
IV. ENVIRONMENTAL IMPACT ANALYSIS

B. TRANSPORTATION AND TRAFFIC

ENVIRONMENTAL SETTING

Existing Circulation System

Freeways

The San Diego Freeway (Interstate 405) is a north-south freeway facility located east of the El Segundo boundary. This freeway provides four travel lanes and one High-Occupancy Vehicle (HOV) lane in each direction between LAX and Hawthorne Boulevard. The San Diego Freeway supports a heavy travel demand between residential areas and employment centers in the San Fernando Valley, West Los Angeles, LAX and into Orange County. In addition to supporting the daily commute trips, heavy evening and weekend travel demand is caused by travel to and out of County destinations to the north and south. Surface street ramp access is available from El Segundo Boulevard, Rosecrans Avenue and La Cienega Boulevard. Daily traffic volumes on the San Diego Freeway along the segment bordering El Segundo, are approximately 280,000 vehicles per day (VPD).

The Glenn M. Anderson Freeway (Century Freeway/Interstate 105) is an east-west freeway located above and adjacent to Imperial Highway, at the northern boundary of the City. This 17-mile eight-lane facility, including a High Occupancy Lane traveling in each direction, connects the Los Angeles International Airport on the west, to the San Gabriel River Freeway (Interstate 605) and the City of Norwalk on the east. A full interchange has been built for its intersection with the San Diego Freeway (Interstate 405). Access to the I-105 can be taken from the I-405 or directly to/from Nash Street, Douglas Street, Atwood Way or Imperial Highway in the City of El Segundo. Daily traffic volumes on the Glenn M. Anderson Freeway diminish towards its western terminus near Sepulveda Boulevard. Approximately 120,000 VPD travel this freeway between the San Diego Freeway and Douglas Street, with volumes dropping to less than 90,000 VPD at Sepulveda Boulevard, and finally to less than 25,000 VPD west of Sepulveda Boulevard.

Surface Street Network

The City of El Segundo is served by an existing network of roadways as shown in Figure IV.B-1. The existing street network is essentially a grid system of north/south and east/west roadways. The primary north/south roadways are: Aviation Boulevard; Douglas Street; Nash Street; Sepulveda Boulevard, Center Street; Main Street and Vista Del Mar. The primary east/west streets are: Imperial Highway; Imperial Avenue; Maple Avenue, Mariposa Avenue; Grand Avenue; El Segundo Boulevard and Rosecrans Avenue. The City's roadway network is essentially established, with little or no opportunity to modify its basic configuration because of the developed pattern of land uses in the City.

Figure IV.B-1 Existing Roadway Network

The major roadways within the City that carry substantial regional traffic include Aviation Boulevard, Sepulveda Boulevard, Imperial Highway, El Segundo Boulevard, and Rosecrans Avenue.

Existing Circulation Element

The Circulation Element, an Element of the El Segundo General Plan, was adopted in 1992. The Circulation Element is a required Element under Government Code Section 65302(b) and addresses the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals and other local public utilities and facilities, all correlated with the Land Use Element of the General Plan. The Circulation Element contains a Master Plan of Streets, as well as a series of polices designed to guide the future evolution of the City's roadway system. The Master Plan of Streets includes all major arterial roadways in the City. As an Element of the General Plan, the Circulation Element is connected to other City planning policies and designations, such as those reflected in the Land Use Element with respect to the planned location, type and density of land uses in the City. The Circulation Element also includes policies that identify intersection improvements to achieve LOS D or better at intersections in the City that include restriping of lanes and addition of left turn, through and right turn lanes. The lane requirements are set forth in the adopted Circulation Element based upon the designations of the roadways that comprise the legs of the intersections (e.g., major arterial, secondary arterial, collector, etc.).

Congestion Management Program (CMP)

This EIR for the proposed Circulation Element Update is also subject to the Land Use Analysis program of the Congestion Management Program for Los Angeles County (CMP). The legislation establishing the requirement for counties to adopt a CMP was adopted in 1992 by the State of California and was last amended in 1997. The CMP is a state-mandated program designed to address urban congestion. The CMP is adopted by the designated Congestion Management Agency (the Los Angeles County Metropolitan Transportation Authority –LACMTA) and updated every two years. The most recent version of the CMP was adopted by LACMTA in 2002. The CMP analysis assesses potential impacts on the freeway network and key intersections in the system of surface streets. The CMP includes a system of highways and roadways with minimum LOS standards, transit standards, a trip reduction and travel demand management element, a program to analyze the impacts of local land use decisions on the regional transportation system, a capital improvement program, and a countywide computer model to evaluate traffic congestion and recommend relief strategies and actions. Proposed projects that have the potential to significantly impact the designated CMP network (mainline freeway segments and principal arterial streets and highways) are required to identify and to mitigate, where feasible and appropriate, their adverse effects on the network. If the level of service standards on CMP-monitored roadways are not maintained, local jurisdictions must prepare a “deficiency plan” which is in conformance with the Countywide CMP plan.

There is one CMP-designated arterial highway within the City of El Segundo: Sepulveda Boulevard. CMP intersections are defined as key intersections spread roughly two miles apart. The Sepulveda Boulevard/El Segundo Boulevard intersection is the only CMP-designated intersection in El Segundo.

Analysis of Existing Conditions

Overview

As discussed in Section II, Project Description, of this EIR, the City undertook an extensive program of modeling and evaluation as part of the process of developing the proposed Circulation Element Update. The first step in this process was an analysis of existing conditions, which entailed the development and validation of a model of the City's existing roadway network. This model was then used to evaluate the future performance of the roadway network under varying assumptions of future growth and roadway configurations within the City.

