3.2 GROWTH

The information in this section is based on the *Community Impact Assessment* (CIA), the *I-710 Railroad Goods Movement Study* (Metro, 2009), and the *Interstate 710 (I-710) Environmental Impact Report/Environmental Impact Statement (EIR/EIS) Initial Feasibility Analysis* (Metro, 2009).

3.2.1 REGULATORY SETTING

The Council on Environmental Quality (CEQ) regulations, which established the steps necessary to comply with the National Environmental Policy Act of 1969, requires evaluation of the potential environmental consequences of all proposed Federal activities and programs. This provision includes a requirement to examine indirect consequences, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations, 40 CFR 1508.8, refer to these consequences as secondary impacts. Secondary impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

The California Environmental Quality Act (CEQA) also requires the analysis of a project's potential to induce growth. CEQA guidelines, Section 15126.2(d), require that environmental documents "…discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment…"

3.2.2 AFFECTED ENVIRONMENT

3.2.2.1 GROWTH TRENDS AND CONSTRAINTS TO POPULATION, HOUSING, AND EMPLOYMENT GROWTH

REGIONAL LEVEL. While much of Los Angeles County is urbanized and close to being built out, especially within the I-710 Corridor Project Study Area, SCAG anticipates population, housing, and employment growth to occur through 2035 within the Gateway Cities Subregion and Los Angeles County overall. Table 3.2-1 identifies the increases in population, housing, and employment that occurred between 2003 and 2008, and the growth rates projected by SCAG between 2008 and 2035 for the Gateway Cities Subregion and Los Angeles County.

LOCAL LEVEL. SCAG anticipates low population, housing, and employment growth for the affected cities generally located in the northern portion of the Study Area (e.g., the cities of Bell, Commerce, and Maywood), with the exceptions of the cities of Cudahy and South Gate. In addition, SCAG anticipates moderate population and housing growth for the affected cities generally located in the southern portion of the Study Area (e.g., the cities of Carson, Long

Table 3.2-1 Growth Trends at Regional Levels

	2003	2008	2035	Percent Change between 2008 and 2035
Gateway Cities Subregion				
Population	2,069,480	2,124,092	2,364,194	11
Housing	574,546	585,809	658,696	12
Employment	741,073	756,007	817,891	8
Los Angeles County				
Population	10,034,571	10,451,709	12,338,620	18
Housing	3,177,439	3,299,570	4,003,501	21
Employment	4,353,490	4,490,247	5,041,172	12

Source: *Draft Community Impact Assessment*, 2010.

Beach, and Signal Hill). Table 3.2-2 identifies the increases in population, housing, and employment between 2003 and 2008, and the growth rates projected by SCAG between 2008 and 2035 for the affected cities in the Study Area. Because growth trend data is not available at the community level for Boyle Heights, San Pedro, and Wilmington, data for the city of Los Angeles, in which these communities are located, has been provided in Table 3.2-2.

Within the Study Area, there are several physical constraints to growth in population and housing. Most of the cities are close to being built out and have very limited vacant land for new development. Planning efforts by the cities are concentrated on redevelopment and the recycling of existing uses to better utilize available land. In the northern part of the Study Area, the railroad yards and tracks also act as a constraint to growth, providing physical boundaries to new developments and expansion of existing land uses. Southern California Edison (SCE) and the Los Angeles Department of Water and Power (DWP) utility corridors within the Study Area also create a physical boundary to growth. These two major utility corridors are located parallel to the Los Angeles River, in addition to other electric transmission corridors within the city of Long Beach and other affected cities within the Study Area. Other existing public infrastructure, such as the Interstate 405 (I-405), SR-91, Interstate 110 (I-110), and Interstate 5 (I-5), freeways also create physical boundaries that constrain land development or redevelopment within the Study Area.

Table 3.25-1 in Section 3.25 (Cumulative Impacts) provides a listing of approved and proposed major public infrastructure, goods movement, and land development/redevelopment projects within the Study Area.

Table 3.2-2 Growth Trends for Affected Cities

	2003	2008	2035	Percent Change between 2008 and 2035
City of Bell				
Population	38,421	38,762	40,028	3
Housing	8,989	9,005	9,145	2
Employment	8,841	8,994	9,145	2
City of Bell Gardens				
Population	45,821	46,356	47,958	3
Housing	9,468	9,467	9,557	1
Employment	7,751	7,981	8,816	10
City of Carson				
Population	95,503	100,050	115,059	15
Housing	25,222	26,280	30744	17
Employment	51,876	52,344	54,75	5
City of Commerce				
Population	13,266	13,487	13,667	1
Housing	3,322	3,348	3,475	4
Employment	48,441	48,640	49,815	2
City of Compton				
Population	97,404	99,146	100,451	1
Housing	22,366	22,546	22,604	0.3
Employment	30,281	30,665	32,689	7
City of Cudahy				
Population	25,541	26,204	29,765	14
Housing	5,497	5,607	6,466	15
Employment	3,391	3,441	3,738	9
City of Downey				
Population	112,184	114,784	126,300	10
Housing	34,176	34,547	36,981	7
Employment	39,053	40,094	44,398	11
City of Huntington Park				
Population	64,177	66,067	76,184	15
Housing	14,945	15,269	17,666	16
Employment	16,252	16,467	17,652	7
City of Lakewood				
Population	82,672	83,728	84,435	1
Housing	26,897	27,124	28,101	4
Employment	16,742	17,364	19,514	12

