)
- Rt. 57/60 (partial connector – east to south)

Freeway Rehabilitation

- Caltrans Administered SHOPP

Highway Operations

- Incident Management, Freeway Service Patrol
- SAFE

Other Freeway Improvements

- Miscellaneous projects and studies (including I-710 and Rt. 101 corridors)
- Soundwalls – 1989 list
- Project Development Support
- Environmental Enhancement and Mitigation

Constrained Plan

Freeway Improvements and Gap closures:

- I-5: Add 1 mixed flow lane and 1 HOV lane in each direction from Orange County line to Rosemead Blvd. (Rt. 19)

HOV Lanes

- I-5: Rt. 134 to Rt. 170
- Rt. 14: Pearblossom to Avenue L
- I-405: Rt. 101 to Burbank Blvd. (northbound)

Freeway Interchanges

- I-5: Various interchanges from Orange County line to Rosemead Blvd. (Rt. 19)
- 57/60

HOV Connectors

- I-5/Rt. 170 (Partial connector – south to north)
- I-5/I-405 (Partial connector – south to north)

Other Freeway Improvements

- Soundwalls

Strategic Plan

Freeway Improvements and Gap closures:

- I-5: Add 1 mixed flow lane and 1 HOV lane each direction: Rosemead Blvd. to I-710
- I-5: Add 1 mixed flow lane each direction: Rt. 14 to Rt. 126³
- Rt. 14: Add 1 mixed flow lane each direction I-5 to Kern County line³
- Rt. 101 Corridor Study Recommendations³
- Rt. 138: Add 1 lane expressway each direction from I-5 to Rt. 14³
Add 1 lane expressway each direction from Rt. 14 to San Bernardino County line³
- I-710: Gap Closure
Corridor Study Recommendations³
- High Desert Freeway: I-5 to San Bernardino County line (North County)³

HOV Lanes

- I-5: Rt. 14 to Rt. 126
- Rt. 57: Rt. 60 to I-210
- Rt. 60 Rt. 101 to I-605
- I-605 I-210 to I-10

Freeway Interchanges

- I-5/Rt. 2
- I-5/I-10
- I-5/Rt. 14
- I-5/Rt. 134
- I-5/Rt. 170
- I-5/I-405
- Rt. 101/Rt. 170
- I-405/Rt. 101
- Rt. 101/Rt.170/Rt. 134 (complete two connectors)

HOV Connectors

- I-5/I-605 (partial connector – from west to south & from west to north)
- I-10/I-605 (partial connector – from east to south & from west to south)
- Rt. 60/I-605 (partial connector – from east to south & from east to north)
- Rt. 91/I-110 (partial connector – from east to south & from east to north)
- Rt. 91/I-605 – all
- I-105/I-605 (partial connector – from west to north & from west to south)

Other Freeway Improvements

- Additional Soundwalls

Highway Notes

1. Traffic Congestion Relief Program projects (AB 2928)
2. Funded at preliminary cost level. Final costs pending completion of preliminary project engineering alternatives.
3. Final project scope and cost recommendations will be incorporated into Strategic Plan upon completion of corridor studies.



EXHIBIT 1-7 - LOS ANGELES COUNTY HOV PROGRAM IMPLEMENTATION SCHEDULE (1999-2025)



NORTH LA COUNTY



0 5 10 Miles
Main Map Scale

- Opening Date of HOV Projects
- Existing
 - 2001 - 2005
 - 2006 - 2025
 - Strategic Plan
 - Corridor Studies
 - Freeway

Produced by: MTA Countywide Planning

Arterials

The Arterial Section looks at the regional surface and operational improvements the MTA has funded since the adoption of the 1995 LRTP, and the issues facing the MTA over the next twenty-five years. This Section also proposes different funding levels for the Constrained and Strategic Plan recommendations. The Regional Surface Transportation Improvements (RSTI) includes capital-intensive capacity improvements, such as roadway widenings and realignments, arterial/freeway interchanges, and grade separations. The Transportation System Management (TSM) focuses on lower cost arterial operational improvements, such as signal synchronization, and applications of intelligent transportation systems (ITS) technologies.

Arterial Recommendations

Constrained Plan

- The Constrained Program Recommendations focus on future regional surface and operational improvements, at a funding level consistent with the past ten-year MTA Call for Projects average annual funding level. A funding level of \$25 million per year for RSTI improvements has the following funding trade-off options: 1) four interchange improvement projects plus several street widening projects each year; 2) five new interchange projects plus several street widening projects each year; 3) four arterial realignment projects plus several street widening projects each year; or 4) a hybrid of these projects.

- A funding level of \$29 million per year for TSM improvements has the following funding trade-off options: 1) 100 miles of Tiers 1-4 improvements each year; 2) 450 signalized intersections each year; or 3) a hybrid of TSM improvements.

Strategic Plan

- A total funding level of \$35 million per year for RSTI improvements has the following funding trade-off options: 1) six interchange improvement projects plus several street widening projects each year; 2) eight new interchange projects plus several street widening projects each year; 3) six arterial realignment projects plus several street widening projects each year; or 4) a hybrid of these projects.
- A total funding level of \$41 million per year for TSM improvements has the following funding trade-off options: 1) 135 miles of Tiers 1-4 improvements each year; 2) 640 signalized intersections each year; or 3) a hybrid of TSM improvements.

Goods Movement

The Goods Movement Chapter looks at the goods movement improvements the MTA funded as part of the RSTI modal category over the past five years, and the issues facing the MTA over the next twenty-five years. The Chapter also proposed recommendations which depend on funding levels assumed. Goods movement is vital in promoting economic vitality, generating revenues, and creating much-needed jobs for Los Angeles County. However, an increasing truck and freight train movements caused by countywide goods movements, especially from the Los Angeles World Airport (LAX) and the San Pedro Ports (Ports of Long Beach and Los Angeles), are exacerbating the already congested Los Angeles County transportation system.

Goods Movement Recommendations

Constrained Plan

The Constrained Program Recommendations assume about \$22.4 million per year in annual funding from all sources for the next twenty-five years. At this level of funding (\$560 million total project cost for twenty five years), most of the railroad/arterial grade crossing projects along main freight lines proposed by the consultant will be funded. At this constrained funding level, about 700,000 annual travel hours will be saved by the year 2025.

Strategic Plan

The Strategic Program Recommendations assume a total funding level of \$32 million in annual funding from all sources for the next twenty-five years. This funding level is roughly \$10 million higher than the constrained funding level. At this level of funding (\$800 million total project cost for twenty five years), a hybrid of goods movement projects, such as truck-impacted arterial roadways, intersection improvements, geometric upgrades, and grade separations, will be funded. At this strategic funding level, about one million annual travel hours will be saved by the year 2025.

Arterial Funding Recommendations	
RSTI	
Baseline	\$20.0 million/year
Constrained Plan	\$25.0 million/year
Strategic Plan	\$35.0 million/year
TSM	
Baseline	\$29.0 million/year
Constrained Plan	\$29.0 million/year
Strategic Plan	\$41.0 million/year
Goods Movement	
Baseline	\$34.0 million/year
Constrained Plan	\$22.4 million/year
Strategic Plan	\$32 .0million/year

Transportation Demand Management

The purpose of Transportation Demand Management (TDM) is to increase the efficiency of the transportation system and improve mobility without building new transportation infrastructure. This is generally accomplished through policies, physical improvements, programs and operational changes that influence travel behavior in the following ways:

- Improving the efficiency of the existing transportation infrastructure (increasing the use of high occupancy vehicles, transit, carpooling, and vanpooling)
- Eliminating trips altogether, or combining trips (telecommuting, modified work schedules, shuttles, combining transit services, etc)
- Encouraging use of alternative transportation modes (transit, bicycling and walking), and
- Encouraging the development or applications of new technologies that support the other four objectives (Technology and Innovation, "Smart Cards", applied telecommunications devices, smart signs, etc).

Virtually all TDM strategies increase access for non-drivers and benefit populations with limited transportation options, including economically and physically disadvantaged people.



Development of planning methods that encourage invention and innovation into the ongoing planning process is part of the objective of the TDM efforts. The TDM program encourages public agencies to experiment and implement new TDM concepts. It is, and will continue to be, a priority with the MTA to assist cities in developing local TDM programs.

The TDM program has implemented numerous innovations and demonstration projects, including bike racks on buses, shuttles and vanpools, parking management demonstrations, and new technology demonstrations. Once effectiveness is determined, the most successful TDM projects become a standard part of the ongoing improvements of other transportation modes. The outcomes of a successful TDM program are changes in public policy as well as adoption of the TDM concepts into countywide improvements.

Since 1995 the MTA authorized or implemented approximately 131 TDM projects, representing approximately \$79 million in project funding. Once effectiveness is determined, projects become a standard part of the ongoing improvements of other transportation modes.

The MTA long-range expenditure plan focuses on funding and developing policies and projects that improve efficiencies in the maturing County transportation system. A goal of 2% improvement in the efficiency of the overall countywide transportation system is attainable over the 25-year period. This goal is based on the assumption that innovation, changes in public

policies, and new technologies can result in reaching the TDM objectives.

TDM Recommendations

Constrained Plan

The constrained plan recommends \$8 million per year for the TDM program. This program includes projects that increase the efficiency of transportation system, programs to reduce trips and affect travel behavior, incentives to use alternative transportation modes and development of new technologies and innovation to maximize the efficiency of the transportation system.

Strategic Plan

The strategic plan recommends \$12 million per year for the TDM program. This level of funding will allow MTA to focus additional resources on: research and development of new ways to improve the efficiency of the existing transportation system: focus on policies that remove regulations or work rules that restrict the private sector employers from providing and creating transportation services for their employees; advance an aggressive and proactive program to inform and coordinate efforts of local jurisdictions in developing and implementing innovative projects; in conjunction with local jurisdictions work on land use and " Smart Growth" policies as a longer term strategy to reduce trips and improve the efficiency of the transportation system.

TDM Recommendations

Baseline	\$7.0 million/year
Constrained Plan	\$8.0 million/year
Strategic Plan	\$12.0 million/year

Rideshare Services

Current activities consist of maintaining and generating information from the regional rideshare database necessary to help commuters establish new rideshare arrangements. Existing activities also provides this information to individual commuters through outreach to employers.

Rideshare Recommendations

Constrained Plan

The Constrained funding recommendation proposes \$9.5 million per year in funding during the LRTP period to continue existing rideshare services and to implement program enhancements. The Constrained recommendation will also provide additional funding to explore regional marketing strategies, expand existing commuter incentive programs and provide further incentives to encourage



increased vanpool ridership.

Strategic Plan

The Strategic funding recommendation proposes \$12 million annually in funding for the plan period. The Strategic recommendation will implement a more aggressive vanpool strategy than what is assumed in the Constrained funding recommendation.

Rideshare Services Recommendations

Baseline	\$5.5 million/year
Constrained Plan	\$9.5 million/year
Strategic Plan	\$12.0 million/year

Bikeways

The Bikeway Chapter looks at the bicycle improvements MTA has funded over the past five years, and the issues facing the Agency in the next 20 years to achieve increased bicycle ridership. The Chapter also proposes program recommendations which vary depending upon the funding available.

Bicycling as a transportation mode can play an increasingly significant role as an alternative to the single occupant automobile. MTA's Bikeway Off-Model Analysis estimates a current bicycle trip share of 2.4% for the County using 2000 population numbers, and

adding school, university, bike-transit and utilitarian trips. The analysis also concluded that a 5% mode share is a reasonable goal for the year 2025.

Bikeways Recommendations

Constrained Plan

The Constrained Program Recommendations focus on adding facilities to increase system capacity and ridership and to maximize the effectiveness of bikeway investments. A funding level of \$10 million per year (uninflated dollars) is recommended to



complete the bikeway system envisioned in MTA's 1995 Bicycle Master Plans. The constrained program further recommends more Class II bike lanes or innovative solutions for providing on-street space for cyclists, focusing on making the connections between bikeway facilities and transit, creating a county-wide database, frequently updating the bikeway master plan, providing educational opportunities for local cities, encouraging expanded bike parking, and encouraging zoning requirements for bikeway facilities in all new developments.

Strategic Plan

The Strategic Program Recommendations discuss potential enlargement of the planned bikeway network and providing funds to improve ridership and ensure full use of the bikeway network. A funding level of \$20

million per year (uninflated dollars) is recommended to increase the bikeway network beyond the 1995 Master Plan, provide bicycle safety education, training for police officers, planning and coordination assistance, and to develop an improved methodology for determining bike usage and forecasting.

Bikeways Recommendations	
Baseline	\$3.5 million/year
Constrained Plan	\$10.0 million/year
Strategic Plan	\$20.0 million/year

Pedestrian

Of all the trips within Los Angeles County, 8.7 percent are exclusively pedestrian trips. All trips within Los Angeles County, regardless of purpose, include a pedestrian component, and all modes depend on the efficiency of the pedestrian system to ensure completion of a trip. Approximately 330 community centers in Los Angeles County have the population density, levels of employment or connections to transit adequate to create very active pedestrian centers. Many cities and areas of the County of Los Angeles have reached a level of development maturity that doesn't allow much additional roadway capacity. In many instances, the opportunities to improve mobility in these areas are largely limited to better utilization and development of the transportation and pedestrian infrastructure already in place. The

pedestrian trip is an excellent effective alternative for short automobile trips, and is essential to transit and rideshare trips. The MTA's efforts have been to encourage pedestrian improvements in four major areas: (1) reduce the demand for other transportation modes, (2) improve the connections between modes, (3) improve the connections between places, and (4) expand ADA access and improve safety as part of other pedestrian improvements.

The majority of projects funded through the MTA Call for Projects have been in areas of higher density development and high transit usage, both encourage usage of, and compliment other regional transit investments. Lower-income, youth, elderly, and transportation-disadvantaged people often rely heavily on pedestrian transportation, and thus benefit significantly from pedestrian improvements. The public resources (money and road space) per trip supported are less than funding for automobile travel.

The MTA investments in pedestrian improvements act to extend the influence areas and usability of other MTA transit improvements. This includes areas where current land use or zoning support pedestrian travel, where transit or services are highly accessible by pedestrians, where populations demonstrate a potentially high use of pedestrian facilities, and where building form compliment and support pedestrian investments. The consequences of a successful program include improved efficiency of all transportation modes, and increased distances and frequency people will walk (thus reducing trips within other modes). The funding plan contains a general program to improve numerous pedestrian priority areas.

The objective of the plan is to increase the pedestrian exclusive trips percentage from the current 8.7% of all of Los Angeles County's trips to 11% of all trips. The MTA consistently receives requests for pedestrian improvement funding that far exceeds the MTA's available pedestrian funding programs.

Pedestrian Recommendations

Constrained Plan

The constrained plan recommends \$8 million per year for pedestrian improvements. These resources are allocated to projects that improve pedestrian access to transit, projects that improve pedestrian environments and sidewalks, programs (in conjunction with local cities) to develop Transit Oriented Districts and projects that create and support pedestrian venues in high density areas (e.g. Angels Walk).

The constrained plan also includes \$2 million in Transportation Enhancement funds that are available for enhancing environmental related components of transportation projects.

Strategic Plan

The strategic plan recommends \$18 million per year for pedestrian improvements. This funding level would allow MTA to implement a program that at a minimum could accomplish the following programs:

- Work with selected cities within Los Angeles County to develop local pedestrian plans and to incorporate them within each city's general plan. These plans would guide the development of policies and physical improvements within the city that would strengthen pedestrian connections between local destinations and public transportation facilities, and establish development standards resulting in a built environment that supports pedestrian travel.
- Develop a coordinated set of streetscape improvements similar to the City of Los Angeles' Figueroa Corridor project for portions of major streets throughout the County with the highest levels of transit and pedestrian activity.
- In conjunction with local jurisdictions develop specific programs to improve pedestrian safety at major intersections and transit/pedestrian activity centers. Use the findings from the Long Beach Metro Blue Line's existing pedestrian safety improvement program to implement pedestrian safety improvements along future rail lines currently under construction (Pasadena Blue Line) or in the planning phases (Eastside, Exposition, etc.).
- Improve pedestrian connections to Metro Green Line Stations located within the Century Freeway right-of-way.

The strategic plan also includes \$2 million in Transportation Enhancement funds that are available for enhancing environmental related components of transportation projects.

Pedestrian Recommendations		
Baseline		
Pedestrian	\$3 million/year	
TEA	\$5 million/year	
Constrained Plan		
Pedestrian	\$8 million/year	
TEA	\$2 million/year	
Strategic Plan		
Pedestrian	\$18 million/year	
TEA	\$2 million/year	

- Incentives programs to attract people to non-drive alone travel alternatives
- Strategies to discourage driving alone activity
- Generating new revenues from the disincentives to fund new projects and programs so convenient alternatives to driving alone are available
- Greater coordination between transportation improvements and local growth to reduce sprawl

Innovations and New Directions Recommendations

MTA will work to advance these innovative and new strategies. Many of these strategies will be a challenge to implement because they will require major shifts from how the transportation system is currently viewed and approached. Several will require altering the manner in which the transportation and land use linkage is viewed and approached, such as smart growth concepts. Some activities will require a shift in how transportation options are provided. Many will require changes in the way LA County residents make their travel choices. Finally, these strategies will require significant commitment and collaboration between multiple agencies and jurisdictions for successful implementation to occur. However, LRTP analysis shows that over time hard choices will need to be made if the county has any chance of keeping the transportation system moving in the future.

Innovations and New Directions

Building and operating new transportation infrastructure and services alone will not solve the county's transportation problems. LRTP analysis has found that providing a combination of enhanced transportation services and more innovative strategies will be necessary if the county has any hope of maintaining current mobility. This section will discuss several new strategies that will need to be explored in order to fully solve the county's transportation needs. Strategies that will need to be considered include:

L RTP Performance Summary

In developing the L RTP recommendations for the Constrained and Strategic Plans, various countywide alternatives were evaluated using the MTA transportation demand model. These alternatives consisted of different strategies for meeting future travel demand, and were evaluated for their mobility benefit.

Specifically, two alternatives were developed that encompassed two distinct approaches to meeting future travel needs. A vehicle-moving strategy was developed that focused to a large extent on highway and arterial projects that enhanced vehicle movement. A person-moving strategy was developed that focused on increasing investments in transit and other alternatives to the automobile (ridesharing, bicycle, and pedestrian improvements).

As a result of this analysis, a recommended plan was developed that optimizes the performance of both alternatives. This “balanced plan”, which is financially constrained to the \$11.2 billion of available funding, became the Constrained Plan.

One of the interesting aspects of the modeling analysis is that even though public transportation consists of only five percent of commute trips, a significant investment in transit does more for improving freeway speeds than does improvements to the highway system. This conclusion is confirmed by engineering analysis that demonstrates that as the freeway system approaches capacity, that transit and alternative strategies to the single occupant vehicle automobile can make the

difference between a properly functioning transportation system, and a transportation system that is experiencing a major breakdown. The 1984 Los Angeles Olympics illustrated the best example of this phenomenon, where fairly minor changes in travel made major improvements in congestion.

As a result, the Constrained Plan has a strong focus on solutions that increase the movement of people and solutions that encourage greater use of transit and alternatives to the single occupant vehicle. The Constrained Plan features an expansion of countywide bus service from 3,300 buses today to 4,400 buses in 2025. While the county’s population will increase by 35 percent over the next twenty-five years, bus capacity increases significantly. Between 1998 and 2025, revenue vehicle hours will increase by 177 percent, and revenue seat hours will increase even more, by 236 percent. This increase is attributable in large part to the expansion of the Metro Rapid program which will provide high volume service along 22 additional lines, as well as to the introduction of articulated bus service to meet ridership needs on high demand lines.

Mode Share. The Constrained Plan increases transit commute period mode share from 8.5 percent in 1998 to 14.8 percent, while ridesharing remains constant at 15.9 percent and single occupant vehicle trips reduce from 75.8 percent to 69.3 percent.

While morning commute period highway speeds decline from 31.6 miles per hour in 1998 to 16.1 miles per hour in 2025, speeds increase over the 2025 baseline condition from 14.7 miles per hour. While this is a

considerable increase in congestion over current conditions due to the large increase in population, it should be noted that adding additional projects in the Strategic Plan does not improve morning peak highway flows.

Mobility Index. The mobility index, which measures the flow of people in the transportation system, also demonstrates a measurable decline in mobility from 45.7 in 1998 to 29.53 in 2025. It does reflect that the system is carrying more people more efficiently through transit however, as the mobility measure would otherwise be at 26.7 in 2025 without the Constrained Plan projects.

Air Quality Index. While the most significant improvement in air quality is the result of improved emission technology of the vehicle fleet, the 2025 Baseline Air Quality index of 409 improves to 398 in the Constrained plan, demonstrating an improvement in air quality that supports air quality improvements necessary work toward regional air quality goals.

Cost Effectiveness. The Constrained Plan improves upon both the Vehicle Moving and People Moving Alternative, providing the greatest “bang for the buck”. Each 93 cents invested in the Constrained Plan results in an hour of congestion reduced. This contrasts with the higher cost of the Vehicle-Moving Alternative at \$1.28 per hour saved, and the People Moving Alternative at \$1.09 per hour saved.

Smart Growth Alternatives. Sensitivity analysis was also conducted to determine if changes in population as well

as whether Smart Growth and pricing strategies enhance mobilities. The Southern California Association of Governments is considering revising the 2025 population forecast to reduce population by approximately 1 million people. This reduction could improve daily highway speeds up to 27.9 miles per hour. If this reduced population is combined with Smart Growth concepts encouraging development of the urban core and implementing congestion, implementing pricing strategies which fund greater transit services, daily speed improves to 31.7 miles per hour, which is comparable to current conditions. Such strategies also demonstrate a substantial improvement in the Air Quality Index.

Benefit to Transit Dependent and Minority Communities. The federal government, through its environmental justice and Title VI programs, requires a special analysis of the impact and benefits of the LRTP on the transit dependent and minority groups. The LRTP complies with these requirements. Specifically, the LRTP has evaluated the mobility benefits and impacts examining how mobility is affected in areas with high transit dependency and high minority populations.

This analysis demonstrates that both the Constrained and Strategic Plans perform well in the provision of transit services. While the plan provides equitable benefits throughout the County in meeting future transportation challenges, transit service improvements are greatest to transit dependent and minority communities.

The result is demonstrated by an assessment of the percent of transit dependent and minority populations that can arrive at their work place within one hour via

transit. Focusing specifically on transit dependent neighborhoods, analysis shows an improvement from 44.6 percent to 56.2 percent in the measurement of those who are able to arrive at their work place within one hour in the peak period. Similar results are shown for other minority groups, which demonstrates that the LRTP provides a higher level of transit availability to the transit dependent and minority areas that to the County at large. This is in large part due to the concentration of new transit projects proposed in and around transit dependent and minority communities. This is illustrated by Exhibit 1-8. For additional information about Title VI analysis, see Technical Appendix A, Section V.

Project Specific Analysis

The LRTP also reports on the performance of major transportation improvements that are recommended in the Constrained and Strategic Plans. The following summarizes major highway and transit project performance.

Highway Project Performance

Table 1-2 identifies anticipated travel time savings from congestion reductions from each of the major highway projects considered in the Constrained and Strategic Plan.

With the exception of the I-710 Gap Closure project and the I-5 widening (Rosemead Blvd. to I-710), all major highway projects in the Constrained Plan provide substantial congestion relief benefits.

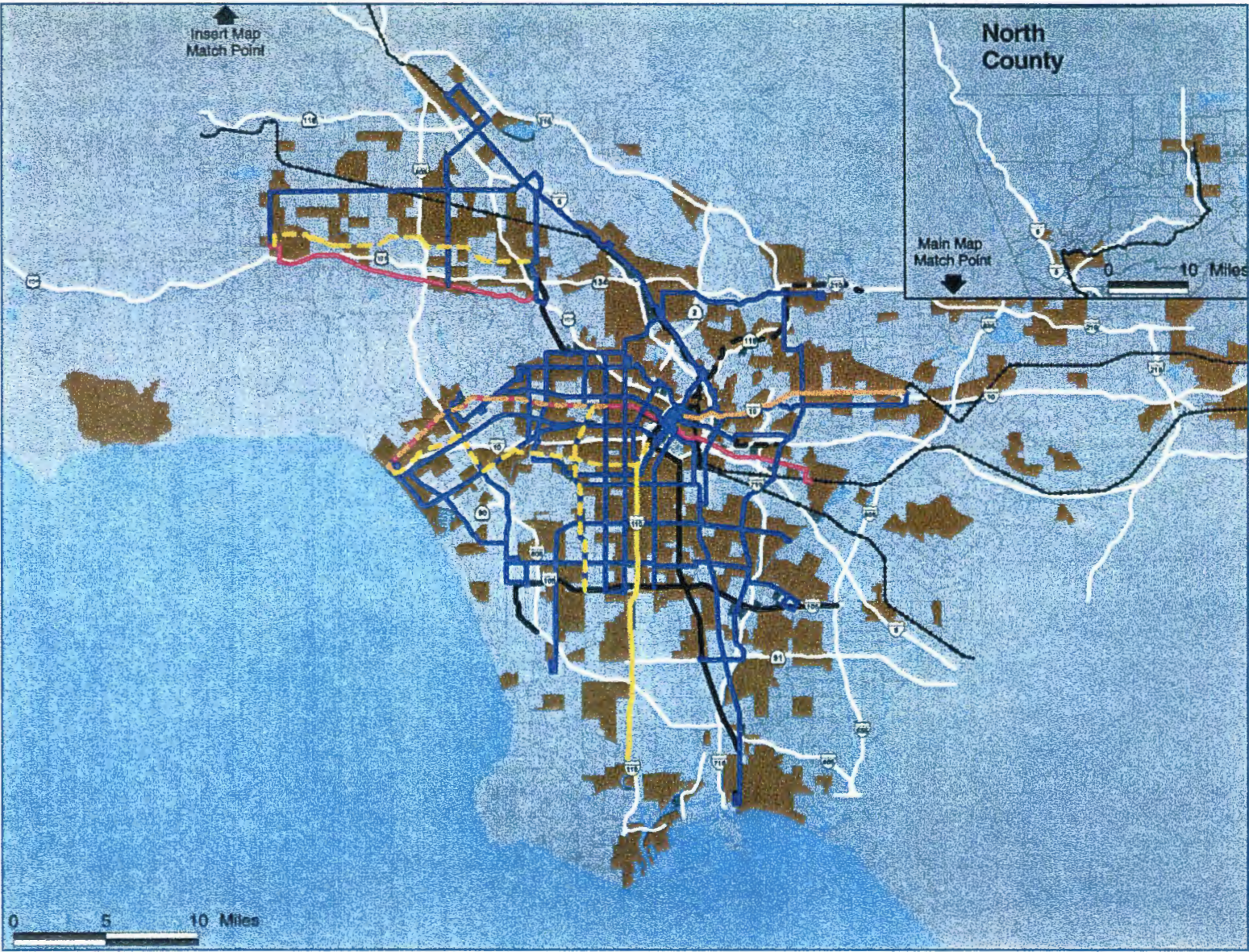
While the I-710 project was the highest performing project, it is recommended for the Strategic Plan, rather than the Constrained Plan, due to lack of local consensus on project implementation. MTA staff will work with Caltrans to monitor progress on pending local issues. If consensus can be reached, MTA will revise this recommendation in the next update of its LRTP.

The I-5 widening and HOV lane segment project between Rosemead Blvd. and the I-710 performed well, and is the final segment of a multi-stage project which starts at the Orange County line. Given the amount of design work and the construction sequencing of this project, however, it is uncertain if the project will be ready for implementation within the life of the plan.

It should also be noted that since most of the highway projects support completion of the HOV system, the highway program places an important emphasis on facilities that encourage greater carpool and transit use.

Transit Project Performance

Table 1-3 provides performance information on transit projects identified in the Constrained Plan and Strategic Plan. This performance analysis looks at the incremental daily boarding of Baseline, Constrained, and Strategic transit projects. The existing Metro Rail system demonstrates significant transit ridership in 2025, with incremental daily boarding of approximately 195,000. Transit corridors in the Baseline and Constrained plan also perform favorably in meeting future transit ridership needs. Projects in the



AREAS WITH TRANSIT DEPENDENT POPULATION

- Transit Dependent (SCAG) TAZ
- Other TAZ
- Metro Rapid phase I
- Metro Rapid phase II
- Transitways - existing
- Transitways - under study
- Metro Rail - existing
- Metro Rail - future
- Metro Link

Source of population data: Southern California Association of Governments

Table 1-2

Annual Travel Time Savings

Project	Freeway	From	To	Annual Vehicle Hours Saved
Constrained Plan				
1. HOV Lanes	I-5	SR-134	SR-170	640,000
2. HOV Lanes	SR-14	Pearblossom	Ave. L	757,760
3. HOV Lanes	I-5	Orange County Line	I-605	730,880
4. HOV Lanes	I-5	Orange County Line	I-605	901,760
Strategic Alternative				
5. HOV Lanes	I-5	SR-14	SR-126	154,880
6. Mixed Flow Lanes	I-5	SR-14	SR-126	485,760
7. HOV Lanes	SR-60	I-605	SR-101	620,160
8. HOV Lanes	SR-57	I-210	SR-60	574,080
9. HOV Lanes	I-710	Valley	I-210	552,320
10. Mixed Flow Lanes	I-710	Valley	I-210	2,617,600
11. HOV Lanes	I-5	I-605	I-210	856,960
12. Mixed Flow Lanes	I-5	I-605	I-210	1,020,160

Table 1-3

Performance of Major Transit components

Projects	Route Miles	Incremental Daily Boardings in 2025
Baseline Projects		
1 Rail Transit		
1.1 Existing Metro Red, Blue & Green Lines	77.0	195,441
1.2 Pasadena Line to Sierra Madre Villa	13.6	31,821
2 Transit Corridors		
2.1 Eastside Transit Corridor Beverly/Atlantic	5.9	13,114
2.2 Exposition Corridor	5.5	29,334
2.3 Wilshire/W hittier Corridor	23.8	28,823
2.4 San Fernando Valley East/W est Corridor	13.5	29,399
Constrained Recommendations		
1 Metro Rapid - 22 Lines (1)	346.0	247,105
2 Transit Corridors		
2.1 Crenshaw corridor	15.2	32,044
2.2 Exposition Corridor Extension from Baseline	10.6	27,027
2.3 San Fernando Valley North/South Corridor	12.0	21,219
Strategic Recommendations		
1 Transit Corridors		
1.1 Wilshire Red Line Extension to Century City	6.4	33,351
1.2 East Los Angeles Corridor Extension to W hittier	6.6	7,086
1.3 Pasadena Line Extension to Claremont	22.4	1,766
1.4 Vermont Transit Corridor	12.0	4,360
1.5 Burbank/ Glendale Corridor	13.6	32,458
1.6 Metro Rail Extension to South Bay Galleria	2.3	2,352

[1] Include Avalon, Florence, Pico/Venice/East First, Vermont, Van Nuys, Crenshaw-Rossmore. Hawthorne, Hollywood-Pasadena, Long Beach, San Fernando, Santa Monica, Sepulveda, Soto, and Western. Alvarado, Atlantic, Century, Garvey, Hollywood-Fairfax, Lincoln, Roscoe, Vernon-La Cienega, West Third.

Strategic Plan either have significant cost and implementation issues (i.e., Wilshire Red Line to Century City), are in corridors where competing services exist (i.e., Burbank/Glendale Corridor with Metrolink service), or demonstrate lower ridership than transit corridors recommended for the Constrained Plan.

Many of these projects are undergoing transit corridor studies which will provide specific performance analysis at a more detailed level. The results of this further analysis will be integrated into the next LRTP update, and reflect new information provided by corridor level project analysis.

Relation of LRTP Results to other Major Planning Efforts

Regional Planning Efforts

As was mentioned above, the LRTP has been developed in coordination with the Southern California Association of Governments. The LRTP, once adopted by the MTA Board, will be MTA's recommendation for projects to be included in the Los Angeles County portion of SCAG's 2001 Regional Transportation Plan. The LRTP will also be the basis for MTA participation with the Southern California Air Quality Management District as it prepares its 2001 Air Quality Management Plan update.

Local Planning Activities

LAX Master Plan. Los Angeles World Airports (LAWA) is in the process of developing an LAX Master Plan to

examine future air travel demand impacts and related facility needs. The Master Plan analyzes several expansion alternatives. The alternatives consider possible additions of new runways, a new passenger terminal, new gates, and additional parking spaces. The proposed expansion is designed to meet a large rate of projected growth in both passenger and air cargo traffic. A draft EIR on the LAX Master Plan was recently released.

Several projects identified in the LRTP are in proximity to LAX. These projects are the Green Line light rail extension to LAX and the Arbor Vitae/405 Interchange. Both of these projects are included in the LRTP to address transportation problems that currently exist, and are needed regardless of decisions related to LAX expansion.

The Green Line light rail extension proposal to LAX is a gap in the current light rail system that is a well-known missing segment of the existing Green Line. Because of its connection to LAX, with or without the LAX expansion, MTA proposes that it be built with non-MTA funding.

The Arbor Vitae project has been under development for the last 30 years to address circulation problems that currently exist in the LAX vicinity. The southern portion of the project has been approved by the MTA Board and is programmed in the Regional Transportation Improvement Program. The northern portion is proposed by the City of Los Angeles as a project recommendation in the Sub-regional Section (Section 6) of the LRTP.

Both components address existing transportation needs that exist with or without the LAX expansion.

Any transportation projects proposed in the LAX Master Plan that are needed for LAX expansion purposes will need to be addressed through the LAX Master Plan EIR process. The LRTP does not make any recommendations regarding the funding of projects proposed for LAX expansion. In fact, such projects would need to be submitted for consideration in a future MTA Call for Projects process, and would require MTA Board action for any funding.

**Table 1-4 Constrained & Strategic
Plan Recommendations**

<u>CONSTRAINED PLAN RECOMMENDATIONS</u>	<u>TOTAL</u>	<u>YEARS</u>
<i>PUBLIC TRANSPORTATION</i>		
<i>Bus System Improvement</i>		
Countywide Bus System Improvement – 4,400 total countywide peak fleet	3,771.8	FY 06 - 25
Metro Rapid Corridors – 22 Lines	92.3	FY 05 - 10
Implement Tiered Transit System	0	FY 05 - 25
Transit Capital Project Funding in Call for Projects (\$13.5 mill/yr) ¹	438.4	FY 05 - 25
Community Transit Service ²	0	
<i>Transit Corridors</i>		
Crenshaw Corridor ³	346.1	FY 19 - 22
Exposition Corridor Phase II (extension of Baseline Project) ³	155.2	FY 09 - 14
San Fernando Valley North-South Corridor ³	142.7	FY 05 - 12
Metro Green Line Extension to LAX ²	0	
<i>Commuter Rail</i>		
Metrolink Expansion	580.0	FY 05 - 25
<i>HIGHWAYS</i>		
<i>Freeway Improvements and Gap Closure</i>		
I-5: Add 1 mixed flow lane & 1 HOV lane from Orange Co. Line to Rosemead Blvd.	222.3	FY 16 - 23
<i>HOV Lanes</i>		
I-5: Rt. 134 to Rt. 170 (both directions)	182.7	FY 10 - 15
Rt. 14: Pearblossom to Avenue L (both directions)	105.5	FY 16 - 22
I-405: Rt. 101 to Burbank Blvd. (northbound)	3.6	FY 06

Table 1-4 (Continued)

CONSTRAINED PLAN RECOMMENDATIONS (Continued)	TOTAL	YEARS
HIGHWAYS (Continued)		
Freeway Interchanges		
I-5: Various interchanges from Orange Co. Line to Rosemead Bl	355.5	FY 16 - 24
Rt. 57 and Rt. 60	355.5	FY 16 -24
HOV Connectors		
I-5 and Rt. 170 (partial – from south to north)	77.7	FY 20 - 24
I-5 and I-405 (partial – from south to north)	143.5	FY 17 - 23
Soundwalls		
MTA Retrofit Soundwall Program (partial funding)	549.2	FY 05 - 16
OTHER CALL FOR PROJECTS CATEGORIES		
Regional Surface Transportation Improvements (\$25 mill/yr) ^{1 & 4}	817.2	FY 05 -25
Arterial Goods Movement (\$22.4 mill/yr) ¹	724.7	FY 05 -25
Signal Synchronization & Bus Speed Improvement (\$29 mill/yr) ¹	929.0	FY 05 -25
Transportation Demand Management (\$8 mill/yr) ¹	260.4	FY 05 -25
Bikeway Improvements (\$10 mill/yr) ¹	320.0	FY 05 -25
Pedestrian Improvements (\$8 mill/yr) ¹	259.9	FY 05 -25
Transportation Enhancements (\$2 mill/yr) ¹	64.9	FY 05 -25
Rideshare Services (\$9.5 mill/yr) ¹	301.9	FY 05 -25
TOTAL	\$11,200.0	

Constrained Recommendation Footnotes

- ¹ Annual Call for Projects funding amounts are presented in uninflated dollars and represent annual averages.
- ² Community Transit and Metro Green Line Extension to LA World Airports assumed to be funded with non-MTA funding sources.
- ³ Actual transit technology (metro rapid, bus guideway, or light rail guideway) and phase project length to be determined through corridor alternatives analysis.
- ⁴ SR-138 widening project to 4 lanes from SR-14 to I-5, & from Ave. T to SR-18 are assumed to be funded with RSTI\$.

Table 1-4 (Continued)

STRATEGIC PLAN RECOMMENDATIONS

TOTAL

YEARS

PUBLIC TRANSPORTATION

Bus System Improvement

Metro Rapid Corridors – Additional 14 Lines	130.8	FY 11 - 16
Additional Transit Capital Call for Projects Funding (\$20 mill/yr & \$649.5 total funding) ¹	211.1	FY 05 - 25
Community Transit Service ²	500.0	FY 05 - 25

Transit Corridors

Wilshire Red Line – extension from Wilshire/Western to Century City ³	2,461.0	FY 15 - 20
East Los Angeles Corridor – extension from Atlantic to Norwalk/Whittier ³	671.0	FY 09 - 14
Pasadena Metro Rail Line – extension from Sierra Madre Villa to Claremont ³	1,276.0	FY 09- 14
Vermont Corridor – Vermont Metro Green Line Station to Hollywood Blvd. ³	373.0	FY 07 - 10
Burbank/Glendale Corridor – Union Station to Burbank Transit Station ³	788.0	FY 15 - 19
Metro Green Line – extension from Marine/Redondo to South Bay Galleria ³	172.0	FY 15 - 19
Extensions and /or upgrades to Constrained Plan transit corridor projects ³	461.0	FY 15 - 20
Transit Corridor Operating Costs	1,120.0	FY 09 - 25

Commuter Rail

Additional Metrolink Expansion	380.0	FY 05 - 25
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HIGHWAYS

Freeway Improvements and Gap Closure

I-5: Add 1 mixed flow lane & 1 HOV lane from Rosemead Blvd. to I-170 (both directions)	1,415.0	FY 16 - 23
I-5: Add 1 mixed flow lane from Rt. 14 to Rt. 126 (both directions) ⁴	629.0	FY 16 - 21
Rt. 14: Add 1 mixed flow lane from I-5 to Kern County Line (both directions) ⁴	1,258.0	FY 16 - 21
Rt. 101: Corridor Study Recommendations ⁴	TBD	
Rt. 138: Add 1 expressway lane from I-5 to Rt. 14 (both directions) ⁴	117.0	FY 15 - 20
Rt. 138: Add 1 expressway lane from Rt. 14 to San Bernardino Co. Line (both directions) ⁴	191.0	FY 15 - 20
I-710: Gap Closure	1,474	FY 10 - 25
I-710: Corridor Study Recommendations ⁴	TBD	
High Desert Freeway: from I-5 to San Bernardino County Line ⁴	TBD	

Table 1-4 (Continued)

STRATEGIC PLAN RECOMMENDATIONS (Continued)

TOTAL YEARS

HIGHWAYS (Continued)

HOV Lanes

I-5: Rt. 14 to Rt. 126 (both directions)	157.0	FY 16 - 21
Rt. 57: Rt. 60 to I-210 (both directions)	86.0	FY 22 - 25
Rt. 60: Rt. 101 to I-605 (both directions)	244.0	FY 16 - 21
I-605: I-10 to I-210	86.0	FY 22 - 25

Freeway Interchanges

I-5 and Rt. 2	200.0	FY 11 - 25
I-5 and I-10	200.0	FY 11 - 25
I-5 and Rt. 14	200.0	FY 11 - 25
I-5 and Rt. 134	200.0	FY 11 - 25
I-5 and Rt. 170	200.0	FY 11 - 25
I-5 and I-405	200.0	FY 11 - 25
Rt. 101 and Rt. 170	200.0	FY 11 - 25
I-405 and Rt. 101	200.0	FY 11 - 25
Rt. 101 and Rt. 170 and Rt. 134 (complete two connections)	200.0	FY 16 - 25

HOV Connectors

I-5 and I-605 (partial connector -- from west to south & from west to north)	208.0	FY 11 - 20
I-101 and I-605 (partial connector -- from east to south & from west to south)	208.0	FY 11 - 20
Rt. 60 and I-605 (partial connector -- from east to south & from east to north)	208.0	FY 11 - 20
Rt. 91 and I-110 (partial connector -- from east to south & from east to north)	208.0	FY 11 - 20
Rt. 91 and I-605 (all)	416.0	FY 11 - 20
I-105 and I-605 (partial connector -- from west to north & from west to south)	208.0	FY 11 - 20

Soundwalls

Additional funding for MTA Retrofit Soundwall Program	724.9	FY 05 - 16
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Table 1-4 (Continued)

STRATEGIC PLAN RECOMMENDATIONS (Continued)

TOTAL YEARS

OTHER CALL FOR PROJECTS CATEGORIES

Additional Regional Surface Transportation Improvements (\$35 mill/yr & \$1,133.3 total funding) ¹	316.1	FY 05 -25
Additional Arterial Goods Movement Improvements (\$32 mill/yr & \$1,046.2 total funding) ¹	321.5	FY 05 -25
Additional Signal Synchronization & Bus Speed Improvements (\$41 mill/yr & \$1,314.8 total funding) ¹	385.8	FY 05 -25
Additional Transportation Demand Management (\$12 mill/yr & \$389.9 total funding) ¹	129.5	FY 05 -25
Additional Bikeways Improvements (\$20 mill/yr & \$649.5 total funding) ¹	329.5	FY 05 -25
Additional Pedestrian Improvements (\$18 mill/yr & \$584.8 total funding) ¹	324.9	FY 05 -25
Additional Rideshare Services (\$12 mill/yr & \$389.9 total funding) ¹	88.0	FY 05 -25

TOTAL **\$20,077.1**

Strategic Recommendation Footnotes

- ¹ Annual Call for Projects funding amounts are presented in uninflated dollars and represent annual averages
- ² Community Transit assumed to be funded with a combination of MTA and non-MTA funding sources
- ³ Actual transit technology (metro rapid, bus guideway, or light rail guideway) and phase project length to be determined through corridor alternatives analysis
- ⁴ Final project scope and cost recommendations will be incorporated into Strategic Plan upon completion of corridor studies

Section 2

Public Transportation



2001 Long Range Transportation Plan for Los Angeles County

Public Transportation Overview

Public transportation, for the first time in decades, has begun a resurgence, both in terms of usage and in terms of more coordinated planning and implementation strategies throughout the country and around the world. The American Public Transportation Association reports that public transportation use increased by 15.3 percent during the past three years, increasing from 7.9 billion boardings in 1996 to 9.1 billion in 1999. During that time, the rate of growth for public transportation is twice the rate of increase in vehicle miles driven, another significant trend change.

A recent survey conducted by Smart Growth America, a nationwide coalition of organizations promoting a higher awareness of open space development, neighborhood revitalization, affordable housing, etc., reported that sixty percent of those surveyed favored more state funding for public transportation even if it meant less money for new highways. Also, over twice as many people, forty-seven percent of those surveyed, indicated the best long term strategy for reducing congestion was public transportation, not building new roads.

Public transportation agencies have begun to realize that the ability to attract new riders is linked with separating the market into smaller niches, building coalitions with other organizations whose members or clients typically rely on public transportation and focusing on improving various factors or attributes that would not only retain existing riders but attract new riders.

The opportunity exists in Los Angeles County for the MTA to provide the opportunity for a revitalized public transportation system to play a predominant role in the future of the county through better coordination and communication with partnering agencies, including those providing services, through improved service attributes that attract more users to the system and through expanded explanations of the public transportation plan to the public, community organizations and the media.

Integrating the Modes

Public transportation, for the purposes of the LRTP, includes all modes of travel from rail services on dedicated rights of way, through all elements of the bus system from Metro Rapid Bus to local and community based services and ridesharing services such as carpools and vanpools. Two particular modes, Metro Rapid Bus and Metrolink Commuter Rail are described more fully in separate sections of this report.

In the past, planning and implementation of these services has often appeared to lack common goals and consistency. The LRTP analysis concludes that the only way we can keep Los Angeles County moving in a manner that would be acceptable to the public is to integrate all modes of travel, especially public transportation.

Efforts have already begun in a number of planning areas that need to be continued and strengthened throughout the duration of the LRTP. Recognizing that Municipal and local operator participation is a critical requirement in implementing a short term bus master plan, the MTA has

begun discussions with the operators on sketching out a coordinated and consistent approach to bus service on a county wide basis. This approach recognizes there is a natural hierarchy or tier of services that begin with rail operations on dedicated right-of-way such as Metrolink and the Red, Blue and Green lines and also incorporates new services such as the Pasadena and East Side light rail lines with corridor analyses focusing on expansion of the Metro Rapid Bus concept through the introduction of dedicated right-of-ways, exclusive lanes on arterials, high capacity buses, and fare prepayment, as well as expansion of the Metro Rapid Bus network in coordination with the Municipal operators and cities throughout Los Angeles County.

In addition to these services would be a coordinated local and community based service network with local buses defined as traditional forty foot fixed route operations and community based services as the variety of operations ranging from smaller vehicles on fixed routes, such as the LADOT DASH network or the Glendale Beeline, to demand responsive multiple destination shuttles and taxis, such as Access Services and dial-a-rides. The tiered service plan is further described later in this section.

From a funding perspective, the constrained scenario, in general, provides for additional capital for public transportation, but operating funds are significantly limited. Thus, opportunities are anticipated for increased funding in the Transit Capital portion of the Call for Projects for proposals that reinforce the policy concepts contained in the LRTP including:

- Retrofit of maintenance facilities to accommodate alternative fuels.
- Improved amenities for bus services such as shelters, lighting, and information.
- Acquisition of vehicles or equipment to attract new boardings through expansion or efficiency.
- Coordination with service changes linked to the tiered service plan or the Countywide Short Range Transit Plan.

However, since no additional operating funds are anticipated to become available until after 2015, service modifications are based on the ability to improve efficiencies in the existing system. For example, new Metro Rapid lines can be recrafted from existing local service resources, but there is a limit to what these resources can accommodate with respect to increased ridership demands.

The strategic scenario significantly increases the potential for additional guideway projects and expanded community, local, and Metro Rapid services. Arguably, these expanded services are necessary to meet the additional service demand to improve mobility options.

Existing System

Fixed route transit service in Los Angeles County is provided by 43 different public agencies, ranging in size from the MTA with nearly 2,000 peak vehicles to the City of Baldwin Park with 4 peak vehicles. These agencies operate a total of over 2,800 vehicles for nearly nine million hours annually, while carrying 470 million

passengers. Over 2 million more transit trips are provided on the 80 publicly -funded dial-a-ride services that operate in Los Angeles County. There are at least 190 additional private agencies and organizations in Los Angeles County that provide trips to persons with disabilities. All regionally funded fixed-route transit services use buses that are equipped to provide wheelchair access in accordance with the federal Americans With Disabilities Act (ADA).

Rail transit service is provided by MTA and the Southern California Regional Rail Authority (SCRRA or Metrolink). Annually, 67 million passengers ride rail service in Los Angeles. MTA operates almost 380,000 revenue train hours of service on three different rail lines. The Metro Blue Line provides service to 22 stations along a 22-mile route from Downtown Los Angeles to Downtown Long Beach. The Metro Green Line delivers service to 14 stations along the 20-mile route between the cities of Norwalk and Redondo Beach in the median of the I-105/Glenn Anderson Freeway. The Metro Red Line subway currently includes 17.4 miles of underground heavy rail serving 16 stations between Downtown Los Angeles and North Hollywood. Metrolink is a five county joint operating authority overseeing the commuter rail operations for the entire region. With 126 daily trains providing service to 47 stations along six different lines, Metrolink operates over 158,000 revenue train hours a year and transports over 8 million patrons annually. Metrolink service operates to Ventura County, the Antelope Valley, San Bernardino County, Riverside County and Orange County.

Accomplishments Since 1995

Since 1995 the following strategies have been implemented throughout Los Angeles County:

- Over three hundred buses have been added to peak hour service by all operators.
- Mobility Allowance demonstration projects were tested in Redondo Beach and the Harbor area during time periods of lower transit demand.
- Metro Red Line subway extensions to Wilshire/Western, Hollywood and North Hollywood were opened for service.
- Metro Green Line light rail service from Norwalk to Redondo Beach was opened for service.
- Bus/Rail interface plans have been implemented with the openings of the Metro Green Line, and extensions of the Metro Red Line.
- Metro Rapid Bus service has opened along two routes including Wilshire/Whittier and Ventura Boulevards.
- Bus priority and preference treatments are set to begin on 42 miles of key bus lines, approximately one-third of the 1995 proposed system.
- Larger capacity vehicles are being studied for applicability on certain routes.
- Market research, marketing and customer convenience activities have been expanded and improved.
- Several operators have begun converting their fleets to buses with reduced emissions.

California Traffic Congestion Relief Program (TCRP)

In July 2000, the State Legislature and the Governor enacted a \$6.8 billion package of transportation measures that included \$887 million in capital funds for hundreds of new buses and three fixed guideway, and one bus corridor project in Los Angeles.

A breakdown of the \$887 million in capital funds intended for the MTA shows:

- \$150 million to purchase up to 385 new low-emission or alternative-fuel buses.
- \$236 million for an Eastside Corridor light-rail transit line from Union Station to Atlantic in East Los Angeles.
- \$256 million for a Mid-City Corridor bus rapid transit project on Wilshire Boulevard from Western Avenue to downtown Santa Monica plus some portion of a fixed guideway project from Figueroa Street to downtown Santa Monica along the Exposition Corridor
- \$100 million for a bus transit project for the San Fernando Valley North/South Corridor.
- \$145 million for an east-west busway in the San Fernando Valley Burbank-Chandler Corridor.

Metro Rapid

On June 24, 2000, MTA opened the Metro Rapid Demonstration Project along the Wilshire/Whittier and Ventura Boulevard Corridors. The Wilshire/Whittier Metro

Rapid has 30 stations and serves a 26-mile corridor from Montebello to Santa Monica. The Ventura Metro Rapid has 15 stations and services a 16-mile corridor from the Universal City Red Line Station to Warner Center.

Metro Rapid is designed to provide fast, high quality bus service using low-floor buses, signal priority at intersections, streamlined on-street boarding and alighting of passengers, and improved bus stop spacing at planned rapid bus stations.

Metro Rapid operates every 3-10 minutes during peak hours. New low-floor buses with a distinctive red paint scheme replaced existing limited stop bus service in the Whittier/Wilshire and Ventura Boulevard corridors, providing travel times up to 25% faster than local service. Each bus is equipped with special sensors that keep traffic lights green when as Metro Rapid buses approach. A complete discussion of the Metro Rapid program, including findings and recommendations, is presented later in this Section.

Metro Red Line Extension

In June 2000, the Metro Red Line was extended to North Hollywood, with stations opening at Hollywood/Highland, Universal City and North Hollywood. In the first week of revenue service after the extension, Metro Red Line average daily ridership rocketed by 85% to 120,500 from a daily average of 65,150.

During the first week after the Metro Red Line extension, ridership also increased by 5% on the Metro Blue Line to 63,000 daily boardings, and by 10% on the Metro Green Line to 27,500 daily boardings.

Impact of Air Quality Regulations on Transit Buses

Air quality regulations adopted in 2000 affect how MTA and other transit bus operators provide service.

In February 2000, the California Air Resources Board adopted a statewide Transit Bus Fleet Rule to reduce emissions from full-sized transit buses and accelerate the transition to alternative fuels. The rule requires that transit agencies take one of two paths to comply with the regulation. The alternative fuel path requires new buses to run on alternative fuels that must meet increasingly stringent emission standards until 2010, when at least 15% of new purchases must be zero emission buses (ZEBs). The diesel path allows purchase of diesel buses in the short-term in exchange for more stringent emission standards by 2004 and purchase of ZEBs by 2008.

In June 2000, the South Coast Air Quality Management District adopted Rule 1192 requiring public transit bus fleets with 100 or more vehicles to purchase or lease alternative-fueled vehicles when replacing or adding vehicles. As such, MTA and larger municipal operators have been subject to this regulation since then.

Municipal operators with 15 to 99 transit buses must comply with this rule effective July 1, 2001.

Both of these regulations are consistent with the current procurement policies of the MTA, which has been a leader in alternative fuel technology since 1993, when the MTA Board adopted an Alternative Fuels Initiative policy requiring all new buses to run on alternative fuels. Currently, MTA is able to comply with all current and near-term requirements in both the State and local air quality regulations. It should be noted that both rules provide flexibility to MTA and other operators to purchase limited numbers of diesel buses for unique applications (e.g., articulated buses). Municipal operators throughout the county that have not historically invested in alternative fuels will need to resolve varying challenges with higher long term capital and operating costs.

Pasadena Line

The Pasadena Line Construction Authority was created by the state legislation (SB 1847) effective January 1, 1999. Through its formation, the Construction Authority was granted the responsibility of designing, procuring and building the rail line.

The first phase of the Pasadena Line extends 13.7 miles from Union Station in downtown Los Angeles with 13 planned stations in Chinatown, Lincoln Heights, Highland Park, South Pasadena and Pasadena. The line is scheduled to begin carrying passengers between Los

Angeles and Pasadena in July 2003. A future extension to Claremont is under consideration.

MTA will operate train service upon completion of the project, with trains operating every 8 minutes during commute hours, and every 15 to 30 minutes during non-commute hours. Daily ridership is projected at 30,000-38,000 on opening day, with ridership increasing to 68,000 daily riders by 2015.

Transit Restructuring Studies

Eight different regional restructuring studies have been conducted over the past several years with the goal of improving service to the transit patrons at the local level. Each study was coordinated with all of the local transit operators and jurisdictions in each region. The goal of all of the restructuring studies is to improve mobility.

- **San Fernando Valley Transit Restructuring Study**

The San Fernando Valley Transit Restructuring Study was the first interagency cooperative transit restructuring study completed by the MTA and the City of Los Angeles Department of Transportation (LADOT). This study analyzed existing services, trip-making patterns and unmet needs in the greater San Fernando Valley, stretching from Burbank and Glendale on the east to north of the Santa Monica Mountains. Numerous productivity and efficiency recommendations were made, with all agencies tasked with varying degrees of responsibility for implementation. To date, many of the recommendations and service changes have been implemented, while others are still pending due to the

need for infrastructure changes. Many of the recommendations were implemented with the extension of the Metro Red Line to North Hollywood and the opening of the transit center at Universal City.

- **Central/East/Northeast Transit Restructuring Study**

The Central/East/Northeast Los Angeles Bus Transit Restructuring Study was completed in late 1997. This study was designed to review and analyze the existing services in downtown Los Angeles and the region directly around downtown and develop recommendations that would improve the delivery and efficiency of transit services. This study recommended several route modifications and service improvements focusing on improved access to medical care, jobs, shopping and improved transfer connections to regional services.

Included in the recommendations were several new community circulator/shuttle routes that improved access to neighborhoods located northeast and west of Downtown Los Angeles. Several of the route improvements and new routes suggested in this study were implemented as part of the MTA Consent Decree Pilot Program.

- **Arroyo-Verdugo Restructuring Study**

This Southern California Association of Governments (SCAG) in conjunction with the Arroyo Verdugo Transportation Coalition (AVTC) prepared a transportation plan for the Arroyo Verdugo sub-region to serve as a framework for transportation planning and decision-making in the member jurisdictions. The primary service improvements called for in the plan are new or enhanced community based services in each of the five

cities of the Arroyo Verdugo sub-region and a new sub-regional route to replace MTA Line 177 that links the communities of Glendale, La Canada, Flintridge, and Pasadena. The Glendale Beeline replaced the segment of Line 177 serving those cities in April 2000. In addition, the report details a sub-regional Dial-A-Ride assessment and organizational models and operational options. The report also identifies potential revenue sources, which could be used to implement the proposed AVTC service recommendations, facility improvements, and vehicle purchases.

- **Westside Bus Service Improvement Study**

The Westside Study presented a number of recommendations, including options to refine existing Westside bus service and take advantage of the Metro Red Line extension to Hollywood, development of the Metro Rapid Bus concept, deployment of high capacity vehicles, and provision of greater coordination between different transit operators. The recommendations from this study resulted in the Metro Rapid Bus Demonstration Program along the Wilshire/Whittier and Ventura Boulevard corridors. The recommended bus service improvements call for maintaining and strengthening the existing grid route network throughout the study area with additional service focus at key transit hubs. New connections are proposed where the network links were missing or discontinuous. In some areas, community services are proposed to be restructured and new faster bus services are proposed.

- **Mid-Cities Restructuring Study**

The Mid-Cities Transit Restructuring Study focused on developing recommendations for service improvements

that were targeted to the highly transit-dependent population of the majority of the study area. The study recommended a number of route restructuring ideas to simplify service and to create more connection possibilities and direct service for many patrons. New limited stop services were recommended on a number of routes along with additional service being recommended for many. The extensions of owl (late night/early morning) service to logical transfer and termination points were recommended for some routes, while it was recommended that several routes be rerouted to focus on high productivity areas and allow newly proposed shuttle routes to service lower demand corridors. Additionally, this study focused on improving the connections to the Metro Green Line for all routes in the Mid-Cities area.

- **South Bay/Gateway Restructuring Study**

The South Bay/Gateway Transit Restructuring Study focused on improving access to major attractions and destinations throughout the South Bay and on improving connections to other transit services. Many route improvements and recommendations sought to improve the directness of service throughout the South Bay, recognizing the discontinuity of many streets and the unique terrain features that interfere with the provision of transit service. Increased utilization of major transit facilities such as the Metro Green Line, Harbor Transitway, Artesia Transit Center and a newly proposed San Pedro Transit Center were key recommendations of this study. The study also focused on improving the coordination and connections between MTA service and municipal transit systems such as Torrance Transit, LADOT and Gardena Municipal Bus Lines. Additional recommendations focused on improving the services

operating east/west across the southern portion of Los Angeles County in order to provide better transfer connections at the Metro Blue Line and better access to major destinations such as the beach cities.

- **San Gabriel Valley Restructuring Study**

The objective of the San Gabriel Valley Bus Restructuring Study was to evaluate the structure and cost effectiveness of the intercity fixed-route transit delivery system in the San Gabriel Valley and increase ridership. The study determined that there were significant opportunities to reduce costs and increase current levels of intercity transit service within the San Gabriel Valley. The study determined that there were significant unmet intercity transit needs within the Valley and that a number of options exist to better serve those needs.

Of the four implementation options studied, the preferred option calls for a new or expanded transportation zone covering nine cities. This option would provide for the transfer of up to 31 MTA routes to the new or expanded zone, with a total of nearly 700,000 annual service hours requiring a 250-bus fleet to operate.

- **Southeast Cities Restructuring Study**

The purpose and goals of the Southeast Cities Transit Restructuring Study was to review the existing local and regional fixed-route transit systems serving the Southeast cities and make recommendations regarding improvements in operational effectiveness, cost efficiency and service equity to meet the area's mobility needs. Recommendations from this study included improvement of service on many of the heavily traveled corridors in the area, such as Florence Avenue and Long

Beach Boulevard, improvements in service frequency on north-south routes in the eastern area of the study area, and the development of a transit center in Huntington Park to enhance passenger connectivity.

Development of Regional Master Plan

The LRTP begins to chart the path for developing a world class public transportation system for Los Angeles County and a different planning approach. Keys to bringing the plan to life include: considering the customer as the focus; developing a process that is comprehensive and includes all elements of the system; recognizing the importance of the interrelatedness of the elements by not looking at them in isolation; and including broad participation in the planning process.

With the customer as the focus, walking distances to system access points, travel time, ease of transferring between vehicles and modes, simple route structure, uniform fare and operating policies, vehicle cleanliness, and passenger comfort take on added importance in the network design process. Service quality and customer satisfaction surveys become vital tools for keeping track with changing needs and measuring plan effectiveness. The current planning process was directed at building support for a common regional vision. Involving end users and key stakeholder groups in the planning process was critical. The challenge will be to continue this process on an on-going basis and to take the process to the next level. Integrating the planning of the County's land use, public transportation, urban design and roadway system is critical to leveraging future

transportation investments and will require greater interagency coordination and stakeholder participation.

Establishment of Transit Operator Working Group

As part of the process of expanding stakeholder involvement in the planning process, a working group was formed in July 2000 consisting of representatives of municipal operator agencies and MTA. The purpose of forming the working group was to collaborate on development of a comprehensive regional transit master plan for Los Angeles County. Another important function of the group was to improve service coordination between operators, especially in the area of service restructuring. A regional transit vision was adopted that would guide actions by the operators to improve the regional transit system. Priority issues identified by working group members have been included in the LRTP. Those projects earmarked for action by participating operators within the first five years of the Plan are to be coordinated and implemented through a Regional Short Range Transit Plan.

With the adoption of the Long Range Transportation Plan, transit operator representatives will continue to coordinate on the regional transit master plan. This effort will include collaboration on a Regional Short Range Transit Plan for the next five year period, as well as periodic reviews of the implementation of elements of the master plan ensure its overall effectiveness.

Key Issues

Several key issues have been identified by riders, focus groups surveys, and local transit operators that impact the quality of transit provided throughout the region. These issues include the following:

Speed Degradation –

The ability of transit service to move passengers quickly throughout the region is critical in attracting an increased share of regional tripmaking. Additionally, reductions in traffic speed have a negative effect on transit service productivity. As traffic moves slower, more buses are needed just to maintain existing service frequencies. Improvements that increase the speed of transit service allow for a more efficient use of resources throughout the region, and position transit as more of an alternative to the automobile.

Projects have been identified by transit users, stakeholder groups and local transit operators that could be beneficial in improving transit speeds. These projects include an expansion of the Metro Rapid Bus concept, expanded use of signal synchronization technology to speed traffic flow, off-loading fare collection on core regional routes and additional freeway HOV lanes. Also identified as a project for further investigation is the potential use of freeway shoulders to allow express buses to bypass traffic during peak hours. The I-10 corridor between Santa Monica and Downtown Los Angeles was identified as a corridor that could benefit from this type of project.

Service Coordination –

Improvements in service coordination is another major area of concern that has been identified as impacting regional transit service. One facility that could potentially benefit from improved service coordination is the Harbor Transitway, which operates in the median of the Harbor (I-110) Freeway. The Transitway is served by four transit operators, of which each operator provides various levels of express service between the South Bay and Downtown Los Angeles. Improved coordination of feeder routes to Transitway stations, schedules and fare policies on this facility could lead to increased passenger use of Transitway services.

Another area requiring improved coordination between operators is in the area of service duplication. Presently, MTA and several municipal operators duplicate service on segments in a number of corridors. The reduction of unnecessary service duplication in municipal operator service areas would allow MTA to refocus service to unserved markets and regional services. This would result in a more efficient use of regional transportation dollars.

Obstacles to Service Restructuring –

Reducing the amount of service duplication requires some amount of regional service restructuring. Presently, there are several obstacles in place that create difficulty in restructuring between MTA and other operators in the region. One such obstacle is in the area of funding service operation. In many cases where MTA is seeking to eliminate services that duplicate municipal operator services, the municipal operator would have to increase service to accommodate the additional

patronage in the corridor. Present funding formulas contain a two-year lag period between the implementation of new service and the receipt of formula operating dollars, leaving operators unable to fund the first two years of any added service. One potential remedy to this problem is to create a pool of regional funds to be used as a “bridge” to fund the increased service levels for the two-year period until formula funding is provided. Another remedy could be for MTA to provide funding to the municipal operators for the lines during the two year period. Future progress on this issue will be discussed in the Regional SRTP.

A second obstacle impacting service restructuring is in the area of fare coordination. In eliminating duplicated services, passengers presently traveling on MTA services would often be required to pay additional fares to board municipal operator services. This is due to the need for cash-paying riders to purchase transfers, or because MTA passes are not accepted on many municipal operator services.

In the future, the implementation of the Universal Fare System, a universally accepted fare instrument, throughout the region will provide seamless travel between all operators, across all modes of transit. This electronic technology will help promote the development of new regional fare policies, which may allow inter-agency transfers, day passes, and other opportunities for maximizing passenger convenience. It can also potentially offer improved transit speeds, increased ridership and increased fare revenues. However, it does not yet address the issue of the cost of transferring between operators. Until that time, operators in the

region are discussing various methods to minimize cost impacts to passengers due to service restructuring. Short-term solutions being evaluated include the issuance of free transfers, and MTA providing reimbursement to municipal operators that accept MTA passes. Future progress on this issue will also be discussed in the Regional SRTP.

Consent Decree

In October 1996, the MTA entered into a Consent Decree, ordered by the U.S. District Court for the Central District of California. This Consent Decree identified specific actions to be taken by MTA over the next ten years to improve transit service. The key actions include: reducing overcrowding on MTA bus lines, implementing new or modified service to improve access to jobs, schools, and health facilities for transit dependents; maintaining affordable fares; and reducing the age of the MTA bus fleet through vehicle replacement. Also the agreement allows the MTA to file for a termination of the agreement after seven years if the goals have been met and there is a plan in place for on-going compliance.

Certain aspects of the agreement are being litigated. These include the level of investment required for new service and the definition of compliance for the passenger loading standards.

Since MTA entered into this agreement there have been significant improvements to the MTA bus system. Progress to date is outlined below.

Overcrowding- The Consent Decree contains specific targets for reducing the number of standees on MTA buses by the year 2002. In accordance with those targets, MTA agreed to reduce the maximum load factor on buses operating during peak periods from 1.45 (19 standees maximum) to 1.20 (9 standees maximum). MTA added a total of 143 buses to peak hour between December 1996 and December 1998, which allowed the 1.35 load factor to be met and maintained. Between June and December, 1999, an additional 130 peak hour vehicles were added to achieve the load factor target of 1.25 six months early.

Fares - One of the requirements of the Consent Decree was that MTA ensure affordable transportation for transit-dependent persons who use buses for work and personal mobility. Although the Consent Decree allowed for fare increases to occur consistent with increases in the CPI, MTA has maintained the present fare structure since October 1996. MTA has also instituted a weekly pass at a price of \$11.00, and adopted an off-peak base fare of \$0.75 on all bus routes between the hours of 9:00 p.m. and 5:00 a.m.

Bus Fleet Age - On September 28, 1998 the MTA Board of Directors approved an accelerated bus procurement plan. The plan calls for purchasing 2,095 new buses by the end of Fiscal Year 2004. At that time, over eighty percent of the fleet will be powered by alternate fuels and the average vehicle will be about five years old, making it one of the youngest fleets in the nation.

MTA issued a procurement in December 1999 for 370 buses with options for another 200 to 350 buses.

Furthermore, the MTA Board authorized the exercising of an option to purchase an additional 215 buses. These two orders will provide sufficient quantities of new buses to replace over-age buses and provide for Consent Decree service requirements through 2004. In reference to the court order to purchase additional buses, the 9th District Court of Appeals granted the MTA a stay of the District Court's November 19, 1999 order to purchase additional buses beyond the ones referenced in the above.

New Services - MTA instituted a Pilot Program of new services to facilitate access to schools, employment and medical facilities for the transit-dependent community. A total of 12 new routes were implemented between December 1997 and March 1998, adding a total of 63 peak buses. An evaluation of these new services was completed in early 1999, resulting in recommendations to make seven (7) of these pilot lines permanent, cancel three (3) that have not been successful, modify one (1) line and gather more information about one (1) line prior to making a final decision.

The Consent Decree also required the MTA to develop and implement a Five Year Plan of improvements to the bus system designed to improve mobility for the transit dependent community in the greater Los Angeles area. To date, both the MTA and Bus Riders Union (BRU) have submitted plans to the Special Master appointed by the court for review and a final determination as to the magnitude of the plan. In recent months, the MTA has initiated service on three of the lines contained in MTA original plan. The lines included: Line 58 (Alameda Street), Line 214 (Broadway-Main Street) and Line 305

(South Los Angeles to UCLA). There are three (Lines 426, 530 and 577) lines remaining in the original plan to be implemented.

By the end of the 2001 fiscal year, the cost in operating dollars to comply with the Consent Decree is expected to reach \$240 million. This cost can be compared to an overall 10% increase in ridership. In the future, the MTA and the Joint Working group, which consists of representatives from the BRU and MTA, need to focus their efforts on three areas 1) revisiting the measures and methods for monitoring service quality and target compliance so that there is a better match between the level of investment and the level of rider demand; 2) developing more innovative and cost effective solutions to overcrowding, such as using jitneys and paratransit service to supplement capacity and developing fare and service incentives to shift discretionary ridership to the off peak periods; 3) to improve capacity in key corridors through improved service coordination with other carriers, especially where there is service duplication.

Subregional Governance –

Subregional governance has been discussed as a means to increase the degree of control that local entities have over transit policy, planning and service delivery. The issue of increased local control was a major theme of the recently completed Southeast Bus Restructuring Study. Stakeholders in this process include community groups, labor, government agencies, public and private transit systems.

Various methods to increase the role of local government in transit service planning and delivery will be outlined in

the Regional SRTP, ranging from the impacts of establishing transportation zones to the use of regional councils to participate in the policy-making process. The potential application of subregional governance in a tiered service approach, particularly in the areas of inter-community and neighborhood services, could have significant impacts on the effectiveness of service integration throughout the county, the promotion of seamless travel between and among alternative transit providers, and reductions in the cost of providing bus transit service in the region.

Regional Service Development Strategy

In an effort to confront these issues, a service development strategy was developed that has been designed to address the needs and concerns of operators and other stakeholders in the service development process. The service development strategy is outlined below.

Vision

The regional bus and rail system shall provide a balanced and coordinated system that serves Los Angeles County residents, commuters and visitors. Passengers are provided with customer-focused service that is comfortable, convenient, safe, reliable and affordable. The system promotes seamless travel with minimal wait times and transfers for those who depend upon public transportation, serves as an attractive alternative for those with other means of travel and is in full compliance with the Americans with Disabilities Act (ADA). Service

is responsive to commute, business, educational, health and recreational mobility needs.

Goals and Objectives

The goals and objectives for the service development strategy are outlined below.

Goal: Maximize mobility on the regional public transit system

Objective 1 :Improve service quality

- Conduct service quality benchmark survey
- Improve the collection and distribution system in the service area
- Initiate projects designed to improve the speed of transit on surface streets
- Implement some type of HOV demonstration on the I-10 Freeway
- Improve service levels and coordination on the Harbor Transitway
- Expand Metro Rapid Bus Concept and Program
- Improve freeway service network
- Include fare mitigation measures in the implementation of regional service restructuring
- Implement the Universal Fare System
- Expand the service network

Objective 2: Develop a Unified Service Development Strategy for the Region

- Develop a tiered service approach
- Enhance municipal operator service delivery role

- Initiate an on-going regional transit planning process
- Develop a regional Short Range Transit Plan (SRTP) and update it annually
- Develop a master plan for integrating paratransit operations into the regional transit system
- Use the Regional SRTP to establish regional service investment priorities

Objective 3: Use resources wisely

- Reduce service duplication
- Create a competitive service delivery environment
- Increase regional bus interfaces with the Metro Rail and Metrolink Systems
- Develop a master plan for integrating paratransit operations into the regional transit system
- Coordinate regional land use and transportation planning.

Tiered Service Network

To identify the network of services provided throughout the region, a tiered service approach is used to ensure that all types of public transportation are included in the planning process and to help define the role that each of the modes play. The service tiers signify attributes of the services that operate in regional corridors. The services provided are not exclusive to any operator, and flexibility is provided for any operator in the region to

have a role in operating any tier of service. The service types include the following:

Rail, Metro Rapid Bus, and Express Service –

These services represent the highest level of investment while offering faster operating speeds and the greatest carrying capacity. Included in this category are: Metrolink, Metro Rail, Metro Rapid Bus operating at today's level of service as well as in exclusive right-of-ways, and express service.

Inter-Community Transit Service –

This includes all other fixed route/fixed schedule service operated on surface streets with 40-foot buses.

Neighborhood Circulator/Paratransit Service –

This includes services operated in either a fixed route or demand responsive fashion with a van, sedan, or a mini-bus. Specific examples would include: jitneys, cab scrip programs, fixed route with mid- or small-sized buses, Smart Shuttles, Community Dial-A-Rides, Access Services and DASH operations.

The Transit Operator Working Group is in the process of discussing appropriate criteria to be used to categorize the service types operating in the region. Some of the key line-level service characteristics that could be used to allocate services relate to the number of passengers using a route, the distance traveled on the route, and the intensity of ridership (such as passengers per mile or hour). An outline of the regional network based on tiered characteristics will be included in the Regional SRTP document.



Tier 1



Rail/Fixed Guideway



Tier 2



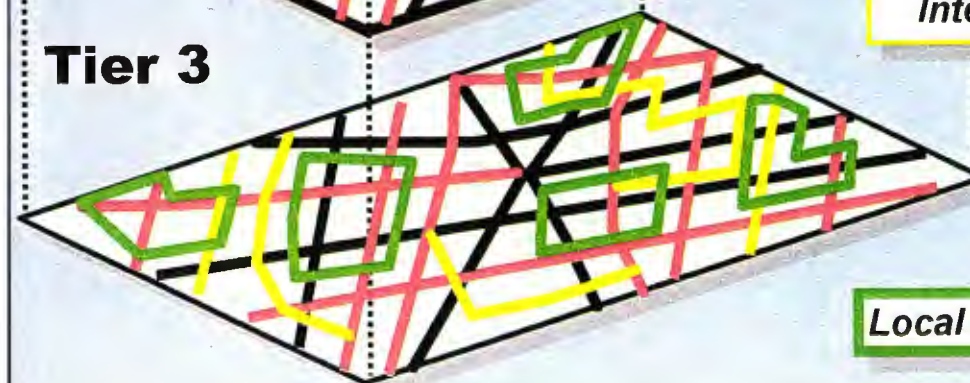
Metro Rapid Bus/Express



Tier 3



Intercommunity Transit



Local Circulators

Other Innovative Projects

Another means to address issues impacting the operation of public transportation services in the region is through the use of innovative transit projects that provide different options than more traditional approaches. These approaches involve coordination between transportation partners in the region, testing of new concepts in the delivery of service and the application of new technology in providing service. Some of these projects are outlined below.

Fareless Square

One proposal recommended for further study is the implementation of a "Fareless Square" in the Downtown Los Angeles area. This program is modeled after successful Fareless Square programs in Portland and Seattle. Locally, Long Beach Transit also has a very successful fareless area with its Passport service in Downtown Long Beach, with 2 million annual boardings. The purpose of the Fareless Square would be to promote transit ridership to those that do not currently use transit, improve air quality by reducing auto trips, promote retail and commercial activity in the downtown area and reduce the demand for downtown auto parking.

Under this program, MTA buses operating in Downtown Los Angeles between the hours of 9 am-3 pm would operate free of charge. The boundaries of the Fareless Square would be Figueroa Street, Pico Avenue, Alpine Street, San Pedro Street and Alameda Street.

Based on the experiences in Portland and Seattle, ridership would triple from the current amount of downtown ridership. Auto trips in Downtown Los Angeles would be reduced by 2%, and sales in the downtown area would increase by 1%.

Jitney Services

As the cost of providing quality public transportation services continues to rise, the idea of developing partnerships with paratransit providers that can provide jitney services has become more attractive. Jitney services are transit services provided in privately operated automobiles, vans or mini-buses, driven along fixed routes with minor deviations, and focus on short-distance travel markets. These services have the potential of complementing traditional fixed-route transit service while also penetrating markets unserved or underserved by transit.

Jitney services have several potential uses that could help to improve the efficiency of transit services. For example, in high-demand corridors jitney services could operate in a designated area and provide an alternative to passengers making short-distance trips. This would increase the amount of passenger service available in the corridor, and in turn would provide some crowding relief to fixed-route services operating in the corridor.

Jitneys could also provide service to areas with low levels of transit demand through their ability to access neighborhoods that cannot be reached by 40 foot buses. They may also make route deviations within a corridor

area that are more convenient to passengers than the regular fixed-route service.

The components of a jitney demonstration program will be developed and outlined in the Regional SRTP.

Use of Freeway Shoulders for Express Service

This program is modeled after a similar program operating in the Minneapolis area in which transit buses are allowed to bypass congestion on designated freeway bus-only shoulders. Approximately 100 miles of freeway shoulders in the Minneapolis area have been designated for bus use.

Transit operators providing service between the Antelope and San Fernando Valleys and in the Westside emphasize the impacts traffic congestion has had on express service travel speeds. As a result of this increased congestion, the I-5 and 1-10 Corridors could be studied to determine whether the use of freeway shoulders would enhance transit speeds. Express buses would be allowed to bypass stalled traffic using the shoulders at speeds limited to 20-25 mph. Further investigation is needed to determine whether such a program could be functional and provide speed enhancement in these corridors.

The Recommended Plan Years 2001 - 2005

Bus Service Improvements

- MTA is in the process of finalizing a service change program for the 2001 Fiscal Year that would reduce service duplication with other operators and eliminate some unproductive services. Included in this program are cancellation of Lines 22, 114, 402, 436, 466 and 497; restructuring of Lines 18, 42, 102, 107, 220, 471, 484, 490, 491 and 625; and the addition of Limited-stop service to Lines 40 and 51.

Modifications to Harbor Transitway Lines 445, 446, and 447 are proposed to enhance service frequency and serve new stations.

Consistent with the Consent Decree, MTA plans to begin operation of two new express lines in Year 2001, Line 530 between Panorama City and East Los Angeles and Line 577 between El Monte and Cerritos.

- Gardena Transit does not plan any major service changes for at least the next three years, pending the establishment of a new operating facility is built. The agency is considering transit restructuring proposals to extend Gardena Line 1 into Patsaouras Plaza, and replacement of a segment of MTA Line 127 with Gardena Line 3 in the City of Compton.
- Foothill Transit is developing a strategic plan that will outline service plans in the San Gabriel Valley over

the next several years. Service modifications being considered include proposals to expand El Monte Busway service to accommodate the elimination of MTA Busway services. Also considered are potential modifications to bus service in the 210 Fwy. Corridor to interface efficiently with the Pasadena Blue Line.

- Big Blue Bus is beginning a service analysis process in early 2001, with the first part of this program being a line-by-line analysis of ridership and productivity. Big Blue Bus is also coordinating with the City of Santa Monica on a signal synchronization program to speed the flow of traffic. Also of interest to Big Blue Bus is a study on the feasibility of using freeway shoulders on I-10 to bypass peak-hour traffic congestion experienced by Line 10, and a review of the potential of paving a segment of the Exposition right-of-way between Bagley Avenue and Westwood Boulevard in the immediate future to speed the operation of Line 12 during weekday peak periods.
- Santa Clarita Transit is interested in pursuing the establishment of HOV lanes on I-405 to help speed travel on Line 792 into the Century City area. The agency is also interested in studies on the feasibility of using freeway shoulders on I-5 to maintain travel speeds on Express Lines 794 and 799 traveling between the Antelope and San Fernando Valley.
- Torrance Transit completed a line-by-line analysis in 1999. As a result of that study, Line 1, which provides express service between Torrance and downtown Los Angeles, was modified to have off-peak service terminate at the Harbor/I-105 Harbor Transitway station. Line 1 was also rerouted to serve the Artesia Harbor Transitway station. Torrance is also considering community requests to increase weekend service on Line 8. The agency also continues to coordinate with MTA on Harbor Transitway scheduling and transfer issues.
- Long Beach Transit ridership has grown by more than 30% in recent years, and based on demographic trends the system is anticipating further growth. Long Beach Transit has identified a system expansion strategy to accommodate anticipated continued increases in transit demand in its service area. This includes additional service frequency on present routes, new local and express service to meet the needs of its community, and system enhancements. The agency is also considering a possible need for a service link to downtown Los Angeles:
- High Capacity Buses - As operators continue to add bus service to reduce overcrowding, improve bus/rail interfaces and support new service programs such as Rapid Bus, opportunities to deploy high capacity vehicles must be considered. These vehicles can improve service delivery efficiency, and streamline on-street operations where bus schedule intervals are less than five minutes. Operators such as Santa Monica Bus Lines have already begun service demonstrations of articulated buses on some of their heaviest lines. Future projects based on Bus Rapid Transit concepts will also require higher capacity vehicles, as latent demand for high-speed service is tapped.

Recent studies have concluded that articulated bus technology could be used effectively in several existing high demand corridors such as Wilshire Boulevard, Vermont Avenue, and West 8th Street-East Olympic Boulevard. Rider demand continues to overwhelm schedules built for standard 40-foot buses in these corridors and headways are approaching levels where traffic signals for cross traffic may be adversely affected. Additionally, two of the Corridor projects will be coming on line during the early years of the plan and may benefit from high capacity vehicles.

In addition to articulated buses, improvements in vehicle construction based on lightweight composite materials indicate that slightly larger 45-foot buses may be useful on services where rider demand is growing but has not yet reached critical levels. Although these buses do not seat as many riders as articulated vehicles, they do accommodate 15 to 20-percent more riders than standard size buses. As important, their operating cost may be much closer to standard sized buses than articulated buses.

During the early years of the plan, the MTA will consider a demonstration project of up to one hundred high capacity vehicles. This could lead to the deployment of high capacity vehicles in both busway and Rapid Bus corridors.

Transit Corridor Improvements

During the early years of the plan, three major fixed guideway projects are scheduled to be completed. These include the Pasadena extension of the Metro Blue Line; the San Fernando Valley East-West Bus Rapid Transit Project and the Wilshire Boulevard Bus Rapid Transit Project. As part of implementation, bus service in each of the project areas will be restructured to improve access, provide faster long distance travel options and to eliminate service duplication. Streetscape projects will be included to improve pedestrian access and passenger amenities for bus stops near stations will receive special treatment. Project overviews are provided below.

- Pasadena Line Extension - Service on the Pasadena Line extension is scheduled to begin in mid-2003. The extension covers 13.7 miles, from Union Station to Sierra Madre Villa Avenue in Pasadena. During peak hours, service will operate every 8 minutes. This extension will be served by 13 stations and offer a one way travel time of approximately 33 minutes. The major stations are the Chinatown, Del Mar and Sierra Madre stations. Regional transit service will be restructured with the opening of this extension. Affected operators include MTA, Foothill, LADOT and the City of Pasadena. Additionally, local circulator needs will be evaluated as part of the transit planning process. A working group was recently formed by the Pasadena Blue Line Construction Authority to develop a coordinated bus/rail interface plan for this project.

- San Fernando Valley Bus Rapid Transit Project - This project is scheduled for completion in the year 2004. It calls for implementation of Bus Rapid Transit (BRT) service on an exclusive 14-mile, at-grade busway from the Metro Red Line North Hollywood station to Warner Center via the Burbank/Chandler right-of-way. The full busway project will consist of a 26-foot wide busway, a bikeway and landscaped buffer on the typically 60 to 100-foot wide exclusive right-of-way. It would parallel several major streets, including Chandler Boulevard, Oxnard Street, Victory Boulevard and Topham Street and will have 13 stations spaced approximately one mile apart. In North Hollywood, Oxnard Street is being considered as a route alignment alternative to Chandler Boulevard. Total travel time for the full length of the corridor will be approximately 30 minutes. Park and Ride facilities at five stations will provide approximately 3,250 parking spaces plus existing parking at the North Hollywood Metro Red Line Station.
- Wilshire Bus Rapid Transit Project - The Wilshire Boulevard bus corridor improvements are scheduled to come on line during FY 2005. This project would build on the success of the Metro Rapid Bus Whittier/Wilshire Line to provide dedicated lanes for transit vehicles. This corridor is currently the most heavily traveled transit route in the Southern California region with more than 102,000 daily boardings. Dedicated busways provide increased speeds for transit vehicles during periods of heavy automotive congestion, thus providing increased capacity to carry more people within the corridor. Additional bus transit improvements would involve

larger capacity buses, multiple door boarding and alighting, and pre-payment of fares in station areas. This alternative would extend for approximately 13-miles from the Wilshire/Western Metro Red Line Station to the City of Santa Monica.

- Freeway HOV Network - Corridor analysis will be conducted on the existing HOV network to determine appropriate public transportation solutions (e.g. buses or vanpools) and possible new construction projects. The development of project lists will include analysis and input from public transportation agencies in the region through a collaborative process.

Pedestrian and Bicycle Access

- Providing improved pedestrian and bicycle access to public transportation services and facilities can increase the potential for higher transit ridership. A focus of the first five years of the plan will be improvement of transit stations and waiting areas to be more user friendly in the areas of transit information, passenger amenities and the provision of additional bike racks and lockers. Enhancing the safety of these areas through improved lighting and security will also be incorporated in the plan. Connecting bikeways to station areas will also be funded (see Bicycle Element in a separate section of this Plan).

Arterial Street Network

- MTA will continue development of traffic signal priority projects in regional corridors experiencing high

traffic demand. This work will be conducted in coordination with other transit providers and municipal jurisdictions in the county. The application of signal priority projects has proven successful in the Metro Rapid Bus demonstration, which has resulted in a thirty percent increase in ridership, with half of those riders being new public transportation users.

Paratransit Service

- A paratransit business plan will be developed which outlines the role of paratransit providers in the delivery of transportation service in the region. The business plan will incorporate the current paratransit services provided throughout the county, including the Access Services complementary ADA paratransit program, and consider opportunities for improved service coordination, perhaps through increased use of brokered transportation. During the first five years of the plan, additional analysis on services centered around health and human services needs, such as the projected increase in the senior population, will be conducted.

Fare Policy and Technology

- Further coordination on fare policy involving transit operators and the private sector will be necessary to enhance seamless travel opportunities. Areas of discussion include possible modifications to fare media, expanding public-private partnerships (e.g. employer subsidies, health and human services programs), and the expanded use of pre-payment methods. Taking a long-term look at fare policy, the

regional implementation of the Universal Fare System will provide the technology for seamless travel on a variety of modes.

- Existing System - The MTA, like most transit operators, did not have a formal process to assist the Board in the comprehensive examination and review of fare media and fare pricing. It has been practice with the MTA and predecessor agencies to periodically review the fares, test them for reasonableness with the cost of living and make adjustments accordingly. MTA fares are currently restricted to increases based upon an average of the cost of living and there is a restriction impacting the types of fare media so that they cannot be changed or altered without a process.
- Accomplishments Since 1995 - MTA has initiated several significant actions in fare policies since 1995:
 - Initiation of the bi-weekly, and weekly passes
 - Introduction of the .90 discount token, off-peak discount fare of .75.
 - Initiation of the process to implement the Metro Fare Card
- Issues - The fare policy has two distinct elements: a set of fare policy Goals and Objectives, principles that provide the MTA Board with qualitative guidance to assess any changes and both short and long term fare structures that allows for the MTA to increase and restructure fares to meet some of the stated objectives.

- Fare Policy Goals and Objectives:

1. The MTA shall enhance system cost efficiency through innovative technology and fare structure.
 - Fares should be kept as simple and understandable as possible
 - Passenger boarding times should be minimized.
 - Seek to maximize the use of prepaid fare media.
2. The MTA shall seek to retain flexibility in fare structure for all passenger groups and encourage new ridership.
 - MTA will continue to recognize the special fare needs of the elderly, disabled, students and other groups that have unique public transit requirements.
 - Promote a seamless ride for customers of all transportation services within Los Angeles County by developing clear and consistent inter-operator and inter-agency agreements that maximize fare policy integration, allow local fare structure flexibility and ensure regional service coordination.