The analysis of existing and future traffic conditions within the City was performed using the Intersection Capacity Utilization (ICU) technique, which is a traffic industry standard and specified by the City's traffic engineer for use in traffic studies conducted for projects throughout El Segundo. The ICU methodology is also consistent with the Congestion Management Program (CMP) analysis guidelines promulgated by the Los Angeles County Metropolitan Transportation Authority (LACMTA). Very briefly, ICU is a computation that reflects a ratio of the traffic volume at the intersection to the capacity of the intersection. Assuming that the number of lanes at the intersection does not change, higher traffic volumes result in a higher volume to capacity ratio, or higher ICU value. The computed ICU value is then translated into a Level of Service (LOS) designation (see Table IV.B-1). Six LOS designations are used, A through F. LOS A indicates uncongested conditions with very little or no delay to motorists. LOS D is encountered at many busy urban intersections during peak periods. Motorists encounter delays and some motorists must wait more than one traffic signal cycle to travel through the intersection. LOS E generally indicates that the capacity of the intersection is reached. With LOS E operations, motorists encounter substantial delay, and many motorists must wait more than one cycle to clear the intersection. LOS F indicates severe congestion with heavy delays to motorists and long queues. The City of El Segundo considers LOS D or better to be an acceptable operating conditions. The City considers intersections operating at LOS E or F to be congested.

Inherent in the ICU computation is an assumed value for the capacity of each lane at the intersection. Per LACMTA guidelines the capacity of each lane is 1,600 vehicles per hour of green signal time. Expressed otherwise, if the signal were to remain green for an approach direction for an entire hour, 1,600 vehicles would be able to go through the intersection in one lane. If the signal were green for that approach 50% of the time, then 800 vehicles would be able to go through the intersection in one hour. Also per LACMTA guidelines, an inefficiency factor, or lost time factor of 10% is built into the ICU computation. In other words, during one hour, it is assumed that the available capacity at the intersection cannot be used 10% of the time because of amber time and all-red time clearance when the signal indication changes.

**Table IV.B-1
Level of Service as a Function of ICU Values**

Level of Service	Description of Operating Characteristics	Range of ICU Values
A	Uncongested operations; all vehicles clear in a single cycle	< 0.60
B	Same as above	0.61 - 0.70
C	Light congestion; occasional backups on critical approaches	0.71 - 0.80
D	Congestion on critical approaches, but intersection functional. Vehicles required to wait through more than one cycle during short peaks. No long-standing lines formed.	0.81 - 0.90
E	Severe congestion with some long-standing lines on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements.	0.91 - 1.00
F	Forced flow with stoppages of long duration.	1.00 or greater

Source: Highway Capacity Manual, 2000

The lane capacity value of 1,600 vehicles per lane per hour of green is a conservative value compared to the values used by other jurisdictions and compared to actual vehicle flow rates observed in the field. Flow rates as high as 1,800 vehicles per lane per hour of green or higher have been observed in some cities. Many jurisdictions use a value of 1,700, and a few use 1,800. Also many jurisdictions use an inefficiency, or lost time, factor of 5%, rather than 10%.

To ensure consistency and technical compatibility with regional transportation planning, regional trip distribution assumptions were developed based on the Southern California Association of Governments (SCAG) Regional Model using the regional input for travel patterns to, from, and through El Segundo. A subarea model was developed to reflect the City's street and roadway network in much greater detail than was possible with the regional model. The refined and custom-tailored subarea model was structured and calibrated to specifically depict El Segundo's land uses and roadway network. Starting the modeling process with the SCAG model data as a base allowed the City to maintain compatibility with the regional planning process and to account for the effects of intercity and pass through traffic attributable to regional traffic generators, such as the LAX Master Plan, the Playa Vista project, and others.

Base Year Model Inputs

Land use inputs: Current land uses in the City were quantified by land use category within Traffic Analysis Zones (TAZs). The City was subdivided into 40 TAZs. By comparison, in the SCAG regional model, the City of El Segundo is represented by 3 TAZs. Land use categories included residential (single family, multi family, and apartment), industrial, retail, office, and other specific categories where appropriate. The number of trips associated with these land uses was estimated (for

each TAZ) using applicable trip generation rates obtained from information published by the Institute of Transportation Engineers (ITE).

Network inputs: The existing roadway network within the City was depicted in the model with the appropriate characteristics such as facility type and capacity. Roadway characteristics were verified in the field before they were input to the model. All existing roadways that are a part of the Circulation Element roadway network were included in the model.

Other inputs: Other inputs such as regional trips and the regional orientation of El Segundo trips were obtained from the SCAG regional model.

Base Year Model Validation Process

Prior to its use in the evaluation of future conditions, the El Segundo subarea model was validated for base year conditions. The base year model validation involved a comparison of actual traffic counts to model results. Detailed discussion of the process used for the base year model validation are contained in Technical Appendix C to this EIR. A total of 70 traffic volume counts were made on roadway segments in January of 2003. These counts were used for model validation purposes. The validation of the base year model confirmed that the modeling process would perform the function of a sound technical analysis tool.