Table 3.2-2 Growth Trends for Affected Cities

	2003	2008	2035	Percent Change between 2008 and 2035
City of Long Beach				
Population	483,752	497,721	572,614	15
Housing	164,417	167,987	194,287	16
Employment	179,806	183,899	201,967	10
City of Los Angeles				
Population	3,885,816	4,045,873	4,415,772	9
Housing	1,290,422	1,399,309	1,616,578	16
Employment	1,744,432	1,793,136	1,994,134	11
City of Lynwood				
Population	72,738	73,491	74,539	1
Housing	14,428	14,332	14,625	2
Employment	12,956	13,227	14,572	10
City of Maywood				
Population	29,269	29,662	30,334	2
Housing	6,481	6,495	6,501	0.1
Employment	3,710	3,762	4,042	7
City of Paramount				
Population	57,490	59,190	72,781	23
Housing	13,974	14,200	16,921	19
Employment	18,211	18,429	19,445	6
City of Signal Hill				
Population	10,451	11,237	13,324	19
Housing	3,901	4,141	4,709	14
Employment	11,622	11,980	12,912	8
City of South Gate				
Population	100,782	103,748	120,154	16
Housing	23,335	23,728	26,724	13
Employment	19,690	19,884	21,012	6
City of Vernon				
Population	95	95	95	0
Housing	25	25	25	0
Employment	39,483	39,483	39,483	0

Source: *Community Impact Assessment*, 2012.

3.2.2.2 GROWTH TRENDS AND CONSTRAINTS RELATED TO GOODS MOVEMENT

The I-710 Corridor is located within the Gateway Cities Subregion of Los Angeles County. The Gateway Cities Subregion as a whole has experienced population, housing, and employment growth since the early 1900s and is anticipated to continue this growth pattern through 2035 (see Table 3.2-1). In the 20th century, the regional economy transitioned from an agricultural base to a manufacturing/industrial base, with a heavy emphasis on the aerospace and defense industries in the 1950s through the 1970s. As these industries declined in the 1980s, an expansion in global trade, as well as containerization of global freight, resulted in goods movement becoming an important element of the Gateway Cities Subregion's economy. Today, the POLB and the POLA, the railroads, and the trucking industry provide goods movement not just within the Study Area, but also for the Gateway Cities Subregion, the SCAG region, and the nation as a whole.

Los Angeles County's goods movement system serves as a gateway for both international and domestic commerce, especially within the Study Area, where the POLB and the POLA (collectively known as the Ports), the Burlington Northern Santa Fe Railroad (BNSF Railroad) Hobart rail yard, and the Union Pacific Railroad (UP Railroad) East Los Angeles rail yard, the ICTF, and the Alameda Corridor are located. The Ports, the railroads, and the interstate and State highways all play a critical role related to goods movement within the Study Area. The growth trends and constraints of each of these goods movement system components are discussed below.

PORTS. The Port of Long Beach (POLB) and the Port of Los Angeles (POLA) handle approximately 40 to 45 percent of all of the nation's imported containerized goods. Approximately 25 percent of the imported goods are destined for the local southern California and southwestern U.S. markets, while 75 percent are destined for national distribution to other parts of the U.S. In addition, the goods movement through the Ports provides approximately 1.3 million jobs locally and approximately 4.0 million jobs nationally.

As illustrated in Figure 1.2-5 (Goods Movement) in Chapter 1.0 (Purpose and Need) of this EIR/EIS, cargo containers at the Ports are transported from ships one of three ways: to the marine terminals as property, to on-dock rail facilities, or to trucks that are used either for direct distribution to local and regional warehouses or for movement to near-dock and off-dock rail yards. As of 2008, the Ports processed approximately 13 million twenty-foot-equivalent units (TEUs) annually, and the 2009 Forecast[1] conducted by the Ports to forecast future growth found

[1] San Pedro Bay Ports Cargo Forecast, Port of Los Angeles, 2009.

that, even with the recent recession, cargo container shipping demand at the Ports is projected to grow to almost 35 million TEUs by 2030. When these growth trends are extrapolated to 2035, cargo container shipping demand at the Ports would reach 43 million TEUs. The 2009 Forecast also found that while the recent recession resulted in a decline in the current volume of containers processed compared to the peak volume of 15.8 million TEUs in 2006, a positive cargo growth trend is again occurring, with a projected annual growth rate averaging approximately 5 percent per year in cargo container demand at the Ports between 2010 and 2035.