3. The MTA shall seek a balance in fare revenue sources.

- The security of MTA's service should be ensured (i.e. fare evasion potential should be considered).
- Recognize that users must pay a reasonable share of the costs of the services utilized.
- Maximize operating subsidies.

These objectives give the Board guidance for restructuring and simplifying fares in addition to increasing revenue. The need to increase operations revenue is balanced with the desire to provide efficient service and preserve the interests and needs of protected classes of passengers. The policy objectives also allow for the creation of more flexible fare payment options, such as reducing the cash fare, a feature that offers an option to the lowest income passenger.

Fare Policy Options:

There are a few fare policy options. One fare policy change would involve changes in the structure of the current fare system. Such changes might include a decrease in some fares, such as the base cash fare, and an increase in other fares, such as pass fares. Such a scenario could reduce operating subsidies and benefit farebox recovery. Before such an option were to be explored, the MTA would have to first ensure that the

changes would meet the MTA's Fare Policy Goals and Objectives.

Other fare policy change options could include lifting of the restrictions imposed by the Consent Decree and with the implementation of the Universal Fare System. These events might allow for greater flexibility in fare options as well as greater opportunity for fare restructuring. Neither of these last two options (Consent Decree restrictions lifted and UFS) could be explored any earlier than 2003 and would likely be considered before 2006.

UFS implementation will allow for the Board to consider options such as a day pass, a stored value card and a reevaluation of the use transfers. These features are currently not available to the MTA with the standardized fare box. The MTA will also be able to work towards a countywide pass accepted by all LA County transit operators and should facilitate the acceptance of reciprocal pass agreements. After a new structure, consistent with UFS, is adopted the Board will request staff examine fares every three years for their ease of use, compliance with the stated goals and objectives and for the reasonableness of the fare box recovery.

System Integration

As previously discussed the development of a Regional SRTP document that will serve as a foundation for regional service coordination is critical to making transit in Los Angeles County seamless to the passenger. The transit restructuring implementation provides the direction for integrating LA County transit system into a regional network, but these studies will take time to

implement. There is an additional layer of activity that can help remove the mystique from utilizing transit within the County. Activities such as joint marketing and "customized" routing, using different operators to access major destinations is a step towards creating the seamless system. The creation of a Countywide multiple operator marketing effort; including expanded web materials and printed guides will ease transfers between system and encourage transit usage.

Years 2006 - 2025

Bus Service Improvements

- Continued System Restructuring - During the later years of the plan, service restructuring efforts will focus on reducing service duplication, integrating local services to play a larger support role, and increasing capacity and speed of operation in major travel corridors. Additionally, as the regional coordination process continues operating roles will be revisited and municipal operator plans for service expansion and restructuring will be incorporated into the Regional Short Range Transit Plan.

Transit Corridor Projects

In the later years of the financially constrained plan other projects would be completed. These include a seven-mile light rail extension from Union Station to the Eastside; possibly either Bus Rapid Transit operating in exclusive right-of-way or light rail, depending on Board action, along the Exposition Right of Way; and transit

corridor improvements in the San Fernando Valley North/South and Crenshaw Corridors. A light rail extension of the Green Line to LAX is also possible assuming that it is funded with non-MTA funding sources. If more funding is available than currently anticipated, transit corridor projects could be implemented in additional corridors. Other improvements would also be implemented including deployment of advanced technology buses and changes in fare collection practices in existing corridors and other Metro Rapid Bus services.

- Eastside Light-Rail Extension - This extension is approximately 7 miles long and will connect the Eastside with Downtown Los Angeles. The corridor will proceed east beginning at Union Station via First Street to First and Lorena, then transition to 3rd Street and proceed east via 3rd Street/Beverly Boulevard to the Beverly Boulevard/Atlantic Boulevard intersection. It would operate at-grade for 5.3 miles and include a 1.7-mile tunnel through Boyle Heights due to the narrowness of the streets in that portion of the corridor.
- Exposition Right-of-Way - Either Bus Rapid Transit operating in exclusive right-of-way or Light-Rail Transit could be operated in this corridor depending on the outcome of the on-going environmental study and the Board's direction. The Bus Rapid Transit option would be an exclusive bus lane primarily on the Exposition railroad right-of-way with a potential full project length of 15.1 miles from downtown Los Angeles to Santa Monica (or slightly shorter length based on project costs and mitigations). The Light-

Rail Transit option would be an extension of the Metro Blue Line from downtown Los Angeles which would operate primarily on the Exposition railroad right-of-way. Under the financially constrained plan, light rail transit could likely not be extended beyond an initial baseline segment from downtown Los Angeles to Crenshaw Boulevard. A longer length light rail extension would be possible under an enhanced funding scenario.

- Under the financially Constrained Plan two additional transit corridors could be developed: Crenshaw Corridor between LAX and Wilshire and a North-South Corridor in the San Fernando Valley. The specific transit mode will depend upon Board direction and the outcome of planning & environmental studies. Under an enhanced funding scenario, additional transit corridor improvements could be made in some of the 22 Metro Rapid Bus corridors. Projects would also be feasible such as extending light rail or Bus Rapid Transit further east of the Eastside LRT terminus, extending an Exposition Corridor project beyond any initially funded segment, supplementing the Wilshire Bus Rapid Transit project with a higher capacity project such as heavy rail to Century City, or other corridor projects.
- Other Projects and Program Improvements - During the later years of the plan the BRT operations would be enhanced. Advanced technology vehicles would be operated in the BRT corridors. These high capacity vehicles would offer multiple doors, low floor, composite construction, and alternate fuel propulsion system. They would be designed for a

pre-paid fare system and may have the capability of being controlled by an on-board operator or from a remote location. All passenger stations would be upgraded to support a pre-payment of fares. Off loading the fare collection from the vehicle allows for greater passenger convenience and a faster operation.

Transit Capital Funding

The Constrained Plan recommends an average of \$13.5 million per year in funding through the Call for Projects process for local transit capital needs. This level of funding is enhanced from historical trends in the effort to encourage local Metro Rapid type projects at the local level. The Strategic Plan recommends an average of \$20 million per year in funding through the Call for Projects process for local transit capital needs.

Arterial Street Network

- Further coordination will take place to develop implementation plans for dedicated arterial rights-of-way for transit. Other areas being pursued in this category include innovative channelization and transportation engineering solutions that could improve travel times and reliability of public transportation.

Land Use Coordination

Numerous studies and demonstration programs have shown that public transportation is much more effective serving activity centers and heavily traveled corridors than connecting rural and suburban areas. Thus, efforts

in future years of the plan will focus on developing better lines of communication regarding land use policy, transit oriented development and smart growth. As discussed below transit malls and transit-oriented development are ways of coordinating land use and transportation system development.

- **Transit Malls –**

Bus transit malls, properly designed and implemented, can produce significant advantages for bus passengers, automotive travelers, pedestrians, and businesses. By separating buses, with their frequent stops, from automotive traffic, the speed of travel can be increased for both. A number of major cities, such as Denver, Portland and Seattle restrict auto usage in the downtown area and dedicate a portion of the area to pedestrians and transit. These facilities include enhancements such as brick pavement and wrought iron bus shelters, lights, signposts and widened sidewalks, which help merge transit with critical pedestrian-friendly treatments. As demonstrated in Portland and other cities, transit malls can be effective tools for redevelopment in blighted urban areas.

The plan calls for consideration of a transit mall in the Los Angeles (CBD) and is addressed, in part, in SCAG's Arterial HOV/Transitway Study completed in 1991. In this study, a number of streets in Downtown Los Angeles were identified as candidates for specialized transit friendly treatments including Olive Street, Hill Street, and Broadway. Since the completion of the study, two northbound travel lanes and pedestrian friendly treatments have been added

to Hill Street, which will be exploited to improve transit access and performance. However, more can be done if the scope is widened to include possible conversion of Spring Street to a true transit mall where auto access is eliminated or severely curtailed between First Street and the junction with Olympic Boulevard and Main Street.

Spring Street remains a blighted thoroughfare despite past efforts at redevelopment. However, a transit mall might provide a centerpiece for redevelopment if other appropriate government programs and opportunities could be coordinated to create a synergistic effect. To that end, a multi-agency task force could be established to proceed forward.

- **Transit Oriented Development –**

The plan calls for the MTA to work with regional and local planning agencies to promote transit-oriented development within fixed guideway and Rapid Bus corridors. Transit oriented development refers to residential and commercial areas designed to maximize transit access and non-motorized transportation. A TOD neighborhood has a center with a rail or bus station, surrounded by relatively high-density development, with progressively lower-density spreading outwards. The neighborhoods typically have a diameter of $\frac{1}{4}$ to $\frac{1}{2}$ mile (stations spaced $\frac{1}{2}$ to 1 mile apart), which represents pedestrian scale distances. They include features such as:

- Bike and pedestrian facilities and attractive street conditions.

- Streets have street calming features to control vehicle traffic speeds.
- Mixed-use development that includes shops, schools and other public services, and a variety of housing types.
- Ridesharing ordinances and parking management to reduce the amount of land devoted to parking compared with conventional development, and to take advantage of the parking cost savings associated with reduced automobile use.

Examples of transit-oriented developments include: Portland’s Sunnyside Transit Village; Philadelphia Region Maps Child Care-Rich Transit Stations; and King County (Washington) TOD Program.

Conclusion

The preceding pages have contained information on a mix of public transportation programs, projects and concepts that the MTA, in collaboration with other operators and affected agencies, are implementing, developing or considering to provide increased and improved mobility options for Los Angeles County. As indicated in the overview, there are strong arguments to support an expanded role for public transportation, such as national and international trends of increased ridership, public awareness that building new and expanded roadway capacity cannot solve congestion and air quality problems and willingness by new partners, such as health and human services agencies, to expand coordination of transportation services.

However, there remain a number of significant issues and policies that must be addressed to ensure that an expanded public transportation program can be effective, which include:

- **Operating Funds** – as indicated in the financial analysis projection, no additional operating funds will be available until after 2015. Thus in order to operate the proposed new services, either economies or efficiencies must be attained with existing operating funds or new sources must be identified. In addition, assumptions have already been incorporated into the financial analysis regarding transitioning of sub-regional services from the MTA to municipal and local operators and modifications to the MTA fare structure resulting in revenues keeping pace with increased costs.

There is no greater challenge to the potential role of public transportation than the ability to expand operating funds.

- **Land Use** – public transportation tends to be more effective serving high demand corridors with short trip lengths which results in turnover of seats and increased fare revenue. Conversely, the least efficient public transportation services tend to be long distance commute trips or specialized services between multiple destinations and origins. Therefore, in general, public transportation performs better in areas with higher density development than in outlying suburban and rural areas.

Advocating smart growth principles, such as infill of urban areas and constrained sprawl will also improve the potential for public transportation.

- **Demand Management** – even if the anticipated population expansion is concentrated in denser urban areas, modeling runs indicate an increase in travel times and congestion. Innovative demand management solutions to discourage the use of single occupancy vehicles through programs such as parking management may become more viable to offset the negative impacts of congestion.

Having viable public transportation solutions available to local jurisdictions, including an expanded rideshare program, can assist in moving forward with demand management ideas.

- **Improving Public Transportation Travel Times** – as demonstrated with the Metro Rapid service, where a 25% improvement in travel times has increased ridership by 30%, including 50% increase in new riders, the ability to move people more efficiently in public transportation is a key concept. Improvements in this area can include signal priority, dedicated lanes and rights of way, roadway channelization and queue jumping, pre-paid and seamless fare systems, high capacity, low floor vehicles with multiple points of exit and entry, and enhanced passenger information.

A primary goal of the LRTP would be to develop a consistent countywide program to provide a variety of transportation engineering, intelligent transportation

system and transportation planning concepts to improve travel times on public transportation.

The future of public transportation in Los Angeles County will be significantly impacted by the ability to address the above issues. The planning foundation, to build upon the high demand corridors served by Metrolink, Metro Rail, and Metro Rapid, integrated with coordinated subregional and community based services is solid. The opportunity to coordinate with other programs in other modes (e.g. signal priority) is excellent. The potential to incorporate new partners and new technologies is ever increasing.

To be successful, we must work with riders and deliver quality service, work with the media to communicate the successes and improvements and work with policy makers to ensure continued and expanded support politically and financially.

Metro Rapid

The Metro Rapid Bus Program was initiated in March 1999 by the MTA’s Board of Directors following an initial feasibility study. Staff was directed by the Board to conduct the feasibility study in response to a visit to Curitiba, Brazil by key MTA and City of Los Angeles officials. The Curitiba urban design and public transportation model has been widely praised internationally for its success and has been a major force in the Federal Transit Administration creation of a national Bus Rapid Transit (BRT) initiative. The feasibility study recommended that MTA, in partnership with the City of Los Angeles, conduct a demonstration along two-to-three major arterials which have strong ridership and unique characteristics to provide broad actual experience regarding the feasibility of full-scale deployment of BRT within the MTA system. However, of the 13 key attributes associated with the successful Curitiba BRT (Table 2-1), only seven (highlighted) were deemed feasible for implementation during the expedited Phase I Demonstration Program. The remaining six attributes would be deployed in Phase II, system expansion, if the initial demonstration proved successful.



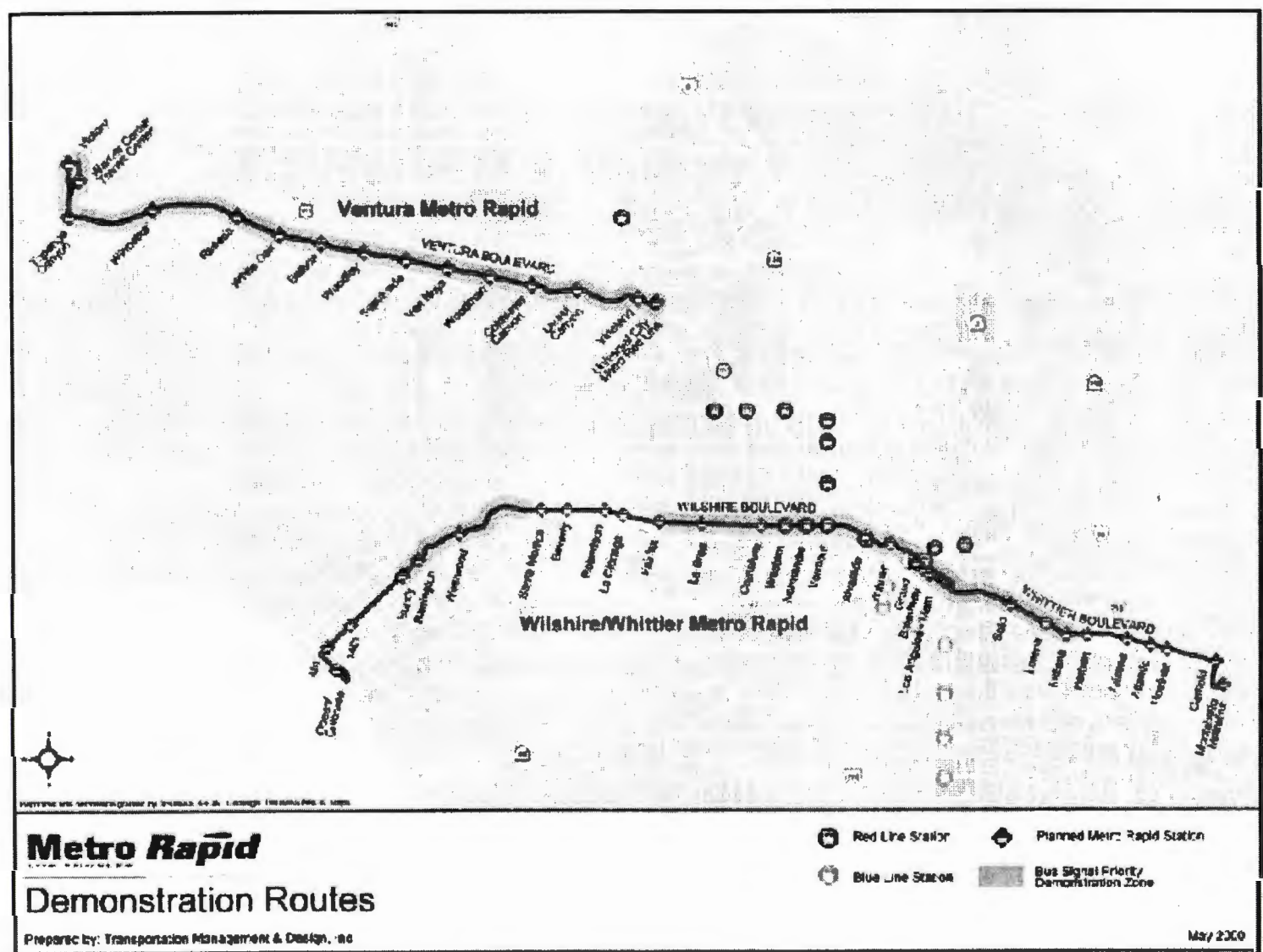
Table 2-1

CURITIBA KEY ATTRIBUTES	METRO RAPID BUS	
	Phase I Demonstration	Phase II Expanded System
1. Simple Route Layout	Yes	Yes
2. Frequent Headways	Yes	Yes
3. Less Frequent Stops	Yes	Yes
4. Level Boarding and Alighting	Yes	Yes
5. Color-coded Buses and Stations	Yes	Yes
6. Station Stops	Yes	Yes
7. Signal Prioritization	Yes	Yes
8. Exclusive Bus Lanes	No	Yes
9. Higher Capacity Buses	No	Yes
10. Multiple-Door Boarding and Alighting	No	Yes
11. Fare Prepayment	No	Yes
12. Feeder Network	No	Yes
13. Coordinated Land Use Planning	No	Yes

Phase I demonstration implementation planning was initiated in the summer of 1999 with a Spring 2000 goal for start-up of Metro Rapid Bus. Two lines were selected for the demonstration:

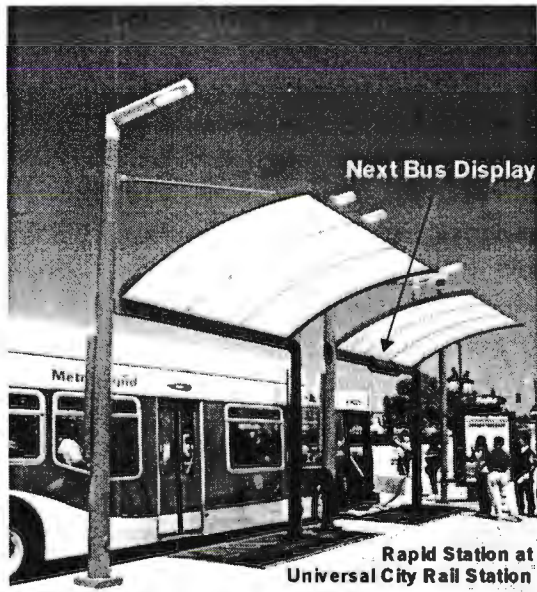
- Line 720 Wilshire-Whittier (very high passenger demand urban corridor connecting through the Los Angeles Central Business District (LACBD))
- Line 750 Ventura (high passenger demand suburban corridor serving the Metro Red Line)

Exhibit 2-2



The two Metro Rapid lines were implemented on June 24, 2000, coinciding with the opening of the extension of the Metro Red Line to the San Fernando Valley. All seven of the Phase I attributes were fully operational at start-up with the exception of the Metro Rapid Stations where temporary stops were utilized. The Stations with "next bus" displays are currently under construction, with completion of all sites expected in the spring of 2001.

The Metro Rapid Bus program has been strikingly successful after just 90 days, even without the completed Stations. Operating speed and service quality, ridership, and customer response have all exceeded objectives, with very little or no negative impact on the rest of the system and other travel modes.



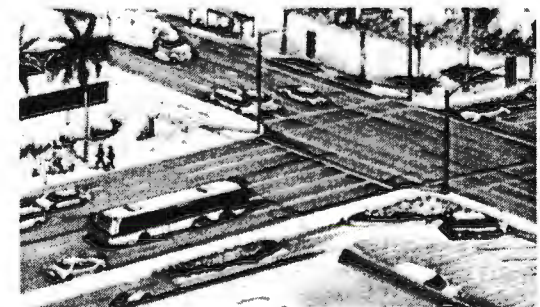
Operating Speed and Service Quality

Pervious communications with bus riders have indicated that MTA's existing local and limited-stop bus services have been too slow and unreliable. The Metro Rapid program sought to address these shortcomings through the introduction of service that would improve operating speeds over current local service with reduced passenger wait times and load factors within Consent Decree requirements.

Operating Speed

The Metro Rapid program introduced several attributes specifically to improve service operating speeds. These included: bus signal priority, level boarding/alighting with low-floor buses, headway rather than timetable-based schedules, fewer stops, far-side intersection location of stations, and active management of the service operation from the MTA Bus Operations Control Center (BOCC). Since the initial date of service, the Metro Rapid operation has achieved several major improvements in operating speeds:

- The City of Los Angeles conducted independent research regarding which attributes contributed to



the speed improvement and found that the bus signal priority system accounted for approximately 1/3 of the improvement and the other elements accounted for the remaining 2/3 of the benefit. In support of this finding, the running time data indicates that the segments with bus signal priority operate faster than the adjacent segments, especially when ridership loads are considered. To further increase bus speeds along the Wilshire-Whittier corridor, bus signal priority should be extended to the segments in Beverly Hills, East Los Angeles, Montebello, and Santa Monica.

- Metro Rapid operated faster in mixed arterial traffic than the Curitiba Express lines in exclusive lanes due to Curitiba’s tighter station spacing and externally-controlled vehicle speed governors. Depending on the time-of-day and direction, Metro Rapid speeds average between 14 and 30 mph compared to Curitiba’s average speed of 13.8 mph.

Table 2-2

	Wilshire-Whittier (Line 720)	Ventura (Line 750)
Overall Speed Improvement	29%	23%
Eastbound (Range)	31% (18-40%)	20% (11-29%)
Westbound (Range)	28% (21-32%)	27% (16-34%)

- Several segments on both lines operated significantly more slowly due to other factors:
 - Traffic congestion caused major delays for Line 750 along Ventura Boulevard between Balboa and Van Nuys (I-405 back-ups) and between Vineland

and the Universal City Station; and for Line 720 through downtown Los Angeles.

- Very high ridership (exceeding MTA Consent Decree standards) is resulting in extended dwell times; thus, slowing operations between downtown Los Angeles and Western Avenue on Line 720. The higher capacity buses and multiple-door boarding in Phase II will reduce dwell times significantly, improving operating speeds.

In conclusion, MTA, in partnership with the City of Los Angeles Department of Transportation (LADOT), has achieved results in operating speed improvements that have been noticed and appreciated by its customers with the deployment of the Phase I Demonstration Program. The Phase II Expansion Program should build on this base and continue improving operating speeds by:

1. Complete the bus signal priority installation outside of the City of Los Angeles on demonstration Line 720 Wilshire-Whittier and establish a standard that future Metro Rapid service will be fully covered with bus signal priority.
2. Introduce exclusive bus lanes on arterials where feasible (recognizing the likelihood of future congestion); priority should be given to arterial segments with chronic, debilitating traffic congestion delay
3. Reduce station dwell times by testing and introducing off-vehicle fare collection systems such as “proof of payment,” and introducing high capacity buses to

manage standees within standards and avoid gross aisle congestion delays.

4. Introduce high capacity buses to allow for operation of more capacity with less frequent service during maximum peak periods. The current westbound morning peak frequency on Wilshire-Whittier is approaching 2 minutes which allows for little traffic signal recovery between bus priority overrides and is increasing the likelihood that individual Metro Rapid buses will not receive signal priority. Discussions with LADOT indicate that 5-minute intervals are a good balance between service frequency and maximum bus signal priority availability, with 3 minutes on the lower end of desirability.

Service Quality

The Metro Rapid program was initiated to improve both operating speeds and service quality. The key elements of service quality that were considered important were reduction in bus bunching (headway ratios), average passenger wait times, and passenger standing loads. The two demonstration lines have differing degrees of success, largely depending upon the nature of passenger demand, with Line 750 Ventura showing excellent improvements in service quality while Line 720 Wilshire-Whittier still trying to manage the massive increase in ridership attracted to the new service.

- Line 720 Wilshire-Whittier – headway ratios show considerable bus bunching, especially during peak periods when the buses are very frequent. Average passenger wait times are typically less than 5 minutes

with the only concern during PM peak periods, especially westbound, where wait times could exceed the typical headway. High daily ridership results in average loads exceeding 50 riders per bus for much of the day. The passenger-perceived average loads were even higher due to the variability induced by the high headway ratios (bus bunching). On September 10, 2000, an additional 23 trips were added during peak periods with a resulting 10 percent increase in ridership within just three days indicating strong latent demand still remaining.

- Line 750 Ventura – headway ratios are excellent with almost no bus bunching. Average passenger wait times are in the 4-to-6 minute range, which is excellent for service operating every 10-12 minutes. Average loads are below maximum seated levels, but are expected to continue to increase concurrent with ridership growth.
- The companion local services on Wilshire-Whittier and Ventura have all shown improved service quality and performance due largely to the reduced local ridership, making the service operate artificially faster than previously. On Wilshire-Whittier, local service levels initially operated at the same levels as Metro Rapid, while on Ventura, local service ran twice as often during peak periods and the same as Metro Rapid during the remainder of the service day. As local service levels are adjusted to reflect actual local ridership, service performance should return more closely to normal.

In summary, Metro Rapid has had considerable success. But to avoid success being the undoing of Metro Rapid,

MTA and LADOT need to move forward with refinements in operating policies and upgrades to the bus signal priority system, including:

1. Provide more capacity with less peak period frequency along Wilshire-Whittier. This will allow the BOCC to better manage the service, improve the consistency of the bus signal priority system, and reduce station dwell times.
2. Introduce and monitor refined operating practices concurrent with additional training for the BOCC, Transit Operations Supervisors (TOS) and bus operators. These will balance manual intervention by MTA staff with automatic intervention by the LADOT signal system.

Ridership

The increase in Metro Rapid ridership has been unprecedented, with overall ridership up approximately 25 percent in each corridor *in just 90 days*. The Wilshire-Whittier Metro Rapid appears to be capacity-constrained in the morning peak period. An additional 23 trips were introduced on September 10, 2000 to alleviate this constraint resulting in an immediate increase of approximately 10 percent in ridership for the overall Metro Rapid line.

Passenger survey data indicate that over 1/3 of this overall increase is from non-transit users (patrons who never rode transit before), with 1/3 from current riders riding more often and 1/3 from riders of other MTA

transit switching to service on these corridors. Of particular significance is that a 17 percent increase in ridership came directly from new transit travel.

Table 2-3

	Wilshire-Whittier Corridor		Ventura Corridor	
	Before	After	Before	After
Local/Limited-Stop Metro Rapid	69,030	30,450	10,800	4,650
		56,100		9,000
Total Ridership	69,030	86,550	10,800	13,650
Net Increase		17,520		2,850
% Increase		25.40%		26.40%

% Corridor Ridership	
Local	35.20%
Metro Rapid	64.80%

Total Unlinked Ridership

Rapid versus Local Ridership

Metro Rapid has captured approximately 2/3 of the overall ridership on both corridors, despite running approximately similar frequencies as the local buses on Wilshire-Whittier and less peak frequency on Ventura. The original objective was for Metro Rapid to capture approximately 50 percent of the corridor ridership, and it has clearly exceeded that. This customer preference has remained stable throughout the first 90 days despite some service quality issues on the Wilshire-Whittier line. Both Metro Rapid lines have captured almost identical

corridor market shares despite being very different corridors and services. The market share indicates that the current relative service levels between Metro Rapid and local service can be adjusted with more Metro Rapid and less local and that the Station spacing is generally appropriate. Similar market shares also suggest that ridership on additional Metro Rapid lines may behave in a like fashion.

Trip Lengths

One of the major objectives of Metro Rapid was to provide more convenient travel for longer distance transit riders. From the average trip lengths by riders on the two corridors, it is clear that longer distance travelers are using the Metro Rapid services. However, it appears that Metro Rapid is not solely used by longer distance travelers, but remains similar to the previous limited-stop services with average trip lengths of approximately twice the local service. This makes the Metro Rapid more effective from a seat turnover standpoint and is not inconsistent with expectations from a similar light rail service.

**Table 2-4
Average Passenger Trip Lengths**

	Before		After	
	Eastbound (miles)	Westbound (miles)	Eastbound (miles)	Westbound (miles)
Wilshire-Whittier				
Local Line 18	2.8	3.1	2.6	2.6
Local Line 20/21	3.2	4.4	3.3	4.2
Limited-stop Line 320	5.2	7.9		
Metro Rapid Line 720			7	7.3

Ventura	Before		After	
	Eastbound (miles)	Westbound (miles)	Eastbound (miles)	Westbound (miles)
Express Line 424/522	10.6	7.8		
Express Line 425	25.2	N/A		
Local Line 150/240			N/A	N/A
Metro Rapid 750			8.4	7.5

Geographic Distribution of Ridership

The geographic distribution of boardings and the average productivity per route mile for each of the Metro Rapid lines indicates significant, but not surprising differences between lines. Ventura boardings are heavily influenced by the Metro Red Line station at Universal City with relatively even, consistent generation of riders along the remainder of the route. A key objective for the Ventura Metro Rapid was for customers to utilize it as an extension of the Metro Red Line. Service is timed for both Metro Rapid and local service to the arrival and departures of trains for Hollywood and downtown Los Angeles. Passenger surveys indicate that over 24 percent of all trips on Line 750 Ventura involve the Metro Rail system compared to just 8-to-14 percent of local trips. The 1-in-4 trips linking Metro Rapid with Metro Rail is excellent and is expected to continue to grow as new riders enter the system.

Table 2-5

Line 750 Ventura		Average Per Trip			
		Boardings	Alightings	% Ons of Total	Boardings Per Mile
Universal City Sta	Ventura-Vineland	22.2	7.7	32.5	35.2
Ventura-Vineland	Ventura-Lauri Cyn	4.7	3.9	6.9	3.0
Ventura-Lauri Cyn	Ventura-Van Nuys	7.1	8.1	10.3	2.2
Ventura-Van Nuys	Ventura-Balboa	10.6	10.3	15.5	3.5
Ventura-Balboa	Ventura-Reseda	7.7	6.8	11.3	3.6
Ventura-Reseda	Ventura-Winnetka	3.6	2.8	5.2	1.7
Ventura-Winnetka	Ventura-Tpga Cyn	5.3	4.4	7.7	2.5
Ventura-Tpga Cyn	Owenmth-Oxnard	7.2	3.3	10.5	3.5
TOTAL		68.2	47.5	100.0	4.1

The Wilshire-Whittier Metro Rapid line is less influenced by the Metro Red Line, although the segment from Western to Vermont has the highest ridership generation of the line. Downtown Los Angeles was not a major ridership generator, although heavy loads are carried through LACBD. Other above average ridership generating segments included Vermont to Alvarado (Westlake), Alameda to Soto (Boyle Heights), Downey to Atlantic (East Los Angeles), Ocean/Pico to 14th (Santa Monica), and Soto to Downey (Boyle Heights/East Los Angeles).

A key expectation for the Wilshire-Whittier Metro Rapid line was that it would provide an important service link between the east and west sides through downtown Los Angeles. Analysis of both the Automated Passenger Counter (APC) ridership data and passenger survey data indicate that significant numbers of riders are making these trips using Metro Rapid. One half or more of the

on-board riders entering downtown continue between the east and west sides. Passenger survey responses indicated that approximately 41 percent of the Eastside riders travel to the Westside or Santa Monica with 24 percent having a downtown destination.

In conclusion, in just 90 days it appears that Metro Rapid has exceeded ridership expectations in terms of overall increased passenger use, penetration of previous non-user markets, use by longer distance travelers, meeting the needs of persons traveling between the east and west sides of Los Angeles County, and serving as an extension of the Metro Red Line in the San Fernando Valley. It is also clear that ridership continues to grow, especially on the Wilshire-Whittier line, which appears to be capacity constrained during at least the morning peak period. Growth will be further fostered by the completion of the Metro Rapid Stations along both corridors and the second phase of the marketing campaign. This will place a priority of providing significantly more capacity along the Wilshire-Whittier in a cost-effective fashion. Moreover, similar performance and market response to both Metro Rapid lines may be indicative of what to expect for Phase II line additions to the Metro Rapid network.

Customer Perceptions and Behavior

On-board questionnaires were distributed to bus riders "before" Metro Rapid in early June 2000 and "after" in September 2000 (prior to the strike) to assess rider perceptions, behavior, and profiles. The surveys asked riders to evaluate various elements of service as well as

overall satisfaction, with the ultimate purpose of determining changes in customer perceptions of bus service after the introduction of Metro Rapid. Specific questions focused on rider behavior, including trip origins and destinations and frequency of bus use. Questions also obtained information on the ability to recognize Metro Rapid and perceptions of service quality. Finally, demographic questions provided a basis to assess changes in the demographic profile of Metro Rapid and local riders compared to the previous ridership.

Major findings include:

- An analysis of customer ratings and importance of all service attributes clearly shows that Metro Rapid riders perceive a quantum leap in service performance and quality. Changes of this magnitude in performance ratings are rare, particularly over a relatively short time frame (90 days). MTA has essentially raised the bar significantly in terms of service quality for its riders through the Metro Rapid Demonstration Program.
- Ratings for Metro Rapid service are higher for all attributes compared to the prior Limited-Stop service ratings. These improvements are statistically significant for all service attributes. The overall rating of MTA service increased by 0.35, from 3.48 among previous limited riders to 3.83 among Metro Rapid riders.
- Ratings for Metro Rapid service are higher for all attributes compared to the "after" Local service ratings, and all differences are statistically significant. The largest differentials are for cleanliness, travel time on the bus, and frequency of buses.
- Ratings have also increased on local bus service for most attributes, but many of the increases are not statistically significant.

Table 2-6

Line 720 Wilshire-Whittier		Average Per Trip			
		Boardings	Alightings	% Ons of Total	Boardings Per Mile
Ocean-Pico	Wilshire-14th St.	16.5	18.3	8.4%	8.7
Wilshire-14th St.	Wilshire-Sawtelle	11.1	10.8	5.7%	4.0
Wilshire-Sawtelle	Wilshire-Westwood	4.4	3.7	2.2%	6.1
Wilshire-Westwood	Wilshire-Beverly	13.4	14.8	6.8%	4.7
Wilshire-Beverly	Wilshire-San Vente	7.7	9.6	3.9%	4.8
Wilshire-San Vente	Wilshire-Fairfax	4.5	4.2	2.3%	7.5
Wilshire-Fairfax	Wilshire-La Brea	3.7	7.7	1.9%	3.7
Wilshire-La Brea	Wilshire-Western	14.9	13.6	7.6%	7.4
Wilshire-Western	Wilshire-Vermont	25.7	18.9	13.1%	25.7
Wilshire-Vermont	Wilshire-Alvarado	13.0	11.2	6.6%	13.1
Wilshire-Alvarado	Wilshire-Alameda	17.1	29.4	8.7%	6.1
Wilshire-Alameda	Wilshire-Soto	16.0	13.9	8.2%	11.7
Wilshire-Soto	Wilshire-Downey	16.9	14.3	8.6%	7.6
Wilshire-Downey	Wilshire-Atlantic	14.1	12.0	7.2%	10.5
Wilshire-Atlantic	Wilshire-Garfield	11.8	12.9	6.0%	7.3
Wilshire-Garfield	Montebello-Metroli	5.1	4.2	2.6%	5.4
TOTAL		195.9	199.6	100.0%	7.6

- A surprising number of riders are coming from neighborhoods that are usually seen as low transit ridership areas, especially south of Ventura Boulevard on Route 750.
- Metro Rapid service is drawing new, non-traditional riders. Most Metro Rapid passengers were existing transit users, but 17% either did not make this trip previously or used a non-transit mode (most likely the automobile). The majority of both Metro Rapid and local bus riders report income levels below \$15,000 annually. However, over 13% of Metro Rapid riders have incomes above \$50,000 versus just 6 percent for local buses. Metro Rapid also has a higher percentage of male riders compared to the locals and former limited lines.
- Nearly 14% of Metro Rapid riders began using MTA services within the last three months. By comparison, only nine percent of local riders began using MTA services in this same time frame.
- Automobile availability is surprisingly similar for Metro Rapid and local bus riders. Approximately one-quarter of riders in both groups are from households with at least two cars.
- Approximately ¼ of Line 750 Ventura riders connected to the Metro Red Line to complete their journey, indicating that the Metro Rapid is serving as an extension of the rail system in the San Fernando Valley.
- A large percentage of those originating from the Eastside, on Route 720 (Wilshire/Whittier), traveled

through Downtown to the Westside on the morning trips. This supported findings in previous studies that suggested a relatively large east-to-west demand in the peak hours.

In summary, the Metro Rapid program has demonstrated two critical elements: (1) customers perceive Metro Rapid as clearly superior to MTA's existing bus services; and (2) Metro Rapid's ability to increase transit's market share among discretionary travelers.

Table 2-7

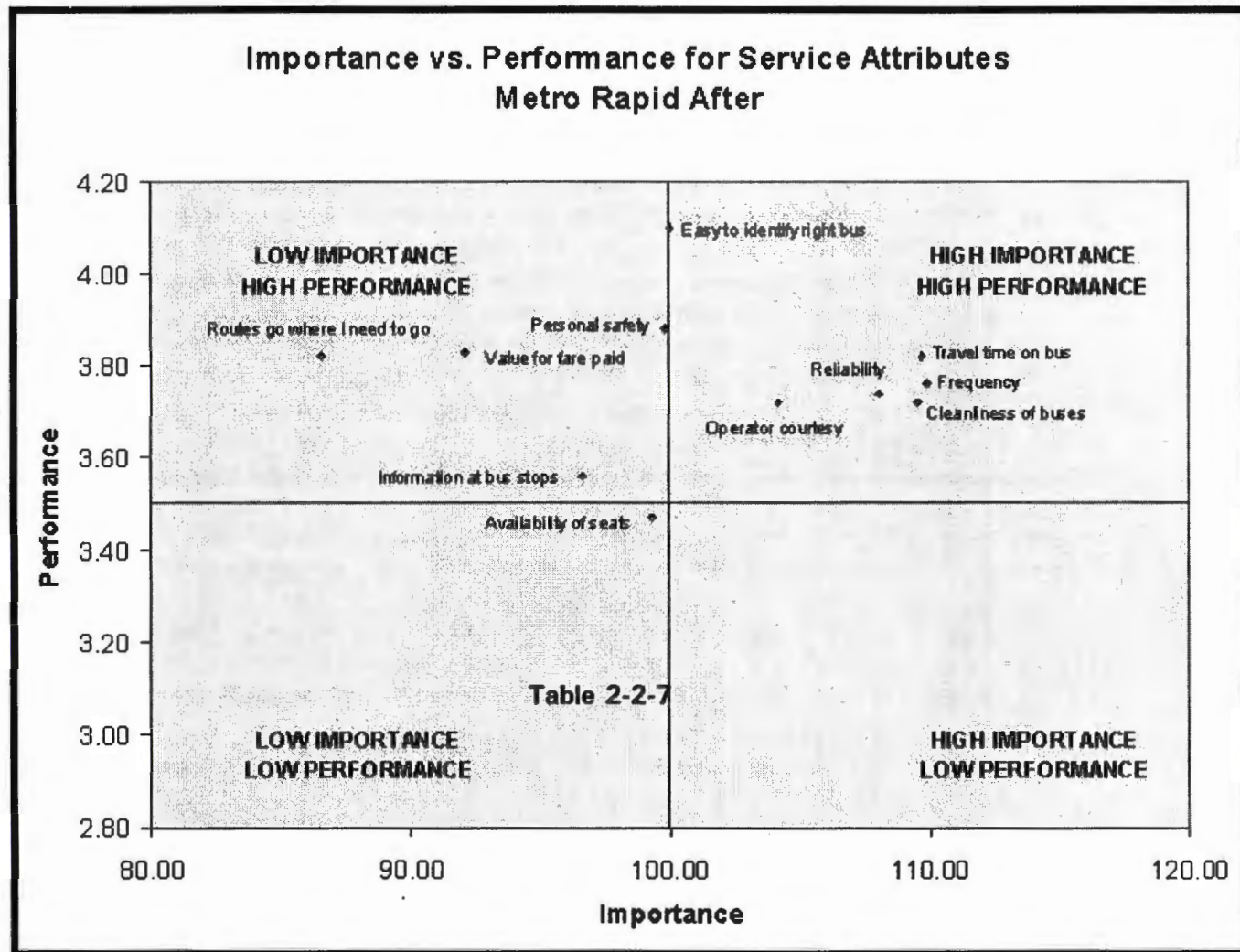
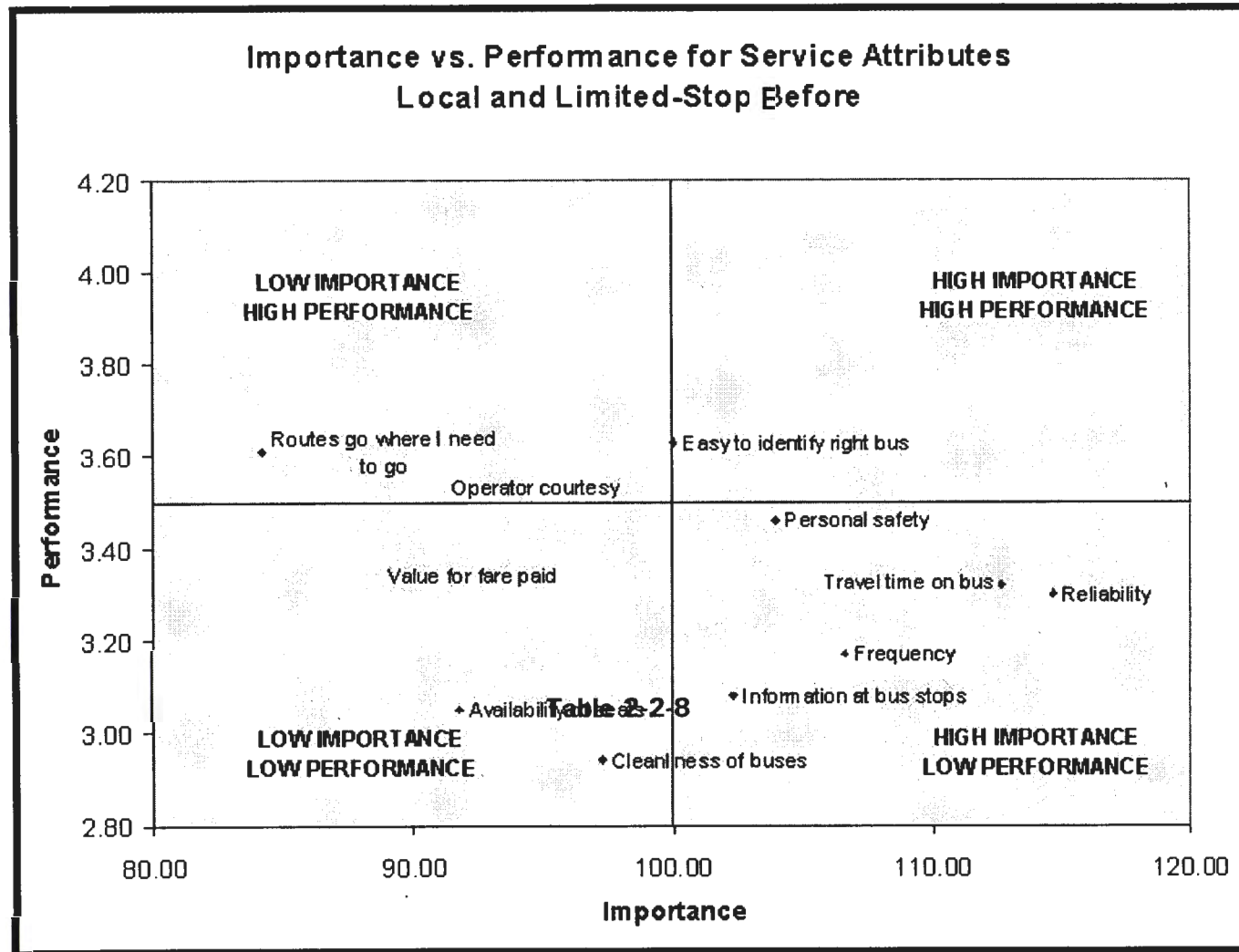


Table 2-8



Service Effectiveness and Efficiency

The original operating concept for the demonstration was to provide existing and potential customers with equal amounts of local and Metro Rapid service and allow them to choose that which best met their needs. This operating plan was implemented in June 2000. From the initial week of operations it was clear that the vast majority of customers were choosing the Metro Rapid service. This led to overloading on both Metro Rapid lines initially (only the Wilshire-Whittier line continues to have under-capacity problems) and continuing underutilization on two of the three local services (i.e., Lines 20/21 and 150/240).

While overall performance (service effectiveness and efficiency) has improved on the Wilshire-Whittier corridor with the introduction of Metro Rapid, performance on the Ventura corridor has declined significantly despite the 25 percent increase in riders. This is principally due to the very large increase in Ventura local service compounded with an over 50 percent rider switch from the local to Metro Rapid service. However, once local services on Wilshire, Whittier, and Ventura Boulevards have been adjusted to reflect actual ridership, overall and individual corridor performance should improve drastically. The net subsidy per new passenger (net revenue minus net operating cost per new passenger) is very attractive for the Wilshire-Whittier Metro Rapid service at just over

Table 2-9: Weekday Corridor Service

Corridor	Ridership ¹			Peak Vehicles ²			Revenue Hours ²			Revenue Miles ²		
	Pre-Rapid	Post-Rapid	% Change	Pre-Rapid	Post-Rapid	% Change	Pre-Rapid	Post-Rapid	% Change	Pre-Rapid	Post-Rapid	% Change
WILSHIRE-WHITTIER												
Lines 18/318	24,830			45			517			5,472		
Lines 20/21/22/320/322	44,200			77			727			7,767		
Line 18		14,100			34			400			3,949	
Lines 20/21		16,350			44			503			4,057	
Metro Rapid 720		56,100			64			619			7,877	
Combined Corridor	69,030	86,550	25.4%	122	142	16.4%	1,244	1,522	22.4%	13,239	15,884	20.0%
VENTURA												
Lines 424/425/522	10,800			37			285			4,339		
Lines 150/240		4,650			31			353			4,486	
Metro Rapid 750		9,000			20			211			3,138	
Combined	10,800	13,650	26.4%	37	51	37.8%	285	564	98.1%	4,339	7,625	75.7%
TOTAL DEMONSTRATION	79,830	100,200	25.5%	159	193	21.4%	1,528	2,086	36.5%	17,578	23,508	33.7%

¹ Ridership includes only passengers boarding on the Metro Rapid segment of the corridor.

² Service levels includes all service on the entire corridor extending beyond the Metro Rapid segment.

\$0.60, competing very effectively with the various rail options. At a subsidy of over \$6.00 per new passenger, the Ventura Metro Rapid has been less cost-effective. However, if local service is adjusted at approximately the same ratio as has been done on the Wilshire-Whittier corridor, then the net subsidy per new passenger drops by nearly half to under \$3.50.

Operating and Capital Costs

One of the principal advantages of Metro Rapid service is that the net cost, both operating and capital, is considerably lower than other transit mode choices. It balances speedy service with higher capacity and low implementation costs.

Table 2-10
Weekday Corridor Performance

Corridor	Passengers Per Revenue Hour ³			Passengers Per Revenue Mile ³			Net Subsidy per Passenger ³			Net New Subsidy per New Passenger ³		
	Pre-Rapid	Post-Rapid	% Change	Pre-Rapid	Post-Rapid	% Change	Pre-Rapid	Post-Rapid	% Change	Pre-Rapid	Post-Rapid	% Change
WILSHIRE-WHITTIER												
Lines 18/318	69.7			6.59			(\$0.57)					
Lines 20/21/22/320/322	60.8			5.69			(\$0.60)					
Line 18		73.8			7.47			(\$0.69)				
Lines 20/21		32.5			4.03			(\$1.56)				
Metro Rapid 720		90.6			7.12			(\$0.29)				
Combined Corridor	64.5	67.0	3.8%	6.06	6.42	5.9%	(\$0.59)	(\$0.60)	1.0%		(\$0.62)	
VENTURA												
Lines 424/425/522 ⁴	47.4			3.11			(\$1.16)					
Lines 150/240 ⁴		22.8			1.79			(\$4.38)				
Metro Rapid 750		42.6			2.87			(\$1.11)				
Combined	47.4	30.2	-36.2%	3.11	2.24	-28.1%	(\$1.16)	(\$2.22)	91.2%		(\$6.23)	
TOTAL DEMONSTRATION	61.3	57.0	-7.0%	5.33	5.06	-5.1%	(\$0.67)	(\$0.82)	22.4%		(\$1.41)	

³ Ridership includes all riders on the entire corridor extending beyond the Metro Rapid segment.

⁴ Average passenger fares dropped from \$0.83 to \$0.59 with the opening of the Red Line to San Fernando Valley and the shortening of the bus service.

Operating Cost

Overall, the annualized (12 month) operating cost of the demonstration service is approximately \$12.7 million with a strong likelihood that \$2-3 million of this net increase will be eliminated through refinement of the local and Metro Rapid operating schedules on the two corridors. The overall annual operating cost of Metro Rapid service averages just under \$300,000 per mile.

Capital Cost

One of the principal objectives of the demonstration program is to provide high quality rail emulation service with significantly lower capital investment. The Metro Rapid capital program involved three areas: station development, bus signal priority, and vehicle acquisition. The station program was designed, fabricated and installed at a cost of approximately \$100,000 per mile. The bus signal priority system cost was approximately \$20,000 per intersection. Buses used to operate the Metro Rapid Program were NABI 40-foot CNG low-floor vehicles from current fleet procurement orders.

Table 2-11

Operating Cost Summary

Corridor	Annual Operating Cost			
	Pre-Rapid	Post-Rapid	Net Change	% Change
WILSHIRE-WHITTIER				
Lines 18/318	\$10,563,000			
Lines 20/21/22/320/322	\$14,964,000			
Line 18		\$8,312,000	(\$2,251,000)	-21.3%
Lines 20/21		\$10,261,000	(\$4,703,000)	-31.4%
Metro Rapid 720		\$14,137,000	\$14,137,000	N/A
Combined Corridor	\$25,527,000	\$32,710,000	\$7,183,000	28.1%
VENTURA				
Lines 424/425/522	\$6,954,000			
Lines 150/240		\$7,662,000	\$708,000	10.2%
Metro Rapid 750		\$4,831,000	\$4,831,000	N/A
Combined	\$6,954,000	\$12,493,000	\$5,539,000	79.7%
TOTAL DEMONSTRATION	\$32,481,000	\$45,203,000	\$12,722,000	39.2%

⁵ Marginal operating cost calculated using FY 2000 unit costs at \$35.7769 per total hour, \$1.8139 per total mile, and \$15,178.56751 annual per peak vehicle.

Table 2-12: Capital Cost Summary

Capital Element	Wilshire-Whittier		Ventura		Total		Cost Per Mile
	Units/Miles	Cost	Units/Miles	Cost	Units/Miles	Cost	
Stations	25.7 miles	\$2,441,000	16.7 miles	\$1,590,300	42.4 miles	\$4,031,300	\$95,000
Bus Signal Priority	25.7 miles	\$2,569,000	16.7 miles	\$1,674,000	42.4 miles	\$4,243,000	\$100,000
TOTAL DEMONSTRATION		\$5,010,000		\$3,264,300		\$8,274,300	\$195,000

Metro Rapid Phase II

The Metro Rapid Demonstration Program has been a clear success during its first 90 days of operations. Based on this success, a Phase II Expansion Program is proposed that involves two principal elements:

- Introduction of the remaining Curitiba model attributes (attributes 8-13).
- Expansion of the Metro Rapid network.



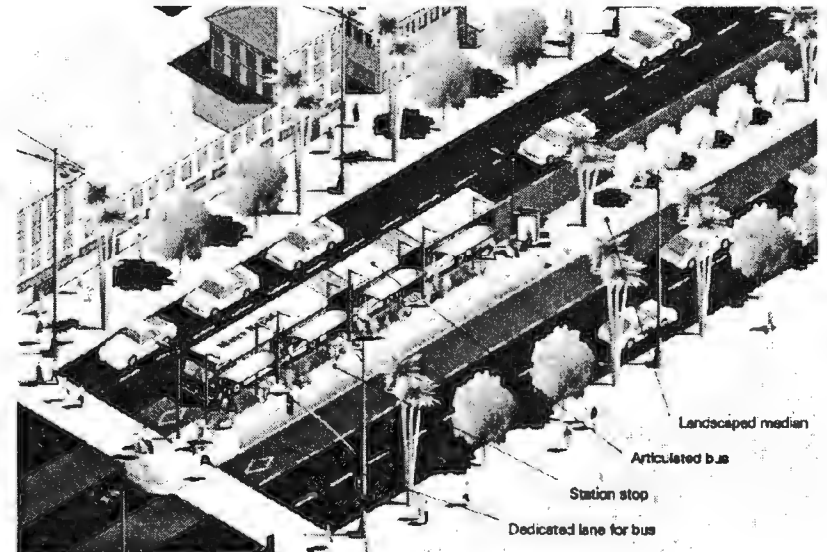
Table 2-13

CURITIBA KEY ATTRIBUTES	METRO RAPID BUS	
	Phase I Demonstration	Phase II Expanded System
1. Simple Route Layout	Yes	Yes
2. Frequent Headways	Yes	Yes
3. Less Frequent Stops	Yes	Yes
4. Level Boarding and Alighting	Yes	Yes
5. Color-coded Buses and Stations	Yes	Yes
6. Station Stops	Yes	Yes
7. Signal Prioritization	Yes	Yes
8. Exclusive Bus Lanes	No	Yes
9. Higher Capacity Buses	No	Yes
10. Multiple-Door Boarding and Alighting	No	Yes
11. Fare Prepayment	No	Yes
12. Feeder Network	No	Yes
13. Coordinated Land Use Planning	No	Yes

Introduce Remaining Attributes

The remaining attributes are discussed below:

- Exclusive bus lanes – two approaches are proposed for development of exclusive bus lanes: (1) short segments where warranted by congestion delay; and (2) full-length exclusive transitways either on arterials or in separate rights-of-way. The following is illustrative of possible arterial exclusive lane options.

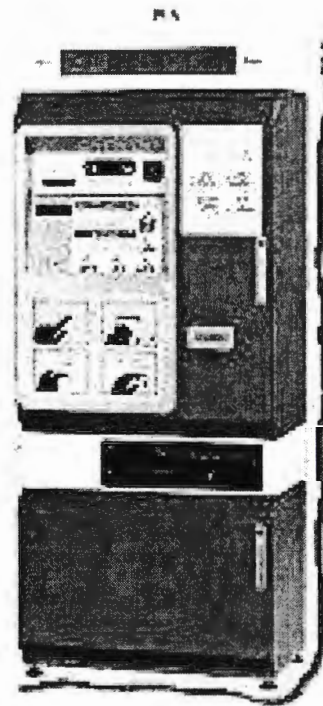


Higher capacity buses – as previously discussed, the Wilshire-Whittier Metro Rapid peak hour frequency has nearly reached 2 minutes and the service is still experiencing overcrowded conditions despite several capacity increases. There are three principal options open for MTA to operate higher capacity buses:

- 45-foot vehicles (8-12 more seats than the standard bus)
- 60-foot articulated vehicles (18-20 additional seats)
- 80-foot bi-articulated vehicles (36-40 additional seats)



- Multiple door boarding and fare prepayment – multiple door boarding requires off-vehicle fare collection either through controlled access or using a barrier-free proof-of-payment system. The benefits have been long established for light and heavy rail operations and are clearly applicable to high volume Metro Rapid service (the Wilshire-Whittier Metro Rapid is Los Angeles County’s third heaviest transit line after the Metro Red and Blue Lines and ahead of the Metro Green Line). MTA has adopted a barrier-free system with random inspections for the rail program. Metro Rapid has very similar needs and will likely require a similar approach, especially given the limited space along the arterial rights-of-way for Curitiba-type stations.



- Feeder network – MTA’s basic grid network of regional and local bus services makes development of a separate feeder network for the Metro Rapid (and Metro Rail) of less importance. In Phase II, introduction of new community-based transit services (e.g., Smart Shuttles and circulators) as well as local network restructuring will be appropriate in support of

the Metro Rapid network, especially where the prevailing local network is not grid-based.

- Coordinated land-use – one reason for the success of both the Wilshire-Whittier and Ventura Metro Rapid lines is their operation on corridors where land-use is coordinated with transit. Streetscapes and densities are not unlike the “structural corridors” that were developed in Curitiba for the bi-articulated red express lines. The City of Los Angeles has a new project underway to identify transit impacts that could become part of its redevelopment warrants, i.e., Transit Oriented Design – one element could cover coordinated land-use around Metro Rapid stations.

Expansion of the Metro Rapid Network – Arterial Lines

The success of the demonstration lines has provided clear indications that the Metro Rapid program as currently implemented has met with customer approval. Together with the introduction of the additional Curitiba model attributes, expansion of the Metro Rapid network is appropriate. A multi-level selection process was developed for identifying the Phase II Metro Rapid arterial lines. The first step is based on the Tier One transit criteria and includes lines that meet the following minimum requirements:

- Serve major regional corridors
- Provide key network connections for longer distance travel
- High passenger use

The second step prioritized lines meeting the above requirements based on secondary criteria that included:

- Weekday unlinked passengers
- Average passenger trip length
- Revenue operating speed
- Annual passengers per route mile
- Weekday seat utilization
- Weekday riders retained on weekends
- Weekday passengers per bus hour
- Operating ratio

Phase IIC
Alvarado
Atlantic
Century
Garvey
Hollywood-Fairfax
Roscoe
Vernon-La Cienega
West Third

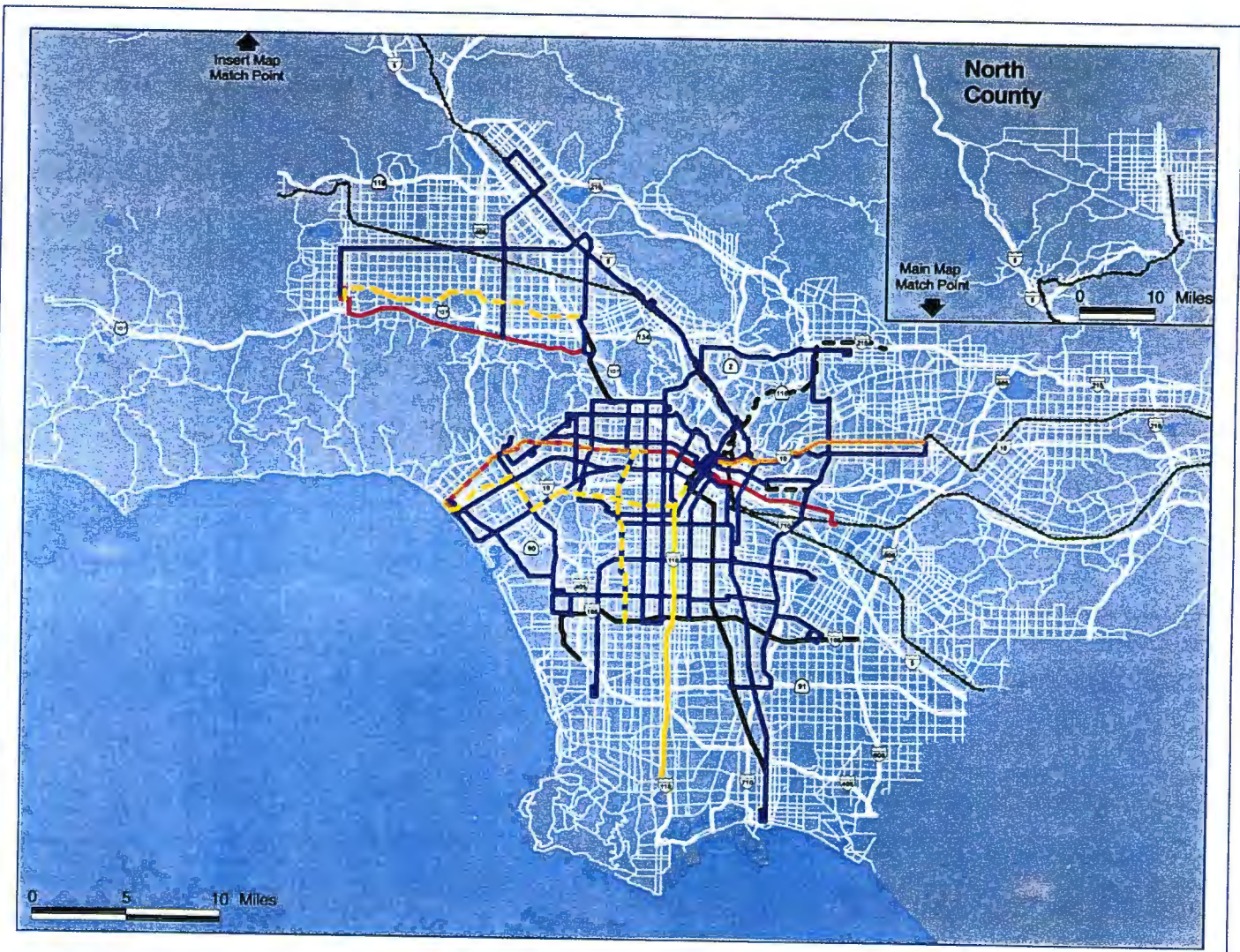
The resulting candidate lines were then checked for current frequency levels (ability to support Metro Rapid frequencies), whether the corridor currently has multiple levels of regional service (e.g., express, limited-stop, local, and community), and whether it duplicates any other comparable rapid transit (generally a one mile spacing between continuous lines). Based on these findings, lines were confirmed as Metro Rapid candidates and prioritized in three sub-Phases: IIA, IIB, and IIC. The proposed Metro Rapid candidate lines for Phase II are:

Phase IIA
Avalon
Florence
Pico/East First
Venice
Vermont
Van Nuys
Crenshaw-Rossmore

Phase IIB
Hawthorne
Hollywood-Pasadena
Long Beach
San Fernando
Santa Monica
Soto
Western

Expansion of the Metro Rapid Network – Transitways

Metro Rapid lines are also proposed for exclusive rights-of-way, augmenting the arterial Metro Rapid lines. In some cases, lines may operate partially along transitways and arterials. See discussion of Transit Corridor Projects described earlier in this section. The overall proposed Metro Rapid network extensively covers the core high-demand portion of the County of Los Angeles as illustrated on the following page.






EXISTING AND PROPOSED METRO RAPID ROUTES

- Metro Rapid phase I
- Metro Rapid phase II
- Transitways - existing
- · · Transitways - under study
- Metro Rail - current
- ■ ■ Metro Rail - future
- + + + + Metro Link

Integration of Corporate Identity

The successful “branding” of the Metro Rapid Program as a separate service with different attributes, and the development of customer loyalty, provides an opportunity for MTA to develop distinct transit services

tailored to customer needs. A draft corporate identity was developed during the Metro Rapid Demonstration Program that illustrates an effective way to define and “brand” the different services.

	Logotype	Icon	Icon in Panel
Transportation Agency	LAC MTA	MTA	MTA
Transit System	Metro LOS ANGELES	M	M Metro
Transit Modes	Metro Rail  LOS ANGELES	M 	M Rail M Rail M Rail
	Metro Rapid LOS ANGELES	M	M Rapid
	Metro Bus  LOS ANGELES	M	M Bus
	Metro Shuttle LOS ANGELES	M	M Shuttle
Affiliated Agencies	Metro Partner LOS ANGELES	M	M Partner

Oldeman Urban Design
October 22, 1999

Summary of Key Recommendations

- The MTA, working with the Los Angeles County Municipal Operators and cities, should build on the success of the Metro Rapid Bus Demonstration Program.
- MTA should complete the Phase I attributes still in implementation, including the stations, “next-bus” displays, and expansion of the bus signal priority system outside the City of Los Angeles.
- A significant increase in vehicle capacity is recommended. The short-term recommendation is to increase the number of 40-foot Metro Rapid buses assigned to the two Demonstration Corridors. However, there is a limit to the number of buses that can be cost effectively added. The Wilshire-Whittier Corridor is currently operating close to this limit. The more cost-effective long-term solution is to introduce high-capacity buses.
- Implement the Phase II Metro Rapid System Expansion Program, including both new attributes and the expansion of lines.

Commuter Rail- Metrolink

Metrolink is Southern California's regional commuter rail system, which spans 6 counties and includes 416 track miles. Operation and maintenance of the trains, track, and associated facilities, and administration of the system is performed by the Southern California Regional Rail Authority (SCRRA), a joint powers authority consisting of MTA and the Orange County Transportation Authority (OCTA), Riverside County Transportation Commission (RCTC), San Bernardino Association of Governments (SanBAG), Ventura County Transportation Commission (VCTC), and a number of ex officio advisory members.



SCRRA operates 128 train trips each weekday, serves 47 stations, and carries 31,000 passenger trips. Operating revenues (passenger fares and freight usage fees) cover 51.6% of operating costs, an excellent ratio for public transit service.

About half of the system operates within Los Angeles County, with 199 track miles, and 26 stations. In Los Angeles County, stations are owned and operated by local jurisdictions. MTA does, however, provide an active role in funding for station construction through discretionary grants.

Accomplishment Since 1995

Between 1995 and 2000, growth has continued at a brisk pace in the Metrolink System.

- Daily ridership has increased 74%, from 17,500 to 30,400.
- Annual train miles operated have increased 82%, from 979,000 to 1.78 million.
- Subsidy per passenger mile has decreased 32% from \$0.22 to \$0.15.

To accommodate this growth, the Metrolink fleet and infrastructure have been significantly augmented and upgraded.

- The fleet has expanded from 28 locomotives and 94 passenger coaches to 33 locomotives and 119 passenger coaches.
- 4 new stations have been constructed and begun operations.
- SCRRA completed a major restructuring of the track, signals and control equipment along the West Bank of the L.A. River and the Terminal control tower.

- SCRRRA relocated and upgraded the Central Control Facility.
- A second storage facility was constructed in San Bernardino.
- Extensive rehabilitation of vehicles and tracks has also been used to prolong their useful life and enhance speed and safety.

Other improvements are funded and will be constructed in the near future, as follows:

- A maintenance facility in San Bernardino
- Upgrade of ticket vending machines (TVM's) to allow ticketing for travel on another day, and joint Metrolink-Amtrak ticketing, among other features.
- 20 or more additional TVM's
- 2 locomotives and 28 passenger coaches
- Ten new Metrolink stations: 3 in Los Angeles County
- New sidings and double track segments in 6 locations and crossovers at 3 locations

The Governor's Transportation Initiative also contains \$30 million for other siding and track additions along the San Bernardino Line to avoid or lessen delay and allow greater schedule flexibility and increased reverse peak services.

Issues

Capital Needs for Maintenance and Expansion: Current Board Policy limits operation and maintenance funding for Metrolink based on inflation, over a base subsidy level established in 1997. While operations have not yet begun to outpace these limitations, rehabilitation needs

have already surpassed them. Rehabilitation and refurbishment requirements for fleet and infrastructure are increasing as the system expands, and as the impacts of aging and heavy freight usage begin to be felt. In the first few years of operation, intensive state-funded upgrade work replaced many structures that would otherwise have required rehabilitation. As the pace of upgrade work slows, rehabilitation requirements will become a more significant cost element. MTA's share of combined operating and maintenance costs is projected to exceed the subsidy available under current Board Policy by approximately \$300 million over the next 25 years.

Much of the territory over which Metrolink service operates is single-tracked. In many locations there are physical constraints such as narrow tunnels, adjacent freeways or intense land development that prevent comprehensive double-tracking. Improvements such as double-track segments, passing track additions, platform extensions, and speed improvements will be critically important to maximizing the utility of this limited infrastructure. There will also be a significant need within the next 20 years for rolling stock, station construction and expansion, and feeder bus start-ups, as well as major infrastructure support projects such as new train storage (parking) and maintenance yards.

The funding environment with respect to SCRRRA projects in Los Angeles County is constrained by a number of current MTA policies and priorities. SCRRRA currently competes for expansion funding through the MTA Call for Projects as well as seeking state and federal grants. The Transit Capital category of the Call for Projects

typically does not include enough funding for SCRRRA's major expansion projects. The federal formula funds for bus and rail maintenance and capital needs which are allocated to MTA through the Section 5307 and 5309 programs are programmed to the municipal bus operators and MTA bus and rail operations.

Access/Integration: SCRRRA's 30-Year Expenditure Plan projects ridership to grow from the current 31,000 daily to nearly 60,000 within 20 years. To accommodate this growth, passengers must be able to find space not only on the trains, but also in station parking lots and on connecting transit. When the SCRRRA was formed in 1991, a partnership between the MTA (then the LACTC) and the local jurisdictions was also formed. SCRRRA, with funding from MTA and its partners from adjoining counties, would be responsible for operating the trains. Local jurisdictions would locate, design, construct and maintain the stations. Many local jurisdictions also provide connecting bus feeder/shuttle services. This arrangement has allowed SCRRRA to maintain a highly cost effective operation. MTA and SCRRRA will need to work closely with their local partners to ensure that access and integration facilities and systems are provided in a timely, balanced, and coordinated manner to optimize system performance and productivity.

Service objectives: Metrolink service started out with an emphasis on peak hour service and has maintained this focus. There has, however, been significant expansion into mid-day and weekend service. It may be appropriate to explore the relative productivity of the various time periods of Metrolink service and other transit modes, for insight into future service decisions. One benefit of off-

peak service is that it often serves to bolster ridership on peak-hour services through introducing potential passengers to the service during non-commute times, or through providing emergency return options which can be important in the decision to commit to regular transit use.

Actions

MTA has worked with staff from SCRRRA and other SCRRRA member agencies to develop a 30-Year Expenditure Plan. The plan contains a list of capital improvements, operational, and financial forecasts based on a goal of nearly tripling the level of service over the plan horizon. This goal is based, in turn, on an assumption of maintained mode share and overall travel growth of about 3.5% to 4% per year. This is a very conservative assumption, given that over the last 4 years, Metrolink ridership has grown between 4% and 8% each year, and would be projected by the MTA Transportation Demand Model to grow ten-fold under unconstrained conditions.

Project Recommendations:

Constrained Project Recommendations:

- Continued funding of SCRRRA's annual financial requirements at current board policy levels of \$26.3 million for operations and \$8.0 million for rehabilitation and renovation, incremented annually by the Consumer Price Index or other appropriate rail construction-related escalation index.

- Continued support through the Call for Projects Transit Capital category for station construction and expansion, and platform, track and signal construction needed for optimal station operation.
 - Additional funding at the constrained level of \$580 million (inflated dollars) MTA funding over the life of the plan. With an assumption of matching funds available from other SCRRRA member agencies and state and federal sources and significant, SCRRRA could implement approximately:
 - * the first two tiers, or 66%, of the capital improvements proposed in the SCRRRA's 30-year Expenditure Plan to accommodate projected demand.
 - * Operating and rehabilitation and renovation funds above and beyond current MTA Board policy amounts to enable increased service levels approximately 3 to 4% per year over the plan period to accommodate projected demand.
- The following are the major capital improvements proposed in the plan for which constrained funding of \$580 million would be required:
- * Fleet expansion, including:
 - 16 locomotives
 - 9 cab cars
 - 99 coaches
 - * Facilities for rolling stock storage (parking), rolling stock maintenance, and maintenance of way including:
 - 4 new facilities
 - 2 major expansions
 - * Capacity Improvements on the Antelope Valley, Riverside, San Bernardino, and Ventura Lines, including:
 - 3 new and/or extended sidings
 - 8 new main track segments
 - * Improvements to increase speeds and improve operations on the Antelope Valley, Riverside, and San Bernardino Lines, including:
 - 7 track and signal reconfigurations
 - * Other projects to enhance system performance and efficiency.
 - * Continue to monitor plans for high speed or very high speed rail operations: The California High Speed Rail Authority and the Southern California Association of Governments have each undertaken studies of future high speed train services which would traverse parts of Los Angeles County. MTA staff has been monitoring these studies, but has not participated formally on any advisory panel and has not contributed funding to these studies.

Enhanced Project Recommendations:

- In addition to the actions above, additional funding at an enhanced level of \$960 million (inflated dollars) MTA funding, rather than \$580, over the life of the plan. With an assumption of matching funds available from other SCRRRA member agencies and state and federal sources SCRRRA could implement:

- * 100% of the capital improvements proposed in its 30-Year Expenditure Plan.

- * Additional operation and rehabilitation and renovation funds above and beyond current board policy amounts to increase service levels approximately 4 % per year over the plan period.

The following are the major capital improvements proposed in the plan for which enhanced funding of \$960 million would be required:

- * Additional facilities, including:
 - 1 maintenance facility expansion
 - 1 new quick-turn facility
- * Additional fleet expansion, including approximately:
 - 15 locomotives
 - 56 coaches
- * Additional capacity Improvements including:
 - 5 new and/or extended sidings
 - 4 new main track segments

- * Additional improvements to increase speeds and improve operations including:
- * 5 track and signal reconfigurations
- * Other additional projects to enhance system performance and efficiency

Program Recommendations:

A number of general recommendations can be stated that apply whether constrained or enhanced funding is available:

- Encourage SCRRRA to increase service levels through optimal dispatching within the available mix of single-track, sidings, and double- or triple-track segments.
- Encourage SCRRRA to increase productivity via strategy such as increasing the number of passenger cars that can be linked in individual trains (i.e. platform extension projects).
- Encourage SCRRRA to improve system speed and travel time through a variety of projects, including possible express train operations: As the number and length of sidings and double-track segments increases, it may be possible to implement some skip-stop or express-style services to shorten trip times.

Areas for Further Study/Innovation:

MTA staff will continue to monitor areas of interest including:

- **Additional commuter rail corridors:** MTA owns or has worked to obtain reservation for a number of railroad right of way corridors which have not yet been developed for passenger rail service, including a corridor that between Santa Clarita and the Ventura County Line, the Santa Ana Branch which runs South west from Los Angeles, via Cerritos into Orange County, and the Harbor Subdivision, which runs from downtown Los Angeles, passes near the Los Angeles International Airport (LAX), and passes through the South Bay to the Port area. These corridors could be considered for development of future Metrolink service.
- **Clean fuel operations:** SCRRA's fleet is currently powered by clean diesel engines. Should the technology become available, it may be possible to consider conversion of the fleet to Compressed Natural Gas or another alternative fuel, increasing the air quality benefit of Metrolink service.
- **Further grade-separation of the right-of-way:** Currently, the Metrolink system contains approximately 400 highway-rail grade crossings, about half of which are in Los Angeles County. The estimates and

recommendations in this Chapter do not include a program of grade separation. Grade crossings generally do not affect the speed of the rail system, as the train is automatically given the right of way and proceeds directly through the crossing. However, grade separations can be desirable to the affected communities because of street congestion and other related concerns.

Section 3

Highway and Arterials



2001 Long Range Transportation Plan for Los Angeles County

Highways

Existing Highway System

The Los Angeles County freeway system is an essential component in providing a balanced multi-modal transportation system throughout the County. According to the California Department of Transportation (Caltrans) District Seven's ***District System Management Plan, 1996***, the State Highway system in Los Angeles County consists of 900 route miles, including 510 freeway miles, 382 miles of conventional highway and 8 miles of expressway.

The Los Angeles County freeway system carries approximately 52 percent of all Los Angeles County trips and has some of the most severe traffic congestion in the nation. Most freeways experience extreme congestion over considerable portions of the day, with the I-10 Santa Monica Freeway carrying an average of 325,000 vehicles per day, making it the highest volume freeway in the nation. According to SCAG's ***1998 State of the Commute Report***, the average one-way commute distance for Los Angeles County residents was 15.5 miles, while the average commute time to work was approximately 40 minutes. In the same year, the daily vehicle hours of delay was approximately 140,000 hours.

The ***Caltrans District 7 System Management Plan*** further documents that highway congestion occurs when the number of vehicles utilizing a roadway facility exceeds its design capacity. The ratio between the volume of traffic

and its design capacity (V/C ratio) for a given highway segment or intersection during a specified period of time provides a numeric assignation for congestion. These ratios are converted into alphabetic equivalents known as Levels of Service (LOS). LOSs range from "A", representing free-flow traffic to LOS "F", representing very congested or "stop-and-go" traffic congestion.

Within Los Angeles County, existing and projected peak period operating conditions on most of the freeways in the metropolitan areas are less than desirable, with traffic demand far exceeding design capacity. Therefore, Caltrans District 7 has established an LOS of F0 as the minimum acceptable LOS for the freeway system, which is defined as congested traffic moving at speeds of about 25 miles per hour for an interval ranging from fifteen minutes to one hour. Traffic congestion lasting for more than one hour constitutes a "deficiency", and is assigned an LOS of F1 (if the delay extends for one to two hours), F2 (for two to three hours of delay), or F3 (more than three hours of delay) during one or more intervals.

In Los Angeles County, the commuter peak period extends for intervals of three to four hours in both the morning (usually 6-9am) and late afternoon (usually 4-7pm), resulting in high levels of congestion over many hours of the day. Approximately 60 percent of area freeways currently operate at LOS F1, F2 and F3 during the peak periods.

A key component of traffic on Los Angeles County freeways is truck traffic, which is increasing in volume much more rapidly than the population and their associated automobile trips. Between 1990 and 1998,

annual truck vehicle miles traveled on Los Angeles County freeways increased by 8.5 %. It is anticipated that truck traffic on both the east/west and north/south freeway and arterial corridors will more than double by the year 2025 as the San Pedro Ports of Los Angeles and Long Beach reinforce their position as the third busiest port in the world. In addition, the North American Free Trade Agreement (NAFTA) is expected to further increase the number of trucks that will be transporting freight via the freeways. Freight trucks out of the San Pedro Ports are projected to exceed 100,000 a day on completion of \$4 to \$6 billion capital improvements of intra-ports circulation and facilities. (Further discussion of trucks on freeways follows in the Goods Movement section of this Plan).

increase capacity and mobility of the existing highway system. By year end of 2000, nearly one-half of Los Angeles County's freeway system will feature ITS / TOS improvements.

Accomplishments Since 1995

HOV lanes constructed between 1995 and 2000 (by year end) will equal 281 lane miles, for a countywide system total of 505 miles. These encompass sections of 14 of the region's 15 freeways, and are distributed throughout the region. Although only 10 to 20% of all car trips in Los Angeles County involve freeway travel, the freeway system actually carries 52% of all vehicle miles traveled within the County. The following **Table 3-1** documents HOV lane mile growth, while **Table 3-2** identifies the specific freeway segments that have been improved with HOV lanes.

Intelligent Transportation Systems (ITS) / Traffic Operation Systems (TOS) technologies use advanced computer, electronic and communication technologies to

TABLE 3-1 -- SUMMARY OF LOS ANGELES COUNTY FREEWAY HOV LANE MILES COMPLETED 1995-2000

	<u>Year</u>	<u>New HOV Lane Miles Opened</u>	<u>Cumulative Freeway HOV Lane Miles</u>	<u>Freeway Routes</u>
HOV Lane miles open	1995	10.2	151.4	10, 91, 105, 134, 210, 405
New HOV lanes	1996	83.4	234.8	110, 134, 170, 405
New HOV lanes	1997	50.4	285.2	30, 57, 118, 605
New HOV lanes	1998	60.6	345.8	14, 405, 605
New HOV lanes	1999	35.6	381.4	14, 60

TABLE 3-2 -- HOV LANE MILES OPENED TO TRAFFIC SINCE 1995

Sorted by Route Number								Budget in \$1,000s	
No.	HOV Route	Project Limits	Post Mile		Lane Miles	No. Dir.	Opening Date	\$ State / Fed	\$ Local PC 25%
1	SR-14	San Fern. Rd to Sand Cyn. Rd	27.0	33.7	13.4	2	May-98	32,190	32,190
2	SR-14	Sand Cyn. Rd to Escondido Cyn. Rd	33.7	44.0	20.6	2	Oct-99	31,941	31,941
3	SR-57	Orange Co. Line to SR-60	0.0	4.5	9.0	2	Aug-97	21,236	21,236
4	SR-60	Brea Cyn. Rd to SR-57	23.0	25.4	4.8	2	Feb-99	7,664	7,664
5	SR-60	SR-57 to San Bernardino Co. Line	25.4	30.5	10.2	2	Feb-99	35,675	35,675
6	SR-118	Ventura Co. Line to I-5	0.0	11.4	22.8	2	Mar-97	0	0
7	SR-134	US-101/SR-170 to I-5	0.0	5.1	10.2	2	Oct-95	7,750	7,750
8	SR-134	I-5 to SR-2	5.1	9.7	9.2	2	Mar-96	5,770	5,770
9	SR-134	SR-2 to SR-210	9.7	13.3	7.2	2	Aug-96	18,714	18,714
10	SR-170	US-101/SR-134 to I-5	14.5	20.6	12.2	2	Feb-96	10,103	10,103
11	SR-210	Sunflower Ave to Foothill Blvd (formerly SR-30)	0.0	2.3	4.6	2	Sep-97	12,604	12,604
12	SR-210	SR-134 to Sunflower Ave	25.0	43.5	37.0	2	Dec-93	7,750	7,750
13	I-405	Orange Co. Line to I-710	0.0	7.6	15.2	2	Feb-98	37,587	37,587
14	I-405	I-710 to I-110	7.6	13.7	12.2	2	Oct-98	37,783	37,783
15	I-405	I-101 to I-5	38.5	48.6	20.2	2	Oct-96	18,372	18,372
16	I-605	South St to Telegraph Rd	3.8	10.8	14.0	2	Apr-97	15,851	15,851
17	I-605	Telegraph Rd to I-10	10.8	20.7	19.8	2	Apr-98	33,322	33,322
Total Lane Miles			=	*-240.6		mi.	\$334,312	\$334,312	

Issues

SCAG growth projections indicate that by 2025, Los Angeles County's population will increase by 35 percent. This growth will result in more person and vehicle trips, incrementally worsening regional congestion, and requiring more ridesharing and added capacity on the highway system, among other measures. The projected population growth and concomitant traffic demand is clear evidence that it will not be possible to "build our way out of congestion".

Acknowledging this reality, MTA staff is proposing a program of highway projects that aims to maximize the movement of people and freight on the freeways, rather than continuing the historical practice of accommodating more vehicles by expanding capacity. This balanced program includes: 1) High Occupancy Vehicle (HOV) Lanes and Interchange Connectors; 2) Freeway Widening and Gap Closures; 3) Intelligent Transportation System (ITS) Development, and 4) Soundwall Construction. The Soundwall construction program responds to current State and Federal noise reduction standards and quality of life considerations. MTA has been working closely with Caltrans to implement those projects that will increase the efficiency of the existing freeway infrastructure.

An unanticipated but welcomed windfall was the California Traffic Congestion Relief Program (TCRP) allocations which provided partial funding (approximately 13%) for highway projects throughout the County. MTA received over \$502 million in TCRP funds. The total cost of these TCRP projects is \$3.265 billion. Revenues are

included in this LRTP to allow these TCRP projects to be funded through the MTA Call for Projects.

Table 3-3 is a listing of the Baseline Highway Projects. Baseline projects have been funded through the Regional Transportation Improvement Program (RTIP) or have been funded through the TCRP.

Table 3-4 is a listing of the Constrained Highway Projects. These are projects that are primarily funded from uncommitted funds available for allocation through the LRTP. Note that virtually all of the projects on this constrained list are HOV lanes, which will achieve a significant level of ridesharing.

Table 3-5 is a listing of the Strategic Highway Projects. Strategic highway projects are those that would be the next priority for funding if additional transportation funds become available. A variety of corridor studies are currently underway or will soon begin (e.g., US-101, I-710, Rt.14/I-5/Rt. 138). As these studies are completed, their project recommendations (including scope and costs) will be incorporated into the Strategic Plan.

The following describes the four highway categories.

TABLE 3-3 -- MTA LRTP BASELINE HIGHWAY PROJECTS

Project Type	Route	Project Limits	Notes & Estimated Completion *
Interchange	I-5	Carmenita Road / I-5 Interchange Improvement	TCRP #43, 2008
HOV Lane - Interim/Revised	I-5	Orange Co. Line to Rosecrans Ave. (Segment B) **	Dec-04
HOV Lane - Interim/Revised	I-5	Rosecrans Ave. to Florence (Segment C) **	Feb-06
HOV Lane - Interim/Revised	I-5	Florence to SR-19 (Segment D) **	Dec-06
HOV Lanes	I-5	SR-170 to SR-14	TCRP #41, 2004
HOV Connectors	I-5 / SR-14	HOV Direct connectors (S to/from E)	Jan-08
HOV Lanes	I-10	Baldwin Ave to I-605	Jun-03
HOV Lanes	I-10	I-605 to SR-57	TCRP #40, 2009
HOV Lanes	I-10	SR-57 to San Bernardino Co. Line	Oct-03
HOV Lanes	SR-14	I-5 to SR-126, San Fernando Rd.	Dec-01
HOV Lanes	SR-14	Escondido Cyn. to Pearblossom Rd.	Dec-02
Freeway Gap Closure	SR-30 / I-210	Foothill Bl. to San Bernardino Co. Line (3 MF + 1 HOV each direction; formerly SR-30, now I-210)	Jun-00
HOV Connectors	SR-57 / SR-60	HOV Direct Connectors (S to/from E)	Dec-04
HOV Lanes	SR-60	I-605 to Brea Cyn. Rd.	Apr-05
Freeway Upgrade	SR-71	Mission to Rio Rancho Road (2 MF + 1 HOV each direction)	TCRP #50, 2009
Interchange	US-101	Ramirez Flyover	TBD
Interchange / Realignment	US-101	Los Angeles St. to Center St. Improvement	TBD
Corridor Study	US-101	Major Corridor Study (LACBD to Ventura County Line)	TCRP #48, not a capital project
Interchange Study	SR-134 / I-5	Interchange Study	TCRP #154, not a capital project
HOV Lane	I-405	Century Bl. to SR-90	Jun-01
HOV Lanes	I-405	SR-90 to I-10	Nov-06
HOV Lane	I-405	I-10 to US-101 (Northbound)	TCRP #39, 2014
Auxiliary Lanes	I-405	Add Auxiliary Lanes from Mulholland to Ventura Bl.	TBD
HOV & Auxiliary Lanes	I-405	US-101 to Waterford St. (Southbound)	Oct-00
HOV & Auxiliary Lanes	I-405	HOV & Auxiliary Lanes from Waterford to I-10 (Southbound)	TCRP #52, 2/2002
Interchange & Aux. Lane	I-405 / US 101	Widen NB 405 Connector to EB US 101	TCRP #51, 2007
Connector Gap Closure	I-405 / US-101	Connector Gap Closure near Greenleaf I/C	Jun-05
HOV Lanes	I-605	Orange Co. Line to South St.	Aug-02
Corridor Study	I-710	Major Corridor Study (San Pedro Ports to SR-60)	TCRP #45, not a capital project
Soundwalls	Various	MTA Retrofit Soundwall Program, Phase I and II (50%)	2007

* Notes include identification of Transportation Congestion Relief Program projects

** I-5 Segments B, C and D together comprise the southerly portion of the I-5 Ultimate Project

TABLE 3-4 -- MTA LRTP CONSTRAINED HIGHWAY PROJECTS

Project Type	Route	Project Limits (Bi-directional unless noted)	Estimated Open
HOV/Mixed-Flow Lanes	I-5	Ultimate I-5 Planning, Design, Environmental (northerly portion: SR-19 - Rosemead / Lakewood Bl. to I-710) **	TCRP #42, 2010
HOV Lanes	I-5	SR-134 to SR-170	Dec-07
HOV Connectors	I-5/SR-170	HOV Direct Connectors (N to/from S)	2006
HOV Connectors	I-5/I-405	HOV Direct Connectors (N to/from S)	2004
HOV Lanes	SR-14	Pearblossom to Ave L	Jul-04
Interchange	SR-57/SR-60	Interchange Improvements	TBD
HOV Lane	I-405	Northbound HOV lane US-101 to Burbank Blvd.	TBD
Soundwalls	Various	MTA Retrofit Soundwall Program, Phase II (balance)	TBD

** Ultimate I-5 northerly portion extends between SR 19 - Lakewood / Rosemead Bl. and the I-710

TABLE 3-5 -- MTA LRTP STRATEGIC HIGHWAY PROJECTS

Project Type	Route	Project Limits (Bi-directional unless noted)	Estimated Open
HOV Lanes + +	I-5	I-5 Ultimate - from I-605 to I-710	TBD
HOV Lanes	I-5	HOV Lanes from SR-14 to SR-126	TBD
Interchange	I-5/SR-2	Interchange Improvements	TBD
Interchange	I-5/I-10	Interchange Improvements	TBD
HOV Connectors	I-5/SR-14	HOV Connectors (S to/from E)	TBD
Interchange	I-5/SR-14	Interchange Improvements	TBD
Interchange	I-5/SR-134	Interchange Improvements	TBD
HOV Connectors	I-5/SR-170	HOV Direct Connectors (N to/from S)	TBD
Interchange	I-5/SR-170	Interchange Improvements	TBD
HOV Connectors	I-5/I-405	HOV Direct Connectors (N to/from S)	TBD
HOV Connectors	I-5/I-605	HOV Direct Connectors (N & S to/from W)	TBD
Mixed Flow Lanes	SR-14	I-5 to Kern County Line (Add 1 MF lane in each direction in segments having only 2 lanes each dir., from 4 to 6 lanes total)	TBD
HOV Connectors	I-10/I-605	HOV Direct Connectors (W & E to/from S)	TBD
HOV Lanes	SR-57	HOV Lanes from SR-60 to SR-210	TBD
HOV Lanes	SR-60	HOV Lanes from US-101 to I-605	TBD
HOV Connectors	SR-60/I-605	HOV Direct Connectors (N & S to/from E)	TBD
HOV Connectors	SR-91/I-605	HOV Direct Connectors (N & S to/from E & W)	TBD
HOV Connectors	I-110/SR-91	HOV Direct Connectors (N & S to/from E)	TBD
Interchange	US-101/SR-170	Interchange Improvements	TBD
Mixed Flow Connector	US-101/SR-170/SR-134	Mixed Flow Connector - Complete 2 missing movements	TBD
Interchange	US-101/I-405	Interchange Improvements	TBD
Freeway Gap Closure	I-710	Freeway Gap Closure	TBD
New Freeway	TBD	North Corridor High Desert Freeway	TBD
Soundwalls	Various	MTA Retrofit Soundwall Program	TBD

1. High Occupancy Vehicle Lanes And Carpool Interchange Connectors

The MTA *High Occupancy Vehicle (HOV) System Integration Plan* states that HOV lanes enhance mobility for motorists by providing a system of dedicated lanes that serves to both encourage use of transit and carpools, as well as support other county-wide objectives of improving air quality, reducing vehicle trips and improving the efficient movement of persons. The Plan further states that by 2015, the County's HOV lane system is projected to serve more than a million carpools each day, compared to 529,000 carpools who use the HOV lanes today.