Study Intersections

In order to assess the ability of the City's roadway network to accommodate projected increases in traffic and determine locations of potential impacts, a set of 55 study intersections was identified. These 55 intersections represent all major intersections within the City. The locations of the study intersections are shown in Figure IV.B-2. All intersections are located wholly or partially within the City of El Segundo. The proposed Circulation Element Update would not, in and of itself, cause any increase in traffic within or outside the boundaries of the City. The purpose of the analysis conducted for the proposed Circulation Element was to ascertain whether the physical and policy changes associated with the proposed Circulation Element Update, including deletion of certain designated roadway segments, reconfiguration of existing roadways, and identification of intersection improvements, would be able to accommodate projected levels of future traffic.

Existing Conditions at Study Intersections

Based upon the model inputs described above, the ICU value and the corresponding LOS for existing traffic conditions at each of the 55 study intersections were determined. Those values, for existing (2003) a.m. and p.m. peak hour conditions, are shown in Table IV.B-2.

Figure IV.B-2 Study Intersection Locations

**Table IV.B-2
Intersection Capacity Utilization (ICU) and Level of Service (LOS) - Existing (2003)**

Intersection		AM Peak Hour		PM Peak Hour	
		ICU	LOS	ICU	LOS
1	Vista Del Mar / Grand Ave.	0.47	A	0.59	A
2	Main St. / Imperial Hwy	0.84	D	0.66	B
3	Main St. / Imperial Ave.	0.53	A	0.42	A
4	Main St. / Palm Ave.	0.37	A	0.31	A
5	Main St. / Mariposa Ave.	0.34	A	0.33	A
6	Main St. / Grand Ave.	0.23	A	0.18	A
7	Main St. / El Segundo Blvd.	0.23	A	0.30	A
8	Aviation Blvd. / Imperial Hwy.	0.79	C	0.73	C
9	Aviation Blvd. / 118th St.	0.37	A	0.41	A
10	Aviation Blvd. / 120th St.	0.86	D	0.68	B
11	Aviation Blvd. / 124th St.	0.44	A	0.53	A
12	Aviation Blvd. / El Segundo Blvd.	0.95	E	0.96	E
13	Aviation Blvd. / Utah Ave.	0.61	B	0.61	B
14	Aviation Blvd. / Alaska Ave.	0.50	A	0.64	B
15	Aviation Blvd. / Hawaii St.	0.68	B	0.73	C
16	Aviation Blvd. / Rosecrans Ave.	0.95	E	1.26	F
17	Center St. / Grand Ave.	0.26	A	0.27	A
18	Center St. / El Segundo Blvd.	0.27	A	0.28	A
19	Sepulveda Blvd. / Imperial Hwy.	0.97	E	0.84	D
20	Sepulveda Blvd. Blvd. / Maple Ave.	0.70	B	0.79	C
21	Sepulveda Blvd. / Mariposa Ave.	0.98	E	0.90	D
22	Sepulveda Blvd. / Grand Ave.	0.92	E	0.94	E
23	Sepulveda Blvd. / El Segundo Blvd.	0.96	E	1.08	F
24	Sepulveda Blvd. / Hughes Way	0.65	B	0.71	C
25	Sepulveda Blvd. / Rosecrans Ave.	0.88	D	1.06	F
26	Hughes Way / Imperial Hwy.	0.49	A	0.60	A
27	Nash St. / Imperial Hwy	0.85	D	0.36	A
28	Nash St. / Atwood Way	0.43	A	0.28	A
29	Nash St. / Maple Ave.	0.39	A	0.29	A
30	Nash St. / Mariposa Ave.	0.52	A	0.41	A
31	Nash St. / Grand Ave.	0.52	A	0.42	A
32	Nash St. / El Segundo Blvd.	0.44	A	0.64	B
33	Nash St. / Rosecrans Ave.	0.37	A	0.60	A
34	Atwood Way / I-105 EB Ramp Entrance	0.16	A	0.52	A
35	Douglas St. / Imperial Hwy.	0.36	A	0.39	A
36	Douglas St. / (between Imperial & Mariposa)	0.14	A	0.20	A
37	Douglas St. / Atwood Way	0.23	A	0.38	A

Intersection		AM Peak Hour		PM Peak Hour	
		ICU	LOS	ICU	LOS
38	Douglas St. / Mariposa Ave.	0.33	A	0.36	A
39	Douglas St. / El Segundo Blvd.	0.56	A	0.54	A
40	Douglas St. / Utah Ave.	0.38	A	0.31	A
41	Douglas St. / Alaska Ave.	0.28	A	0.26	A
42	Douglas St. / Rosecrans Ave.	0.63	B	0.65	B
43	Continental Blvd. / Mariposa Ave.	0.61	B	0.45	A
44	Continental Blvd. / Grand Ave.	0.34	A	0.24	A
45	Continental Blvd. / El Segundo Blvd.	0.47	A	0.47	A
46	Continental Blvd. / Rosecrans Ave.	0.43	A	0.75	C
47	California St. / Imperial Hwy (N/S)	0.47	A	0.61	B
48	California St. / Imperial Hwy (S/S)	0.24	A	0.26	A
49	El Segundo Blvd. / Illinois St.	0.35	A	0.42	A
50	El Segundo Blvd. / Isis Ave.	0.68	B	0.79	C
51	Rosecrans Ave. / Apollo St.	0.43	A	0.84	D
52	Rosecrans Ave. / Village Dr.	0.43	A	0.74	C
53	Rosecrans Ave. / Pacific Ave.	0.40	A	0.56	A
54	Rosecrans Ave. / Blanche Rd.	0.47	A	0.49	A
55	45 th Street / Vista Del Mar	0.65	B	0.52	A

As indicated in Table IV.B-2, seven intersections (depicted in **bold**) are currently operating at congested LOS E or F conditions as a result of current traffic levels. These intersections are:

- Aviation Boulevard/El Segundo Boulevard (a.m. and p.m. peak hours)
- Aviation Boulevard/Rosecrans Avenue (a.m. and p.m. peak hours)
- Sepulveda Boulevard/Imperial Highway (a.m. peak hour)
- Sepulveda Boulevard/Mariposa Avenue (a.m. peak hour)
- Sepulveda Boulevard/Grand Avenue (a.m. and p.m. peak hours)
- Sepulveda Boulevard/El Segundo Boulevard (a.m. and p.m. peak hours)
- Sepulveda Boulevard/Rosecrans Avenue (p.m. peak hour)

The remaining 48 study intersections operate at acceptable LOS D or better under existing traffic conditions.