RAILROADS. The present rail network in the SCAG Region, including the Study Area, is composed of the Burlington Northern Santa Fe (BNSF) and Union Pacific (UP) Railroad rail lines. Rail routes include the Alameda Corridor, BNSF Railroad's San Bernardino Subdivision, and UP Railroad's Los Angeles and Alhambra Subdivisions. The *I-710 Railroad Goods Movement Study* (Metro, 2009) was prepared to assess the available capacity of the Southern California rail network to handle the projected demand in the movement of containerized freight to and from the Ports. As discussed previously in Chapter 1.0 (Purpose and Need) of this EIR/EIS, the number of containers estimated to be moved by rail would be consistent with the projected maximum utilization of the rail network for goods movement. Key information from the *I-710 Railroad Goods Movement Study* related to existing and future capacity of the rail system is summarized below:

- As of 2007, the Alameda Corridor was operating 49 trains per day, a slight decrease from previous years, due primarily to longer trains. By 2035, the Alameda Corridor is projected to be operating 124 trains daily.

- As of 2008, BNSF Railroad's San Bernardino Subdivision was operating 62 to 90 trains per day (38 freight trains, 22 Amtrak Pacific Surfliners, 28 Metrolink commuter rail trains, and two Amtrak long-distance trains). By 2035, BNSF Railroad's San Bernardino Subdivision is projected to be operating 129 to 149 trains daily. The increase would be primarily from additional freight trains. This assumes no increase in Metrolink commuter rail trains. This is consistent with current operating agreements, although there is a desire in the region to increase Metrolink service if increased capacity can be made available.

- As of 2008, UP Railroad's Los Angeles Subdivision (Segments 1 and 2) was operating between 37 and 40 trains per day. By 2035, UP Railroad's Los Angeles Subdivision (Segments 1 and 2) is projected to be operating 50 to 90 trains daily.

- As of 2008, UP Railroad's Alhambra Subdivision (Segments 3 and 4) was operating 22 to 34 trains per day. This Alhambra Subdivision does not operate any commuter trains.

By 2035, UP Railroad's Alhambra Subdivision (Segments 3 and 4) is projected to be operating 21 to 91 trains daily.

As discussed in the *I-710 Initial Feasibility Analysis* (Metro, 2009), 40 percent (17.1 million TEUs) of the total 2035 cargo demand forecast at the San Pedro Bay Ports is estimated to be handled by direct rail service. In addition to the capacity of the rail facilities themselves, there are three types of intermodal facilities that may impact growth for the railroads: on-dock, near-dock, and off-dock. On-dock refers to an intermodal facility that is situated at a port marine terminal. As of 2007, the on-dock rail volume per year was at 23.5 percent of its capacity; however, by 2035, these facilities are projected to reach capacity.

Near-dock refers to an intermodal facility situated within five miles of POLA and POLB. The container volume handled at the ICTF as of 2007 was 710,460 containers, and the capacity is projected to be 760,000 containers by 2035. Plans to expand the ICTF and also build a new facility (SCIG) are in progress (a Draft EIR for the SCIG project was circulated for public review in late 2011); however, neither of these facilities was assumed to be operational in the travel demand forecasting conducted for the I-710 Corridor Project.

Off-dock refers to an intermodal facility located more than five miles from POLA and POLB. There are two off-dock facilities in the Study Area: BNSF Railroad's Hobart and UP Railroad's East Los Angeles facilities. As of 2006, these off-dock facilities were operating below capacity, but they are projected to reach capacity by 2035. While the *I-710 Railroad Goods Movement Study* concluded that 2035 demand would exceed capacity at these off-dock facilities, no specific expansion plans for the BNSF Railroad Hobart and the UP Railroad East Los Angeles facilities have been proposed as of December 2011. Additional off-dock rail yards are located further inland to the east of I-710 along with warehouses and distribution centers that are also serviced by trucks carrying goods from POLA and POLB.

HIGHWAYS. According to the *2008 Regional Transportation Plan Goods Movement Report* prepared by SCAG, some port cargo movements may be associated with high-density truck flows between origin and destination points, including:

- Trips between marine terminals and near-dock/off-dock intermodal yards;
- Trips between marine terminals and transload/cross-dock facilities; and
- Trips between marine terminals and warehouse/distribution centers.

The same report noted that port-related truck traffic and its share of total truck volume on highways in the SCAG region are more highly concentrated along segments closer to the Ports. SCAG's Travel Demand Model predicts that regional daily truck vehicle miles traveled (VMT)

will increase by 82.7 percent between 2003 and 2035, resulting in a reduction of average freeway speeds from 51 miles per hour (mph) in 2005 to 37.5 mph in 2035. Table 1.2-1 (I-710 Daily Traffic Volumes) in Chapter 1.0 (Purpose and Need) of this EIR/EIS shows that the percentage increase in truck volumes (both port-related and non-port truck trips) from 2008 to 2035 is much greater than the percentage increase in automobile volumes during the same time period.