It should be noted that current HOV lane use is primarily by carpools and vanpools (with the exception of the El Monte Busway). Increasing ridesharing via HOV lanes to meet future needs will require increasing the minimum occupancy level to 3+ persons and expanding HOV lane bus service on to levels comparable to current operations on the El Monte Busway. Furthermore, the number of park-and-ride lot parking spaces will need to be substantially augmented, with reasonable security provided.

Caltrans District 7's criteria for implementing HOV lanes is based on the following factors: high demand, congested corridors not served by urban or commuter rail, system connectivity, cost effectiveness, safety, public agency input/community acceptance, and environmental impacts.

In 1992, the MTA Board partnered with Caltrans to expedite the completion of an HOV system. The Board directed MTA to work with Caltrans to plan, program, schedule and monitor the progress of the design and construction of freeway HOV Lane projects. In 1998, since the passage of Senate Bill (SB) 45, Caltrans has been required to provide MTA with cost estimates and delivery schedules for all highway capital projects, including HOV lane projects. MTA staff works with Caltrans to improve the accuracy of project cost estimates and delivery schedules. Furthermore, with the additional responsibilities and authority granted to the MTA per SB 45, MTA now reviews Caltrans' workplans, monitors project budgets, scopes and schedules (including a cost containment program), to ensure the cost effective and timely delivery of the HOV lane program.

Caltrans estimates that HOV lanes save commuters approximately one minute per mile or more (depending on the congestion level of mixed flow lanes). On average, each HOV facility in Los Angeles County carries 1,110 vehicles or 2,800 people per hour, during both morning and afternoon peak hours.

Construction of freeway to freeway HOV lane connectors are needed for connectivity with intersecting freeway corridors and the creation of a continuous network of HOV lanes. The construction of freeway-to-freeway HOV connectors also will reduce the travel times of HOV lane users commute trips since commuters will not be compelled to exit the HOV lane and merge into mixed flow traffic to transition to another freeway. The direct connectors would allow the HOV user to remain in the

carpool lane and continue smoothly from one freeway to another.

Although HOV connectors have many benefits, they are costly, and present engineering and design challenges. Therefore, the connectors recommended in this LRTP were selected on the basis of documented carpool travel demand data and existing HOV lanes. Accordingly, ten HOV interchange connectors have been proposed in the LRTP. The Baseline Highway Projects List identifies HOV connectors at the I-5/Rt. 14 and the Rt. 57/Rt. 60 interchanges, and the Constrained List includes potential HOV interchange connectors at the I-5/Rt.170 and the I-5/I-405 interchanges. If additional funding becomes available, the Strategic Plan would add six more HOV interchange connectors at 1) I-5/I-605, 2) I-10/I-605, 3) Rt. 60/I-605, 4) Rt. 91/I-110, 5) Rt. 91/I-605, and 6) I-105/I-605. (Final selection of the interchanges will be based on the data and technical analysis from the HOV Performance Evaluation and Improvement Study now underway.)

HOV Programming Levels: To date, MTA has programmed approximately \$1.4 billion to the HOV program resulting in the addition of 381 HOV lane miles. Additionally, there are currently 51 directional miles under construction: 81 directional miles in design and 74 directional miles in planning. In order to "jump-start" HOV implementation in the early 1990's, the MTA allocated local Prop. C 25% revenues to Caltrans with the understanding that Caltrans would build those HOV lanes on those freeway segments that were the least expensive and most expeditiously buildable. As a result, gaps in the HOV lane network exist which will be the

costliest and most complex to now construct. However, these remaining segments represent the highest traffic volumes, congestion levels and consequently, the greatest need for HOV lanes. **Exhibit 3-1** graphically illustrates the extent to which HOV lanes have been completed as well as showing the remaining gaps in the HOV network that are scheduled to be completed.

Table 3-6 is a tabulation of those HOV lane projects that are currently in progress. Included are those HOV lane projects which are under construction, in final engineering design, and which are undergoing planning, environmental documentation and right of way analyses. These projects will need approximately \$628,392,000 additional funding for construction before 2010 for delivery as scheduled.

California Traffic Congestion Relief Program For Major Freeway Capital Projects: The California Traffic Congestion Relief Program, TCRP, was enacted by the State Legislature and the Governor through the passage of AB 2928 and SB 406, and by cleanup legislation SB 1662. It provides significant funding for highway projects in Los Angeles County, including eight major freeway capital projects. The eight projects have a combined total cost of \$3.763 billion, to which the TCRP provides \$502 million or about 13% of the funds needed to fully fund these projects. (The projects are identified on the preceding **Tables 3-3** and **3-4**, which are the Baseline and Constrained Project Lists.) The TCRP will require a local match of \$3.261 billion to fully fund these projects. The seven projects in the Baseline Plan are fully funded through a combination of Los Angeles County Regional Improvement Program (RIP) funds,

Interregional Transportation Improvement Program (ITIP) funds, and other federal, state and local funds.

The I-5 lane-widening project from the Orange County Line to the I-710 has been re-scoped into two components. The first, southerly component from the Los Angeles County line to Rte. 19 - Rosemead Boulevard will be constructed adding one HOV lane and one mixed flow lane in each direction. This project will be funded with a portion of RTIP funds, TCRP funds, and the balance funded from the Constrained Plan. The re-scoping will avoid the need to develop an interim solution, and will result in constructing the "ultimate" and final project for this corridor. The second, northerly component from SR-19 - Rosemead Boulevard to the I-710 is recommended for funding in the Strategic Plan and will require additional funding to complete.

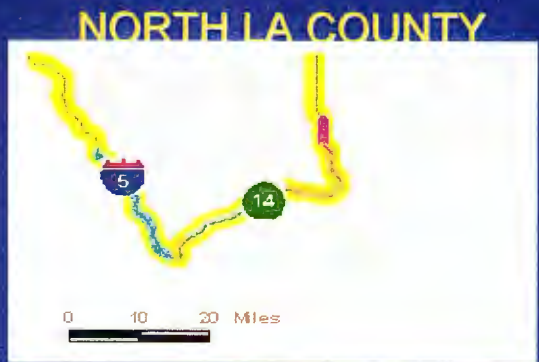
Performance Evaluation And Improvement Programs:

To achieve a safe and efficiently operating HOV system, MTA has retained a consultant to analyze and monitor the performance of the Los Angeles County HOV system. It is anticipated that the results of this study will be available in October 2001 and will provide the MTA Board with better quantitative and qualitative data upon which to make decisions on the direction of the HOV lane program and to formulate policies to guide the HOV program and other highway capital investments. **Table 3-7** is a matrix of the work tasks involved in gathering the quantitative and qualitative information and data. **Table 3-8** is a matrix of the performance indices that being used to evaluate the HOV lanes. Note that Caltrans is partnering with MTA in data collection and analysis of the performance evaluation study. The performance indices and data collection methodologies

conform to State STIP Guidelines for evaluating the performance of STIP-funded major highway capital projects.



EXHIBIT 3-1 - LOS ANGELES COUNTY HOV PROGRAM IMPLEMENTATION SCHEDULE (1999-2025)



- Opening Date of HOV Projects**
- Existing
 - 2001 - 2005
 - 2006 - 2025
 - Strategic Plan
 - Corridor Studies
 - Freeway

Produced by: MTA Countywide Planning

TABLE 3-6 -- MAJOR FREEWAY CAPITAL PROJECTS RECEIVING CALIFORNIA TRANSPORTATION CONGESTION PROGRAM FUNDS

(In \$1,000,000s)

Route	Project Limits	TCRP Project No.	Total Cost	TCRP Funding	Local Matching Funds
I-5	I-5 HOV lanes (SR 170 to SR 14) *	41	146	50	96
I-5	I-5 HOV (10-lane ultimate) * **	42	1,415	125	1,290
I-5	I-5 / Carmenita Road Interchange *	43	94	71	23
I-10	I-10 HOV (I-605 to SR 57) *	40	300	90	210
SR-71	SR 71 Upgrade to 6-Lane Freeway	50	118	30	88
I-405	I-405 SB HOV & Auxiliary Lane (Waterford to I-10) *	52	74	25	49
I-405	NB HOV Lane from I-10 to US-101	39	1,497	90	1,407
I-405 / US-101	Connector GAP Closure *(Sherman Oaks)	51	34	21	13
Subtotals - Major Freeway Projects			\$ 2,260	\$502	\$ 3,176

* Projects to which the MTA Board had previously programmed partial funding.

** Funding available to construct northerly portion of I-5 Ultimate project from Orange County Line to SR-19 - Rosemead Boulevard.

TABLE 3-7 -- HIGH OCCUPANCY VEHICLE PERFORMANCE EVALUATION PROGRAM -- WORK PROGRAM MATRIX

Task 1 Project Initiation & Administration	Task 2 Traffic Data Collection	Task 3 Survey Data Collection	Task 4 Data Analysis & Reporting	Task 5 Hov Policy Considerations
<p>1.1 Identify Goals and Objectives of HOV Program</p> <ul style="list-style-type: none"> Consider Caltrans/MTA's LRTP Goals/Objectives Review Stated Goals/Objectives Elsewhere Recommend Obtainable and Measurable HOV Specific Goals/Objectives <p>1.2 Literature Review</p> <ul style="list-style-type: none"> Review Caltrans Reports Review HOV Reports from Other Agencies in the U.S. (e.g., Dallas, Seattle, Washington, D.C., etc.) Summarize Pros-and-Cons of HOV Programs Characterize the Success and Failures of HOV Programs in the U.S. <p>1.3 Inventory Available Data</p> <ul style="list-style-type: none"> Investigate Availability of Traffic Volume Data on HOV and Mix Flow (MF) Lanes Investigate Availability of Traffic Speed and Travel Time Data Investigate Availability of Express bus Schedule and Patronage Data Investigate Availability of Traffic Accident Data Investigate Availability of HOV Mode Choice Data 	<p>2.1 Define Evaluation</p> <ul style="list-style-type: none"> Compile a List of HOV Segments Grouped by Geographic Areas (e.g., Former Area Team Boundaries) Select 10-15 Evaluation Segments Based on Traffic Volume, Data Availability and Balanced Geographic Coverage Select Two Control Facilities to Factor for Exogenous Influences <p>2.2 Conduct "After" Data Collection</p> <ul style="list-style-type: none"> Vehicle and Occupancy Counts Express Bus Patronage Data Travel Time and Delay Data Travel Speed Data Safety and Accident Data Violation Rates <p>2.3 Conduct "Before" Data Collection</p> <ul style="list-style-type: none"> Vehicle and Occupancy Counts Express Bus Patronage Data Travel Time and Delay Data Travel Speed Data Safety and Accident Data <p>2.4 Conduct TOS Inventory</p> <ul style="list-style-type: none"> Identify Operational Field Elements Identify Communications Links Understand Operation Uses and Arrangements <p>2.5 Ongoing Data Collection</p> <ul style="list-style-type: none"> Establish Frequencies and Schedules for Ongoing Monitoring Recommend Staffing & Resources 	<p>3.1 Annual Ridesharing Survey</p> <ul style="list-style-type: none"> Expand SCAG's State of the Commute Survey Develop questionnaire Implement Survey Develop Marketing Resources <p>3.2 License Plate Survey</p> <ul style="list-style-type: none"> Origin-Destination Data Demographics Data Trip Length Data Mode Shift Data <p>3.3 Transitway Patronage On-Board Survey</p> <ul style="list-style-type: none"> Express Line Data Trip Reliability Data Ridership Data Trip Length Data Mode Shift Data 	<p>4.1 HOV Utilization & Person Throughput Analysis</p> <ul style="list-style-type: none"> Volume & Occupancy Comparisons and Interpretations <p>4.2 Mobility Analysis</p> <ul style="list-style-type: none"> Exhibit HOV and MF Speed Profiles and Travel Time Comparisons for Each HOV Segment <p>4.3 Air Quality Improvement Analysis</p> <ul style="list-style-type: none"> Estimate Mobile Source Emissions Reductions Apply FHWA/EPA Methodologies <p>4.4 Cost Effectiveness Analysis</p> <ul style="list-style-type: none"> Benefit/Cost Ratio Develop Itemized Costs <p>4.5 Origin-Destination, Travel Behavior, & Attitudinal Analysis</p> <ul style="list-style-type: none"> Explore the Percentage of HOV Users Recently Converted to Carpool Due to Opening of HOV Lanes (Based on License Plate Survey) Explore the % of Express bus Riders Recently Converted to Transit Due to Opening of HOV Lanes (Based on Express bus Patronage Survey) Determine Distribution of Total Trip Length, Freeway Trip Length <p>4.6 Freeway TOS Analysis</p> <ul style="list-style-type: none"> Examine Performance & Reliability by TOS Element Evaluate Data Compilation and Dissemination Needs 	<p>5.1 Short Term Policies</p> <ul style="list-style-type: none"> Evaluate the Impact of Opening HOV Lanes to Single Occupant Vehicles During Off-Peak Period Evaluate the Impact of Converting Existing HOV Lanes to MF Operation Evaluate the Impact of Converting HOV Lanes to High-Occupancy-Toll (HOT) Lanes Operation <p>5.2 Long Term Policies</p> <ul style="list-style-type: none"> Prioritize the Development of the Remaining HOV Segments and Direct Connectors in the HOV System Integration Plan Evaluate the Patronage Potential for Additional Express bus Services Along HOV Corridors in the Region Evaluate How to Transition HOV Operation From 2-plus Carpool to 3-plus Carpool in the Future

TABLE 3-8 --- HIGH OCCUPANCY VEHICLE PERFORMANCE EVALUATION PROGRAM -- DATA COLLECTION MATRIX

Measures of Effectiveness	Data Needs	Facility Comparisons	Temporal Coverage	Collection Frequency
Travel Time Savings	<ul style="list-style-type: none"> Travel Time Runs 	<ul style="list-style-type: none"> HOV vs. Mainline Before vs. After Freeway Control Freeway 	<ul style="list-style-type: none"> AM Peak Hour & Peak Period PM Peak Hour & Peak Period Mid-Day 	<ul style="list-style-type: none"> Quarterly
Travel Speeds	<ul style="list-style-type: none"> Travel Time Runs Speed/Tachograph Plots 	<ul style="list-style-type: none"> HOV vs. Mainline Before vs. After Freeway Control Freeway 	<ul style="list-style-type: none"> AM Peak Hour & Peak Period PM Peak Hour & Peak Period Mid-Day 	<ul style="list-style-type: none"> Quarterly
Vehicle Volumes	<ul style="list-style-type: none"> Traffic Counts Vehicle Classification 	<ul style="list-style-type: none"> HOV vs. Mainline Before vs. After Freeway Control Freeway 	<ul style="list-style-type: none"> AM Peak Hour & Peak Period PM Peak Hour & Peak Period Mid-Day Daily 	<ul style="list-style-type: none"> Quarterly
Person Throughput	<ul style="list-style-type: none"> Occupancy Counts 	<ul style="list-style-type: none"> HOV vs. Mainline Before vs. After Freeway Control Freeway 	<ul style="list-style-type: none"> AM Peak Hour & Peak Period PM Peak Hour & Peak Period Mid-Day Daily 	<ul style="list-style-type: none"> Quarterly
Transit Use and Reliability	<ul style="list-style-type: none"> Bus Lines Boarding Counts 	<ul style="list-style-type: none"> Before vs. After Freeway Control Freeway 	<ul style="list-style-type: none"> AM Peak Hour & Peak Period PM Peak Hour & Peak Period 	<ul style="list-style-type: none"> Quarterly
Safety & Accidents	<ul style="list-style-type: none"> Accident Information 	<ul style="list-style-type: none"> Before vs. After Freeway Control Freeway 	<ul style="list-style-type: none"> Annual 	<ul style="list-style-type: none"> Annually
Violation Rates	<ul style="list-style-type: none"> Violation Counts 	<ul style="list-style-type: none"> HOV Facility 	<ul style="list-style-type: none"> AM Peak Hour & Peak Period PM Peak Hour & Peak Period 	<ul style="list-style-type: none"> Quarterly
Cost-Effectiveness	<ul style="list-style-type: none"> HOV Costs Value of Travel Time Benefit/Cost Ratio 	<ul style="list-style-type: none"> HOV Facility 	<ul style="list-style-type: none"> Annual 	<ul style="list-style-type: none"> Annually
Emission Reduction	<ul style="list-style-type: none"> VT Reduced VMT Reduced Emission Factors 	<ul style="list-style-type: none"> Before vs. After Freeway 	<ul style="list-style-type: none"> Annual 	<ul style="list-style-type: none"> Annually

2. Gap Closures And Widening

Freeway gap closures and widening projects are necessary to ensure freeway system continuity, balance, congestion reduction and air quality improvements. Gap closures include both construction of system segments as well as highway widenings.

The LRTP addresses three gap closure projects: 1) I-210 Foothill Freeway, 2) I-710 Long Beach Freeway, and 3) completion of the I-5 lane widening project from Rte. 19 - Rosemead Boulevard to I-710.

The Route 210 Foothill Freeway gap closure project is identified as a Baseline project. It is currently under construction and is expected to be completed by 2003. Once completed, it is estimated that the Route 210 Freeway gap closure project will remove 43,000 cars per day from local streets.

The I-710 Long Beach Freeway gap closure project is currently identified in the Strategic Plan. While this project demonstrates significant congestion relief benefit, lack of local agreement has impacted progress in implementing this project for decades. Developing local consensus on this project is key to further progress. MTA is working with Caltrans to develop a contingency plan to deliver this project if local consensus can be achieved. This project is discussed further under the "Strategic Highway Element," located near the end of this chapter.

The Strategic Plan proposes a key widening on Route 14 in the North County region. Currently, the Route 14

cross-section varies from four to six lanes with and without HOV lanes throughout its length, creating choke points which will be reviewed. Similarly, all of the freeways will be systematically reviewed to ensure that bottlenecks are identified and addressed.

3. Intelligent Transportation Systems Element

As the revenue projections for the LRTP clearly indicate, the amount of available funds is severely limited in comparison to the projected demand for all modes of transportation. Therefore it is imperative that the existing highway infrastructure be operated at maximum efficiency. Consequently, a concerted effort is underway with other southern California Counties, Caltrans, CHP, FHWA and FTA to effectively utilize Intelligent Transportation Systems (ITS) technologies to more efficiently manage the inter-operations of streets, highways and bus, paratransit and light rail systems. The US Department of Transportation studies indicate that ITS has potential to produce substantial efficiency, safety, air quality and economic benefits with an overall benefit to cost ratio of 8.8 to 1 for the most congested urban areas in the nation.

ITS includes applications of information processing, communications technologies, advanced traffic controllers and electronics to the field of transportation. It increases the effectiveness of the entire surface transportation system. The following are ways in which ITS reduces congestion and improves air quality:

- Uses real-time integrated communications to concurrently improve both highway and transit operation and performance;
- Uses advanced traffic controllers to change signal timing based actual traffic demand on urban arterials;
- Uses changeable message information signs to direct travelers to the best route and provides real time traffic and transit information; and
- Uses advanced technologies to implement bus priority and real-time management of transit dispatching operations.

Two key projects have been undertaken to develop the architecture and basic platform that will ensure the incorporation of all jurisdictions in the county and the integration of all transportation modes into a synergistically complementing transportation infrastructure. These projects are Project IMAJINE and LA/Ventura ATIS:

- Project IMAJINE (Intermodal and Jurisdictional Integrated Network Environment) is a traffic management system designed to concurrently improve the flow of automobiles, buses and paratransit vehicles. Project IMAJINE is funded 80% by a federal FHWA ITS grant to which MTA and Caltrans have equally split the 20 percent local match. The project is focused on the integration of four discrete transportation management systems including Caltrans District 7 ATMS, South Gate City's ICON, MTA's TRS and Access Service dispatching systems along the I-105 Freeway Corridor including Firestone Boulevard in Southeast Los Angeles County. Work was started in 1997 and in-house

testing has been successfully completed on this open commutation system using the National ITS standards. The system will be given a field and system demonstration in mid-2001. Given the success to date, staff is proposing to develop a plan to expand the integration of transportation modal systems throughout the County.

- Los Angeles/Ventura (LA/Ven) Advance Travel Information System (ATIS)

The LA/Ven ATIS is the traveler information communication system counter-part to the project IMAJINE transportation management system. LA/Ven ATIS is funded 80% by a FHWA grant to which MTA and Caltrans have equally split the local match of 20 percent. Work was started in 1999 and is on schedule for completion in the fall of 2001. The LA/Ven ATIS project will create the organizational architecture and data collection/reporting base process that will enable travelers including truckers to ascertain the actual conditions of roadways and schedules of transit and paratransit facilities and services. Direct participants include both public and private entities. For example the public sector includes MTA bus and rail operations, MetroLink, municipal transit operators, Caltrans, the City and County of Los Angeles, ACCESS Services, and representatives of smaller cities, trucking companies, CHP, Port of Los Angeles and LAX. It is MTA's design objective to expand the LA/Ven ATIS information system program in conjunction with the Project IMAJINE to a countywide management system.

In addition, MTA has worked extensively with Caltrans to implement the State's Traffic Operations System (TOS). Approximately \$110 million has been programmed to date, which will result in nearly one-half of Los Angeles County's freeways being equipped with fiber-optic communication apparatus, closed circuit TV (CCTV) and Changeable Message Signs (CMS) improvements. Those segments of freeways with TOS improvements include: Routes 5, 10, 101, 170, 405 and 605, for a total of approximately 300 miles.

Exhibit 3-2 is a simplified schematic presentation of the ITS regional integration network. Note that the Regional Network (gray box) is multimodal and interjurisdictional. The Network links city traffic management controllers, municipal and MTA bus operations, ACCESS Disabled paratransit operations, the City of Los Angeles ATIS Traffic Control System, the County of Los Angeles Public Works Network with the Subregional TMCs, California Highway Patrol, MTA Metro Rail and MetroLink Operations, truck advanced traveler information system and Caltrans. The LA/Ven ATIS Regional Center (purple box) will provide the communications linkage with the contiguous Counties of Orange, Riverside and San Bernardino.

4. Soundwall Program

Federal and State laws require construction of noise barriers along freeways under the **Community Noise Abatement Program** and as part of new freeway construction projects and freeway widening/capacity enhancement projects on existing freeways. Present noise barrier guidelines call for consideration of

soundwalls adjacent to sensitive receptors such as residential areas, schools, churches, and museums. Commercial and business properties do not typically qualify for soundwalls.

State of California soundwall program guidelines (contained in Streets and Highways Code Sections 215.5 and 215.6) established four soundwall project criteria:

- Residential property/neighborhood was built prior to construction of the freeway or prior to implementation of a freeway capacity-enhancing project.
- Hourly noise levels at the location exceed the 67-decibel (Leq) threshold.
- Proposed soundwall must result in a minimum 5-decibel noise level reduction.
- Project cost may not exceed \$35,000 per residential unit (in 1987 dollars).

Los Angeles County residents living near or adjacent to freeways continue to be severely impacted by freeway traffic noise. As population and vehicle traffic increase over the next 20 years, it will be even more critical to mitigate noise levels adjacent to those Los Angeles County freeway segments where standard decibel levels are exceeded. Once completed, soundwall noise level reductions noticeably improve the quality of life in adjacent neighborhoods.

Historically, Caltrans was the agency responsible for soundwall planning, design and construction. In 1998, however, enactment of SB 45 transferred programming responsibility for soundwall delivery from Caltrans to the

local agencies. Consequently, MTA inherited responsibility for delivering a huge backlog of soundwalls (identified as the "Post-May 1989 Soundwall Retrofit Projects") without corresponding funding.

To assure systematic and reasonable delivery of its soundwall responsibilities, the MTA Board of Directors adopted the **Los Angeles County Soundwall Implementation Policy** on January 27, 2000. This Policy provides for oversight of the May 1989 Soundwall Retrofit Projects, and sets criteria and funding strategies for delivery of the 127 additional soundwalls inherited from Caltrans as a result of SB 45. These Post-1989 retrofit soundwalls projects comprise the **MTA Retrofit Soundwall Program**. (A retrofit soundwall is a soundwall that was determined to be needed to mitigate existing freeway noise levels but whose construction was deferred by Caltrans.)

Caltrans' May, 1989 Soundwall Retrofit List: In August 1999, the California Transportation Commission committed \$171 million to Caltrans to deliver the 40 LA County retrofit soundwalls on the May 1989 Soundwall Retrofit List by 2005. Recent re-evaluation of these May 1989 soundwall projects resulted in an estimated 51 to 62% increase in the capital cost estimates. These increases are the result of the inflated cost of goods and services, additional requirements for environmental mitigation/ hazardous material (such as for aerially deposited lead, or ADL), design modifications and other factors. The escalated capital cost increase would be about \$77.3 million, bringing the total capital cost of the May 1989 Soundwall Retrofit List to around \$248.3 million. Potential increases in support costs (not

identified in this latter amount) could also impact construction contract administration and inspection. Caltrans needs to complete realistic assessments of the projects' costs and to secure the additional required funding from the State. MTA will continue to monitor and support Caltrans' efforts to secure necessary funds for delivering the May 1989 projects by 2005 as mandated by the CTC.

MTA Retrofit Soundwall Program: Pursuant to MTA's **Soundwall Implementation Policy**, existing State criteria (listed on the preceding page) were augmented with a revised ranking criterion. Retrofit Soundwall Program projects are divided into two Phases: Phase I includes those projects on freeway segments where High Occupancy Vehicle (HOV) lanes were built without the warranted soundwalls. Phase II contains qualified soundwall segments on freeways without HOV lanes. Within Phase I, Priority 1 is assigned to those soundwall segments that have had soundwalls constructed on only one side of the freeway. All the remaining HOV lane segments are classified as Priority 2 and are funded in the 2002 STIP cycle.

On further review of Phase II projects, however, two outstanding issues have been identified:

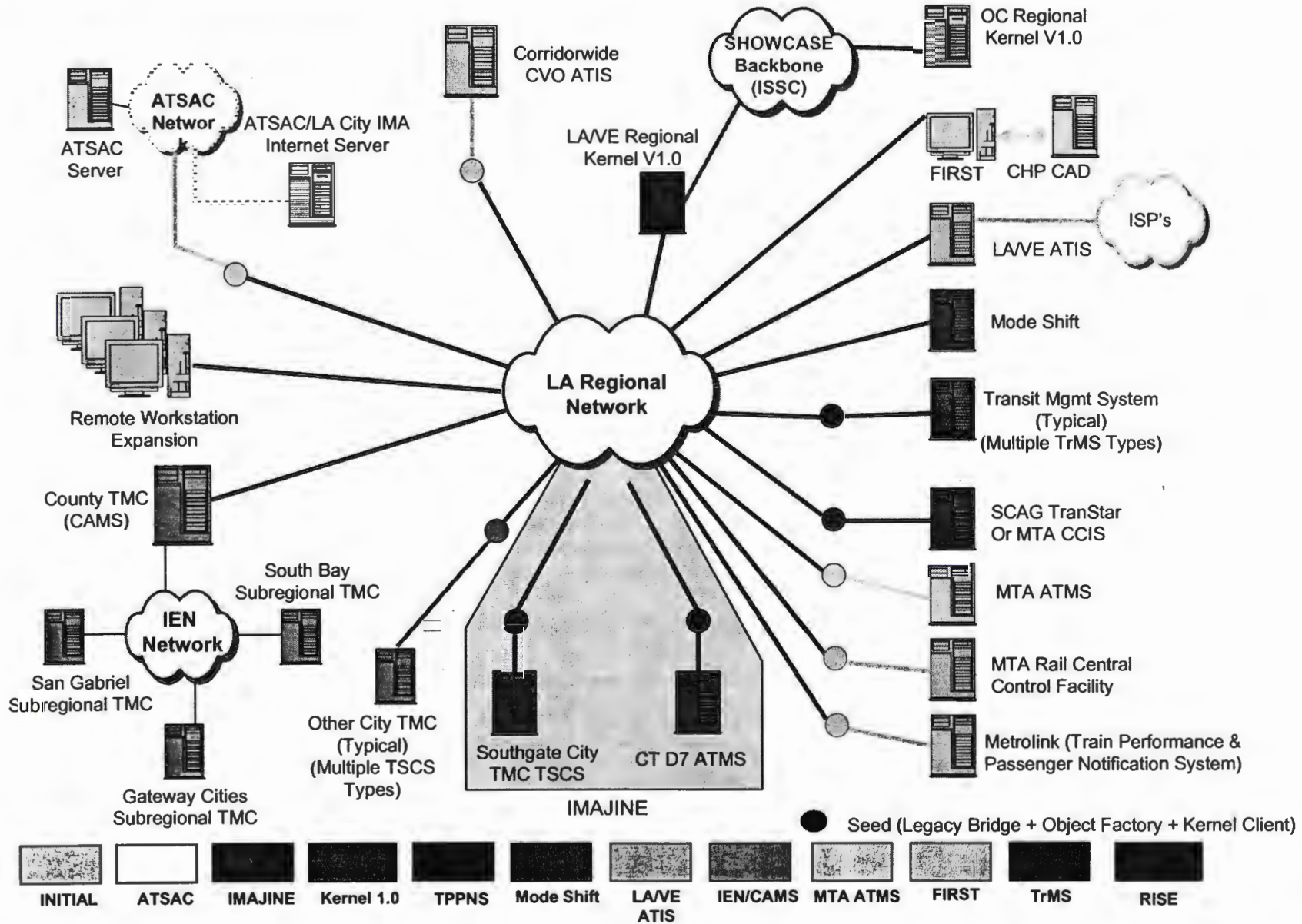
- 1) It was determined that Caltrans' initial classification of HOV segments overlooked several soundwall locations along freeways with existing HOV lanes. These locations will be included in a new priority as "Phase I, Priority 3" projects. (It was necessary to add "Priority 3" because Priority 2 projects had been identified

for funding in the 2002 STIP LA County Fund Estimate before MTA staff identified these overlooked projects. Staff recommendations on the Priority 3 project funding strategy will be addressed in mid-2001. Preliminary estimated costs for Priority 3 are \$157,730,000.

- 2) Several project segments identified in Phase II are actually part of other capital highway projects and will be constructed and funded as part of those projects; such projects have been removed from the original Phase II list.

Retrofit Soundwall Program Funding: Of the estimated \$923 million needed for the Retrofit Soundwall Program, \$35 million was committed in 1999 through the Regional Transit Alternatives Analysis. An additional \$59 million was allocated by the MTA Board to be taken from the 2002 STIP Los Angeles County Fund Estimate, totaling \$94 million available for County Soundwalls. The \$94 million will allow the immediate delivery of the Phase I, Priority 1 and 2 Retrofit Soundwalls. A long-range delivery program has been developed to effectively deliver the remaining \$ 829+ million in soundwall projects. Soundwall program funding is summarized in **Table 3-9**, which follows.

EXHIBIT 3-2 -- REGIONAL INTEGRATION NETWORK



**TABLE 3-9
MTA RETROFIT SOUNDWALL PROGRAM
COST SUMMARY
(In Thousands)**

Phase	Description	Item	Costs in Millions
Phase I: HOV Retrofit - Priority 1, 2, & 3; Companion & Locally Funded Projects	52 Individual Projects	Estimated Costs:	\$269,360
Phase II: Non HOV Retrofit (No Capital Projects)	30 Compiled Projects (includes 2 or more individual projects segments)	Estimated Costs:	\$654,000
Total Phase I and II (estimated and rounded):			\$923,360
Phase 1 Priority 1 & 2 (complete in 2005)		Funded to date:	(\$93,800)
Total Funding Required to Deliver Remaining Retrofit Soundwalls: (rounded)			\$829,560

Strategic Highway Element

As documented throughout the LRTP, the efficient operation of Los Angeles County's extensive highway system is essential for regional economic vitality, population growth, environmental and air quality improvements and maintaining our attractive quality of life. Over half of all vehicle miles traveled in the County is accommodated via the freeways. Maintaining freeway operations at current levels, based on the historically simplistic, practice of accommodating more vehicles through more capital improvements is simply not sustainable. Therefore, importance is given to those highway facilities that emphasize person-trip movement and improve traffic operating efficiencies, such as HOV lanes and ITS technology for traffic management and information systems.

Within this context, the enormous scale of Los Angeles County engenders major, expensive projects that can be addressed only in strategic management terms. Three project and program areas which are identified for such strategic approaches are: 1) Soundwall Delivery Program, 2) Freeway-to-Freeway HOV Connectors, and 3) Major Highway Capital Improvement Projects, including the I-710 Long Beach Freeway Gap Closure Project, completing the I-5 Santa Ana Freeway widening from Route 19-Rosemead Boulevard to I-710 Long Beach Freeway, and North County High Desert Freeway.

1. Soundwall Delivery Strategy -- Seek Matching Funds From State For Post-1989 Soundwalls

By 2005, Caltrans will be required to deliver all of the 40 soundwalls from the May 1989 Retrofit Soundwall list (Phase I) funded by the State. It will be critical for Caltrans staff to work closely with MTA to control costs and adhere to the delivery schedules. MTA will continue to seek the additional funding required for the delivery of the Post 1989 MTA Retrofit Soundwall Program and will request funding from the State for 50% of the projects' cost (half of approximately \$829 million). This recourse is viewed as a fair and equitable share of cost for delivering the backlog of soundwall projects transferred to MTA by the implementation of SB 45. This proposed strategy recognizes that significant obstacles need to be overcome. However, the option of the MTA directly providing the balance of the +/- \$415 million that will be needed would require the delay of other worthy highway projects. Since the backlog is the result of Caltrans' deferment of soundwall projects which were warranted, but not constructed, over 20+ years, sharing of their delivery costs is proposed.

2. Freeway-To-Freeway HOV Lane Connectors

The viability of HOV lanes in attracting substantial ridesharing is confirmed by carpool/vanpool occupancy counts. Field observations of traffic weaving at approaches to freeway interchanges indicate that direct connectors are needed to remove these bottlenecks.

Construction of freeway-to-freeway HOV lane connectors is needed to develop a continuous network of HOV lanes. Such connectors will reduce the travel times of both rideshares and single occupied vehicles (SOVs) because HOV lane users would not have to exit the HOV lane, merge into the mixed flow lanes to transition to another freeway. The direct connectors would allow HOV users to remain in the carpool lane and move smoothly from one freeway to another.

Although HOV connectors can achieve many benefits, they are costly and present engineering and design challenges. Estimated costs for constructing HOV connectors at all freeway to freeway interchanges would cost many billions of dollars, which far exceed funding over the LRTP's 25 year plan horizon. Therefore, a basic network of freeway interchanges were selected based on carpool/vanpool and bus volumes in approaching freeway HOV lanes and mixed-flow lanes. Accordingly, six interchanges have been tentatively identified for direct HOV connectors (for the two most heavily needed transitions, in most instances). The interchanges are: 1) I-5/I-605, 2) I-101/I-605, 3) Rt. 60/I-605, 4) Rt. 91/I-110, 5) Rt. 91/I-605, and I-105/I-605. The estimated cost for these connectors may well exceed \$2 billion. MTA staff will continue working with Caltrans in considering strategies for connector construction, including incorporating them into other programmed capital improvements, identifying new funding/grant opportunities, et cetera.

Major Highway Capital Improvement Projects

- I-710 Long Beach Freeway Gap Closure
Estimated Cost: \$940 million.
- I-5 Santa Ana Freeway Widening and HOV Lanes between SR -19 Lakewood/Rosemead Boulevards and I-710 Long Beach Freeway
Estimated Cost: \$900 million.
- North County High Desert Freeway
Estimated Cost: \$1.3 billion.

I-710 Long Beach Freeway Gap Closure Project: The Long Beach Freeway (Route 710) Gap Closure project has been in suspense for about three decades. This six-mile corridor traverses the communities of Alhambra, El Sereno (part of Los Angeles), South Pasadena and Pasadena. The MTA is not including this project in the latest Long Range Transportation Plan for several reasons.

- Recently, the City of South Pasadena and residents of El Sereno have filed lawsuits directly impacting the implementation of the Project. The South Pasadena lawsuit against the Federal Highway Administration and Caltrans was presented in federal court in July 1999. The lawsuit claims that the air quality analysis is flawed and that impacts to the historical nature of the communities have not been adequately addressed. A preliminary injunction was issued that allows only planning and design work to be done at this point. The next hearing on this lawsuit is scheduled in December 2000 in Federal Court.

- Additionally, the lawsuit filed by El Sereno residents a couple of years ago claims that Caltrans is engaging in environmental racism y having different mitigation standards for communities to be impacted along the freeway.
- The City of Pasadena recently withdrew its longstanding support of the project by adopting a resolution on April 24, 2000 to oppose the completion of the freeway. Prior to this action, the City of South Pasadena was the only city that had not supported the project. There appears to be growing opposition to the project.
- Building rehabilitation is also an outstanding issue along the Gap right-of-way. Caltrans needs to tell MTA how they propose to address the building rehabilitation issue including the disposition of tenants should Caltrans decide not to bring the buildings up to "habitable" code standards.

The Federal Record of Decision (ROD) called for Caltrans to work with Design Advisory Groups from each city to come up with a group of projects which would bring some congestion relief to the affected communities and to provide funding for these projects. A list of projects, including interchange, intersection, and corridor improvements was developed with an estimated cost of \$54 million. In accordance with the ROD, \$8 million has been set-aside in the Interregional Transportation Improvement Plan (ITIP) to fund interim street improvements in the cities of Alhambra, South Pasadena, Pasadena, and the community of El Sereno. An additional \$46 million was allocated to these interim

projects in the Federal FY 2001 Transportation Appropriations Act, bringing the total funding available in the Corridor to \$54 million.

MTA staff will closely monitor the adjudication of the current court proceedings and will continue to take the "pulse" of the affected communities in the Corridor. We will continue to track the development of Caltrans' proposed construction schedule for the project. However, given scarce funding for highway projects and the fact that other projects in the County are much more "ready to go", staff anticipates that the next LRTP update in two years would be a more appropriate time to consider program funding for the 710 Gap Closure Freeway Project.

I-5 Santa Ana Freeway – Widening And Hov Lane Between Orange County And I-710 Long Beach Freeway:

In recognition of the urgency for this project, the Governor allocated \$125 million as part of this Traffic Congestion Relief Program initiative. Currently \$182 million has been programmed and final design is underway to construct interim HOV lanes for Orange County through the interchange with the I-605 freeway. With the infusion of the TCRP funds, discussions are underway with Caltrans and the I-5 Corridor JPA to ascertain whether a full 10-lane roadway cross-section including 2 HOV lanes could be constructed into Los Angeles County through the I-605 Freeway Interchange (thereby bypassing the "interim" project and avoiding the disruption of two major construction projects). Rough estimates indicate that by redirecting those funds that had been previously programmed, including the \$125 million TCRP revenues, the full 10-lane cross-section is

deliverable. However, the balance of the I-5 to the I-710 freeway is included in the Strategic Plan list and will have to wait until 2015 before additional revenues will be available for completion of the final engineering design work for the widening and HOV improvements.

North County High Desert Freeway: A preliminary feasibility study completed by Caltrans indicates that a freeway might be constructed for roughly \$1.3 billion. In addition, the MTA Board has authorized a study of the other North County State Highway including I-5 Golden State Freeway, Route 14 Antelope Valley Freeway and Route 138. The need for another freeway in the North County region is underscored by population projections, which indicate that the Antelope and south County Valleys will exceed 1 million by 2025. It is anticipated that the corridor studies that are currently programmed will provide more definitive information about future projects scope and costs, which would then be incorporated into the Strategic Plan list.

Highway Capital Constraints: Revenue projections over the term of this LRTP show that discretionary funds will be extremely limited for all transportation improvements including the highway mode. The scarcity of available revenue essentially makes reliance on capital-intensive improvements to accommodate / promote growth not a viable option. In short, we will not be able to build ourselves out of congestion. There are just not enough monies to go around.

Therefore a broader range of interrelated factors that affect transportation infrastructure and services will need to be rethought. For example the promotion of urban land use

development forms that are more conducive to transit usage and ridesharing ought to be elevated to the regional level.

For Further Study:

Freeway Truck Lanes

SCAG's CommunityLink 21, the 2001 Regional Transportation Plan (RTP 2001) calls for constructing dedicated truck lanes in Los Angeles County, at an estimated cost of approximately \$20 million per lane mile (for an at-grade lane) and \$35 million per lane mile (for elevated structures). While dedicated freeway truck lanes may well contribute to alleviating truck volumes and truck movement problems on highways, several issues remain to be assessed:

- Cost effectiveness needs to be examined more rigorously, since SCAG's Route 60 Truck Feasibility Study revealed that dedicated truck lanes would be extremely costly (approximately \$4.2 billion);
- System connectivity should be further explored to assess the viability of developing an effective network of freeways with designated truck lanes;
- Inter-modal and interface issues must be further addressed for those truck corridors that include the HOV lanes;

- Land use and environmental impacts should be further assessed, particularly in segments where elevated structures are indicated;
- Heavy duty truck volume projection methodology should be further reviewed by credible national trucking and modeling experts, with full calibration to professional standards; costly truck-related mitigation measures such as truck lanes should be recommended for any truck corridor or systemwide network only after their effectiveness is ascertained; and
- Induced traffic impacts should be included in the overall traffic analyses, since adding dedicated truck lanes along existing rights-of-way may offset overall air quality benefits due to enhancing capacity of a highway facility.

A comprehensive countywide freeway truck study is proposed to examine the inter-relationship of truck lanes and HOV lanes, to ascertain potential benefits and impacts, to identify probable dominant truck corridors, and to evaluate financing sources, mechanisms and enabling legislation (to use currently generated revenues for directly related traffic relief improvements).

Analyses of factors and issues must include the following:

Highway System Plan

- a. To establish the "Metropolitan Bypass Freeway" through the Antelope Valley or the Mojave Desert,

while remaining mindful that the extent of longer travel and the outlying nature of this highway route may induce greater VMT, which may result in severe air quality impacts (because the high desert is in a different air basin, where a low tolerance of emissions might already exist); and

- b. To develop a Truck Travel Network, to address the need for a truck route "backbone" to and from airports, seaports and other goods transfer facilities, supporting truck distribution among intersecting freeways (such as Routes 5, 10, 60, 91, 105, 210 and 405).

Systems Management Measures

- a. Develop Institutional Agreements among labor, truckers, shippers and ports management, to explore extending port operation hours (to flatten truck peaks and reduce freeway congestion, and to encourage using port revenues for off-site infrastructure improvements necessitated by port-generated truck traffic demands and impacts, among other issues; and
- b. Examine the technical feasibility and potential for CVO Intelligent Transportation Systems, an ITS-based automation facility and/or other technology options.

Creative Financing Strategy Development

- a. Examine assessing user charges (e.g. increased truck weight fees, container fees on truck toll lanes, etc.), relative to the regional economics of truck transportation;
- b. Study new federal revenue options to better balance the national benefits and local burdens caused by intensified trucking activities at the ports; these could be used for goods movement-related infrastructure improvements (including increasing capacity, safety upgrades and interchange enhancements, among other strategies); and
- c. Evaluate organizational and/or institutional mechanism(s) for port authority use of revenues collected within the ports for off-site highway improvements, necessitated by port-generated activities.

Arterials

Description Of The Existing System

The County of Los Angeles ("the County") has 20,577 route miles of arterials classified into the following sub-categories: major arterial (350 route miles), principal arterial (2,379 route miles), secondary arterial (985 route miles), collector, local and "other" designation (16,863 route miles). In addition, the County has approximately 600 arterial/freeway interchanges.

There are more than 10,000 signals currently operating in Los Angeles County, of which approximately 4,100 signals are located within the boundary of the City of Los Angeles ("the City"). Of these, the City's Automated Traffic Surveillance And Control (ATSAC) system currently controls about half, all of which are located along major arterial corridors within the City limits. This system has been in use since the early 1980's. The City is currently in the process of upgrading its ATSAC system to the second generation, which is the PC based Adaptive Traffic Control System (ATCS). Complementing the ATSAC system in the remaining portions of Los Angeles County, is the Countywide TSM program being implemented through a series of traffic forums. The traffic forums are multi-jurisdictional and serve both incorporated and unincorporated subregional areas outside the City of Los Angeles. Of the seven existing traffic forums, three (San Gabriel Valley, Gateway Cities and South Bay Cities) are managed by the County of Los Angeles, Department of Public Works (LACDPW). LACDPW has the overall responsibility for conceptual

planning, design and construction, and establishes funding priorities with member jurisdictions of the individual traffic forums. There are four individual forums representing the Westside, Las Virgenes/Malibu, North County and Arroyo Verdugo areas. Since there are 88 jurisdictional entities in the areas outside the City of Los Angeles, but within the Los Angeles County domain, the forums were created to assist in the organization of major arterial corridor projects across jurisdictional boundaries, and to push down the decision making process to the local level. Traffic forums, which are typically a direct subcommittee of a subregional Council of Governments (COG), have the overall responsibility of prioritization of regional corridors and the approval of implementation strategies.

Integrated with the regional freeway network, the existing arterial system supports a large percentage of daily commuter vehicles and trucks moving goods. The regional arterial and freeway systems work synergistically, operating in balance and at full function when demand on each is at or below its designed capacity. However, when vehicle demand exceeds capacity, for example, on the freeway system, motorists seek relief on major parallel arterials. Through increased capacity, operational improvements and intelligent transportation systems (ITS), the regional arterial and freeway systems can better be integrated and the systemwide traffic congestion can be relieved.

Although local entities have jurisdiction over the arterial network, the MTA, in its role as the regional planning and programming agency, provides not only financial assistance, but also serves as a regional coordinator to ensure consistency in improvements and that the most

severely congested conditions are given priority. One example of MTA's role is the establishment of the regional traffic forums.

Through its Call for Projects, the MTA funds regional arterial improvements through the Regional Surface Transportation Improvements (RSTI) modal category which includes capital intensive capacity improvements, such as roadway widenings and realignments, grade separations and others. Notable among the current list of funded projects (excluding goods movement projects) either in design or under construction are: the Santa Monica Boulevard Transit Parkway, the Harbor Transitway Extension TSM alternative, and the I-5/Route 126 ramp improvements, as well as numerous freeway/arterial interchanges. All funded projects serve to increase regionally significant roadway capacity through major construction, with a net result of reduced congestion, travel time, vehicle emissions, and increased regional mobility. In the Call for Projects, the MTA focuses on funding the construction of major capital improvements and goods movement projects that are normally beyond the funding capability of the affected local agencies. The MTA directs its resources to those regional arterials that experience the most congestion and/or provide multi-jurisdictional access, close capacity gaps, and/or provide access to the freeway/rail system. It is the MTA's expectation that local jurisdictions, through their local subventions and Proposition C Local Return, will fund projects of a local nature as well as maintain those regionally funded projects. The MTA's Call for Projects process currently evaluates projects based on five criteria: 1) regional significance; 2) cost effectiveness; 3) benefit to transit users; 4) project need, long term project development and management of

existing system; and 5) project readiness. Goods Movement projects, such as the Alameda Corridor and Alameda Corridor East Programs, as well as intersection and interchange improvements specifically geared toward movement of goods, are currently funded under the RSTI modal category in the Call for Projects, and will be addressed in a separate chapter of this LRTP.

Major construction projects such as those funded through the RSTI modal category typically cost more than one million dollars and have long lead times. In funding projects, strong consideration is given to those regionally significant major arterial projects which relieve heavy traffic congestion, bridge jurisdictional boundaries or have a positive impact on neighboring cities, thereby receiving support from multiple agencies. For example, a Route 101 interchange improvement project located in Agoura Hills received support from the City of Westlake Village, the County of Los Angeles and cities in neighboring Ventura County.

Projects on the regional network which increase connectivity with and between major trip generators and transportation facilities, including freeways, airports and ports, also are given priority in funding consideration. Nonetheless, the MTA remains cognizant of the needs of smaller communities, and strives to ensure a regional funding approach that provides equitable growth and build-out of the arterial system.

Lower cost operational type of arterial improvements, such as signal synchronization, signal priority, and applications of advanced transportation technologies (i.e. intelligent transportation systems), are funded through the Transportation System Management (TSM) modal

category. There are four "Tiers" of project development within the TSM program. At present, Tier 1 level work (signal re-timing, conduit, cable and loops for interconnects, new controllers and new signals) intends to achieve a baseline infrastructure and emphasize consistency among and within the jurisdictions of various forums. Tier levels 2-4 consist of advanced level Intelligent Transportation Systems (ITS) improvements. Traffic management centers, data gathering/sharing and incident communication, along with Advanced Traveler Information Services (ATIS) and Bus Priority/Smart Corridors, comprise a program wherein an intense effort is being directed to increase the efficiency of the arterial roadway system by making use of the latest technology for traffic signal control and detection. The backbone of this effort in the incorporated and unincorporated areas of the County, outside the City of Los Angeles, is the Countywide Arterial Management System (CAMS) which, when implemented, will allow real time traffic control capability along multi-jurisdictional regional arterial corridors much in the same manner as the ATSAC system does for the City of Los Angeles.

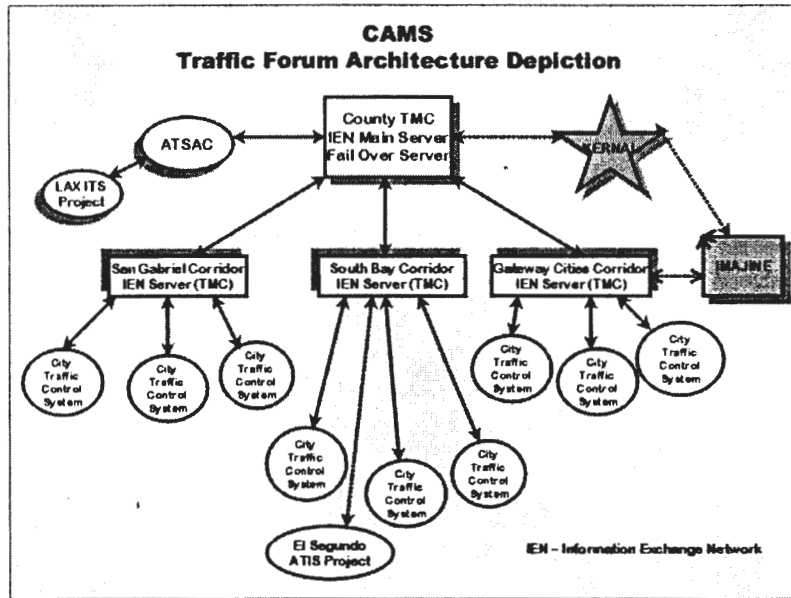
Signal Synchronization & Bus Speed Improvements



TIERS:

1. Conventional Traffic Engineering:
Time-based traffic signal coordination, functional Intersection Improvements, etc.
2. Transit Preferential Treatment and Priority Systems:
Transit signal priority, bottleneck Intersection Improvements, etc.
3. Computerized Traffic Control and Monitoring Systems:
Arterial, area wide, and central traffic control systems
4. Intelligent Transportation Systems and Smart Corridors:
Multi-agency system integration and advanced communication technology

The below diagram represents a typical depiction of the ITS architecture envisioned for the traffic forums and CAMS installations. It is intended that members of a traffic forum receive an advanced traffic control system that will be fully compatible with the communications protocol established by CAMS. This will allow for real time traffic systems management and the ability to communicate and share traffic data across jurisdictional boundaries.



Complimenting the advanced tier work for both ATSAC and CAMS systems is an effort to integrate those systems in order to promote seamless data collection and traffic management while crossing jurisdictional boundaries. The 1999 Call for Projects put into place a project to integrate both the City of Los Angeles ATSAC program and CAMS. Concurrent with this integration effort is an effort to integrate the arterial systems with federally funded ITS initiatives occurring both within and outside the borders of Los Angeles County. It is intended that the CAMS will be fully compatible with The Southern California Priority Corridor Project (Showcase), which will connect the four CalTrans regional District offices and provide communication and sharing of regional traffic system data.

Accomplishments Since 1995

Since the adoption of the 1995 LRTP, the MTA has accomplished the following representative sample of roadway capital intensive capacity enhancing RSTI projects which typically have long lead times, and TSM projects which provide low cost arterial system capacity enhancements.



RSTI

Completed approximately 100 route miles of street widening projects, such as Bundy Drive (Santa Monica Boulevard to La Grange Avenue), Normandie Avenue (Olympic Boulevard to Pico Boulevard), Imperial Highway (Mona Boulevard to Croesus Avenue) and others;

Completed design for Route 126 (Magic Mountain Parkway) I-5/McBean Parkway widening with construction scheduled to be completed by Summer, 2001;

Completed Project Report (PR), and gained environmental clearance for the Santa Monica Boulevard Transit Parkway Project. The project is being designed and constructed by the City of Los Angeles;

Completed Santa Monica Boulevard modifications to offset intersections in the City of West Hollywood;

Completed Sierra Highway/Route 14 congested corridor striping;

Completed I-710/Firestone Boulevard Interchange Reconstruction, Phase I;

Completed Project Study Report (PSR) for the Harbor Freeway Transitway Extension project, and will work with the City of Los Angeles to implement the recommended alternative;

Completed the Old Town Calabasas Road Improvement Project;

Completed the Burbank Regional Intermodal Transportation Center (RITC) North and South Front Street Realignment Projects.

TSM

Programmed approximately \$300 million worth of TSM projects through the 1995, 1997, 1999 and 2000 Abbreviated Call for Projects;

Synchronized approximately 2,500 signalized intersections in Los Angeles County, of which approximately 760 signalized intersections are located in the City of Los Angeles;

Completed the Countywide Traffic Management Study, which developed criteria for Traffic Management Center (TMC)/Traffic Operation Center (TOC) implementation and estimated the costs associated with these implementations;

Completed and opened the Long Beach TMC in 1996 and funded the development of the County TMC, as well as TMCs for Inglewood and Calabasas, which will act as subregional centers for traffic control;

Funded \$4.816 million for development of the Countywide Bus Signal Priority Pilot Project and selected the Crenshaw Corridor (Adams Boulevard to Redondo Beach Boulevard) as the demonstration project;

Partially funded the development of the City of Los Angeles' Transit Signal Priority Program and its implementation in the Metro Rapid Bus Corridors along Wilshire/Whittier Boulevards and Ventura Boulevard;

Developed the Countywide Arterial Management System (CAMS);

Funded a joint integration effort to tie together the County CAMS project and City of Los Angeles ATSAC together to enable a more complete sharing of regional arterial street data between the City of Los Angeles controlled traffic signals and those under the control of agencies participating in the traffic forums;

Funded the El Segundo ITS project, which began as a TEA-21 demonstration project, and formed a coordination group to foster integration with the Westchester/LAX ITS project funded through the Call (which also began as a TEA-21 demonstration project), the El Segundo ITS project and the South Bay Cities Traffic Forum project;

Held 27 training workshops and trained about 300 signal technicians as part of the Countywide Signal Systems Technician Training Program;

Funded the Long Beach City College (LBCC) Signal Systems Training (SST) Certificate Program and completed Phase I of this program.

Issues And Needs

RSTI

Capital intensive arterial improvements such as those funded through the RSTI modal category have the following issues and needs.

Coordination of regional arterial improvements with freeway and local Transportation System Management (TSM) improvements:

Both the major arterial and freeway systems are integral components of the regional transportation network. The arterial system serves commuters by providing access and egress to and from the freeway system, as well as access to local jurisdictions for needed services, jobs and housing. Freeway mainline traffic, on-and off-ramp design, freeway configuration, and vehicle storage capacity directly impact major arterial traffic flow and congestion. Conversely, traffic congestion on the major arterial network will make it difficult for commuters to access the freeway system. Because of this synergistic relationship, regional arterial improvements need to be coordinated with freeway improvements, as well as TSM improvements, which will increase arterial system capacity through signal improvements. Installation of traffic signals will take into consideration many factors, such as traffic volume, turning movement, street geometrics, and others.

Expansion of major arterial network to keep pace with economic development and regional trip generation:

The major arterial network should be expanded incrementally, in harmony with economic development and regional trip generation. Arterial expansion may help relieve traffic congestion caused by a boom in the local economy and the resultant increasing travel demands. Regional arterial system will better serve regional trip generators and promote economic vitality through improved movement of goods and creation of jobs.

Balance Of Subregional Priorities And Regional Priorities:

Subregional priorities are not always consistent with regional priorities. A region may be comprised of multiple subregions, each with a different priority. Balancing these two types of priorities requires further review.

System Preservation:

Through the draft LRTP development process, some local jurisdictions have expressed concern regarding the adequacy of funding of ongoing maintenance and rehabilitation of the local street system. Local jurisdictions receive direct funding from a variety of state and local sources (state gas tax and local return subventions) that can be used for the above stated needs. In fact, in FY 2000, approximately \$507 million were allocated to all cities and the county for maintenance and rehabilitation purposes. This amount of funding is almost three times the amount available annually to fund all modes of the Call for Projects.

MTA believes that adequate funding of local maintenance and rehabilitation is an important local issue, and will support local jurisdictions in seeking additional sources outside of MTA funding, to address this need.

TSM

Likewise, the TSM modal category also has the following issues and needs to be addressed in this LRTP.

Cost sharing arrangements and systems management responsibilities:

The MTA Call for Projects funds capital improvement projects on the regional arterial system, with no funds available for systems management usually associated with TSM upper Tier level ITS level improvements. For low tier level work, local jurisdictions currently maintain or contract to maintain signals and detectors within their sphere of influence, and this has not been a concern or issue. As part of the planning and consensus building process for TSM ITS level projects, however, jurisdictions have raised the issue of MTA Call funds being used to pay for on-going systems management requirements for projects crossing jurisdictional boundaries, even though State and local formula subventions can be used for this purpose. While the Call for Projects is, as previously stated, a capital funding mechanism only, the MTA, to deal with the issues related to upper tier level and TMC costs as well as other systems management issues, has taken a leadership role in assisting the move of local jurisdictions into the more complex systems management functions necessary for the successful operation of ITS level projects. Specifically, the MTA is fostering two programs: 1) funding the Signal Systems Technician Training Program; and 2) working with LACDPW to develop a Business Framework and Marketing Plan for traffic forum ITS projects. The Signal Systems Technician Training program seeks to provide technical expertise to local jurisdictions in maintaining existing traffic signal systems and working with the new advanced ITS systems as they come on line. The Business Framework and Marketing Plan will explore issues and techniques necessary to formalize the governance structure for the

traffic forums in order to adequately address the issues of cost sharing, systems management, and the marketing of traffic data generated from ITS level improvements in order to generate a return on infrastructure investment. This marketing effort will not compete with private sector initiatives, but rather, attempt to form public/private partnerships along currently established FHWA ITS Guidelines.

Upper Tier Level Work Implementation

Since its inception in 1993, the Call for Projects focused on funding tier 1 level improvements. While focusing on initial development work for the Countywide Arterial Management System (CAMS) beginning with the demonstration project and initial deployment for the Route 210 corridor in the San Gabriel Valley Traffic Forum, additional conceptual planning for migrating the CAMS project to other Traffic Forums began with funding provided through the 1995 Call funding cycle. In the future, with the completion of most low tier level projects, additional upper tier level projects shall be phased in along with an integration effort to provide communication and data gathering abilities with other regional ITS initiatives such as The Southern California Priority Corridor (Showcase) project and the LA/Ventura ATIS project. The appropriate threshold and judgment criteria for introducing upper tier level work needs to be identified to ensure its compatibility, continuity and consistency with lower tier level work. The countywide migration of CAMS and integration with other ITS projects will be determined through the forthcoming Call for Projects evaluation. Additional consideration will also

need to be made for ATSAC upgrades, which is the second generation of the City of Los Angeles ATSAC program.

Bus Signal Priority Projects And Integration With Advanced Traffic Management System (Atms), Advanced Traveler Information System (Atis), And The Metro Rapid Bus Program:

The MTA and the City of Los Angeles are both involved in the development and deployment of bus/transit priority systems. The MTA's focus has been on the development of a state-of-the-art bus signal priority (BSP) system that can both communicate with signal systems in prevalent use in the County and integrate with the ATMS and ATIS programs. The City of Los Angeles has completed the development of a transit priority system that directly communicates with the City's ATSAC system and has been used to provide priority to the Metro Rapid Bus on Ventura and Wilshire Boulevards. As part of its efforts and in its role as the County transportation planning agency, the MTA is developing guidelines to assist in selecting regional corridors heavily used by transit that are best suited for this type of treatment, and will provide support in the expansion of the Metro Rapid Bus Program.

Integration Of Freeway And Arterial ITS:

It is intended that CAMS based projects being implemented by traffic forums on the regional arterial network will be integrated with the Southern California

Priority Corridor and its related projects such as IMAJINE and LA/Ventura ATIS projects. There is also a provision for integration of ATSAC based projects in the City of Los Angeles as well.

Actions

The following two tiers of actions are recommended in this chapter at the policy and program levels, respectively.

Policy Recommendations

RSTI

Support Development And Implementation Of Hybrid Improvements To Increase Arterial System Capacity And Efficiency:

The MTA will work with local jurisdictions and the subregions to improve the regional arterial system. Examples of hybrid improvements include signal improvements and other TSM improvements as part of capital intensive capacity enhancements, which may provide cost-effective solutions to increasing capacity on the major arterial network. MTA will assume a leadership role in coordinating multi-jurisdictional/multi-subregional arterial system improvements, focusing its efforts on those regionally significant, most congested corridors which span multiple jurisdictions, provide parallel service to the freeways, or have gaps in system capacity.

Promote Enhancements Which Integrate Freeway And Arterial Operation And Support Goods Movement Efforts:

The MTA supports freeway/arterial interchange improvement projects, such as on-and off-ramp reconfiguration, realignment and reconstruction, and regional arterial street and bridge widening in the vicinity of freeway/arterial interchanges. Due to their synergistic relationship in relieving systemwide traffic congestion, potential freeway and High Occupancy Vehicle (HOV) lane improvements also should be considered when determining arterial improvement funding priorities. Arterial system improvements in the vicinity of freeway/arterial interchanges can provide easier access to freeway mainlines and provide parallel capacity to the freeways. Arterial improvements should also address goods movement requirements.

Eliminate Existing Arterial Bottlenecks And Gaps To Improve System Operation:

The MTA will work with its local transportation partners to identify, prioritize and fund existing bottlenecks and gaps to build an interconnected, internally consistent regional arterial system. MTA supports improvements which increase the person-carrying and goods movement capacity of the regional arterial system, and encourages transit-related street improvements, such as street realignment, widening and intersection geometric improvement. However, before implementing any capital intensive improvements, lower cost TSM type improvements should be evaluated first to determine

their capability of relieving traffic congestion and improving mobility.

Coordinate regional/local agencies for development of an interconnected, internally consistent arterial system:

Regional/local agencies should work together to ensure that major arterial streets crossing jurisdictional boundaries have a consistent number of lanes, lane widths, and design standards. Any gaps in the regional network need to be identified, prioritized and funded, within available resources.

TSM

Support Subregional/Regional Integration Of Signal Synchronization And Bus Speed Improvement Systems:

The MTA's goal is to fund and develop signal synchronization and transit/bus signal priority (T/BSP) systems on the regional network heavily used by transit that operate across jurisdictional boundaries and multi-modal systems. As such, new systems are developed and/or funded with emphasis on multi-modal and multi-jurisdictional coordination. For those systems that have already been developed to operate within the confines of one agency or one mode, the MTA will be leading efforts to bring about regional coordination. For bus speed improvement purposes, the MTA's BSP pilot project is taking the lead in assuring multi-jurisdictional

coordination. To this end, the MTA chairs a Technical Advisory Committee (TAC) composed of representatives from cities and transit operators to provide technical expertise in the systems development and deployment. Additionally, in an effort to eliminate systemwide gaps, the BSP project is setting standards to assure countywide compatibility.

Promote Innovations In Advanced Traffic Management Systems (Atms) And Advanced Traveler Information Systems (Atis) On Regional Arterials:

The MTA supports ATMS and ATIS improvements on regional arterials to improve traffic flow and enhance arterial person- carrying capacity in a cost-effective way. ATMS should help manage traffic flows and expeditiously handle traffic incidents, thereby relieving traffic congestion. ATIS should provide real-time, continuously updated traffic and transit information for travelers so they can make smart, in-time pre-trip, or en-route travel decisions to smooth traffic flows and reduce systemwide traffic congestion. The developed major arterial ATMS and ATIS systems should be integrated with other systems being put into place by individual jurisdictions and the Southern California Priority Corridor.

Assure Integration Between Signal Synchronization Programs, Arterial Improvements And Goods Movement Efforts To Increase Efficiency And Achieve Maximum Benefit:

The MTA should utilize TSM improvements as a low-cost approach to enhance regional arterial person-carrying capacity. According to the federal guidelines on Major Investment Studies (MIS), if TSM improvements are proven to be viable alternatives to capital intensive RSTI improvements in terms of improving mobility and air quality, then TSM improvements should be implemented first. TSM improvements can potentially improve goods movement as well, for example, adjusting signal timing may help trucks to maneuver and clear intersections. Therefore, an integration of TSM, RSTI and Goods Movement technologies is vital to maximize regional systemwide transportation efficiency.

Program Recommendations

Based on the past ten-year MTA Call for Projects average annual funding level and off-model analysis recommendations made by the consultant in April 2000, this LRTP proposes two program recommendations for regional surface and operational improvements.

RSTI

Constrained Program Scenario

This assumes \$25 million per year in annual MTA funding for the next twenty-five years. This funding level is consistent with the past ten-year MTA Call for Projects average annual funding level.

The RSTI off-model analysis suggests a moderate funding level of \$20 million each year for non-widening projects, such as new interchanges, interchange improvements, new interchanges, and arterial realignment. Based on the average capital cost of the selected RSTI projects funded in past Calls for Projects, \$20 million has the following funding trade-off options for non-street widening projects: 1) four interchange improvement projects each year; 2) five new interchange projects each year; 3) four arterial realignment projects each year; or 4) a hybrid of these projects, given that adequate amounts of local match are provided. An additional \$5 million each year is proposed for funding several street widening projects based on the past ten-year MTA Call for Projects average annual funding level. At this constrained funding level (\$25 million per year in MTA funding), the following cumulative mobility benefits would be yielded by the year 2025: 1) saving 613,370 total person hours per day; and 2) reducing 7,058,332 vehicle miles traveled per day.

Strategic Program Scenario

This assumes \$35 million in annual MTA funding for the next twenty-five years. This funding level is almost 50 percent higher than the constrained funding scenario. Based on the average capital cost of the selected RSTI projects funded in past Calls for Projects, \$30 million has the following funding trade-off options for non-street widening projects: 1) six interchange improvement projects each year; 2) eight new interchange projects each year; 3) six arterial realignment projects each year; or 4) a hybrid of these projects, given that adequate

amounts of local match are provided. Like the constrained funding scenario, \$5 million is proposed for funding several street widening projects. At this strategic funding level (\$35 million per year in MTA funding), the following cumulative mobility benefits would be yielded by the year 2025: 1) saving 878,236 total person hours per day; and 2) reducing 10,106,250 vehicle miles traveled per day.

It is noted that most projects in this modal category cannot be modeled, except for widening projects such as the Route 138 improvements in the North County. The MTA will pay particular attention to those multi-jurisdictional projects that cross subregional boundaries, and provide the most congestion relief on the most severely congested corridors.

TSM

Constrained Program Scenario

This assumes about \$29 million per year in annual MTA funding for the next twenty-five years. This funding level is consistent with the past ten-year MTA Call for Projects average annual funding level.

At this level of funding, in addition to completing all Tier 1 improvements on major arterials, more upper tier level TSM improvements will be phased in, including ITS and bus signal priority projects. According to the off-model mobility benefit analysis conducted by the consultant, this \$29 million per year in MTA annual funding, plus local match, has the following funding trade-off options:

1) 100 miles of Tiers 1-4 improvements each year; 2) 450 signalized intersections each year; or 3) a hybrid of TSM improvements. At this constrained funding level (\$29 million per year in MTA funding), the following cumulative mobility and air quality benefits would be yielded by the year 2025: 1) saving 760,711 total person hours per day; and 2) reducing 44,784 kilograms of carbon monoxide per day.

Strategic Program Scenario

This assumes about \$41 million in annual MTA funding for the next twenty-five years. This funding level is almost 50 percent higher than the constrained funding scenario.

At this level of funding, all projects under the constrained program scenario will be implemented. Furthermore, more upper tier level TSM improvements will be implemented at an escalated level. According to the off-model mobility benefit analysis conducted by the consultant, this \$41 million per year in MTA annual funding, plus local match, has the following funding trade-off options: 1) 135 miles of Tiers 1-4 improvements each year; 2) 640 signalized intersections each year; or 3) a hybrid of TSM improvements. At this strategic funding level (\$41 million per year in MTA funding), the following cumulative mobility and air quality benefits would be yielded by the year 2025: 1) saving 1,039,659 total person hours per day; and 2) reducing 59,693 kilograms of carbon monoxide per day.

Areas for Further Study/Innovations:

RSTI

Conduct Call for Projects evaluation for RSTI projects:

The MTA will conduct an evaluation of previously-funded RSTI Call for Projects to assess project performance, costs/benefits for each RSTI subcategory of projects, identify arterial system gaps if there are any, and make recommendations for the future Call for Projects in terms of the necessity of revising project eligibility, project type, local match requirement, evaluation criteria, and establishing funding priorities to the most feasible, needy and important projects.

RSTI project inventory:

The MTA needs to work with its local transportation partners to inventory and map regional arterial system work that has been funded. This inventory will allow for the review of projects funded and undergoing the planning/conceptual design process, which will assist the decision making process with regard to future funding priorities and will put into place a set of regional arterial standards for all RSTI projects.

Meet Maintenance of Effort (MOE) Requirement:

The MTA supports local efforts in maintaining the regional arterial street system. In previous Call for

Projects, MOE was not a requirement. But, it is MTA's expectation that projects funded through the Call will be maintained by local jurisdictions through the reinstatement of a maintenance of effort program, and MOE may become a requirement in future Calls for Projects. The detail of working with local jurisdictions, which receive Prop C Local Return funds, to meet the MOE requirement, necessitates further examination and potential evaluation.

TSM

Call for Projects evaluation for TSM projects:

The MTA will conduct an evaluation of the completed TSM projects funded through previous Calls for Projects. The goal of this study will be to evaluate previously funded projects to develop quantifiable measures for determining the benefit of various technologies and project types; to analyze existing level of regional system infrastructure gaps and prioritizing future improvements with respect to each subregional traffic forum and evaluate institutional relationships regarding project implementation and performance; to estimate capital cost, system operations cost, life-cycle funding and impacts on future capital requirements; to determine threshold for introducing upper tier level work and prioritizing different TSM improvements; to provide solid technical support for MTA decision making and funding priorities; and to revisit the criteria used to evaluate the Call for Projects applications to help refine future Call for Projects Application Packages.

TSM project inventory:

The MTA needs to work with its local transportation partners to inventory and map regional arterial system work that has been funded. This inventory will allow for the review of projects funded and undergoing the planning/conceptual design process, which will assist the decision making process with regard to future funding priorities and will put into place a set of regional arterial standards for all TSM projects, whether granted to a traffic forum or individual jurisdiction.

Implementation of BSP on additional corridors:

Upon completion of the evaluation and development of guidelines, other corridors within the County which would benefit from Bus Signal Priority (BSP) treatments will be evaluated and identified for BSP implementation.

Goods Movement

Description of Existing system

Goods movement has a critical role in the region's economy and the development of an efficient countywide transportation system. Goods movement facilitates economic vitality, generates revenue and creates job opportunities for Los Angeles County residents. It also generates freight traffic, which will, in turn, exacerbate the already congested Los Angeles transportation system.

Major special freight traffic generators in Los Angeles County include the airports and ports. Trucks and trains are two major carriers transporting cargo and goods on freeways, arterial streets, and on the railroads.

Los Angeles County has three major commercial airports: Los Angeles World Airport (LAX), Burbank, and Long Beach. LAX alone carries approximately 79% of air cargo in the region. With the development of its Master Plan, LAX is currently studying even greater expansion of freight movement. Expansion planning for LAX is taking into consideration increased air freight movement and is addressing infrastructure needs for ground access and circulation on arterial roadways as well as to and from I-405 and I-105. Therefore, the impact on ground transportation of freight moving to and from the airport is daunting.

The San Pedro Ports (Ports of Long Beach and Los Angeles) are full-service ports with facilities for containers, autos, and various bulk cargo. In particular, these two ports dominate the container trade in the U.S. by shipping and receiving more than five million containers each year. Together, they rank third, behind Singapore and Hong Kong, in world sea trade. It is the nation's most important sea port region. Increased trade through the San Pedro Ports is projected to increase by 150% by the year 2020. Currently, goods movement-related traffic is growing at a faster rate than vehicles, with daily truck traffic expected to dramatically increase from today's 30,000 trucks a day to 100,000 trucks a day by the year 2020.

The passage of the North American Free Trade Agreement (NAFTA) has resulted in increasing goods movement activity along and across the U.S.-Mexico border. A considerable amount of the border-related freight is expected to pass through the San Pedro Ports. Another large proportion of goods are expected to be destined for the Los Angeles metropolitan area. The component of border-related freight traffic, which does not relate to the San Pedro Ports or metropolitan Los Angeles, could be expected to bypass the metropolitan area using a route such as I-15 connecting to either I-10 or I-40 to go east of Southern California or SR-138 across the Antelope Valley to go to central and northern California. Moreover, with the recovery of the Asian economies, the San Pedro Ports will be handling more outbound freight as American products are again in demand by Asian businesses and consumers, which will result in more truck/freight operations at the San Pedro Ports.

Los Angeles County is served by two main line railroads: the Burlington Northern Santa Fe (BNSF) and the Union Pacific Railroad (UP). In 1995, these two railroads moved more than 91 million tons of cargo in and out of Southern California.

Accomplishments since 1995

Between 1995 and 2000, the MTA has funded a number of regionally significant goods movement projects through the Call for Projects, which will improve mobility and facilitate the movement of goods. These projects have been funded through the Regional Surface Transportation Improvements (RSTI) Call modal category, examples of which include:

The Alameda Corridor Program;

The Alameda Corridor East Program;

I-710/Atlantic/Bandini Interchange Improvements;

Gateway COG Goods Movement & NHS Access Program;

East Downtown Truck Access Improvements; and

Gerald Desmond Bridge Widening

In addition, the Routes 710 and 101 Freeway Corridors and Environmental Studies, and the North County Combined Highway Corridors Major Investment Study

will be conducted in the near future. As part of these corridors studies, an in-depth assessment of the feasibility of implementing truck lanes on freeways will be conducted.

The Alameda Corridor Program

The Alameda Corridor Program will consolidate 90 miles of railroad tracks onto a 20 mile north-south corridor that connects the San Pedro Ports to downtown Los Angeles. The construction of the corridor is overseen by the Alameda Corridor Transportation Authority (ACTA), a Joint Powers Authority composed of representatives from the Ports, Cities of Long Beach and Los Angeles, and the MTA. The Alameda Corridor Program has a program budget of \$2.4 billion and is scheduled to open in 2002. Through the 1995 LRTP, the MTA committed \$358.7 million towards this program and has programmed funds through its 1995 and 1997 Call for Projects.

The Alameda Corridor East Program

The Alameda Corridor East Program (ACE) extends 35 miles from East Los Angeles to Pomona, and serves approximately 1.8 million residents and 30 municipalities. The construction of ACE is overseen by the San Gabriel Valley Council of Governments (SGVCOG), through the ACE Construction Authority. The ACE project is governed by a seven person board composed of representatives from jurisdictions along the corridor where there are grade crossings. ACE is a product of the San Gabriel Freight Rail Consolidation Study, whose

funds were committed by the MTA Board as part of the 1995 LRTP adoption. The ACE program budget is about \$912 million, and although not fully funded, has an expected completion date of the year 2008. The MTA, through both the 1997 and 1999 Call for Projects, has programmed \$37.4 million towards the ACE program. At its June 1999 meeting, the MTA Board committed a maximum 17% contribution towards the ACE program, contingent upon ACE having fully funded segments. MTA's contribution is capped at \$162 million.

Issues And Needs

Los Angeles County has many goods movement issues and needs, as outlined below.

Traffic congestion due to truck movements on freeways and arterials:

As a result of airport and port related growth, truck traffic has been increasing dramatically. Increasing truck movements have aggravated traffic congestion on both freeways and arterials.

Traffic queues, delays and accidents due to railroad/arterial grade crossings:

Railroad/arterial grade crossings cause traffic queues, delays and train/vehicle accidents in Los Angeles County. Identifying, prioritizing and funding regionally significant railroad/arterial grade crossing projects remain a need.

MTA's roles and responsibilities in goods movement:

The MTA has served as a funding partner and participated in various regional and subregional studies. In the future, the MTA will play a more active role in developing countywide policies and strategies relating to goods movement.

Actions

Based on the goods movement issues and needs identified above, this chapter makes the following recommendations.

Policy Recommendations

Relieve traffic congestion caused by increasing truck and train movements:

The MTA will work with its transportation partners to assess the feasibility of undertaking necessary improvements to mitigate arterial traffic congestion caused by increasing truck volumes and freight train movements at rail/arterial crossings. Examples of improvements may include: 1) improve truck operations on arterials including intersections, and freeways; 2) improve public/private communication and cooperation regarding trucking issues; 3) improve arterial/freeway interchanges; 4) grade separations; 5) signal improvements; and 6) applications of advanced transportation technologies.

Ensure that goods movement improvements are compatible with local and regional economic development plans:

Goods movement improvements should promote regional economic vitality, generate more revenue, and create more jobs; while at the same time, being compatible with local and regional economic development plans.

Integration with new technologies:

Los Angeles County goods movement plans should fully utilize new technologies, including Commercial Vehicle Operations (CVO) technologies of the Intelligent Transportation Systems (ITS) under development throughout the nation. This will ensure a seamless integration of local goods movement projects with other ITS projects on freeways and local arterials.

Assume a leadership role in determining the most appropriate goods movement financing strategies and developing countywide goods movement policies:

Working in partnership with local jurisdictions, the subregions, and the private sector, the MTA needs to determine the most appropriate goods movement financing strategies and develop countywide goods movement policies.

Program Recommendations:

Based on the off-model analysis recommendations made by the consultant, this chapter proposes two program scenarios for goods movement improvements (excluding freeway-related goods movement improvements which need further analysis in the future).

Constrained Program Scenario

This assumes about \$22.4 million per year in annual funding from all sources for the next twenty-five years. At this level of funding (\$560 million total project cost for twenty five years), most of the railroad/arterial grade crossing projects along main freight lines proposed by the consultant will be funded. At this funding level, about 700,000 annual travel hours will be saved by the year 2025.

Strategic Program Scenario

This assumes a funding level of \$32 million in annual funding from all sources for the next twenty-five years. This funding level is roughly \$10 million higher than the constrained funding level. At this level of funding (\$800 million total project cost for twenty five years), a hybrid of goods movement projects, such as truck-impacted arterial roadways, intersection improvements, geometric upgrades, and grade separations, will be funded. At this funding level, about one million annual travel hours will be saved by the year 2025.

Areas for Further Study/Innovations:

There are still many areas of goods movement, which require further study.

Countywide arterial goods movement analysis:

Several trucking studies have been completed in the County, such as the Gateway Cities Trucking Study (completed in 1996), and the Gateway Cities Truck Impacted Intersection Study (completed in 2000). These studies made a number of recommendations with different cost estimates and impacts, such as street widenings, signing and striping, intersection and signal system improvements, arterial/freeway interchanges and others.

Additionally, a number of railroad grade crossing studies were completed in the County. These include the Grade Crossing Study – Final Report Prepared for San Gabriel Valley Council of Governments (completed in 1997), and the Grade Crossing Study for Gateway Cities Council of Governments (completed in 2000). Examples of the recommended improvements from these studies include: grade separations, roadway widenings, intersection improvements, intelligent transportation system (ITS) measures, and traffic signal control measures. The ongoing South Bay Railroad Study for South Bay Cities Council of Governments will include two main elements: the Alameda Rail Corridor Improvement Impacts Study and the Inglewood Avenue Railroad Grade Separation Study. The Alameda Rail Corridor Improvement Impacts

Study will assess how much railroad activity will remain on the BNSF Harbor subdivision after completion of the Alameda Corridor project and determine the necessary actions to minimize any adverse impacts. The Inglewood Avenue Railroad Grade Separation Study will determine the justification for a grade separation for the BNSF crossings at Manhattan Beach Boulevard, Inglewood and Marine Avenues. Additionally, the Routes 710 and 101 Freeways Corridors and Environmental Studies, and the North County Combined Highway Corridors Major Investment Study could generate some results which may relate to countywide goods movement recommendations.

The MTA, in its role as the regional transportation planning agency, will work with the subregions to develop a systematic approach to implementing recommended improvements. The MTA, in conjunction with its transportation partners, will also review and evaluate the various studies' recommendations to ensure inconsistencies do not exist across subregional boundaries and to identify potential gaps in the proposed recommendations. Additionally, partnership opportunities at all levels, ranging from government agencies to private enterprises and union workers, will be explored from the perspectives of financial capability, legislative enforceability, work rules, shipper compensation to airports/ports management support and cooperation.

Freeway truck lane feasibility study:

Although SCAG's Route 60 Truck Lane Feasibility Study revealed that there would be no fatal flaws in the implementation of dedicated truck lanes on freeways, except for the extremely high cost, it remained unclear in other issues related with system connectivity, HOV operation interface, and inducing traffic impacts due to capacity enhancements. In this regard, the MTA will conduct, in cooperation with SCAG, Caltrans, and the subregional COGs, the Routes 710 and 101 Freeways Corridors and Environmental Studies to further assess the feasibility of building truck lanes on existing freeways. Moreover, the North County Combined Highway Corridors Major Investment Study will also be conducted. As part of this MIS study, the goods movement issues along I-5, Routes 14 and 138 will be examined and some recommendations will be developed. Based on the results of these studies, the MTA may review, evaluate, and recommend a realistic hybrid of improvements to address freeway truck movement issues in the County.

choice, and route assignments on both freeways and arterials.

Goods Movement Database And Model:

This requires a cooperative effort among MTA, SCAG, Caltrans, the subregional COGs and other related entities to develop a regional goods movement database (including such information as freight trip origin and destination, traveled paths, land use patterns and others), and establish/refine freight demand forecasting model based on solid goods movement data support. While collecting all goods movement-related data, data collection and model simulation processes should focus on peak-period goods movement activities at the ports and airports, freight movement patterns, truck/train mode

Highway Congestion Relief Programs

Existing System

There are two separate and distinct programs within the Los Angeles County region designed to provide congestion relief and motorist aid. The objectives of these programs are to quickly detect a disabled vehicle on the freeway and remove the vehicle and passengers off the freeway as quickly and safely as possible, relieving congestion caused by the incident.

Metro Freeway Service Patrol

The Metro Freeway Service Patrol (FSP) is an MTA congestion relief strategy. The FSP operation uses a fleet of 145 tow trucks traveling along the County's freeways to quickly locate and provide motorist assistance to a disabled vehicle. The FSP truck driver removes the disabled vehicle from the traffic flow and either quickly fixes the problem (gas, water, minor repairs) or tows the vehicle and its occupant off the freeway to a safe drop-off point. The tow service is run on a contract basis and operates over 40 distinct "beats" or freeway segments. These freeway segments are selected based upon the level of peak hour congestion and the impact of a stalled vehicle on that congestion. Service is scheduled to operate during the morning and afternoon peak periods; service is also provided on some

beats during the weekday midday and/or on weekends. The Program averages 30,000 assists per month at no cost to the motorist.

Ancillary projects to the FSP program are the Major Incident Response (MIR) projects. These projects develop state-of-the-art communication systems designed to: reduce the time to handle a freeway incident; provide real-time information of an incident to affected agencies and media; and provide a streamlined interface to the California Highway Patrol's (CHP) Computer Aided Dispatch (CAD) system. The goal of the MIR program is to improve multi-agency and multi-disciplinary emergency response of freeway incident to improve traffic flow.

Service Authority For Freeway Emergencies (SAFE)

The SAFE is a separate agency operated by and housed within the MTA. SAFE is the motorist aid authority for Los Angeles County. SAFE is an independent authority established pursuant to California Streets and Highways Code Section 2550 et seq. SAFE received dedicated funding from an annual \$1.00 surcharge assessed on every vehicle registered within Los Angeles County.

SAFE's primary responsibility is the installation, operation, maintenance and management of the Los Angeles County Kenneth Hahn Call Box System. The System is comprised of approximately 4,400 call boxes installed on freeways, state highway and unincorporated County roads throughout Los Angeles County. The

System generates an average of 25,000 calls per month.

Accomplishments since 1995

FSP Accomplishments

The FSP program has had many accomplishments during the period 1995-2000. The most significant are:

- FSP operations expanded to provide coverage during weekday midday and weekend periods on heavily – congested freeway segments.
- A portable incident communication device, Portable Incident Command Package (Pic Pac), was developed. The device provides users with the ability to transmit and receive pertinent information from an incident scene using its various components (fax, phone, digital camera, scanner).
- A computer system, Freeway Incident Response Service Tracking (FIRST) was developed and transferred to the CHP. FIRST is a system, which is designed to allow real –time vi-directional access to the CHP’s CAD system.
- Reduced the level of local funding needed for the FSP program by 25% with little impact to the quantity and quality of provided service by using the low-bid procurement process.
- Increased the level of state funding earmarked for FSP from \$15 million to \$20 million statewide.
- Led the successful campaign to legislatively designate the FSP as an ongoing operational statewide program.