ENVIRONMENTAL IMPACTS

Threshold of Significance

The City of El Segundo identifies a project-related traffic impact at area intersections as “significant” if the project’s traffic results in an intersection level of service change from LOS D or better to LOS E or F or if there is an increase in intersection capacity utilization (ICU) value of 0.020 or more, when the “With Project” intersection Level of Service is at LOS E or F (ICU = 0.90 or greater).

Methodology

For purposes of this analysis, the “Without Project” condition is defined as the conditions expected to occur under the adopted Circulation Element, which identifies lane configurations for intersections throughout the City based on the designations of the roadways that comprise the legs of the intersections. Future traffic levels that would use the City’s streets in 2025 were determined based upon the SCAG regional model and would be the same for the “Without Project” and “With Project” conditions. This would occur because the proposed Circulation Element Update (the “With Project” condition) does not include any change to permitted land uses in the City’s General Plan, and therefore would not change the projections of future traffic in the City resulting from land uses in the City. With respect to potential impacts of the proposed Circulation Element Update, the difference between the “With Project” and “Without Project” conditions was calculated and compared to the threshold identified above.

Appendix G to the State CEQA Guidelines includes guidance regarding the determination of potential impacts related to traffic. This guidance identifies two impact criteria that are relevant to the analysis conducted for the proposed Circulation Element Update. The first criterion for potential impact relates to causing an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system. As noted above, the proposed Circulation Element Update would not cause an increase in traffic and therefore this criterion would not apply. The second criterion for potential impact relates to exceeding a level of service standard¹ for roads and highways. Under the methodology utilized to analyze the proposed Circulation Element Update, an “impact” represents a location where an intersection, even after incorporating all improvements identified in the proposed Circulation Element Update, would exceed the City’s level of service standard, as set forth in the Circulation Element.

¹ *Although the level of service standard specifically referred to in Appendix G relates to standards established by county congestion management agencies, this threshold would also be relevant with respect to the proposed Circulation Element Update because the Circulation Element is a primary tool of the City for transportation planning and management of traffic congestion.*

Components of the Proposed Circulation Element Update

The proposed Circulation Element Update includes changes and deletions of roadways contained in the current Master Plan of Streets and implementation of physical improvements to modify the City's street system in accordance with revised Circulation Element policies. The proposed Circulation Element Update also includes the City's decision not to propose changes in the land use designations as presently set forth in the General Plan Land Use Element or zoning classifications. The specific components of the proposed Circulation Element Update therefore include: 1) changes in roadway designations; 2) physical changes in roadway configurations; 3) intersection improvements and revisions to the goals, objectives, and policies of the Circulation Element; and 4) all to be implemented under a No Land Use Change Scenario.

Changes in Roadway Designations

- Deleting the previously planned portion of Mariposa Street between Douglas Street and Aviation Boulevard.
- Deleting the previously planned portion of Grand Avenue between Douglas Street and Aviation Boulevard. This action would result in deleting the truck route along this segment.
- Deleting the east-west Secondary Arterial Street between Hughes Way and Douglas Street.
- Deleting Nash Street as a Secondary Arterial between El Segundo Boulevard and Park Place. This action would also result in deleting the truck route along this segment.
- Converting Nash Street from a one-way southbound street to a two-way Secondary Arterial between Imperial Highway and El Segundo Boulevard.
- Converting Douglas Street from a one-way northbound street to a two-way Secondary Arterial between Imperial Highway and El Segundo Boulevard.
- Retaining the Grand Avenue truck route between Main Street and Sepulveda Boulevard.
- Changing the designation of Park Place between Nash and Douglas Streets from Local Commercial street to Collector street.

Physical Changes in Roadway Configurations

- Developing a street system within the site located on the northeast corner of Sepulveda/Rosecrans consistent with the development concept of that site. It is expected that there will be a north-south, two-lane, albeit circuitous, roadway connection between El Segundo Boulevard and Park Place in lieu of the Nash Street Secondary Arterial (to be deleted). This connection may not be a linear route and may entail several turns. A two-lane, east-west

connection between Sepulveda Boulevard and the current terminus of Nash Street along a new alignment would be provided.

- Converting Nash Street from a one-way southbound street to a two-way Secondary Arterial between Imperial Highway and El Segundo Boulevard.
- Converting Douglas Street from a one-way northbound street to a two-way Secondary Arterial between Imperial Highway and El Segundo Boulevard.
- Intersection modifications at six intersections on Nash Street and four intersections on Douglas Street associated with the change from one-way to two-way operation.

Intersection Improvements and Revisions to Circulation Element Policies

- The proposed Circulation Element Update includes planned intersection improvements designed to achieve LOS D or better. The proposed Circulation Element Update includes modifications to Circulation Element policies that would limit potential intersection improvements to those that can be feasibly implemented, by limiting lane additions beyond the existing right-of-way to those that would not affect buildings, freeway supports or railroad rights-of-way.