The *I-710 EIR/EIS Initial Feasibility Analysis* (Metro, 2009) provides an analysis of where cargo containers not moved by rail would be distributed onto the regional highway system. The *I-710 EIR/EIS Initial Feasibility Analysis* evaluated what the highway system capacity needs would be (with a focus on the I-710 freeway mainline) given both the growth in cargo container handling demand at the Ports, as well as considering the maximum utilization of the rail system for the movement of containerized freight. One of the objectives of the *I-710 EIR/EIS Initial Feasibility Analysis* was to evaluate the highway system travel demand under three different cargo container demand growth scenarios, as follows:

1. **High Port Cargo Growth Scenario Without Near-Dock Intermodal Terminal Expansion.** This scenario assumed that marine terminal capacity at the Ports would be expanded from current levels, based on existing plans by the two Ports to accommodate growth to approximately 43 million TEUs annually. Along with marine terminal expansion, this scenario assumed that the Ports would expand their existing on-dock rail terminal capacity to allow for 30 percent of total containerized cargo to be loaded onto rail at the Ports. It assumed that the UP and BNSF Railroads would both be unsuccessful in getting their near-dock expansion plans approved. If approved, these plans would expand UP Railroad's ICTF and would build a new BNSF Railroad terminal (SCIG). As a result of not being able to make these near-dock terminal expansions, the railroads would be forced to pursue strategies that would involve a combination of expanded operations at existing downtown yards (mostly through changes in operating practices), expansion of selected existing rail yards where they have available property that they already own, and/or development of new intermodal terminals in locations such as Victorville. It also assumed that the railroads would be able to accommodate this growth in cargo volume on their mainline tracks after completing ongoing capacity expansion projects and by increasing the length of trains. In some locations, additional mainline capacity (third and fourth tracks) would be necessary (*I-710 Railroad Goods Movement Study,* 2009). This was the port cargo growth scenario adopted by the I-710 Corridor Project Committee in April 2009 to provide a conservative basis for the I-710 Corridor Project travel demand forecasting.

2. **High Port Cargo Growth with Near-Dock Intermodal Terminal Expansion.** This scenario was the same as the previous scenario, except that it assumed that UP Railroad would expand its existing near-dock intermodal terminal (ICTF), and that BNSF Railroad would build a new near-dock intermodal terminal (SCIG). This scenario would be expected to reduce truck traffic on I-710 as compared with the high port cargo growth scenario, due to the diversion of truck trips to the near-dock terminals that would have otherwise been destined to the off-dock terminals.

3. **Low Port Cargo Growth.** This scenario assumed that the Ports would be unable to expand marine terminals beyond their existing terminal footprint, but that they would be able to achieve some improved operating efficiencies. This would result in growth to 28.5 million TEUs processed annually. Because marine terminals would not be expanded, associated new and expanded on-dock rail projects could not be built, thereby limiting the amount of containers that could be loaded on-dock to approximately 5.6 million TEUs. As in the high port cargo growth without near-dock terminal expansion scenario, it was assumed that ICTF would not be expanded and the SCIG would not be built. Both railroads would need to expand their existing intermodal terminal capacity, and they would do so in the same ways as described in the high port cargo growth scenario. In the low port cargo growth scenario, it was further assumed that the large increase in train volume would make it difficult for the railroads to continue the practice of operating longer trains, and that they would have right-of-way constraints that would limit their ability to build new mainline track beyond what is currently under construction.

A summary of these scenarios is presented in Table 3.2-3.

The analysis of travel demand on the highway system under the three different port cargo growth scenarios tabulated the total volume of auto and truck traffic crossing four different "screenlines" within the I-710 Corridor, which included not just I-710, but also I-405, I-110, Interstate 605 (I-605) and major north-south arterial highways such as Alameda Ave. and Atlantic Blvd. The results of this screenline analysis are shown in Figure 3.2-1. The results, presented in Figure 3.2-1, are presented as the estimated number of lanes required to accommodate total auto and truck travel demand on I-710. As shown in this figure, even though the three alternative port cargo growth scenarios have different assumptions and there were some differences in traffic volumes on I-710 under each port cargo growth scenario, the number of lanes needed on I-710 is estimated to be the same for all three scenarios at each screenline. This is because the number of lanes estimated in the analysis was rounded up to the nearest whole number and the traffic volume differences among scenarios is less than a lane's volume of traffic.