- Negotiated construction support agreements with Caltrans to provide FSP operations along Caltrans’ construction zones.

SAFE Accomplishments

SAFE achieved significant accomplishments since 1995. SAFE, along with Caltrans, CHP and MTA, was a co-defendant in a landmark Americans with Disabilities Act Class action suit regarding the accessibility of Los Angeles County’s call box system. The suit was successfully settled out of court with the execution of a settlement agreement, commonly referred to as the Thalheimer Settlement Agreement. In support of the settlement agreement, SAFE completed, ahead of schedule, the required system-wide accessibility improvements for the deaf, hard of hearing and/or speech – impaired sub-class. SAFE is currently working on implementing improvement for the mobility-impaired sub-class.

Issues

FSP Issues

It is forecast that by 2025, average freeway speed will be reduced to 20 miles per hour during the morning commute period, compared to the current average of 34 miles per hour. Additionally, traffic volumes on freeways will continue to increase during the midday, weekends and nights.

The FSP program is an effective component in the fight to relieve traffic congestion. Based upon the increased level of forecasted congestion, the FSP operation may warrant significant expansion over time, up to and including having the service operated on a 24/7 basis on selected corridors. As average freeway speech is reduced, the program will need to specify more trucks for each beat in order to maintain the same quality of service, measured in terms of average response time.

The FSP program responds to incidents of disabled cars and light trucks. The continued growth and popularity of sports utility vehicles (SUV), which cannot be towed by conventional tow apparatus, have created a need to incorporate flat bed tow trucks into the FSP vehicle fleet mix in addition to pick-up trucks to manage non tow-situations.

A final issue facing the FSP program is the potential to expand FSP to manage incidents with disabled "big rig" trucks on the freeways. The increased level of truck traffic on freeways exacerbates the overall increase in congestion. Currently these type of vehicles created significant congestion problems when disabled due to the amount of time required to mobilize "big rig" tow equipment. The FSP partners will investigate the feasibility and cost effectiveness of providing big rig tow support within the County.

Existing funding may not be sufficient to provide for an increase in FSP service to respond to congestion demand and to provide for warranted and necessary improvements. Either new sources of funding must be found, or increases to existing funds appropriated. A

possible approach would be to transfer the FSP function under the SAFE umbrella, and concurrently have legislation passed which would enable the SAFE to access additional vehicle registration fees to pay for the additional costs of this more comprehensive motorist aid program.

SAFE Issues

An ongoing issue with the SAFE program is its level of funding; it remains and is forecasted to remain constant over time. However, the cost of its operation continues to increase. It is projected that the SAFE programs will soon reach a point where annual costs exceed funding. SAFE will therefore need to continue careful monitoring of expenditures and contracts to contain operating costs. As with the FSP, SAFE will also need to examine the options available to generate additional revenue as needed. One area where there appears to be significant cost saving is for the SAFE to outsource its call answering functions, which is currently being provided by the CHP. Another task, which would make the SAFE more cost-effective, would be to examine and develop an effective and efficient organization; this could entail the establishment of more effective financial, procurement and other administrative functions.

SAFE needs to evaluate the impact of technology and to modify its program as necessary to ensure that the SAFE's mission as a motorist aid agency continues to be fulfilled. This may include increasing the distance between call boxes as the use of cellular phones increase. Another technology alternative is to examine

motorist aid services such as the potential implementation of a countywide cellular 311 motorist aid services number.

call box spacing. While telecommunications advancement may reduce the need for call boxes, it may create a need for emergency and non-emergency response centers and systems to handle the volume. The SAFE system and coordination protocol may be instrumental in this effort.

Strategic Directions

FSP Program

The FSP program has the potential to continue expansion in response to worsening congested conditions on LA County Freeways. Expansion may include an increase in vehicles per beat to maintain service levels with reduced freeway speed and the addition of beats to new freeway segments that are impacted by serious congestion. FSP has proven to be a cost effective operational tool to provide congestion relief and motorist safety. The cost of expanding service and of diversifying service to accommodate changes in vehicle type or expansion to heavy-duty vehicles will require additional funds. Currently FSP is funded from state funds heavily augmented by local dollars. The MTA will keep working at the state level to increase funding for the FSP program to provide for expanded or experimental services.

SAFE

The SAFE Kenneth Hahn Call Box System will undergo changes within the timeframe of the LRTP. This motorist aid program will be heavily impacted by the growth and changes in telecommunications technology. The increased use of cell phones and AVL systems installed in newer passenger vehicles may force a reevaluation of

Section 4

Alternative Transportation Strategies



2001 Long Range Transportation Plan for Los Angeles County

Transportation Demand Management (TDM)

The purpose of Transportation Demand Management (TDM) is to increase the efficiency of the transportation system and improve mobility without building new transportation infrastructure. This is generally accomplished through policies, physical improvements, programs and operational changes that influence travel behavior in the following ways:

1. Improving the efficiency of the existing transportation infrastructure (increasing the use of high occupancy vehicles, transit, carpooling, and vanpooling)
2. Eliminating trips altogether, or combining trips (telecommuting, modified work schedules, shuttles, combining transit services, etc)
3. Encouraging use of alternative transportation modes (transit, bicycling and walking), and
4. Encouraging the development or applications of new technologies that support the other four objectives (Technology and Innovation, "Smart Cards", applied telecommunications devices, smart signs, etc).

Virtually all TDM strategies increase access for non-drivers and benefit populations with limited transportation

options, including economically and physically disadvantaged people.

The existing TDM system includes numerous innovations that have become institutionalized within the Los Angeles County transportation infrastructure, such as rideshare programs and High Occupancy Vehicle (HOV) lanes. Once effectiveness is determined, the most successful TDM projects become a standard part of the ongoing improvements of other transportation modes. The outcomes of a successful TDM program are changes in public policy as well as adoption of the TDM concepts into countywide improvements.

MTA authorized or implemented approximately 131 TDM projects between 1995–2000 through the Call for Projects, representing approximately \$79 million in project funding. The TDM program guidelines limit funding of projects to approximately two years.

Accomplishments Since 1995

- **TDM/Technology and Innovation Forum:** MTA completed its first annual TDM/Technology and Innovation Forum in December 2000. The Forum brought together several hundred people including over 20 corporate, academic and transportation specialists to discuss ideas about the next generation of transportation innovation and how technology will impact future transportation.

- **Smart Card:** MTA's "Smart Card" seamless fare system was initiated and demonstrated as a TDM project. The seamless fare system will contribute to better transit speeds and better accounting of fare revenues. Ongoing development will include standardization of the technology, and a standardization of the fare system in all new transit vehicle or fare box purchases.
- **Park and Ride Lots:** Many of the County's early Park and Ride lots were funded through TDM-type demonstration programs. The majority of new Park and Ride lots are now constructed as an essential component of freeway and major arterial projects.
- **Bike Racks on Buses:** The majority of the region's transit operators have bicycle racks on their buses. This started as a TDM project and is now standard equipment for MTA and most of the County's transit operators.
- **Shuttles:** The TDM program has funded more than 40 start-up shuttles and service expansion projects, the majority of which continue to operate. Due to the success of the shuttle program, it is now funded independently of the TDM program.
- **Vanpools:** The TDM program has funded hundreds of vanpool operators. Vanpools are a major transportation strategy for many of the employers in Los Angeles County that may not have adequate transit alternatives for their employees.
- **Alternative Work Hours:** Flexible work hours reduce peak period congestion on local streets and freeways by spreading work trips more evenly throughout the day. Compressed workweeks (i.e. a "4/40" work schedule) can reduce work trips by up to 20 percent.
- **Transportation Allowances/Subsidized Transit Passes:** Transportation allowances or subsidized transit/van pool fares give employees a financial incentive to use alternative modes. Such programs typically reduce automobile commutes by 15-25 percent compared with employers who provide free parking.
- **Rideshare Programs:** Rideshare programs are designed to increase vehicle occupancy by matching commuters with similar trip origins and destinations. In the early 1980s, MTA funded the creation of a commuter database used to match commuters with similar work trips. The MTA continues to fund the database's operation through grants awarded by the California Transportation Commission (CTC).
- **Transit Service Improvements:** Projects or strategies that encourage a greater use of existing bus, rail and shuttle systems are a priority for this program. These strategies may include improved information, transit shelters, and various other transit rider amenities.
- **Bicycle Programs:** TDM resources have been used to fund the installation of bicycle amenities including several hundred surface bike racks, bike lockers, maps, signage, and the development of bike stations. Bike racks, lockers and spaces are now a standard

part of all major transit stations or transit center construction.

- **Land Use/Transit Strategies:** TDM programs funded under this category include the planning and implementation of Transit Oriented Districts and Pedestrian Oriented Districts (TOD/POD). The intent of these programs is to link land-use and zoning with transit infrastructure.
- **Telecommuting:** Telecommuting is broadly defined as using communications technology to replace commuting. It typically means that employers allow certain employees to work at home or at a local workstation either on a part- or full-time basis. Multiple employers in Los Angeles County continue to expand this concept with the development of flexible offices, satellite facilities, teleconferencing, electronic offices, or other similar support structures. Implementation costs have significantly declined in recent years due to the proliferation of personal computers, cell phones and other electronic devices.
- **Researching and Refining:** TDM requires continuous research and refinement of innovative and unique transportation solutions. TDM assumes that some strategies will be less successful than others. Implementation at the city level is often limited to expanding a few familiar TDM strategies. Effective TDM planning starts with a review of the full range of potential strategies to insure that cities do not overlook potentially appropriate or effective TDM options. Risk taking and the willingness to experiment are difficult concepts in public agencies. It is, and will continue to be, a priority with MTA to assist cities in developing local TDM programs. This involvement will take the form of sponsoring informational conferences, supporting development of new ideas, and serving as a clearinghouse for TDM-related information.
- **Expanding Information on Transportation Alternatives to Broader Countywide Audience:** Many cities and local agencies focus on traffic volumes and speed as measures of transportation quality in part because vehicle congestion is relatively easy to quantify. Mobility and access improvements, conversely, are more complex, and therefore are often overlooked by local agencies in developing local transportation plans and policies. This tends to direct planning decisions toward capacity expansion projects, and thus minimize alternatives that focus on the management of existing systems. Through TDM, cities are able to develop and identify more efficient solutions to their local transportation needs by considering a wider range of options. Efficient TDM planning requires

Issues And Needs

- **Identifying Opportunities to Improve Efficiencies:** The TDM goal of improving efficiency within the existing transportation systems, or creating efficiencies through changes in public policies require that innovation be built into the ongoing activities of the program. MTA must develop a method of encouraging innovation into the ongoing planning process.

focusing on access and thus maximizing the efficiency of the current infrastructure.

- **Supporting and Developing Better Information:** Most cities within Los Angeles County are limited in the level and depth of their staff. Many cities do not recognize bicycling and walking as viable means of transportation, nor do they recognize the complex effects that land use and public policy changes have on transportation efficiency. The TDM program must additionally provide detailed supporting documentation that will assist institutional adoption of TDM strategies
- **Working Towards Long Term Planning Strategies and Objectives:** The goals and objectives of TDM implementation requires long-term planning and data gathering, coordination among numerous participants, leadership to overcome problems, funding mechanisms, and ongoing management. This level of coordination currently does not exist in most cities. Implementing TDM programs require a high level of cooperation and coordination since these programs are often multi-jurisdictional in nature and require specific expertise. MTA will continue to provide coordination, funding and support for the expansion of TDM programs throughout the County.

Actions

MTA has developed a long-range expenditure plan for TDM. The plan focuses on funding policies and projects that improve efficiencies in the maturing County transportation system. A goal of 2% improvement in the

efficiency of the overall countywide transportation system is attainable over the 25-year period. This goal is based on the assumption that innovation, changes in public policies, and new technologies can result in the objectives listed herein.

Constrained Plan Recommendations

The constrained plan recommends \$8 million per year for the TDM program.

Strategic Plan Recommendations

The strategic plan recommends \$12 million per year for the TDM Program.

Other Program Recommendations

1. **Find New Ways to Get More Out of Existing Systems:** Identify new opportunities in projects or programs to improve efficiency. Develop a method to allow innovation to come to MTA in a more reasonable and timely way. Encourage and support the introduction of new ideas into the transportation system and into transportation policy.
2. **Remove Objections to Transportation Alternatives:** Identify and work to remove regulations or work rules that restrict private companies from subsidizing or creating new transportation services for their employees. Encourage and assist companies in setting up cost-effective, market-based rideshare services.

3. **Work in Partnership with Area Jurisdictions:** Work with cities in developing projects and strategies that address congestion issues with less expensive and less intrusive TDM options.
4. **Raise Awareness of TDM Alternatives:** Effective TDM planning starts with an awareness of a full range of potentially appropriate or effective TDM options. It is, and will continue to be, a priority with MTA staff to assist cities in developing local TDM programs. This involvement will take the form of sponsoring information seminars, and serving as a clearinghouse for TDM-related information. The intent of this effort is to assist cities in developing effective local TDM programs, and to assist cities in pursuing funding for their implementation.
5. **Push Alternatives:** In the future, MTA must become proactive in developing new and innovative projects, and inform Los Angeles County cities of the successes and options that result. Further, MTA must take an active role in coordinating proposed projects to ensure they complement existing projects or those in the planning stages within surrounding cities.
6. **Prove Success:** As demonstration projects advance, MTA will work to ensure that the most successful projects are institutionalized into other funding categories. This will enable the project to be expanded within other regions of the County, while retaining TDM resources to seek out other new and innovative demonstration projects.
7. **Focus on Land Use and “Smart Growth” Policies:** Allocate TDM resources to support cities in the development of “Smart Growth” and comprehensive land use guidelines that can be incorporated into General Plans, Transportation Elements, Redevelopment Plans and Community Plans. Residents of communities with good walking and cycling conditions drive less, and use transit and rideshare more. Thus, prototype documentation for inclusion by cities into the ongoing redevelopment plans or general plan updates can be developed. Develop more comprehensive data on:
 - Consequences of land use decisions on transportation efficiencies
 - Trip reduction within self-contained cluster development neighborhoods
 - Benefits of quality, high density development
 - Networking of relatively direct, interconnected streets, and
 - Street designs that accommodate walking, cycling and improving connections to transportation services.

Areas For Further Study

The assumption that TDM reduces congestion, decreases road and parking facility costs, reduces accidents, limits sprawl, and provides more services and travel choices requires ongoing verification. Studying the long-term benefits of matured TDM policies such as Park and Ride lots, or alternative work hours is necessary.

Documentation of consequences to economic, air quality, or social equity indicators, as well as evaluating mobility gains from these programs can develop, as more exacting data is made available.

Providing comprehensive, quantifiable documentation from successful TDM strategies should be considered as part of the ongoing program and to assess long-term gains. Successful TDM programs have demonstrated some mobility gains and are assumed to provide improvements in the following areas:

- Reduced traffic congestion
- Road and parking facility savings
- Consumer savings and choice
- Increased equity and mobility for non-drivers
- Road safety and healthy exercise
- Environmental protection
- Neighborhood livability
- Economic productivity and development

While some documentation of these benefits may not currently be feasible, as progress is made in data gathering, modeling and technological innovation, more detailed assessments may become available.

Rideshare Program

According to the 1990 Personal Transportation Study, the Los Angeles City region has the highest rate of carpooling and vanpooling in the nation and is the only metropolitan region where ridesharing is not decreasing. Approximately 14 to 15% of commuters rideshare in Los Angeles County, the second most common method of travel after driving alone. A number of Rideshare services are provided to Los Angeles County residents primarily through the employment work site. A combination of public and limited private entities provide Rideshare services for the County.

Existing System

The most basic of these services is maintenance of the regional rideshare database which allows commuters to obtain lists of fellow commuters interested in sharing the ride. This database covers the five counties within the Southern California Association of Governments (SCAG) region to facilitate cross-county travel, as well as travel within Los Angeles County, and currently contains approximately 400,000 registrants.

In addition to carpool and vanpool matching information, the database provides bus, rail and commuter rail itineraries to commuters tailored to their commute trip as a way to inform them of all options available. Commuters obtain this information through teleservices offered on 1-800 COMMUTE, the regional travel information telephone number.

In addition, rideshare outreach staff work with Los Angeles County employer sites to provide commuter information to encourage ridesharing. The outreach staff ensure that the rideshare database is continually being updated with new potential carpool and vanpool commuters. In addition to carpool & vanpool information, outreach staff provide information on other alternative transportation modes to driving alone such as transit, bicycle, pedestrian and telecommute travel modes. Approximately 4,000 employer work sites receive outreach services within Los Angeles County. SCAG's Rideshare department, Southern California Rideshare currently performs the employer outreach and maintenance of the regional rideshare database. MTA funds these services for Los Angeles County.

Five Transportation Management Associations (TMAs) also provide commuter assistance within the Los Angeles County. TMAs are private associations of employers that join together to deal with transportation issues affecting employees at their collective work sites. These organizations work collaboratively with SCAG and connect with the regional rideshare database to provide their member companies rideshare match information. The TMAs build off the services provided by SCAG by offering additional commuter services such as on-site carpool matching, transit pass sales and vanpool formation services targeted specific to their employers.

MTA also implements a demonstration program that provides incentives to encourage commuters to use travel modes other than driving alone. The program offers gift certificates to drive-alone commuters that agree to rideshare (Rideshare Rewards) for a trial period and

coupon books to existing ridesharers to encourage continued use of travel alternatives (*Club Metro*). The program has enrolled 6,300 total participants to date.

Accomplishments Since 1995

Several accomplishments have occurred related to provision of rideshare services in Los Angeles County:

- In 1995, through agreement among all agencies and organizations involved with ridesharing throughout the SCAG region, SCAG became responsible for maintaining the regional rideshare database and providing employer rideshare outreach for Los Angeles County employers. These services were formerly provided by Commuter Transportation Services, a non-profit organization no longer in operation. This change and regional agreement provided stability for these basic rideshare services upon which other transportation information activities depend.
- A vanpool rebate program began implementation in 1995 to encourage drive alone commuters to join vanpools. The program provides a \$100 rebate to new vanpool riders after the first three months of commuting in a vanpool. The program was modeled after two successful vanpool incentive pilot programs implemented in the early 1990s. The program has met goals for encouraging vanpool ridership. As with the other major rideshare activities within Los Angeles County, this program is being implemented by SCAG and funded by MTA.

- In 1996, MTA conducted an evaluation of employer rideshare services that recommended improvements to services provided. As a result, marketing materials have been enhanced and updated for Los Angeles County employers as a way of keeping the rideshare message fresh and interesting.
- MTA began implementation of its demonstration voluntary rideshare incentive program in 1998, which is comprised of two projects called Rideshare Rewards (formerly Rideshare 2000) and Club Metro.

Issues

- **Maintain and Increase Rideshare Rate:** Given that other metropolitan areas within the nation have experienced a decrease in the rideshare rate during commute periods, a key issue is how to ensure that the region continues to maintain and increase its rideshare rate. This is particularly important since the transportation system is not able to accommodate all trips in the single occupant vehicle mode and in order to keep the region moving, many trips will need to be made in carpools and vanpools.
- **Phase-Out of Employer Trip Reduction Rule:** One of the major issues affecting ridesharing is the relaxation of the regional employer emission reduction requirements mandated by the South Coast Air Quality Management District (AQMD). Previous to State legislation passed in 1996, AQMD Rule 2202 required employers with 100 or more employees to

implement programs to reduce mobile source emissions at their work site. Many employers within Los Angeles County opted to implement trip reduction programs to encourage their employees to commute using travel modes other than driving alone to work. The legislation approved in 1996 exempted employers with less than 250 employees at their work site from this rule.

This rule motivated thousands of employers to be interested in transportation issues and to educate their employees about different travel options. Employers provide an important avenue for reaching commuters and motivating them to use the transportation system more efficiently by riding transit, ridesharing, biking, walking and telecommuting. In light of deregulation of many employment sites, a key issue will be how best to strengthen relationships between employers and public transportation providers and to encourage employers to continue to register in the rideshare database.

- **Funding Stability:** While the second largest commuter market are carpoolers and the annual operating cost is minimal compared to other transportation services, there is no long-term dedicated funding source earmarked for rideshare support services. This funding instability makes it difficult to have year-to-year consistency and eliminates potential for implementing rideshare initiatives that require long-term planning and commitment such as regional marketing campaigns. A major issue for ridesharing is establishing some funding stability so the transportation agencies that implement rideshare

services can focus on enhancements instead of basic service provision.

Actions

Constrained Plan Recommendations

The Constrained funding recommendation proposes \$9.5 million per year in MTA funding during the LRTP period. In addition to MTA funding, it is assumed that the other four county transportation agencies will contribute \$1.2 million annually toward regional rideshare database services. The match amount is based on each county's population share within the SCAG region. Funding at this level will provide the following activities:

- Continue to provide rideshare matching information and maintain rideshare database
- Continue to provide rideshare information to commuters through teleservices
- Develop regional marketing strategies for increasing awareness of carpooling and other alternatives to driving alone at the individual commuter level in addition to working through employers
- Continue to work with employers as an avenue to reach commuters to provide commute information

- Continue and enhance current incentive programs to encourage use of alternatives to driving alone in existing and new target markets
- Develop strategies for increasing vanpool utilization through targeted marketing and low-cost incentives. The considerable growth expected in suburban areas, indicates an increased market potential for vanpooling.

Strategic Plan Recommendations

The Strategic funding recommendation proposes \$12 million annually in MTA funding for the plan period. As in the Constrained recommendation, the other four county transportation agencies will contribute \$1.2 million per year to fund regional rideshare database services based on population share. Funding at this level will provide the following activities:

- Implement all Constrained Plan Recommendations
- Implement an aggressive and coordinated regional vanpool program. The program would be implemented in cooperation with existing private vanpool providers. The program would be implemented in a phased approach and based on successful models being operated around the country such as in Seattle. The program would include regional marketing, higher-cost incentives and strong support and educational services to assist in vanpool formations.

Innovation & New Directions

Given that traffic congestion is estimated to increase by 30% and traffic speeds are expected to drop by half by 2025, Los Angeles County will need to approach its transportation future in new ways to ensure the region can continue moving. As noted in other sections, this traffic congestion is a by-product of significant population and employment growth projected for the region. In addition, population and employment will be distributed widely and located farther from the Downtown area compared to today. Building and operating new transportation infrastructure and services alone will not solve the county's transportation problems. LRTP analysis (see Technical Appendix) has found that providing a combination of enhanced transportation services and more innovative strategies will be necessary if the county has any hope of maintaining current mobility. This section will discuss several new strategies that will need to be explored in order to fully solve the county's transportation needs.

Many of the concepts are not entirely new, and some will be quite difficult to implement. But they will need to be seriously considered as part of an integrated approach. Strategies that will need to be considered include:

- Incentives programs to attract people to non-drive alone travel alternatives
- Pricing strategies to discourage drive alone travel
- Generating new revenues from pricing strategies to fund new projects and programs so convenient alternatives to driving alone are available

- Greater coordination between transportation improvements and local growth to reduce sprawl

Incentive Programs to Reduce Auto Use

Incentive programs typically offer a financial reward to commuters for using transportation modes other than driving alone. The reward can be structured either as a trial incentive or as an ongoing benefit. The incentive can be targeted to a specific travel mode (i.e. transit or vanpools) or can be structured to encourage use of any transportation alternative to driving alone (i.e. transit, carpool, vanpool, bike, walk, and telecommuting). Typically programs that allow multiple alternative travel modes to qualify for the incentive experience greater behavior change results since the market share is larger by virtue of targeting multiple travel modes.

A variation on the traditional incentive approach is the concept of parking cash-out. In this instance, the incentive is tied to parking. The commuter is given a travel allowance to use toward the transportation option of their choice in lieu of free parking. This creates an even playing field between driving alone and other commute options as opposed to receiving free parking automatically making driving alone the most convenient option.

Current Activities

The following describes recent MTA experience with incentive strategies:

Transportation Demand Management (TDM) Program – through the TDM category of the Call for Projects, the MTA TDM Program has funded a number of incentive demonstration projects. Examples include a parking cash-out program at a large employment site and a trial fare subsidy for new transit and vanpool riders employed in a suburban business district. As part of the TDM demonstration effort, an evaluation was conducted and found that the incentive projects were quite effective in encouraging use of transit, carpooling and other alternatives to driving alone. This is further discussed in the TDM Section.

MTA Rideshare Rewards and Club Metro Programs – MTA secured grant funding to test the incentive concept on a sub-regional basis. These programs offer incentives to commuters that voluntarily use alternatives to driving alone to work. The programs have experienced positive results and recently obtained additional grant funding to implement the program countywide. This program is further discussed in the Rideshare Section.

MTA Vanpool Rebate Program – As part of the county rideshare services being implemented by SCAG, a vanpool rebate program is currently being offered to larger employment sites. This program is further described in the Rideshare Section.

Actions

- Continue to explore the incentive approach as a strategy for encouraging use of travel alternatives to driving alone through funding demonstrations in the MTA Call for Projects process and through current rideshare incentive programs
- See the TDM and Rideshare sections for more detail on LRTP recommendations regarding incentives

Strategies to Discourage Auto Use

From the opposite perspective of incentive programs is the implementation of strategies that discourage drive alone travel. The goal of these programs is to either increase awareness of the cost of driving or to actually increase the cost of driving. Examples of these programs include: restricting parking supply, elimination of free parking, increasing parking cost and levying fees based on miles traveled. Compared to many other nations, Americans experience much lower driving costs partially due to lower gas taxes.

In some scenarios, significant revenues can be collected through the levied fees. The collected revenue can then be reinvested into transportation improvements. This is important in an environment where limited new revenues are available, especially for funding operations of public transportation services.

LRTP Analysis found these strategies to be quite effective in influencing travel behavior when coupled with additional transportation improvements (see Appendix for results). A sensitivity analysis was conducted where increase in parking cost and the gas tax, as well as initiation of a mileage-based registration fee was combined with the infrastructure improvements included as LRTP Strategic Recommendations. The additional improvements include completion of the HOV system, and more frequent, higher capacity public transportation services with a restructured fare system.

The estimated cost of the LRTP Strategic programs and projects is approximately \$40 billion in inflated 2025 dollars. The pricing strategies were estimated to generate roughly \$60 billion in uninflated dollars. The combination of instituting strategies to discourage auto use and implementing the LRTP Strategic Plan improvements resulted in overall system travel speed and mobility to remain at about today's levels in 2025. In addition, drive-alone mode share experienced a significant decrease.

Current Activities

While these strategies can be quite difficult to implement, MTA has pursued some market-based strategies and has initiated some dialogue on this topic. Examples of recent activities include the following:

Regional Forum on Pricing – SCAG and Caltrans received a federal grant to examine different pricing strategies and determine public acceptance of these strategies. In 1995, SCAG created the REACH (Reduce Emissions and

Congestion on Highways) Task Force, which MTA participated in. The group reviewed market-based transportation management concepts including vehicle user fees and toll lanes, and issued a study. A key finding of the study was that high occupancy toll (HOT) lanes had the most promise of introducing transportation pricing strategies to the region. HOT lanes allow single occupant vehicle drivers to access carpool lanes usually reserved for vehicles carrying two or more individuals for a fee.

Transportation Demand Management (TDM) Program – MTA has funded a few demonstration projects that directly work to discourage auto use through the TDM Category of the Call for Projects. Examples include initiation of a parking charge at a suburban employment site and institution of a parking surcharge in a shopping district. TDM evaluation work found these programs to be the most effective in encouraging commuters to leave their cars at home.

MTA Parking Management Workshop – In 1997, MTA co-sponsored a workshop with the Mobile Source Air Pollution Reduction Review Committee (MSRC) on the topic of parking management. The workshop was geared to local jurisdictions to present parking management success stories, as well as barriers to implementing parking management strategies. The goal was to encourage additional proposals for parking management projects to be submitted in future Call for Projects processes. While the workshop was well attended, very few applications for parking management-type projects were submitted in subsequent Call for Projects process. This is an indication that parking strategies are difficult to

implement and that a more aggressive approach will be necessary to encourage implementation of these programs.

Actions

- Continue dialogue on strategies to discourage auto use on a regional and countywide level working with the 89 local jurisdictions within Los Angeles County, SCAG and other State agencies such as the Air Resources Board
- Further examine parking pricing and various vehicle user fees as strategies to discourage vehicle travel and as a mechanism for generating new revenue to fund transportation improvements
- Continue to fund demonstration projects to test strategies that discourage drive alone travel through the MTA Call for Projects process

Transportation and Land Use

In recent years, there has been a growing public awareness of the symbiotic relationship between transportation and land use. For example, transportation improvements such as roadway extensions or new rail service provide expanded travel capacity in an area which will in turn increase land values and make the area more attractive for further development. Conversely, land use decisions that encourage new or more intense

development will increase demand on existing transportation facilities or require further improvements.

The LRTP identifies MTA's influence on and the agency's support of land use as it relates to transportation linkages. MTA is committed to working with every city in the county and Los Angeles County to develop land use and transportation linkages that will enhance neighborhood communities and encourage more efficient utilization of public transportation systems.

Although MTA is not a land use agency and cannot directly guide land use development, its decisions regarding transportation improvements will have a profound impact on land use in the region. It is, therefore, important that the LRTP consider the potential land use impacts of its recommendations and take a proactive stance to encourage land use decisions that are consistent with and support the recommended transportation policies and projects.

Current Activities

To date MTA has adopted a number of policies or programs that address the coordination of land use and transportation development. The following summary of programs describes some of the initiatives taken by the MTA to integrate transportation improvements, local land use decisions, and urban design.

- **Joint Development Program:** MTA's Joint Development program addresses the disposition of MTA-owned real estate at transit stations. It

connects transit-related real estate with public and private developers. Joint Development acts to increase ridership on the countywide transit system and can serve as a catalyst for economic development.

The overall goals of the program are to ensure greater quality of the built environment and enhanced ridership at transit stations and provide an appropriate investment return to MTA owned properties. Some examples of recent joint developments at MTA Metro Rail stations are: Hollywood/Highland Metro Rail Station which has a large-scale, mixed-use hotel, entertainment, and retail complex under construction including the future home of the Academy Awards ceremony; Hollywood/Western Metro Rail Station which includes 60 affordable housing units complete and another 60 units planned; and Willow Street Metro Rail Station which has a retail center including a supermarket serving the local community.

- **Transportation Demand Management Program:** This program includes strategies that reduce travel demand through coordination of transportation and land use. In the past, MTA funded transportation/land use demonstration projects under the TDM category of the MTA Call for Projects which included the planning and implementation of Transit Oriented Districts. Two examples are discussed below.
 - **Station Neighborhood Area Plan:** MTA Call-for-Projects funds were given to the City of Los Angeles in order to develop a Station Neighborhood Area Plan (SNAP), which

includes the area along the Vermont/Hollywood transit corridor and the four subway stations within those corridors. Following completion of these Metro Red Line stations, the City sought to bring uniformity to the zoning in the surrounding neighborhoods. In relationship to MTA, the Plan is intended to maximize the local economic development potential of the Metro Red Line subway system by zoning for the appropriate use and density that would benefit from proximity to the Metro Rail system.

- **Los Angeles County Transit Oriented District (TOD) Planning:** MTA Call for Project funds were also awarded to the County of Los Angeles to develop land use and economic development strategies for the areas surrounding transit stations. The County has developed six transit oriented districts that use incentive-based overlay zoning to entice development within ¼ mile radius of light rail stations: Metro Blue Line stations at Slauson, Florence, Firestone and Imperial and Metro Green Line stations at Vermont and Hawthorne. Transit oriented districts are established around these stations as supplemental districts in order to promote transit and pedestrian oriented development, to increase transit use, to manage traffic congestion, and to improve air quality. The County's TOD ordinance includes incentives, such as fee and parking reductions, and specific development standards for residential

and commercial uses, including regulations for lighting, design, parking, pedestrian areas, public spaces, and streets and sidewalks. The ordinance is marketed toward existing land owners, attempting to spur neighborhood-based property improvements.

- **The Joint Land Use/Transportation Policy:** This policy was adopted by the Los Angeles City Council on November 2, 1993, and endorsed by the MTA Board of Directors on October 26, 1994. The City and MTA collaborated to create this document in an effort to develop an integrated policy that addressed land use, transportation and air quality. The Policy seeks to focus future growth around transit stations and to increase land use density around transit centers.
- **MTA Congestion Management Program:** In response to a State mandate, MTA has adopted and updates every two years a Congestion Management Program (CMP). The CMP is intended to monitor congestion within the County, promote actions to minimize congestion, and to link land use and transportation decisions. Key features of the CMP are:
 - Biennial monitoring of changes in congestion on freeways and major arterials
 - Promotion of travel demand management strategies
 - Enhanced CEQA review of new development projects
 - Mitigation of local land use impacts on the regional transportation system

In addition to these efforts by MTA and other public agencies, the private sector has initiated development around transit stations:

- **Downtown Long Beach:** Although no formal city initiatives or policies regarding transit-oriented development exist, a private developer worked with the Long Beach Redevelopment Agency to build a large, mixed-use multifamily residential and commercial project adjacent to the Metro Blue Line in downtown Long Beach. The Pacific Court project was part of a Redevelopment Agency program to reintroduce housing and mixed uses into downtown Long Beach. It includes 142 apartments above two stories of retail, located one block from the Long Beach Transit Mall. A 1994 survey of the residents showed that 10% of households commuted by public transit, nearly 1/3 more than the countywide average.

Actions

As part of the MTA Long Range Plan, it is recommended that a policy framework be established to strengthen the link between transportation and land use policies and strategies. This framework would build upon the existing MTA actions in the areas previously discussed and provide new opportunities for new policies and strategies. Towards this end the following actions are recommended:

- Continue to acknowledge the importance of land use considerations when formulating transportation policies, strategies, and programs. Formulate strategies to carry out the intent of the policy.

- Create working relationships with all of the Los Angeles County municipalities along the lines of the joint City Los Angeles/MTA Land Use and Transportation Policy to integrate land use and transportation decisions.
- Continue funding within the MTA Call For Projects process for the development of ordinances that promote Transit Oriented Developments or implement transportation-land use projects consistent with Smart Growth Policies. Continue to program funds for low cost capital improvements that provide better transportation linkages to developments near transit stations/high volume bus stops.
- Consider providing bonus points to strategies that integrate land use and transportation and establish a new series of strategies that promote Smart Growth concepts within the Congestion Management Program Tool Box Of Transportation Strategies
- Establish within MTA a function to collect and disseminate information on land use strategies supportive of MTA transportation goals, including current case studies. Establish an ongoing outreach program of workshops or seminars to further promote supportive land use strategies.

Public Art Policy

Recognizing that art can bring a touch of humanity to an often mundane commute, MTA adopted a public art policy in 1989 that allocates a small percentage (0.5%) of rail construction costs to the incorporation of art into Los Angeles' Metro Rail system. The policy has been considered a national model in the fields of both transportation and public art and is administered by the agency's Metro Art section. MTA has received international recognition for its interdisciplinary approach to public art, the broad range of artists selected, and its innovative and successful community involvement processes. Strong support has been demonstrated by funding received from federal, state, and local sources, as well as other municipal and corporate contributions, and by the respect and care given the works by the public. All artworks are created especially for the rail transit system and must meet safety, security, accessibility, maintenance, and environmental requirements. Artists are selected through a highly respected peer review process with strong community input.

Current Activities

Over 200 artists have been commissioned to do both temporary and permanent projects for the 50-station Metro Rail system, the Metrolink commuter rail system and Gateway Transit Center. A groundbreaking volunteer Docent Council has been formed to give tours to the public. While docent programs are commonly found at museums around the world, MTA is believed to be the first transit agency to benefit from such a program.

MTA's Metro Rail stations have received national and international media coverage. They have been featured on CNN and National Public Radio and in such design publications as *Progressive Architecture*, *Art in America*, *Architectural Record*, *ARTnews*, *Places*, *Arbitare* and *Casabella*, as well as the fashion magazines *Vogue* and *Metropolitan Home* (where it was featured in the "World's 100 Best Design Ideas" issue). The *International Herald Tribune* wrote that Los Angeles Metro Rail stations were "caverns of color, fantasy, and whimsy." *The New York Times* described it as "one of the most imaginative public art programs in the country."

MTA Metro Art has received several design and artistic excellence awards. National awards received include two U.S. Department of Transportation Design Excellence awards, an NEA/DOT Award for Design Excellence, a TEA Challenge Award of Excellence, and two highly coveted *Progressive Architecture* Awards. Local awards include three Urban Beautification Awards from the LA Business Council, two Caltrans Design Excellence Awards and a number of Downtown Rose Awards.

Actions

Because of the successes of Metro Art with the rail system, MTA will consider expanding its public art policy to address the much broader range of its transportation projects and programs. MTA also will consider updating and improving the current policy to ensure that it remains innovative and effective. Current and planned corridor studies, fixed guideway projects, vehicle procurements, streetscape projects, and other transportation elements

can benefit from public art enhancements and add value to Los Angeles' public transit system for generations to come. Proposed funding for an updated and expanded public art policy may be based on 0.5% to 2% of a project budget, depending upon the type of project. Other transit systems that have public art policies base their budgets on the following percentage of total construction dollars: New York City, 1%; Miami, 1.5%; Philadelphia, 1%; Seattle, 1%; San Francisco, 1%; San Jose, 2% and Sacramento 2%.

Art can assume a role in the mitigation of environmental impacts of transportation infrastructure improvements on the urban landscape. As more transportation projects (street widenings, intersection and pedestrian improvements) are developed to create capacity, preserving the environment and enhancing the community become critical. MTA can use the technical expertise developed with the Metro Rail program to integrate art into transportation projects throughout the region. When art is integrated into a project from its inception, the incremental cost of creating an aesthetic, as well as functional, transportation improvement is small. The positive impact of integrated art has proven to exceed the expense.

Conclusion

Many of these strategies will be a challenge to implement because they will require major shifts from how the transportation system is currently viewed and approached. Some activities will require a shift in how transportation options are provided. Many will require changes in the way LA County residents make their travel

choices. Several will require altering the manner in which the transportation and land use linkage is viewed and approached. Finally, these strategies will require significant commitment and collaboration between multiple agencies and jurisdictions for successful implementation to occur. However, LRTP analysis shows that over time hard choices will need to be made if the county has any chance of keeping the transportation system moving in the future.

While these shifts may be difficult, public input received during the development of the LRTP indicates that shifts in how LA County residents view the transportation system and how they are approaching transportation trade offs may already be occurring. For instance, comments were received that indicated a strong interest in a balanced transportation system, improving public transportation, enhancing community livability, improving air quality and encouraging land use patterns that reinforce existing transit corridors.

In spite of these challenges, MTA is committed to working with its many partners to explore innovation and new directions to ensure that Los Angeles County has a world class transportation system in the future.

Section 5

Non-Motorized Transportation



2001 Long Range Transportation Plan for Los Angeles County

Bikeways

Bicycling as a transportation mode can play an increasingly significant role as an alternative to the single occupant automobile. The 1990 U.S. Census reveals that the bicycle commuter trip share for Los Angeles County is 0.63%. The national mode share is 1%. This data does not include commuting trips by school children, college students, and bike-transit users or utilitarian trips. Alta Transportation Consulting, as part of the MTA's Long Range Plan Off-Model Analysis for bikeways, recently developed a revised current bicycle commuter estimate of 2.4% for the County when 2000 population numbers, school, bike-transit and utilitarian trips are added to the census figures.

In 1995, the six Los Angeles County Bikeway Master Plans identified approximately 177 miles of existing Class I bike paths. An additional 17 miles have been constructed using MTA funding for a total of 194 miles of bike paths. Class I bike paths are exclusive two-way paths for bicycles that are completely separated from any street or highway. Bike paths are most often found along flood control channels, riverbanks, active or inactive rail rights-of-way, and utility rights-of-way.

The Master Plans also identified approximately 240 miles of existing Class II on-street bike lanes. Since that time, an additional 30 miles of bike lanes have been constructed using MTA funding for a total of 270 miles. Local cities have also completed additional miles of bike lanes using their own source of funding. Class II bike lanes are striped one-way lanes on streets or highways with signage.

The total completed Class I and II bikeways is approximately 464 miles plus the undetermined number of bike lane miles constructed using local sources of funds. The many miles of Class III bike routes, shared by motor vehicles and bicycles, are typically designated by signage only.

Accomplishments since 1995

Since 1995, MTA has funded 95 miles of Class I bike paths and 60 miles of Class II bike lanes. The bikeway facilities that are funded are located in corridors where there is significant bicycle demand or where there are regionally significant corridors that connect employment/activity centers and transit centers.

Between 1995 and 1997, MTA completed six sub-regional Bicycle Master Plans:

- Central Area Bicycle Master Plan (1997)
- San Fernando Valley/North County Area Regional Bicycle Master Plan Report (1995)
- San Gabriel Valley Bikeway Master Plan (1995)
- South Bay Area Regional Bicycle Master Plan Report (1995)
- Southeast Area Bicycle Master Plan (1995)
- Westside Area Bicycle Master Plan (1995)

These six sub-regional plans proposed the creation of a regional system consisting of 406 Class I bike path miles, and 1,365 Class II/III miles, for a total of 1,771 miles. Approximately 26% of this system has been completed (not including Class III facilities). In addition to bike paths

and bike lanes, other bikeway projects that have been funded are gap closures, such as undercrossings or bridges; safety improvements; a bike station; signage; and bike lockers and racks at rail stations.

There are 50 stations in the Metro Rail system. Of this number, 34 have bike parking (lockers and racks) for a total of 653 spaces. The remaining 16 bike stations have no bike parking due to space limitations. An inventory of bike parking is conducted quarterly to determine if additional lockers/racks are needed and to keep what is out there in operating order. Lockers and racks can also be found at Metrolink stations, schools, and colleges.

Currently, bicycle racks have also been installed on 1,500 Metro Buses and all Metro Rapid buses. It is estimated that the entire fleet will have bike racks by early 2001. All new buses include bicycle racks in their specifications. Bus racks have also been installed on some bus fleets in other municipalities.

Issues

The Long Range Plan Off-Model Analysis for bikeways concluded that a reasonable goal for bicycle trips in the year 2025 is 2 million trips or a 5% mode share. The following key issues face MTA in its efforts to increase bicycle ridership to meet this goal:

- Defining priorities for funding which will result in the most cost effective use of available funds.
- Completing the regional "spine" of Class I bikeways.

- Providing more on-street Class II bike lanes as these are preferred by experienced cyclists for commuting.
- Improving bike-transit connections that will make it easier for cyclists to interface with transit thereby accommodating longer trips.
- Providing assistance to local communities when requested in bikeway planning, project development and project implementation.
- Providing education for cyclists and vehicle operators in safety tips and rules of the road; for enforcement personnel on the laws governing cycling; and for the general public on the rights and responsibilities of cyclists and motorists.
- Developing land use and design standards that encourage bicycle ridership.
- Providing a low cost means of transportation and the facilities for low-income areas, youth and college students.
- Improving methodologies and information on bicycle ridership.
- Providing marketing a) on the benefits of cycling for congestion relief, air quality improvements, healthy lifestyles, increased mobility and better quality of life, and b) to inform the public about available facilities.

Actions

Constrained Plan Recommendations

Increase System Capacity and Ridership

- Through MTA's Call for Projects, fund an average of \$10 million for bicycle facilities per year that will facilitate the bicycle mode to be more competitive as an alternative to the single occupancy vehicle. This level of MTA funding, combined with TDA Article 3, Proposition C Local Return, State Bicycle Transportation Account, and other sources available to local jurisdictions, is estimated to provide enough funding to complete the system envisioned in the Bikeway Master Plans.
- Through MTA's Call for Projects, fund bicycle projects that connect to transit centers to allow for increased trip lengths by using a combination of bicycles and transit.
- Encourage cities to include on-street bike lanes as a component of city street improvement projects.
- Encourage cities to reduce automobile lane widths on existing roadways in order to accommodate the addition of bike lanes or provide wider curb lanes for bike usage.

Maximize the Effectiveness of the Bicycle Network

- Create a database on County-wide bicycle usage and needs and evaluate the effectiveness of existing bike facilities.
- Update MTA's Bicycle Master Plan every three years to update usage and effectiveness data and to establish priorities for strategically locating and funding new bikeway facilities.
- Research and develop innovative solutions to maximize the feasibility of on-street bicycle usage and safety given the competition for roadway space among travel lanes, parking, sidewalk widths and bike lanes.
- Provide a leadership role in educating local cities about innovative designs and methods of implementing and coordinating bikeway improvements through symposiums, technical workshops, fact sheets, and other methods.
- Encourage intersection crossing on Class I bike paths without dismounting.
- Encourage bike racks and lockers at major destination centers.
- Work with cities to add provisions to zoning ordinances to require bike lockers or racks and bike lanes as a component of all new development or redevelopment.

- Provide or increase bike parking at Metro Rail stations, transit centers and major bus park-and-ride lots as demand warrants.
- Increase MTA bicycle education and marketing efforts and fund such efforts by others.
- Target bicycle improvements and education where increased usage is most likely (e.g., low income areas, schools, colleges).
- Develop improved methodology for reliable data collection on bike usage and forecasting.

Strategic Plan Recommendations

Through MTA's Call for Projects, expand the category to fund an average of \$20 million for bicycle facilities per year that would enable:

- Increased construction of Class I and II bike facilities.
- Funding for bicycle safety education for motorists and cyclists.
- Funding for training of police officers in enforcement of laws for motorists and cyclists.
- Allocation of MTA sources of funds, other than TEA funding, to the bikeway category for the lower cost projects, such as, bike lanes and parking, in order to expand eligibility and simplify the process of obtaining funds.
- Provide bicycle planning and coordination assistance to cities.

Pedestrian Improvements

All trips within Los Angeles County, regardless of purpose, include a pedestrian component. In spite of Los Angeles' legendary love of cars, on average more people walk in Los Angeles than they do nationwide. Of all the trips within Los Angeles County, 8.7 percent are exclusively pedestrian trips, while the national average is only 5.7 percent. And 4.2 percent of those exclusively walking trips in LA are from home to work.

All modes depend on the efficiency of the pedestrian system to ensure completion of a trip. A carefully planned and strategically implemented pedestrian system is a key component to an efficient and convenient transportation system.

There is a heightened concern among cities to preserve or improve the livability of its communities by providing safe, convenient and sustainable transportation options. Many cities and areas of the County of Los Angeles have reached a level of development maturity that requires a critical review of their existing transportation infrastructure. The considerable physical limitations, the measurable environmental impacts, and high cost of constructing major infrastructure in the matured built environment limit many of the major capacity enhancement options. In many instances, the opportunities to improve mobility in these areas are largely limited to better utilization and development of the transportation and pedestrian infrastructure already in place.

The pedestrian trip is an excellent effective alternative for short automobile trips, and is essential to transit and rideshare trips. The average walking trip in Los Angeles County is 0.6 miles. National Personal Transportation Survey, 1995).

Lower-income, youth, seniors, and transportation-disadvantaged people often rely heavily on pedestrian transportation, and thus benefit significantly from pedestrian improvements. The cost of pedestrian improvements is also much less than that required to improve automobile travel (Litman, 1998). Some areas of Los Angeles County have reached a greater intensity of development and population density. These areas benefit substantially from improved pedestrian connections.

Approximately 330 community centers in Los Angeles County have the population density and level of employment recognized as necessary for supporting substantial pedestrian activity (SCAG, 1998).

The pedestrian system in Los Angeles County includes any physical pathway that accommodates pedestrian travel – improved or unimproved – and supports four primary areas of mobility.

1. Improvement to the physical environments supporting pedestrian trips made exclusively by populations where walking is their primary form of mobility: Numerous studies have demonstrated the willingness of people to walk when the pedestrian environment is improved. Communities that have implemented comprehensive pedestrian programs have experienced

significant increases in pedestrian travel and related reductions in automobile travel.

2. Walking provides support to other transportation modes, especially transit: All trips have a pedestrian component, with transit trips being the most dependent on successful walking connections. Integral to this system are cohesive, coordinated, integrated links or physical improvements that support connections between other modes. This includes the transit stop connecting to the work place, or the quality of environment between a parking lot and the user's final destination.
3. Walking trips within employment or community activity centers eliminate the need to drive between locations: People drive because they can't get to their destination by walking. The County's major arterial roadways are designed specifically to move cars faster. While pedestrian usage is accommodated, a clear priority for the automobile is inherent in street designs. Improved walking environments may reduce the desirability of driving or it may encourage the use of a local shuttle. Approximately 330 centers have been identified in Los Angeles County where land use, zoning and density will support heavy pedestrian usage. The centers range in area from .6 square miles to 1.5 square miles, and include business, commercial, residential or government centers, major cultural centers and universities, connected high-density development or connecting centers.
4. ADA access and safety: Residents that use wheelchair or other mechanical devices are highly

dependent on successful and appropriate pedestrian improvements. TDA Article 3 funding has been used extensively to modify the physical walking environment to accommodate ADA access and improve safety. Hundreds of locations in the County have improved wheelchair ramps, accessible signal systems and a variety of other improvements that have helped to improve safety and accessibility.

The large number of trips in the County where walking is the exclusive mode (8.7 percent), and the role that pedestrian activity plays in the County's multi-modal transportation system necessitate a focused effort for improving the pedestrian system

Accomplishments Since 1995

- In 1998, a modal team was established with primary responsibility for coordinating MTA's pedestrian planning and policy efforts, and this is the first time the pedestrian system is included as a chapter within the Long Range Transportation Plan. However, MTA has funded many pedestrian improvements since 1992, including:
- Investment of \$19 million through MTA's Call for Projects for the construction of 30 pedestrian-related projects designed to improve pedestrian access to transit and commercial centers.

- In coordination with numerous grantees, received funding for TEA (Transportation Enhancements) projects, Transit Center projects, and street improvements to include pedestrian improvements as part of their design and construction efforts.
- In conjunction with the City of Los Angeles, development of the Transit Oriented District/ Pedestrian Oriented District (TOD/POD) ordinance for improved zoning consideration adjacent to high volume transit areas (rail/bus) in the city.
- Assisting cities in implementing local pedestrian improvements through the use of MTA TDA Article 3 funds. Approximately \$16 million has been invested in local pedestrian improvements including ADA compliance issues through the use of these funds since 1992.
- Establishment of a separate modal category within the Call for projects since the 1999 funding cycle.
- Development of a comprehensive study of pedestrian systems in areas of major rail improvements in downtown Los Angeles (Angels Walk).
- Pedestrian improvements are clearly identified as essential for the success of the rail, bus and transit systems.
- Pedestrian transportation often provides basic access and is generally available to all members of a community.
- In developing future pedestrian investments, the following concerns and objectives should be addressed:
 - Identify projects that improve the efficiency of the County's existing transportation infrastructure. In many instances differing forms of transportation infrastructure conflict with pedestrian traffic. Several recent studies have shown an increased incidence of pedestrian accidents in inner-city communities
 - Detail the essential pedestrian elements of a typical commuter within Los Angeles County, and then identify means by which the pedestrian element could be more efficiently accomplished (complementary projects which serve to better facilitate the entire commute).
 - Coordinate efforts through which LA County commuters are made aware of the pedestrian options available, thereby reducing the number of vehicles on the road today.
 - Coordinate with TDM, Joint Development and countywide land use efforts to develop pedestrian supporting public policies and land use decisions.

Issues

- Pedestrian improvements and reliance on pedestrian access has become more important in meeting ADA access and providing for an aging population.

- Educate the public on the positive benefits of walking (i.e., health, environmental, cost, time).
- Identify pedestrian projects that compliment the County's mass transit system (i.e., bus, rail, and carpool/vanpool), thereby encouraging greater utilization.
- Identify demonstration projects that exemplify the advantages of pedestrian improvements.
- Support the development of land use planning efforts, especially in areas currently identified as capable of encouraging higher pedestrian activity.
- Strategically address the issue of pedestrian safety as an element of a more efficient and safe transportation system.
- Improve awareness of the diversity of pedestrian trips taken throughout the County and in specific communities and segments of the population. This awareness will allow MTA to effectively provide the leadership and thus more efficiently focus its' improvements in appropriate conditions.
- Coordinate with the Transportation Demand Management program and other modes to integrate and align MTA's programs and projects that deal with walking, trip reductions and commuter travel behavior.

Pedestrian Program Goals:

- Improve the pedestrian elements of the transportation and transit system.
- Strategically focus resources to prevent and minimize conflictive and unsafe pedestrian conditions in our transportation and transit system.
- Sustain and develop pedestrian infrastructure to address the diverse needs of pedestrian trips throughout the County
- Focus the planning process to ensure that MTA planning and funding processes give full consideration to the Pedestrian element of transportation.

The outcome from the appropriate implementation of pedestrian improvement is:

- Improved efficiency of all transportation modes.
- Increased distances and frequency people will walk (thus reducing trips within other modes).
- An environment and infrastructure that supports pedestrian elements and enhances the potential for transit use and efficient multi-modal interface.
- Improved safety in the walking environments.
- Improved walking connections to the community centers, economic centers, employment areas and schools.

Actions

MTA has worked to develop a long-term implementation and funding plan. The plan contains a general program to improve numerous pedestrian priority communities, or to improve communities that generally meet the pedestrian community criteria. The objective of the plan is to increase the pedestrian exclusive trips percentage from the current 8.7% of all of Los Angeles County's trips to 11% of all trips. The 2.3% gain will also directly benefit transit usage and transit access. This is a reasonable and conservative assumption given the geography, weather and increases in population density in Los Angeles County.

An enhanced funding plan for pedestrian improvements would accelerate the development of pedestrian supporting communities, and thus, increase the percentage of trips taken by walking, ahead of the current Long Range Plan off model projects. The current public interest in quality of life issues has created a supportive climate for the development of successful pedestrian improvements. The current demand for pedestrian improvement funding far exceeds MTA's available pedestrian funding programs. Providing increases in funding would allow a greater flexibility to leverage MTA pedestrian improvement funds with local jurisdiction improvements and increase the integration of the improvements with the MTA transportation objectives.

Constrained Plan Recommendations

The constrained plan recommends \$8 million per year for pedestrian improvements.

The constrained plan includes \$2 million per year in Transportation Enhancement funds available for enhancing environmental-related components of transportation projects.

Strategic Plan Recommendations

The strategic plan recommends \$18 million per year for pedestrian improvements.

No higher level of Transportation Enhancement funds is anticipated to be available from federal appropriations.

Other Program Recommendations:

A number of general recommendations can be stated that apply in any case, whether constrained or expanded funding is available:

- Focus Call for Projects funding of pedestrian projects into communities and conditions that are consistent with the findings of MTA's Off Model Analysis. This includes areas where current land use or zoning support pedestrian travel, where transit or services are highly accessible by pedestrians, where populations demonstrate a potentially high use of pedestrian facilities, and where building form compliment and support pedestrian investments.

- Encourage further development of pedestrian supporting land use standards and the requisite documentation that will develop general plans or redevelopment plans that contain pedestrian and transit supporting policies.
- Be actively involved in, and support the creation of examples of pedestrian and transit-influenced design through the implementation of pedestrian corridors, Transit or Pedestrian Oriented Districts (TOD/POD), linkages and transit/community integration plans.
- Integrate MTA pedestrian objectives with other community improvement efforts such as Safe Routes to School. The State funded mandate is directed at improving the safety and accessibility of walking
- Routes to local schools. This will result in safer environments and reduce the need to drive children to school.
- Integrate the MTA pedestrian efforts with State and local objectives to encourage walking for health and community objectives.
- Development of comprehensive General Plan and Redevelopment Plan guidelines that raise the priority of pedestrian improvements in Community or Redevelopment Planning. Increasing the priority and requirements of pedestrian planning in local jurisdictions documents would improve the quality of pedestrian environmental considerations in new developments.
- Development of prototype pedestrian communities in cooperation with one or more local jurisdictions. Raising the pedestrian priorities in a corridor, community or new development that fully demonstrate the advantages of pedestrian priority design would provide a local and real world value to regional planners.
- Supporting general, community, or redevelopment planning efforts by leveraging MTA funding with local jurisdiction funding to accelerate County pedestrian improvements and increase the value of MTA pedestrian investments.
- Creating incentives in MTA local return funding, formula funding or discretionary funding for local jurisdictions that adopt advanced pedestrian planning efforts.

Areas for Further Study

Neither the constrained or enhanced funding scenarios included full consideration of the discussions below. MTA continues to pursue alternatives that may allow some improvement in these areas.

Section 6

Sub-regional Element



2001 Long Range Transportation Plan for Los Angeles County

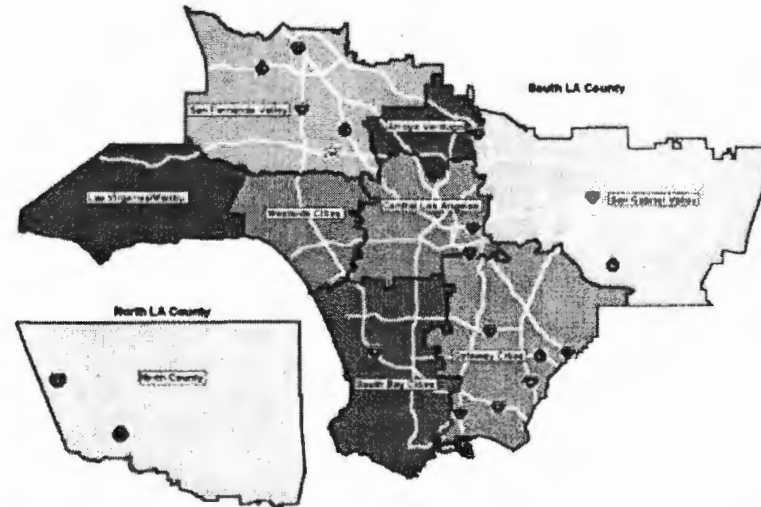
MTA'S Partners: The Sub-regions

The 2000 Long Range Transportation Plan presents an opportunity to provide a sub-regional perspective to the long range transportation needs of Los Angeles County. While regionwide planning indisputably maintains its relevance, each sub-region has distinct transportation needs based on its own features whether topographic, demographic or otherwise that warrants looking at the sub-region independently from the others in Los Angeles County.

The LRTP provides the opportunity for a positive, constructive dialogue between MTA and its many partners on the future of transportation in Los Angeles County. This chapter is a result of the partnership between MTA and the sub-regions, working together to devise a plan that takes into account the unique transportation challenges that face each of the nine sub-regions today and over the next 25 years.

Los Angeles County Sub-regions

Los Angeles County is composed of 89 jurisdictions and numerous neighborhoods and communities. Each is distinctive, but many share common concerns and challenges, particularly in terms of transportation, economic vitality and air quality. For the purposes of the



LRTP, Los Angeles County cities and communities have been divided geographically into nine distinct, diverse and vibrant sub-regions based generally on the existing

Councils of Government. Some are small, cooperative efforts staffed by city employees; others are formalized Councils of Government (COGs) with paid staff; and some are primarily geographic sub-sections of the city of Los Angeles. Some are well served by various transportation modes, others less so. All face transportation challenges that are both common and unique to their respective geographical sub-regions. They are:

- Arroyo Verdugo Cities
- Gateway Cities
- Las Virgenes / Malibu
- North Los Angeles County

- Central Los Angeles
- San Fernando Valley
- San Gabriel Valley
- South Bay Cities
- The Westside

MTA and The Sub-regional Planning Process

In developing this chapter, city staffs, COGs and SCAG were engaged early in the process to provide an ongoing dialog to capture the unique transportation issues and challenges facing each sub-region. MTA met with each of the sub-regions for a series of meetings with elected officials, city staff, and COG staff and consultants. This interaction captured the distinctive qualities and identified the long-term transportation issues and objectives of each of the sub-regions.

The City of Los Angeles has proven to be a unique challenge given their geographic sprawl across four of the sub-regional areas: South Bay, the Westside, Central Los Angeles and the San Fernando Valley. These areas obviously share much in common, yet each of the geographic sub-regions faces transportation challenges that are somewhat distinct from the challenges faced by the others. The two former sub-regions have existing cooperative relationships between the cities within the sub-regions, but the latter two are largely geographic sub-sections of the city of Los Angeles that face distinct and diverse transportation challenges and issues.

MTA met with a City of Los Angeles team, which included representatives from the Transportation Department, Planning, Chief Legislative Analyst's Office and the Mayor's office to analyze and prioritize the city's transportation issues as a whole. The results of that dialog are included in a unified City of Los Angeles chapter. The Central Los Angeles and San Fernando Valley sub-regional discussions are culled from this citywide dialog so that their unique transportation needs and issues may be addressed independently. The South Bay Cities and Westside chapters primarily reflect the work of the other cities in the sub-regions, however they also list the program priorities of the City of Los Angeles within those geographic areas.

The Results

First, and most importantly, this chapter reflects the views and perceptions of the sub-regions themselves. While MTA provided the general framework for input, the sub-regions and the cities that comprise them committed their time and expertise to consider the issue of transportation in their sub-region over the next 25 years to develop this sub-regional policy framework.

Second, this is a work in progress. MTA will continue to work with all of the sub-regions and cities to address transportation program priorities based upon the issues and objectives they have developed to date, as well as any other issues that may arise as we continue this important dialog.

Third, as you look at the results of this chapter, it is apparent that while all of the sub-regions are partners with MTA in regional transportation planning, each sub-region does in fact face common yet unique transportation challenges.

And lastly, despite those differences, the sub-regions recognize that they are not islands. A father of two in Santa Monica travels from the Westside to Central Los Angeles for his job in downtown LA. A single woman in Norwalk takes the Metro Green Line to the South Bay for her aerospace job in El Segundo. Residents of the Westside pass through Las Virgenes/Malibu to get to their jobs in the San Fernando Valley. Goods arriving at the Port of Long Beach travel through Gateway Cities and the San Gabriel Valley to reach neighboring counties and beyond. Every day, thousands of people throughout Los Angeles travel for work, school, play and shopping, originating from and passing through virtually every sub-region in the County.

And many more choose to circulate within their own neighborhoods and surrounding communities.

Everyone in Los Angeles relies on a good public transportation system to get to their destination, whether it be by car, by foot, by bicycle, by bus, by train or even rollerblading. Every mode traveled relies on streets, sidewalks, highways and freeways, including transit. This chapter addresses the unique transportation challenges throughout Los Angeles and the diversity that makes this county a great place to live and work.

Arroyo Verdugo Sub-region Description

Arroyo Verdugo Cities

- Burbank
- Glendale
- La Canada Flintridge

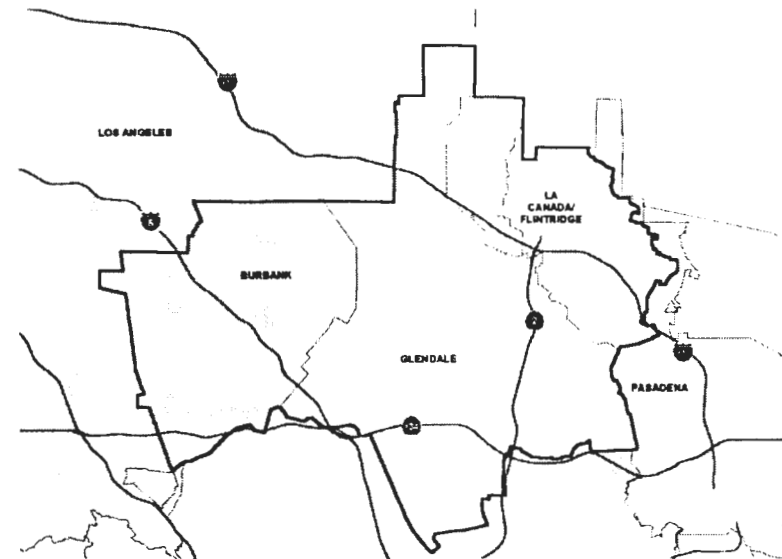
The Arroyo Verdugo Cities sub-region sits against a dramatic backdrop of the San Gabriel Mountains between the San Fernando and San Gabriel Valleys. Arroyo Verdugo is located on the northern edge of the Los Angeles Basin and is bounded to the north by the Angeles National Forest, to the west and south by the City of Los Angeles, and on the east by the City of Pasadena. The sub-region is split by a portion of the Verdugo Mountains.

Major Transportation Facilities

Several major freeways traverse this sub-region including the Foothill (I-210), Glendale (Rt. 2), Golden State (I-5) and Ventura (Rt. 134) Freeways. The Hollywood freeway (Rt. 170) runs just to the south and west of the sub-region.

Metrolink's Ventura County and Antelope Valley Lines serve Burbank and Glendale. Additionally, Amtrak provides limited service to these cities.

Bus service in the sub-region is provided by MTA as well as LADOT-operated Commuter Express. Each city provides its own local transit service. The Cities of La



Canada Flintridge and Glendale are working together to create a new Beeline

Route 3, formerly known as MTA Line 177. Burbank runs shuttles from the Metrolink station to major employment centers. Glendale operates Metrolink shuttles as well as Beeline, one of the first shuttle services of this type initiated in the region. La Canada Flintridge has a local shuttle serving the Jet Propulsion Laboratory (JPL). Each of the member cities contains at least one Park & Ride location.

The three cities also provide paratransit services within their cities for the elderly and persons with disabilities. Service in La Canada Flintridge is administered by the City of Glendale. Access Services, Inc. provides paratransit service in Arroyo Verdugo as part of its region-wide service.

Mobility Challenges

The Arroyo Verdugo area, especially Burbank and Glendale, enjoy consistent employment growth spurred by the entertainment industry and, in the case of Glendale, a prospering financial district which is now home to the second largest financial center in the County. Both cities boast flourishing Media Districts that have also led to the proliferation of more jobs, specifically entertainment-oriented digital media spin-offs. Although residents within, and commuters across, the sub-region are well served by its freeways, the quality of the arterials does not support them. With growing employment density in Glendale and Burbank, worsening congestion on the surface streets is hampering access at the freeway interchanges. This is exacerbated by the lack of a grid system for the arterials, a vestige of long-ago urban planning, so that there are few direct routes to the freeway interchanges. And, recurring congestion and accidents on the freeways worsens the already heavy traffic and lengthens delays on the arterial street network. Indeed, the arterials are no longer encountering congestion isolated to the rush hour but rather are experiencing congestion throughout the day.

Congestion on the arterials throughout the sub-region is also intruding into neighborhoods as drivers cut through residential streets to avoid traffic. In La Canada Flintridge this problem is especially acute as Foothill Boulevard serves as the spine via which all local traffic travels through the city. Vehicles exceeding the speed limit are of particular concern along Foothill.

Metrolink service does not run directly through the highest density employment areas in Burbank and Glendale so

shuttle service links passengers with key employment centers. There is also discussion of linking this sub-region with high-speed rail which could bring commuters into this area to access jobs from further afield.

Key Transportation Objectives

- **Reduce Congestion on Arterials**
Capacity on its arterials is a growing sub-regional problem which may be addressed through innovative technologies such as ITS.
- **High-Speed Rail**
As the sub-region continues to attract jobs, and as the toll on its transportation facilities is increasingly felt, routing high-speed rail (HSR) into the area will provide another valve to release the pressure of local congestion.
- **Soundwalls:**
A priority for La Canada Flintridge is constructing soundwalls as the I-210 passes through the city.
- **Bikeways**
Employment growth in this sub-region demands that new and innovative approaches to transportation be adopted. Adding bikeways that link employment and activity centers with each other, and with other transportation modes, will help provide viable commute alternatives in Arroyo Verdugo.

- **Transit Zone**
Arroyo Verdugo is part of the San Fernando Valley Transit Zone which is seeking to provide autonomous bus service for the sub-region and the adjacent San Fernando Valley.
- **Freeway Access**
Heavy traffic on the arterials, and vehicles entering interchanges and on-ramps, is hampering efficient access onto the freeways; and, congested freeway off-ramps cause queues and bottlenecks as vehicles exit the freeways onto local arterials. Widened on-ramps, metering and other freeway access improvements can address this problem. In addition, the topography, especially in the La Canada Flintridge area, requires more and improved freeway access.
- **Increase Metrolink access and service**
Improved access from Metrolink to jobs across the sub-region via more frequent and convenient shuttles will increase ridership and help alleviate congestion. Enhanced frequency of Metrolink service will also make this mode more attractive.

Arroyo Verdugo Statistics

Demographic data

	1998	2025	% change
Population	330,271	414,930	26%
Employment	190,263	250,055	31%
Area	60 square miles		

Arroyo Verdugo Priority Projects

- **Freeway improvements**
Soundwalls (9 miles along the I-210)
I-5/Rt. 134 Interchange Improvements
Rt. 134/San Fernando Rd./Doran St. Grade Separation & Access Program
- **Transit improvements**
Electric Shuttle buses/Electric Changing stations
Acquisition of land and construction of a bus alternate fuel and maintenance facility
Expansion of Burbank Local Transit Operation to serve Universal Studios and Burbank Airport
Compressed Natural Gas Fueling and Maintenance Facility
- **Rail improvements**
Light Rail line between Union Station-Glendale-Downtown Burbank-Burbank Airport
- **Signal and Arterial improvements**
Traffic Signal synchronization on Foothill Corridor
Walnut Street extension - from Sunnyslope to Kinneloa
Verdugo Avenue/RR Grade Separation
Glendale Buena Vista Street/RR Grade Separation
- **Pedestrian and Bicycle improvements**
Lighted Crosswalks, pedestrian improvements
Bikeway planning
Integrated bike/pedestrian facility (multi-modal) in the Arroyo Seco area

Funding support for the implementation of the Pasadena ARTS five-year plan developed to support the Metro Rail Line

- **Transportation Demand Management**
Transportation Information Kiosk
Traffic Video Monitoring/Security
Integrated GIS-based fleet and facilities management system

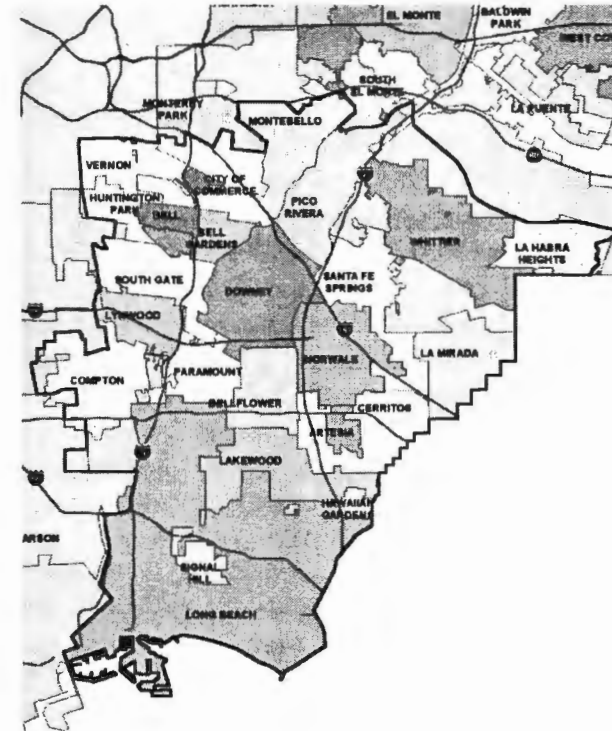
Gateway Cities Sub-region Description

Gateway Cities

Artesia	Avalon	Bell
Bell Gardens	Bellflower	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

Bordered by the Pacific Ocean on the south and Orange County to the east, this sub-region lies in the southeastern portion of Los Angeles County and extends from coastal Long Beach to the foothill communities of La Habra Heights, Rowland Heights, Hillgrove, Montebello and East Los Angeles to the north. The economy of the Gateway Cities is rooted in manufacturing technology, trade and tourism. The Long Beach/Los Angeles port complex ranks third in world container sea trade. Together these two ports are tremendous tourist and economic attractors.

The 27 cities making up this sub-region have a combined population of 2 million and provide 14% of the jobs in Southern California.



Major Transportation Facilities

The area is served by ten freeways: Santa Ana (I-5), Garden Grove (Rt. 22), Orange (Rt. 57), Pomona (Rt. 60), Artesia (Rt. 91), Century (I-105), Harbor (I-110), San Diego (I-405), San Gabriel River (I-605), and Long Beach (I-710).

Regional transit service is provided by the municipal operators in Commerce, Long Beach, Montebello and Norwalk as well as MTA. Many other cities provide

paratransit and community level transit service. There are 20 Park & Ride lots in the sub-region.

Both the Metro Blue Line and Metro Green Line serve this area. Metrolink operates service through the area, with stations at Montebello (Riverside Line), Commerce and Norwalk/Santa Fe Springs (Orange County Line).

The Alameda Corridor, scheduled to become operational in 2001, will run along the western border and traverse the entire sub-region.

Mobility Challenges

Of the goods coming through the ports of Long Beach and Los Angeles, approximately 80% of those goods pass through the Gateway Cities either by train or truck. Port-related truck traffic is the leading cause of congestion on all of the major freeways within the sub-region but especially the I-5, I-710 & I-605 corridors regardless of time of day. Currently, trucks account for 45 to 60 percent of freeway capacity, and this traffic is expected to grow substantially due to expansion of the Ports, interstate freight movement, weekday commute traffic and weekend recreational traffic.

The concentrated movement of goods through individual communities has had a tremendous impact on both the residential and commercial character of the sub-region. As a result of this all-day congestion, those traveling shorter distances increasingly use local arterials thus creating greater surface congestion within the local cities adjacent to these corridors.

In addition to truck and train traffic causing congestion on both the freeways and local arterials, the numerous grade rail crossings exacerbate surface traffic congestion while, at the same time, posing enormous safety risk as drivers unwisely attempt to beat trains by going around crossing gates. The Metro Blue Line, which travels considerably faster than freight trains, continues to pose safety risks as well, as violators frequently cite the expectation of slow trains as the reason for failing to stop at crossing gates. And, while not necessarily a mobility issue, stakeholders throughout the sub-region remain very anxious about the amount of hazardous air pollutants trucks and freight trains emit within their communities.

Key Transportation Objectives

- **I-710 Corridor improvements**

The I-710 Freeway Corridor is the principal transportation connection between Los Angeles County and the Ports of Long Beach and Los Angeles. A Major Investment Study (MIS) is scheduled to get underway later this year. Objectives of this study include providing an efficient ingress/egress at the Ports of Long Beach and Los Angeles, reduction of passenger vehicle and truck congestion along the freeway, highway and surface streets; improved mobility and access; the identification of measures to improve safety of all modes; reducing incursion of non-residential traffic for residential neighborhoods; and the reduction of air pollution especially near homes, schools, hospitals and senior facilities.

- **Goods movement**

While the movement of goods from the port complexes in Los Angeles and Long Beach to destinations outside the County and beyond are key to the economic vitality of the sub-region, it is equally important that increased goods movement not burden the sub-region further. Reductions in the number of traffic bottlenecks on freeways and surface streets for safer, more efficient goods movement remain a high priority.

- **Rail/Highway at-grade crossing improvements**

Safety has long been a concern at rail crossings especially along the Metro Blue Line. The California Public Utility Commission recently approved the use of quadrant crossing gates which effectively seal off a crossing from vehicular traffic as trains approach. This and other measures continue to be studied as valuable methods of ensuring safety at grade crossings throughout the sub-region.

- **Transit restructuring**

Municipal operators in Commerce, Long Beach, Montebello and Norwalk provide regional transit service. Several other cities within the sub-region provide paratransit and community level transit service. The Southeast Bus Restructuring Study is expected to recommend more timed connections between providers and more circular routes.

- **Intelligent Transportation Systems**

Because the safe and efficient movement of goods through this sub-region is important not just to Southern California but literally to the state and country as a whole, it is expected that new technology will play

a key role in managing congestion on the sub-region's freeways. New technologies will be readily utilized within this sub-region to avoid traffic accidents and inform drivers of accidents, bottlenecks and alternate routes.

- **I-5 Corridor improvements**

While I-710 and I-605 congestion problems can be largely traced to port related traffic, I-5 congestion is primarily the result of commuters traveling through the region from Los Angeles to Orange and San Diego Counties. In order to keep this inter-county traffic moving, enhancements in the form of ramp widenings and extended HOV lanes have been proposed. A faster moving I-5 corridor potentially allows drivers to switch from truck-congested corridors to this corridor for faster commute times. However, local residents remain wary of ramp metering that may result in traffic backing up onto local streets during morning and afternoon rush hours.

Additionally, with Orange County soon to be widening portions of I-5, bottlenecks are likely to be created on the Los Angeles County side, again impacting Gateway Cities significantly as commuters try to move around freeway blockage.

Gateway Cities Statistics

Demographic Data

	1998	2025	% Change
Population	1,807,189	2,249,078	24%
Employment	780,172	986,741	26%
Area	226 square miles		

- **Air Quality**
Diesel Toxins Emissions Reduction Measures

Gateway Cities Priority Projects

- **Freeway improvements**
I-710 Corridor
I-5
- **Goods movement**
Port of Long Beach Ground Access
Truck-Impacted Intersections Program
Rail-Highway Grade Crossing Program
- **Signal and Arterial improvements**
Signal Synchronization Program/ITS Deployment Program
System Preservation
- **Transit improvements**
Bus and Rail Facilities
- **Pedestrian and Bicycle improvements**
Funding for Non-motorized transportation (bike and pedestrian)

Las Virgenes/Malibu Sub-region Description

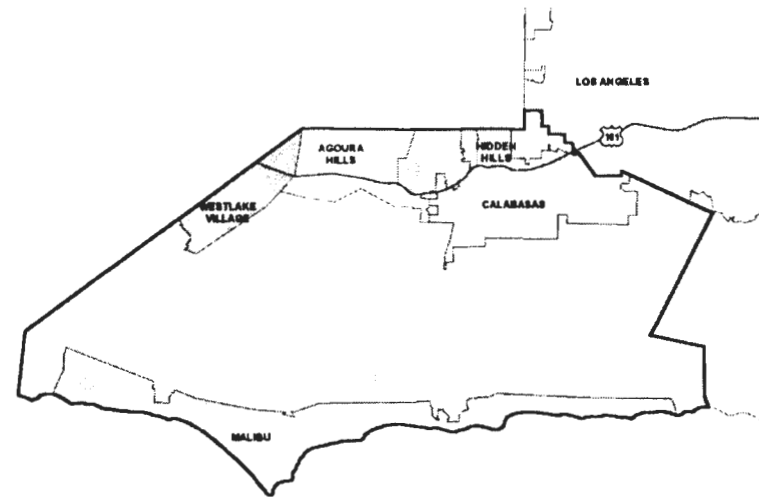
Las Virgenes / Malibu Cities

- Agoura Hills
- Calabasas
- Hidden Hills
- Malibu
- Westlake Village

Las Virgenes/Malibu occupies the northwest portion of Los Angeles County. Bordered by the Pacific Ocean and Malibu to the west and Ventura County to the north, this sub-region is split by the Santa Monica Mountains, with the Las Virgenes cities on the valley side. The Santa Monica Mountains State Park and the Santa Monica Mountains National Recreation Area occupy a large, central portion of the sub-region, and is protected from development.

Major Transportation Facilities

The Ventura Freeway (Rt-101) in the Las Virgenes area and Pacific Coast Highway (Rt-1) in Malibu, running north-south, are the major transportation facilities in the sub-region. There are no arterials parallel to these highways for any meaningful distance. The dual spines of the Rt-101 and Pacific Coast Highway are linked east-west by Decker,



Kanan Dume, Las Virgenes and Malibu Canyon Roads, and Topanga Canyon Boulevard.

There are three Park & Ride lots in the sub-region at the intersection of Kanan Dume Road and Rt-101 in Agoura Hills.

Regional bus service is provided by MTA and by LADOT's Commuter Express. Calabasas runs a community shuttle while the other cities in the sub-region operate dial-a-ride services. There is currently no rail service in the sub-region.

Mobility Challenges

The Las Virgenes/Malibu sub-region's transportation system is encountering growing capacity pressures. As

home to some of the nation's most-visited beaches, the sub-region has long experienced weekend and summer traffic. However, weekday traffic volumes have also multiplied as Las Virgenes/Malibu has expanded its own employment base and as housing development to the north and west in Ventura County created a new generation of commuters passing through the sub-region to access jobs largely in west Los Angeles, but also to the east in Warner Center.

Congestion pressures in this sub-region are likely to grow further. More housing development is slated for Ventura County with a commensurate increase in "throughput" traffic traveling to Los Angeles for jobs. And, with the expansion of daytime recreational facilities at the Santa Monica Mountains State Park and the Santa Monica Mountains National Recreation Area, there will also be additional weekend traffic. In short, as congestion has grown, there has been no corresponding increase in capacity and, as a result, Las Virgenes/Malibu will continue to experience traffic bottlenecks, back-ups and delays seven days a week.

The unavoidable reliance on the two north-south routes has a number of ramifications for the sub-region. Delays, disruptions or closures on the Rt-101 leave motorists with no alternative but to divert onto Pacific Coast Highway via the east-west roads through the Santa Monica Mountains. Indeed, this cross-mountain traffic pattern has become so prevalent that residents and planners alike have coined this traffic phenomenon "Z" traffic.

In addition, the topography and climate conditions in Las Virgenes/Malibu exacerbate capacity problems as

deterioration of the Pacific Palisades leads to frequent delays on Pacific Coast Highway. In addition, rock-falls on the east-west roads and mud-slides resulting from winter rain storms cause frequent road closures. Consequently, this sub-region faces access problems for emergency vehicles.

Although congestion is commonplace, there are limited transportation alternatives in the sub-region. Bus service does not traverse the east-west roads which poses a particular obstacle to day-workers accessing employment in homes, restaurants and at Pepperdine University. While all the cities in the Las Virgenes/Malibu sub-region provide dial-a-ride or community shuttle service, there is limited coordination of this service.

Key Transportation Objectives

- **Increasing capacity of the Rt-101**
The rapid growth in housing north and west of Las Virgenes/Malibu without commensurate increase in capacity of the Ventura Freeway has resulted in worsening mobility. Alternatives that are being considered by the sub-region include increasing the number of lanes on the Rt-101 (which will also require on-ramp and interchange improvements) as well as considering alternative modes of transportation, such as light rail.
- **Limiting "Z" traffic**
The absence of arterials parallel to the Rt-101 means that, if an incident occurs on the freeway, travelers are

diverted onto the cross-mountain arterials, thereby adding the "Z" to traffic. Cross-mountain traffic contributes significantly to congestion on Pacific Coast Highway as commuters use this route to access Westside jobs and to avoid back-ups on Rt-101. Increased capacity on Rt-101 will reduce these cross-mountain trips, thereby reducing diversions onto Pacific Coast Highway.

- **Improving access to emergency vehicles**
Congestion on I-101 and Rt-1 limits access of emergency vehicles. This is exacerbated by closures on the east-west roads due to storm conditions and related rock-slides, as well as limited use of Pacific Coast Highway due to instability of the Palisades.
- **Increasing transportation alternatives in this sub-region**
The sub-region is looking at introducing innovative new transportation modes like a "smart shuttle" and increasing the number of transportation "hubs" in the region.

Las Virgenes/Malibu Priority Projects

- **Signal and Arterial improvements**
Pacific Coast Highway- install raised medians
N. Malibu Canyon Road - implement HOV lane
Kanan Dume Road - implement HOV lane
Pacific Coast Highway – Highway Activities Radio (HAR) system.
Pacific Coast Highway - TMC
Cross Creek Road Rehab - Street and parkway rehab
Kanan Interchange Improvement
Reyes Adobe Interchange Improvement
Citywide Signal Synchronization Project
Chesebro Interchange
Signal at Agoura/Chesebro
- **Pedestrian and Bicycle improvements**
Completion of Rt-101 Bike Gap Closure - Agoura Road (widen to 4 lanes) Kanan to Western City Boundaries

Las Virgenes / Malibu Statistics

Demographic Data

	1998	2025	% change
Population	79,707	107,433	35%
Employment	41,902	53,924	29%
Area	162 square miles		

Sub-region Description

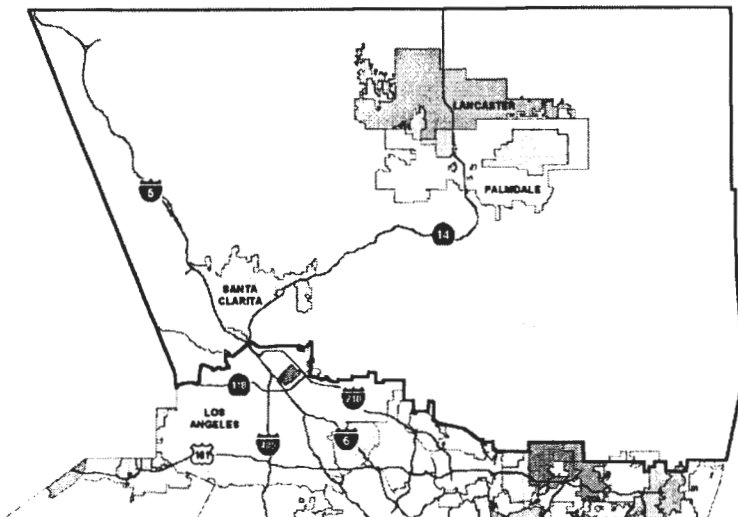
North Los Angeles County Cities

Lancaster

Palmdale

Santa Clarita

Parts of Unincorporated Los Angeles County



This sub-region comprises all of Los Angeles County north of the San Fernando Valley and includes the Angeles National Forest. The two most populous areas of the sub-region are the Santa Clarita and Antelope Valleys. Santa Clarita, in the southern portion of the sub-region, is divided from Lancaster and Palmdale, in the Antelope Valley to the

north, by the breath-taking natural beauty and open space of the Angeles National Forest.

The fastest growing sub-region in the County, North Los Angeles County's stimulus for growth has been the development of more affordable housing which has mushroomed in this area since the 1960's. Indeed, the 1980's saw the influx of tens of thousands of new residents, causing the sub-region to be housing-rich and jobs-poor, further straining Los Angeles County's transportation system.

And, because this sub-region contains the majority of developable land remaining in Los Angeles County, it will continue to be one of the primary growth areas for the next two decades. Although the focus of this tremendous growth originated in Santa Clarita, it has increasingly migrated into the Antelope Valley so that the northernmost portion of the sub-region is growing faster than the south.

Major Transportation Facilities

Area freeways include the Golden State (I-5) and the Antelope Valley (Rt-14) which includes an HOV lane, although the region is also impacted by the Rt-126 and Rt-138. Antelope Valley Transit Authority and Santa Clarita Transit provide local bus service. Metrolink operates commuter rail service.

Mobility Challenges

The steady growth in population in the North County is expected to continue over the next 25 years and thus must be anticipated in transportation planning for this sub-region. Commuters comprise the bulk of users of transportation facilities in North Los Angeles County although, as the region grows, there will likely be new locally-based jobs generated. Rt-14, running from just south of Santa Clarita to Lancaster and Palmdale, is a relatively new freeway serving the area. However, the 1-5, which feeds the Rt-14 into North Los Angeles County from the southern parts of the county, experiences heavy congestion from both passenger vehicles and interstate trucking.

The Angeles National Forest, which straddles the center of this sub-region, is also a magnet for day-trippers, weekenders and vacationers.

Because of this sub-region's location at the northernmost reaches of Los Angeles County, transportation linkages with the adjacent Kern and Ventura counties may be more germane to North Los Angeles County than destinations south of downtown Los Angeles.

Key Transportation Objectives

- **Predictable level of funding for the sub-region**
The North County requests a predictable level of sub-regional funding and recommends either an improved allocation formula, allocation of block grants to each sub-region, or increased sub-regional control.
- **Equitable return on transportation revenues generated**
The North County would like each sub-region to be allocated a guaranteed overall minimum based on the transportation revenues generated by that sub-region. North Los Angeles is the fastest growing sub-region in the County with concomitant growth in transportation challenges. They feel that funding resources must be allocated to address this sub-region's needs recognizing its projected growth. Put another way, this sub-region is seeking to ensure that it receives a "fair share" of resources to fund transportation investments in North Los Angeles County for the upcoming transportation planning cycles, particularly as a strong sentiment exists that revenues generated within the sub-region have, until now, been exported to fund transportation projects in other parts of the County. "Fair share" may be achieved by an improved allocation formula, allocation of block grants or greater sub-regional input into the programming process.
- **Prioritization of funds based on planned transportation investments**
North County recommends rewarding proactive transportation planning and initiatives that consider and address future needs will encourage projects that yield

long-term solutions. One way this could be done is by promoting alternate routes, which ultimately relieve demands on congested routes.