Under the proposed Circulation Element Update, planned intersection improvements would be located at the following intersections:

- Aviation Boulevard/Imperial Highway
- Aviation Boulevard/El Segundo Boulevard
- Aviation Boulevard/Utah Avenue
- Aviation Boulevard/Rosecrans Avenue
- Sepulveda Boulevard/Imperial Highway
- Sepulveda Boulevard/Maple Avenue
- Sepulveda Boulevard/Mariposa Avenue
- Sepulveda Boulevard/Grand Avenue
- Sepulveda Boulevard/El Segundo Boulevard
- Sepulveda Boulevard/Rosecrans Avenue
- Atwood Way/I-105 Eastbound Ramp Entrance
- Douglas Street/El Segundo Boulevard
- Continental Boulevard/Grand Avenue
- El Segundo Boulevard/Isis Avenue

No Land Use Change Scenario

In order to estimate levels of traffic that would be generated under the “No Land Use Change scenario”, a projection of the levels of future development that would result by the year 2025 was developed. Accordingly, the No Land Use Change Scenario reflects the following assumptions:

- Vacant land² was assumed to develop in accordance with appropriate zoning designation.
- Development of recyclable parcels³ was calculated assuming that any property developed at less than 50% of its maximum permitted FAR would be redeveloped up to its maximum FAR per the General Plan, with no changes to FAR in the CO and MU-N zones. This assumption reflected the level at which it would be economically feasible to develop such a property.
- Large projects, including the proposed development at the Sepulveda/Rosecrans Rezoning and Plaza El Segundo site, Playa Vista and LAX Master Plan, were included in the analysis.
- The effect of transit was reflected in the traffic volume projections.

The locations of proposed changes in roadway designations and physical changes in roadway configurations under the proposed Circulation Element Update are shown in Figure II-1 in Section II, Project Description, of this EIR.

Evaluation of Potential Impacts

Future Without Proposed Circulation Element Update

An analysis was conducted to determine the capability of the roadway system set forth in the adopted Circulation Element to accommodate future traffic projected to occur under the No Land Use Change Scenario. In the absence of the proposed Circulation Element Update, it would be reasonably foreseeable that the City’s roadway system would continue to develop in accordance with the designations and policies set forth in the adopted Circulation Element. After ascertaining that the base year subarea model described above was capable of reflecting current traffic conditions in El Segundo,

² A vacant land survey prepared in 1995 provided the basis for a revised vacant land survey. Staff reviewed the list of vacant properties and removed from the list parcels which had been developed since 1995 and added buildings which had been demolished since 1995. For the purposes of projecting future traffic volumes, all vacant land that was not included in the major projects assumption was assumed to be developed to the maximum FAR permitted under the current General Plan and zoning designations by 2025.

³ Staff prepared a list of potentially recyclable parcels, to provide a basis for estimating future traffic from the reuse or replacement of these parcels. Recyclable parcels include structures, which are below the allowed FAR, are near the end of their life span and are likely to be replaced. The list was developed by first conducting a “windshield survey” of the commercial and industrial areas of the City then by reviewing the County Assessor parcel data. Data regarding the parcel size, structure size, and year built was obtained from the Assessor’s rolls as well as City building permits.

a 2025 subarea model was developed to reflect the adopted Circulation Element roadway system, including intersection improvements required to achieve LOS D or better. Intersection improvements were limited to a maximum of three left turn lanes, four through lanes and two right turn lanes on any approach to the intersection. This limitation reflects operational considerations and pedestrian movements. On any approach with this maximum of nine lanes, pedestrians would need to walk approximately 108 feet just to reach the median area of the street. In addition, there may be up to 50 feet between the median area and the opposite curb, requiring a pedestrian to walk 150 to 160 feet to cross the street. At a typical pedestrian speed of three to four feet per second, up to 55 seconds would be required for a pedestrian crossing. Depending upon vehicular traffic volumes, the allocation of sufficient time for safe pedestrian crossing can disrupt traffic signal timing patterns and cause added delays for motorists. Accordingly, additional lanes beyond the maximum listed above would not be practical. Although there may be some locations where more lanes than the maximum are presently provided, it is not good engineering practice to promote such intersection configurations and would be inconsistent with the policies of the adopted Circulation Element.

The 2025 subarea model for the adopted Circulation Element roadway network also reflected planned improvements in the City's roadway network including: (1) connecting Douglas Street to Rosecrans Avenue across the railroad tracks via a grade separation, which would complete the connection of Douglas Street between El Segundo Boulevard and Rosecrans Avenue; and (2) the widening of Aviation Boulevard between Rosecrans Avenue and El Segundo Boulevard as presently planned and funded by LACMTA.

Effect of ITS and Demand Management Techniques

Intelligent Transportation Systems (ITS)

Intelligent Transportation Systems (ITS) technology offers opportunities for expediting traffic flow without the need for intersection or other roadway improvements. Recognizing this potential, the El Segundo Employers Association (ESEA) has spearheaded an effort to develop ITS infrastructure in El Segundo and in the vicinity. ESEA has arranged funding for the implementation and continuing operation of a system. A contractor has been selected, but work has not been initiated yet.