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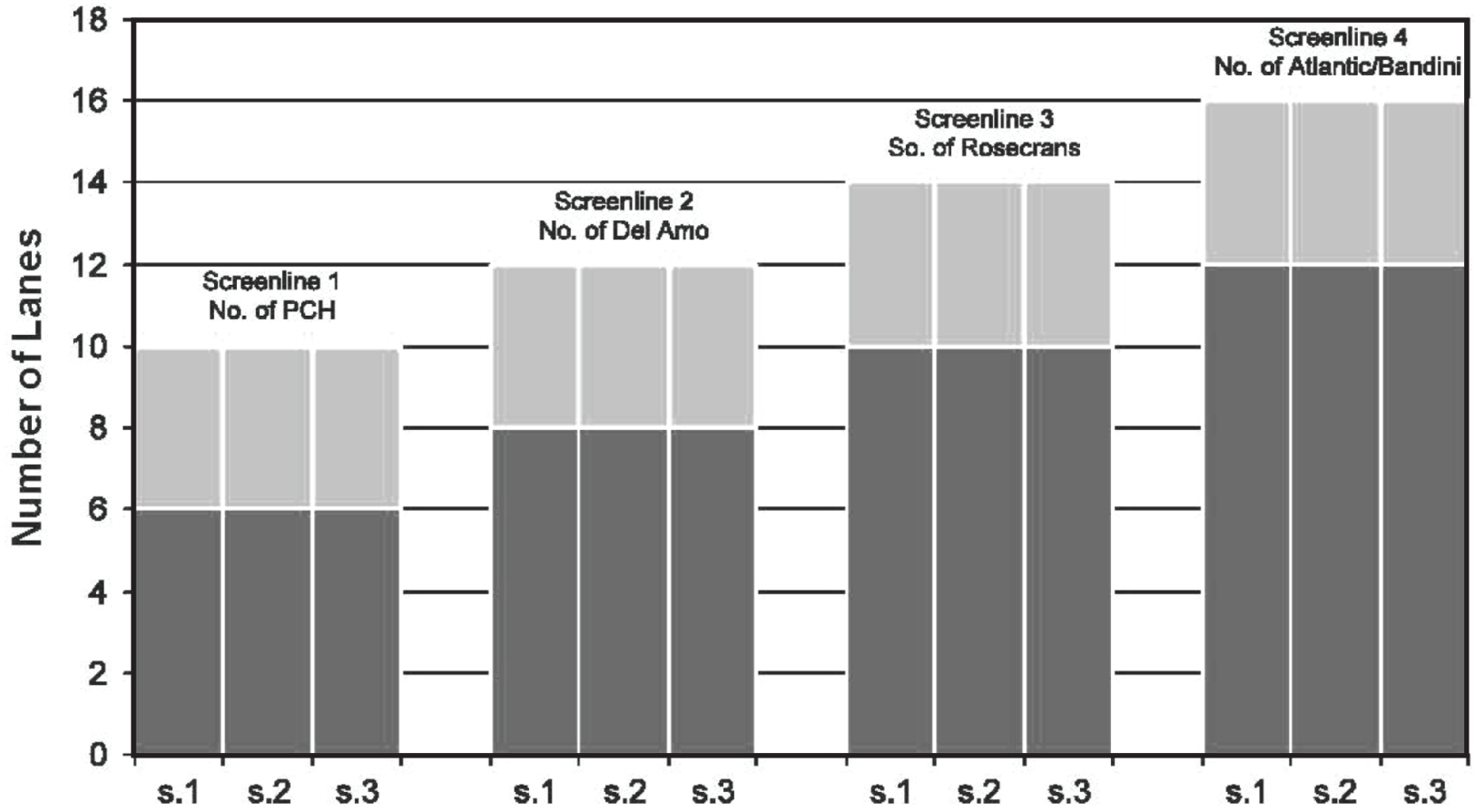

FIGURE 3.2-1

"Rounded" Trucks
"Rounded" Autos

Scenarios: S.1: Port High Growth, no SCIG
S.2: Port High Growth, with SCIG
S.3: Port Low Growth

I-710 Corridor Project EIR/EIS

Screenline Analysis (2035 No Build)

SOURCE: I-710 Corridor Project Initial Feasibility Analysis (Metro, 2009)

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Table 3.2-3 Port Cargo Growth Scenarios (in Million Annual TEUs)

Scenario	Port Cargo Volume Forecast	40% Direct Rail	Projected On-Dock Terminal Throughput	Projected Near-Dock Terminal Throughput	Remaining Off-Dock Capacity Needed	Container Movements by Truck Likely to Occur on I-710 North of PCH
High port cargo growth without near-dock terminal expansion	43	17.1	12.8	1.4	2.9	28.5
High port cargo growth with near-dock terminal expansion	43	17.1	12.8	4.3	0.0	25.6
Low port cargo growth	28.5	11.4	5.6	1.4	4.4	21.5

Source: *I-710 EIR/EIS Initial Feasibility Analysis* (Metro, 2009).
I-710 = Interstate 710
PCH = Pacific Coast Highway
TEUs = twenty-foot-equivalent units

3.2.3 Environmental Consequences

3.2.3.1 Permanent Impacts

Build Alternatives/Considerations Related to Population, Housing, and Employment Growth. The growth-related effects of the I-710 Corridor Project were assessed using the California Department of Transportation's (Caltrans) *Guidance for Preparers of Growth-Related, Indirect Impacts Analysis.* The guidance specifically deals with the subset of indirect effects referred to as "growth-related impacts" associated with highway projects that encourage or facilitate land use or development that changes the location, rate, type, or amount of growth. The potential for the I-710 Corridor Project build alternatives to influence growth was based on consideration of the following questions:

- How, if at all, does the proposed project potentially change accessibility?
- How, if at all, do the proposed project type, project location, and growth pressure potentially influence growth? Some transportation projects may have very little influence on future growth, whereas others may have a great influence. Some geographic locations are more conducive to influencing growth, whereas others are highly constrained. These differences may result from physical constraints, planning and zoning factors, or local political considerations.

- Is project-related growth reasonably foreseeable as defined in the National Environmental Policy Act (NEPA)? Under NEPA, indirect impacts need only be evaluated if they are reasonably foreseeable as opposed to remote or speculative.

- If there will be project-related growth, how, if at all, would resources of concern be impacted?

A discussion regarding each of the above questions/considerations is provided below.

How, if at all, does the project potentially change accessibility?