- **Greater Sub-regional Input to Programming Process**
North County feels that local officials in the various sub-regions of Los Angeles County should have greater control over transportation programming and investment decisions in the county. Certain functions currently performed at the regional level should be decentralized to the sub-regions including transportation planning, allocation of funds within sub-regions, project selection, and transit service needs assessment.
- **Recognition of North Los Angeles County as the Growth Area for Los Angeles County**
North County feels strongly that there must be an acknowledgment by regional agencies of the population growth and resulting traffic patterns in the planning, development and funding of projects affecting the North County sub-region. The Antelope and Santa Clarita Valleys will be responsible for over 23% of the expected growth for all of Los Angeles County over the next 20 years.
- **Need for Additional Routes between the Sub-region and the Los Angeles Basin**
North Los Angeles County needs regional transportation options in addition to the Rt. 14 corridor, including High Speed Rail, new highways, airport access and goods movement. Rt. 14 is presently the only freeway

route directly serving travel between the Antelope Valley, parts of the Santa Clarita Valley and the Los Angeles Basin and San Fernando Valley. This facility is becoming severely overloaded, even with the recent construction of High Occupancy Vehicle lanes on a portion of the freeway. As both the commuting population increases and economic development continues in the sub-region, so will the need for additional highway, rail and airport funding to alleviate the demands placed on freeways.

- **Improved Access - Key Trips from the Sub-region and within the Sub-region**
To improve regional mobility and economic development opportunities in the sub-region, it is necessary to improve access for key trips within the sub-region and to major employment centers outside of the sub-region, such as Glendale/Burbank/Pasadena, West San Fernando Valley, Downtown Los Angeles, West Los Angeles/Century City, San Bernardino, South Bay, San Gabriel Valley and Ventura County. Within the sub-region, access should be improved in both directions between the Antelope Valley and the Santa Clarita Valley, between Palmdale and Lancaster and between Antelope Valley and South Kern County.

North Los Angeles County Statistics

Demographic Data

	1998	2025	% change
Population	538,112	970,453	80%
Employment	160,038	303,034	89%
Area	2,503 square miles		

- **Rail improvements**
Metrolink A.V. Line operating improvements / expansion
- **Pedestrian and Bike improvements**
Pedestrian / Bikeway improvements

North LA County Priority Projects

- **Freeway improvements**
Added capacity (two lanes) on Rt-14 – Avenue D to I-5
Added capacity (two lanes) on I-5 – Rt-14 to Rt-126
HOV and Truck lanes on I-5 – Rt-14 to Rt-126
Santa Clarita Cross Valley Arterial Connector – Rt-14 to I-5
New freeway route from Antelope Valley to L.A. Basin
Regional arterial and freeway interchange improvements
High Desert Corridor / Metropolitan Bypass (Rt-14 to I-15)
High Desert Corridor / Metropolitan Bypass (I-5 to Rt-14)
- **Signal and Arterial improvements**
Additional transportation system preservation
- **Transit improvements**
Municipal transit service improvements / expansion

Central Los Angeles County Sub-region Description

Central Los Angeles Communities

- Baldwin Hills
- Boyle Heights
- Central City
- Central City North
- Echo Park
- Hollywood
- Leimert Park
- Northeast Los Angeles
- Portions of South Central Los Angeles
- Portions of Southeast Los Angeles
- Silver Lake
- West Adams
- Wilshire, Westlake

Major Transportation Facilities

Numerous freeways feed into the Central Los Angeles area including the Golden State (I-5), Santa Monica (I-10), Pomona (Rt-60), Hollywood (Rt-101) and Pasadena/Harbor (I-110). While all these freeways over past years have carried heavy rush hour and commute traffic into the Central Business District, they are increasingly congested daylong as job growth has occurred outside the Central Business District and as goods traffic volume has grown.



The Smart Corridor is an incident management project along a portion of the Santa Monica Freeway that optimizes the capacity of the freeway and adjacent arterial streets. A transitway, which provides elevated HOV lanes and a busway, runs down the center of the Harbor Freeway from USC in Central Los Angeles south of the Century Freeway.

Union Station, the Los Angeles Union Passenger Terminal (LAUPT), is the heart of the region's rail system. Amtrak, Metrolink, and Metro Rail all emanate from Union Station, and the Metro Blue Line is just three Metro Red Line stops away.

The Metro Red Line is a heavy rail line running underground from Union Station in downtown Los Angeles

to Wilshire/Western in the west and extending from Hollywood north to North Hollywood in the San Fernando Valley. The passage of Measure A in November 1998, however, precludes use of countywide tax revenues for additional subway construction.

Also serving this sub-region is the Metro Blue Line, a light rail line stretching between Central Los Angeles and Long Beach through the Gateway Cities. Open since 1990, this line is currently carrying over 63,000 passengers daily.

Planning and construction for future Metro Rail line extensions scheduled to be constructed are underway, including the Metro Rail light rail extension from Union Station to Beverly and Atlantic in East Los Angeles which is scheduled to open in December, 2006. The Pasadena Line is being constructed by the Pasadena Line Construction Authority. The Authority was created by State Legislation in January, 1999. Once completed (scheduled for July, 2003), MTA will operate the light rail system.

Mobility Challenges

All roads do not lead to Central Los Angeles, even if it seems that way. Increasingly, traffic – whether commuter, trucks or alternative modes – tends to arrive in and pass through Los Angeles on its way to other destinations all over the County.

Central Los Angeles is experiencing considerable transportation challenges. Traffic congestion and bus

overcrowding along with the related Consent Decree are of high relevance and impact to this sub-region.

The considerable physical limitations, the measurable environmental impacts, and high cost of constructing major infrastructure in this matured built environment limit any major capacity enhancement options. Therefore the opportunities to improve mobility in these areas are largely limited to better utilization and development of the transportation and pedestrian infrastructure already in place.

Central Los Angeles Statistics

Demographic Data

	1998	2025	% change
Population	1,759,478	2,274,776	29%
Employment	874,832	1,055,143	21%
Area	126 square miles		

Central Los Angeles Priority Projects

- **Freeway improvements**
 Rt. 101 corridor between Valley Circle Blvd. and Rt. 134/170
 I-710 gap closure
 I-10/5 interchange in East LA
 I-5/Rt.2 interchange for access to Downtown LA
 Alameda Street By-Pass for access from I-5 to Downtown LA

Rt. 101/Alameda St. interchange for LA Civic Center
Rt. 110/Ninth St. - widen northbound off-ramp to two lanes

Bicycle parking facilities Citywide

- **Signal and arterial improvements**

Continuation of Santa Monica Freeway Smart Corridor
Conversion of existing ATSAC systems to new ATCS technology

Completion of ATCS deployment Citywide

Broadway bus priority treatment between Olympic Blvd. and Temple St.

Crenshaw Blvd. bus priority treatment between Florence Ave. and Wilshire Blvd.

Figueroa St. bus priority treatment between Adams Blvd. and 6th St.

Hill St. bus priority treatment between 12th St. and Temple St.

Olive/Grand transit couplet between Jefferson Blvd. and 1st St.

Olympic Blvd. bus priority treatment between Broadway and City of Santa Monica

Olympic Blvd. bus priority treatment between Soto St. and Indiana St.

Spring St. bus priority treatment between 9th St. and Cesar Chavez Ave.

Vermont Ave. bus priority treatment between Slauson Ave. and Wilshire Blvd.

Western Ave. bus priority treatment between Century Blvd. and Wilshire Blvd.

- **Pedestrian and Bicycle Improvements**

Los Angeles River bike path - Downtown segments

Exposition Blvd. bike path

Chinatown bike station

San Fernando Valley Sub-region Description

San Fernando Valley Cities and Communities

San Fernando Valley portion of the City of Los Angeles, City of San Fernando

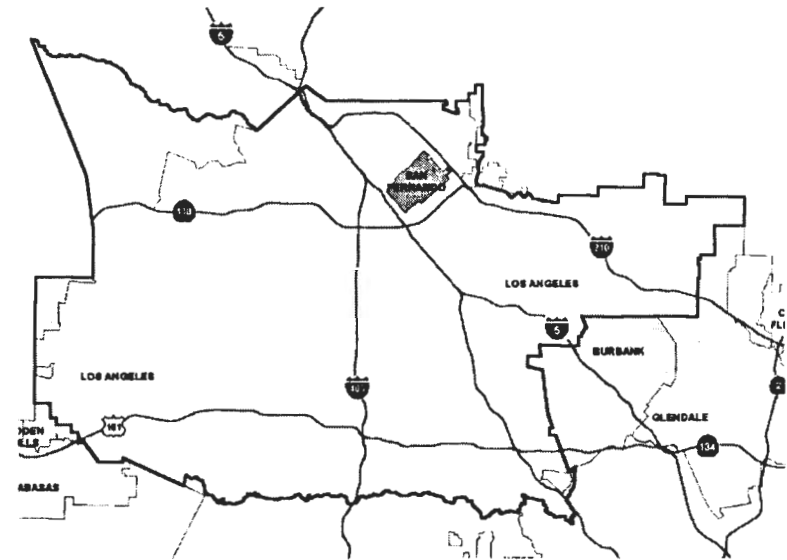
The Valley fans north of the Hollywood Hills and Santa Monica, west to the Las Virgenes/Malibu area and eastwards towards the Arroyo Verdugo cities close to the San Gabriel Valley. It occupies the north and central portions of Los Angeles County.

Major Transportation Facilities

A number of freeways crisscross this sub-region including the Golden State (I-5), Ventura (US-101 and Rt. 134), Simi Valley (Rt. 118), Hollywood (Rt. 170), San Diego (I-405) and Foothill (I-210) freeways. There are several HOV lanes running on Rt. 118, 134, 170 and I-405.

The North Hollywood Metro Rail station opened in 2000 extending Metro Rail service from downtown Los Angeles to Universal City and North Hollywood.

Metrolink’s Antelope Valley and Moorpark Lines also provide rail service into this sub-region.



MTA is currently studying the Bus Rapid Transit option (BRT) on the Burbank-Chandler right-of-way.

Mobility Challenges

The Valley is now growing at a faster rate than many of the City’s other sub-regions, and not surprisingly its demographics are changing while its transportation needs are growing. This sub-region is growing fastest at its east and west extremities – where transportation service must be accommodated as volumes of service needs remain concentrated in the Central core of east-west service through the valley.

There is considerable community support for identifying the North Hollywood to Victory/Canoga, (serving Warner Center) as a priority corridor for high capacity transit service and to further utilize this corridor as a means of developing programs to foster transit ridership through the San Fernando Valley. Additionally, there are efforts underway pushing for more east-west valley service in addition to Burbank Chandler.

As with the Westside Cities, the I-405 is the conduit between the San Fernando Valley and West Los Angeles. This freeway brings streams of commuters from West Los Angeles into the Valley using the Sepulveda Pass, Laurel Canyon, Coldwater Canyon to and from jobs and weekend recreational opportunities. The I-405 is also the primary route to LAX from the San Fernando Valley. To avoid I-405 congestion, Valley residents commonly use the narrow north-south routes such as Coldwater Canyon and Laurel. (See City of Los Angeles Mobility Challenges).

San Fernando Valley Statistics

Demographic data

	1998	2025	% change
Population	1,343,578	1,774,710	32%
Employment	576,318	714,250	24%
Area	250 square miles		

San Fernando Valley Priority Projects

- **Freeway improvements**
 - Rt. 101 corridor between Valley Circle Blvd. and Rt. 134/170
 - Rt. 101/I-405 interchange in the San Fernando Valley
 - Rt. 101/170 interchange in the San Fernando Valley
 - Rt. 170 northbound at I-5 in the San Fernando Valley
 - I-405 northbound at I-5 in the San Fernando Valley
 - I-5/Rt. 14 interchange in the San Fernando Valley
 - I-5/Rt. 134 interchange - construct missing eastbound to northbound connector ramp and southbound to westbound connector ramp
 - Rt. 101/Universal Center Dr. - construct new on-ramp to southbound Rt. 101
 - Feasibility study for north/south I-405 tunnel for HOV or mixed flow lanes between Rt. 101 and I-10 (parallel to or under existing freeway)
 - HOV lane northbound on I-405 between I-10 and Burbank Blvd.

- **Signal and Arterial improvements**
 - Glendale Blvd. (Rt. 2) corridor
 - Foothill Blvd. bridge at Balboa Blvd.
 - Barham/Cahuenga corridor
 - Saticoy St. gap closure and realignment between Woodman Ave. and Van Nuys Blvd.
 - Expansion of San Diego Freeway Smart Corridor
 - Conversion of existing ATSAC systems to new ATCS technology
 - Completion of ATCS deployment Citywide
 - San Fernando Rd. bus priority treatment between Cohasset St. and Roxford St.

Sunset Blvd. bus priority treatment between Laurel Canyon Blvd. and Highland Ave.
Van Nuys Blvd. bus priority treatment between Ventura Blvd. and Glenoaks Blvd.

- **Pedestrian and Bicycle improvements**

Los Angeles River bike path - Downtown and Valley segments
San Fernando Road bike path
Burbank-Chandler bike path
Tujunga Wash bike path
Moorpark Metrolink ROW bike path
Bicycle parking facilities Citywide

San Gabriel Valley Sub-region Description

San Gabriel Valley Cities

Alhambra	Glendora	Rosemead
Arcadia	Industry	San Dimas
Azusa	Irwindale	San Gabriel
Baldwin Park	La Puente	San Marino
Bradbury	La Verne	Sierra Madre
Claremont	Monrovia	South El Monte
Covina	Montebello	South Pasadena
Diamond Bar	Monterey Park	Temple City
Duarte	Pasadena	Walnut
El Monte	Pomona	West Covina

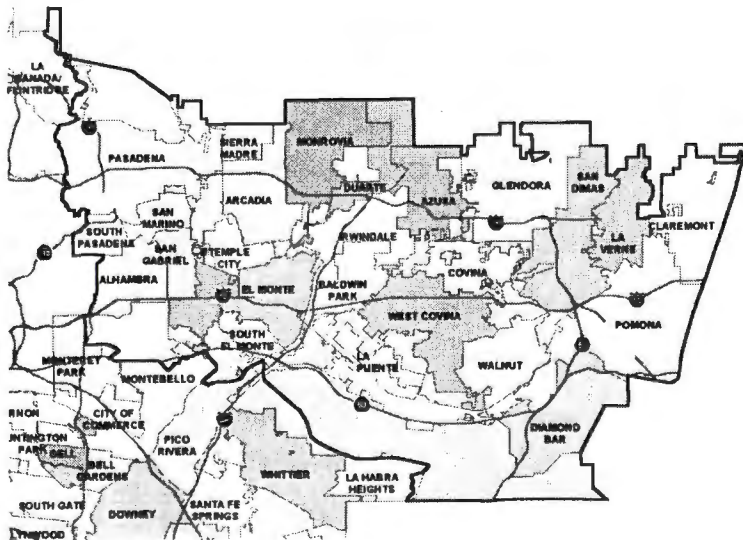
The San Gabriel Valley is the easternmost portion of Los Angeles County bounded on the west by the City of Pasadena, on the north by the San Gabriel Mountains, on the east by the Los Angeles County/San Bernardino County line, and on the south by the Rt. 60 Freeway and Puente Hills. The San Gabriel Valley accounts for 20% of Los Angeles County’s population and sales tax revenues.

The San Gabriel Valley is especially known for its historic California character. Its population is ethnically and economically diverse, and increasingly concerned about the impacts of heavy truck use in the sub-region -- both from a traffic and quality of life perspective. As Los Angeles County has grown, communities like the San Gabriel Valley have become increasingly crowded to the point that there is very little remaining undeveloped , open space. As a result the San Gabriel Valley is 97% built out.

Major Transportation Facilities

The sub-region is served by many freeways including the San Bernardino (I-10), Rt. 40, Rt. 30, Orange (Rt. 57), Pomona (Rt. 60), Chino Valley (Rt. 71), Pasadena (Rt. 110), Foothill (I-210), San Gabriel River (I-605) and Long Beach (I-710). The El Monte busway, which allows use for both buses and cars, runs along the San Bernardino Freeway, and the Foothill Freeway also has a high-occupancy vehicle (HOV) lane. In addition, HOV lanes are planned for the Rt. 57 and Rt. 60.

Rail service in this sub-region includes two Metrolink lines, specifically the San Bernardino and Riverside lines. Future



rail facilities in the sub-region include the Pasadena Line and the Alameda Corridor East (ACE) project.

Bus transit is provided by MTA, Foothill Transit and Montebello Transit. Most cities in this sub-region provide dial-a-ride services within their city limits to seniors and persons with disabilities, and some offer service to the general public as well. Several of the local cities also operate community shuttles.

There are Park & Ride lots throughout the sub-region, including a large facility at the El Monte bus station.

Mobility Challenges

There is widespread concern that the number of trains traveling through the San Gabriel Valley will increase when the Alameda Corridor is completed. However, not all of the goods movement through the valley will be transported by train. Truck traffic is also expected to increase by as much as 40%, adding to a situation that many cities currently find onerous.

For many years there have been ongoing discussions between the San Gabriel Valley cities about how best to synchronize traffic signalization so that inter-municipal arterial traffic flow might improve. A second component of traffic synchronization issues in this sub-region involves the Alameda Corridor East project. Stakeholders in the sub-region hope that as a part of this project some combination of new grade separations or safety improvements will be installed at a minimum of 173 high

impact intersections already identified by the City Managers in the sub-region.

In addition to synchronization and enhanced safety measures, new technologies such as signal prioritization for buses and lane sensors for trucks continue to be studied as options for this sub-region.

The El Monte Busway on the San Bernardino Freeway had changed from requiring three- to two-persons per car. The leadership of the sub-region felt strongly that HOV lanes designated for three passengers is far preferable than lanes designated for just two passengers. Both Foothill Transit and MTA have experienced delays as more vehicles are able to legally use the busway. Recently, the State amended the requirements again to allow three-person cars during peak hours, and two-person cars during off-peak hours.

In February 1999, the MTA Board took the first step in preparing for divesting existing Metro Bus service in the San Gabriel and San Fernando valleys. The expansion of the Foothill Transit Zone or the creation of a new transit zone is something the sub-region strongly supports, with particular backing from the nine western cities in the San Gabriel Valley sub-region. Clearly, among the key issues to be resolved prior to the creation of a transportation zone is how to efficiently and effectively staff such an agency.

Among other issues frequently mentioned are widespread concerns about air pollutants from trains and trucks, and the desire for mandated clean fuel school buses, passenger vehicles, trucks, public transit vehicles and train locomotives.

Key Transportation Objectives

- **Additional Rail Corridors**

Sensing that surface streets and freeways alike are at capacity, this sub-region has become a staunch advocate of several rail projects. These are the Alameda Corridor East (ACE) project which is currently in preliminary engineering and the Pasadena Line project to Sierra Madre Villa. Additionally, the sub-region is very interested in promoting initial planning studies for a Metro Rail extension to Claremont and for an I-10/Rt. 60 Rail Corridor.

- **Expanded HOV lanes**

Lane miles for HOV have and will continue to increase. As a result of this, the San Gabriel Valley sub-region has identified a number of proposed HOV lanes throughout the region that will effectively move larger numbers of people. They are the Rt. 60 HOV lane completion (between Rt. 101 and I-605 Freeways), the I-605 HOV lane completion (between I-10 and I-210) and Rt. 60 lane completion between the I-605 & Rt. 57.

- **Truck Lane Projects**

Currently a feasibility study is underway for truck lanes that will include Rt. 60. This study is not expected to be completed until later this summer. However, the sub-region remains very supportive of the study and the TDM elements that have been proposed to date.

- **Four Corners Study**

The counties of Los Angeles, Orange, Riverside and San Bernardino continue to explore ways to better move goods and passengers through and between these respective counties. As a result, the "Four Corners" study identifies "preferred alternatives" which include a number of TDM elements and supports the upgrade of Rt 71 to a freeway north of Rt. 60. The ongoing implementation remains very important to the San Gabriel Valley.

- **Southeast Corridor Transit Restructuring Study**

This study is nearing completion, with recommendations for better-timed connections between transit operators and more community routes, as well as some route realignments among the key recommendations.

San Gabriel Valley Statistics

Demographic data

	1998	2025	% change
Population	1,764,133	2,219,229	26%
Employment	670,594	872,665	30%
Area	345 square miles		

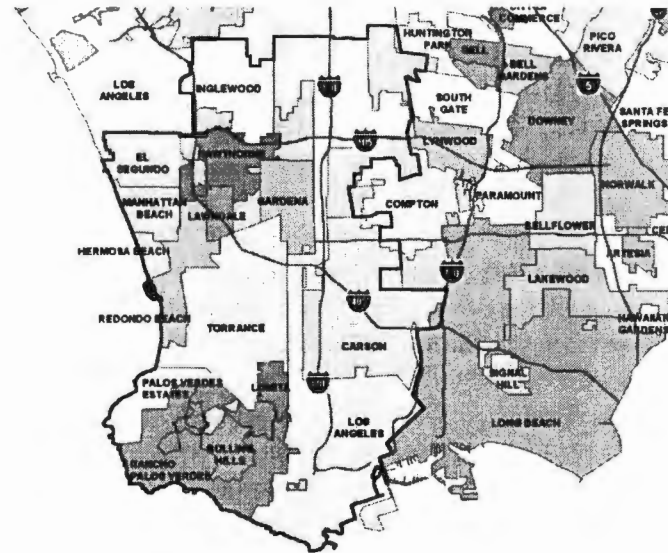
San Gabriel Valley Priority Projects

- **Rail improvements**
 - Metro Rail to Pasadena Sierra Madre Villa
 - Metro Rail Extension to Claremont
 - Metrolink Capital and Operating at expanded service level
- **Transit improvements**
 - Capital and Operating funds at current service level for Montebello, Arcadia, Foothill, Claremont, Pomona Valley Transit Authority
 - Equitable share of funding for additional bus-service both operating and capital
- **Freeway improvements**
 - Rt. 30 gap closure - Rt. 66 to San Bernardino County Line
 - I-710 gap closure - Right of Way Preservation
 - I-710 gap closure - Project completion
 - HOV on I-10 - Baldwin Avenue To SBCL
 - HOV on Rt. 60 – I-605 to Brea Canyon Road
 - Rt. 57/60 HOV Interchange
 - I-10/605 HOV Interchange
 - Rt. 60 HOV Lane completion (between Rt. 101 and I-605 Freeways)
 - I-10/Rt. 60 Rail Corridor
 - I-605 HOV Lane Completion (between I-10 & I-210)
 - Rt. 57 HOV Lane Completion (between I-210 & Rt. 60)
 - Rt. 71 completion (between I-210 & Rt. 60)
 - Upgrade Rt. 71 to 4 lanes from Rt. 91 to Euclid & operation improvements at the Rt. 57 Corridor (outside LA County)
- Upgrade Rt. 71/60 interchange capacity
- Upgrade Rt. 71 to 6 Lanes from SF Rt. 60 to I-110
- **Goods movement**
 - Funding for Alameda Corridor-East, Gateway to America Project
 - Truck lanes on Rt. 60
- **Funding issues**
 - Seek Equitable Share (Approx. 19%) Of Funding For Ongoing Programs That Are Currently Uncommitted By Project in the following areas:
 - Regional Bikeways
 - Inter-Regional Roads
 - SAFE
 - Environmental Enhancement & Mitigation
 - Transportation Demand Management
 - TSM (freeway, local and TOS)
 - Retrofit Soundwalls
 - Freeway rehabilitation
 - Freeway Service Patrol
 - RSTI
 - Transportation Enhancements
 - Park and Ride/Transit Centers/DMU/Other

South Bay Cities Sub-region Description

South Bay Cities

Carson	Palos Verdes Estates
El Segundo	Rancho Palos Verdes
Gardena	Redondo Beach
Hawthorne	Rolling Hills
Hermosa Beach	Rolling Hills Estates
Inglewood	Torrance
Lawndale	City of Los Angeles -
Lomita	San Pedro/Wilmington
Manhattan Beach	Harbor Corridor
	Unincorporated
	Los Angeles County



Major Transportation Facilities

Bounded by the City of Los Angeles to the north, the Pacific Ocean on the west and south, and by the Harbor Freeway (I-110) on the east, the South Bay Cities sub-region takes its name from its location — at the southern end of the Santa Monica Bay. The South Bay is amongst the most multi-cultural sub-regions in Los Angeles County with a diverse land use for housing and business. The sub-region comprises largely high-income residential communities in the Beach cities and on the Peninsula as well as middle-income residential communities in the central and eastern portions of the sub-region.

The Anderson (or Century, I-105), Harbor (I-110) and the San Diego (I-405) Freeways serve the South Bay area. The Artesia Freeway (Rt. 91) weaves in and out of the easternmost portion of the sub-region. A transitway, which provides elevated HOV lanes and a busway, runs down the center of the Harbor Freeway from USC in Central Los Angeles southwards to the Rt. 91. A unique feature of the HOV lanes on the I-110 and I-105 is that they flow directly into each other via an elevated interchange, bypassing the at-grade interchange for other traffic.

The Metro Green Line runs in the median of the I-105 from Norwalk in the east to the southern edge of Los Angeles International Airport then south to Redondo Beach. All but one of the Harbor transitway stations and all but two of the Metro Green Line stations are served by Park & Ride lots. A Metro Green Line Shuttle at El Segundo also ferries passengers to nearby employment centers.

In addition to MTA, the area has regional transit service provided by Torrance Transit, Municipal Area Express (MAX), Gardena Municipal Bus Lines, Long Beach Transit, Palos Verdes Transit and LADOT's Commuter Express.

A portion of the Alameda Corridor runs through the eastern section of the South Bay Cities sub-region.

Mobility Challenges

The South Bay Cities sub-region reflects a diverse amalgam of residential and business land uses. From the Peninsula to the Beach cities and further inland, the sub-region is largely built-out in terms of residential uses, with somewhat limited growth in business and industry as well. Typically, land use patterns are such that new businesses have replaced older ones, rather than adding to the "stock" of sub-regional businesses.

The South Bay, and especially its central and business core, historically encompassed the heart of the aerospace, defense and high technology industrial complex in the region and, as such, has borne the brunt of the cutbacks in this sector. It has taken almost a decade for this sub-

region to readjust to these new economic realities. However, El Segundo is experiencing growth in occupancy levels at its office parks which have attracted some digital technology firms and, not surprisingly, businesses adapting military applications for civilian commercial uses. Torrance is also experiencing an economic resurgence. Thus, portions of the South Bay have begun to draw jobs back into the sub-region again.

The South Bay has two major transportation hubs on its borders — Los Angeles International Airport (LAX), and the Ports of Los Angeles and Long Beach. LAX passenger trips substantially add to traffic volumes on the South Bay's freeways and surface streets, while cargo and truck traffic also impacts the sub-region's transportation system. Indeed, during the economic downturn, the South Bay adapted existing business structures to warehousing which has led to increased trucking, added congestion and associated pavement damage on the east-west arterials. At the same time, transporting goods out of the sub-region has added traffic volumes to the freeways, placing additional capacity pressure on the aging on-ramps.

Due to this sub-region's balance of jobs and housing, its built-out land use situation and some new investment in transportation infrastructure such as the I-105, its transportation framework serves this sub-region effectively. The greatest need for improvement, however, will be upgrades of the east-west arterials that feed into the freeways, and the freeway on-ramps. The Rosecrans Corridor, for example, not only provides freeway access to commuters and trucking, but also is a conduit to shopping in Manhattan Beach to the west and office buildings to the east in El Segundo.

Of particular relevance to the beach cities is addressing seasonal beach access, for example via beach shuttles, not only because of parking issues but also related to congestion on the arterials.

Key Transportation Objectives

- **Funding for and focus on arterials and public transit**
Innovative solutions to the increasing congestion, especially on the east-west arterials, is a priority for the sub-region. Of special interest is implementation of an inter-jurisdictional ITS project that will squeeze additional capacity out of the arterials. The ITS might include spot interchanges, traffic synchronization and signal overrides for buses. These technologies can be costly so funding sources must be secured.
- **LAX Expansion impacts on ground access**
The South Bay Cities sub-region is closely monitoring LAX expansion issues in anticipation of the release of the EIR/EIS. Special attention is being paid to ground access issues and surface street impacts.
- **Maintenance of roadway/truck related pavement deterioration**
Increased warehousing in the South Bay and related goods movement has led to deterioration in the quality of pavement, especially on the major east-west arterials.
- **Upgrade Rosecrans Corridor**
The Rosecrans Corridor no longer is a sleepy residential street but rather a busy transportation corridor running

between the beach, shopping and employment in Manhattan Beach and office complexes on the western end in El Segundo.

- **Freeway access (re-configuration of on- and off-ramps)**
With traffic volumes on the east-west arterials accessing the freeways growing, there is also a pressing need to re-configure the on- and off-ramps to accommodate the increased traffic and alleviate bottlenecks. The Hawthorne, Prairie, Crenshaw and Western on-ramps onto the I-405 are especially problematic.
- **Improve goods movement circulation**
The sub-region is looking closely at the impact of trucking activity across the South Bay as warehousing has grown especially in Carson which is being utilized for port-related industrial warehousing. Goods movement and trucking has considerable impacts on the sub-region's east-west streets such as Wilmington, Rancho Dominguez, and Del Amo.
- **Harbor issues**
Harbor issues in Los Angeles and Long Beach primarily related to trucking impact the sub-region though are of secondary priority.
- **Intelligent Transportation Systems**
Since 1992, the South Bay has been working on Intelligent Transportation System (ITS) strategies. The South Bay is committed to ITS as a way to improve mobility and more efficiently maintain its existing roadways. ITS South Bay projects have included the South Bay Traffic Signal System Improvement project,

the El Segundo Area ITS Project, and the On Line Traffic Alert Project.

South Bay Cities Statistics

Demographic Data

	1998	2025	% change
Population	1,420,630	1,764,951	24%
Employment	631,260	809,450	28%
Area	183 square miles		

South Bay Cities Priority Projects

- **Freeway improvements**
 Wilmington/ 91 Freeway Interchange Improvement
 Central Avenue/ 91 Freeway Interchange Improvement
 223rd Street/ Dominguez Channel/ Wilmington/I-405 Improvements
 Reconfigure on-ramps onto the I-405 from Hawthorne, Crenshaw, Prairie and Western
- **Signal and Arterial improvements**
 Rosecrans Ave. Corridor Improvements
 Artesia Boulevard Improvement
 Intelligent transportation systems

 El Segundo Area Intelligent Transportation Systems (ITS)
 ITS Deployment in Inglewood

Pavement Rehabilitation without capacity improvements
 Street/intersection improvements
 Traffic Operations/Signals

- **Transit improvements**
 Transit/Vehicle stops and amenities
- **Pedestrian and Bicycle improvements**
 Bicycle and Pedestrian Improvements

South Bay - City Of LA Priority Projects

- **Freeway improvements**
 Freeway ramp improvements at 110/PCH, 110/Capitol Dr., 110/Gaffey, 105/Alameda, 105/Western
- **Signal and Arterial improvements**
 Expand San Diego Fwy. Smart Corridor
- **Rail improvements**
 Metro Green Line Extension into LAX
- **Funding issues**
 Call for Projects funding
 ITS
 Bike improvements
 Pedestrian improvements

The Westside Sub-region Description

The Westside Cities

Beverly Hills

Culver City

Santa Monica

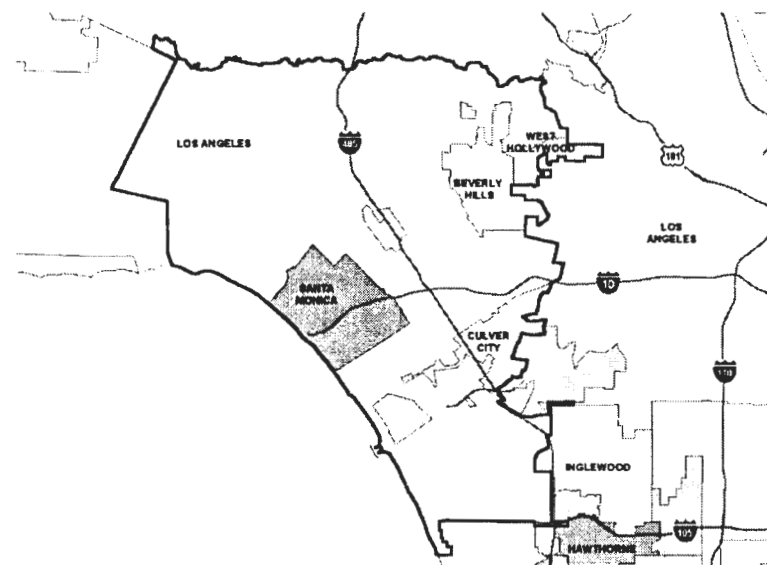
West Hollywood

Parts of the City and County of Los Angeles including Pacific Palisades, Brentwood, Century City, Westwood, Westchester/LAX, Baldwin Hills, Ladera Heights, Marina del Rey & Venice

The Westside sub-region is bounded by Mulholland Drive on the north, the Pacific Ocean on the west, the South Bay Cities on the south and Central Los Angeles on the east. This sub-region is situated to the south of the San Fernando Valley and adjacent to Las Virgenes/Malibu. Although the Westside area comprises only a small fraction of the County's land area and population, it nevertheless is a major employment center for the entire region.

Major Transportation Facilities

The Santa Monica (I-10), Marina (RT.-90) and San Diego (I-405) freeways serve the West Los Angeles area. The Smart Corridor is an incident management project along a portion of the Santa Monica Freeway that optimizes the capacity of the freeway and adjacent arterial streets.



Some of MTA's highest volume Metro Bus lines serve the Westside. In addition to MTA, the Cities of Santa Monica and Culver City operate fixed-route transit services. Cities also provide local community transit services.

As part of a demonstration project, MTA recently added Metro Rapid service along Wilshire Boulevard.

Mobility Challenges

All roads seem to lead through or to the Westside. Or that's just how it seems for commuters, local residents, users of Westside streets and freeways — and transportation planners.

The I-10 and I-405 are amongst the nation's most traveled and congested transportation facilities. The Santa Monica Freeway, once busy one-way into downtown during the morning commute and then towards the west in the evenings is now backed up in both directions during the lengthening rush "hour." This speaks eloquently to the Westside's role as an engine for regional economic growth spurred by the digital technology, entertainment (including significant growth in production and post-production facilities) and tourism industries mushrooming in Santa Monica, Culver City and West Los Angeles. And, during summer month weekends, westbound traffic on the I-10 swells as recreational travel to the beaches and Westside tourist attractions increases.

The I-405 is the conduit from the San Fernando Valley bringing in streams of commuters over the Sepulveda Pass to jobs on the Westside and to weekend recreational opportunities. The I-405 is also the primary route to LAX from the Westside and from the San Fernando Valley. To avoid I-405 congestion, Valley residents commonly use the narrow north-south routes such as Beverly Glen, Coldwater Canyon and Laurel Canyon through the hills as alternative routes to access the Westside.

Although the freeways are principally important for trans-subregional mobility, the Westside relies extensively on its heavily traveled arterial streets for transportation. The east-west arterials through the sub-region such as Wilshire, Olympic, Pico and Venice Boulevards (with the exception of Sunset and Santa Monica Boulevards) which parallel the I-10 tend to have wider lanes and better traffic flow; however, the narrower north-south streets such as Fairfax, Westwood, Robertson and Lincoln tend to "break down"

the progress of traffic during heavily congested periods. The inefficiency of north-south traffic tends to be exacerbated by less frequent bus headways on these routes.

Freeway access to tourist attractions and shopping on the Sunset Strip, West Hollywood and in Beverly Hills is limited so the arterials in these areas also tend to be heavily congested.

Key Transportation Objectives

- **Reduce street congestion**
A priority for this sub-region is to increase capacity on the arterials without increasing the number of rights-of-way or negatively impacting community livability. With its heavy reliance on arterials for moving people within the sub-region, this sub-region experiences ongoing congestion problems. One of the results of congestion is cut-through traffic which intrudes on neighborhood streets. Traffic calming elements must be adopted to discourage cut-through traffic. This sub-region also advocates using Intelligent Transportation Systems, such as computer-aided traffic synchronization and signal overrides for buses, to improve the efficiency of existing arterials. Spending priorities for arterials must emphasize moving people in and around employment centers.
- **Gaining more autonomy for local streets**
Although arterials are key transportation facilities within the Westside sub-region, jurisdictions currently have limited autonomy over decision-making about their local

streets. This sub-region advocates the transfer of responsibility, and funding, for its streets to the local level.

- **Add HOV lanes to local freeways**
 This sub-region views the addition of HOV lanes to its freeways as a useful tool to address congestion and mobility. Addition of HOV lanes on the San Diego Freeway in both directions between I-405 and US-101, and on the Santa Monica Freeway also in both directions from the I-110 to Lincoln Boulevard in Santa Monica, are advocated. The roads parallel to these freeways should also be improved.
- **LAX Expansion**
 Local priorities for livable communities should be reflected in LAX access plans and the airport's connection with rail and port facilities. LAX expansion will impact road and transit connections in the Westside and will have implications for other local airports such as Santa Monica which may experience increases in general aviation flights diverted from LAX.
- **Add alternative modes for local transit options**
 Ridership potential for rail transit on the Westside remains high. In addition, funding should be channeled through municipal operators and local governments to provide shuttles which link activity centers and ensure an integrated people-moving system from the neighborhoods to the region. This sub-region is also interested in the BRT demonstration project.

Westside Statistics:

Demographic Data

	1998	2025	% change
Population	593,108	750,094	26%
Employment	462,467	565,700	22%
Area	103 square miles		

Westside Priority Projects

- **Freeway improvements**
 HOV Lane gap closures on I-405, including northbound HOV lane from I-10 to US-101
 HOV lanes on I-10 in east and westbound from I-110 to Lincoln Blvd. in Santa Monica
- **Signal and Arterial improvements**
 Increased revenues for public transit and public transit facilities
 Intelligent Transportation Systems
 LAX expansion access plan should be developed in a livable communities context
- **Transit improvements**
 Exposition Blvd. Transit Corridor
- **Rail Improvements**
 Extension of the Metro Red Line to the San Diego Freeway
- **Non-motorized Transportation**

Funding for Non-motorized transportation
Bicycle facilities
Pedestrian paths
Park & ride
TDM

Westside - City Of LA Priority Projects

- **Freeway improvements**
Freeway improvements on 405 and 10 Fwys.
Freeway interchange improvement at 10/405
Freeway ramp improvements - 405/Arbor Vitae,
405/Sunset, 405/Wilshire
Feasibility study for 405 tunnel for HOV lanes
HOV lane on 405 from 10 Fwy. Northbound
- **Signal and Arterial improvements**
Continue Santa Monica Fwy. Smart Corridor
Bus priority treatments on Olympic, Crenshaw,
Vermont and Western
- **Funding issues**
Call for Projects funding
ITS
Bike improvements
Pedestrian Improvements

Section 7

Financial Element



2001 Long Range Transportation Plan for Los Angeles County

Financial Element

The 2025 Financial Element of the Long Range Transportation Plan (LRTP) provides a comprehensive management decision-making tool used to determine the MTA’s long-term financial capacity to fund regional transportation services and projects. Through the LRTP financial forecasting model, available revenues and ongoing expenditures are identified for all transportation modes in Los Angeles County. Future transportation revenues and costs are projected based on historical trends, policy actions, and planned changes to the regional transportation system. Exhibit 7-1 describes what the financial forecasting model does and does not do.

Exhibit 7-1

The Financial Model Does...

- **Provide a comprehensive tool** for the MTA to determine the long-term financial capacity to fund regional bus, rail, and highway projects.
- **Balance sources and uses of funds** based on the best available information about future transportation revenues and costs in Los Angeles County.
- **Include important assumptions** about future costs and revenues.
- **Use conservative estimates** for costs and revenues.
- **Provide a snapshot** of available funding. Accuracy is maintained through an annual financial update and a formal review every two years.
- **Show the interactive effects** of individual revenue or project changes on all projects and programs in the Plan.

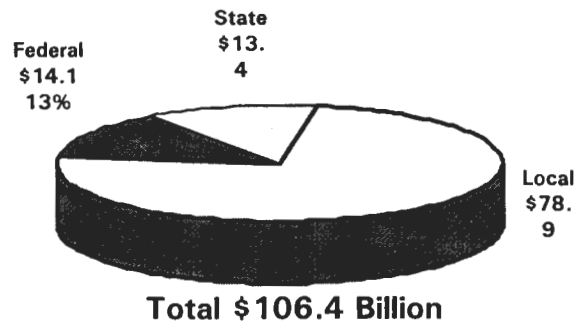
The Financial Model *Does Not*...

- **Automatically calculate costs and revenues.** This information is input to the model from other sources.
- **Automatically issue debt** to balance the cash flows. The model is programmed to issue a specific amount of debt in a specific year.
- **Contain "built-in" decisions about MTA priorities and policies.** Project scheduling and revenue availability are determined based on the best available information.
- **Provide guaranteed funding or cost growth.** It does provide the best estimate of financial capacity, based on the information available.
- **Replace separate, specific Board action** on any project or program included in the Plan.
- **Substitute for the annual MTA budget process.**

Summary Of Findings

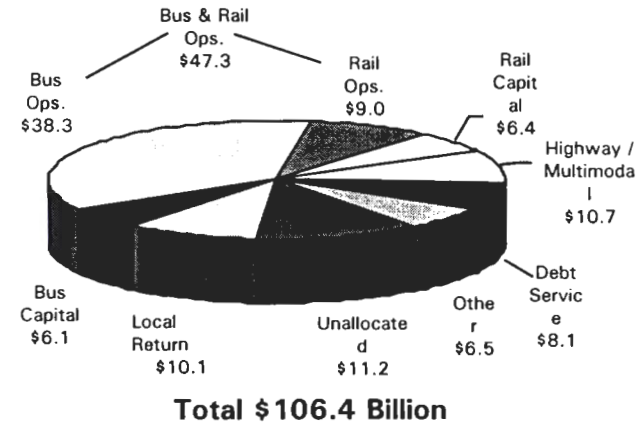
The Financial Element projects \$106.4 billion in transportation revenues over the next 25 years, with 74% of the revenues coming from local sources, 13% from state sources and 13% from federal sources. Of the \$106.4 billion available, \$95.2 billion is allocated to existing commitments to the transportation network. 42% of the revenues are allocated to bus capital projects and operations while 15% is designated to rail capital and operations and 44% is spent on Others (see Exhibits 7-2 and 7-3). Existing commitments include operating and maintaining the existing regional transportation system, meeting the Consent Decree requirements for bus service improvements, building and operating the Pasadena Blue Line, Eastside Light Rail project, Westside/Mid-City Wilshire Corridor bus rapid transit project, and San Fernando Valley East/West corridor bus rapid transit project, and completing the planned HOV lanes.

Exhibit 7-2



SUMMARY OF FUND SOURCES (FY 2000 – FY 2025)
(\$ in Billions)

Exhibit 7-3



SUMMARY OF FUND USES (FY 2000 – FY 2025)
(\$ in Billions)

Notes:

1. Highway does not include State and Local operations costs.
2. Highway includes TIP Call for Projects Funding for Ridesharing, Regional Improvements, Transit Centers, Bikeway/Pedestrian Improvements, and Signal Synchronization.
3. Other includes Administration, Agencywide Capital, Prop. C 10% Leases and Rights of Way, and Transportation Development Act Article 8 funds.

Approximately \$11.2 billion is unallocated in the years from 2005 to 2025, and is available for additional transportation improvements. Over \$9 billion is available for capital projects, and over \$2 billion is available for

operations. A summary of available funding by period over the next 25 years is shown in Table 7-1, with the first five years not shown because complete programming of funding has occurred.

Table 7-1

Fund Type	FY05-10	FY11-20	FY21-25	TOTAL (FY 05-25)
Capital Funds¹				
Prop C 25%	328	1,145	1,945	3,418
Regional Improvement Funds	836	1,166	1,083	3,085
Section 5309 New starts	0	525	375	900
TEA-Transp. Enhancement Activities	62	116	64	242
RSTP	83	166	67	316
CMAQ ²	402	474	290	1,166
Subtotal Capital Funds	1,711	3,592	3,624	9,127
Operating Funds³				
Prop A 35%	0	0	526	526
Prop C 40%	0	116	794	910
TDA	0	167	472	639
Subtotal Operating Funds	Deficit	283	1,792	2,075
Total Funding Available	1,711	3,875	5,616	11,202

Available Funding (\$ in millions)

1. The capital funds available through FY 2004 are reserved for the 2000 Abbreviated Call for Projects.
2. CMAQ may be used for operating subsidies for the first 3 years of transit expansion projects.
3. Operating deficit exists through FY 2010; other cost saving measures necessary to balance operating expenses.

Financial Forecasting Method

To be consistent with the Southern California Association of Governments, the MTA has extended the LRTP financial planning horizon to FY 2025. All cost and revenue information entered into the financial forecasting model is specifically designed for the purpose of projecting and comparing future revenues and uses to support the planning process.

The first five years of the financial model (FY 2000-2004) include revenue and cost data from the Five-Year Forecast of Operating Enterprise Funds developed by the MTA Office of Management and Budget. The MTA Enterprise Fund includes only those revenues directly controlled by the MTA. The data from the last year of the Five-Year Forecast (FY 2004) is used to project MTA operating needs for the period of FY 2005 to FY 2025 by increasing the annual expenditure in accordance with the projected Consumer Price Index (CPI). The Municipal Operators' Short Range Transit Plans (SRTP's) form the basis for their cost estimates and non-MTA administered revenue in the LRTP, which are escalated by CPI. Outputs from two additional models are also incorporated into the financial forecasting model: (1) estimates urban rail rehabilitation and replacement costs and (2) projects bus and rail operations and maintenance costs based on historical and budgeted costs.

One purpose of the LRTP and the financial forecasting model is to provide a comprehensive picture of regional transportation needs and resources available to meet those needs over the long-term. While the LRTP

captures all of the funding available and most needs for transit programs and projects, it currently does not capture local streets and roads needs and resources administered by local jurisdictions. Nor does it capture the freeway maintenance program administered by Caltrans. In future iterations of the LRTP, the sources and uses of funds for these programs will be included so as to provide the most comprehensive analysis of the regional transportation system.

The financial model is based on reasonable assumptions of revenue availability for future efforts in order to allocate funding and plan prospectively for regional programs and projects. No new revenue sources are assumed, to be available over and above those local, state, and federal sources identified as currently available. Costs are derived from needs for highway, and bus and rail capital and operating expenses. Table 7-2 illustrates the major assumptions for all transportation modes and the Appendix shows all assumptions in detail for sources and uses of funds.

**Table 7-2
Major Assumptions Used in the Financial Model**

	ASSUMPTIONS
<ul style="list-style-type: none"> Major Revenue Source 	<p><u>Sales Tax</u> - Growth projections compared to actual receipts and average of varying projections from throughout Southern California and projected to grow at no greater than 5% annually after 2003.</p>

<ul style="list-style-type: none"> Other Fund Sources 	<p><u>Congestion Mitigation and Air Quality Improvement (CMAQ) Funds</u> - CMAQ funds decrease beginning in FY 2005 as Los Angeles County gradually becomes an air quality attainment area, which is projected in the South Coast Air Quality Management District Air Quality Plan. CMAQ funds are reduced by 50% in FY 2011 after attainment is achieved.</p>
<ul style="list-style-type: none"> Financing 	<p><u>Use of Debt</u> - Bonds will be issued in each year they are needed to meet capital requirements for major projects, constrained by debt service coverage ratio limitations of the MTA Board Policy. For example, the policy restricts debt payment to 40% of annual revenue from the Prop. C 40% funds.</p>

<ul style="list-style-type: none"> Highway Program 	<p><u>Freeway Incident Management</u> - This program, funded primarily with Prop. C 25% revenues, will continue to be funded within the funding priorities of the LRTP.</p> <p><u>Highway Projects</u> - These projects are funded through the Call for Projects process or other Board actions. Use of the Proposition C 25% portion of funding is projected on a cash flow basis.</p>
<ul style="list-style-type: none"> Multimodal Program 	<p><u>Multimodal Projects</u> - These projects are funded through the Call for Projects process or other Board actions. Use of the Proposition C 25% portion of funding is projected on a cash flow basis.</p>
<ul style="list-style-type: none"> Bus Program 	<p><u>Bus Capital Program</u> - Bus procurement costs include related support equipment and are based on a 12-year bus replacement cycle for the MTA and Municipal Operators. Adhering to the 12-year bus replacement cycle results in a 6-year average age of the fleet.</p>

<ul style="list-style-type: none"> • Rail Program 	<p>Project costs - Costs for rail projects that have MTA approved plans and budgets are shown as an annual cash flow based on the approved budgets. Costs for rail projects with no existing budgets are calculated based on MTA's cost estimation guidelines.</p>
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Funding Sources

The MTA is responsible for operating of one of the largest bus and rail systems in the nation while simultaneously serving as the multimodal regional transportation planning agency for Los Angeles County. This dual role of regional transportation planner and transit operator also influences the anticipated revenue that the MTA can expect to receive for its own projects and services.

The MTA utilizes a variety of federal, state and local revenue funding sources and institutional arrangements to operate, maintain, and improve the regional transportation system. The LRTP consists of more than 45 specific revenue sources which are categorized under three main categories: 1) local, 2) state, and 3) federal and are discussed below.

Some of the revenue sources include legal mandates that direct certain funding levels and restrict usage of funds. They include:

Local

Proposition A and Proposition C funds are generated from a ½- cent sales tax for each proposition totaling one cent in Los Angeles County for transportation purposes.

- **Proposition A 40%.** Forty percent of Proposition A is set aside by ordinance for discretionary programs which the MTA Board has allocated to Transit Operators using a countywide formula allocation procedure. These Operators receive a base share of 95% of the A-40% plus annual CPI adjustments for bus operations.
- **Proposition A 35%.** Thirty-five percent of Proposition A funds are set aside for rail development and operations. This funding source uses bonds to maximize availability and support long-term rail capital projects.
- **Proposition A 25%.** Twenty-five percent is returned to local municipalities and the County of Los Angeles based on population for transportation use.
- **Proposition C 40%.** Forty percent of Proposition C funds are used to improve and expand both rail and bus services in Los Angeles County. This revenue stream can be bonded to maximize availability for major projects.
- **Proposition C 25%.** Twenty-five percent of Proposition C is designated for transit-related street and state highway improvements. Funds can be bonded to meet capital highway needs. Transit improvements to rail rights-of-way are an eligible use of these funds.
- **Proposition C 20%.** Twenty percent of Proposition C is returned to local municipalities and the County of

Los Angeles for permitted transportation and highway uses.

- **Proposition C 10%.** Ten percent of Proposition C is designated for commuter rail, transit centers, park-and-ride lots and bus stops on freeways. Bonds are issued for some limited regional commuter facilities using this source of funds.
- **Proposition C 5%.** Five percent of Proposition C funds are for security (Police and Sheriff) for the operations of the bus and rail lines in the County of Los Angeles.

State

- **Transportation Development Act (TDA).** TDA Article 3 funds can be allocated only to regional bikeway projects, while TDA Article 8 funds are designated for streets, roads and non-motorized facilities outside the MTA service area. Paratransit services, construction of transit terminals and other transit capital projects are also eligible for funding through TDA Article 8. Article 4 provides funding for transit capital and operations.
- **Traffic Congestion Relief Program (TCR).** Funding received in the County of Los Angeles from surplus state proceeds and are to be used for specific transportation and highway projects outlined in State Assembly Bill 2928. This program also provides direct allocations to cities and the county. MTA operating services and municipal operators receive

increased amounts from the State Transit Assistance (STA) program under this legislation.

- **State Transportation Improvement Program (STIP).** 75% of STIP funds are designated for the Regional Improvement Program and are allocated at the discretion of the MTA (as local planning agency) for capital needs or construction of eligible programs/projects such as highways, soundwalls, or transit. Operating costs are not eligible for these funds.

Federal

- **Congestion Mitigation and Air Quality Improvement Program (CMAQ).** This program is designed to fund projects that contribute to attaining national ambient air quality standards with a focus on ozone and carbon monoxide.
- **Section 5309 New Starts.** By federal law, these discretionary funds are available for transit capital, and are typically for new start fixed guideway projects.

Funding Issues And Opportunities

The financial forecasting model indicates three major funding issue and opportunity areas that must be addressed by MTA. Each area is discussed below.

Managing the Operating Deficit Through 2010

Countywide transit operations have a 1.7% shortfall in revenue to meet planned expenditures through 2010. This deficit is considered manageable, although certain policy issues and service restructuring must occur. Over the past several years, the MTA has faced significant financial and management challenges to construct its rail system while providing other vital transportation services to the entire County. Most notably, overcrowding on the bus system and bus service reliability problems led MTA to act to significantly increase the amount and reliability of bus service provided in the County, while at the same time suspending fixed guideway transit expansion projects. MTA successfully implemented these bus service and reliability improvements and has established an aggressive bus capital replacement and maintenance program with the financial support of Congress and the California State legislature.

To address the projected countywide operating shortfall, MTA will continue to follow the established policy direction, exercising its management authority and discipline, and will focus on the following changes:

- **Service Integration and Restructuring Plans**

MTA has participated in seven regional transit restructuring studies over the past several years with the goal of improving service to transit patrons and providing transit service as efficiently as possible. Many recommendations of the transit restructuring studies have been implemented. Continuation of this program to remove duplicative service, substitute more efficient service, and coordinate service with other county transit operators will result in a phased implementation of cost savings. In order to provide additional transit services countywide, the equivalent of 25 buses (2,459 service hours per bus) are forecasted to be removed from MTA service annually from 2003 through 2013. Special negotiations and potential contracts with local Municipal Bus Operators throughout the county will be undertaken to supply service where gaps occur as a direct result of the MTA restructuring activities or where reduction in duplicative service creates a hardship on the local bus operator and transit user.

- **Increased Fare Revenues (Fare Restructuring)**

Although the Consent Decree allows the MTA to increase fares limited to the Consumer Price Index (CPI) of inflation, the MTA has not raised fares for over four years. In the recent past, the MTA has considered broader fare restructuring and fare policy issues in conjunction with a Universal Countywide Fare System now under development. However,

further decisions on this issue have been deferred until the future.

One fare policy change that has been considered focused on rebalance fares such that some maybe increased while others decreased (e.g., monthly pass fares versus cash fares).

For purposes of calculating the impacts of a fare revenue change on the projected operating shortfall, fare revenues are assumed to escalate at the rate of CPI. A broad set of strategies may be employed to achieve the revenue targets authorized in the financial forecast. For example, the Authority is developing ridership promotional campaigns and service restructuring alternatives targeted at better utilizing available system capacity. Additionally, strategies to reduce the rate of fare evasion are under study. A revised fare policy may also be considered. Such a policy would seek to restructure the existing approach to pricing, such that fares may be increased for some riders and time periods and decreased for others, while achieving the stipulated revenue targets.

MTA has established a Cost Reduction Team whose goal is to reduce bus and rail hourly operating costs. The strategies developed by the team will be phased in beginning in 2005 to reduce hourly operating costs by one dollar per year for six years, for a total of six dollars per hour in 2010. This cost reduction plan will achieve systemwide savings needed to insure a balanced operating plan for the years ahead and eliminate the projected annual deficits through 2010.

Developing An Investment Strategy

MTA's commitment to maintain and improve the regional transportation system over the next 25 years will require sensible investments based on funding availability and strategies for obtaining new or increased funding for transportation. The LRTP is intended to shape that strategy.

Of the \$106.4 billion in available funds over the next 25 years, \$11.2 billion is not committed to regional programs and projects. Notably, nearly 84% of the available funds are from capital funding sources. Further, the majority of these capital funds are available after FY 2010. Approximately \$2.1 billion in operating funds are projected to be available after FY 2010, with the majority (86%) projected to be available in the period from FY 2021-2125. The \$11.2 billion in available funds includes \$2.6 billion in Federal, \$5.1 billion in State, and \$4.9 billion in local revenues.

The mix of funds and periods during which they are available suggest that the majority of capital investments beyond the current commitments cannot occur until after FY 2010, unless new or expanded sources of funds or financing are available in the next ten years. More importantly, available funding for the operating costs related to new capital investments is limited (less than 17% of the total funding available) and the majority of those funds are not available until FY 2021. Even if capital funds could be accelerated, operating funds for new capital projects aren't available until late in the 25-year period.

Pursuing Legislation To Improve Transportation In The Region

The MTA's legislative program should reflect the regional transportation needs and funding available over the next 25 years. The principles to guide such legislation and examples of the type of legislation to be pursued in support of those principles are as follows:

- **Protect Existing Transit Operating Revenues and Maintain Efficiencies.**

As indicated in the assumptions used for the long-range financial forecast, the transit program depends on a continuation of funding from local, state, and federal sources. Protecting these existing funding sources is vital to the financial stability of the Long Range Transportation Plan. Additionally, the management actions taken to make the system as efficient as possible must be supported through legislation. Examples of some possible legislative actions include eliminating the state mandate to terminate the provision of state sales tax on gas for transit in 2006, and protecting labor agreement savings from legislative changes.

- **Increase Transit Operating Funding**

As shown in the Funds Available chart in Table 7-1 and as discussed above, operating funding has been and will continue to be an important issue for the county. Increasing transit operating funding while showing continued operating efficiencies will be a

significant element of the MTA's legislative program. Examples of legislative actions that would address transit operations funding are allowing Los Angeles County voters the option to enact a regional sales tax on gas, and increasing the share of state sales tax on gas dedicated to transit.

- **Create An Equal Footing for Transit and Highway Operating Revenues and Costs**

The historical discrepancies between highway funding and transit funding can be addressed through legislation. Examples of such actions include allowing the use of state gas tax revenue for transit operations and rolling stock, exempting transit vehicle purchases from sales tax, and various actions to increase transit user and decrease highway user subsidies.

Enhanced Revenue Sources

The plan identifies "strategic" priorities for projects that are regionally significant, but require new or additional revenue sources to implement. This is the strategic plan. The Projects included in the Strategic Plan were shown in Section 1. Two methods of reducing shortfalls in the Strategic Plan are through a regional fuel tax and an emission fee per vehicle. There are a variety of other options for generating the needed revenues. Ideally, the option ultimately selected, if any, should discourage single occupancy automobile uses during peak congestion periods. The following table outlines the revenue that these two sources could generate to fund

planned highway and transit projects currently in the strategic category.

Table 7-3

Potential Source	L.A. County Amount
1) Regional Fuel Tax 10 cents per gallon of gasoline and diesel fuel, on 3.4 billion gallons annually in L.A. County, beginning January, 2002	\$340 million per year \$8 billion through 2025
2) Emission/Distance-Based Fee \$150 annually per vehicle registered in Los Angeles County (6 -7 million vehicles), beginning July, 2005	\$1 billion per year \$20 billion through 2025

Technical Appendix

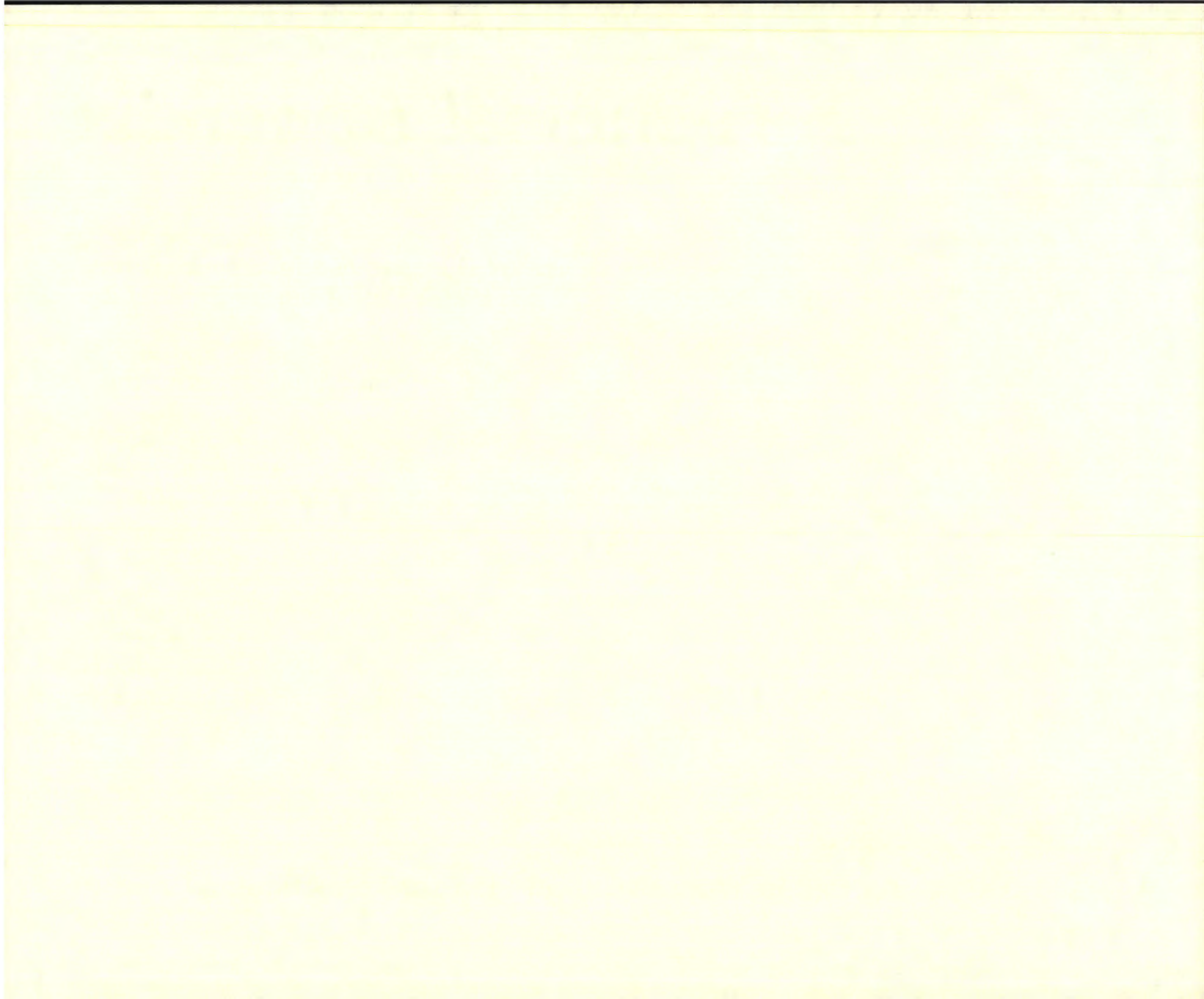
Appendix-A
Travel Demand Model Assumptions
and Performance Evaluation

Appendix-B
Financial Assumptions

Appendix-C
Community Outreach
Meeting Summaries

Appendix-D
Focus Group
Meeting Summaries

Appendix-E
Glossary



LACMTA Model Overview

The development of the Long Range Transportation Plan was preceded by a rigorous assessment of the analytical tools, assumptions and performance criteria that would be employed in the evaluation of potential plan alternatives. The primary analysis tool is the LACMTA Travel Demand Simulation Model.

Model Structure

The LACMTA Travel Demand Simulation Model uses the traditional four-step process generally employed by travel forecasting modelers throughout the United States. The four steps perform trip generation, trip distribution, mode choice and network assignment. Exhibit A-1 is a conceptual representation of the four-step modeling process.

The implementation of the four-step process is achieved through a series of 17 computer simulation modules; the flowchart of which is shown in Exhibit A-2.

Each module has been calibrated from observed data, typically from a sample of household interviews from which detailed demographic and travel characteristics are collected through written questionnaires. The LACMTA Model is primarily based on two Los Angeles metropolitan area surveys: the 1967 and 1976 home interview surveys that were conducted by Caltrans and SCAG. The trip distribution and mode choice modules were updated using the 1990 Census, the 1991 Household Travel Survey, and the 1995-97 on-board

surveys on rail and bus patrons. The computerized representation of the highway and transit systems has been prepared by Caltrans, SCAG, Orange County Environmental Management Agency and the LACMTA.

The model was validated for its ability to replicate 1998 travel patterns and conditions using the survey data from which it was calibrated as well as highway vehicular ground counts and transit ridership statistics. The model performed within standard limits for all components including average trip length, mode shares, and comparisons of screenline volumes and transit boardings.

Exhibit A-1

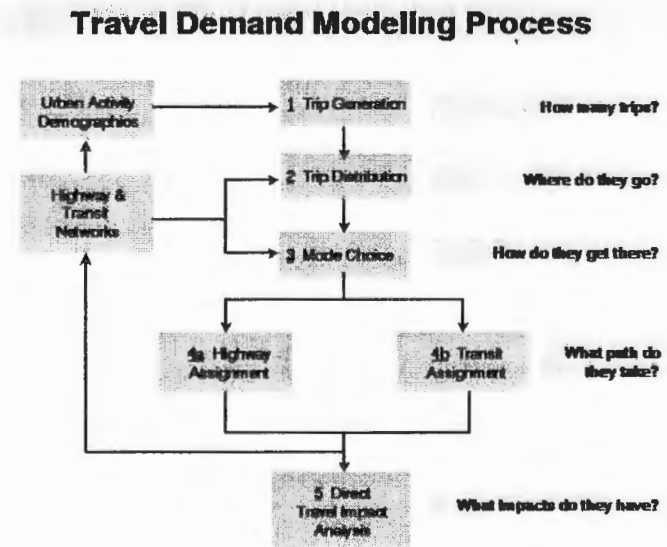
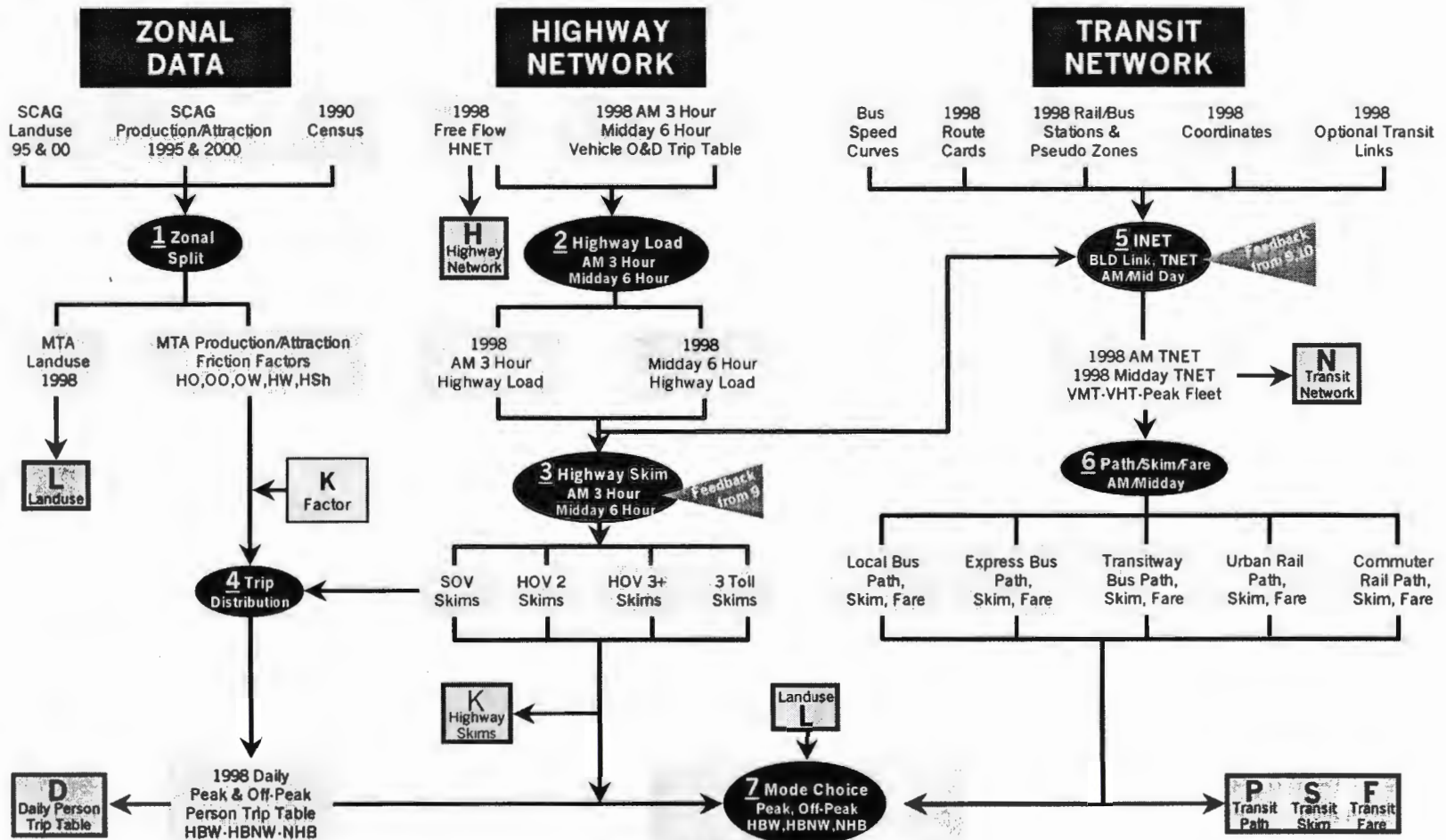


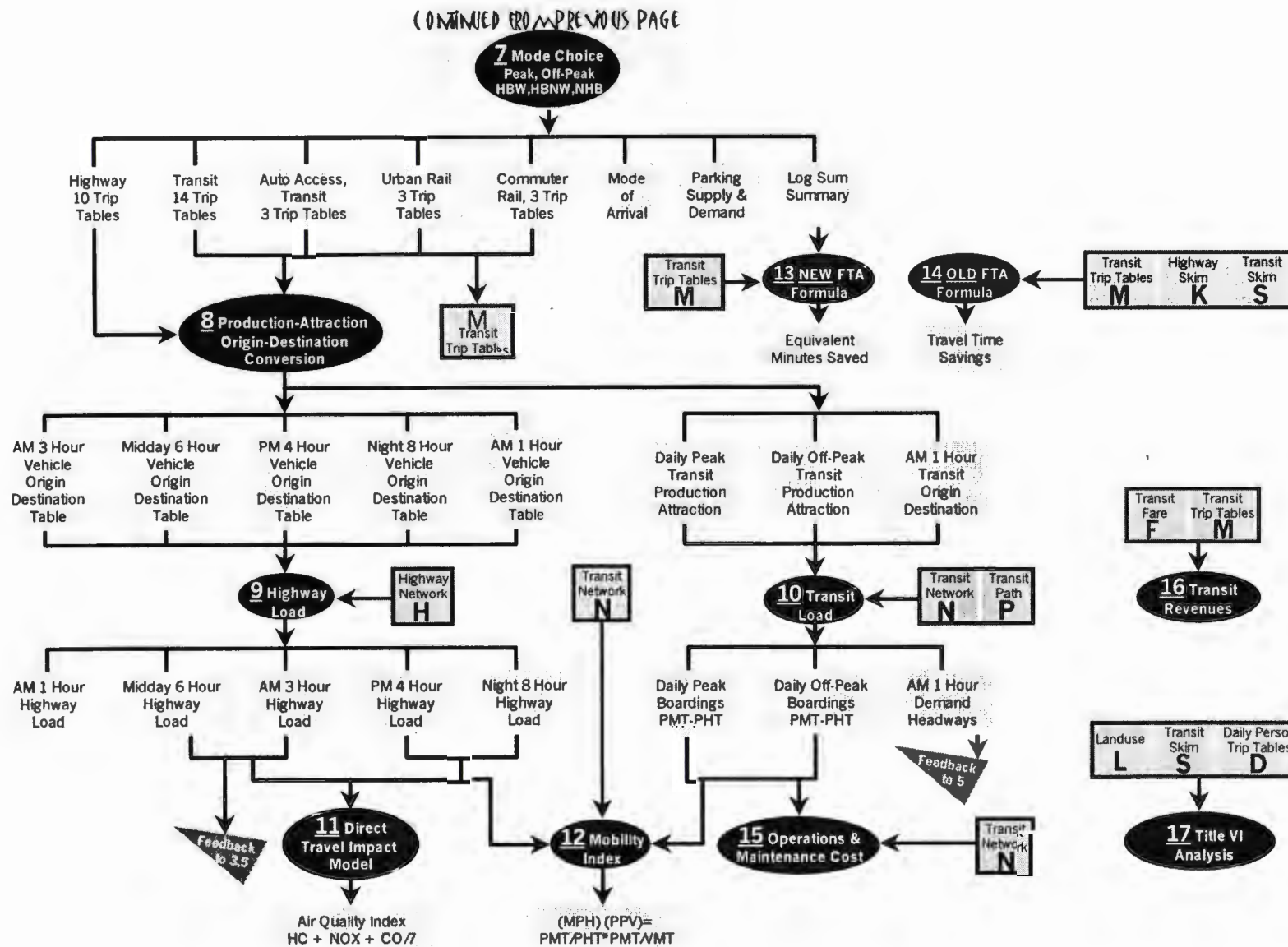
Exhibit A-2

1998 MTA Model Flowchart



(CONTINUED ON NEXT PAGE)

Exhibit A-2 (Continued)



Model Assumptions

Each input to the LACMTA Model is a representation of the characteristics of the trip, the trip maker or the transportation system. This information is usually employed at the census tract level, but may include some distributions of characteristics within the census tract. All inputs for the 1998 validation used empirical data compiled from a variety of sources as described in Exhibit A-3.

Projections for the planning horizon year 2025 were obtained from many of the same sources. The model then uses its econometric and behavioral formulations to project travel response and transportation system impacts under a variety of transportation system environments and conditions. However, there are several major assumptions that either reflect a continuation of existing trends or fall into the policy arena. If the future varies from these assumptions the projected future year results will likely be different from those projected by the model. These assumptions are:

- The growth and distribution in population, employment, income, and vehicle ownership will occur in accordance with the projection adopted by SCAG in 1998;
- The per mile vehicle operating cost will not change in constant dollars (i.e., changes in fuel prices and fuel economy offset one another but rise with inflation);
- The adopted October 1998 transit fare structure will be fully implemented and the regular inflationary adjustments will be made;

Exhibit A-3

Model Component	Input Data	Data Source	Output Data
Urban Activity	General Plans Population Employment Licensed Drivers	Municipalities Census Bureau Bureau of Labor Statistics Dept. of Economic Development	Population, Employment, household demographic data by Zone
Highway & Transit Networks	Highway facilities Transit services	Caltrans Municipalities Transit Operators	Zone to Zone travel time and cost by time period Trip productions and attractions by zone
Trip Generation	Population, employment, household demographics	Southern California Association of Governments	Zone to Zone trip volumes by purpose
Trip Distribution	Trip productions and attractions by Zone & Zone to Zone travel time	Trip Generation Model Transportation Networks	Zone to Zone trips by purpose and mode of travel
Mode Choice	Zone to Zone trip volumes Zone to Zone travel time Zone demographic data Parking costs Fuel / auto operating costs Transit fares	Trip Distribution Model Transportation Networks Urban Activity Model Parking Posted Rate Surveys Transit Operators	Volumes on highway facilities and patronage on transit services
Network Assignment	Transportation Networks Zone to Zone trips by purpose and mode	Transportation Networks Mode Choice Model	

- Parking costs will rise with inflation and the location and application of parking costs will not change significantly from today (that is, the location of free versus pay parking, employer subsidies, etc.);
- The need or distribution of travel will not change dramatically due to a major movement to a round-the-clock business day or a major displacement of work trips by telecommuting; and,
- The current highway and transit levels-of-service will not change dramatically from today (except for planned system improvements and the projected congestion effects) due to potential large scale Intelligent Transportation System implementation.

Performance Criteria

There is a variety of quantitative performance criteria selected to evaluate the various transportation system alternatives. The criteria are consistent with those generally applied by FHWA, FTA and SCAG for region transportation studies.

The criteria include the following:

- **Mode Share** which measures the proportion of person trips in drive-alone, carpool, and transit categories;
- **Mobility Index** which measures person flow in the transportation system;
- **Air Quality Index** which measures the total mobile source pollutant emissions;

- **Cost Effectiveness** which measures the cost per hour of travel time savings according to the formula required by FTA; and
- **Transit Accessibility (Title VI) Index** which measures the percent of population which can arrive at their work place within 1 hour via transit.
- **Impact on Transit Dependent and Minority Communities**

These performance indices provide relative measures of the benefit that would be achieved from individual, and combinations of, transportation improvement projects and programs at the county level.

The first four indices are multimodal - that is, they measure the performance of the alternatives regardless of whether the project is a highway, transit, or other transportation system improvement. The fifth and sixth indices are oriented toward transit, which is often requested by FTA to ensure that societal equity is maintained in transportation investment.

The mobility index is the equivalent of average vehicle occupancy multiplied by speed. Higher indices are attained by projects that move people in either fewer vehicles or move them faster or both. As this measure is applied to all trips produced in Los Angeles County, the impacts throughout all corridors and all modes in the transportation system are captured.

The air quality index estimates the total weight of carbon monoxide, oxides of nitrogen and reactive organic gases from personal transportation modes. The emission factors (EMFAC 7G) and the formula for the composite index are provided by the California Air Resources Board.

Alternatives Modeled

Eight full model runs were conducted during the course of the study. These include:

1. **1998 Base Year**,
2. **2025 Baseline** --- the RTIP (Regional Transportation Improvement Program) plus those projects committed by the recent Governor's Initiative program to reduce congestion in the region,
3. **2025 Vehicle-Moving Alternative** --- fiscally constrained to maximize the movement of vehicle flows,
4. **2025 People-Moving Alternative** --- fiscally constrained to maximize the movement of person trips,
5. **2025 Constrained Balanced (Recommended) Alternative** --- fiscally constrained to achieve the balance of vehicle and person trip movement,
6. **2025 Strategic Alternative** --- includes additional regionally significant projects beyond current funding sources,
7. **2025 Sensitivity Test on Constrained Alternative** --- fiscally constrained with a reduced level of population growth, and
8. **2025 Sensitivity Test on Strategic Alternative with Pricing** --- fiscally unconstrained, with reduced population growth forecast and pricing.

Exhibits A-4 through A-8 highlight the contents of the 2025 alternatives.

The first four model runs were basic runs to facilitate the analysis and development of recommended and strategic alternatives. The last two runs were for sensitivity test purpose. These contain different assumptions on population growth as well as supply and operational characteristics of the highway and transit systems. The differences are described in the following paragraphs.

Population Growth. The first five modeled networks in 2025 (i.e., Run #2 through #6) were based on the population forecast adopted in 1998 by SCAG (which is the most recent officially accepted forecast available in the region). In the 1998-Adopted forecast, population in Los Angeles County is assumed to grow by 3.5 million, subject to an extreme degree of urban sprawl and with substantial growth allocated to the bordering areas of Los Angeles County, e.g., Lancaster and Palmdale in North County, east portion of San Gabriel Valley and southeast portions of Gateway Cities Subregions.

The two sensitivity test runs assumed a different pattern of population growth. It assumed that the population in Los Angeles County would grow by 2.4 million. This revised level of growth is currently being tested by the modeling staff at SCAG and likely to be proposed to the Regional Council for adoption as part of the 2001 RTP. The allocation of population growth to individual traffic zones in the sensitivity tests is proportional to the current population distribution.

Parking Cost and Auto Operating Cost. The first seven model runs assume that the parking costs in Los Angeles will grow only with inflation. However, the Sensitivity Test on Strategic Alternative with Pricing assumes that

parking costs will grow not only with inflation but also with increased density of employment. A parking cost model to express parking cost as a function of employment density was calibrated and applied to estimate parking cost in 2025. Overall, the countywide average of parking costs was assumed to be 20 cents per day in the first seven runs, but in the range of one dollar per day in the Strategic Alternative with Pricing.

The auto operating cost was assumed to be 10.4 cents per mile (in 1990 dollars) for the 1998 model run as well as for the first six 2025 model runs. These include 5.5 cents per mile for gasoline and 4.9 cents per mile for maintenance. However, in the Strategic Alternative with Pricing, it is assumed that the auto operating cost would be approximately doubled. This increase may be achieved from a variety of transportation policies, e.g., gasoline tax increases, emission fee charges, and congestion pricing, etc. Given that the current gas price in the U.S. is only 1/3 of the price in Western Europe, this assumption of increased auto operating cost is within the reasonable range for sensitivity test purposes.

Transit Fares and Service Frequencies. The rationale for the Strategic Alternative with Pricing is to raise transportation revenues from automobile travel to fund the development and operation of a highly competitive transit system. The experience of numerous studies in the nation has indicated that increasing operating costs for automobiles alone will not generate a significant level of shift in mode choice. Similarly, improving transit service alone would not be incentive enough for the driving public to take transit. Only if the pricing on auto travel and the improvement to transit occur

simultaneously as an integrated package, will significant impacts be achieved.

The Strategic Alternative with Pricing also assumes that base fares for MTA services will be reduced from \$1.35 to \$0.75 per ride. Transfer fares also will be reduced from \$0.25 to \$0.15. The reduced level of transit fares is comparable with the transit fare charged in Western Europe. The fares of transit service provided by municipal operators are assumed to reduce by 40%. These reductions are accomplished through revenue generated from higher automobile costs.

The bus service frequencies are substantially improved in the Strategic Alternative with Pricing. It is assumed that all bus routes, regardless of being operated by MTA or by municipal operators, will be operated at no greater than 6-minute headways during peak and no greater than 12-minute headways during off-peak periods.

Smart Shuttle Component in Transit Network. Smart shuttle operation has been considered by SCAG as a cost-effective enhancement to the conventional fixed-route system. After consultation with SCAG, a countywide smart shuttle system was also assumed in the last five model runs.

The smart shuttles are assumed to operate within each individual Community Statistical Area (CSA). The operating territories cover all traffic zones within the CSA as well as the zones adjacent to the CSA. The smart shuttle provides three types of services:

- many-to-many --- door-to-door trips within the CSA,
- many-to-one --- feeder to major transit stations, and
- one-to-many --- distributor from major transit stations.

The speed of smart shuttle is assumed to be 50% of the average arterial speed of the CSA. The travel distance on the bus is assumed to be 50% longer than the straight line distance between boarding and alighting. The time spent in waiting for the arrival of a smart shuttle is assumed to be 30 minutes. The fare is assumed to be \$2.00 per boarding for ordinary passengers. Discount for seniors and students is also assumed to be available. Fare integration between smart shuttle and fixed route transit is not assumed.

Exhibit A-4 2025 Baseline Projects in the RTIP and Governor's Congestion Relief Initiative

Freeway & HOV Widening Projects Funded by FY99-05 RTIP, 1999 & Earlier CFP, & CTIP	
1 Route 60: Brea Cyn to Route 57	Feb-99
2 Route 60: Route 57 to SBCL	Feb-99
3 Route 14: Sand Cyn to Escondido	Oct-00
4 Route 30: Foothill Bl. to SBCL (Gap Closure & HOV)	Jun-00
5 Route 405: US 101 to Waterford (SB only)	Oct-00
6 Route 605: OCL to South St.	Feb-01
7 Route 5: Route 118 to Route 14 (Extended Baseline Only)	Sep-03
8 Route 5: OCL to Rosecrans (Segment B)	Dec-04
9 Route 5: Rosecrans to Florence (Segment C)	Feb-06
10 Route 5: Florence to Rosemead [Route 19] (Segment D)	Dec-06
11 Route 5: Route 134 to Route 170 (Extended Baseline Only)	Dec-06
12 Route 10: Route 57 to SBCL	Oct-03
13 Route 10: Baldwin to Route 605	Jun-03
14 Route 14: Escondido to Pearblossom	Dec-02
15 Route 405: Century Bl. to Route 90	Jun-01
16 Route 405: Route 90 to Route 10 (NB)	Nov-06
17 Route 405: Route 90 to Route 10 (SB)	Nov-06
18 Route 60: Route 605 to Brea Canyon Rd.	Apr-07
19 Route 405 Mixed Flow Auxiliary Lane: Mulholland to Ventura Bl. (NB)	Jul-00
20 Route 405/101 IC Mixed Flow Aux Lane: Ventura to Kester (NB to EB)	Jul-00
Freeway & HOV Connector Projects Funded by FY99-05 RTIP, 1999 & Earlier CFP, & CTIP	
1 Route 14: Route 5 to San Fernando Road (S to/from E)	May-07
2 Route 14: Route 5 & Route 14 (S to/from E)	May-07
3 Route 57: Route 57 & Route 60 (S to/from E)	Dec-04
Freeway Projects (Extended Baseline Only) Funded by Governor's Initiative Funds & 2000 Abbreviated CFP	
1 Route 5: Route 118 to Route 14.	N/A
2 Route 5: Route 134 to Route 170.	Dec-06
3 Route 5: Route 170 to Route 118.	Dec-06
4 Route 10: Route 605 to Route 57	N/A
5 Route 405: Route 10 to Waterford (SB only)	Nov-04

Urban & Commuter Rail Projects Funded by FY99-05 RTIP, 1999 & Earlier CFP, & CTIP	
1 Red Line: Wilshire/Vermont to North Hollywood	2000
2 Blue Line: Union Station to Sierra Madre Villa	2004
3 Antelope/Ventura Lines: Run time improvement.	2002/4
4 San Bernardino & Riverside-Fullerton-LA Lines: Run time improvement	2004
5 Orange & Riverside Lines: Run time improvements.	2005
6 Antelope Line: Add Sun Valley/Newhall/Palmdale Stations	2000/2/5

Note: 1. Arterials widening projects were provided by the staff of TDI ASGM Team.
2. Freeway projects were provided by TDI HPDI Team.
3. Rail projects were provided by TDI RBNMPTeam.