ITS can result in substantial benefits by allowing motorists to make informed decisions about travel routes, by enhancing signal operations to expedite traffic flow, and by improving response time to incidents. These ITS benefits translate to enhancements in the capacity of the roadways and intersections. As an example, the City of Los Angeles reflects the benefits of advanced traffic control systems by allowing a 0.07 or 0.10 reductions in the ICU value at an intersection, depending on the

type of advanced system installed or to be installed at the intersection. For the purposes of this study a 10% capacity enhancement from ITS is assumed.⁴

Demand Management

El Segundo, through the ESEA, has been a leader in promoting travel modes other than the single occupant vehicle (SOV) for employee travel to and from the City. To the extent that commuters can be accommodated by travel modes such as transit and ride sharing, the potential load on the roadways would be diminished.

Projection of Future Traffic Levels

As discussed above, the City identified the “No Land Use Change” Scenario for inclusion as part of the proposed Circulation Element Update. In order to provide a direct comparison of the “Without Project” and “With Project” scenarios, the land use assumptions for the No Land Use Change Scenario were incorporated into the year 2025 model for the adopted Circulation Element. The future traffic levels generated as a result of land uses within the City were therefore estimated for year 2025 based on the existing General Plan land use and zoning designations.

The analysis used the SCAG regional traffic model as the basis for factoring in traffic growth from outside the City. The SCAG model is designed to account for growth in all areas of the region and incorporates planned regional transportation projects approved in the Regional Transportation Plan. The SCAG model forecasts traffic until 2025. The SCAG model assigns trip distribution throughout the region based on census data, surveys, and traffic counts.

Specific projects outside the City that were also reflected in the estimates of future traffic included the potential LAX Master Plan and the Playa Vista development.

- **LAX:** The difference between the announced goal of a next Master Plan of accommodating a total 78 million annual passengers (MAP) and the current traffic level (67 MAP) was factored into the traffic model.
- **Playa Vista:** The expected traffic generation, based on the Playa Vista Phase II Environmental Impact Report, was factored into the growth forecasts.

⁴ *The use of 10% capacity enhancement from the El Segundo ITS system is appropriate since this is a new, state-of-the-art system that incorporates the latest technologies related to congestion monitoring and signalized intersection controls and the El Segundo ITS system would tie into the larger South Bay ITS system that provides, in addition to signalization and congestion management components, extensive distribution of congestion related information to drivers that allows for identification of alternate routes and thus helps manage conditions of congestion.*

The resulting ICU and LOS values for each of the 55 study intersections under the adopted 1992 Circulation Element are shown in Table IV.B-3 in the “Without Project” column.

Future With Proposed Circulation Element Update

An analysis was conducted to determine the capability of the roadway system that would result from the proposed Circulation Element Update to accommodate future traffic, reflecting the modifications to the existing Circulation Element roadway system and policies that are contained in the proposed Circulation Element Update. A 2025 subarea model was developed to reflect the proposed Circulation Element Update roadway system, which included the following roadway modifications required to implement the proposed Circulation Element Update:

- Nash Street and Douglas Street would revert to two-way operation between El Segundo Boulevard and Imperial Highway. Nash Street would be connected, albeit not directly, between El Segundo Boulevard and Rosecrans Avenue, partially through the Sepulveda/Rosecrans site.
- Nash Street, as a two-way street, would have four through lanes between El Segundo Boulevard and Imperial Highway, two northbound and two southbound. Nash Street would extend south of El Segundo Boulevard as a two-lane street, one in each direction.
- Douglas Street, as a two-way street, would have six through lanes between El Segundo Boulevard and Imperial Highway, three northbound and three southbound.
- Mariposa Avenue would not be extended to the east of Douglas Street to connect with Aviation Boulevard.
- Grand Avenue would be extended from Duley Road to Douglas Street but not further east to Aviation Boulevard.
- Continental Boulevard/Lairport Street would provide a connection between Maple Avenue and Walnut Avenue.
- The street system through the Sepulveda/Rosecrans site would be as depicted in the site plan under review by the City at the time the 2025 subarea model was developed. This would include a new intersection on Sepulveda Boulevard between Rosecrans Avenue and Hughes Way to serve the proposed development.
- The extensions of Continental Boulevard/Lairport Street to Walnut Avenue and Grand Avenue to Douglas Street would have the same number of lanes as the existing portions of these streets.

Land use assumptions for this scenario were the same as for the Future Without Proposed Circulation Element Update Scenario described above (i.e., No Land Use Change Scenario, SCAG model and

LAX/Playa Vista project traffic). Assumptions related to ITS and Demand Management were also the same as under the Future Without Proposed Circulation Element Update Scenario.

The resulting ICU and LOS values for each of the 55 study intersections under the proposed Circulation Element Update are shown in Table IV.B-3.

Intersection Impacts

The ICU and LOS values for the “Without Project” and “With Project” scenarios were compared against the City’s threshold of significance to determine locations where significant impacts would occur. This comparison is shown in Figure IV.B-3. With respect to the proposed Circulation Element Update, an “impact” represents a location where the future growth in traffic would exceed the City’s level of service standard, in spite of implementing all feasible improvements at the intersection. As shown in Table IV.B-3, improvements in operating conditions would also occur at numerous intersections as a result of implementing the proposed Circulation Element Update.