The build alternatives would improve the vehicle, person, and goods movement travel times within the I-710 Corridor to more effectively serve existing and future travel demand. The build alternatives would also improve intersecting local roads (interchange improvements and ramp modifications) along I-710 to more effectively serve existing and forecast intra-regional travel demand and to reduce the diversion of regional traffic from the I-710 freeway into the surrounding communities. Due to the lack of vacant or less developed land within the I-710 Corridor, the build alternatives would not facilitate new development by opening up access to previously undeveloped or less developed area.

How, if at all, do the project type, project location, and growth pressure potentially influence growth?

The build alternatives are consistent with the Regional Transportation Plan (RTP) and the goals and policies of the regional and local agencies within the I-710 Corridor. As discussed earlier in Section 3.1.2.2, Environmental Consequences, the I-710 Corridor Project build alternatives would require the County of Los Angeles and some cities within the I-710 Corridor Project Study Area to amend their General Plan Land Use and Circulation Elements to reflect the adopted project alternative, interchange locations, and redesignation of land acquired for the project to transportation designations. The existing land uses affected by the I-710 Corridor Project build alternatives that would require redesignation in the local land use plans are shown on Figure 3.1-1 in Section 3.1 (Land Use) of this EIR/EIS.

With the exception of the redesignation of land uses for areas incorporated into the transportation uses, the I-710 Corridor Project build alternatives are not expected to result in other changes to land uses in the Study Area. This is because at both a regional and local level, communities within the I-710 Corridor have experienced population, housing, and employment growth over the last century, and in particular, after World War II. As shown previously in Tables 3.2-1 and 3.2-2, Los Angeles County, the Gateway Cities Subregion, and the communities within the Gateway Cities subregion are projected to continue to experience some growth in

population and jobs even in the jurisdictions that are relatively constrained by limited land available for development. As documented in the Program EIR for the 2008 RTP (SCAG 2008; see page 4-1 of the PEIR at http://rtpscs.scag.gov/Pages/2008_PEIR.aspx), growth in the SCAG region is expected to occur with or without the projects included in the RTP, including the I-710 Corridor Project. The improved mobility expected to be achieved as a result of the build alternatives could have a slight influence on demand for residential and nonresidential uses in the Study Area and nearby cities; however, it would not be expected to be sufficient to result in the need to modify adopted General Plans to allow for greater levels of development (residential and nonresidential). The I-710 Corridor Project build alternatives are expected to accommodate existing, approved, and planned growth in the area, but are not expected to influence the amount, timing, or location of growth in the area.

Is project-related growth reasonably foreseeable (as defined by NEPA, i.e., indirect impacts need only be evaluated if they are reasonably foreseeable as opposed to remote and speculative)?

The I-710 Corridor Project responds to existing and forecasted traffic congestion due to growth, both locally and regionally, that has already occurred or is planned to occur. I-710 was constructed as a six-lane freeway in various segments from 1955 to 1965, with the final segment between I-5 and I-10 completed in 1965. Since that time, the population of Los Angeles County has increased over 60 percent, from approximately 6,039,000 in 1960 to over 9,800,000 in 2010. Although I-710 was widened to eight lanes between I-405 and I-5, as described in Chapter 1, Purpose and Need, the capacity of I-710 is insufficient to handle the existing travel demand that has resulted from the growth in population and employment that has occurred since the freeway was first built. The design of the freeway is also in need of modernization, as the existing freeway was designed to handle the demands of a smaller population and a different mix of vehicles (i.e., fewer trucks) than exists today.

As shown in Tables 3.2-1 and 3.2-2, the Study Area is projected to continue to experience growth in population and jobs even in jurisdictions relatively constrained by limited land available for development. The I-710 Corridor Project build alternatives are not expected to influence the amount, timing, or location of growth in the project area because the proposed project improves existing transportation infrastructure, the Study Area is already highly developed, and there is limited land available for new development or redevelopment. Accordingly, there is no reasonably foreseeable project-related growth expected to result from any of the I-710 Corridor Project build alternatives.

If there is project-related growth, how, if at all, will that impact resources of concern?

As discussed above, there are no reasonably foreseeable project-related growth impacts under any of the I-710 Corridor Project build alternatives; therefore, there would be no impacts to resources of concern.

BUILD ALTERNATIVES/REGIONAL GROWTH CONSIDERATIONS RELATED TO GOODS MOVEMENT. In addition to the questions presented above for evaluating the potential of the I-710 Corridor Project to result in growth-related effects relative to population, housing, and employment, a focused assessment was conducted to assess the potential of the I-710 Corridor Project to result in growth-related effects relative to goods movement. In recognition of the I-710 Corridor's function as a major corridor for goods movement, the following questions were considered:

- How would the I-710 Corridor Project alternatives affect the demand for growth of terminal facilities at the Ports, as well as growth in port cargo demand?
- How would growth in port cargo demand affect travel demand on I-710?

A discussion regarding each of these questions is provided below.

How would the I-710 Corridor Project alternatives affect the demand for growth of terminal facilities at the Ports, as well as growth in port cargo demand?