Urban & Commuter Rail Projects (Extended Baseline Only) Funded by Combinations of Federal, State and Local Funds	
1 Eastside LRT: Union Station to Beverley/Atlantic.	N/A
2 Exposition Corridor ROW LRT: Union Station to La Cienega.	N/A
3 Wilshire RB/BRT: Union Station to Ocean/Colorado.	N/A
4 SFV Burbank-Chandler ROW BRT: North Hollywood to Warner Center	N/A

Arterials Widening Projects Funded by FY99-05 RTIP, 1999 & Earlier CFP, & CTIP	
1 Route 138: Route 14 to 30th St. (4 to 6 lanes)	2002
2 Sepulveda Bl: Lincoln to Centinela Av. (6 to 8 lanes)	2004
3 Ave. S: Sierra Hwy to Route 14 (2 to 4 lanes)	2003
4 Beverly Bl.: Phase III (4 to 6 lanes)	2003
5 National Bl: Sawtelle Bl. to Sepulveda Bl. (5 to 7 lanes)	2003
6 Sepulveda Bl: Mulholland Tunnel to Wilshire Bl. (Rev. Center Lane)	2005
7 Hacienda Bl: Glenmark to Orange (2 to 4 lanes)	2005
8 Centinela Av: Washington Bl. to Short Bl. (3 to 4 lanes)	2003
9 Old Town Calabasas Rd: Granada to Mulholland Dr. (2 to 4 lanes)	2000
10 Carson St: Battaan to Santa Fe (4 to 5 lanes)	1999
11 Sepulveda Bl: Alameda to Carson City Limits (2 to 4 lanes)	1999
12 Monte Vista Ave: Route 30 to Route 66 (2 to 4 lanes)	1999
13 Aviation Bl: Marine to Arbor Vitae (4 to 6 lanes)	1999
14 Sepulveda Bl: Grand Ave. to Rosecrans Ave. (6 to 8 lanes)	1999
15 Aviation Bl: Marine Ave. to 33rd. St. (2 to 3 lanes)	1999
16 Arbor Vitae St: La Brea to Route 405 (2 to 5 lanes)	1999
17 Ave. H: 20th St. West to 30th St. West (2 to 4 lanes)	1999
18 Ave. G: Route 14 to 25th St. West (2 to 4 lanes)	1999
19 Challenger Way: Ave. L to Ave. M (2 to 4 lanes)	1999
20 Spring St: Long Beach Bl. to California Ave. (2 to 4 lanes)	1999
21 Admiralty Way: Via Marina to Fiji Way (4 to 5 lanes)	1999
22 Alameda St: Lomita Bl. to Henry Ford Ave. (4 to 6 lanes)	1999
23 Atlantic Bl: Olympic to Whittier Bl. (4 to 6 lanes)	1999
24 Eighth St: Western Ave. to Route 110 (2 to 4 lanes)	1999
25 Ninth St: Western Ave. to Route 110 (2 to 4 lanes)	1999
26 Figueroa St: 146th St. to Compton Bl. (4 to 6 lanes)	1999
27 First St: Los Angeles St. to Boyle Ave. (4 to 5 lanes)	1999
28 Magnolia Bl: Route 170 to Colfax Ave. (2 to 4 lanes)	1999
29 Overland Ave: Palms Bl. to Washington Bl. (2 to 4 lanes)	2000
30 Henry Ford Ave: Alameda St. to Route 47 (4 to 6 lanes)	1999
31 Whittier Bl: Wilcox to Montebello City Limits (4 to 6 lanes)	1999
32 10th St: Ave. O to Ave. M (2 to 4 lanes)	1999
33 Elizabeth Lake Road: 30th St. West to Godde Hill Rd. (2 to 4 lanes)	2001
34 Manhattan Beach Bl: Vail Ave. to Inglewood Ave. (4 to 6 lanes)	1999
35 San Dimas Ave: Via Vaquero to Bonita Ave. (2 to 4 lanes)	1999
36 Pairie Ave: 190th St. to 182nd St. (4 to 6 lanes)	1999
37 190th St: Van Ness to Crenshaw (4 to 6 lanes)	1999
38 Fremont Ave: Valley Bl. to Commonwealth (6 to 8 lanes)	1998
39 Bundy Dr: Santa Monica Bl. to Orange Ave. (2 to 4 lanes)	1998
40 Pearblossom Hwy: Ave. T to Angeles Forest Hwy. (2 to 4 lanes)	1998

Exhibit A-5 2025 Vehicle-Moving Alternative Projects Beyond Baseline With Emphasis on Improving Vehicle Movement

Project Type	Description / Limits
Highway Projects	
Street Widening	SR-138: widen from 2 to 4 lanes between Ave. T to SR-18 (50% ITIP)
Street Widening	SR-138: widen from 2 to 4 lanes between SR-14 to I-5
Street Widen/Upgrade	SR-138: widen from 4 to 6 lanes/expressway upgrade between SR-14 & SBCL
Street Widen/Upgrade	SR-138: widen from 4 to 6 lanes/expressway upgrade between SR-14 to I-5
HOV/Mixed Flow Lanes	I-5 Ultimate: add 1 HOV lane from Orange Co. Line to I-710 (NB/SB); widen from 6 to 8 mixed flow lanes between Orange Co. Line & I-605;
HOV Lane	I-5: SR-134 to I-170 (NB/SB)
HOV Lane	I-405: US-101 to Burbank Bl. (NB only)
HOV Lane	SR-14: Pearblossom to Avenue L (NB/SB) ¹
HOV Lane	I-5: SR-14 to SR-126 (NB/SB) ¹
Freeway Connectors	
Mixed Flow Connector	US-101/ SR-170/ SR-134--Complete missing two movements
HOV Connectors	I-5 & I-405 (N to/from S)
HOV Connectors	I-5 & SR-170 (N to/from S)
HOV Connectors	I-10 & I-605 (S to/from E; S to/from W)
HOV Connectors	I-5 & I-605 (SB I-5 to/from WB I-605, NB I-5 to/from WB I-60)
HOV Connectors	I-110 & SR-91 (SB I-110 to/from BE SR-91, NB I-110 to/from EB SR-91)
HOV Connectors	SR-60 & I-605 (SB SR-60 to/from EB I-605, NB SR-60 to/from EB I-605)
HOV Connectors	SR-91 & I-605 (Assume all 8 movement combinations)
HOV Connectors	I-105 & I-605 (N to/from W; S to/from W)
Soundwalls	Post 1989 List - Phase I Priority, Priority 2 & Phase II
Grade Separations	Arterial Goods Movement Projects - Misc. Arterial Improvement Projects
Transit Projects	
Bus Service Improv.	Countywide Bus Service Improvement -- service quality & speed
Call for Projects	
Regional Surface Transportation Improvement (RSTI) funding enhanced from historical trend (\$60m ill/yr ²)	
Signal Synchronization & Bus Speed Improvements funding at historical trend (\$24m ill/yr ²)	
Transportation Demand Management (TDM) funding at historical trend (\$7m ill/yr ²)	
Bikeways Improvement funding at historical trend (\$3.5m ill/yr ²)	
Pedestrian Improvement funding at historical trend (\$3.5m ill/yr ²)	
Transit Capital funding at historical trend (\$9m ill/yr ²)	
Transportation Enhancements funding at historical trend (\$2m ill/yr ²)	
Rideshare funding enhanced from historical trend (\$6m ill/yr ²)	

Note

¹ Projects expected to be recommended by I-5 and SR-14 Corridor Study that would close existing HOV lane gap

² Annual Call for Projects funding levels are presented in uninflated dollars

Exhibit A-6 2025 People-Moving Alternative Projects Beyond Baseline With Emphasis on Improving People Movement

Project Type	Description/Limits
Transit Projects	
Bus Rapid Transit	Crenshaw BRT from Wilshire/Crenshaw to LAX (Lot B)
Bus Rapid Transit	Exposition BRT extension -- Crenshaw to Cloverfield/Olympic (Santa Monica)
Bus Rapid Transit	San Fernando Valley N/S BRT - Van Nuys Bl. from Sylmar TC to Ventura Bl.
Light Rail	Metro Green Line Extension to LAX ¹
Commuter Rail	Metrolink Expansion following SCRRRA's Capital Improvement Plan for 2030
Bus System Improv.	Countywide Bus Service Improvement - service quality & speed
Fixed Guideway	Fixed Guideway Operating - for above BRT and Light Rail projects
Community Transit	Areas not served by high density transit service
Rapid Bus + Signal	22 Additional Lines Alvarado, Atlantic, Avalon Century Bl., Crenshaw-Rossmore, Florence Garvey, Hawthorne, Hollywood-Fairfax Hollywood-Pasadena, Long Beach, Pico/East First/Venice Roscoe, Santa Monica, Soto San Fernando Rd from Sylmar Transit Center to LACBD Van Nuys, Vernon-La Cienega, Western Vermont -- Hollywood Bl. to Vermont Green Station at I-105 Fwy West Third
Highway Projects	
HOV Lane	I-5: SR-134 to I-170 (NB/SB)
HOV Lane	I-405: US-101 to Burbank Bl. (NB only)
HOV Lane	SR-14: Pearblossom to Avenue L (NB/SB)
HOV Connector	I-5 & I-405 (N to/from S)
HOV Connector	I-5 & SR-170 (N to/from S)
Soundwalls	Post 1989 List - Phase I Priority, Priority 2 & 50% Phase II
Other Call for Projects Categories	
Regional Surface Transportation Improvement (RSTI) funding reduced from historical trend (\$35/yr ²)	
Signal Synch & Bus Speed Improvements -- enhanced from historical for Bus Speed elements (\$25/yr ²)	
Transportation Demand Management (TDM) funding enhanced from historical trend (\$9/yr ²)	
Bikeways Improvement funding enhanced from historical trend (\$10/yr ²)	
Pedestrian Improvement funding enhanced from historical trend (\$12/yr ²)	
Transit Capital funding enhanced from historical trend to encourage local Rapid Bus efforts (\$18/yr ²)	
Transportation Enhancements funding at historical trend (\$2/yr ²)	
Rideshare funding enhanced from historical trend for coordinated Vanpool efforts (\$13/yr ²)	

Note:

¹ Metro Green Line Extension to LA World Airports assumed to be funded with non-MTA funding sources

² Annual Call for Projects funding amounts are presented in uninflated dollars

Exhibit A-7 2025 Constrained (Recommended) Alternative Project Beyond Baseline With Balanced Improvements of Vehicle and People Movement

Project Type	Description/Limits
Transit Projects	
Bus Rapid Transit	Crenshaw BRT from Wilshire/Crenshaw to LAX (Lot B)
Bus Rapid Transit	Exposition BRT extension -- Crenshaw to Cloverfield/Olympic (Santa Monica)
Bus Rapid Transit	San Fernando Valley N/S BRT - Van Nuys Bl. from Sylmar TC to Ventura Bl.
Light Rail	Metro Green Line Extension to LAX ¹
Commuter Rail	Metrolink Expansion following SCRRA's Capital Improvement Plan for 2030
Bus System Improv.	Countywide Bus Service Improvement - Bus Fleet Unconstrained
Fixed Guideway	Fixed Guideway Operating - for above BRT and Light Rail projects
Community Transit	Areas not served by high density transit service
Rapid Bus + Signal	22 Additional Lines Alvarado, Atlantic, Avalon, Century Bl., Crenshaw-Rossmore, Florence, Garvey, Hawthorne, Fairfax, Hollywood-Pasadena, Long Beach, Olympic Bl. (Expo BRT), Pico/East First/Venice, Roscoe, Santa Monica, San Fernando Rd from Sylmar Transit Center to LACBD, Soto, Vermont -- Hollywood Bl. to Vermont Green Station at I-105 Fwy Vernon-La Cienega, Western, West Third
Highway Projects	
HOV Lane	I-5: SR-134 to I-170 (NB/SB)
HOV Lane	I-405: US-101 to Burbank Bl. (NB only)
HOV Lane	SR-14: Pearblossom to Avenue L (NB/SB)
HOV Connector	I-5 & I-405 (N to/from S)
HOV Connector	I-5 & SR-170 (N to/from S)
HOV/Mixed Flow Lanes	Convert Interim I-5 Project to Ultimate Project: between OCL & I-605 (NB/SB) widen from 6 to 8 mixed flow and add 2 HOV lanes
Interchange Upgrade	Interchange upgrade: I-5 thru I-605 & up to SR-19 (8 mixed flow & 2 HOV lanes)
Interchange Upgrade	SR-57 & SR-60
Soundwalls	Post 1989 List - Phase I Priority, Priority 2 & 50% Phase II
Other Call for Projects Categories	
	Regional Surface Transportation Improvement (RSTI) funding enhanced from historical trend
	Signal Synch & Bus Speed Improvements -- enhanced from historical trend for Bus Speed elements
	Transportation Demand Management (TDM) funding enhanced from historical trend ²
	Bikeways Improvement funding enhanced from historical trend
	Pedestrian Improvement funding enhanced from historical trend
	Transit Capital funding enhanced from historical trend to encourage local Rapid Bus efforts
	Transportation Enhancements funding at historical trend
	Rideshare funding enhanced from historical trend for coordinated Vanpool efforts ²

Note:

¹ Metro Green Line Extension to LA World Airports assumed to be funded with non-MTA funding sources

² Denotes projects escalated with Consumer Price Index (CPI) instead of Construction Cost Index (CCI)

Exhibit A-8 2025 Strategic Alternative

Project Type	Description/Limits
Highway Projects	
Mixed Flow & HOV	I-5 Ultimate Project (4 M.F. & 1 HOV each direction; OCL to Route 710)
Freeway Gap Closure	I-710 Gap Closure
Street Widening	Route 138: 6 lane Expressway from SR 14 to San Bernardino Co. Line
Street Widening	Route 138: 4 lane Expressway from SR 14 to I-5
Street Widening	Route 138: 4 lane Expressway from Ave. T to Route 18 (2 to 4 lanes)(50% ITIP)
Mixed Flow Lane	SR 14: 1 lane at segments w/2 mixed flow lanes(4 to 6) from I-5 to Kern Co Line
Mixed Flow Lane	I-5: 1 lane from SR 14 to SR 126
HOV Lane	Route 14: Pearlblossom to P-8
HOV Lane	I-5: SR 14 to SR 126
HOV Lane	I-5: Route 134 to Route 170
HOV Lane	Northbound I-405 from 101 to Burbank Bl.
HOV Lane	SR 60: from I-101 to I-605
HOV Lane	I-605: from I-10 to I-210
HOV Lane	SR 57: from I-210 to SR-60
HOV Lane	I-10: North of 405
HOV Lane Gap Closure	Valley View Ave/I-5
Interchange Improvement	10/5, 5/2
Interchange Improvement	101/405, 101/170, 170/5, 405/5, 5/14, 5/134
Interchange Improvements	
Freeway Connectors	
Mixed Flow Connector	Route 101/170/134--Complete missing two movements
HOV Connectors	Route 5 & Route 405 (N to/from S)
HOV Connectors	Route 5 & Route 170 (N to/from S)
HOV Connectors	Route 105 & Route 605 (N to/from W ; S to/from W)
HOV Connectors	Route 10 & Route 605 (S to/from E ; S to/from W)
HOV Connectors	Route 5 & Route 605 (SB 5 to/from WB 605, NB 5 to/from WB 60)
HOV Connectors	Route 110 & Route 91 (SB 110 to/from BE 91, NB 110 to/from EB 91)
HOV Connectors	Route 60 & Route 605 (SB 60 to/from EB 605, NB 60 to/from EB 605)
HOV Connectors	Route 91 & Route 605 (Assume all 8 movement combinations)
HOV Connectors	Post 1989 List - Phase 1 Priority, Priority 2 & Phase II
Soundwalls	Arterial Goods Movement Projects - Misc. Arterial Improvement Projects
Grade Separations	
Four Corners Projects	
Fwy Interchange	Route 57 / 60 Interchange Upgrade
Interchange	Route 60 at Grand Ave.
Transit Projects	
Rapid Bus + Signal Priority	14 Lines in Addition to 2 Demo Lines in Baseline + Lines below
Heavy Rail	Wilshire Red Line extension to Century City
Light Rail Transit (LRT/BRT)	Exposition LRT extension -- Crenshaw to Venice/Robertson; BRT to Olympic & Cloverfield; Rapid Bus to Colorado & 5th St.
Light Rail Transit (LRT)	East LA LRT extension from Beverly/Atlantic to Norwalk/Whittier
Light Rail Transit (LRT)	Pasadena Blue Line exten from Sierra Madre Villa to Claremont Metrolink Stn
Bus Rapid Transit (BRT)	Crenshaw BRT from Wilshire/Crenshaw to LAX (Lot B)
Bus Rapid Transit (BRT)	Vermont BRT: Vermont Green Line Stn to Wilshire, Rapid Bus to Hollywood Bl
Light Rail Transit (LRT)	Burbank/Glendale LRT from Union Stn to Burbank Transit Stn
Bus Rapid Transit (BRT)	San Fernando Valley N/S BRT - Van Nuys Bl. from Sylmar TC to Ventura Bl.
Light Rail Transit (LRT)	Metro Green Line extension from Marine stn to South Bay Galleria
Light Rail Transit (LRT)	Metro Green Line extension to LAX
Metrolink	Metrolink Expansion following SCRRA's Capital Improvement Plan for 2030
Fixed Guideway Operating	LRT, BRT and Heavy Rail Projects Operating Costs
Bus Improvement	Countywide Bus Service Improvement
Community Transit	Areas not served by high density transit service
Call for Projects - Off-Model	
Regional Surface Transportation Improvement (RSTI) Projects	
Signal Synchronization & Bus Speed Improvements	
Transportation Demand Management (TDM)	
Bikeways Improvement Projects	
Pedestrian Improvement Projects	
Transit Capital Projects	
Transportation Enhancements	
Other Regionally Significant Projects (Ex. Rideshare Services)	

Note

Basic Model Results

The model results of the eight model runs are shown in a sequence of three parts. First, the results of the six basic model runs are presented in this section. Second, the results of the two sensitivity test runs are reviewed and discussed in Section IV. Third, the results of Title VI analyses are described in Section V.

Mode Share

The transit share for home-to-work trips is shown in Exhibit A-9. The transit share is below 10% in 1998 and will continue to be low in the 2025 Enhanced Baseline and Vehicle-Moving Alternative, where substantial and dramatic transit improvements on a countywide scale are not planned. However, implementing the rapid bus network together with extensive community-based smart shuttle systems all over the county, as proposed in the People-Moving, Constrained, and Strategic Alternatives will increase the transit share to 15%.

In terms of usage of the carpool mode, it can be seen that the Vehicle-Moving Alternative (which contains the highest emphasis on carpool lanes) will achieve a higher mode share for carpool. The increase is relatively marginal however.

While home-to-work trips represent only 20% of all trips in the county, Exhibit A-10 shows the mode shares of all trip combined. Similar but less dramatic tendencies as those of Exhibit A-9 can be found. Overall, the transit share would be increased from the range of 3.5%

(Baseline and Vehicle-Moving Alternatives) to the range of 5% (People-Moving, Constrained and Strategic Alternatives).

Mobility Index

AM Peak Highway Speed. Exhibit A-11 compares the AM peak highway speed among alternatives. It can be seen that the highway speed will be reduced from 32 MPH in 1998 to the range of 15 MPH in 2025. An interesting finding is that investing in transit programs (the People-Moving Alternative) tends to be more effective in improving highway speed than investing directly in highway programs (Vehicle-Moving Alternative). This is because the former will attract more trips from auto to transit mode, leaving less automobiles on highway, thus increasing highway speeds more effectively. However, the difference is only about 1 MPH.

Mobility Index. The mobility index is the product of highway speed and vehicle occupancy. From Exhibit A-12 we can see that the mobility index tends to be higher for the People-Moving, Constrained, and Strategic Alternatives than for the Vehicle-Moving Alternative. This is expectable because the investment in transit would not only increase the highway speed, but also the vehicle occupancies.

Air Quality Index

Exhibit A-13 shows a comparison of the air quality index among alternatives. First of all, because of technology improvement, air pollution would be reduced from 800

Tons/day in 1998 to about 400 Tons/day in 2025. Among the alternatives, the People-Moving and Constrained Alternatives tend to perform better than the Vehicle-Moving Alternative. However, the difference is very small, about 3%.

Cost Effectiveness

The cost effectiveness index is defined as the capital and operating costs to be expended by the MTA to achieve an hour savings of travel time. The lower is the index means the less money is required to achieve a unit savings of travel time. Therefore, the lower is the index the more effective is the alternative.

Exhibit A-14 shows the cost effectiveness index, relative to the Baseline, of the three basic alternatives: Vehicle-Moving, People-Moving, and Constrained. The indexes are in the range of \$0.93-\$1.28 per hour. These are substantially lower (better) than the criteria of \$4.00-\$6.00 per hour used by FTA in the 1990's. These impressive indexes are mainly attributed to the severe congestion in the Baseline. In traffic engineering theory, it has been found that, when traffic volumes reach the range of highway capacity, the travel time would increase exponentially. Because the traffic condition in Baseline is severely congested, a small improvement would result in substantial reduction of travel time. As a result, all three alternatives turned in highly impressive cost effectiveness index.

Among the three alternatives, the Constrained Alternative is superior to the Vehicle-Moving and People-Moving Alternatives.

Project Level Performance Highlight

The performance of major highway and transit projects are summarized in Exhibits A-15 and A-16. The highlight of findings are described in the following paragraphs.

Major Freeway Projects. Twelve major freeway gap-closure and HOV widening projects were analyzed. In the analysis process, we first identify the users (linked trips) of these freeway facilities in the Constrained and/or Strategic Alternatives. Then the travel times of these users in the Baseline, the Constrained and Strategic Alternatives were determined. Travel time savings were computed for these users based on the linked trips and travel time differentials.

The travel time saved by each of the twelve freeway projects is summarized in Exhibit A-15. From the exhibit, we can see that I-710 Gap Closure (Project #9 & #10) in the Strategic Alternative would generate the highest savings of travel time, in a range of 3.2 million vehicle-hours per year. This is followed by I-5 widening from I-605 to I-710 (Project #11 & #12), at a savings of 1.9 million vehicle-hours per year. Among the remaining eight projects, the four in the Constrained Alternative are associated with annual savings of 640 thousand or more vehicle hours. These are higher than the savings of the remaining four in the Strategic Alternative.

Despite their highest potential for travel time savings, I-710 Gap Closure and I-5 Widening (I-605 to I-710) were not included in the Constrained Alternative. This decision was logical because

1. I-710 Gap Closure is undergoing legal challenges. The timing of the project is still uncertain; and
2. It is desirable to widen the south part of I-5 (Orange County Line to I-605) prior to widening the north part (I-605 to I-710) in order to maintain continuity of HOV development at Orange County.

Major Transit Projects. The utilization of major transit projects, including metro rail, light rail transit (LRT), bus rapid transit (BRT), and rapid bus (RB), is summarized in Exhibit A-16. The exhibit reports route miles, incremental daily boardings, incremental passenger speed (i.e. passenger-miles divided by, in-vehicle time), and average daily boardings per route mile.

In the portion of Constrained Alternative, we can see that the three committed rail projects can each attract over 2,000 daily riders for each mile constructed (i.e., 2,500 for Pasadena LRT, 2,300 for Eastside LRT, and 5,300 for Exposition LRT). Per mile ridership is in the range of 1,800 for BRT, and 500-1,000 for RB operations.

In the portion of Strategic Alternative, the most productive rail extension would be the Red Line Extension along Wilshire Corridor to Century City (over 5,000 incremental daily riders per mile). The new LRT service to Burbank and the Exposition LRT Extension to Venice/Washington each would attract over 2,000 daily riders a day. These are within the comparable range of but slightly lower than the two committed LRT lines (i.e., Pasadena LRT and Eastside LRT) in the Constrained Alternative.

**Exhibit A-9
Home-Work Mode Shares**

6,101,100 Daily Trips in 1998; 8,050,000 Daily Trips in 2025

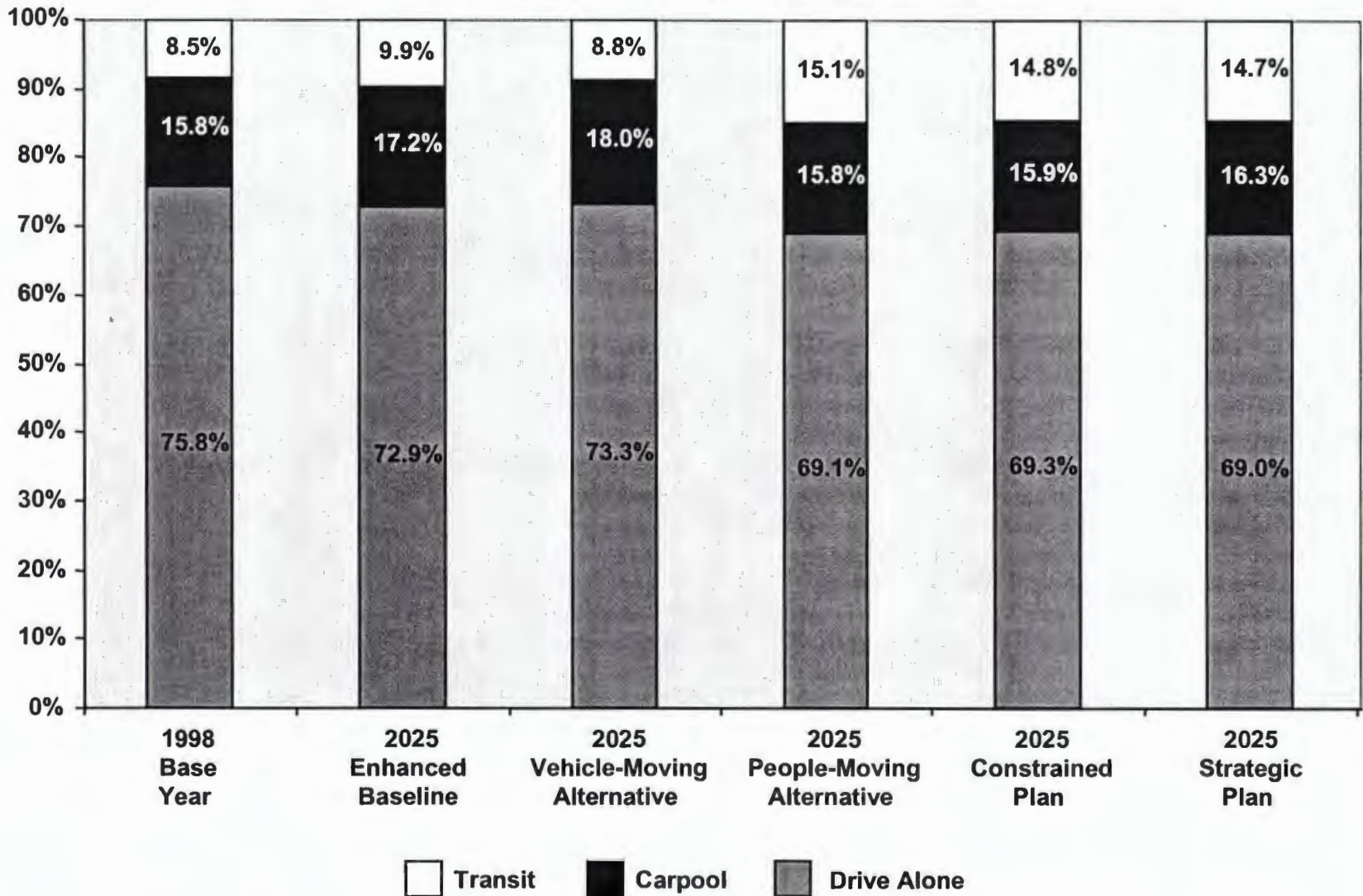


Exhibit A-10
Los Angeles County All Purpose Mode Shares
 29,113,700 Daily Trips in 1998; 37,752,900 Daily Trips in 2025

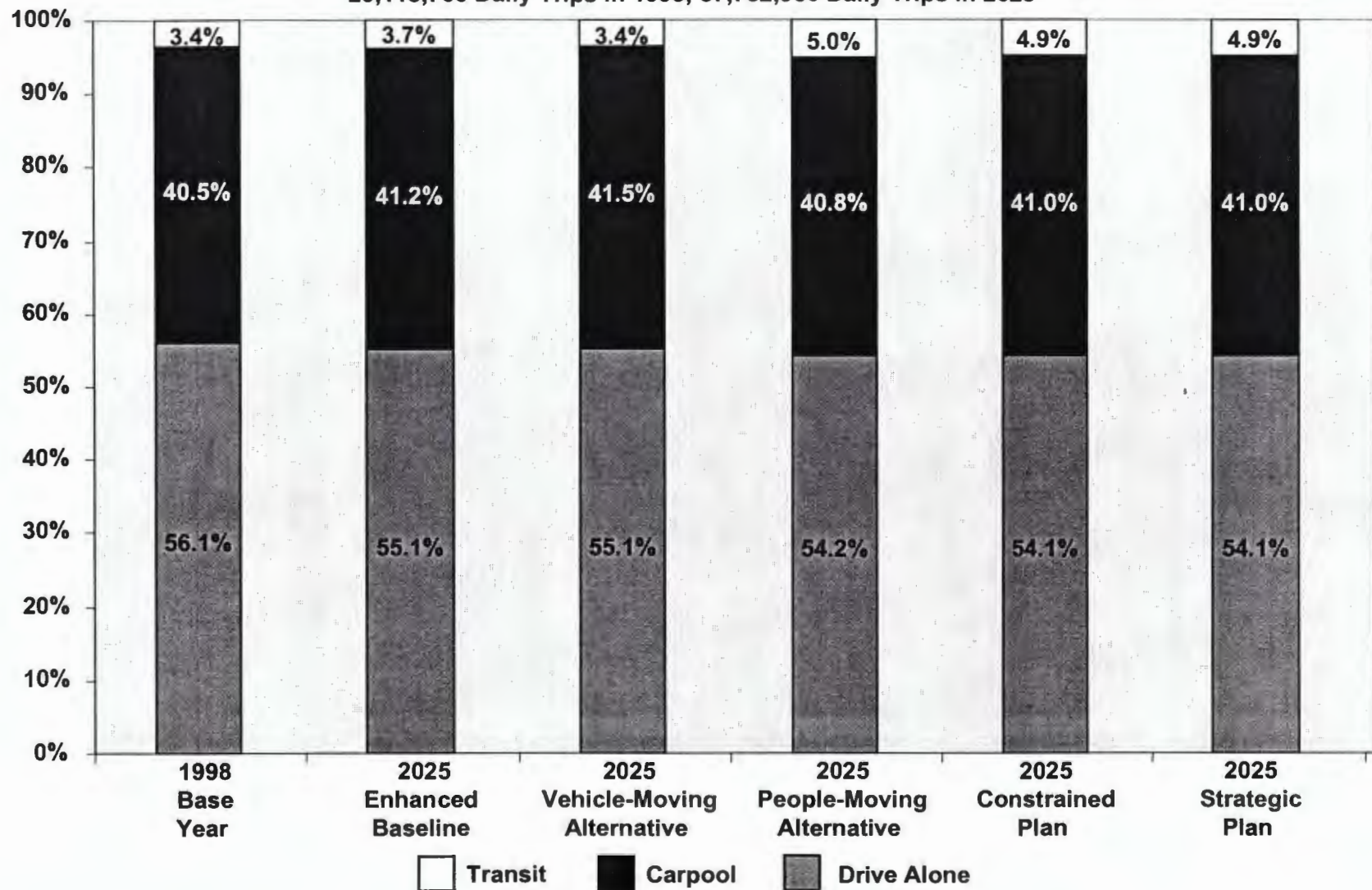


Exhibit A-11
AM Peak Highway Speed (MPH)

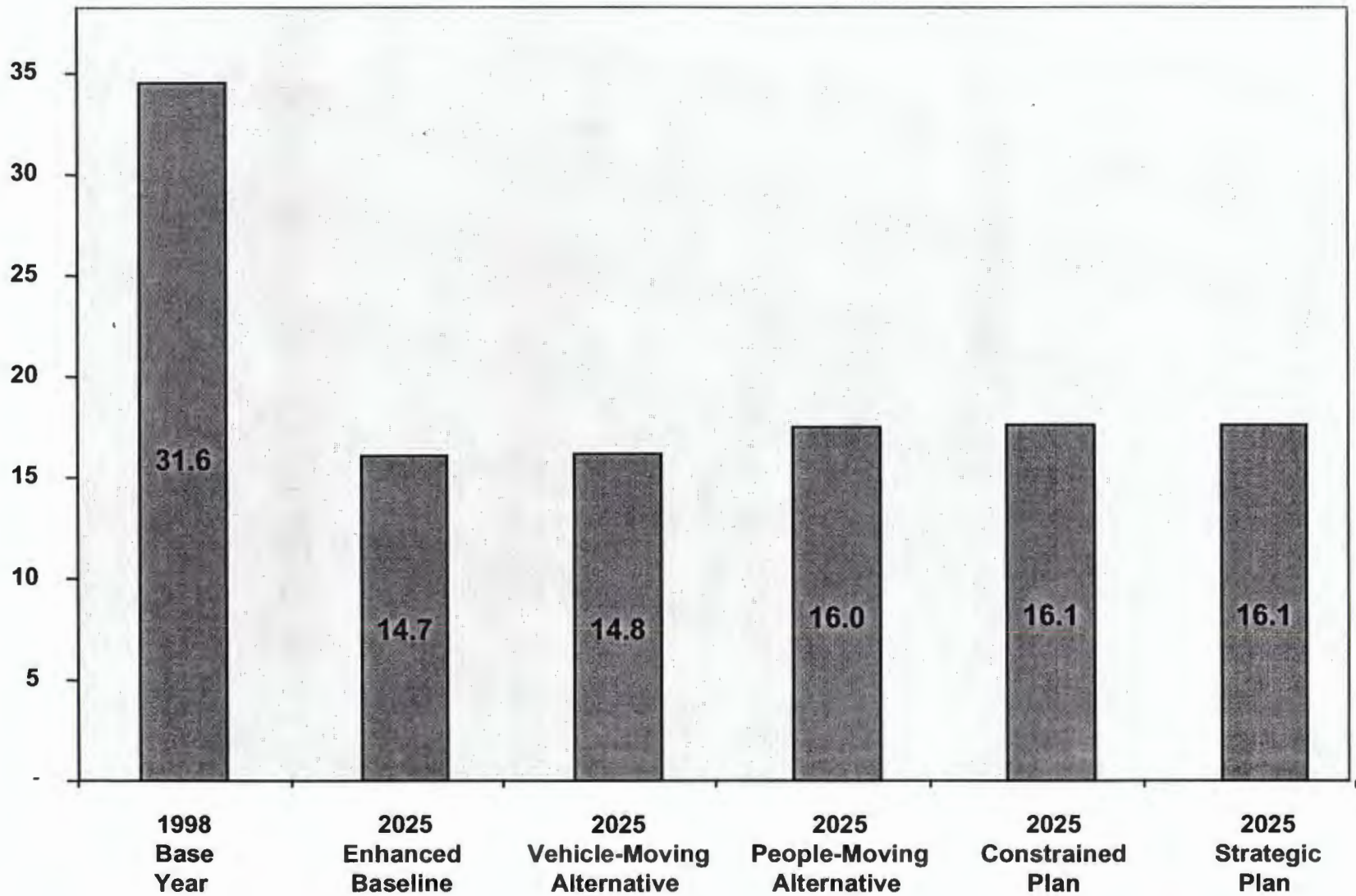


Exhibit A-12
Mobility Index [MPH*Persons Per Vehicle]

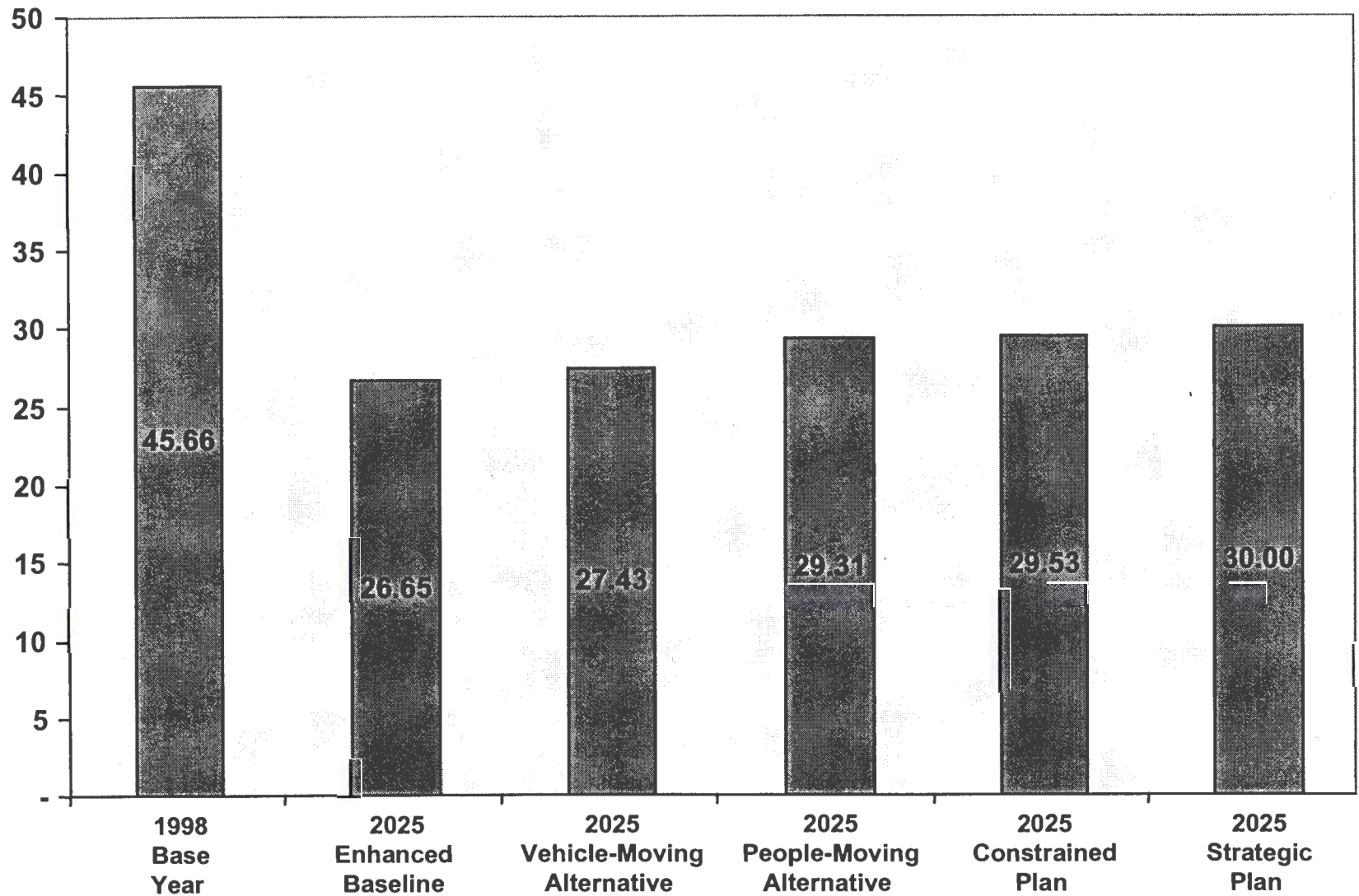
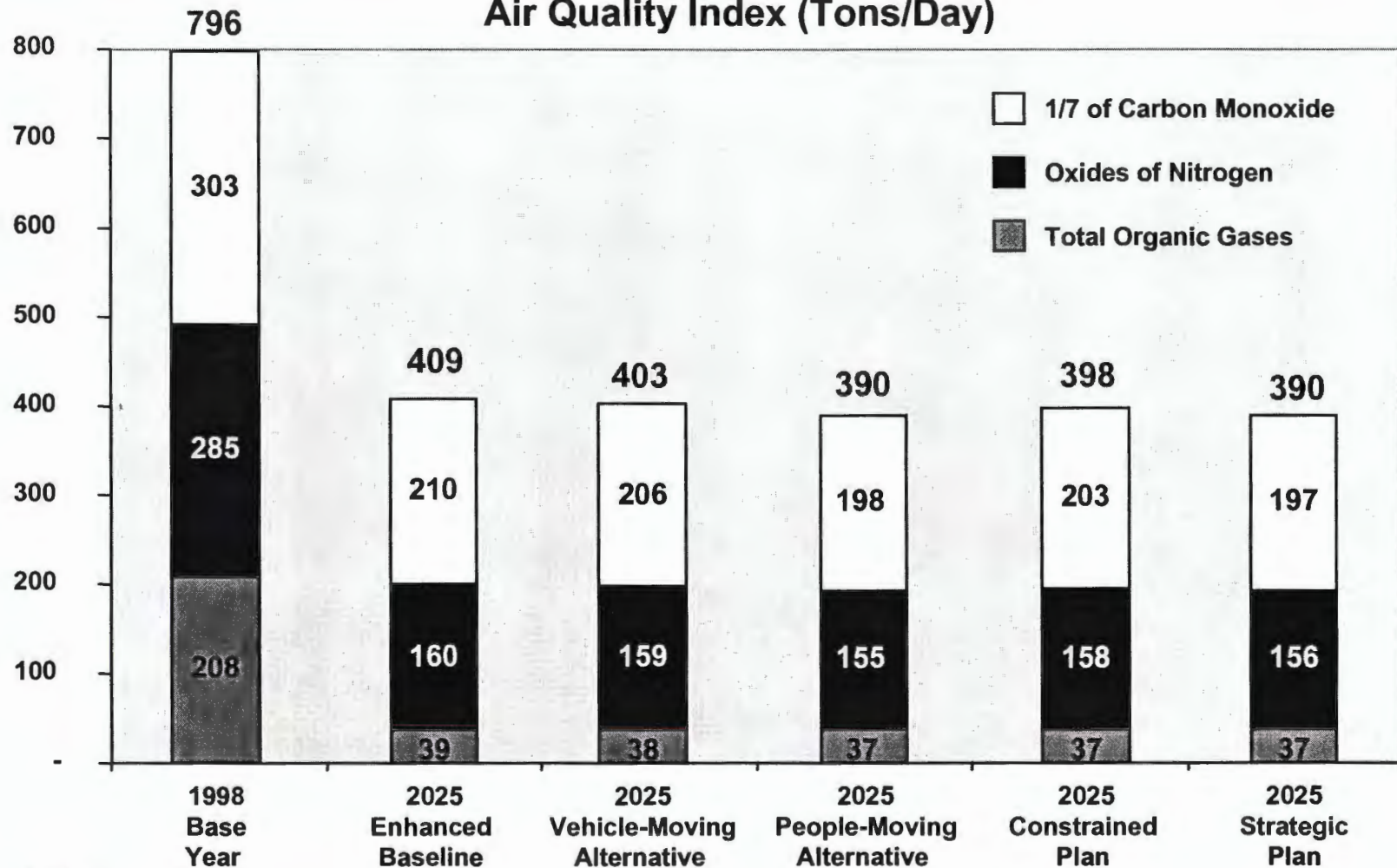


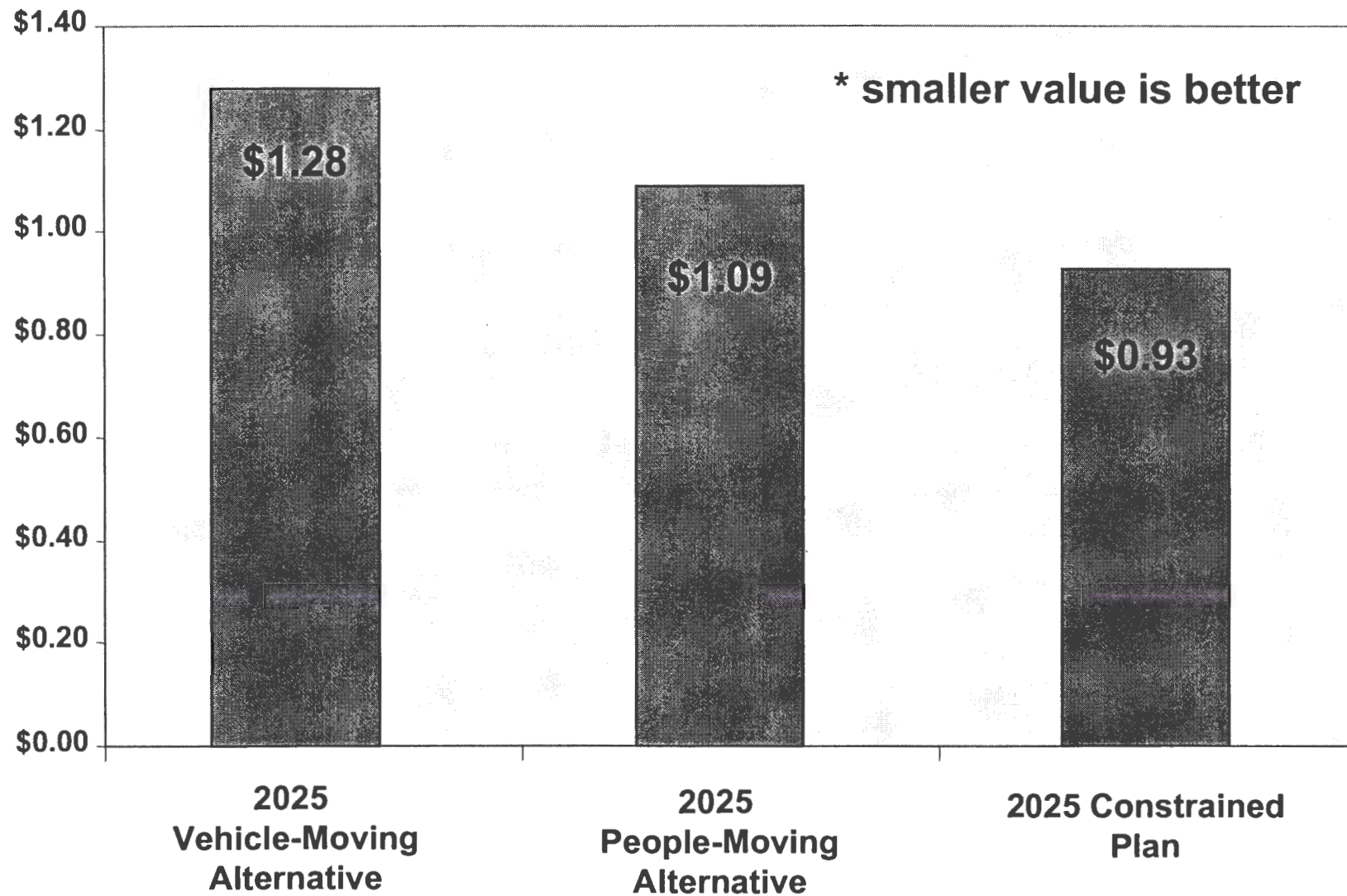
Exhibit A-13
Air Quality Index (Tons/Day)



Note:

- (1) Air emission components were estimated based on the Direct Travel Impact Model (DTIM) maintained by Caltrans Headquarters, and the EMFAC 7G emission factors from the California Air Resource Board.
- (2) The emissions of PM10 are about 8 tons per day in 1998 and will grow in proportion with Vehicle Miles Traveled to 12 tons per day in 2025.

**Exhibit A-14
Cost-Effectiveness Index (\$ Per Hour Saved)***



**Exhibit A-15
Project Level Modeling Results
Annual Travel Time Savings**

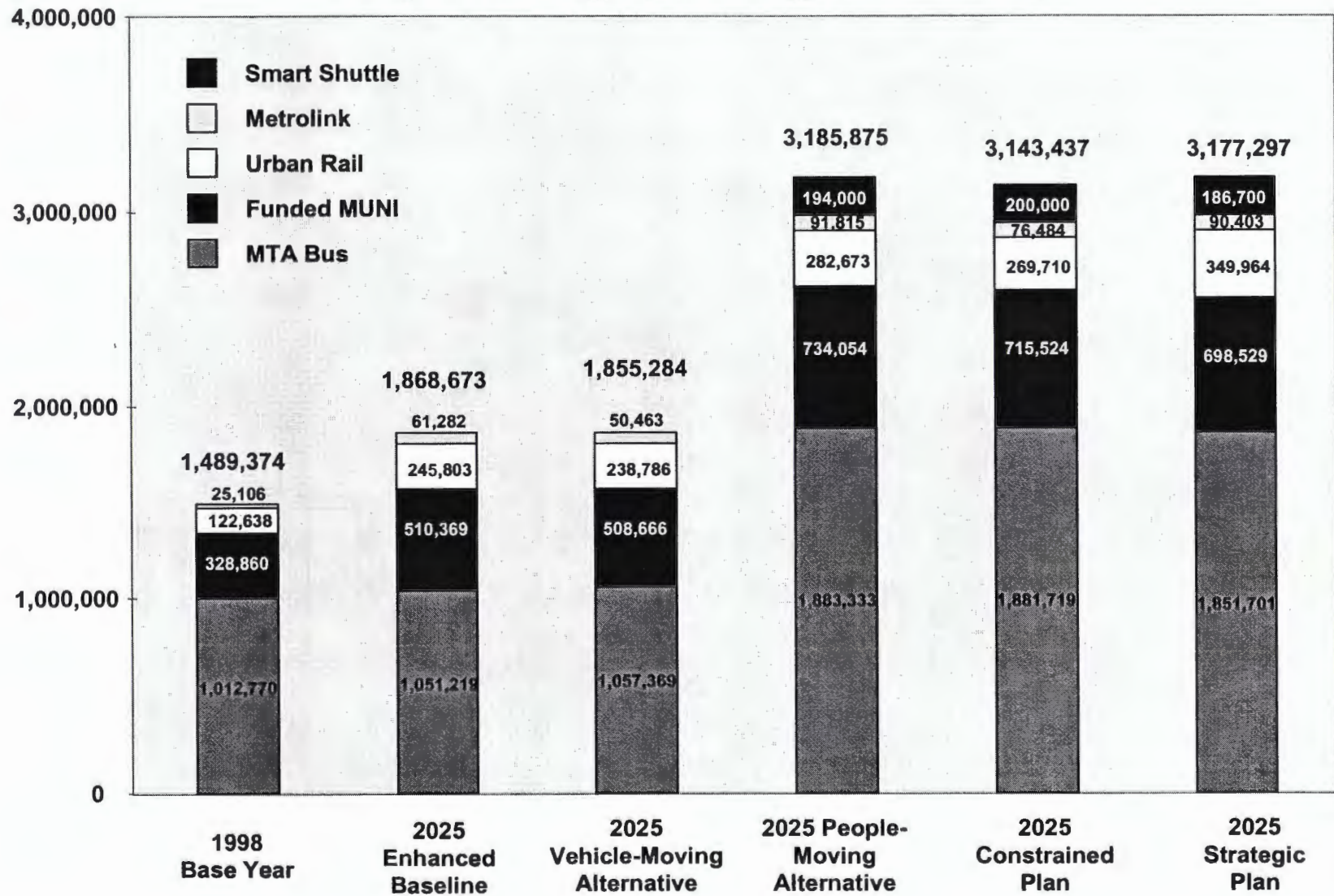
Project	Freeway	From	To	Annual Vehicle Hours Saved
Constrained Plan				
1. HOV Lanes	I-5	SR-134	SR-170	640,000
2. HOV Lanes	SR-14	Pearblossom	Ave. L	757,760
3. HOV Lanes	I-5	Orange County Line	I-605	730,880
4. HOV Lanes	I-5	Orange County Line	I-605	901,760
Strategic Alternative				
5. HOV Lanes	I-5	SR-14	SR-126	154,880
6. Mixed Flow Lanes	I-5	SR-14	SR-126	485,760
7. HOV Lanes	SR-60	I-605	SR-101	620,160
8. HOV Lanes	SR-57	I-210	SR-60	574,080
9. HOV Lanes	I-710	Valley	I-210	552,320
10. Mixed Flow Lanes	I-710	Valley	I-210	2,617,600
11. HOV Lanes	I-5	I-605	I-210	856,960
12. Mixed Flow Lanes	I-5	I-605	I-210	1,020,160

**Exhibit A-16
Project Level Modeling Results
Performance of Major Transit components**

Projects	Route Miles	Incremental Daily Boardings in 2025
Baseline Projects		
1 Rail Transit		
1.1 Existing Metro Red, Blue & Green Lines	77.0	195,441
1.2 Pasadena Line to Sierra Madre Villa	13.6	31,821
2 Transit Corridors		
2.1 Eastside Transit Corridor Beverly/Atlantic	5.9	13,114
2.2 Exposition Corridor	5.5	29,334
2.3 Wilshire/Whittier Corridor	23.8	28,823
2.4 San Fernando Valley East/West Corridor	13.5	29,399
Constrained Recommendations		
1 Metro Rapid - 22 Lines (1)	346.0	247,105
2 Transit Corridors		
2.1 Crenshaw corridor	15.2	32,044
2.2 Exposition Corridor Extension from Baseline	10.6	27,027
2.3 San Fernando Valley North/South Corridor	12.0	21,219
Strategic Recommendations		
1 Transit Corridors		
1.1 Wilshire Red Line Extension to Century City	6.4	33,351
1.2 East Los Angeles Corridor Extension to Whittier	6.6	7,086
1.3 Pasadena Line Extension to Claremont	22.4	1,766
1.4 Vermont Transit Corridor	12.0	4,360
1.5 Burbank/Glendale Corridor	13.6	32,458
1.6 Metro Rail Extension to South Bay Galleria	2.3	2,352

[1] Include Avalon, Florence, Pico/Venice/East First, Vermont, Van Nuys, Crenshaw-Rossmore, Hawthorne, Hollywood-Pasadena, Long Beach, San Fernando, Santa Monica, Sepulveda, Soto, and Western, Alvarado, Atlantic, Century, Garvey, Hollywood-Fairfax, Lincoln, Roscoe, Vernon-La Cienega, West Third.

**Exhibit A-17
Daily Boardings (Los Angeles County)**



Sensitivity Test Results

The purpose of sensitivity test is to examine the effects of land use and pricing on the performance of transportation system. Two sensitivity tests were designed and run during the course of the study.

In the first test, we assumed that the population growth in the county would be 2.4 million rather than the 3.5 million as adopted by SCAG in the 1998 RTP. A slightly less degree of urban sprawl is also assumed in the test by allocating population growth proportional to the 1998 distribution. This assumption is applied to the Constrained Plan in order for us to examine the effect of land use upon transportation system.

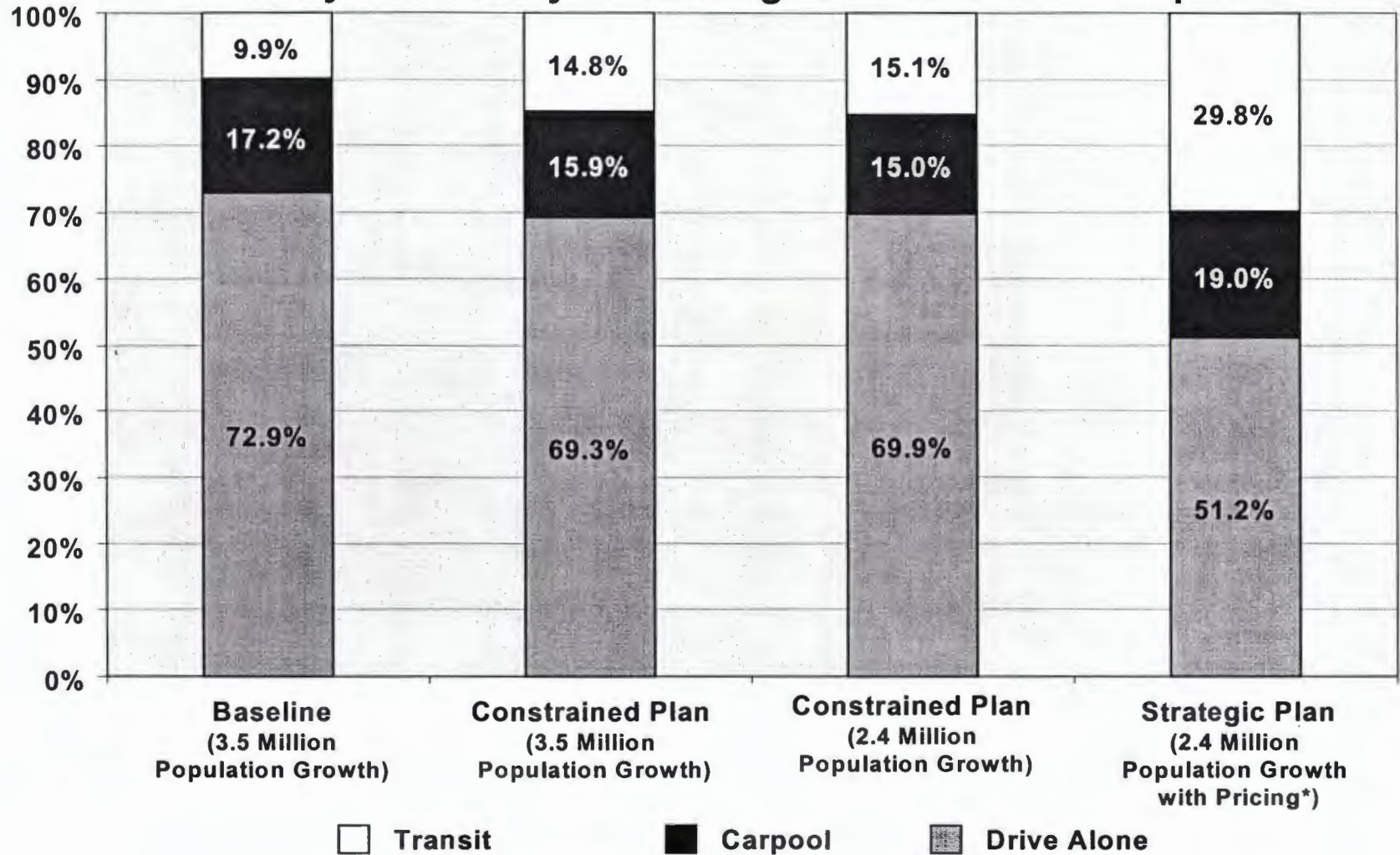
In the second test, we further assumed a set of highway pricing strategies, and applied the revenues from highway pricing to enhance transit services. The pricing assumptions have been described previously in the second section of this Appendix.

Exhibits A-18 through A-22 report the modeling results of sensitivity tests in terms of mode shares, average daily highway speeds, mobility index, air quality index, and daily boarding. From these exhibits we can highlight the following findings:

1. The reduced population growth alone has small but positive impact on the level of transit share (Exhibit A-18) and small but negative impact on transit boarding (Exhibit A-22);
2. The reduced population growth alone has positive impact on the system speed, mobility, as well as air quality (Exhibit A-19, 20, & 21);
3. The reduced population growth together with pricing have tremendous positive impact on transit share, highway speed, mobility, air quality, and transit boarding.

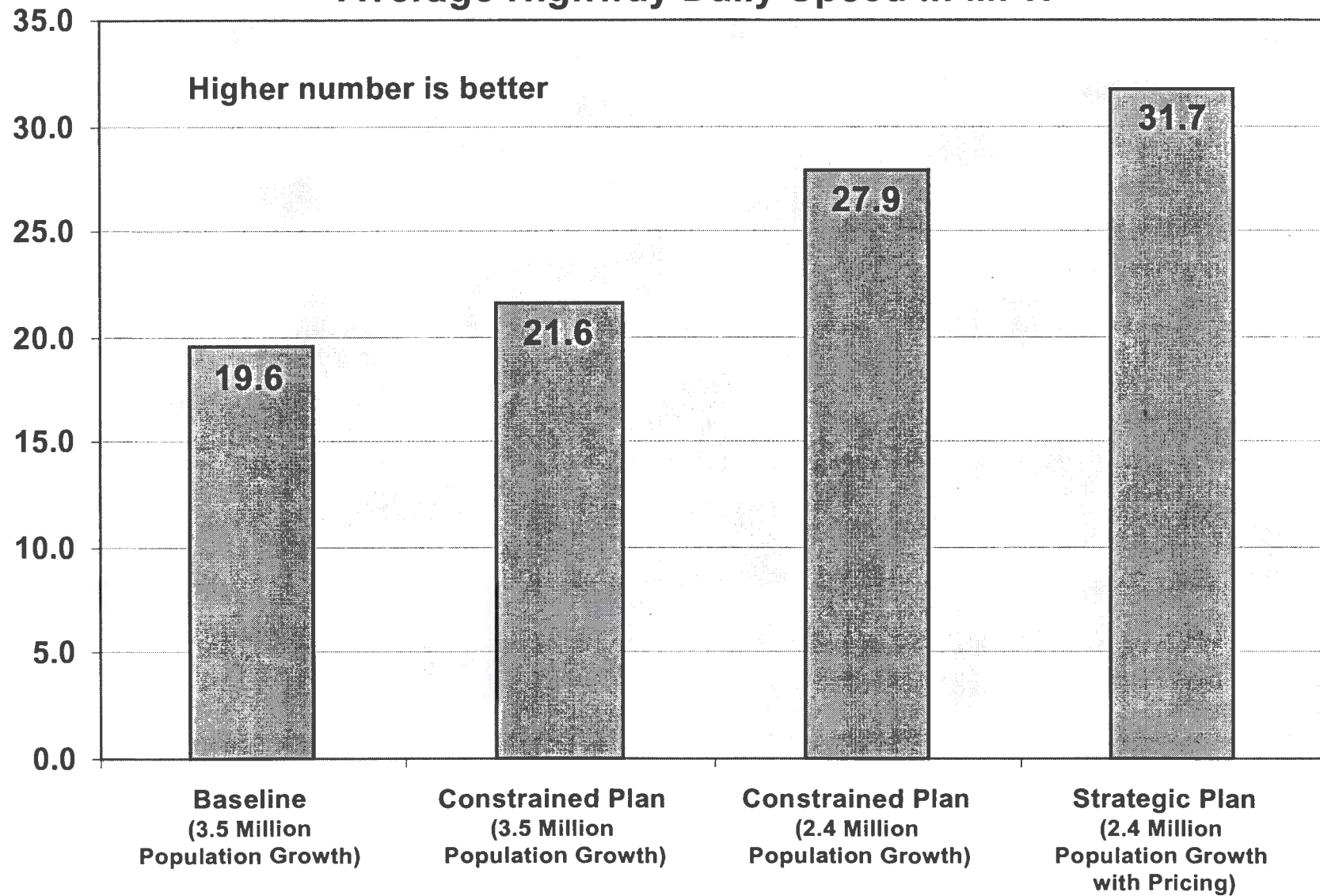
The results of these two sensitivity tests warrant a further exploration of using land use and pricing as planning tools beyond the conventional capacity-enhancements to solve transportation problems.

Exhibit A-18
Daily LA County Percentage of Home-Work Trips



*Pricing Scenario Assumptions Include: (a) Daily average parking cost increases from 20 cents to \$1.00, (b) Auto operating cost increases from 10cents/mile to 20 cents/mile, (c) Transit fare reduced by 40%, (d) Transit headway reduced to 6 min. or less in peak and 12 min. or less in off-peak, and (e) An expanded rail transit network.

Exhibit A-19
Average Highway Daily Speed in MPH



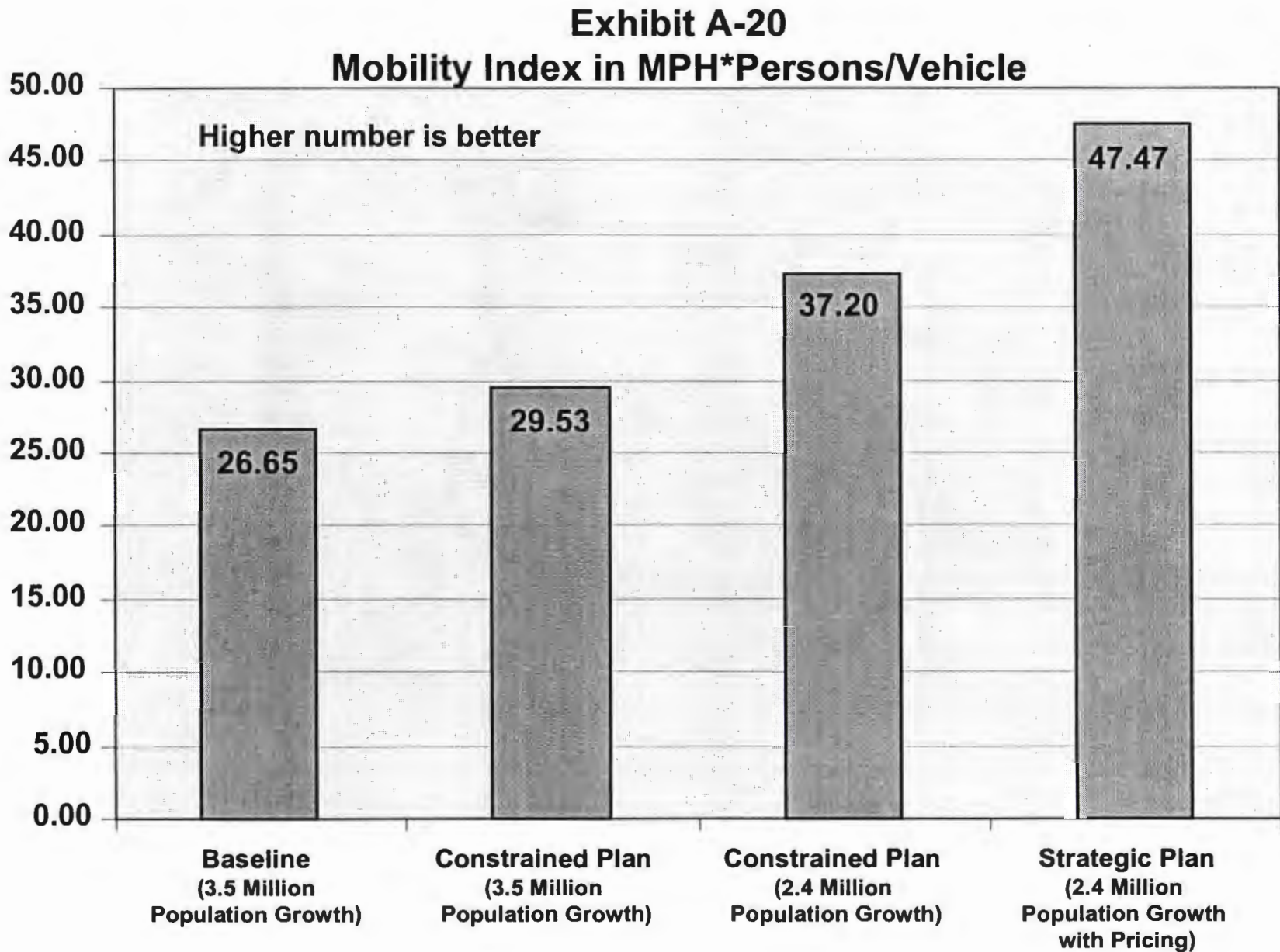
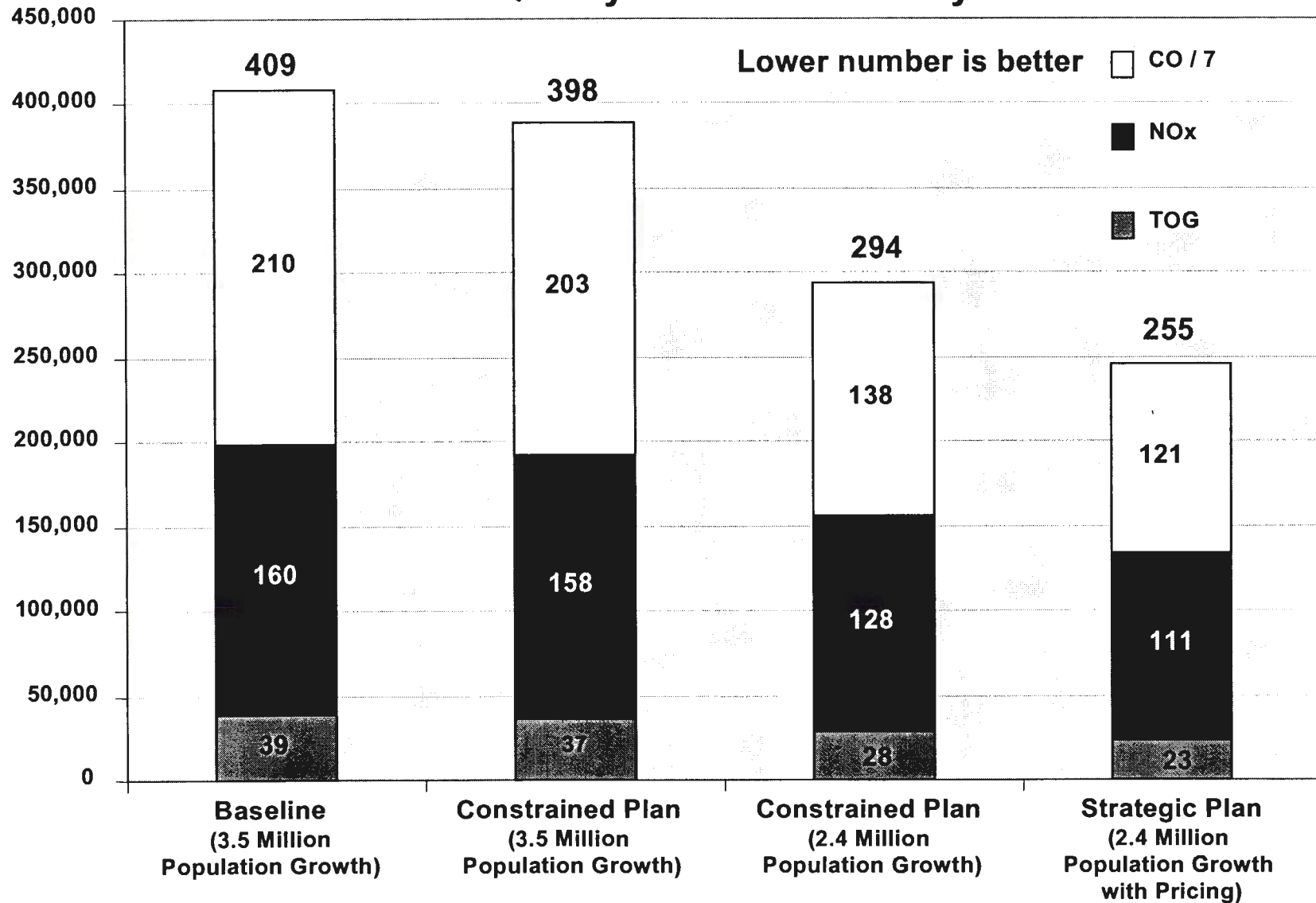
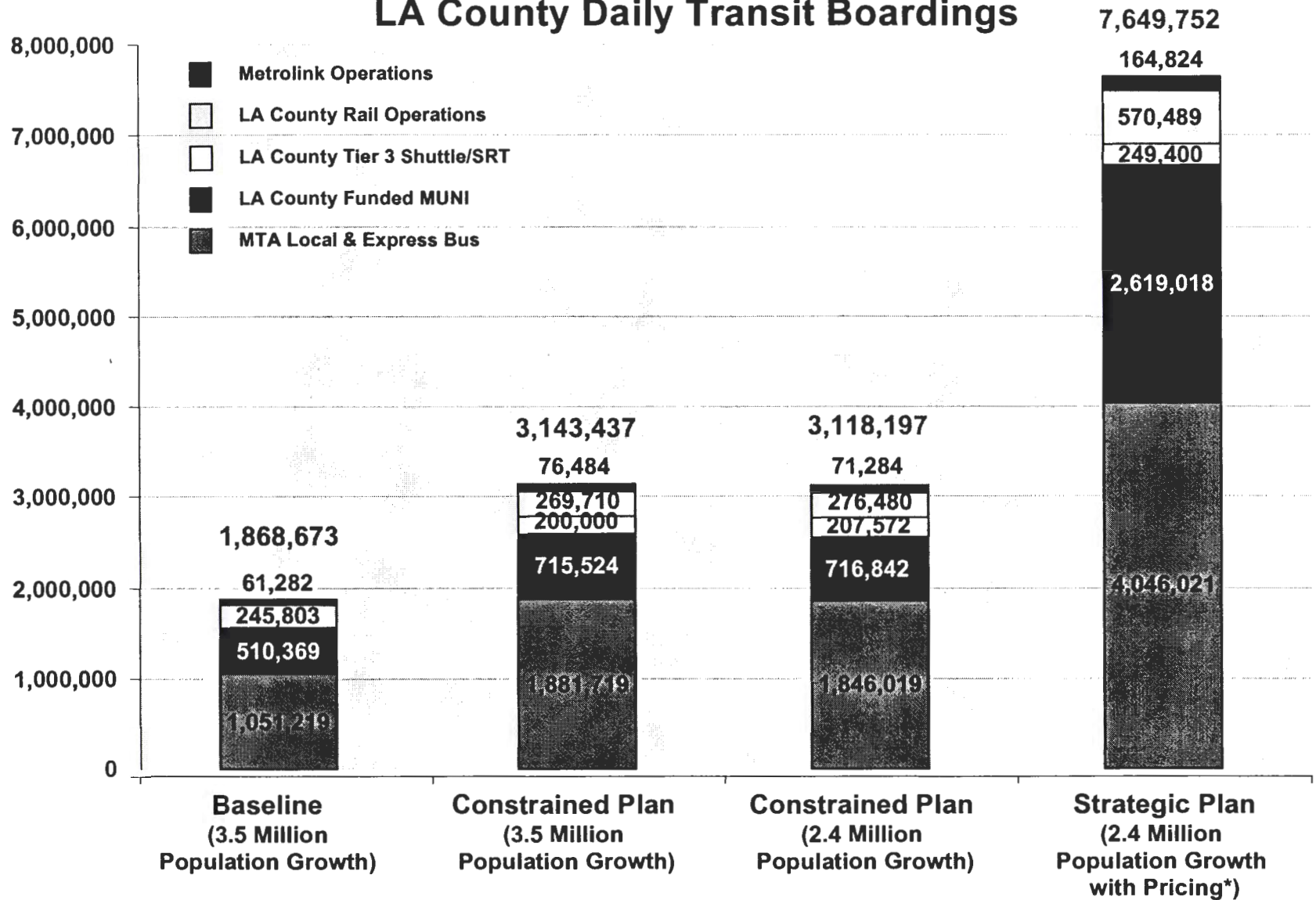


Exhibit A-21
Air Quality Index in Tons/Day



**Exhibit A-22
LA County Daily Transit Boardings**



Title VI Analysis Results

The Title VI Analysis of the Long Range Plan has been designed to analyze the transportation impacts on distinctive socioeconomic groups in the County. The transportation impacts analyzed included

- the portion of jobs accessible within 60 minutes via transit, and
- the percentage of mode shares.

The distinctive socioeconomic groups included:

- Transit dependent population,
- Ethnic group population (African American, Hispanic, Asian/Pacific Islander, and Non-Minority), and
- Income quintile population.

Geographic Distribution of Socioeconomic Groups

Using the information from 1990 Census, a traffic analysis zone (TAZ) is designated as transit-dependent in the model if it meets one or more of the following criteria:

- 11% or more of the households do not own a car;
- 6.4% or more of the households include individuals aged 70 or older; and
- 11.6% or more of the average households have an income of \$11,000 or less (in 1990 dollars).

The following table identifies the percentage of households in Los Angeles County that are classified as African American, Hispanic, Asian/Pacific Islander, or Non-Minority. A TAZ is designated African American, Hispanic, Asian/Pacific Islander, or Non-Minority if its population exceeds the percentage of that subgroup in the County (e.g., a TAZ with 50% of households comprised of Hispanics would be deemed an Hispanic TAZ). Hispanics, at 26% of the population, comprise the largest minority group in the County.

Ethnic Population Based on 1990 Census

	Population	Percent
African American	1,045,853	11.8
Hispanic	2,322,149	26.2
Asian/Pacific Islander	824,274	9.3
Non-Minority	4,697,477	53.0
Total	8,863,164	

Exhibit A-23 illustrates the zonal median household income in 1990 (in 1990 dollars) by income quintiles. The household income quintiles are:

- low income – less than \$20,000,
- moderate income – \$20,000 to \$26,000,
- medium income – \$26,000 to \$32,000,
- above average income – \$32,000 to \$45,000,
- high income – greater than \$45,000.

The threshold of median household income in each income quintile is different from that report by 1990 census (e.g. \$15,000, \$28,000, \$44,000, \$70,000) because the former is an aggregate measure of zonal medians whereas the latter is disaggregated information directly from the census.

Nevertheless, low-income TAZs tend to be concentrated in Central Los Angeles County while high-income TAZs tend to be concentrated in western Los Angeles County.

Exhibits A-24 through A-27 illustrate the location of the additional population subgroups throughout Los Angeles County. Exhibit A-24 shows that the transit dependent population tends to be concentrated in Central Los Angeles County.

Exhibit A-25 illustrates the African American population and Exhibit A-26 illustrates the Hispanic population in the County. Both population subgroups tend to be located in Central Los Angeles County with the African American population extending toward the southern part of the County and the Hispanic population extending toward the eastern part of the County.

Exhibit A-27 illustrates the Asian/Pacific Islander population in Los Angeles County. It tends to be distributed throughout the County, with a slight emphasis toward the eastern part of the County.

Transit Accessibility by Socioeconomic Group

Exhibit A-28 illustrates the percentage of home-work peak period trips that can be made within 60 minutes or less via transit, disaggregated by income quintile. The figure shows that the low-income population is expected to benefit most from the alternatives with a larger percentage of home-work trips possible via transit for each subsequent alternative. In addition, the income population that is most likely to use transit, across all alternatives, is the low-income population.

Exhibit A-29 illustrates the percentage of home-work peak period trips that can be made within 60 minutes or less via transit, disaggregated by population subgroup. The figure shows that the population subgroups most likely to benefit from the alternatives are the transit dependent, African American, Hispanic, and Asian/Pacific Islander.

Mode Shares by Socioeconomic Group

Exhibit A-30 illustrates the mode split of home-work trips for each alternative, disaggregated by income quintile. In all alternatives, the low-income population is expected to be most likely to travel via transit with transit ridership peaking at about 23% for the Strategic Alternative.

Exhibit A-31 illustrates the home-based work mode split for each alternative, disaggregated by population subgroup. The transit-dependent subgroup is expected to be most likely to travel via transit with transit ridership

peaking at about 24% in the People-Moving Alternative. The other population subgroups are expected to experience comparable levels of transit ridership.