As indicated in Table IV.B-3, a total of six intersections would be unable to accommodate year 2025 traffic at an acceptable LOS D or better in the a.m. peak hour, p.m. peak hour or both, after implementation of all feasible intersection improvements. These intersections are shown in Figure IV.B-3 and include:

- Aviation Boulevard/Imperial Highway – p.m. peak hour
- Aviation Boulevard/El Segundo Boulevard - a.m. peak hour
- Aviation Boulevard/Rosecrans Avenue - p.m. peak hour
- Sepulveda Boulevard/El Segundo Boulevard - p.m. peak hour
- Sepulveda Boulevard/Rosecrans Avenue p.m. peak hour
- Douglas Street/El Segundo Boulevard - a.m. and p.m. peak hours

The remaining 49 study intersections would not exceed the level of service standard and would not be significantly impacted. Implementation of the proposed Circulation Element Update would improve the ICU value at 21 intersections in the a.m. peak hour and 21 intersections in the p.m. peak hour, which would constitute a beneficial impact of the proposed Circulation Element Update.

**Table IV.B-3
Intersection Capacity Utilization (ICU) and Level of Service (LOS) –
Future with Circulation Element Update (2025)**

Intersection		AM Peak Hour					PM Peak Hour				
		Without Project		With Project			Without Project		With Project		
		ICU	LOS	ICU	LOS	Change	ICU	LOS	ICU	LOS	Change
1	Vista Del Mar / Grand Ave.	0.56	A	0.55	A	-0.01	0.63	B	0.62	B	-0.01
2	Main St. / Imperial Hwy	0.78	C	0.82	D	0.04	0.73	C	0.77	C	0.04
3	Main St. / Imperial Ave.	0.56	A	0.54	A	-0.02	0.44	A	0.42	A	-0.02
4	Main St. / Palm Ave.	0.40	A	0.40	A	0.00	0.32	A	0.32	A	0.00
5	Main St. / Mariposa Ave.	0.34	A	0.33	A	-0.01	0.28	A	0.29	A	0.01
6	Main St. / Grand Ave.	0.22	A	0.21	A	-0.01	0.16	A	0.16	A	0.00
7	Main St. / El Segundo Blvd.	0.12	A	0.14	A	0.02	0.16	A	0.20	A	0.04
8	Aviation Blvd. / Imperial Hwy.	1.35	F	0.96	E	-0.39	1.06	F	1.10	F	0.04
9	Aviation Blvd. / 118th St.	0.79	C	0.72	C	-0.07	0.85	D	0.76	C	-0.09
10	Aviation Blvd. / 120th St.	0.90	D	0.84	D	-0.06	0.88	D	0.79	C	-0.09
11	Aviation Blvd. / 124th St.	0.70	B	0.66	B	-0.04	0.87	D	0.80	C	-0.07
12	Aviation Blvd. / El Segundo Blvd.	0.92	E	1.05	F	0.13	1.19	F	1.11	F	-0.08
13	Aviation Blvd. / Utah Ave.	0.84	D	0.90	D	0.06	0.73	C	0.78	C	0.05
14	Aviation Blvd. / Alaska Ave.	0.65	B	0.63	B	-0.02	0.79	C	0.78	C	-0.01
15	Aviation Blvd. / Hawaii St.	0.74	C	0.71	C	-0.03	0.84	D	0.81	D	-0.03
16	Aviation Blvd. / Rosecrans Ave.	1.17	F	1.18	F	0.01	1.41	F	1.44	F	0.03
17	Center St. / Grand Ave.	0.29	A	0.29	A	0.00	0.27	A	0.28	A	0.01
18	Center St. / El Segundo Blvd.	0.17	A	0.19	A	0.02	0.19	A	0.21	A	0.02
19	Sepulveda Blvd. / Imperial Hwy.	1.46	F	1.29	F	-0.17	1.27	F	1.06	F	-0.21
20	Sepulveda Blvd. Blvd. / Maple Ave.	0.83	D	0.83	D	0.00	0.85	D	0.85	D	0.00
21	Sepulveda Blvd. / Mariposa Ave.	1.26	F	1.16	F	-0.10	1.04	F	0.96	E	-0.08
22	Sepulveda Blvd. / Grand Ave.	1.06	F	1.04	F	-0.02	1.36	F	0.87	D	-0.49