The assessment to address this question is based upon review of published reports[1] that consider the influence that the availability of landside goods movement infrastructure (i.e., rail and trucks) has on the demand for shippers to use a particular port. Many factors influence the demand for more cargo being handled through the Ports, including global trade demand, availability of alternative port options, capacity of near-dock and off-dock intermodal facilities, and railroad and highway infrastructure capacity. Although the literature on factors determining port selection is limited, it does provide perspective to assess the degree to which roadway infrastructure improvements may influence demand for use of one port over another. The above factors that affect port cargo demand in turn affect the demand for growth of terminal facilities at the Ports. One constraint to the ability to expand terminal facilities at the Ports is the availability of land to construct new or expanded facilities.

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[1] *San Pedro Bay Cargo Forecast*, Tioga Group, December 2007; *Updated San Pedro Bay Cargo Forecast,* Tioga Group, 2009; and *Port Choice Determinants in a Competitive Environment*, Dr. Jose Tongzon, 2002.

The *San Pedro Bay Cargo Forecast* (Tioga Group, December 2007) states that the competitiveness of both the POLB and the POLA is based on the following factors:

- The large size of the local Southern California market;
- The region's role as a U.S. distribution hub;
- First-call vessel services that attract service-sensitive intermodal imports; and
- A supply of domestic trailers and containers for transloading.

The *San Pedro Bay Cargo Forecast* (2007) study concludes that the only developments considered likely to alter these basic competitive advantages are the new port at Prince Rupert in northern British Columbia and the improved U.S. rail access to the Lazaro Cardenas Port in Michoacán, Mexico. In assessing demand for cargo handling at all West Coast ports, the study concluded that the currently projected capacity at West Coast ports will eventually be outpaced by cargo growth forecasted in every region.

An updated forecast was prepared for the San Pedro Bay Ports in 2009 (*Updated San Pedro Bay Cargo Forecast,* Tioga Group, 2009) to address the effects of the global economic recession and the expansion of the Panama Canal on cargo demand. With regard to the effects of the global recession, the 2009 forecast projected that cargo demand at the San Pedro Bay Ports would recover and slowly begin to increase as the global economy recovered. Whereas the 2007 forecast projected that there would be a total cargo demand of 43 million TEUs at the San Pedro Bay Ports by 2023, the 2035 forecast projected that the total cargo demand of 43 million TEUs would be reached by 2035. The 2009 forecast assumed some diversion due to the Panama Canal, as well as some diversion to Oakland, U.S. Pacific Northwest Ports, Mexico, and British Columbia. The total estimated diversion (loads and empties) due to the expansion of the Panama Canal is about 2.24 million TEUs, or about five percent of the 43 million TEU cargo forecast for 2035.

Another study conducted for the Port of Singapore (*Port Choice Determinants in a Competitive Environment*, Dr. Jose Tongzon, 2002) ranked the factors that determine port selection by freight forwarders; the results are presented in Table 3.2-4. Based on this study, adequate infrastructure ranks third out of seven factors determining port selection. Infrastructure, as defined in the study, includes the number of container berths, cranes, tugs and terminal area, quality and effectiveness of information systems, availability of intermodal transport (such as roads and railways), the approach channel provided, and the preparedness of the port management.

Table 3.2-4 Ranking of Port Choice Factors: Freight Forwarders' Perspective

Ranks	Mean	Standard Deviation
1. Efficiency	3.2	1.83
2. Shipping frequency	4.2	2.01
3. Adequate infrastructure	4.4	2.02
4. Location	4.6	2.09
5. Port charges	5.2	2.06
6. Quick response to port users' needs	5.4	2.24
7. Reputation for cargo damage	7.1	2.34
N = 47		

Source: Tongzon, Jose, *Port Choice Determinants in a Competitive Environment,* September 2002.
Note: Ranking ranges from 1 (most important) to 7 (least important).

These studies indicate that demand for port growth is primarily driven by the availability and competitiveness of comparable port facilities on the west coast of North America, port efficiency, shipping frequency, and adequacy of infrastructure. Highway infrastructure capacity constitutes one of many infrastructure considerations, as mentioned above. When considered in the context of the many variables that influence growth, particularly international competition, world economic trends, and other infrastructure considerations, improving highway system capacity would be expected to have a positive influence on demand for port cargo growth and expansion of terminal facilities at the POLB and the POLA. Based on the review of these previous studies, the I-710 Corridor Project build alternatives are not expected to have a substantial effect on the demand for port cargo growth or expansion of marine terminal facilities at the POLB and the POLA for the following reasons:

- The global economy is the primary driver of cargo demand, which ultimately determines overall world demand for port services.
- The POLB and the POLA benefit from intrinsic competitive advantages, such as the large size of the local Southern California market.
- A study of factors that determine port selection by freight forwarders indicated that port efficiency and shipping frequency are more important than adequate cargo servicing infrastructure (e.g., highways).
- Roadway capacity is one of numerous infrastructure considerations that can influence the level of demand for a particular port. Other equally important infrastructure elements

are the number of container berths, cranes, tugs and terminal area, the quality and effectiveness of information systems, railway capacity, warehousing facilities, and the capacity of the approach channel.

- Other freeway routes, such as I-110, State Route 103 (SR-103), I-405, and I-605, and parallel surface streets are available to Port trucks to avoid the higher levels of traffic congestion on the I-710 Corridor that would occur under Alternative 1.