Exhibit A-23
1990 Zonal Median Household Income
By Traffic Analysis Zones (1990 dollars)

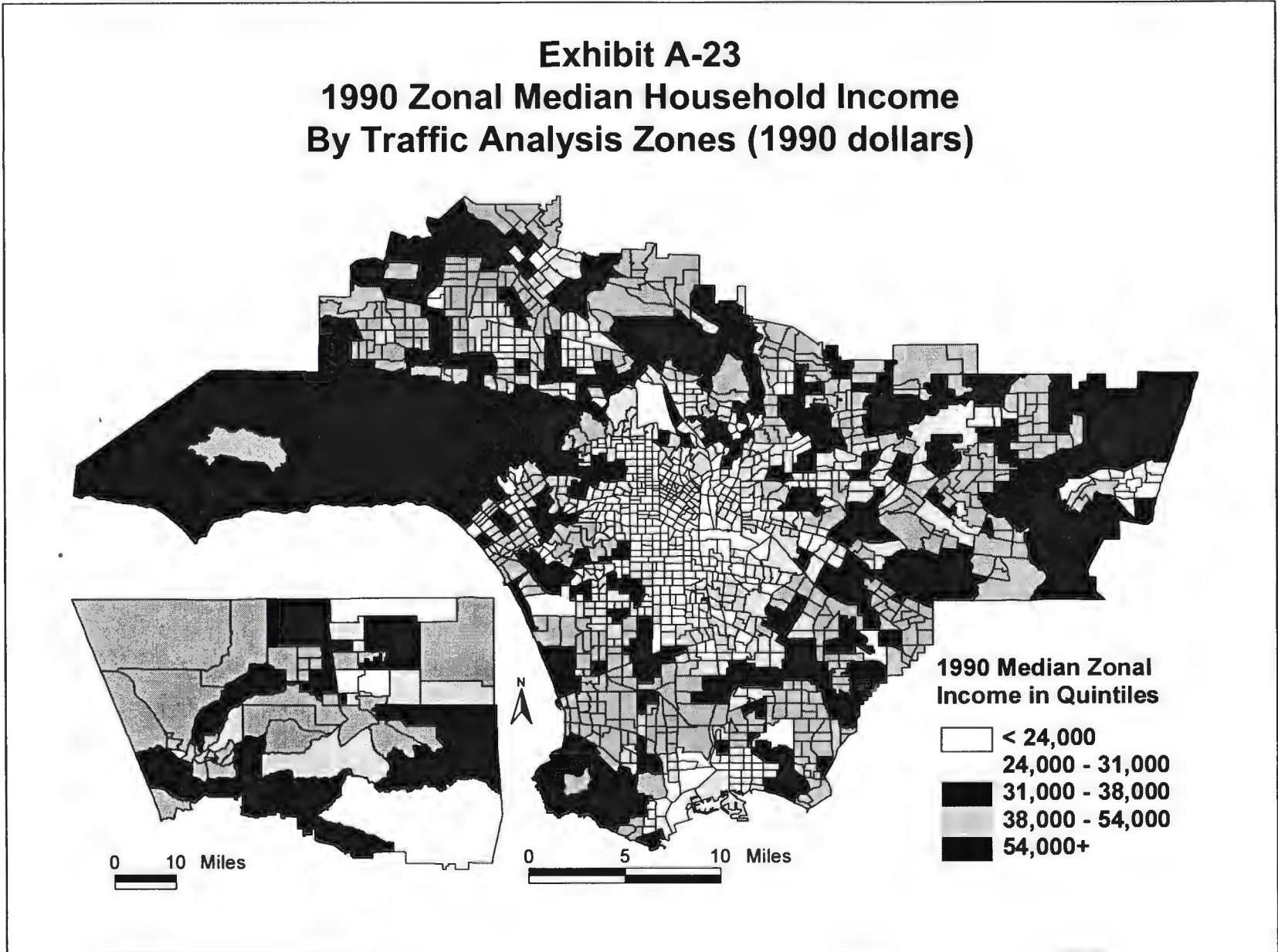
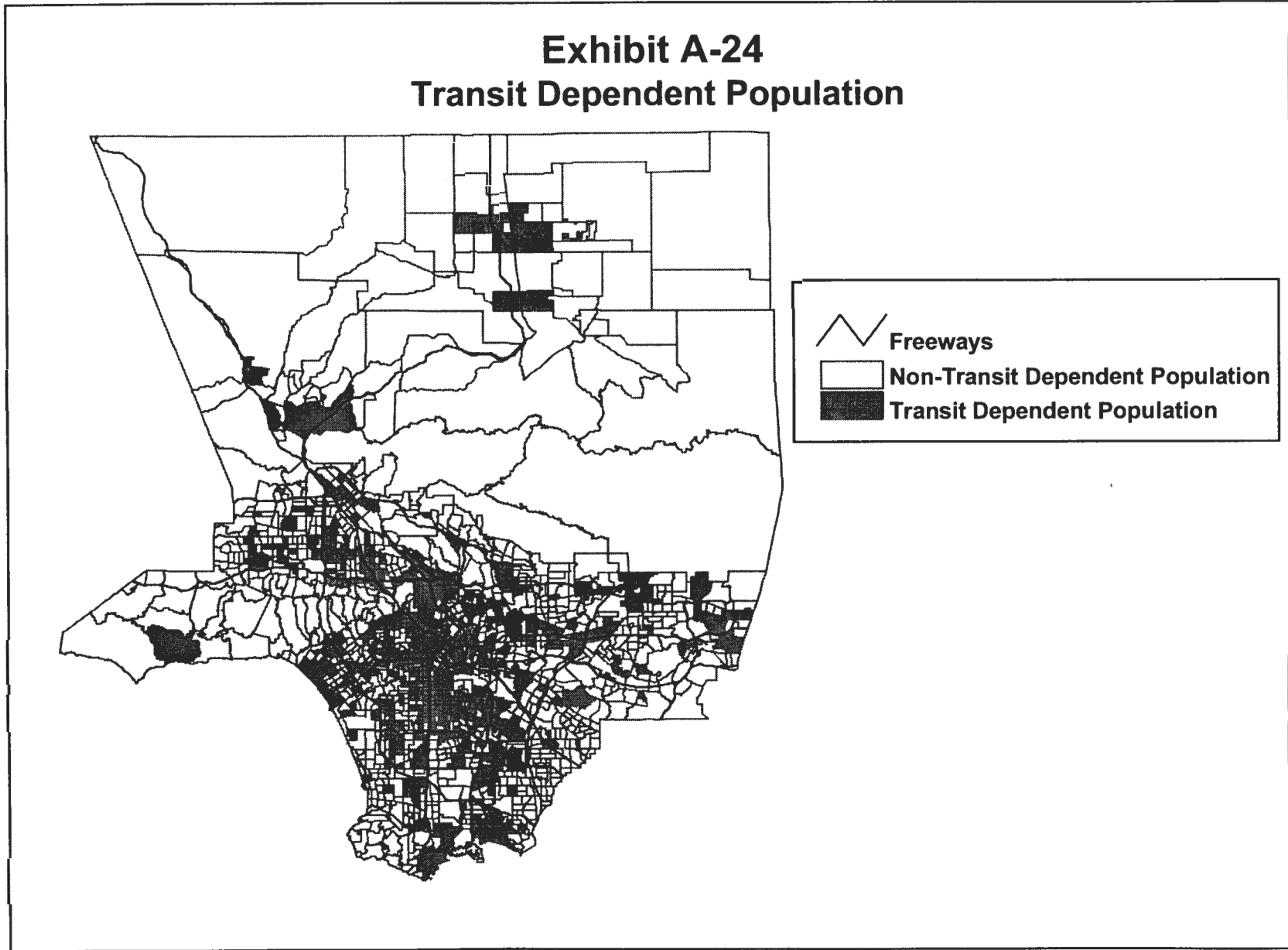
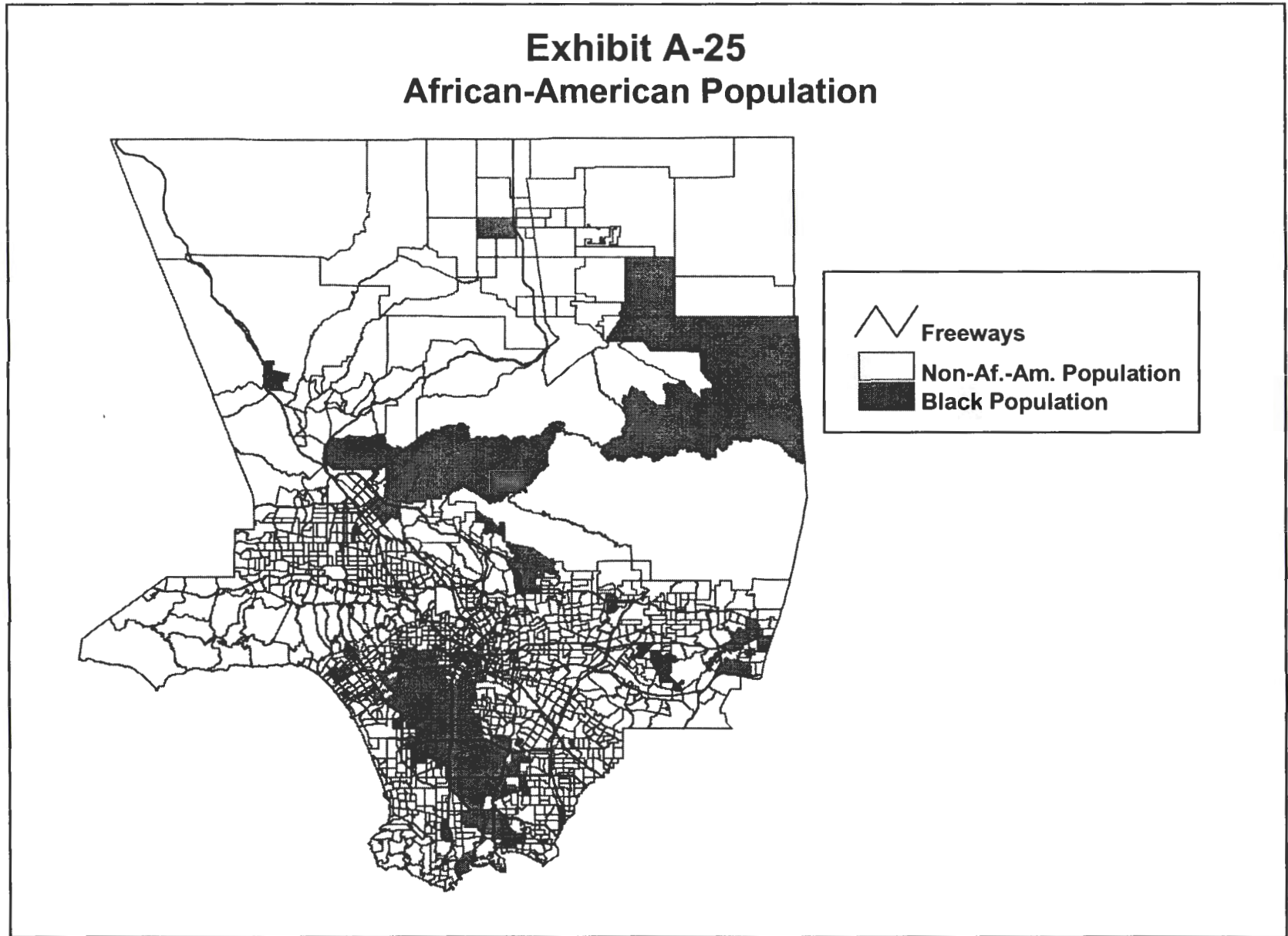


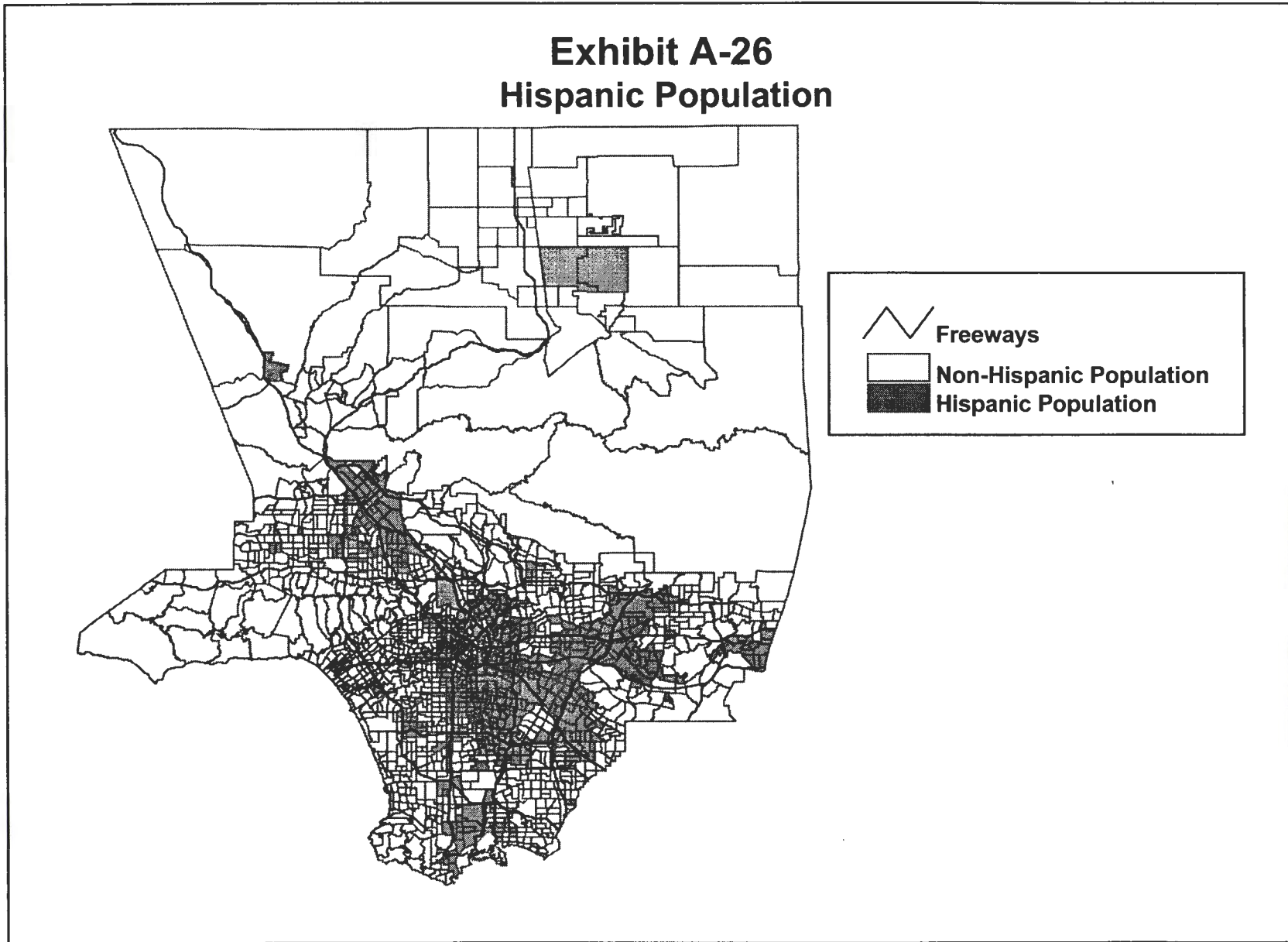
Exhibit A-24
Transit Dependent Population



**Exhibit A-25
African-American Population**



**Exhibit A-26
Hispanic Population**



**Exhibit A-27
Asian/Pacific Islander Population**

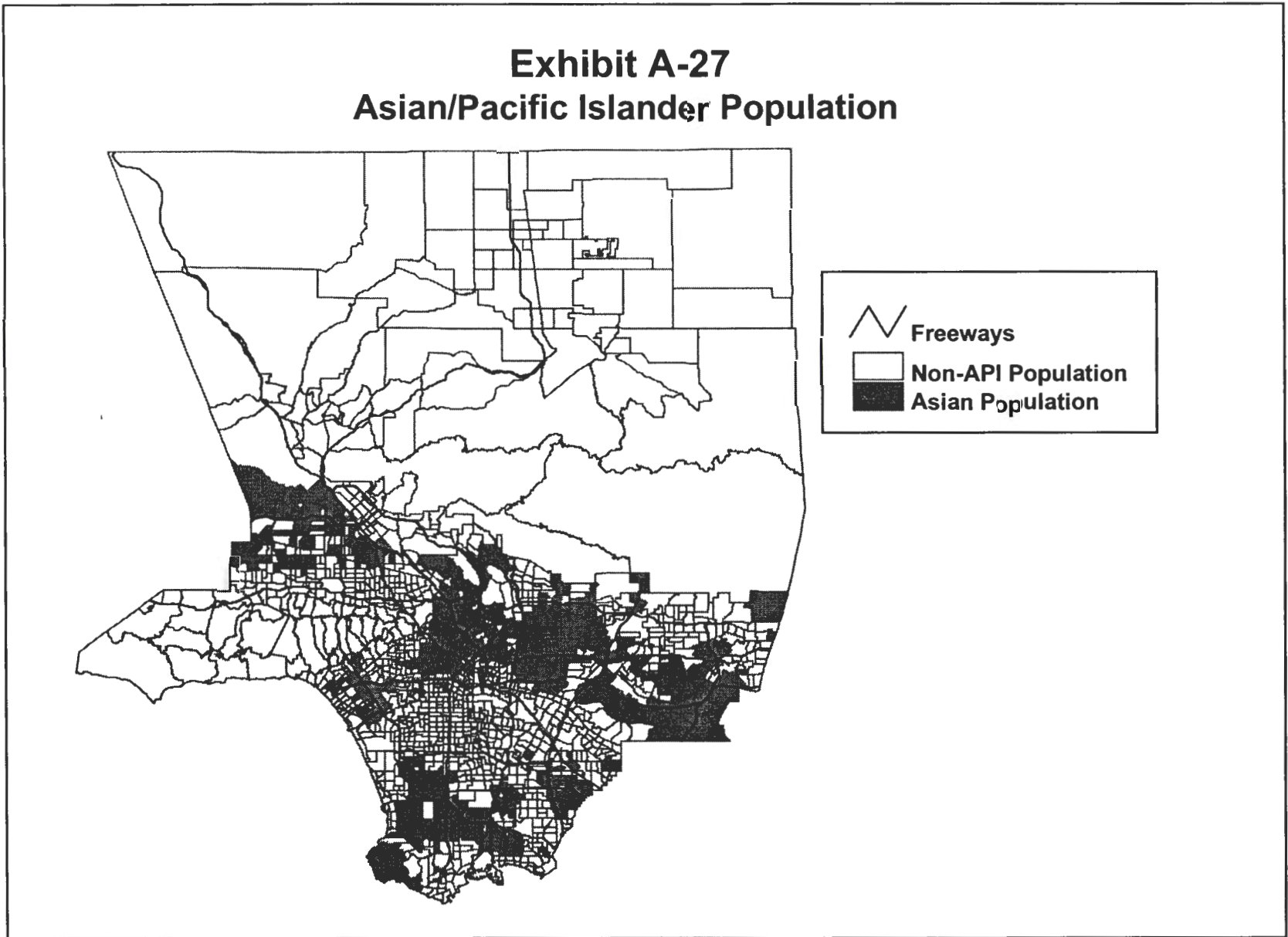


Exhibit A-28 Job Access by Income Quintile

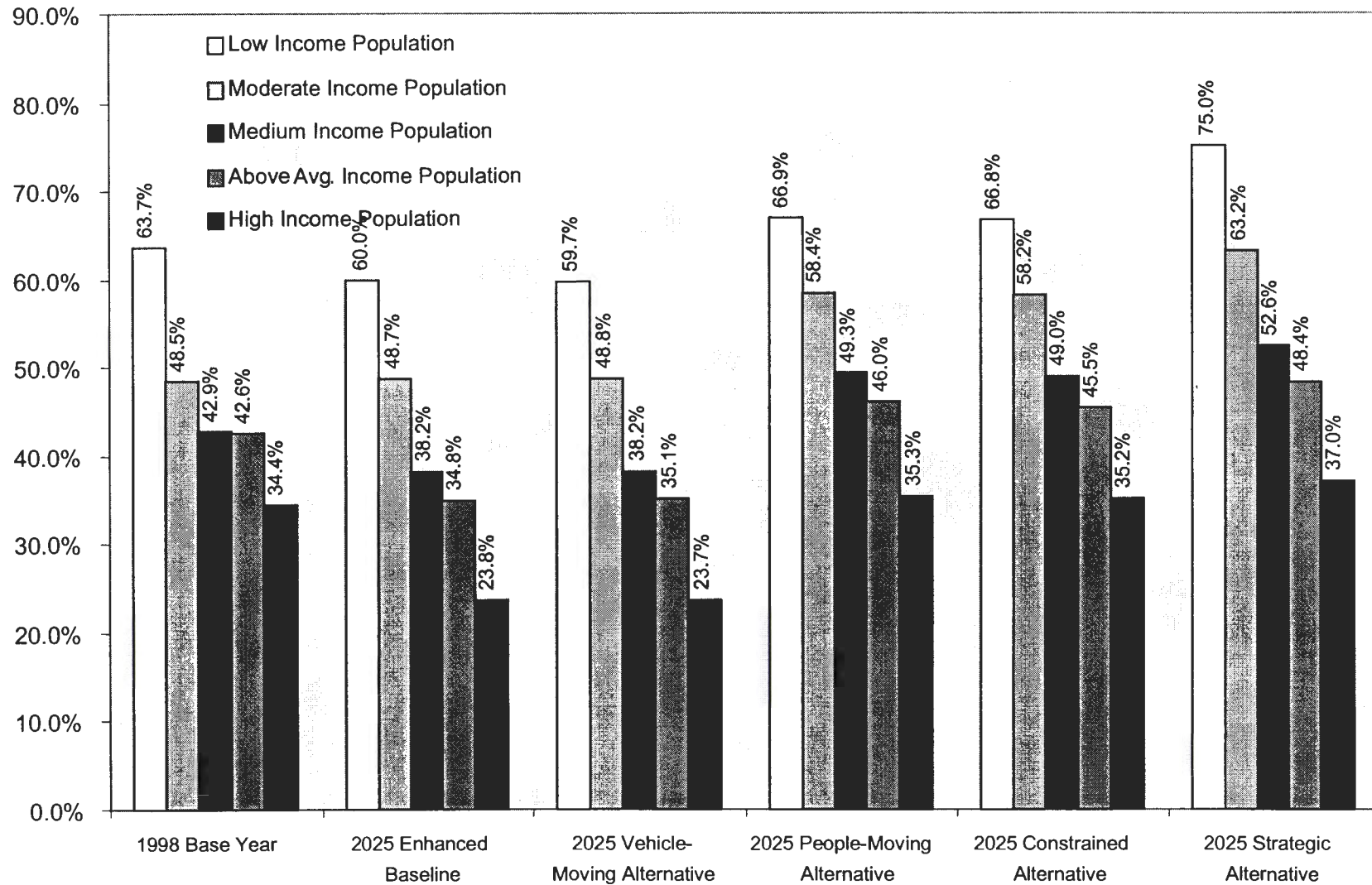
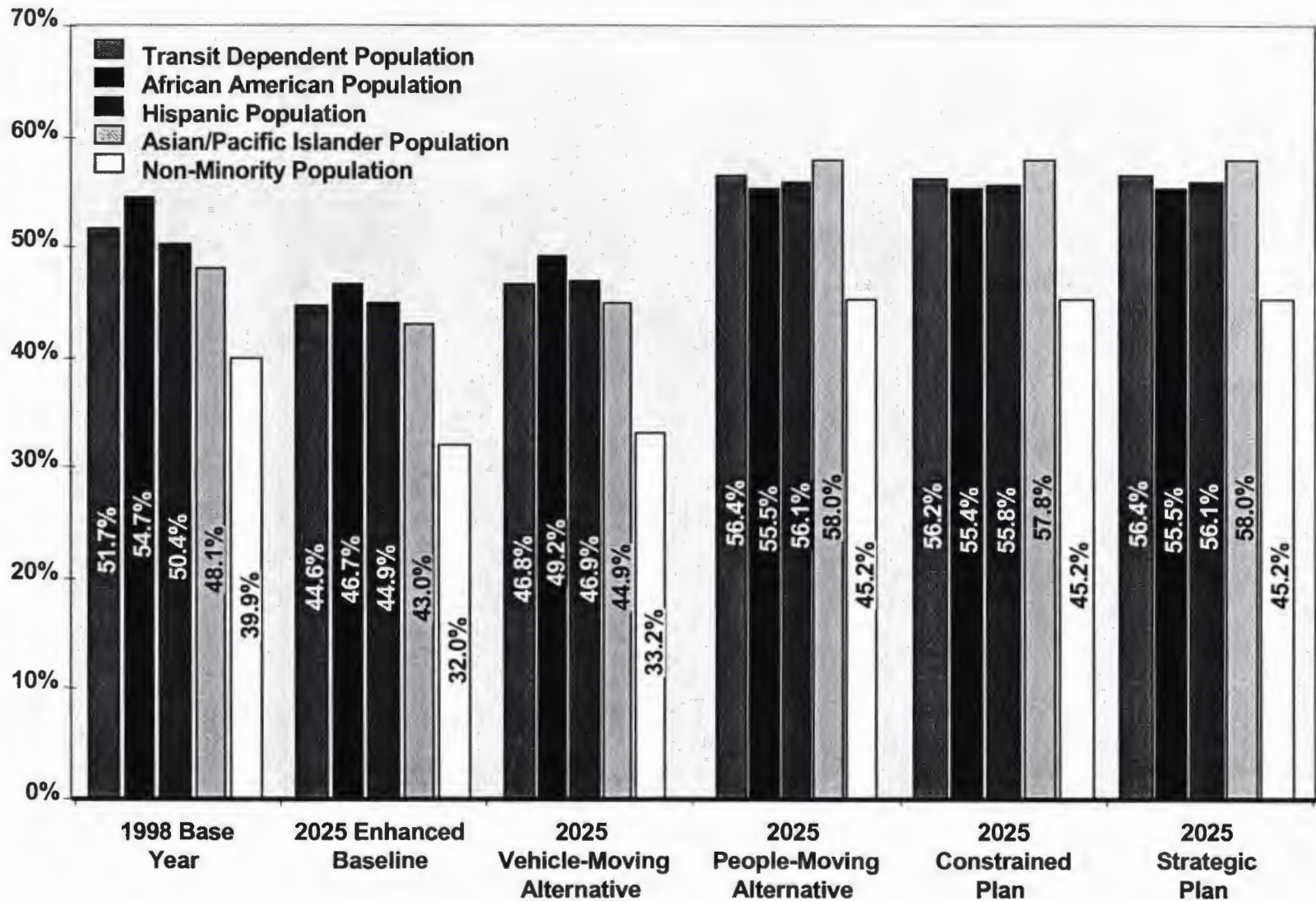


Exhibit A-29

Percentage of Home-Work Peak Trips Within 60 Minutes Via Transit



Travel Demand Model Assumptions & Evaluation

Exhibit A-30
Mode Choice by Income Quintile

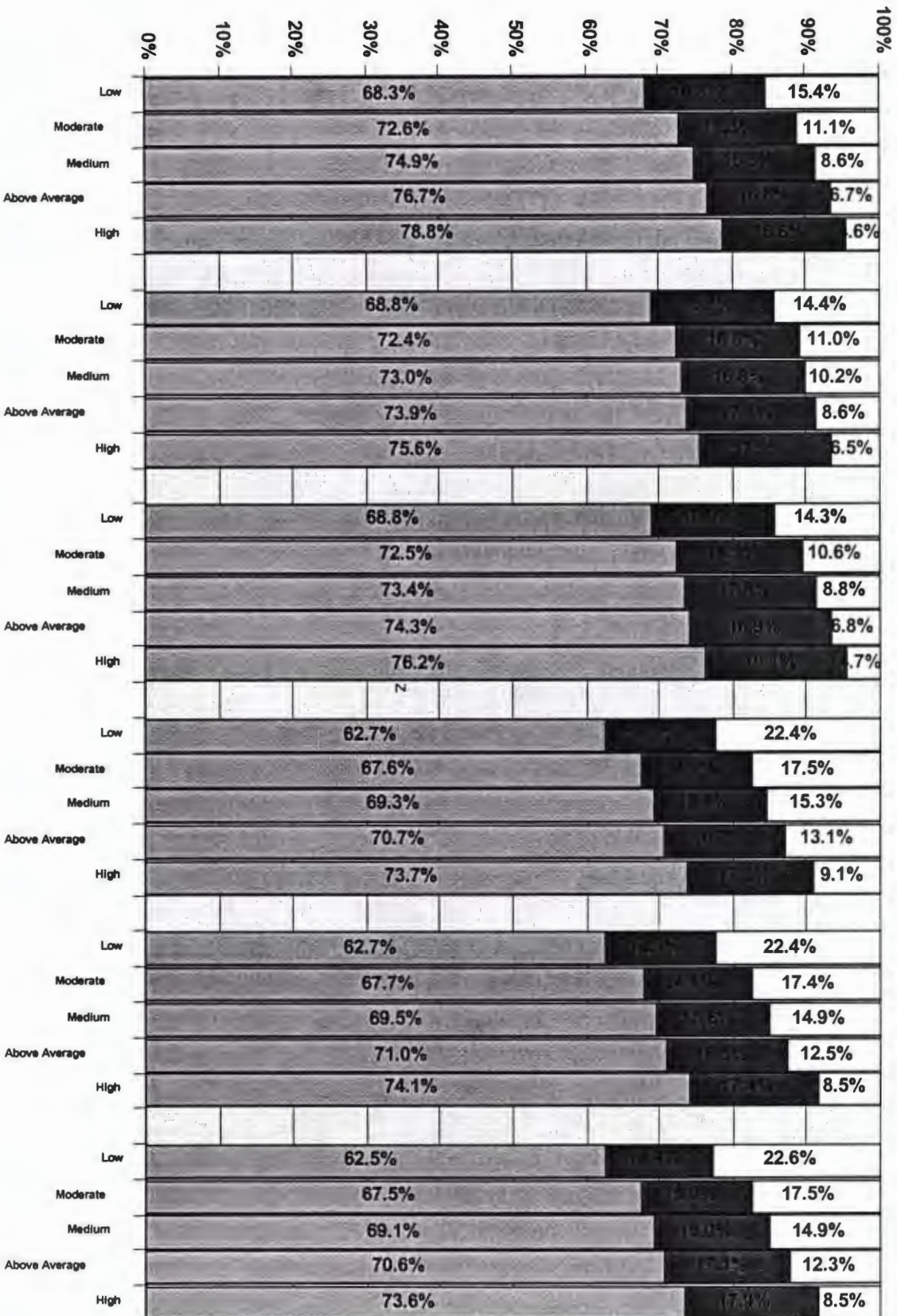
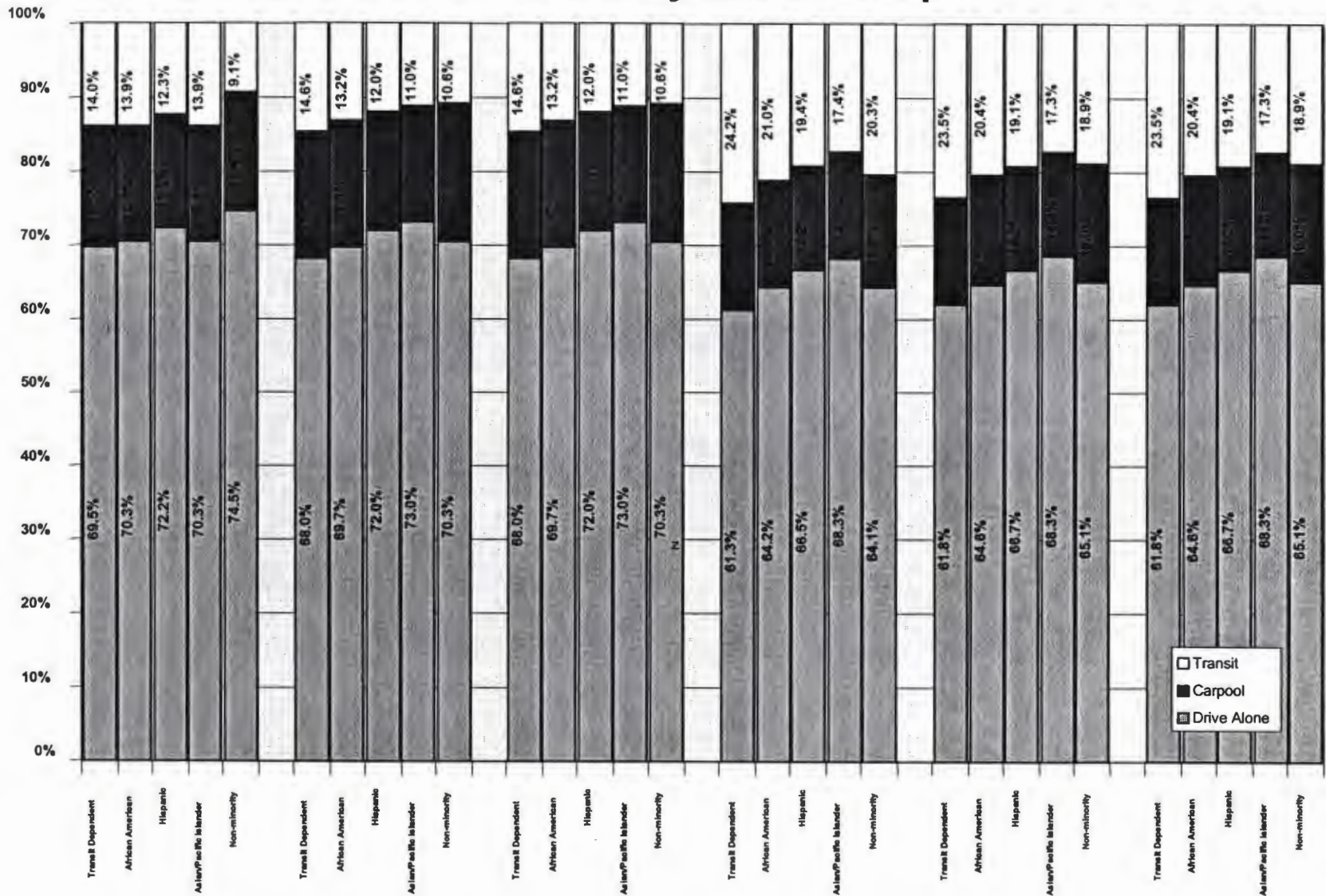


Exhibit A-31
Mode Choice by Ethnic Group



Financial Forecasting Model Assumptions

The MTA has programming authority of transportation funds for Los Angeles County. As the Regional Transportation PI65

anning Agency (RTPA), MTA will program billions of dollars in funds over the study period. In addition, MTA administers the local sales tax initiatives receiving the collected funds from the State of California. By having such programming and management of funds authority, it is not uncommon for large amounts of funds to be available in MTA accounts. Such large balances, however, are not to be confused with those funds actually available to the MTA for bus and rail operations.

Balances shown in MTA accounts such as the Proposition C 25%, Transit Related Highway funds, are awaiting disbursement for prior year Call for Projects. Other accounts have balances but the funds can only be used for a specified purpose such as security (Proposition C 5%) or commuter rail, transit centers, and park-and-ride lots (Proposition C 10%).

The Financial Plan Forecasting Model relies on numerous assumptions which reflect the best available estimate of future trends in revenues (sources) and costs (uses) over an extended number of years through the end of Fiscal Year (FY) 2025. Existing MTA policies guide the development of these assumptions. However, there are many areas requiring future policy decisions. In developing the financial model, it was assumed that

certain future policy decisions would be made. Prior to the MTA Board making specific policy and project decisions, they will be analyzed, and the impact on the financial forecasting model will be identified. The best available revenue estimate and policy assumptions are described in this assumption document through 2025.

The Financial Plan Forecasting Model assumes that:

- Those funds authorized by the enactment of the Transportation Equity Act for the 21st Century (TEA-21) are included;
- The MTA will continue receiving local, state and federal funding. The forecasting model adjusts the funds in accordance with the historical growth of the revenues or anticipated increases or decreases;
- The 50% federal Section 5309 (formerly Section 3) contribution to the transit corridor extensions will be \$60-\$65 million annually through 2013 to ensure that previously authorized federal funding for the Eastside and Mid-City Corridors is utilized. After FY-2013, the financial forecasting model assumes \$75 million annually from this funding source through 2025;
- There are no new revenue sources that are available over and above those local, state, and federal revenue sources that are currently authorized;

- Fare revenues for services will not be adjusted until FY-2003. Each three year period thereafter fare revenues will be adjusted and compounded by the annual rate of inflation since the last increase;
- Debt policy of the MTA Board of Directors will remain unchanged through the forecasting period except for Proposition C 25% which will require an adjustment after the current programming period ends in FY-2004; and
- Certain discretionary non-formula funding sources have been accounted for but not programmed beyond FY-2004. This captured funding is available for the constrained LRTP and totals \$11.2 billion through 2025.

It is important to note that the delivery and implementation of all projects and programs are dependent on the availability of local, state, and federal revenues at the projected levels. Major changes in local, state, or federal policy, or unanticipated shifts in the state/national economy, would impact the implementation of the findings and proposed projects.

Major Financial Assumptions

The Financial Forecasting Model forms the fiscal basis of the Long Range Transportation Plan through the entire planning period of 2025. The assumptions upon which it was developed do not replace MTA Board action or policies. The financial forecasting model will be updated

periodically to reflect separate, specific MTA actions.

The following are some of the major financial assumptions in the forecasting model along with a discussion of possible outcomes if these assumptions are not realized:

- **Transportation Equity Act for the 21st Century (TEA-21) Funding Assumed** - Funding from the TEA-21 legislation has been assumed through its expiration in 2003. After TEA-21's expiration in 2003, funding levels are assumed to grow annually at 1.4%, which is the annual growth rate of the Federal Highway Trust Fund. This funding includes all federal highway, transit and transportation programs. The amounts programmed vary annually based upon the guaranteed levels in the TEA-21 legislation or a specified percentage of the authorization.

Congestion Mitigation and Air Quality (CMAQ) improvement program funding has been adjusted down in out-years (after FY-2004) to reflect improvements in air quality standards in Los Angeles County. The CMAQ program has been substantially reduced by over 50% in 2011 when attainment with the established standards is planned for the South Coast Air Basin.

- **MTA transit fare revenues adjust with inflation in FY-2003** - The forecasting model assumes a bus farebox recovery ratio and operating costs consistent with the fares and operating costs in the FY-2001 MTA budget. Fare revenues are adjusted for inflation (CPI) beginning in FY-2003. The first inflationary

adjustment is assumed to be cumulative from FY-1996 to FY-2003 as permitted by the Consent Decree. Fares are proposed for adjustment once every three years, thereafter, by compounding annual inflationary rates from the prior three years.

- **New Buses** - The financial forecasting model assumes implementation of the Consent Decree as identified in the Remediation Plan and continuing bus service operations and capital improvements through 2025. An average of 200 new replacement MTA buses are proposed for purchase annually after FY-2004 which, when averaged with the Municipal Operators' fleet, establishes a countywide bus fleet with an average age of 6 years.
- **Sales Tax Forecast** - The financial model assumes an approach using a lower percentage of annual sales tax growth than previously assumed in the adopted 1995 Long Range Transportation Plan (LRTP) and UCLA Business Forecasting Project. For the periods FY-2002 to FY-2003 and FY-2004 to FY-2006, the projected annual average growth rates are 4.0% and 4.5%, respectively, for the local sales tax propositions and the ¼ % state sales tax. Thereafter, an annual rate of growth of 5.0% is assumed through 2025 for the local sales tax funding sources. This growth rate is used to calculate the amount of additional transportation sales tax Los Angeles County will receive in ensuing years of the forecasting period.

Sales tax growth results from a combination of population increases and economic expansion.

Historically, since 1951 Los Angeles County has averaged 6.2% annual sales tax growth. The financial forecasting model assumes a lower percentage than the historical growth through FY-2006 and then uses a low growth pattern of 5.0% (which is slightly lower than the historical growth pattern) through the remainder of the forecasting period. This approach is being used because of the lower than expected annual sales tax growth rate over the previous five years as Los Angeles County emerges from the recessionary trend of the mid-1990's. The financial difference from a 4.0% growth versus 5.0% is approximately \$10 million annually based on one billion dollars in revenue from all sales taxes.

- **State Senate Bill 45** - This legislation, effective January 1, 1998, substantially changed state and local transportation financing allocations throughout the State of California. The law repealed seven separate transportation funding programs and authorizes regional transportation agencies such as the MTA to decide, in part how the funds are to be spent. This new funding program is referred to as the "Regional Improvement Program Funds" and lets the MTA select projects for funding. This new local control of transportation funding replaces a series of programs that were complex and restrictive in how transportation funds could be used.
- **No New Revenue Sources** - No new revenue sources are assumed to be available over and above those local, state, and federal revenue sources that are currently obtainable. The forecasting model assumes

that the MTA will maintain the historical level of funding provided by current revenue sources, except in specific funds sources such as fares and advertising revenues. The level of funding for state and federal funds is projected to increase in accordance with the historical growth of each source. If projected levels of funding are not maintained, projects and programs will be reduced or delayed accordingly unless comparable cost savings measures or alternative revenues are implemented.

One source of funding added to this financial forecasting baseline as a state source is the "*Traffic Congestion Relief Fund*" enacted by the state legislature and signed by the Governor in June 2000, which provides needed highway and transportation funding throughout Los Angeles County in an amount of \$1.7 billion over the next five to seven years.

- **Three Transit Corridors (Eastside, Mid-City/Wilshire Boulevard and San Fernando Valley) fully constructed by FY-2007 and daily operations for remainder of forecasting period** - The financial forecasting model assumes the three transit corridors, for which major investment studies (MIS) have been recently completed, will be constructed between 2000 and 2007 and become operational daily for the remainder of the forecasting period. These three corridors consist of:
 - Light Rail Line for the Eastside;
 - Bus Rapid Transit component for Mid-City along Wilshire Boulevard; and
 - East-West Bus Rapid Transit for the San Fernando

Valley along generally the Southern Pacific Railroad Right-of-Way line between North Hollywood and Warner Center.

Two other new service lines are proposed for capital and operational funding as secondary projects within two of the transportation corridors. A north/south bus rapid transit line is proposed along possibly Van Nuys Boulevard in the San Fernando Valley extending from Ventura Boulevard to the Metrolink Station in Sylmar (approximately 11 miles long). This line would cost approximately \$100 million to build in 2005 and would operate starting in 2009 at a cost of \$12 million annually.

A light rail line or bus rapid transit line in the Mid-City area extending along the old railroad right-of-way generally within and adjacent to Exposition Boulevard and extending to Crenshaw Boulevard would be built from 2009 through mid-2013 and start daily operations in July 2013 (FY-2014). This would be done at a capital cost of approximately \$300 million and initial annual operating cost of \$17.6 million.

- **Current federal funding programs continue and allocations increase with the growth of the Highway Trust Fund** - The forecasting model assumes the implementation of the Transportation Equity Act for the 21st Century (TEA-21) at the guaranteed transit levels. Highway formula funds are assumed to be available at the level specified in the "*Estimate of Apportionments*" for TEA-21 supplied by Caltrans. If federal funds do not occur at the estimated levels, planned highway, rail, automated bus guideway and

TIP Call for Projects capital projects may be delayed accordingly unless comparable project cost savings measures are implemented. In the event federal funds increase, projects and services will be brought on-line in accordance with the available revenue.

- **Federal Transit Administration (FTA) Section 5307 (formerly Section 9)** - Section 5307 can be used for capital needs or preventive maintenance pursuant to TEA-21. Federal regulations now allow preventive maintenance costs, most of which are found in the MTA's operating budget, to include usage of Section 5307 funding. The financial forecasting model assumes the continued usage of Section 5307 funds for preventive maintenance purposes that occur in the MTA operating budget. The Municipal Operators are using their formula portion of Section 5307 for capital facilities and purchasing replacement buses on a 12-year cycle. A 316 fixed route bus expansion is planned along with 48 smaller vehicles for the Municipal Operators through 2025, coupled with capital facilities to meet this expansion program. Provisions for alternative fueling facilities in the event the Municipal Operators convert from diesel fuel to cleaner burning fuels is provided for in the capital facilities component of the plan.
- **Los Angeles County continues to receive discretionary FTA Section 5309 (formerly Section 3) New Start Funds for future construction projects** - The forecasting model assumes that the Metro Rail Red Line Segment 3 North Hollywood Extensions receives \$50 million in FY-2001 and FY-2002 from FTA Section 5309 New Start funds. A \$60 to \$65

million appropriation is assumed annually from this revenue source from FY-2004 through FY-2013 to allow for the Eastside and Mid-City Corridors to fully utilize previously pledged federal transportation New Start funding. After FY-2013, the financial forecasting model allocates \$75 million annually from this funding source through 2025 to allow for incremental growth of the funding source.

- **Program Reserve Fund Established** - The forecasting model includes an establishment of a Capital Reserve Fund in order to address the requirements of the North Hollywood Revised and Restated Full Funding Grant Agreement.

The Program Reserve Fund consists of the following:

- \$10 million cash reserve; and
- \$40 million pledge of future debt instrument.

Upon closing out the full funding grant agreement for the Metro Red Line to North Hollywood, the cash and bonding pledge will be deemed to be satisfied and the reserve will be dissolved.

- **Leveraging State and Federal Funds** - The forecasting model assumes that local funds are bonded if necessary to match state and federal funds consistent with the project and program priorities established by the MTA Board of Directors.
- **Use of Long Term Debt** - The forecasting model assumes that senior lien bonds will be issued each year they are needed to fund major capital projects.

The model also assumes that such bonding will be in conformance with the MTA debt policy adopted in October 1998 and amended in November 1999 and 2000 except for Proposition C 25% which will require an adjustment after the current programming period ends in FY-2004. Debt service on the bonds is assumed to be paid with Proposition A and Proposition C cash revenues in ensuing years after issuance of the bonds. Given all other assumptions used in the financial forecasting model, debt financing is necessary for the completion of scheduled construction projects and to fully fund recognized funding allocations in the adopted Restructuring Plan, Regional Transit Alternatives Analysis (RTAA) and Remediation Plan. Actual bond issuances must be approved by separate MTA Board action and are analyzed separately from the financial forecasting model assumptions and modeling actions.

- **Lease Revenues and Available Short Term Funds** - The MTA from time to time as the financial market may determine, leases equipment and receives funds back as payments. These funds become general revenue funds and are utilized as operating revenues in some instances. While these are limited in scope and do not occur each year, they can offer offsets to supplement and increase existing funding sources. Much of this funding emanates from the innovative financial marketing of MTA assets. Such items as cross border leases and funds held as reserves are the primary source of these funds.

Major Revenue Assumptions

Inflation Factors

Operating and Capital Inflation - Based upon the August 2000 annual economic forecast for Los Angeles County completed by the Anderson School of Business at the University of California at Los Angeles (UCLA), the average inflation rate from FY-2001 through FY-2025 equals 2.64%. The financial forecasting model applies the annual inflation rate from the forecast to various operating cost items. For the first two years of the plan, an increase for high fuel costs is added to the operating costs on top of the Consumer Price Index (CPI) to compensate for fuel prices rising by 30% in the last 12-18 months for all bus operators in Los Angeles County. This energy/fuel index adjustment to the CPI of .75% is based on the Bureau of Labor Statistics reports.

The capital inflation rate is based on the ratio of the Construction Cost Index (CCI) to the CPI, which has found that CCI inflation is approximately 75% of the CPI. The average capital inflation rate from FY-2001 through FY-2025 equals 1.98%. The financial model applies the annual inflation rate to various capital cost items.

Previously programmed highway capital projects were funded at a 3% inflation rate. Highway capital projects in the 2001 Call for Projects will be escalated also at 3%. Highway operating costs are escalated at the rate established by the California State Department of Finance, which is 2.3% for the 2000 State Transportation Improvement Program Fund Estimate.

Local Revenues

Proposition A - This revenue is generated by a half-cent (½) sales tax for countywide transportation programs, which was passed by Los Angeles County voters in 1980. Pursuant to the Proposition A Ordinance, these funds are used to improve public transit throughout Los Angeles County. A portion of the revenues are returned to local jurisdictions, based on population, for use in public transit projects. Revenues are divided as follows:

Local Return Program	25%
Rail Development	35%
Discretionary (bus operations only, pursuant to MTA Board policy)	35%

The forecasting model assumes that the entire Proposition A 40% discretionary funds are used for bus operations in accordance with established formulas. Proposition A local return revenues are spent on bus operations expenditures that are based on the Short Range Transit Plans (SRTP) of the local municipal operators, MTA's annual budget process and MTA's Office of Budget and Management five-year forecast.

Proposition C - This revenue is also generated by a half-cent (½) tax for countywide transportation programs, which was passed by Los Angeles County voters in 1990. The Proposition C ordinance specifies that funds be to be used for "public transit purposes." Revenues are divided as follows:

Rail and bus security	5%
Commuter rail/transit centers/park and ride	10%
Transit-related streets/state highways improvements	25%
Local return	20%
Discretionary	40%

The forecasting model assumes that the 40% discretionary funds are split among rail capital and operations, bus capital and operations and bus service expansion (Consent Decree through FY-2006). The relative share of the allocations between bus and rail capital and operating requirements shifts over time to meet evolving system needs as projects are built and operations begin.

Most of the 25% highway funds are programmed for highway related projects, such as high occupancy vehicle (HOV) lanes. These funds are also eligible to be used for portions of rail transit projects that have roadway or freeway alignments. Specific Board action through the budget, recommendations within transit studies, the Call for Projects and/or Transportation Improvement Program (TIP) programming process must be done before Proposition C funds are programmed to specific projects and programs.

Bonds/Financing Mechanisms Senior Lien Bonds (Propositions A and C) - Senior Lien Bonds are bonds which have a senior claim on an MTA pledged revenue source that is superior to the claim of any other bonds or debt. The forecasting period assumes that senior lien bonds will be issued as-needed throughout the period to

support bus, rail and highway capital requirements. Bonds are projected to be issued each year they are needed to meet capital requirements. The financial forecasting model assumes bond payments based on an issuance interest rate initially at 5.5% gradually increasing annually to 7.0% in FY08. Bond issuances, generated from the forecasting model, **do not** substitute for specific Board action required to issue bonds.

Bonds/Financing Mechanisms Certificates of Participation (COP's) - New COP's pledged by Federal Section 5307 capital formula funds and TDA Article 4 funds are not assumed to be issued for bus purchases. Debt service for COP's that were issued in prior periods is included but no new issuances are assumed.

Transportation Development Act (TDA Article 4) - Revenues are derived from one-quarter cent (¼) retail sales tax collected statewide. TDA Article 4 funds are available for both bus and rail capital and operations. The estimated annual amount of TDA Article 4 revenue is based on a projected annual average growth rate of 4.0% for FY-2002 and FY-2003 and 4.5% for FY-2004 through FY-2006, subsequently increasing annually by 5.0% through the remainder of the forecasting period. A portion of Article 4 funds is allocated to municipal bus operators by formula allocation.

City of Los Angeles Funds - These funds represent the City's contributions to Metro Rail Red Line and Union Station Gateway. The City's assumed contribution is 7% of the current costs for Red Line North Hollywood extension as has been the case for previous Metro Red Line projects in Segments 1 and 2. An amended

agreement (May 19, 2000) with the City of Los Angeles relating to the North Hollywood extension has been enacted and the annual payments by the City are reflected in the financial forecasting model. These payments total approximately \$34 million over a seven year period and are reflected in the model on an annual basis. The total commitment to the North Hollywood Metro Extension by the City is \$89.5 million.

Benefit Assessment - The financial forecasting model assumes the construction of the Metro Rail Red Line and includes costs for station construction to be partially paid for by assessments levied on the properties, adjacent to stations, which will financially benefit from the close proximity to a major transit system station. A benefit assessment district has been in place for Metro Red Line Segment 1 since 1985, producing revenues of \$162 million, of which \$130 million was used for construction costs directly for rail stations.

When the initial planning process began for the Metro Red Line, MTA was not required to conduct an election to assess levies on property owners. However, as recently prescribed in Proposition 218, any new assessment districts require a vote of property owners before enacting an assessment. This includes those districts in Segments 2 and 3 under consideration. The forecasting model no longer assumes this as a revenue source and no funding is assumed for Metro Red Line Segments 2 and 3 from this source.

Farebox Revenues MTA - MTA's assumed bus farebox recovery ratio is established by the FY-2000-01 Budget. The fare recovery ratio generally varies from 30% to 36%. The forecasting model assumes a bus farebox recovery ratio and operating costs consistent with the fares and operating costs in the FY-2001 MTA budget and OMB (MTA Office of Management & Budget) Five-Year Forecasting Model of MTA's Enterprise Fund (May 17 & July 7, 2000 versions). Fare revenues are adjusted for inflation (CPI) beginning in FY-2003. The first inflation increase is cumulative from FY-1996 to FY-2003 as permitted by the Consent Decree. Every three years after FY 2003, fares are adjusted by compounding the previous three years' annual inflationary rates.

Starting in January 2004, a six-mile zone based fare will be created for all rail lines in Los Angeles County. This amounts to riders paying a fare based on the actual distance traveled. The financial forecasting model has assumed increased revenues resulting from this change in an amount exceeding \$85 million through 2025.

Farebox Revenues Municipal Transit Operators - Bus fare revenues for the municipal transit operators are based on information in the Short Range Transit Plans and FY-2001 operating budgets. The farebox recovery ratio for this time period is approximately 27%, which does not include local return funds. For FY-2001 and beyond, bus fare revenues were escalated with inflation. This method of projecting fare revenues assumes that these revenues increase in proportion to Operations and Maintenance (O&M) costs.

State Revenues

Senate Bill 45 Regional Improvement Program Funds -

Senate Bill 45 consolidates the former Flexible Congestion Relief (FCR) Program and six other programs into a new Regional Improvement Program (RIP) (sometimes referred to as "Regional Choice") project selection process that allows the MTA Board to decide how these funds will be spent. Revenues anticipated through the RIP program are at the discretion of the MTA Board and can be programmed for capital improvements to highway, bus, rail, fixed guideway and other capital projects.

In the 2000 STIP it is assumed that additional funding will become available to Los Angeles County for programming beyond the 1998 STIP fund estimates that were allocated by the MTA Board. The usage of this funding will reflect the allocations established by the STIP guidelines and any subsequent legislation. This state funding is assumed to remain at a constant level beginning in FY-2005. The annual revenue estimate is based on historical data on revenues received by Los Angeles County as well as discussions with California Transportation Commission (CTC) staff. The MTA must take action on the programming of RIP funds to specific projects through either the Call for Projects, MTA Annual Budget or the new County Transportation Improvement Programming (CTIP) process.

Traffic Congestion Relief Plan-June 2000 - The State of California in June 2000 enacted a major funding plan for transportation in California. It is referred to as the "*Traffic Congestion Relief Plan*" and is intended to ease traffic congestion in key regions within the state. Investing funding in mass transit, railway projects, and expanding carpool lanes does this.

Los Angeles County will receive \$1.7 billion in new transportation funding commitments over and above previous forecasts. A surplus in state funding accounts for the availability of this transportation enhancement and occurred because of the unexpected economic growth statewide in the last three years, as California emerges from the recessionary trends of the mid-1990's.

The state recommended for Los Angeles County \$737 million in funding for the three Transit Corridors. Eastside corridor is to receive \$236 million, Mid-City corridor \$256 million and the San Fernando Valley corridor \$245 million (\$145 million for the East/West project and \$100 million for the North/South project which is not part of the three corridors). This funding will be available over the next five to seven years. The MTA plans to combine the new state funding with the \$813 million in previous federal and local commitments to the corridor projects to ensure that full costs of capital construction are met. These commitments include \$651 million in previously pledged federal Section 5309 New Starts funds for the Eastside and Mid-City Projects, \$120 million in matching funds and \$46 million in local funds for the San Fernando Valley.

The state further authorized funding of \$150 million for buses in Los Angeles County to be purchased by the MTA, which will assist in meeting the local match to federal funds for bus purchases. This allows MTA to concentrate on bus operations funding with the limited local county resources available.

State Rail Bonds - California voters passed Propositions 108 and 116 in 1990. Proposition 108 authorized the state to sell \$1 billion in general obligation bonds to provide funds for rail capital outlay. All Propositions 108 and 116 funds available to the MTA have been previously programmed for various projects and are included in the forecasting model in the early plan years prior to FY-2003.

South Coast Air Quality Management District (AQMD) - This agency administers state and federal funds that are for the improvement to air quality throughout the Southern California Region. One funding program was created as part of State Assembly Bill 2766, which is targeted to assist bus operating companies in purchasing alternative-fueled buses. The source of funds is motor vehicle registration fees. The funding is awarded annually and no set formula exists for distribution. Based on MTA's past experience receiving these funds, environmental issues, and MTA's conversion of its bus fleet to non-diesel clean burning fuels, it is projected that MTA would average \$2.0 million per year in funding. In some years grants may exceed that amount but overall the MTA is forecasting an annual revenue of \$2.0 million through FY-2004 and then increasing to \$4.0 million each year through the remaining forecasting period due

to the entire bus fleet becoming alternative fueled vehicles.

State Transit Assistance (STA) - Funds are used for bus and rail operations and capital throughout the plan period. STA Funds are derived from half of the State's Public Transportation Account which is funded from sales tax statewide on gasoline and diesel fuels. MTA's regional allocation is based on Los Angeles County's shares of population and transit operator revenue compared to the rest of the state. The population portion of STA is used for MTA rail operations and the operator revenue share is used for MTA capital and municipal operator bus operations.

Based on the State Controller's estimated shares of population and operator revenue, MTA's regional FY-2001 allocation will be \$31.6 million. From FY-2002 through FY-2006, the annual amount of STA Funds, other than AB 2928 STA funds, is based on the 2000 STIP Fund Estimate which forecasts a .4% decrease in FY-2002, a 4% decrease in FY-2003, a 2.6% decrease in FY-2004, and a 2.7% increase in FY-2005 and FY-2006. Each year thereafter through the remainder of the plan period, the annual growth is assumed to be equal to the 1.4% historical growth of the federal Highway Trust Fund. Despite the STIP Fund Estimate, total STA allocations will increase through FY-2006 because of Assembly Bill 2928 enacted in June of 2000.

Assembly Bill 2928 directs that, annually from FY-2002 through FY-2006, the state share of gasoline sales tax revenues previously deposited into the State General Fund will be dedicated to transportation. The California

Legislative Analyst's Office estimates this amount to be about \$976 million annually. Of this amount, \$678 million will be allocated to fund specified Traffic Congestion Relief Projects.

Twenty percent of the remaining \$298 million will be deposited into the Public Transportation Account of which the STA portion will be 50% -- 25% each for Public Utilities Code (PUC) Section 99313 (distributed based on population for public transportation purposes) and Section 99314 (allocated to operators based on the ratio of revenue to the total revenue of all operators statewide) totaling about \$30 million per year. Based on the recent share of total State STA Allocations, the MTA regional share of this additional \$30 million is estimated to be \$8.75 million. The Financial Forecasting Model assumes that this additional STA revenue will continue beyond FY-2006 for the remainder of the forecasting period and grow at the rate of the Highway Trust Fund assumption, which is 1.4% annually.

Federal Revenues

TEA-21 (STP, CMAQ) - As part of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and continued in TEA-21, the federal government created flexible funding programs-the Surface Transportation Program (STP) and the Congestion Mitigation and Air Quality Improvement Program (CMAQ). These programs allow for funds to be exchanged between highway and transit modes (often called flexible funds). Portions of these funds have been assumed in the financial

forecasting to be flexed to transit capital and operating needs in accordance with the published federal regulations, for either bus purchase or the first three years of new operating transit segments. Thereafter, these funds are captured but not allocated in the financial forecasting model, except where MTA Board policy directs (Pasadena Blue Line operations-first three years, five projects in the three transportation corridors for operations-first three years and Access Services Paratransit receiving regional STP funds).

Surface Transportation Program (STP) - STP funds are intended to be used for congestion relief and in urban areas. Eligible uses include transit capital projects, Transportation Demand Management (TDM), and improvements to highways and arterial roads. Half of the STP allocation to the State is assumed to go to the State of California Highway Account with the remainder divided by formula to the regions [Regional Surface Transportation Improvement Program (RSTP)] in accordance with Section 182.6 of the Streets and Highway Code of the State of California.

RSTP funding increases resulting from TEA-21 have been partially allocated to fund the Regional Highway Program (HOV System Integration Program, Freeway Gap Closures/Arterial Widening and TSM/TOS) in Los Angeles County. Caltrans has required, as result of a change from ISTEA to the TEA-21 legislation, that no sub-state allocation of the federal "minimum guarantee" funds will occur and redirected the funds. These funds are placed in the State Highway Account instead. Several proposals are being considered in the State legislature, including proposals to target spending of

these additional redirected funds for road rehabilitation projects only. This funding was previously allocated directly to regional transportation planning agencies for local programming toward all transportation needs. This has resulted in the RSTP funding being held to lower increases than otherwise would have occurred had the legislation not been changed and the State redirected the previously designated regional funds.

Congestion Mitigation and Air Quality (CMAQ) - The CMAQ program is designed to fund projects that contribute to the attainment of national ambient air quality standards. CMAQ funds cannot be used to construct facilities that provide additional capacity for single-occupancy vehicles.

The CMAQ program funding has been adjusted downward after FY-2003 to reflect improvements in air quality standards in Los Angeles County. The CMAQ program has been substantially reduced by over 50% in FY-2011 when attainment with the established standards is planned for the South Coast Air Basin. MTA Board of Directors action will be required through the Call for Projects and TIP programming process to program TEA-21 funds to specific projects. It is assumed that new transit corridors, including the Pasadena Blue Line extension, will receive CMAQ funding for the first three years of operation.

Section 5309 (formerly Section 3) New Starts - This fund emanates from the U.S. General Fund and the Federal Mass Transit Account of the Federal Highway Trust Fund, which is generated by two-cents of the 18.3-cent federal excise tax on gasoline. Full Funding Grant

Agreements for Metro Rail Red Line Segments 1, 2 and 3 were negotiated by MTA with the Federal Transit Administration.

Congress allocates section 5309 New Starts Funds to specific projects. Being a discretionary source of federal funds, Congressional action has limited the funding level below expectations in recent years. These funds are assumed to average \$65 million annually through FY-2013 to permit the Eastside and Mid-City communities to achieve funding from the new start program previously pledged. Thereafter, an annual allocation of \$75 million is assumed for the new start program for capital projects yet to be determined.

Section 5309 (formerly Section 3) Fixed Guideway Modernization - Section 5309 Fixed Guideway Modernization funds are used in the financial forecasting model for rail rehabilitation and other minor rail capital expenses. The amount assumed annually reflects the guaranteed level of TEA-21 and eligible miles that become seven years old during the forecasting period. After the expiration of TEA-21, the program is estimated to expand at 1.4% annually, which is the historical growth of the Highway Trust Fund.

Section 5307 (formerly Section 9) Capital - Funding is assumed at the guaranteed level of TEA-21 as determined by the federal formula and Southern California Association of Governments (SCAG) implementing formulas. The level is assumed to increase in relation to the Federal Highway Trust Fund's annual growth rate of 1.4% after the expiration of TEA-21 in federal fiscal year 2003.

The forecasting model assumes that these funds will be allocated to all eligible bus operators for identified capital requirements, pursuant to the current Capital Allocation Procedure [84% allocation prescribed by formula and 16% discretionary (which includes 1% TEA set-aside)], with the Certificates of Participation program for previous bus purchases deducted prior to establishing the annual allocation amounts.

For purposes of assigning the future discretionary funds, an average of the last five years is used to determine the split between the Municipal Operators and MTA. This is not meant to allocate future discretionary funds but is done to assist in determining potential funds for the agencies. The actual allocation of the 16% discretionary funds is done on an annual budgetary basis and will vary from this forecasting modeling assumption.

These funds are partially used for preventive maintenance purposes, which are an operating budget function at the MTA and as such some of the Section 5307 funds are shown within the operating budget for uses allowed by the Section 5307 federal implementing guidelines and notices.

Set-aside of Section 5307 Allocation - In accordance with the TEA-21 requirements, 1% of the countywide allocation of Section 5307 bus capital funds are set aside for Transportation Enhancement Activities (TEA) qualifying projects. These funds are distributed on a discretionary basis to eligible projects through the Bus Operating Subcommittees' annual selection process involving all countywide bus operators and as concurred with by the MTA Board of Directors.

Section 5308 Clean Fuel Program - MTA estimated share of the national formula contained in Clean Fuel Program (which references the CMAQ formula) has been calculated and it is estimated that \$2.7 million will potentially be received annually through FY-2003. Congress has, by annual appropriation action the last three years (FY-1999, FY-2000 and FY-2001), transferred the Clean Fuel Program allocation to the Section 5309 Bus and Bus Facilities section of the annual funding bill and allocated generally the same amount (\$3 million) each year to the MTA by discretionary action.

The financial forecasting model continues to project \$2.7 million per year for this source through the term of TEA-21 which is FY-2003 and \$3 million the year after in FY-2004. Starting in FY-2005 it is assumed that \$5.0 million will be received annually from this source or other bus funding programs for environmental protection through FY-2009 and then increase to \$7.0 million annually for the remainder of the forecasting period (FY-2025). This forecast is based on the intent of the Clean Fuel Program and assumes that funding will be available to meet clean air requirements in Los Angeles County from federal sources.

Bus Program Assumptions

Bus Capital

Transit Operators - The financial forecasting model covers funding for clean fuels, vehicle replacement schedule, facilities and support equipment, Certificate of Participation (COP's) payments, and bus bonds as described below:

Clean Fuels - Air Quality Management District (AQMD) requirements are met by:

- converting vehicles and facilities to clean fuels (i.e. alternative fuel vehicles);
- increasing transit service so that work trips on transit as a percentage of all regional trips increases by the year 2010 (year compliance is achieved for air quality in the South Coast Air Basin); and
- local bus operators (Municipal Operators) currently using diesel fuel have been programmed to receive funds for converting fueling facilities and transitioning buses to cleaner burning fuels in the event such decisions are made. Such funding emanates from the Section 5307 funds allocated to the Municipal Operators.

Vehicle Replacement Schedule - Vehicle replacement is based on the following retirement schedule:

Transit Buses (35 and 40 foot) 12 years
 (MTA / Muni Operator fleet average buses are 6 years old)

Heavy Duty Smaller Buses 10 years

Dial-A-Ride Vehicles 5 years
 (for light duty, mid-sized buses, approx. 25-35 feet long)

Dial-A-Ride Vehicles 4 years
 (for light duty, small buses, cutaways, or modified vans less than 25 feet in length)

Vehicle Costs - Total vehicle costs, including wheelchair lifts, are presented below. This purchase price assumes replacement with alternative fueled vehicles.

Buses - 40 foot, MTA and Municipal Operators	
\$390,000 (Smart Bus)	
National/Gillig	\$257,500
Mid-sized Buses	\$122,600
Small/Vans	\$ 55,700

Based on MTA's recent procurement of 223 compressed natural gas buses, the price in 1999 was \$390,000 per bus (includes extra parts from plant assembly, sale tax and forced account on MTA expenses) and is escalated annually by CPI after FY-2004 through the ensuing years until 2025 when the forecasting period ends. The financial forecasting model assumes the same price for MTA and Municipal Operators for bus purchases. Municipal Operators purchase buses separately using criteria unique to their own needs and standards and the actual price may vary from the forecasting model assumptions.

It is assumed that 200 buses will be purchased annually to replace the basic bus fleet of MTA. This may vary on a year to year basis based on actual purchases but as a

planning average provides for the optimum efficient delivery of new buses and allows for equally spreading the age of the basic bus fleet over time. A decision has not been made on the technology of future bus procurements. However, a feasibility analysis for a countywide bus procurement standard will be undertaken to determine future cost savings.

Facilities and Support Equipment - The financial model assumes that costs for bus capital projects are based on the December 1997 report to the MTA Board entitled "Capital Improvement Program Challenge" and Budget Office projections through FY-2010 and then escalated through FY-2025 by CPI and CCI. The financial model also includes the MTA Capital Improvement Program (CIP) costs through FY-2005 as well. These cost projections include expenditures for: bus maintenance overhaul and rehabilitation, CNG fueling facilities, bus maintenance facilities improvements, non-revenue vehicles and communications support equipment. For the Municipal Operators a capital facilities and bus purchase assessment was completed and a Long Term Capital Facilities Booklet prepared that outlines needed buses, facilities and a 361 fixed route bus expansion program combined with 48 smaller buses being added during the plan period.

COP Payments - Debt payments for existing Certificates of Participation (COP) for bus purchases issued by the MTA, Torrance Transit, and Culver City Municipal Bus Lines are made annually in the forecasting model. This payment is assumed prior to any allocation formula being applied to the funds.

Bus Bonds - The forecasting model assumes that bonds will be issued as needed to support bus capital requirements if compliance with the MTA debt policy can be achieved. The forecasting model assumes bond payments based on a 6% interest rate in FY-2001, which will gradually increase to 7% in FY-2007 and thereafter. The debt incurred is paid over a period of 12 years through annual payments.

Bus Operations

MTA Bus Operations - The financial forecasting model assumes the following for MTA's bus operation:

- Operations and maintenance cost projections are based on the Five-Year OMB Forecasting Model (May 17, 2000 & July 7, 2000 versions) and are assumed to grow with the rate of inflation after FY-2006, except for the cost saving measures identified below. The Five-Year OMB Forecast has been revised to reflect an initial \$7 dollar per hour cost reduction for operating costs in FY-2001 (reduced workers compensation costs, efficiencies and drivers platform time lowered were reasons for achieving this level of reductions). This reflects an overall operating cost reduction and eliminates the MTA deficit in ensuing years;
- Funds for TDA Article 4, Proposition A, and STA will continue to be allocated through the Formula Allocation Program (FAP) in future years;

- Section 5307 preventive maintenance usage is continued throughout the forecasting period;
- Rapid Bus Demonstration Program is funded for two routes (Ventura Boulevard and Wilshire/Whittier Boulevards) and becomes regularly funded MTA operating service after the demonstration period through the remainder of the forecasting period;
- Implementation of the seven Restructuring Plan Studies and the reduction in service of 213 buses. This is to be phased in over a nine-year period at approximately 25 buses annually using a three-year marginal cost factor before full cost reduction is achieved;
- Operating cost reductions of generally \$151.2 million have been assumed for the period beginning in FY-2005 and ending in FY-2010. Over this six-year period cost reductions/savings of \$151.2 million occur (1.7% of the total MTA Budget for Operations and Administration). Such reductions are accomplished through a series of performance measures including reduction of workers compensation program costs, increasing contracting out services potential, labor negotiations strategies, decreased pay hour to platform hour ratio and enhanced usage of Business Development Operations Facility (BDOF) drivers; and
- The Consent Decree is implemented with some services being contracted out, the Consent Decree

concludes at the end of FY-2006 and no new service is assumed after that date through the remainder of the forecast.

Municipal Operators - Operations and maintenance costs were based on data included in the capital facilities booklet prepared in conjunction with the Municipal Operators and the FY-2001 operating budget. These cost estimates are used as the basis for future years' cost projections and escalated using the inflation factors. The forecasting model assumes funds for TDA Article 4, Proposition A, and STA will continue to be allocated via the Formula Allocation Program (FAP). Municipal transit operators receiving formula funding include:

- Antelope Valley Transit Authority
- Los Angeles Department of Transportation (LADOT)
- Montebello Municipal Bus Lines
- Norwalk Transit
- Redondo Beach
- Santa Clarita Transit
- Santa Monica Municipal Bus Lines
- Torrance Transit
- Long Beach Transit
- Arcadia
- Claremont
- Commerce Municipal Bus Lines
- Culver City Municipal Bus Lines
- Foothill Transit
- Gardena Municipal Bus Lines
- La Mirada Transit

Expansion Services - Subsequent to the Consent Decree FY-2006, the financial forecasting model provides for ongoing operations for MTA services without additional buses, except for the planned transit corridor projects. It is assumed that the usage of TSM and other techniques to ensure rapid movement of buses along the highway system will allow MTA to contain expansion to the identified corridors. The local Municipal Operators are programmed for 361 fixed route expansion buses and 48 smaller expansion buses through 2025. This expansion is related to projected population growth and can be funded from existing capital sources. Facilities and buses have been planned to accommodate this growth. Operating funds to implement the expansion will require extensive coordination between the MTA and Municipal Operators to overcome projected countywide transit operating shortfalls.

Access Services Incorporated (ASI) - The forecasting model assumes the continued usage of Regional Surface Transportation Program (RSTP) funds programmed for ASI as the countywide paratransit provider. Allocating RSTP funds for ASI allows the MTA to make Proposition C 40% Discretionary funds available for capital bonding.

Rail Program Assumptions

Rail Capital

Rail Projects Capital Cost Estimates - Costs for rail projects, which have been approved by the MTA Board,

are based on the adopted FY-2001 budget. Costs for rail projects with no existing budgets are calculated based on MTA's cost estimation guidelines. The cost estimation process considers factors such as the projected construction cost in current dollars, construction start date, construction duration and cash demand curve during construction based on experience with past and current projects.

Metro Rail Line Segment 1 (Opened in January 1993) - The Metro Red Line Segment 1 extends 4.4 miles with five stations through downtown Los Angeles, from Union Station/Gateway Transit Plaza to the Westlake/MacArthur Park station.

The total construction budget was as follows:

Source	Amount	% Breakdown
Local Funds	\$514 million	36%
State Funds	\$228 million	15%
Federal Funds	\$696 million	49%
Total Project Cost	\$1.4 billion	100%

Metro Red Line Segment 2 (Fully Opened in June 1999) - Totalling 6.7 miles, the Metro Red Line Segment 2 consists of two rail corridors:

- *Wilshire Corridor* - Opened in July 1996, this corridor extends from the Westlake/MacArthur Park station northwest to Wilshire Boulevard and Vermont Avenue intersection, and west along Wilshire Boulevard, terminating at the Wilshire and Western station, and Boulevard.

- **Vermont/Hollywood Corridor** - Opened in June 1999, this corridor extends north from Wilshire/Vermont intersection along Vermont Avenue, turning west along Hollywood Boulevard to the Hollywood/Vine station.

The capital budget for the Metro Red Line Segment 2 was:

Source	Amount	% Breakdown
Local Funds	\$723.3 million	46%
State Funds	\$133.0 million	8%
Federal Funds	\$719.1 million	46%
Total Project Cost	\$1.6 billion	100%

Metro Red Line North Hollywood [North Hollywood Segment 3 (Opened for revenue operations on June 24, 2000)] - This segment is a 6.3 mile project with three stations, which begins just west of the Segment 2 Hollywood/Vine station and continues west under Hollywood Boulevard to the Hollywood/Highland station and north under the Santa Monica mountains to the Universal City station and finally terminating in North Hollywood.

The budgeted costs for the Metro Red Line North Hollywood Extension of Segment 3 was:

Source	Amount	% Breakdown
Local Funds	\$214.6 million	16%
State Funds	\$336.4 million	26%
Federal Funds	\$760.8 million	58%
Total Project Cost	\$1.3 billion	100%

Metro Green Line (Opened in November 1995) - The Metro Green Line light rail extends 20 miles with 14 stations along the center of the 105 Freeway from Studebaker Road and the 605 Freeway in Norwalk to Freeman Boulevard and Marine Ave. in Redondo Beach. The total construction budget was as follows:

Source	Amount	% Breakdown
Local Funds	\$636 million	88%
State Funds	\$82 million	12%
Federal Funds	\$0 million	0%
Total Project Cost	\$718 million	100%

Metro Blue Line (Opened in July 1990) - The Metro Blue Line extends 22 miles, with 22 stations, from the Downtown Los Angeles station (Metro/7th Street station) to Long Beach. The total construction budget was:

Source	Amount	% Breakdown
Local Funds	\$854 million	100%
State Funds	\$0 million	0%
Federal Funds	\$0 million	0%
Total Project Cost	\$854 million	100%

The Blue Line is expanding to three-car train lengths in early FY-2001 and 2002. Funding to implement this has been provided for in the forecasting model and Capital Improvement Program of the agency.

Pasadena Blue Line - The Metro Blue Line light rail line extending from Sierra Madre Villa in Pasadena to Union Station in downtown Los Angeles is currently under construction. This line will cover 13.5 miles and have 14

stations. An authority created by state law is building the Pasadena Blue Line and previously approved funding for this extension has been designated for transfer to that agency. This authority is legally known as the "Pasadena Metro Blue Line Construction Authority" (PMBLCA).

The financial forecasting model reflects the PMBLCA schedule for an initial revenue operating date of July 1, 2003 (FY-2004). MTA has programmed the operating funds for this line once completed and is using CMAQ funds toward operation for the first three years. In October 1999, the MTA presented a "Full Funding Operational Plan" for FY-2004 through FY-2010 for the Pasadena Blue Line to the California Transportation Commission, which then adopted the plan. The financial forecasting model assumes full implementation of that operating plan and continued operating funds through 2025.

LA Rail Car - The Los Angeles light rail car procurement consists of a base order of 50 standard cars and two prototype vehicles for a total of 52 light rail vehicles. The budget of \$201.4 million for the 52-car procurement is derived from Proposition 116, State STP, Regional STP and Proposition C funds. The standard cars will be used on the Metro Blue Line, and planned extensions of the lines. Revenue is provided for a new fleet purchase of 12-18 additional rail cars in the financial forecasting model for expenditure from FY's-2003-2005 if needed and 25 cars for the Eastside project in the FY-2005 through 2007 period. The revenues if not needed will be used for other rail construction costs for the red, blue or green line initial construction. The Eastside rail cars are

funded in conjunction with the overall Eastside project construction budget contained in the financial forecasting model.

Commuter Lines (Metrolink) - The Southern California Regional Rail Authority (SCRRA) is a Joint Powers Agency that plans, constructs, and operates Southern California's commuter rail system. The LACMTA funds a portion of the capital and operating costs for commuter rail projects located within Los Angeles County, including:

- Los Angeles /San Bernardino
- Los Angeles/Riverside
- Los Angeles /Oxnard
- Los Angeles /Santa Clarita /Palmdale /Lancaster
- Los Angeles /Oceanside
- Los Angeles /Riverside (Union Pacific)
- Fullerton/LAAPT
- Shared Facility

The SCRRA current system includes 404 route miles, 199 of which are in Los Angeles County. The financial forecasting model assumes continued funding for the current commuter rail system. SCRRA staff provided operating cost projections. Los Angeles County's share of commuter rail costs is funded with Proposition C 10% revenues, which is consistent with MTA's funding policies in the FY- 2001 budget. The MTA allocations for SCRRA are:

- \$26.3 million (not to exceed), which is escalated by CPI in subsequent years, for operating subsidy;

- \$7.9 million (not to exceed) for capital maintenance, which is escalated by CCI in subsequent years; and
- Other new funding for capital projects can be pursued through the Call for Projects process.

Rehabilitation and Replacement - Projected rehabilitation and replacement costs are based on a methodology developed by Robert Peskin of KMPG Peat Marwick (commonly called Peskin Model). This methodology was developed based on actual costs experienced by the Washington Metropolitan Area Transit Authority (WMATA). Actual WMATA rehabilitation and replacement costs were compared to their original installation capital costs.

The MTA Rail rehabilitation and replacement costs were calculated in the same manner, based on the Metro Blue, Red, and Green Line original installation capital costs. The rehabilitation and replacement costs are estimated to begin five years after a rail line begins revenue operations. Some limited repair is assumed in the forecasting model for the first five years as reflected in the five-year MTA Capital Program Challenge and CIP program.

Based on the MTA Budget Office forecasts and Peskin Model, in the later years the rail rehabilitation and replacement costs for the forecasting period through 2025 are as follows:

Facilities	Amount
Operating Facilities/Rail Cars Heavy Overhaul	\$2.5 billion
Support Equipment	\$55 million
Vehicle Rehabilitation or Replacement	\$250 million
Maintenance of Way	\$27 million
Total Cost	\$ 2.8 Billion

The costs for rehabilitation and replacement of rail capital are funded with a combination of local TDA Article 4 revenues, Propositions A/C bond proceeds and federal Section 5309 (formerly Section 3) Fixed Guideway Modernization revenues.

Systemwide RailCapital/Other Projects/Station

Enhancements - In addition to the costs associated with the construction of each individual rail line, there are costs related to developing the rail system. These include the procurement of computer software and hardware, safety and security measures, legal support, insurance, radio upgrades, feasibility studies, facilities, Americans with Disabilities Act (ADA) requirements, and transit station access improvements.

Rail Operations

Rail operations costs are based on an operating and maintenance (O&M) cost model that was also used in the previously adopted 1995 Long Range Transportation Plan. The model is consistent with the methodology specified by the FTA for Alternatives Analysis studies. Staffing requirements, labor costs, and non-labor

expenses are calculated based on the projected quantity of service supplied (e.g., peak vehicles, revenues vehicle-miles) and the physical size of the system (e.g., route-miles, number of stations).

The Five-Year Enterprise Fund Forecast of MTA's Office of Budget and Management (May 17 & July 7, 2000 versions) are used for costs and some revenues through FY-2006, which includes the opening of the Metro Rail Pasadena Blue Line Segment in FY-2004 (July 1, 2003). Costs for the ongoing maintenance of the Pasadena Blue Line have been added to the financial forecasting model through FY-2025 as well as the Eastside Light Rail Project planned to open FY-2007 and Expo project scheduled for FY- 2014 public opening.

Inflation is used to determine costs to some extent in out years beyond FY-2007. While this type of escalation is not the exact parameters of the O&M model, it does allow for costs to be reflected based on growth and contemplated changes in the rail operations system. The five-year Capital Improvement Program (CIP) was also calculated through FY-2005 to set a basis for the outwear projections. For the Metro Red Line, the O&M cost model was used since several new station openings are occurring and the model contains the factors necessary to project future costs accurately.

Highway Program Assumptions

The highway component of the forecasting model focuses on mobility and air quality includes funding for projects, such as HOV lanes, Traffic Systems Management efforts and other highway programs.

Construction costs for projects that will be approved in the 2001 Call for Projects are inflated at 3% annually. The programs and assumptions for the highway program are:

Freeway Incident Management - The forecasting model assumes a continued funding for the Freeway Incident Management program, also known as Freeway Service Patrol (FSP) and Major Incident Response Program. This program is funded primarily through Proposition C (25%), Freeway Service Patrol State Highway Account Funds, and HOV violation funds. The program is assumed to grow at 1% annually.

Service Authority for Freeway Emergencies (SAFE) - A separate legal entity that is housed within MTA, SAFE operates 4,300 call boxes along the freeway. It is funded by a \$1 surcharge on each registered vehicle in Los Angeles County. Cost estimates and assumptions are based on the SAFE ten-year Financial Plan and include capital requirements and operations/maintenance expenses. This financial forecasting model includes annual revenues that range between \$6.8 and \$11.5 million during the period through 2025.

Intelligent Transportation System (ITS) - The financial forecasting model includes the Intelligent Transportation Infrastructure program, which is part of the federal Department of Transportation's Intelligent Transportation System (ITS). This program aims to efficiently utilize advanced technologies in Southern California's transportation systems. The forecasting model assumes this program continues through 2025.

Freeway Traffic Systems Management (TSM) & Traffic Operations System (TOS) - The forecasting model assumes that Caltrans will continue to provide the operating costs for the freeway TSM measures. Funding sources for Freeway TSM and TOS consist of the following: Proposition C (25%), TEA-21 and STIP allocation.

High Occupancy Vehicle (HOV) Carpool Lanes - The forecasting model provides for the implementation of Option 2 of the completed HOV Systems Integration Plan for Los Angeles County. The forecasting model input for costs is approximately \$1 billion through 2010 and does not fully fund the HOV program in the baseline. This program may be extended until 2025 for potential completion depending on funding availability.

Freeway Gap Closures & Arterial Widening - The costs for gap closures and arterial widenings are based upon estimates provided by Caltrans, District 7. The MTA assumes implementation of those Freeway Gap Closures identified by Caltrans, except the 710 Freeway extension to the 210 Freeway which has no funding for any activity through 2025 and is not included as part of the financial forecasting model. Funding sources for freeway

gap closures consist of the following: Proposition C 25%, Local Agency/Other (private) Funds, and Regional Improvement Program STIP funds.

State Highway Operation and Protection Program (SHOPP) - Freeway Rehabilitation - Every four years, Caltrans prepares a SHOPP plan which identifies needed projects for maintenance. Caltrans administers this program and allocates funding throughout California on an as-needed basis. The amount allocated to Los Angeles County is reflected in the financial forecasting model for reference and comparison to other areas of California.

Retrofit Soundwalls - Funding for this program is now an MTA responsibility due to the passage of Senate Bill 45. Funding has been included in the forecasting model for the Soundwall projects programmed in previous STIP's or Calls for Projects. In April, 2000, the Board adopted the \$88 million Phase I HOV Retrofit Soundwall project priority list and adopted the Post 1989 HOV Retrofit Soundwall Program Funding Plan, which earmarked \$53.2 million (unescalated) for the balance of the Phase I HOV Retrofit Soundwall Projects. Board-approved Funding of \$34.8 million for 1989 Retrofit Soundwalls and escalated funding of \$59 million for Post 1989 Soundwalls are included in the financial forecasting model. Estimated additional funding of \$70 million is assumed as part of the 2001 Call for Projects.

Environmental Enhancement & Mitigation (EEM) - The financial forecasting model assumes that Los Angeles County will receive \$1.0 million annually through 2025. Although this program is funded through the State

Highway Account, it is not included in the STIP. Revenues received are expected to be expended in accordance with approved applications. This program is administered by the State of California.

Traffic Congestion Relief Program (TCRP) – The financial forecasting model includes \$700 million that Los Angeles County will receive from the TCRP towards highway projects specified in Assembly Bill 2928. At least \$3.8 billion additional funding is needed to fully fund all phases of these projects.

Multimodal Program Assumptions

(Call For Projects Categories)

Local Transportation Systems Management (TSM), Signal Synchronization and Bus Speed Improvements - Local TSM project funding levels are determined through the Call for Projects. They are also eligible for project support funding as well as capital outlay funding from the State Highway Account. Funding sources for Local TSM consist of the following: Proposition C 25%, Local Agency Funds, and TEA-21 CMAQ funds, Regional Improvement Program STIP Funds, and TCRP Funds.

Transportation Demand Management (TDM/Ridesharing) - The total funding is derived by leveraging local and private sector efforts. Lower funding levels are established in the initial years as the program is evaluated for its effectiveness. Sources of funding for TDM consist of: Proposition C 10%, Proposition C 25%,

TEA-21 CMAQ funds, RSTP, Transportation Enhancement Activities (TEA) Funds, and Local Agency Funds.

Regional Bikeways and Pedestrian Improvements - Funding sources for Regional Bikeways and Pedestrian Improvements consist of the following: Local Agency Funds, TDA Article 3 funds, RSTP, Regional Improvement Program STIP Funds, and TEA funds.

Regional Surface Transportation Improvements (RSTI) - The forecasting model designates funding to RSTI projects, which includes the Alameda Transportation Corridor, Goods Movement, and other improvement programs. Funding sources for RSTI projects are Proposition C 25%, Local Agency Funds, Proposition 116, Regional Improvement Program STIP funds, RSTP, federal TEA-21, and TCRP Funds. The two major projects in this category are Alameda Corridor and Alameda Corridor East.

Alameda Transportation Corridor - The project is fully funded. The forecasting model includes MTA's total contribution of \$358 million (some of which has been expended in prior years), with an overall project cost of approximately \$2.0 billion. The MTA has an agreement on funding with the Authority that administers the transportation corridor. This project derives its funding from Proposition C 25%, State STIP (state funding portion only, no federal funds from STIP), Regional Improvement Program STIP funds, Local Agency/Port Funds, Proposition 116, Regional Surface Transportation Program, and federal TEA-21 funds.

Alameda Transportation Corridor East - This project is a \$912 million endeavor in the San Gabriel Valley to install railroad grade separations to avoid traffic congestion once the Alameda Transportation Corridor is complete. MTA has indicated a willingness to participate up to 17% of the costs once other funding is secured. This would make the MTA share \$155 million of which \$37.4 million has been provided in the 1997 and 1999 Calls for Projects.

Park and Ride Facilities/Transit Centers - Funding for Park and Ride Facilities/Transit Centers and other transit capital is primarily from Proposition C (10% & 25%) and are generally part of the Call for Projects process.

Transportation Enhancement Activities (TEA) – TEA funds are a set-aside of STP funds and can only be spent on enhancements. The financial forecasting model includes Los Angeles County's portion of the 75% regional share of TEA funds. The specific projects appear in the TIP Call for Projects listings as adopted.

Long Range Transportation Plan Community Workshops **PUBLIC COMMENTS**

Date	Community Workshops	Comments
11.15.00	Eastside Review Advisory Committee	<ul style="list-style-type: none"> • As expected, most questions and concerns were related to the East Los Angeles Red Line and its feasibility. • Is funding available for the light rail project in East Los Angeles? • Are the Pasadena Blue Line and the Red Line projects connected? • What is considered an example of “land use”? • Is there a contract or written document guaranteeing that the light rail will move forward?
11.16.00	San Gabriel Valley Economic Partnership	<ul style="list-style-type: none"> • 710 gap closure must be completed • 710 biggest priority, “strongly supported” • 710—is it in baseline? • Why is there a \$400M operating deficit? • Are MTA’s operating costs excessive? • What’s the status of Blue Line Phase 2 (Sierra Madre Villa – Claremont) • SGV has created 40,000 new jobs in last decade, been a key player in the regions’ economic expansion; yet no light or fixed rail • What SGV projects are <i>in</i> the baseline?
11.20.00	8 th Council District Economic Development Council	<ul style="list-style-type: none"> • Make using public transit an attractive option • Look at economic development implication of transit/transportation • Use transportation/transit projects to enhance communities e.g. bus stops, transit facilities, street, parkway and median treatment, roadway aesthetics • Look at long term operating costs of alternative transportation systems (“light rail may be cheaper than buses in the long run”) • Need more service in E/W corridor • Rail preferable (“buses just add to the smog and congestion”)

Date	Community Workshops	Comments
11.30.00	So Cal Transit Advocates	<ul style="list-style-type: none"> • Many attendees members of "Friends 4 Expo", very supportive of light rail in Exposition Corridor • Some concern expressed that MTA modeling favored roads over transit and busways over light rail • Questions about how the plan would evaluate capital costs v. operating costs • Group generally opposed to expanding roadway capacity; supportive of enhancing transit capacity • Need for better integration between different modes and operators • Support for longer evening service on MTA buses • Concern that consent decree would consume <u>all</u> transit resources • Support for additional room for bicyclist on all major arterials instead of the creation of more bike lanes • Need for better coordination between land uses and transportation services (i.e. transit oriented development near transit facilities) • MTA should develop all the rail corridors they own • Interconnectivity very important
12.4.00	Torrance Chamber of Commerce	<ul style="list-style-type: none"> • Torrance provides more in sales taxes than many other municipalities, how can they get more of their fair share • What's status of Del Amo Blvd. Bridge...were funds set aside in ISTEPA leg? • What can be done to improve traffic flow on Artesia? • What's being done for Rosecrans Corridor (especially around Aviation)? • We have many infrastructure issues. huge N/S congestion problems throughout sub region • Need roadway improvements • Goods movement increasingly a problem throughout sub region (truck traffic)

Date	Community Workshops	Comments
12.4.00	Torrance Chamber of Commerce (continued)	<ul style="list-style-type: none">• What's being done for Sepulveda Blvd. Is it going to be widened from Grand to Rosecrans to 18th St. in Manhattan Beach?• Why do so many govt. entities get involved in the study phase...seems to delay projects unnecessarily

MTA Long Range Transportation Plan Update

A Summary of the March 8, 2000 Focus Group Meeting #1

FINAL REPORT
June 6, 2000

Prepared for:
LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION
AUTHORITY

Prepared by:
Moore, Iacofano, Goltsman, Inc.
With assistance from:
Altmayer Consulting
Patti Post & Associates
The Robert Group

SECTION I HIGHLIGHTS FROM THE STAKEHOLDER FOCUS GROUP MEETING OF MARCH 8, 2000

This first section provides a brief introduction to some of the ideas and opinions that emerged during the first meeting of the stakeholder focus group held on March 8, 2000 at the MTA headquarters. More detailed information is provided later in this report and the appendix.

- The MTA needs to become a more market-driven organization. The agency needs to identify all the markets it serves and also determine how these markets are likely to change in the future.
- Before the MTA can plan to meet the needs of its customers, the agency must first be sure it understands its customers and what their needs really are.
- If the MTA truly focuses on the needs of its customers, the agency will do everything in its power to create an integrated transportation system based on seamless connectivity between different modes and operators.
- The issue is not whether to give priority to the transit dependent or the general public but rather how to give priority to the transit dependent and the general public.
- The roles and responsibilities of the MTA are not clear. Is the agency a planning organization or a service provider? How well do these various functions work together to serve the overall mission of the organization and the public interest?
- What is the scope of MTA's influence? What tools are at its disposal to bring about desired changes in the transportation system either directly or indirectly through other organizations?
- There should be little difficulty in balancing improvements in transportation services with quality of life issues, since improved travel times, capacity, and reliability all contribute to the quality of life.
- There are many different forms of transit dependency – the disabled, recent immigrants, the urban poor – and their needs vary accordingly.
- Air quality improvement should be an integral part of the plan.
- The MTA needs to be more adaptable and flexible by considering the “what ifs”. Don't get too locked into a specific direction.
- We need to see an advance copy of the Plan before it goes to the Board. This time we need to make sure what we are saying reaches the Board. Had MTA staff not filtered our ideas during the last update, there might never have been a need for the Consent Decree.

SECTION III OVERVIEW OF FOCUS GROUP MEETING #1

FORMAT OF MEETING

The first set of focus group meetings was held the evening of March 8, 2000 in the MTA Board Room. This first meeting was a joint session of all three of the focus groups. This afforded the entire group an opportunity to hear the full range of views articulated by their fellow stakeholders regarding transportation in Los Angeles County. In keeping with their primary purpose, however, during the same meeting the three focus groups also met separately during interactive breakout sessions.

This first session was attended by 41 of the 73 individuals and organizations that were invited. Some organizations sent more than one representative to the meeting. Some of the others who did not attend had other prior commitments but expressed an interest in attending future sessions. A list of those who attended the first focus group is found in *appendix E*. Attendance per focus group was as follows:

ATTENDANCE TOTALS

Focus Group	# Invited	# Attended
Transportation System Users	25	22
Business/Labor	27	14
Academic/Environmental	21	5
Total	73	41

An important function of this first meeting was to orient stakeholder members to the LRTP development process and their role in helping to shape the final plan. During his opening remarks the MTA's Executive Officer for Regional Transportation Planning and Development, Jim de la Loza, explained the purpose of the LRTP, goals of the update process, and the importance of community input. Keith Killough, Deputy Executive Officer for Countywide Planning, followed with a detailed overview of the LRTP development process. This included a more specific explanation of the LRTP and its role in shaping transportation policy and funding decisions. Mr. Killough explained why it was important to update the LRTP, what has been accomplished since the last LRTP was adopted in 1995 and also what has changed in the transportation funding, regulatory, and economic environment during the same period. He then proceeded to portray the transportation challenges facing Los Angeles County over the next 25 years and why the MTA needs stakeholder and community input to develop solutions that have the support of the people it will be serving.

Afterwards, Cosette Stark, Regional Planning Program Manager, presented the LRTP Vision and Mission statement and the six goals of the Long Range Plan as developed by MTA staff. She also discussed established and potential new criteria for assessing potential transportation programs and projects in the LRTP. (*See appendix E for a copy of the LRTP vision, mission statement, goals and criteria*). The first occasion for stakeholder input came at this point in the meeting. In order to acquire a sense of stakeholder expectations at this early stage of the outreach process, the stakeholders were asked whether or not this vision and criteria reflected their thinking or needs? If not, what would they add or change. This led to a lively 20-minute discussion recorded on a large wallgraphic that is reproduced on the next page.

Immediately following this discussion, Keith Killough described the programs, projects and underlying financial assumptions that defined the LRTP baseline. The projected performance of the regional transportation system would be modeled and analyzed later this spring to gauge the gap between this baseline and the vision previously described. At the next set of focus group meetings, stakeholders will be provided an opportunity to identify the mix of policies, programs, and projects needed to mitigate this performance gap.

This information set the stage for a policy breakout discussion during which the three focus groups met separately to provide input on the initial list of policy issues identified by staff for the LRTP (*See appendix F for a copy of the policy list issues.*). It was explained that the purpose of this discussion was not to answer or resolve these policy questions tonight. Rather it was important for MTA staff to find out whether they had fully captured all the policy issues that were important to the community. In reviewing the policy issues list, stakeholders were asked to consider two questions:

- Is there anything missing from the list of core policy issues?
- Are there different ways to state these issues that better reflect your needs or views and of the groups that you represent?

After the breakout sessions, the three focus groups reconvened in the joint session. At that time a volunteer from each focus group addressed all the assembled stakeholder members to review the highlights from the discussion within their respective focus group. This provided everyone with an opportunity to hear the perspectives that had been voiced within each of the three breakout sessions, highlighting both common themes as well as differences. (*See appendix G for a copy of the meeting agenda*)

SUMMARY OF FOCUS GROUP DISCUSSION AND FINDINGS

Throughout the meeting, the language and terminology used by the three focus groups reflected their different but complementary perspectives concerning transportation issues in Los Angeles County.

Market complexity is increasing – the MTA should plan to serve a variety of travel needs:

As might be expected, members from the business and labor group expressed a market-oriented perspective. Before the agency can plan to better serve its customers, the MTA needs to better understand who its customers really are. The MTA needs to become a market-driven organization. This means it must first identify all the market groups it serves, including their varied attributes as characterized by needs, interests, and expectations. The agency must then project how these different market niches are likely to change over time as a result of the demographic and economic changes that are forecast for coming decades.

The MTA should focus on the customer:

Similarly, transportation system users expressed a customer-orientation, insisting the MTA needed to do a better job listening to what its customers have been telling it and then acting accordingly. Barriers to “seamless” travel are more likely to be overcome by considering what riders really want and need, rather than the MTA assuming it understands. It was strongly asserted by some in the

business and labor group that had the MTA truly paid attention to what its customers and other stakeholders had been saying there never would have been a need for the Consent Decree.

The MTA should clarify its role and direction:

Members of the academic/environmental group offered a more organizational and strategic perspective. From their view the role and responsibilities of the MTA lacked focus and clarity. This made it difficult to accurately assess how well the MTA was fulfilling its mission in serving customers throughout Los Angeles County. It was also unclear to what extent the MTA could influence other public and private organizations that also have a significant impact on the overall performance of the regional transportation system. Nor did they understand what tools are at the disposal of the MTA to affect change?

The MTA needs to develop an integrated, seamless transportation system:

From the business/labor perspective it was also important for the MTA to develop a more integrated transportation system and a parallel high-tech information system to help commuters and travelers navigate the system more effectively. Travelers of all kinds, foreign and domestic, and recent immigrants have expectations for transit based on their experiences in other countries and arrive here in Los Angeles anticipating the same performance and convenience. As an example, many visitors don't understand why they can't take the Green Line from LAX all the way to downtown Los Angeles. Moreover, they typically seek traveler information that reflects the interconnectedness of Los Angeles and the surrounding region. They do not find it helpful to be given visitor information that is largely limited to the area, or particular city in which they happen to find themselves when seeking directions.

This desire for an integrated transportation system is mirrored in the comments of the transportation system users who state that system connectivity should be a prime priority of the MTA. From their one-system perspective, where the MTA leaves off and other public and private operators pick up should not matter one bit. In fact, it should be wholly invisible to users of the transportation system. Transit riders should be able to quickly and conveniently transfer from one bus line to another, from bus to rail, and from one transit operator to another in a seamless fashion. This coordinated connectivity was characterized as an essential aspect of providing quality service that responds to the daily challenges with which LA commuters must now contend. If the MTA truly focuses on the needs of its customers, then the agency will realize this fact and do everything in its power to make a seamless transportation system a reality.

The MTA needs to become more flexible and adaptable by considering the "what ifs:"

All three groups shared a concern that the MTA not lock itself too firmly into a particular direction that cannot be modified at a later time. It must retain the capacity to respond to the changing needs of its customers. According to the transportation system users, the MTA should not assume that today's customers and their needs will be the same in the future. As market complexity increases, the MTA must not only plan to serve a variety of travel needs, the agency must prepare to adapt its plans and services as those needs continue to evolve in response to demographic, economic, and technological changes.

SUMMARY COMMENTS EXPRESSED DURING THE JOINT SESSION PORTION OF MARCH 8, 2000 FOCUS GROUP

Stakeholder Expectations

- *The MTA should develop something to react to*
- *It is difficult to define criteria before a system is defined – the process should define the system, then undertake measurement of it*
- *Measurements should include full costs of the systems being considered (transit, highways, other modes)*
- *The MTA should be looking to plan for what it can influence – this is unclear to many*
- *The plan should provide a choice – people should be able not to choose the single-occupant vehicle*
- *The system planned should be flexible and adaptable*
- *The plan should allow for “what ifs” – and incorporate uncertainty*
- *The system should be connected and plan for all types of transportation, not just transit – walking, biking, even strollers*
- *The focus should be on ability to take action in a timely way*
- *Safety should be an important aspect of the plan*
- *The measure of accessibility should also include disability issues*
- *Livability is an important criterion. Including this concept in the plan is a positive step forward. In incorporating the concept of livability in the plan, the focus should not just be on the costs but on the human scale and livability of the system that is developed through the plan*
- *The concept of livability can also include the concept of survivability – what is essential for survival of residents? For the Los Angeles area? For people in general?*
- *In addressing livability there is a question of what the MTA can influence – the focus should be on this aspect of livability*
- *Multi-modal/intermodal should be included in the vision statement*

Policy Issues

- *When looking at air quality is the “cost vs. air quality” issue the real question? Overall, how does air quality fit into the plan?*
- *There should be a focus on the customer – the plan should look first at the who, then at the how in carrying out the plan. There should be a focus on customer and market groups and attributes. MTA should decide who is being served through the plan.*
- *In the plan process, MTA needs to:*
 - *Ask what the basic question is – to the Transportation System Users group the answer is “it’s the customer, stupid!”*
 - *Decide where the plan is leading*
 - *Look at MTA’s overall mission and responsibilities – a possible replacement mission is to “plan, implement and manage the transportation system*
 - *Consider “what ifs” and incorporate uncertainty.*

APPENDIX B
ORGANIZATIONS AND INDIVIDUALS INVITED
TO PARTICIPATE IN STAKEHOLDER FOCUS GROUPS

Transportation System Users Group

Beal Dan; Auto Club
Bee, Dennis; South Central Multi Purpose Center
Biery, Jim; League of Cities Public Works Directors
Deyvlder, Richard; Workability IV Prog
Dok, James; United Cambodian Community
Gabard, Dana; So. Calif. Transit Advocate
Goldsmith, Shane; Watts Century Latino Organization
Hagihara, Ayako; Little Tokyo Service Center
Hubbard, Joe; LANI
Kim, Charles; Korean American Coalition
Menton, Penny; UCLA
Mitwasi, Raja; Caltrans District 7
Murphy, Deborah; LA Walks
Ong, Paul; UCLA
Rifkin, Allyn; City of Los Angeles Department Of Transportation
Robertson, Ted; Labor/Community Strategy Center
Rodriguez, Antonio; LA Unified School District
Santos, Rachel; East Side Extension Review Advisory Committee
Tarango, Diana; United Neighborhood Organization
Tate, Juanita; Concerned Citizens of South Central Los Angeles
Valencia, Ross; Resurrection Senior Citizens Organization
Whitlock, Mark E.; FAME Renaissance Program
Willig, Chris; LA County Bike Coalition
Winter, Bill; LA County Depart. of Public Works
Yan, Wendy; Chinatown Service Center

Academic/Environmental Group

Algood, David; CA League of Conservation Voters
Camph, Don; Aldaron Inc.
Carmichael, Tim; Coalition for Clean Air
Dagodag, Tim; CSU Northridge
Edelman, Ed; Rand Corporation
Feuer, Gail Ruderman; National Resources Defense Council
Giuliano, Prof. Genevieve; USC
Goichman, Jane; League of Women Voters
Guerra, Fernando; Loyola Marymount University
Horan, Tom; Claremont College
Koffman, Henry; President Local Chapter ASCE
Loukaitou-Sideris, Anastasia; UCLA
Moore, Adrian; Reason Foundation
Moore, James; USC

Ohland, Gloria; Surface Transportation Policy Project
Porras, Carlos; Communities for a Better Environment
Schlageter, Martin; Sierra Club
Shoup, Donald; UCLA
Taylor, Brian; UCLA
Wallerstein, Barry; SCAQMD
Welborne, Martha; USC

Business/Labor Group

Brooks, Howard; Antelope Valley Board of Trade
Butcher, Julie; SEIU
Cooper, Skip; Black Business Association
Durazo, Maria Elena; Hotel Employees Restaurant Employees Union Local
Emerson, Norman H.; Emerson & Associates
Goldstein, Clifford; J.H. Snyder Company
Grannis, David; Planning Company Associates
Gwin, Roman; Southeast Development Corp.
James, Rae; LA City Department of Water and Power
Jeffe, Jerry; LA Area Chamber of Commerce
Jimenez, Michael; LA Convention & Visitors Bureau
Lester, Tim; Greater LA African American Chamber of Commerce
McGuire, Cathy; Valley Industry & Commerce Committee
Ortega, E. Rick; AFL-CIO
Palmer, Gordon; Port of Long Beach
Park, John; CDS Net
Randolph, Stan; California Trucking Assn.
Ross, Norman E.; Central City Association
Rouse, Mitchell S.; LA Taxi
Seal, Jim
Sanchez, Rudy; Latino Business Assn.
Silver, Neil; Amalgamated Transit Union (James Lindsey, Alt.)
Szabo, Barna; B Szabo, Inc.
Tan, William Lew; Chinatown Economic Development Council
Wallace, Lee; The Gas Company
Warner, John B; United Chambers of Commerce
Williams, James; United Transportation Union

MTA Long Range Transportation Plan Update

A Summary of Focus Group Meeting #2
August 22 & 23, 2000

October 27, 2000

Prepared for:
LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION
AUTHORITY

Prepared by:
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With assistance from:
Altmayer Consulting
Patti Post & Associates
The Robert Group

Session One – August 22, 2000

Unlike the first round of stakeholder focus group meetings in March, this session was held during the daytime to accommodate the schedules of those unable to meet in the evening. As planned, the format of this session was identical to the evening session held the next day. However, unlike the evening session, the session held this day did break up into three smaller working groups to carry out the allocation exercise.

Stakeholder Comments

In advance of the meeting, stakeholders had received a copy of the Policy Directions Report to help familiarize them with the material that would be presented during the course of the meeting. . This presentation was interspersed with questions and comments from the stakeholders, as summarized below:

Many questions dealt with the regional role of the MTA and nature of various programs and funding sources:

- What is the MTA's involvement with pedestrian projects? How do these pedestrian projects relate to the "Call for Projects?"
- What is the nature of the Congestion Management Program (CMP)? Regarding the CMP, what agencies does the MTA coordinate with?
- Is there any category that would fund pilot programs and demonstrations of Transportation Demand Management (TDM) schemes?
- Where would a city that has a project go to seek funding?
- How often does the "Call for Projects" occur?
- Will Bikeways and Pedestrian improvements be treated as separate categories in the LRTP? What type of funding has been set aside for these modes?
- When staff stated that the Call for Projects is funding for smaller projects- what is meant by smaller projects? What are the funding levels for these projects?
- What type of funding is used for these projects? Prop C? CMAQ? –
- How do cities (with multiple applications) coordinate their applications?
- Does LAX have direct input into the planning process?

Some comments expressed concerns about what were perceived as limitations of the current planning methodology being utilized by the MTA:

- The MTA appears to be relying on a limited perspective, i.e. looking at the overall transportation system from the perspective of managers of the system and not from the standpoint of users experiencing the system. In addition to system-wide aggregates, the MTA should consider households and firms as an essential unit of analysis, as evaluation of system-wide performance will not capture important differential impacts experienced by users of the system. Otherwise, this suggests a scenario where the overall transportation system is performing “well” from a system perspective while still falling short of meeting customer needs and expectations.
- In the Mobility Challenge, the MTA outlines the degradation that is projected to occur over the next 20 years on the freeways and major arterials, but what about the degradation on the public transit system? Will the MTA be considering degradation of the transit system in the LRTP?
- In the staff presentation, it was stated that the vision and goals are still a work in process. How can the LRTP build strategies if the LRTP’s objectives are not clearly defined? The LRTP needs to address vision and goals before it addresses strategies. Otherwise, what is the plan’s target?
- How is the MTA going to maintain existing service levels? Against what benchmarks? This is not clear.

Others questioned how environmental factors and other community impacts are evaluated or made other related observations concerning environmental and air quality standards. This followed the observation that unlike the other four performance criteria; environmental impacts at a system level are assessed on a qualitative basis while a quantitative analysis is more appropriately undertaken at the project level:

- What is included in mobile source emissions?
- What about the Federal Environmental Standards? Are these being considered?
- Environmental Impact Reports (EIRs) are designed to be “go-no go” decision making reports and so they don’t always go to the level of analysis that is really needed.
- If mobile source emissions (the Air Quality Index) are evaluated on a system-wide basis will a comparison be made of mobile source emissions between the different alternative scenarios?
- Each scenario’s impact on overall environmental quality and this analysis should consider not only mobile sources but also the location and impact of fixed sources.

Some suggested an interesting feedback relationship might exist between SCAG's 20-year growth projections and MTA's planning process:

- It appears the model assumes that SCAG's projections for the next 20 years will indeed occur and that that we will aim to provide services for these fixed targets. But the model should go beyond just looking at fixed targets and try to think about how our plan might have an affect on some of these targets.
- Does the MTA accept SCAG's projections as the future? Does the MTA believe that its planning process could have an effect on those projections, i.e. changing not only the potential impact of those projections (congestion levels, etc.) but the forecasts as well?

Finally, some wanted a clearer understanding of the future role of stakeholders as LRTP process continues to unfold:

- Is the MTA interested in the help of the stakeholders to get moving in those four "policy directions"?

Allocation Exercise – Results and Comments

In a spirited discussion following an explanation of the exercise, stakeholders expressed various concerns and questions regarding its purpose and how the information gathered from it would be used by the MTA:

- What does the MTA hope to learn from this exercise? This sort of "beauty contest" of preferences seems like a dangerous exercise if the MTA is actually going to base any decisions on this. Without any analysis or specific information about any of the mode types we can only glean "very general" information about the preferences in the group. How is this helpful?
- As long as a framework of goals and objectives (for example, maintaining a level of service on the freeways of 30 mph) is missing, it will be difficult to take some direction with this.
- Suggestions from the Focus Group regarding the performance measures make more sense at this time rather than selecting preferred mode types.
- Will there be a point during this focus group process when the stakeholders can provide some detailed "options" in addition to just prioritizing preferences. We would like to add things into "the hopper".

Following this discussion, the stakeholders broke up into three randomly selected groups (Groups A, B, & C) to carry out the exercise. During this period, the allocation exercise was modified to reflect some of the concerns expressed by stakeholders. Within the breakout groups, it was decided that it would be more important to first consider the relative importance of the four performance areas, before then ranking the relative effectiveness of the

strategy types for achieving these goals. Despite adhering to this general pattern, since each breakout group did take a slightly different approach, results from each group are summarized separately.

Breakout Group A

During the group discussion preceding the exercise, participants questioned some of the underlying planning parameters and related policy issues:

- It is not clear whether the planning MTA is undertaking is based on conditions as they exist today or on conditions anticipated in the future.
- Does “maximizing system efficiency” refer to the existing or future system? If the existing system is not performing all that well right now, is it possible to deal more effectively with a similar situation in the future?
- Regarding preserving and maintaining the existing transportation system, isn’t this already the State’s top priority?
- Is “environmental justice” a consideration in the Improved Air Quality & Environmental Benefits area?
- Won’t some of the proposed strategies benefit more than one Performance Area?

Initially, prior to performing the allocation exercise, there was a feeling that the four Performance Areas were equally important. On a percentage basis, results of the stakeholder ranking showed that all four areas ranked closely, as follows:

Breakout Group A Performance Area Ranking			
Reduced Travel Time & Congestion (Mobility)	Improved Air Quality & Environmental Benefits	Effective Resource Use (Cost Effectiveness)	Improved Convenience & Travel Choices (Access)
21%	26%	26%	27%

However, during a brief discussion following this part of the exercise, there was a consensus that “quality of life” considerations, meaning Improved Air Quality & Environmental Benefits, may be the most important performance area, followed by Accessibility. Given this group assessment, it was decided to focus on and rank strategy types for these two Performance Areas. The three top strategies for “Improved Air Quality”, as highlighted below are:

- Bikeways
- Urban Rail
- Pedestrian Improvements

Breakout Group A Strategy Type Ranking Improved Air Quality & Environmental Benefits	
Strategy Types	Resource Allocation (%)
Carpool Lanes & Connectors	9%
New Mixed-Flow Freeway Lanes	1%
Truck Lanes (Goods Movement)	9%
Arterial Lane & Signal Synchronization	6%
Bikeways	1%
Pedestrian Improvements	1%
Rideshare Programs/Demand Management	3 %
Commuter Rail	8%
Urban Rail (Subway & Light Rail)	13%
Bus Service on Dedicated Lane/Express Bus Service	8%
Local Fixed-Route Bus Service	6%
Community Shuttles/Dial-a-Ride	6%
Other	4%

The top strategies for Improved Convenience & Travel Choice include two of the same strategies highlighted above:

- Bikeways
- Pedestrian Improvements
- Bus Service on Dedicated Lane/Express Bus Service
- Community Shuttles/Dial-a-Ride

Breakout Group A Strategy Type Ranking Improved Convenience & Travel Choices	
Strategy Types	Resource Allocation (%)
Carpool Lanes & Connectors	6%
New Mixed-Flow Freeway Lanes	5%
Truck Lanes (Goods Movement)	0%
Arterial Lane & Signal Synchronization	6%
Bikeways	1%
Pedestrian Improvements	1%
Rideshare Programs/Demand Management	3%
Commuter Rail	4%
Urban Rail (Subway & Light Rail)	10%
Bus Service on Dedicated Lane/Express Bus Service	1%
Local Fixed-Route Bus Service	9%
Community Shuttle/Dial-A-Ride	7%
Other	2%

Other recommended strategy types included investigating the applicability of roundabouts (a type of traffic circle) as a means for achieving arterial improvements, and improving HOV lane signage to encourage increased use of HOV lanes.

Following completion of the exercise, stakeholders pointed out the many linkages between these strategies and the critical importance of building upon and exploiting these connections to encourage their utilization.

- All the modes play off each other and are interconnected. Different modes will be used at the beginning, during, and at the end of a trip. We need solutions or strategies that “bridge” the various modes of travel. We don’t see innovative solutions that afford this bridge.
- Examples of creative and necessary linkages between different modes include car sharing at transit stations, bike accessibility on rail, pedestrian supportive structures that encourage transit use (sidewalks, tree lined streets, benches and protected shelters), etc.
- We need to provide better education on how to use public transit and what you can accomplish using it. Other ways of getting around need to be made more attractive.
- Where is land use consideration in all of this? A lot of transportation solutions are closely linked to land use decisions.

Breakout Group B

Following a brief discussion, the stakeholders decided to rank the relative importance of the four performance areas and then the strategy types within all four of these areas. Reduced Travel Time & Congestion (Mobility) was ranked the most important of the four Performance Areas followed respectively by Improved Convenience & Travel Choices (Access) and Improved Air Quality & Environmental Benefits (Access). Effective Resource Use (Cost Effectiveness) was considered the least important.

Breakout Group B Performance Area Ranking			
Reduced Travel Time & Congestion (Mobility)	Improved Air Quality & Environmental Benefits	Effective Resource Use (Cost Effectiveness)	Improved Convenience & Travel Choices (Access)
34%	24%	15%	28%

The top ranked strategy types in each of the four performance areas, as summarized in the table below, is as follows:

- Reduced Travel Time & Congestion (Mobility)
 - Urban Rail (Subway & Light Rail)
 - Arterial Lane & Signal Synchronization Improvements
 - Bikeways
 - Other
- Improved Air Quality & Environmental Benefits
 - Urban Rail (Subway & Light Rail)
 - Truck Lanes (Goods Movement)
 - Bikeways
 - Commuter Rail
- Effective Resource Use (Cost Effectiveness)
 - Other (*mainly Incentive-based*)
 - Arterial Lane & Signal Synchronization Improvements
 - Commuter Rail
 - Community Shuttles/Dial-a-Ride

- Improved Convenience & Travel Choices (Access)
 - Other
 - Community Shuttles/Dial-a-Ride
 - Bus Service on Dedicated Lane/Express Bus Service
 - Urban Rail (Subway & Light Rail)

Breakout Group B Strategy Type Rankings				
Strategy Type	Performance Areas			
	Mobility	Air Quality	Cost Eff.	Access
Carpool Lanes & Connectors	4%	12%	1%	5%
New Mixed-Flow Freeway Lanes	0%	1%	2%	0%
Truck Lanes (Goods Movement)	8%	14%	6%	2%
Arterial Lane & Signal Synchronization	12%	2%	15%	0%
Bikeways	16%	13%	6%	7%
Pedestrian Improvements	9%	6%	6%	5%
Rideshare Programs/Demand Management	7%	6%	5%	9%
Commuter Rail	6%	13%	13%	3%
Urban Rail (Subway & Light Rail)	13%	17%	6%	13%
Bus Service on Dedicated Lane/Express Bus Service	7%	3%	2%	14%
Local Fixed-Route Bus Service	7%	1%	10%	7%
Community Shuttles/Dial-a-Ride	7%	3%	13%	16%
Others*	10%	9%	15%	19%

As “Other” was the top ranked strategy type for two of the Performance Areas and highly ranked in a third, the discussion afterwards centered around which type of projects the stakeholders were envisioning when they placed stickers in the “Other” category. Some of the projects mentioned included:

- Funds to implement or enforce Parking Cash-Out programs at employer sites
- Incentives for truckers and trucking companies that use freeways and arterials during off-peak hours
- Incentives for Smart Land Use

As the discussion continued, education was seen as a key strategy in order to adjust expectations regarding transit alternatives. In this regard the perceived lack of marketing for HOV lanes was criticized. Unlimited UCLA student access on Santa Monica Blue Bus was cited as an example of an innovative measure to increase transit use. In addition, a market based needs assessment was a critical missing step in determining what programs and services are needed to increase transit ridership and other commute alternatives.

Breakout Group C

Before ranking the Performance Areas, there was an extensive discussion to clarify the meaning of each of these goals.

Breakout Group C Performance Area Ranking			
Reduced Travel Time & Congestion (Mobility)	Improved Air Quality & Environmental Benefits	Effective Resource Use (Cost Effectiveness)	Improved Convenience & Travel Choices (Access)
26%	19%	32%	23%

After concluding this ranking of Performance Areas, the group focused the discussion on what they characterized as a variety of interrelated transportation goals. In this respect, it was critically important that the MTA and other players in the transportation arena more fully address the land use/transportation connection. This was related to the need to recognize the realities of current trip patterns in LA that greatly favor autos to the significant competitive disadvantage of transit use and other travel options. These realities are not going to change without dealing more effectively with the land use issue.

When considering other travel options, commuters will demand options that can afford them the kind of flexibility as well as consistent travel expectations afforded by automobiles.

Planners must also take into account tradeoffs between different Performance Areas and how and where to strike an optimum balance between them. For instance, greater density will

better support transit use and other travel choices, especially in major corridors, but is also likely to increase the congestion that reduces overall mobility. In addition, although reduced reliance on automobiles will improve air quality; too much congestion can also have a negative impact on the environment and air quality.

Others expressed the view that we need to use new systems that will enable us to maximize use of existing capacity. This includes not only the use of ITS but providing the public with up to date information on all available mobility options. Trip avoidance through telecommuting and other means is also a viable strategy for making the most of our existing system capacity. Finally, we should pursue travel options and transportation improvements that optimize social and economic interactions, improving both the health of the regional economy but that of our communities as well.

Before concluding their session, this breakout group decided it would be worthwhile to conduct a quick ranking of the strategy types, with the caveat that this was only a straw poll and nothing more. The table below summarizes the results of this input.

Breakout Group C Strategy Type Ranking	
Strategy Type	Resource Allocation (%)
Carpool Lanes & Connectors	1%
New Mixed-Flow Freeway Lanes	2%
Truck Lanes (Goods Movement)	1%
Arterial Lane & Signal Synchronization	5%
Bikeways	8%
Pedestrian Improvements	6%
Rideshare Programs/Demand Management	8%
Commuter Rail	5%
Urban Rail (Subway & Light Rail)	19%
Bus Service on Dedicated Lane/Express Bus Service	8%
Local Fixed-Route Bus Service	1%
Community Shuttles/Dial-a-Ride	5%
Others*	5%

Other Strategies

After regrouping, volunteers summarized the discussion and findings that had taken place in their three respective groups. At this time, as well as earlier in the meeting, the stakeholders suggested additional options and strategies, as listed below:

- Education should be utilized more effectively to adjust expectations regarding transit, HOV lanes, and other travel options. In addition, better access to information regarding travel options should be provided, especially for children.
- Telecommuting is an important option that is already impacting commuting patterns and its benefits are likely to become even greater in the future.
- The MTA should be more receptive to the use of transit passes that provide unlimited access as currently exist through some university programs.
- The planning process should include an aggressive market survey, especially one that focuses on transit services.
- Pricing (congestion pricing, parking pricing, etc.) should be more seriously considered.
- High Occupancy Toll Lanes is a complementary strategy.
- A customer-oriented approach is essential if we are going to succeed in providing services that discretionary riders, as well as the transit dependent, will want to use on a regular basis.
- The system should allow for more private carriers that are more customer-focused, which will introduce competitive forces that will improve the overall effectiveness and quality of the transportation system.
- Whatever improvements are planned, we need to always consider the differential social equity impacts that may arise if we do not act wisely.
- We need to consider the use of incentives that address the land use/transportation connection. Incentives that work in both directions – land use designs that promote transit and other travel options and incentives (like parking pricing) that encourage travel options in these environments.
- Transportation funding should be viewed as an additional strategy for achieving our goals.
- Better coordination within the transportation system, such as more convenient connections, will enhance both accessibility and mobility.

Session Two - August 23, 2000

As in the daytime session held the previous day, this session began with a presentation by MTA staff followed by the allocation exercise. Extensive debate ensued regarding the purpose and value of the Allocation Exercise and whether the Focus Group was comfortable proceeding with the exercise. Concern was also raised regarding whether to break into small working groups or in working as one large group. Ultimately, stakeholders chose to work as one large group rather than breaking into three smaller groups. In proceeding with the exercise, the group agreed to focus primarily on the four performance areas rather than ranking the program strategy types. After completing the exercise, Focus Group members were each asked to share their perspectives regarding which performance criteria were important to them and why.

Stakeholder Comments

Some questions reflected a desire to better understand and clarify the purpose and nature of the "Call for Projects":

- What types of funds are typically used in the Call for Projects?
- Is the Call for Projects better described as a Local Assistance Program?
- What are examples of things funded through the Call for Projects?
- Are there funds set aside in the Call for Projects for specific themes such as safety improvements (for pedestrians, bicycling, and grade crossings at roadways)? Safety needs to be addressed as an important transportation goal.
- How does the LRTP determine funding allocations to Call for Project categories?

Other questions dealt with LRTP evaluation methodology, including what is and is not included in the baseline. Some did not believe projects included in the State's Traffic Congestion Relief Program should be accepted as an automatic given:

- Clarification was requested on what projects are included in the Baseline and the Enhanced Baseline.
- It was emphasized that it is important to be clear on what is included in the Baseline - how it is established and exactly what it means. Concern was expressed that it is confusing to have a "Baseline" and also an "Enhanced Baseline".
- A suggestion was made that perhaps the Focus Group should identify alternative projects to the State's Transportation Congestion Relief Program, and therefore, that staff should use the baseline rather than the enhanced baseline for evaluating additional projects.

- Where do all of these “corridor” projects that the Board of Supervisors are discussing fit into this Long Range Plan?
- Since RTIP projects seems to account for 90% of the budget (referring to the LRTP Alternatives Analysis slide), what is in the RTIP?
- How much of the RTIP is for operations and maintenance and how much is for capital expenditures?
- Will these alternative scenarios be financially constrained?
- In developing alternatives does the MTA assume that no additional funding will be secured and no changes to funding will occur? How does this relate to SCAG’s assumptions which predict some change in funding?

Several questions raised during the “mobility challenge” section of the presentation addressed whether or not MTA was adequately taking into account the impact of changing demographics as well as the accuracy of those forecasts:

- The message that isn’t reflected in this (presentation) is the changing demographics. Given these changes, the MTA needs to perform a market analysis to better understand how in the future these changes will impact its markets.
- As part of its market analysis, the MTA needs to determine how its solutions will impact its markets, including the transit dependent, goods/freight, and the average commuter.
- What is the transit share now and how it will change over time?
- As a means of developing more confidence in these projections, can these latest projections be put into historical perspective? What was previously projected for specific years and what actually occurred during those years? In 1990, what was projected for 1995 and then what actually occurred in 1995?
- We need to develop some confidence that these projections are somewhat accurate. It makes one wonder if these big numbers are just scare tactics.
- A needs analysis is long overdue. In the past, there has been a lot of talk about changing people’s attitudes but never any talk about finding out what users and customers attitudes actually are or what they want.
- Before there can be hope for changing commuter behaviors it will be important to focus on the public mindset regarding options and identify what the customer is looking for. First, identify customer expectations and then figure out how to meet them.

In reviewing the four Policy Directions, some suggested that the MTA was emphasizing the wrong strategies at the expense of customer needs:

- Rather than “Maximize System Efficiency,” the strategy should instead be “Maximize Effectiveness”. Efficiency can mean something very different from effectiveness. This reflects a tendency for the MTA to approach things from a “system manager” perspective rather than a “user/customer perspective”.
- The focus should be on system effectiveness, i.e. moving people, and not efficiency, i.e. the cost per output.

Other stakeholders offered suggestions on how to improve system effectiveness:

- Transit centers with transportation links are often omitted from these discussions. People want to buy a monthly pass and then be able to take any transit operator they want in order to ride anywhere in the County.
- Increasing the frequency of transit service will improve usage levels.
- Signage for the Red Line Metro should be changed to include the word “subway”. This would be clearer to visitors and non-users alike.
- Leveraging off of major arterial projects to provide space for bicycles is a better planning strategy rather than try to secure small amounts of bicycle funding to create bike lanes after the fact.
- There is a lack of adequate information for transit users. We need to enhance information services for transit users by, for example, providing bus schedules at all shelters and call boxes for updates.
- There also need to be more amenities at transit stops, such as benches and trees, to create a more pedestrian-friendly environment.

Allocation Exercise – Results & Comments

Following the 1st hour presentation, the purpose and merits of the allocation exercise were debated during a heated discussion. Comments raised in discussing the value of the Allocation Exercise were as follows:

- Strong concerns were raised that the exercise is a “beauty contest” and would have little value to the MTA. Concern was also expressed that the Focus Group did not have any analysis or specific information about any of the mode types. As a result, the Focus Group did not have sufficient information in considering different strategies and it was unclear as to what staff thought it would learn from the exercise.

- On page 10 (of the presentation), “Environmental Factors” is listed as one of the quantitative criteria but where are environmental values included in the exercise? .
- This exercise reflects a muddling of goals, strategies and tactics. At this stage, just throw out the strategies.
- The vision and goal statements are not appropriate. The success of the LRTP will really depend on the extent to which progress towards a more market-based transit system is achieved.

After extensive group discussion, the stakeholders agreed to work as one group, rather than in break-out sessions, and to focus their efforts on ranking the performance measures rather than the program strategy types.

When asked to rank the performance areas in terms of relative importance, some felt the original four were by themselves insufficient. To accommodate this perspective a 5th category – “other” – was added prior to the start of the exercise. Rather than breaking into three smaller groups, the entire group remained together while performing this exercise:

Performance Area Ranking				
Reduced Travel Time & Congestion (Mobility)	Improved Air Quality & Environmental Benefits	Effective Resource Use (Cost Effectiveness)	Improved Convenience & Travel Choices (Access)	Other*
23%	30%	12%	22%	13%

The majority of the stickers allotted to the “Other” category (or 10% of the overall total) were applied to a Performance Area titled “Application of Multiple Modes to a Project”. The remaining balance of the “Other” category (or 3% of the overall total) was allotted to a Performance Area labeled as “Job Accessibility”.

The thinking underlying these responses to the allocation exercise and other related comments are reflected in the following comments:

Reduced Travel Time & Congestion (Mobility)

- Rail is best to reduce travel time and congestion, but may, in effect provide limited travel choices.
- Since travel time is a primary consideration in making a trip decision, the LRTP should look at projects that can offer the shortest travel time. For example, more freeway transit service is needed, including express buses on HOV lanes.
- For the foreseeable future, the overwhelming majority of travel will be by auto, and this should be planned for accordingly.
- Induced travel will always outpace or create congestion. Moving people is most important. Improving mobility will not solve the larger (world) problems.
- The most we can expect is to lessen the rate of decline.

Improved Air Quality & Environmental Benefits

- Where does environmental justice fit into this? Given the potential health and community impacts of major transportation projects, it is important to make sure there is meaningful community input into the decision-making process.
- The LRTP should de-emphasize automobiles (by providing more travel choices) to improve air quality.
- The quality of life is important, especially the long-term impacts of air quality on people. The LRTP should also consider the impacts of major projects on neighborhoods.
- What the LRTP does will not have a direct impact on the environment, but perhaps secondary. Changes in vehicle technology will have the most direct impact on air quality.
- In Chinatown the impacts of buses on air quality is significant.

Effective Resource Use (Cost Effectiveness)

- The LRTP needs to focus more on cost effectiveness.
- The primary emphasis should be moving people. If that is truly the top priority, then the LRTP should focus on solutions that move the most people at the lowest cost. This should drive project choice – the most cost-effective means for moving people!
- Stopping the subway extension hurt Little Tokyo. If cost effectiveness is focused on too much, it may kill good projects.

- As the future is financially constrained, the LRTP should focus more on cost-effectiveness! Most future travel will be in cars no matter what we do, so we need to take the automobile system more seriously.
- Cost-effectiveness is a no-brainer.
- In the past, cost-effectiveness has been used as an excuse to deny services to the transit dependent.

Improved Convenience & Travel Choices (Access)

- To improve access, multi-lingual signage is needed at all transit stations.
- Better transit services are needed to break down barriers to use of transit and bring more people into Little Tokyo.
- Choices? The real failing of the system is that in most areas only one choice (the automobile) is provided.
- Bicycles promote a multi-modal system and greater choices of travel.
- What about pedestrian strategies? The car/walk tradeoff is more important than the car/transit tradeoff. The emphasis should be on pedestrian travel and how to make pedestrian travel more accessible.
- Improved convenience is really a cost strategy if it reduces cost to the user.
- New strategies are needed that address land use by reducing the need to travel.
- Safety should be considered an important part of ensuring accessibility. Crosswalks should have longer green time so seniors and others can safely cross wide intersections.
- More frequent and innovative services (i.e. jitneys, smaller buses, taxi's, greater bicycle access to normal arterials) need to be part of the plan.
- Bicycle use and accessibility should be integrated into the design of all new transportation projects.
- Improving accessibility, as well as mobility, is essential for bringing people downtown, as well as making LA a better place to live.

Other

- A new performance criterion is needed addressing access to jobs. How well is the transportation system serving the economy by providing links and access to jobs? The link between the transportation system and health of the regional economy should be stressed.
- Transportation solutions should be market-based and take into consideration the full cost of transportation.
- Important goals should include – success in advancing market-based solutions, success in decreasing society's aggregate transportation expenditures, and success in increasing accessibility over mobility.

MTA
Long Range Transportation Plan Update

A Summary of Focus Group Meeting #3
November 6 & 8, 2000

FINAL REPORT
November 17, 2000

Prepared for:
**LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION
AUTHORITY**

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SECTION I INTRODUCTION

Purpose of Focus Group III

The Long Range Transportation Plan (LRTP) stakeholder focus group meetings held November 6 and 8 were the third set of what will eventually be five rounds of focus group meetings. The primary purpose of this meeting was to get input from the stakeholders to help MTA staff craft alternative transportation scenarios for the next phase of LRTP development. Each alternative constitutes a package of transportation projects and programs designed to bridge the gap between baseline performance and future needs. The performance of each alternative will be evaluated with the goal of selecting projects for consideration in the final LRTP.

Before asking for their input on how best to bridge the performance gap, stakeholders were provided with the results of the Baseline and Enhanced Baseline modeling analysis, completed by MTA staff in October. The Baseline Model measures the performance of the existing transportation system as well as other approved projects and programs that the MTA is already publicly committed to funding. The Enhanced Baseline includes all Baseline projects but also additional projects that can be funded through the Governor's Traffic Congestion Relief Plan. Both the Baseline and Enhanced Baseline will serve as benchmarks against which to evaluate the performance of the alternative scenarios.

Stakeholders were also provided with information concerning the nature and direction of what was described as the Emerging Plan, i.e. the major program categories that will make up the LRTP. Given both the results of the Baseline Analysis and the shape of the Emerging Plan, MTA staff was seeking comments from the stakeholders on whether or not the Emerging Plan was heading in the right direction, and whether there are program components that should be added or deleted.

Stakeholders also had an opportunity to review preliminary project information. This included a listing of transportation objectives and issues by sub-region and projects proposed by sub-regional agencies to address these issues. A preliminary list of regionally significant projects proposed by MTA staff was also provided for stakeholder review. Following the Focus Group III meeting, a final combined list of all projects will be developed by MTA staff. This list will be the starting point for further staff analysis in developing financially constrained and unconstrained (i.e. strategic) alternatives.

After being provided with this background information concerning both baseline performance and emerging plan components, stakeholders were asked to provide feedback that MTA staff would draw upon to help shape the alternatives. At the next round of focus group meetings, scheduled for December 12 and 13, the stakeholders will have an opportunity to review the results of this Alternatives Analysis.

SECTION II – THEMES EMERGING FROM LRTP STAKEHOLDER DISCUSSIONS

This section provides a brief overview of the perspectives offered by the stakeholders during the two sessions of Focus Group III. Although a variety of viewpoints were expressed, certain themes did emerge during these discussions. The following summaries highlight these themes with the goal of providing MTA staff with a clear and tangible picture that can be drawn upon for crafting alternative scenarios while also offering the stakeholders a shared vision of the kind of transportation system that might emerge from their ideas. Copies of the wallgraphic recordings on pages 12 and 13 also provide a visual overview of the two sessions. *For a summary of comments expressed during the stakeholder discussions – the daytime session on November 6 and the evening session of November 7, please refer to Appendix A and B.*

LRTP Emerging Themes as Expressed by LRTP Stakeholders in Focus Group III (Daytime Session) - November 6, 2000

The MTA should focus on developing a **multi-modal system** for carrying the maximum number of people conveniently and safely at an efficient and reasonable cost. Despite popular perceptions of LA County to the contrary, the actual reality is that of a high-density landscape that together with other features provides an ideal foundation for not only transit but also other elements of a multi-modal transportation system. This global, highly integrated multi-modal system should provide a **range of attractive travel choices** for all County residents and visitors alike, including the transit dependent as well as those who previously relied almost exclusively on their personal automobiles. .

Given an inevitable and substantial increase in population and overall density over the next two decades, if in the future this region is going to work both economically and otherwise, it can no longer afford to rely on any one single mode to carry the majority of trips. At the same time it cannot afford to invest the greatest percentage of its transportation funds in modes that serve too few trips. Instead, solutions are needed at the scale of the problems that are regional in scope. This requires a clear vision of what we want to achieve regionally and innovative, systemic thinking on how to achieve it. This means thinking outside the boundaries of a narrow, inflexible modal approach that unnecessarily limits the range of possible solutions and does not fit the needs of people who want a range of modal choices in a coherent, integrated transportation system. For this reason, the Focus Group was less interested in specific transportation projects than in how all the projects are designed to work together to serve the needs of all who live and work in LA County.

Elements and other features of this regional integrated transportation network include:

- A seamless, universal fare system, enabling transit riders to ride any bus or rail line in LA County regardless of specific transit operator.
- An enhanced highway and arterial system whose overall capacity to move people and goods has been increased not by building new freeways, but instead through a variety of tools and techniques such as widening arterials, intersection improvements, road management, ITS, congestion pricing, parking pricing, and HOT lanes among other strategies.
- An HOV system fully utilized by commuters who, as a result of a vigorous and ongoing public education campaign, have expanded the overall carrying capacity of the freeway system through a substantial increase in carpools, vanpools, and bus ridership.
- A fully integrated land use and transportation planning process to facilitate the development of more livable communities, enabling all forms of transit to better meet the needs of a greater number of residents, while also encouraging pedestrian and bicycle activity as viable commute modes for short trips and also longer trips when linked to transit.
- A transit system that provides increased accessibility not just to jobs but also for schools, shopping, health care, and recreation.
- Bicycle use is encouraged, allowing safe and inviting use of every road. In addition, both transit infrastructure and policies are designed to provide a smooth and convenient linkage between bicycling and all forms of transit. As a result, bicycling has become a strategic element of the transportation system, enhancing the MTA's overall ability to meet a range of mobility, accessibility, and air quality goals.
- A fully realized network of rapid bus corridors, developed quickly and at a relatively low cost, provides fast, convenient and reliable transportation throughout and beyond the urban core. In corridors where rapid buses are not feasible, light rail lines operate quietly and efficiently.
- The concept of a three-tier transit system in which line-haul, local and community based services function as a single integrated whole has been expanded to encompass all modes.
- The first tier of this three tier system, includes not only small buses and community circulators operated by public operators but also a thriving niche market of privately owned and operated shuttles and jitneys providing high quality transit service within and between communities.

- To maximize financial resources, existing right-of-ways have been used to expand both the bus and commuter rail system, while congestion pricing and other innovative financing programs have been deployed to provide a better balance between all users of the transportation system and the cost of maintaining and operating it.

LRTP Emerging Themes as Expressed by LRTP Stakeholders in Focus Group III (Evening Session) – November 8, 2000

The transportation system that resulted from the planning process of the 2001 LRTP was one that reflected five fundamental principles.

- **First, always plan from the user's point of view.** To listen to and better understand its customers, the MTA should deploy marketing studies and other tools that will enable it to design and offer services that will be valued by its customers, making these alternative modes truly competitive with the single occupant vehicle.
- **Second, focus on what will deliver the greatest good for the greatest number** rather offering a little bit of something for everybody and pleasing no one. A coherent long range plan requires that tough decisions be made, rather than simply presenting a long list of projects that do not appear to reflect a clear vision or integrated strategy.
- **Third, a systematic, integrated objective planning process** should inform decisions to ensure the best performing projects are selected rather than projects driven by political or parochial considerations.
- **Fourth, consider the potential environmental impacts of proposed projects on local communities, especially minority and economically disadvantaged ones.** To this end the MTA must reach out more effectively and more frequently than it has in the past to the people who will be impacted.
- **Fifth, recognize that land use patterns and transportation are inseparable parts of a larger whole.** Only if the planning process accepts this reality can it succeed at creating a transportation system that provides mobility without also jeopardizing our quality of life.

As a result of these guiding principles the transportation system that emerged from this planning process included the following elements:

- **An integrated, three-tier transit system** has succeeded in knitting together the urban fabric of Los Angeles County.
- **The transit system is affordable, easily accessible, and effectively serves the needs of all residents and visitors** by quickly and reliably taking them to the destinations that matter the most.

- The transit-dependent, including low-income and minority groups, can confidently rely upon the three-tier transit network to access jobs, shopping, schools, health care facilities and recreation.
- Full mobility in Los Angeles County is no longer dependent upon owning an automobile or having access to one. Instead, the Rapid Bus network, together with commuter and light rail lines, are enabling many people to leave their cars at home, even for long trips.
- Mixed-use, transit-oriented communities have become an integral part of the LA landscape. As a result, bicycling and walking are flourishing as never before, at last taking advantage of the area's Mediterranean climate and relatively flat terrain.
- Congestion pricing, HOT lanes and other pricing mechanisms have supported the emergence of a more balanced transportation system, enhancing the overall performance of highways and arterials.
- By targeting specific deficiencies or taking advantage of unique opportunities in communities throughout the County, small scale projects have played a large role in maximizing the performance of the existing transportation system.
- No longer excessively dependent upon the automobile as the only primary form of transportation in LA County, clean air and exceptionally blue skies are enjoyed throughout the year, even in the summer months.

APPENDIX D - ATTENDANCE LIST

Monday, November 6, 2000

1. Dan Beal, Automotive Club of So. Calif.
2. Charles Carter, UCLA Transportation Services (*Substitute for Penny Menton*)
3. Dana Gabbard, Southern California Transit Advocates
4. Jane Goichman, League of Women Voters
5. Dan Kopulsky, Caltrans District 7 (*Substitute for Raja Mitwasi*)
6. Tim Lester, Greater LA African American Chamber of Commerce
7. Carl Morgan, Los Angeles World Airports
8. Norman Ross Jr., Central City Association
9. Ross Valencia, Resurrection Senior Citizens Organization

Friends of Focus Group

1. Steve Finnegan, Automotive Club of So. Calif.
2. Anthony Loui, Southern California Transit Advocates
3. Ron Milam, Surface Transportation Policy Project (*Substitute for Gloria Ohland*)
4. Dan Ritey, Amalgamated Transit Union
5. Thomas Rubin
6. Barbara Schultz, Legal Aide Foundation of Los Angeles
7. Jim Stewart, So. Calif. Council on Env. & Dvt.
8. Kent Strumpell, Eyemedia
9. Arthur Sweet, United Chamber of Commerce
10. Joan Wood

Wednesday, November 8, 2000

1. Ayako Hagihara, Little Tokyo Service Center
2. Jerilyn Mendoza, Environmental Defense
3. Deborah Orosz, Labor/Community Strategy Center
4. Jason Mugford, CDS Net, Inc. (*Substitute for John Park*)
5. Rachael Santos, East Side Extension. Review Advisory Committee
6. Kathryn Higgins, SCAQMD (*Substitute for Lupe Valdez*)

Friends of Focus Group

1. Bryan Allen
2. Pat DeChellis, Los Angeles Co. Dept. of Public Works
3. Ted Robertson, Labor/Community Strategy Center
4. Thomas Rubin
5. Jim Stewart, So. Calif. Council on Env. & Dvt
6. Daniel Wright

MTA

Long Range Transportation Plan Update

A Summary of Focus Group Meeting #4
December 12 & 13, 2000

FINAL REPORT
January 11, 2001

Prepared for:
LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION
AUTHORITY

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SECTION II – THEMES EMERGING FROM STAKEHOLDER DISCUSSIONS

Similar issues and concerns arose during both the daytime and evening sessions of Focus Group IV. Unlike the focus group meeting held in November, where stakeholders expressed a variety of ideas regarding the future shape of the LA County transportation system, the discussion during the December meeting centered more on the underlying modeling and planning process. While many still expressed preferences regarding various transportation modes, far more time was spent examining aspects of the current planning process and its likely effect on the final shape of the LRTP.

Observations about the modeling process centered on questions about the initial findings and a desire to receive more detailed performance information about Alternatives A and B before offering their own recommendations. Until more detailed performance information became available, some stakeholders were even reluctant to state a preference for components of the two alternatives. Others did feel that in concept Alternative B, with its higher proportion of transit and other non-motorized modes, was the preferred alternative but most preferred not to make a judgment in the absence of the desired performance data.

In addition, some wanted to see many more alternatives tested in the modeling process. This might consist of a wider range of possible alternatives for the overall transportation system but also modeling focused more on individual projects or alternatives focused on specific corridors. Others wanted to know more about the potential impact on the transit dependent and minority communities before venturing a recommendation. Since Title VI data was not yet available for this purpose, these stakeholders felt it was premature to participate in this exercise.

Other related questions regarding the overall LRTP planning process also emerged. In particular, many felt that MTA staff was too limited in its thinking and needed to look beyond solutions restricted to current funding levels. This was expressed in a variety of ways, but chiefly in the idea that a more powerful and compelling vision was required. Such a vision was seen as stimulating more creative and innovative solutions, but also as a necessary pre-condition for obtaining new funds required to deal effectively with the demands that will be placed on the transportation system in the future. Others felt this vision could serve as an organizing principle by acting as a “filter” for selecting projects to fund and which ones to not. Along similar lines, some advocated the development of a variety of different future scenarios designed to test the comparative performance of each alternative against a background of varied socio-economic environments, policy goals, or other external factors.

For the short-term stakeholders offered suggestions regarding upcoming focus group meetings. This included not only requests for more information but also ideas on how

that information should be formatted to facilitate their review process and recommendations. Requested information included:

- Major impacts of projects and strategies in terms of mobility, accessibility, and air quality.
- Community impacts (both positive and negative)
- Effect on the transit dependent
- Expected ridership
- Cost effectiveness per unit of change
- Cost per new linked trip and unlinked transit trip
- Performance in terms of vehicle miles traveled saved and hours saved.
- Subregional impacts
- Details of individual projects
- Corridor by corridor analysis
- Qualitative impacts (livability quotient)
- Time frames for project funding and implementation

Suggestions for how to present and format information, included requests for an explanation of how each project came to be included in the alternative and the draft Plan. What was the process and the evaluation criteria used in the project selection process? This was offered as a way of eliminating the appearance and misconception that Alternatives A and B represented only a list of projects without an underlying rationale. Others thought it would be useful to list projects, their projected impacts, costs, and other features in a matrix format that would provide a convenient overview for review purposes. A scatter diagram, used in a previous LRTP, was suggested as an effective tool for graphing the relative performance of different projects.

The relation of the LRTP to other major social concerns remained an abiding issue. For instance, the linkage between transportation planning and land use was explored from a number of angles. It was stated that improving this linkage would not only enhance the overall performance of the transportation system but also the livability of many communities. Others were interested in the linkage between the transportation plan and projected air quality benefits. To what extent were those benefits based on technology improvements and assumptions regarding the projected proportion of clean fuel vehicles in coming years? Finally, while community outreach regarding the LRTP had improved, many questions still remained regarding who benefits and who does not from the programs and projects that eventually emerge from this planning process.

In summary, while specific modal preferences are still being voiced, during at least this meeting, there was less concern about that and more about coming up with an overall plan and recommendation that would provide the greatest overall benefit from the investment. There are still varying views regarding what that optimum Plan would look like and certainly a desire for more detailed performance information with which

to make that determination. Recognizing this need MTA staff had already presented a substantial amount of performance information. In the interest of maintaining the focus group schedule and keeping the stakeholders informed of progress to date, however, staff had decided it was best to hold this meeting even though some of the modeling analysis, specifically on the alternatives, was still in progress. MTA staff also expected to complete all this analysis in time for the next focus group meeting scheduled for mid-January.

The rest of this section provides an overview of the principal themes that emerged during the two sessions of Focus Group IV. This is followed by reproductions of the two wallgraphics that recorded the discussion during both sessions. Finally, in the two sections following the wallgraphic reproductions a more detailed summary of comments expressed during the stakeholder discussions is presented.

Principal Themes

Many stakeholders expressed concerns regarding the modeling process and its effect on the long range planning process:

- Many were disappointed that model results for Alternatives A and B were not available in time for the December focus group meeting. Until this data became available for their review, they were reluctant to provide substantive input regarding these Alternatives.
- Some felt the scope of the modeling process should be expanded to include a wider range and variety of scenarios, that it should test the performance of specific projects or at least groupings of projects likely to be linked together. It was especially important that the analysis focus at the corridor level by testing the comparative performance of alternative strategies (such as rapid bus, bus rapid transit, and light rail) within corridors.
- Many expressed concern about the reliability of some model analysis results, especially as it applied to projected light rail ridership.
- Some stakeholders felt the MTA should have made more progress in its analysis of how specific communities and minority groups are likely to be impacted by the projects and programs recommended by the LRTP.

Many felt that MTA staff was not thinking big enough. They sought a larger vision of what is required to deal with the tremendous scale of the transportation problem facing LA County in the future. This theme was expressed in a variety of ways:

- Rather than just accept a scenario in which highway speeds continue to decline despite \$11 billion in transportation improvements ask what will it take to actually maintain overall mobility and improve accessibility.
- The public requires a clear and powerful explanation of the transportation problems facing LA County and a compelling vision of what can be done to remedy them. This will help build the public support needed to obtain the added resources required to deal effectively with these problems.
- A clear vision will act as a policy and programmatic filter making it readily apparent which programs and projects are likely to be funded and which are not.
- A powerful vision can spur the development of more creative and innovative strategies for dealing with the transportation problem.

A powerful vision can also provide support for efforts to more strongly link land use and transportation planning. Many felt the MTA could do more in this respect.

- Improving the linkage between transportation and land use was viewed as one of the most powerful ways to manage the impact of population growth by improving the overall effectiveness of investments in the transportation system.
- The sensitivity analysis was seen as a step in the right direction, but land use modeling that projects the impact of increased density on and near major transit corridors was also requested.
- It was asserted that MTA Board members could have an impact on the land use decisions of other organizations on which they also sit as board members.
- Some felt that the MTA had discretionary authority which it could call upon to influence land use decisions.
- Others observed that land use patterns result from a host of decisions many due to factors far beyond the control of Los Angeles County.

Although MTA staff had used previous stakeholder input to help craft the Alternatives and other aspects of the LRTP planning process, this connection was not always clear to the stakeholders.

- Many perceived each alternative as simply a list of projects. Some requested a rationale or explanation for how each project came to be included in an alternative.

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- Others felt they should be providing recommendations at a higher policy and programmatic level rather than simply being asked to choose between these two alternatives.
 - Some were gratified to see a wider range of alternative strategies, but still felt that the MTA was still too limited in its proposed funding levels for these options.
 - All requested more detailed information and that it be provided at least one week in advance of the next meeting.

SECTION III - SUMMARY COMMENTS DECEMBER 12, 2000 FOCUS GROUP DISCUSSION

The discussion during the daytime session addressed assumptions underlying the modeling process, the LRTP planning process, vision and priorities, and suggestions for future focus group meetings. The latter involved requests for information that would enable the stakeholders to make better decisions. Other parts of the discussion centered on the extent to which the LRTP was adequately addressing the relationship between transportation and land use as well as air quality and environmental justice. Other observations dealt with specific modes and other recommended infrastructure.

Assumptions used for the Model projections

- According to the model, the region will reach 90% of urban rail ridership in the base year and by 2003 will have achieved its 2025 goal. The model seems to be drastically underestimating the expected level of transit ridership, especially considering the current level of ridership.
- The 1998 base year numbers are too low, so applying growth to that understates the ridership. Given a reality of 215,000 today, the model isn't even predicting what exists today.
- Were these projects developed from the Congestion Management Plan?
- Models can never really predict how people will behave. Have little confidence in model. Examples - Highway 91 in Moreno Valley; Central Freeway in San Francisco - Caltrans still does not know where the traffic went.
- The Plan is a mixture of numbers with different levels of certainty. Focus on the relative comparison rather than worry about the float. Don't get so specific with the numbers.
- Light rail does seem to be drastically underreported, especially considering the current level of ridership.
- MTA may need to revise the model so that it accurately reflects reality. How do you make the model real?

Questions concerning the modeling process

- Why can't the MTA model non-motorized trips?

- Requested more information about the Sensitivity analysis as a means for testing the impact of accommodating population growth through increased density and infill rather than continued sprawl?
- How many model runs will staff plan on doing beyond these two (Baseline and Enhanced)
- How are the best performing projects identified ?
- What is the nature of these transit corridors? Are these corridors for BRT, LRT or what?
- Why is HOV so much higher with all-purpose trips versus home to work trips?

The LRTP vision and priorities

- List only those items that will have the greatest impact on improving the system. No more dollars for freeways, except for safety reasons.
- The Plan must be multi-modal and have strong engaging policies.
- Would like to see MTA commitment that we are going to be multi-modal. Need to focus on projects that help the core and not the fringes. Route 138 is not that important. There have to be good reasons for projects. Don't pick them simply because they are easy to do (as they did out in Riverside County). A multi-modal approach is required.
- Should definitely focus on Rapid Bus and light rail.
- Given the minimal improvements recommended, this Plan looks like the equivalent of simply rearranging the deck chairs on the Titanic. How is it even going to be possible to accommodate a 1/3 increase in population with so few improvements? The region is already just crawling along and working with a model that can barely predict current ridership much less what will occur in 2025. Something enormously larger is needed than what is being suggested here. Instead, ask what will it take to really address the problem (the Iceberg) bearing down on this region, rather than saying this is all that can be afforded. A powerful and clear vision of what must be done to deal successfully with this problem is needed.

Discussion concerning the LRTP Process

- Policy direction is good but Plan points to projects and dollars. The dollars count and this should be a multi-modal plan and not just for transit.
- It is not the job of the LRTP to pick the mode for each corridor. Instead it is to assess the needs within specific corridors.
- This should be a visionary document. In reality, this Plan is not funded. Per SCAG, the County has to come up with \$40 billion dollars that is not yet identified.
- Multi-modalism should not be a policy. It is a means not a goal. Look at the problem that has to be solved first.
- Start with the process. Right now this is just a long list of projects and a model showing the overall performance for these projects. Instead, what is needed are the specific results and costs for each individual project. This will require a huge amount of modeling. . If this is impractical, some projects can be grouped together for modeling purposes. Otherwise, there is no way of knowing what projects contribute the most to the performance of each alternative and which do very little or nothing.
- Don't spend too much staff time on these two extremes (Alternative A&B). It would make more sense to focus more on scenarios that reflect the middle.
- Desperate need criteria are an important filter. That \$12 billion won't go very far, so MTA should go with those projects that will give it the most bang for the buck. MTA staff should definitely not commit to large projects that it cannot afford.

Suggestions for future Focus Groups

- There should be an explanatory text (including evaluation criteria) that explains how these projects happened to be selected. That might give the Plan more credibility.
- Create a matrix showing the characteristics and results of each alternative. Include person hours lost versus saved, etc. and tie to a dollar amount. This will enable the focus group to understand the alternatives more completely. This should be done before choosing projects for the hybrid.

- Staff should provide information from detailed model runs before asking for input. This group should be disbanded until the MTA is in a position to provide the minimal amount of information needed by the focus group before providing the MTA with input. The focus group should have that information at least one week in advance of the next scheduled meeting. .
- Each alternative should have some clear thinking behind it. Suggested a refined way of constructing alternatives that reflect clearly stated policies/future directions. These policies operate as a filter for what projects go into each alternative and which do not. Land use could be one possible filter – one possibility is to build an alternative based on the goal of increased densification in the urban core. Another alternative – growth in the exurban areas (North County). Other alternatives/scenarios might be constructed around future Port development, changes in future car ownership, etc. Another filter might simply be described as “desperate need.”
- To move forward with this process, information should be presented so stakeholders can review the performance of six to eight options. This information should include:
 - Mobility, accessibility
 - Air quality
 - Community impact
 - Expected ridership
 - Cost effectiveness per unit of change and mobility index
 - Cost per new linked trip and unlinked transit trip
 - Show how each alternative affects each sub region
 - The qualitative impacts
 - Livability quotient
 - Time frames for alternatives
 - Like to hear about transit dependency and how each alternative serves that population
- A cost/benefit analysis for these projects would be good. Let’s have two hybrid plans go to the Board, not the two extremes (Alternative A&B), and make the case that we need more money.
- Model the obviously linked projects and most importantly model where there are options/alternatives in a corridor. For instance, is it worthwhile to go from Rapid Bus to BRT? Can this be modeled?

Environmental Issues

- Would prefer to use PM2.5 and oxides of sulfur. Sulfur will be an issue once diesel is cleaned up.
- The region is supposed to be in compliance by 2010. Does air quality improve after that? In other words, will the air in 2025 be cleaner than it is in 2010? .
- What about particulate matter? It is a serious matter, so why aren't you graphing that as well? .
- What accounts for the large change in emissions from the 98 base-year to the 2025 RTIP? .
- What is the impact of a potential change in the zero emission mandates on these numbers? Does the model take that into account? If that mandate were rolled back then air quality emission numbers would increase beyond what your model is now predicting. .

Land Use

- MTA Board members also serve on many other boards, including Boards of other organizations that do have a more direct impact on land use decisions. The Plan needs to educate the Board members so it can influence the actions of the other Boards.
- Need land use modeling. Bringing in x amount of dwelling units to lay on top of transit corridors will guarantee much higher transit modal shares. Such a tie in with land use will generate powerful results without all the tremendous cost of transportation infrastructure improvements. If this cannot be modeled, then state that in the Plan. Other states are doing this kind of modeling, why isn't the MTA?
- Can the Plan include some money for livable communities?
- Let's ask the MTA Board to add land use issues. MTA could take the lead in addressing the land use issue. It should show more vision.
- It is a falsehood that MTA has no authority over land use. MTA has discretionary authority – it can extract land use concessions. The problem is one of politics and not legality. Why does MTA staff self-censor itself? Let the Board muddy it up, not staff. The Plan could be visionary.

Environmental Justice

- There is concern about goods movement and freight warehousing. Some community groups are concerned about the concentration of warehouse areas, which are becoming rail or truck hubs. It is a big issue connected to the Alameda corridor. Given the two largest ports in the nation and the Alameda corridor coming on line, the impact on communities is going to be tremendous.

Public Support

- Since much more funding is needed to deal with the scope of this problem, a vigorous effort needs to go out – a public appeal to build understanding and support for an increase in the gas tax. Write the Plan to support this critical aspect of the solution.
- Take a look at how they do things in Seattle as a model. Strong policies that will engage the public are essential. This means there must be policies that clearly respond to real needs – reduce congestion and improve people’s lives. Have highly visible public meetings involving a wide spectrum of the public. Then when there is a project that does not fit these clear policies – it is much easier to explain why it is not going to happen and there will be support for

Bicycles

- Multi-modal goals are important. Disappointed with the numbers and dollars allotted for bicycles. In Alternative B, the MTA should be shooting for \$25 million per year for bike projects – 1% of MTA projects. It should also be pushing these projects more aggressively.
- Bikeways are not the sole answer. Most bike trips are on regular streets and not bike paths. Emphasis should be on making streets safer for bikes; need better enforcement of safety lanes. Also, need to be more market driven. Elasticities of demand for bike travel are low. Increasing the cost of driving will also lead to a larger increase in biking than the construction of bikeway projects. Finally, capacity increases in the interest of safety will be drowned out by the resulting increase in the volume of auto traffic.
- Safety needs to be addressed before bicycle ridership can become attractive. Accounting for pedestrians is necessary. Livable communities are needed to encourage walking.
- Alta report shows the cost-effectiveness of bicycles.

Freeways

- Freeways are not working and will not work any better in the future. Building our way out of the problem is simply not the answer. That will simply prolong the problem. Need to get people out of their cars. This situation requires far more creativity than what has been seen so far.
- Freeways are not the solution. Bicycles, land use, transit, and pedestrian use all have promise. The Red Cars (Pacific Electric Railway) were great but years ago somebody made the decision to give up on them. Now it is time to give up on the freeways.

Operations and Maintenance

- SCAG is looking into the under funding of roads. Need \$3 billion to keep the roads from crumbling. Is that included in the Plan?
- What are O&M costs of projects in alternatives? Are these costs programmed in?
- that decision.

Other issues

- Jitneys and private shuttles are mentioned in the Plan, but no one has talked about privatization of rail lines as in Europe. The design, build and transfer process involves the private construction of rail service which is then turned over to a public agency for operation.
- No EIR on LRTP since it flows into SCAG's RTP.
- Funding only available to maintain current level, but the rumors is that bus operations (peak hour service) will have to be cut 25% next year?

SECTION IV - SUMMARY COMMENTS
DECEMBER 13, 2000 FOCUS GROUP DISCUSSION

The evening session addressed many of the same issues that arose the day before, including questions concerning the modeling process. Like the day before, stakeholders offered views concerning LRTP vision and priorities, suggestions concerning the LRTP process and future focus group meetings. Concerns about environmental justice were addressed to a somewhat greater extent. Preferences regarding various transportation modes were also discussed.

Discussion concerning the modeling process

- Why is there no sensitivity analysis on air quality?
- Still concerned about the modeling and the evaluation criteria. Even in the absence of model results, it is still possible to come up with quantifiable results. Have quantified bus versus rail and buses are at least 25 times more cost-effective.
- There is an urgent need to look at a larger number of alternatives than the number now being studied. . There are sub optimal projects in the baseline that are not being studied. Take a look at other alternatives that may have a much better payoff. Given the scope of the problem, and the limited resources, there should be a greater effort to look for low cost options that have a high payoff. MTA has more flexibility to choose among the Governor's projects.
- What does the regional surface transportation improvements include?
- Did not see the impact of non-MTA projects like Pasadena Blue Line, Maglev, and Caltrans ramp improvements.
- Need more analysis for each corridor given the impact of different options.

The LRTP vision and priorities

- Safety should be incorporated into all plans. It is a crosscutting issue.
- Alternative A dollars will disappear very fast and all it does is encourage more driving. Alternative B makes more sense. Do everything possible to make transit as convenient as driving.
- More information on the effectiveness of each alternative is needed before it makes sense to decide between alternatives. . For example, why are there no

new freeway lanes except on I-5? Why no HOT lanes? What about ITS? ITS may be our savior, a way to take existing capacity and maximize it? The consumer is looking for information that can help them to choose on whether to use the auto or take the bus. What is the best way to get from A to B? How does someone use the bus system? What are the freeway conditions? How long will it take to get to my destination? Take a more serious look at how technology may be able to help commuters make better use of the existing transportation system.

- Use the free market so people have incentive to use transportation system more frugally. People make choices on how and whether to travel depending on many factors including cost, convenience, accessibility, etc. Deciding about land use patterns also affects travel patterns. So, don't just assume that added population will require additional capacity. If growth is managed properly, then transportation options and choices are different.
- With this plan so much money is being spent but average highway speeds will still be dropping. What would it take to actually maintain current highway speeds? That question and the answer to it should be an essential part of this planning process.
- A more powerful vision of what is possible is essential if public support for proposed solutions requiring additional funding, such as gas taxes, parking cash-out (MTA should enforce the existing law), congestion pricing, etc. are ever to be realized.
- Take into account that there are real differences between the different transit modes. There are psychological reasons why people are not using buses and prefer trains.
- TDM strategies – are they being taken seriously in this plan? They will have to be an important part of the plan since only a miniscule improvement in performance is being obtained from the massive investments in all these other projects.
- There are also a number of trends and wild cards that should be taken into consideration in the development of the Plan – fuel supply shortages, a sharp increase in gas prices, Kyoto protocols kick in, etc.

Discussion concerning the LRTP Process

- This process started in March but there still is no solid information for our review? Need to see more cost analysis of the relative performance and cost effectiveness of bus versus rail; details on each project instead of just a list.
- Make a commitment to expand Rapid Bus. But Bus Rapid Transit is not going to happen. Don't waste money on what is a fantasy. Too many NIMBYs. Too much money is being spent on I-5 expansion and HOV connectors.
- The MTA needs to better understand customer perceptions. In San Diego, they have hired a consultant to find out what customers are looking for.
- Where is the environmental justice analysis in all of this? Apparently, our requests have fallen on deaf ears. Would like to see more academic analysis of the modeling process here at MTA.
- It is very difficult to forecast 25 years into the future. The plan needs to acknowledge this reality and retain flexibility.
- Is it possible to get a commitment from Yvonne Burke that there will be no last minute back of pocket extras added to the Plan that violate the planning process? Also, this is not really a 25-year plan; it is a two year plan with another 23 years of conjecture.

Suggestions for future Focus Groups

- Can the two alternatives be less black and white? What would happen to rideshare in Alternative B? Don't want to choose between highways and transit. Don't know how to choose without having more information about how each alternative performs. What is their overall impact and impacts across modes?
- Would like to see Alternatives A and B side-by-side on the same page so it would be easier to compare. But for now it looks like Alternative A is $\frac{1}{4}$ transit and $\frac{3}{4}$ highway. Alternative B is $\frac{3}{4}$ transit and $\frac{1}{4}$ highway. Also would like to see a list of baseline projects and costs as well as those items on the Governor's project list.
- These hand outs should be set up like a shopping list with the cost of each project clearly identified and then be able to add other projects to the shopping list as funding becomes available.

- What is the point of Alternatives A and B? This looks like another exercise that precludes providing any substantive input.. Instead,of this superficial approach, where is the perspective of the academics who were involved in the earlier meetings?
- Rather than simply asking for a choice between these two alternatives, staff should be requesting help with overall plan recommendations.
- The scatter diagram from 95 Plan could tell us a lot if something similar were used for the 2001 Update.
- Want more in depth information. Should include:
 - Title VI analysis
 - What tradeoffs were made
 - The improvement to speed and convenience
 - A list of low investment/high payoff projects

Environmental Justice

- How input received from various community and business groups being qualified? After all, it is important to take into account that some groups, like the Eastside RAC, are obviously biased toward rail.
- Tired of being stereotyped. What matters is speed. Will take a car if it is the fastest way. Eastside is being discriminated against. Light rail is essential in this community because our streets are too small for buses to work. Need to stop all this litigation. It is taking money away from moving the process forward.
- Need to lower the fares, especially given the high percentage of transit dependent that have very low incomes.
- The rail lines run in mostly minority areas so you would think the MTA would run as quickly as possible to do the environmental justice analysis.
- Who benefits? Who is burdened? Noise, air quality, access. By race and income. It is a federal requirement.
- Title VI information was requested back in August and apparently it is still not being addressed. There is nothing here in either Alternative A or B that addresses Title VI issues. None of this is being put into context – who will

benefit from these projects? Before providing input, the Title VI analysis must be completed so it is then possible to understand the impact of our choices on minority communities.

- MTA's predecessor took funding away from buses over an 11-year period. That is the tradeoff. It costs 10 times as much to move people on rail than on buses. So rail serves minority but it costs more. Also, ridership went down while minority population rose. While rail mostly serves minorities, there are far too many minorities who can't access transit.

Land Use

- Don't know how effectively land use patterns can be influenced by local decisions since many of those decisions are made outside LA County.
- The environmental community wants to support this, but more funding for land use incentives is needed. Is there any in the plan? This could make a huge difference in the cost effectiveness of transit projects.

Bicycles

- Some projects (bikes, peds, rideshare, maybe signal synchronization) are so cheap and effective they should not be in Alternative A versus Alternative B. They should be in both alternatives. Too easy to come up with bike projects. Need to talk to the people who use them. Need more bike projects designed to get people to work instead of bike paths through parks.
- Alternative B allotment for bikes is only the minimum acceptable. There is a need for more bike planning at the municipal level. They need leadership and resources (technical support, etc.) since they do not have the staff themselves to do bike projects.

Freeways

- 710 at Washington off ramp needs serious attention; too much freight traffic; concerned about safety related issues with truck traffic on 710.
- How will soundwalls be prioritized? .
- Breakdown lanes on shoulders of HOV lanes are an absolute must.e. Caltrans should have followed federal guidelines for HOV lane safety measures from the start.

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- In Alternative A, closing freeway gaps seems to be missing. Also, missing are new previously proposed freeways. What happened? What about Route 30? It is a freeway that is going to be built but it seems to be missing from the list. What would 2025 look like with Route 30? Is the benefit worth the cost? More what ifs are needed in this analysis.
 - It makes more sense to put projects in those areas where there is still hope of preventing an area going into the red (worst congestion) rather than in areas that are already red and will never get better.
 - Regarding the 710 gap closure. At that point you should know it is a state route and not an interstate highway. What happens to projects for further study?

Other issues

- The problem is not the need for new lanes or freeway connectors. The problem is the human factor – there are too many drivers who simply do not know what they are doing. They don't pay attention, have low driving skill levels, and road rage. People are not really being taught how to drive. A person can pass the written DMV test as long as they only do not get more than 5 questions out of 30 wrong. But those might be 5 crucial questions that every driver should know before being allowed behind the wheel. Aggressive drivers are the best. They know how to get from point A to B. If everybody drove like a taxi driver there would be no problem. My recommendation is that we spend more money on driver education and on better enforcement.
- European standards for getting a driving license are much stiffer. MTA subsidizes drivers. Freeway Patrol assists people who don't maintain their vehicles. MTA mission statement does not include safety. Enhancing mobility degrades safety, so MTA has a moral obligation to provide remedies.
- The litigation has only just begun.
- The issue of parking has not been addressed.
- The cost of improvements needed for freight movement should be at least 35% self-financing. Of course, truckers are one of the very best lobbying groups.
- Confused about the relationship between MTA and Caltrans. Did not think highways were in the jurisdiction of the MTA.
- What are the criteria for "fair share"? Is it sales tax?

- Fair share is a false issue. The first priority should be are the tax dollars going to be well spent and not fair share for suburban areas. Well-spent (i.e. dollars should be spent on the most important needs) often means transfer of income from suburban to urban and higher to lower income.

Accessibility Index: Measures the percentage of jobs accessible within 60 minutes via transit.

ADA (Americans With Disabilities Act): Federal civil rights legislation for disabled persons passed in 1990. Among other things, it mandates public transit systems to make their services more fully accessible to the disabled. If persons with disabilities are not capable of accessing general public transit service, the law requires agencies to fund and provide for delivery of paratransit services which are capable of accommodating these individuals.

Air Quality Index: A measure of the total weight of mobile source pollutant emissions (carbon monoxide, oxides of nitrogen, and reactive organic gases) from transportation modes. Both the emission factors and the formula that enables the composite index to be calculated are provided by the California Air Resources Board (CARB). The emission factors are sensitive to the number, length and speed of vehicle trips and take into account projected emission reductions due to such improvements as alternative fuels and electric vehicles.

Air Quality Management Plan (AQMP): A plan for attaining state air quality as required by the California Clean Air Act of 1988. The plans are adopted by air quality districts and subject to approval by the California Air Resources Board.

AMTRAK (National Railroad Passenger Corporation): Rail services operator for Metrolink under contract with the Southern California Regional Rail Authority (SCRRA).

Antelope Valley Air Pollution Control District (AVAPCD): The air pollution control district for the Antelope Valley portion of Los Angeles County, created on July 1, 1997 by AB 2666 (Knight). The AVAPCD encompasses 1,300 square miles in northern L.A. County and includes the cities of Lancaster and Palmdale.

Arterials: Major streets that include Caltrans-designated highways and major city thoroughfares. Generally, they are at least two lanes in each direction.

Average Daily Traffic (ADT): The average number of vehicles passing a specified point during a 24-hour period.

Average Vehicle Occupancy (AVO): The average number of persons occupying a passenger vehicle along a roadway segment, intersection, or area and monitored during a specified time period. For purposes of the California Clean Air Act, passenger vehicles include autos, light-duty trucks, passenger vans, buses, passenger rail vehicles and motorcycles.

Average Vehicle Ridership (AVR): The number of employees who report to a worksite divided by the number of vehicles driven by those employees, typically averaged over an established time period. This calculation includes crediting vehicle trip reductions from telecommuting, compressed workweeks and non-motorized transportation.

Baseline: A level of service serving as a basis for measurement or comparison.

BRT (Bus Rapid Transit): BRT combines the quality of rail transit with the flexibility of buses. It can operate on exclusive transitways, HOV lanes, expressways, or ordinary streets. A BRT system combines Intelligent Transportation Systems (ITS) technology, priority for transit, cleaner and quieter vehicles, rapid and convenient fare collection, and integration with land use policy.

California Air Resources Board (CARB): State agency responsible for statewide air quality policy development and regulation.

California Transportation Commission (CTC): A body appointed by the Governor and confirmed by the Legislature that reviews Regional Transportation Improvement Programs (RTIPs) and the Proposed State Transportation Improvement Program (PSTIP). The CTC makes funding allocations and has financial oversight over the major programs authorized by Propositions 111 and 108. Its nine members are appointed by the Governor.

Caltrans (California Department of Transportation): State agency responsible for the design, construction, maintenance and operation of the California State Freeway and Highway System as well as that portion of the Interstate Highway System within the State's boundaries.

Capital Improvement Program (CIP): The CIP is a comprehensive agency-wide five-year program that adds and replaces capital assets such as buildings, buses, rail cars, equipment and furniture. A CIP provides detailed justifications, cost estimates, funding type and priority

listing of new and replaced equipment based on life cycle, safety, need and related criteria.

CEQA (California Environmental Quality Act): A statute that requires all jurisdictions in the State of California to evaluate the extent of environmental impact due to a proposed development or project.

CHP (California Highway Patrol): The major statewide law enforcement agency responsible for the management and regulation of traffic on Caltrans-designated Freeways and Highways to achieve safe, lawful and efficient use of the highway system.

Clean Air Act (CAA): Federal legislation that requires each state with areas that have not met Federal air quality standards to prepare a State Implementation Plan (SIP). The sweeping 1990 amendments to the CAA established new air quality requirements for the development of metropolitan transportation plans and programs. The California Clean Air Act (CCAA) sets even tougher state goals.

CMAQ (Congestion Mitigation and Air Quality Improvement Program): A federal funding source for state and local governments that is used for transportation projects and programs to help meet the requirements of the federal Clean Air Act. Funds are assigned based on air quality non-attainment standards in an effort to overcome low standards and improve air quality and reduce traffic congestion.

Congestion Management Program (CMP): A legislatively-required, county-wide program linking transportation, land use and air quality planning in order to mitigate the effects of congestion.

Cost Effectiveness Index: Measures the cost of transportation system improvements as compared to travel-time savings and air pollution reduction. The cost of the transportation improvements is calculated from the marginal capital and operating costs of the improvement.

Deadhead: The movement of a transit vehicle to or from its designated and scheduled route. It is not in passenger service, but rather is traveling between routes, or to/from the transit yard or to/from its route.

Demand-to-Capacity (D/C) Ratio: The relationship between the number of vehicle trips operating on a transportation facility, versus the number of vehicle trips that can be accommodated by that facility.

Environmental Justice: The principle that government policies and programs should assure the fair treatment and meaningful involvement of all people regardless of race, color, national origin or income.

FHWA (Federal Highway Administration): A branch of the Federal Department of Transportation administering and funding the nation's highway system.

Fiscal Year (FY): The annual period for which a government agency establishes a budget for spending. In California government the fiscal year is from July 1st until June 30th each year. The federal governments fiscal

year (FFY) is from October 1st until September 30th of each year.

Freeway Service Patrol (FSP): Towing services funded by the MTA in order to remove stalled vehicles from freeway lanes, especially during peak periods. They also aid stranded motorists who may have run out of gas or need to change a tire.

FTA (Federal Transit Administration): A branch of the Federal Department of Transportation administering and funding the nation's transit systems.

HOT Lane (High Occupancy Toll Lane): A lane of freeway on which single occupant vehicles may pay a toll for usage and is otherwise reserved for the use of vehicles with more than one passenger, including buses, taxis, carpools, motorcycles and electric vehicles.

HOV (High Occupancy Vehicle): Any transportation vehicle carrying more than one person for travel purposes. This may include an automobile, bus, train, etc.

HOV Lane (High Occupancy Vehicle Lane): A lane of freeway reserved for the use of vehicles with more than one passenger, including buses, taxis, carpools, motorcycles and electric vehicles.

Intermodal: The term "mode" represents one method of transportation, such as automobile, transit, ship, bicycle or walking. Intermodal refers specifically to transportation trips using one or more modes.

Interregional Improvements Program (ITIP): This is one of the state funding programs and is also known as "State Choice". It is a statewide discretionary program which utilizes 25% of the State transportation improvement funds and is authorized by the California Transportation Commission (CTC). 15% of the funds are used for two programs: (1) intercity rail (minimum 2.25%); and (2) interregional roads outside urban areas (12.75% maximum). 10% of the funds are subject to the California North/South split and can be used in each of those areas as determined by the CTC.

ISTEA (Intermodal Surface Transportation Efficiency Act): 1991 federal act which authorized six federal fiscal years (1992-1997) of funding for highways, highway safety and mass transit in the amount of \$155 billion. This legislation was created to establish a National Intermodal Transportation System that is economically efficient and environmentally sound, thereby providing the foundation for the nation to compete in the global economy and move people and goods in an energy efficient manner.

Level of Service (LOS): A qualitative measure describing operational conditions within a traffic stream; generally described in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Linked Passenger Trip: A measure of an entire journey, from origin to destination on a transit system, regardless of the number of transfers. For example, a passenger using three different bus routes for one journey would be counted as one linked passenger trip.

Metrolink: The regional commuter rail system connecting Los Angeles, Orange, Riverside, Ventura, San Bernardino and San Diego counties. It was established and is operated under the authority of the Southern California Regional Rail Authority (SCRRA) using contracted service providers. Currently, AMTRAK is contracted to operate the system.

Metropolitan Planning Organization (MPO): The organization designated by the Governor and local elected officials responsible for transportation planning in an urbanized area. It serves as the forum for cooperative decision making by principal elected officials of local government. The Governor designates a MPO in every urbanized area with a population of over 50,000 people. In the Southern California region, the Southern California Association of Governments (SCAG) is the designated MPO.

Mobility Index: Measures the ability of a region's transportation systems (all modes) to move people. Higher indices are reached by transportation projects and systems that move people in either fewer vehicles or faster, or both. This index therefore is calculated by the product of aggregate average vehicle occupancy and aggregate speed of the entire region's transportation trips.

Mode Share: Indicates the share of a transportation mode utilized by people for their transportation trips as compared to other modes and all of a region's transportation trips as a whole.

Multimodal: Refers to the availability of multiple transportation options, especially within a system or corridor. A multimodal approach to transportation planning focusing on the most efficient way of getting people or goods from place to place.

National Highway System (NHS): This approximately 160,000-mile network consists of the 42,500 miles of the Interstate system, plus other key roads and arterials throughout the United States. Designated by Congress in 1995 pursuant to a requirement of ISTEA, the NHS is designed to provide an interconnected system of principal routes to serve major travel destinations and population centers.

NEPA (National Environmental Policy Act): Federal law which establishes national policy for the environment and provides for the establishment of a Council of Environmental Quality. Requires studies of impacts on the environment before specified projects are undertaken.

Operating Revenues: Monies used to fund general, day-to-day costs of running transportation systems. For transit the costs may include fuel, salaries and replacement parts; for roads, operating costs involve maintaining pavement, filling potholes, paying workers' salaries, etc.

Paratransit: Flexible forms of transportation services that are not confined to a fixed route. Usually used to provide service for people with disabilities in compliance with the Americans With Disabilities Act of 1990 (ADA).

Passenger Miles Traveled (PMT): The aggregate number of miles traveled by each passenger for each trip on a transportation mode such as transit.

Peak Period (Rush Hours): The period during which the maximum amount of travel occurs. It may be specified as the morning (a.m.) or afternoon or evening (p.m.) peak.

Proposition A: This proposition was passed in 1980 and generates revenue from a half-cent sales tax in Los Angeles County for public transportation projects. A portion of these receipts is returned to local jurisdictions.

Proposition C: This proposition was passed in 1990, and also generates revenue from a half-cent sales tax in Los Angeles County for public transportation projects.

Regional Improvement Program: One of the state funding programs, it is also known as "Regional Choice." Project selection is done by the MTA and submitted to the California Transportation Commission for approval. 75% of State transportation improvement funds are programmed through the Regional Improvements Program. These funds may be used for capital projects including highways, arterials, guideways, rail projects, bikeways, transportation enhancements, and TSM and TDM activities.

Regional Statistical Area (RSA): An aggregation of census tracts for the purpose of subregional demographic and transportation analysis within the Southern California Association of Governments' (SCAG) area.

Regional Transportation Improvement Program (RTIP): A list of proposed countywide highway and transportation projects which identifies funding sources, construction and timing schedules. In Los Angeles County, it is submitted to the Southern California Association of Governments (SCAG), and incorporates projects identified in the county Transportation Improvement Program (TIP). Each county's transportation commission in California prepares an RTIP and submits it to the salient metropolitan planning organization (MPO). The RTIP has a six-year planning period and is updated every other year.

Regional Transportation Plan (RTP): A comprehensive 20-year plan for the region, updated every two years by the Southern California Association of Governments. The RTP includes goals, objectives and policies; and recommends specific transportation improvements.

Ridesharing: Two or more persons traveling by any mode, including but not limited to, automobile, vanpool, bus, taxi, jitney, and public transit.

SAFE (Service Authority for Freeways and Expressways): As the region's SAFE, MTA, in partnership with the California Highway Patrol and California Department of Transportation, oversees the installation and operation of call boxes along L.A. Counties freeways and administers the Freeway Service Patrol (FSP).

Short Range Transit Plan (SRTP): A five-year comprehensive plan required by the Federal Transit Administration for all transit operators receiving federal funds. The plans establish the operator's goals, policies,

and objectives; analyze current and past performance; and describe short term operational and capital improvement plans.

Smart Shuttle: A multiple-occupant passenger vehicle designed with advanced technology for more effective vehicle and fleet planning, scheduling and operation; and providing more travel information and fare payment options to passengers.

South Coast Air Basin (SCAB): A geographic area defined by the San Jacinto Mountains to the east, the San Bernardino Mountains to the north, and the Pacific Ocean to the west and south. The entire SCAB is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

South Coast Air Quality Management District (SCAQMD): A regional agency which adopts and enforces regulations to achieve and maintain state and federal air quality standards. It is responsible for preparing the Air Quality Management Plan (AQMP) for the South Coast Air Basin. Also known as the AQMD.

Southern California Association of Governments (SCAG): The Metropolitan Planning Organization (MPO) (designated by the Federal Government) for Ventura, Los Angeles, Orange, San Bernardino, Riverside and Imperial counties that is responsible for preparing the RTIP and the RTP. SCAG also prepares land use and transportation control measures for Air Quality Management Plans (AQMPs).

SOV (Single-occupant vehicle): A vehicle with only one occupant. Also known as a “drive alone.”

STA (State Transit Assistance): STA funds are derived from half of the State Public Transportation Account which is funded from sales tax statewide on gasoline and diesel fuels. This funding source is distributed based on two factors: one is population and the other is an agency’s bus/rail operator revenue as a ratio to the rest of the state transit operators.

STIP (State Transportation Improvement Program): The primary document used to fund highway and transportation projects and programs in the State of California. The STIP is a CTC funding program combining all county transportation commissions’ plans statewide that contain state and/or federal transportation funds including the discretionary funding projects of the CTC. Essentially, the STIP becomes a listing of specific projects from throughout the State of California depicting funding sources, construction and timing schedules. Some discretionary projects are listed that are CTC approved and proposed by Caltrans and are not local county transportation commission’s projects. Covering a seven-year span and updated every even-numbered year, the STIP determines when and if transportation projects will be funded by the State.

Surface Transportation Program (STP): One of the key highway funding programs in TEA 21. STP monies may be spent on mass transit, pedestrian and bicycle facilities as well as on roads and highways. It is intended for use by the states and cities for congestion relief in urban

areas. Congress annually appropriates funding for this program.

TEA 21 (Transportation Equity Act for the 21st Century): Created in 1998, this federal act essentially reauthorized the ISTEA legislation and authorized funding for highway, highway safety, transit and other surface transportation programs for the six years through federal FY 2003. The highway and transportation programs and flexibility created in the initial ISTEA legislation was carried over into TEA-21. Each fiscal year Congress establishes funding levels for transportation projects and programs throughout the United States using TEA-21 as the authority and guiding principle.

Title VI Requirements: Title VI is a section of the federal Civil Rights Act, which requires recipients of federal funding to ensure that programs do not have the effect of subjecting persons to discrimination because of their race, color or national origin. The U.S. Department of Transportation establishes guidance regarding the analysis required to assess the benefits and burdens of transportation programs on various socio-economic groups.

Traffic Congestion Relief Program: This plan allocates excess state funds to be distributed to specific highway and transportation projects recommended by the governor. Proposed by the governor in February 2000 and enacted by the California state legislature as Assembly Bill 2928, some \$7 billion statewide is identified to be spent on new highway and transportation projects including increases to funding for the State Transit Assistance (STA) program. For Los Angeles

County some \$1.7 billion was allocated to specific highway and transportation projects and a \$5-6 million annual increase in STA funding was approved. The program is administered through the CTC and guidelines for obtaining funding have been adopted.

Traffic Operations System (TOS): In Los Angeles County, Caltrans and the CHP monitor traffic flows using detectors embedded in pavement and closed-circuit television cameras. This data enables efficient dispatching of CHP and FSP services. This data also is used for the Freeway changeable message boards and ramp metering.

Transit Performance Measurement Program (TPM): A state-mandated program to evaluate transit operator system performance on the basis of certain performance measures. The program monitors transit system performance of Los Angeles County operators that receive state and federal funds and analyzes institutional relationships among these operators to ensure coordination.

Transportation Control Measure (TCM): A measure intended to reduce motor vehicle emissions. Examples of TCMs include programs encouraging ridesharing or public transit usage, city or county trip reduction ordinances, and the use of alternative fuels in motor vehicles.

Transportation Demand Management (TDM): Techniques intended to promote actions that decrease vehicle trips and vehicle miles traveled by changing SOV trip behavior. TDM generally refers to policies, programs and actions that are designed to increase the use of HOVs, non-

motorized trips such as bicycling and walking, and SOV trip elimination by telecommuting and transportation/land use policies.

Transportation Development Act (TDA): A State law enacted in 1971 for the purpose of generating a tax of one-quarter of one percent on all retail sales in each county to be used for fixed-route public transit, paratransit, bicycle and pedestrian transportation modes.

Transportation Enhancement Activities (TEA): A TEA 21 funding category where ten percent of STP monies must be set aside for projects that enhance the compatibility of transportation facilities with their surroundings. Examples of TEA projects include bicycle and pedestrian paths, restoration of rail stations or other historic transportation facilities, acquisition of scenic or open space lands next to travel corridors, and murals or other public art projects.

Transportation Improvement Program (TIP): This is the primary spending plan and funding plan listing federal funding expected to flow to the region from all sources for transportation projects of all types.

Transportation Management Association (TMA) / Organization (TMO): A private/non-profit association that has a financial dues structure joined together in a legal agreement for the purpose of achieving mobility and air quality goals and objectives within a designated area. There are fourteen operating TMA/TMO's in Los Angeles County.

Transportation System Management (TSM): That part of the urban transportation process undertaken to improve the efficiency of the existing transportation system. The intent is to make better use of the existing transportation system by using short-term, low-capital transportation improvements that generally cost less and can be implemented more quickly than system development actions.

United States Department of Transportation (U.S. DOT): The federal cabinet-level agency with responsibility for highways, mass transit, aviation and ports headed by the secretary of transportation. The DOT includes the Federal Highway Administration and the Federal Transit Administration.

Unlinked Passenger Trip: A measure for a passenger boarding on a transit service. For example, a passenger using two different bus routes for the same journey would board two different buses and be counted as two unlinked passenger trips.

Vehicle Miles Traveled (VMT): (1) For highways, a measurement of the total miles traveled for all vehicles along a specified corridor for a certain time period. (2) For transit, the number of vehicle miles operated on a given transit route or network during a specified time period.

Vehicle Occupancy: The number of people aboard a vehicle at a given time; also known as auto or automobile occupancy when the reference is to automobile travel only.

Vehicle Service Hours (VSH): The total hours of revenue service operated by transit service vehicles. This does not include Deadhead hours.

Vehicle Service Miles (VSM): The total miles traveled by transit service vehicles while in revenue service. This does not include Deadhead mileage.

Vehicle Trip: A one-way movement of a vehicle between two points.

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