How would growth in port cargo demand affect travel demand on I-710?

As discussed above in Section 3.2.2.2, the *I-710 EIR/EIS Initial Feasibility Analysis* (Metro, 2009) analyzed three port cargo growth scenarios and projected cargo container movements by truck likely to occur on I-710 north of Pacific Coast Highway. The growth scenarios analyzed were based on assumptions about the availability and utilization of on-dock intermodal rail terminal capacity at the marine terminals, the availability of near-dock intermodal terminal capacity, the availability and location of off-dock intermodal terminals, and the availability and limitations of rail system capacity.

At the time the Initial Feasibility Analysis was prepared, In the low-growth scenario where annual port cargo demand is limited to 28.5 million annual TEUs, marine terminals are not expanded beyond the port capacity that already has been approved, and associated on-dock rail projects are not built, thereby limiting the amount of containers that can be loaded on-dock to approximately 5.6 million TEUs annually. The resulting number of *daily* port-related truck trips for each growth scenario is presented in Table 3.2-5.

Table 3.2-5 2035 Port Cargo Growth and Container Movements by Truck

Port Cargo Growth Scenario (Year 2035)	Port Volume Cargo Forecast (in Million TEUs)	Container Movements by Truck on I-710 North of PCH (in Million TEUs)	Total Daily Port Truck Trips
High port cargo growth without near-dock (rail) terminal expansion	43.0	28.5	114,400
High port cargo growth with near-dock (rail) terminal expansion	43.0	25.6	114,400
Low port cargo growth	28.5	21.5	102,200

Source: *I-710 EIR/EIS Initial Feasibility Analysis*, Metro, 2009.
EIR/EIS = Environmental Impact Report/Environmental Impact Statement
I-710 = Interstate 710
PCH = Pacific Coast Highway
TEUs = twenty-foot-equivalent units

The low-growth scenario results in only 11 percent fewer daily port truck trips as compared to the high-growth scenarios even though the low-growth scenario has 33 percent less containerized cargo throughput compared to the high-growth scenarios. This is because in the low-growth scenario, there is much less on-dock rail capacity than in the high-growth scenarios, as this scenario assumes no further expansion of the Ports' marine terminals and their associated facilities (e.g., on-dock rail). Therefore, there is an increase in the total forecasted number of containers and associated truck trips going to off-dock terminals in the low growth scenario as compared to the high-growth scenarios. As shown previously in Figure 3.2-1, even under the low-growth scenario, the forecasted travel demand by all vehicles on I-710 (automobiles and trucks) would require the same number of lanes on I-710 to serve that demand as under the higher-growth scenarios.

BUILD ALTERNATIVES/SUMMARY OF GROWTH CONSIDERATIONS RELATIVE TO PROJECT PURPOSE. A key element of the project purpose of the I-710 Corridor Project is to address projected growth in population, employment, and economic activities related to goods movement. The increase in capacity on I-710 under the I-710 Corridor Project build alternatives is not expected to influence demand for growth at the Ports, based on the review of published reports[1] on the importance of landside transportation infrastructure (specifically highways) in cargo shipper selection of a particular port. Also, as shown in Table 3.2-5, growth of port cargo handling capacity at the Ports would not substantially increase travel demand on I-710 (i.e., the high-growth scenario analyzed at the Ports showed an 11 percent increase in total daily port truck trips even with a 50 percent increase in port cargo growth). However, by adding highway system capacity to the goods movement infrastructure in Southern California, all of the I-710 Corridor Project build alternatives will have a beneficial effect in accommodating the forecasted growth in the movement of cargo containers via truck within the I-710 Corridor. Alternatives 6A/B/C would have a greater beneficial effect than Alternative 5A by providing dedicated lanes for freight movement within the I-710 Corridor.

NO BUILD ALTERNATIVE. Alternative 1 would not provide capacity increases to accommodate more vehicles and trucks along the I-710 mainline; therefore, the beneficial growth-related effects relative to employment and economic activities associated with goods movement discussed above for the I-710 Corridor Project build alternatives would not occur within the I-710 Corridor under Alternative 1.

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[1] *San Pedro Bay Cargo Forecast*, Tioga Group, December 2007; *Updated San Pedro Bay Cargo Forecast,* Tioga Group, 2009; and *Port Choice Determinants in a Competitive Environment*, Dr. Jose Tongzon, 2002.

3.2.3.2 PUBLIC HEALTH CONSIDERATIONS

As discussed in Chapter 1, Purpose and Need, the growth in population, employment, and goods movement in the I-710 Corridor results in increased travel demand on I-710 by both automobiles and trucks. Although the analysis above concludes that there are no reasonably foreseeable growth-related effects of the build alternatives, the projected growth in travel demand for all alternatives (including Alternative 1) does result in increased traffic volumes within the I-710 Corridor, which in turn have the potential to affect public health as a result of increases in air pollutant emissions and traffic noise. Please refer to Section 3.13, Air Quality, and Section 3.14, Noise, for a discussion of the public health considerations related to air quality and noise, respectively.

3.2.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

There are no adverse growth-related effects of the I-710 Corridor Project build alternatives; therefore, no avoidance, minimization, and/or mitigation measures are required.

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