Intersection		AM Peak Hour					PM Peak Hour				
		Without Project		With Project			Without Project		With Project		
		ICU	LOS	ICU	LOS	Change	ICU	LOS	ICU	LOS	Change
23	Sepulveda Blvd. / El Segundo Blvd.	0.93	E	0.86	D	-0.07	1.02	F	1.12	F	0.10
24	Sepulveda Blvd. / Hughes Way	1.20	F	0.70	B	-0.50	1.06	F	0.81	D	-0.25
25	Sepulveda Blvd. / Rosecrans Ave.	0.96	E	0.92	E	-0.04	1.15	F	1.22	F	0.07
26	Hughes Way / Imperial Hwy.	0.57	A	0.48	A	-0.09	0.67	B	0.57	A	-0.10
27	Nash St. / Imperial Hwy	0.82	D	0.88	D	0.06	0.33	A	0.36	A	0.03
28	Nash St. / Atwood Way	0.78	C	0.65	B	-0.13	0.62	B	0.89	D	0.17
29	Nash St. / Maple Ave.	0.62	B	0.85	D	0.23	0.49	A	0.81	D	0.32
30	Nash St. / Mariposa Ave.	0.50	A	0.70	B	0.20	0.48	A	0.62	B	0.14
31	Nash St. / Grand Ave.	0.85	D	0.72	C	-0.13	0.71	C	0.84	D	0.13
32	Nash St. / El Segundo Blvd.	0.78	C	0.81	D	0.03	0.86	D	0.84	D	-0.02
33	Nash St. / Rosecrans Ave.	0.33	A	0.46	A	0.13	0.57	A	0.77	C	0.20
34	Atwood Way / I-105 EB Ramp Entrance	0.35	A	0.35	A	0.00	0.85	D	0.85	D	0.00
35	Douglas St. / Imperial Hwy.	0.44	A	0.52	A	0.08	0.61	B	0.90	D	0.29
36	Douglas St. / (between Imperial & Mariposa)	0.28	A	0.32	A	0.04	0.34	A	0.49	A	0.15
37	Douglas St. / Atwood Way	0.35	A	0.51	A	0.16	0.58	A	0.53	A	-0.05
38	Douglas St. / Mariposa Ave.	0.62	B	0.60	B	-0.02	0.96	E	0.69	B	-0.27
39	Douglas St. / El Segundo Blvd.	0.75	C	0.99	E	0.24	0.78	C	1.02	F	0.24
40	Douglas St. / Utah Ave.	0.63	B	0.82	D	0.19	0.76	C	0.64	B	-0.12
41	Douglas St. / Alaska Ave.	0.20	A	0.33	A	0.13	0.19	A	0.31	A	0.12
42	Douglas St. / Rosecrans Ave.	0.74	C	0.78	C	0.04	0.75	C	0.80	C	0.05
43	Continental Blvd. / Mariposa Ave.	0.84	D	0.87	D	0.03	0.76	C	0.54	A	-0.22
44	Continental Blvd. / Grand Ave.	0.72	C	0.85	D	0.13	0.56	A	0.63	B	0.07
45	Continental Blvd. / El Segundo Blvd.	0.50	A	0.57	A	0.07	0.41	A	0.44	A	0.03
46	Continental Blvd. / Rosecrans Ave.	0.32	A	0.39	A	0.07	0.60	A	0.70	B	0.10
47	California St. / Imperial Hwy (N/S)	0.57	A	0.57	A	0.00	0.70	B	0.71	C	0.01

Intersection		AM Peak Hour					PM Peak Hour				
		Without Project		With Project			Without Project		With Project		
		ICU	LOS	ICU	LOS	Change	ICU	LOS	ICU	LOS	Change
48	California St. / Imperial Hwy (S/S)	0.47	A	<i>0.45</i>	<i>A</i>	<i>-0.02</i>	0.46	A	<i>0.44</i>	<i>A</i>	<i>-0.02</i>
49	El Segundo Blvd. / Illinois St.	0.32	A	0.35	A	0.03	0.40	A	0.44	A	0.04
50	El Segundo Blvd. / Isis Ave.	0.88	D	0.88	D	0.00	0.88	D	<i>0.71</i>	<i>C</i>	<i>-0.17</i>
51	Rosecrans Ave. / Apollo St.	0.33	A	0.39	A	0.06	0.68	B	0.78	C	0.10
52	Rosecrans Ave. / Village Dr.	0.37	A	0.52	A	0.15	0.64	B	0.85	D	0.21
53	Rosecrans Ave. / Pacific Ave.	0.50	A	0.53	A	0.03	0.56	A	0.68	B	0.12
54	Rosecrans Ave. / Blanche Rd.	0.47	A	0.48	A	0.01	0.94	E	<i>0.58</i>	<i>A</i>	<i>-0.36</i>
55	45 th Street / Vista Del Mar	0.76	C	0.76	C	0.00	0.61	B	0.61	B	0.00

Note: **Bold** denotes significant impact; *italic* denotes improvement.

Figure IV.B-3 Study Intersections That Would be Significantly Impacted under the Proposed Circulation Element Update

Congestion Management Program Impacts

The CMP for the County of Los Angeles requires that all freeway segments where a project is expected to add 150 or more trips in any direction during the peak hours be analyzed. An analysis is also required at all CMP intersections where a project would add 50 or more trips during the peak hours. The proposed Circulation Element would not add any traffic to any freeway segment or at the lone CMP intersection in the City (Sepulveda Boulevard/El Segundo Boulevard). All future traffic evaluated in this EIR is already reflected in the SCAG regional model or City of El Segundo General Plan, as the proposed Circulation Element Update would not change any of the existing land use designations in the General Plan. Therefore, analysis of freeway segments or CMP intersections would not be required under the CMP, based upon trip generation.

The Guidelines for CMP Transportation Impact Analysis contained in the 2002 Los Angeles County CMP also require that Caltrans be consulted through the Notice of Preparation (NOP) process to identify other specific locations for analysis under the CMP. In its responses to the NOPs that were circulated by the City for the proposed Circulation Element Update EIR, Caltrans indicated that potential impacts to State Routes 1 (Sepulveda Boulevard), 405 (San Diego Freeway) and 105 (Century Freeway) should be considered (see Appendix B). The proposed Circulation Element Update includes roadway improvements designed to provide additional north-south travel capacity (conversion of Nash and Douglas Streets from one-way to two-way, and extension of Nash Street from El Segundo Boulevard to Park Place). These improvements would be able to accommodate existing and future traffic as an alternative to Sepulveda Boulevard such that no additional traffic beyond that already anticipated in the El Segundo General Plan and SCAG regional model would be expected to utilize Sepulveda Boulevard.

Thus, implementation of the proposed Circulation Element Update would not impact Sepulveda Boulevard and could potentially have beneficial effects with regard to future traffic levels that would use that roadway. With respect to the San Diego and Century Freeways, the proposed Circulation Element Update would include roadway intersection improvements designed to accommodate growth in traffic levels projected to occur in the City through 2025. Through this planning process, the Circulation Element roadway network would be designed to operate in a manner that would promote more effective flow of traffic through the City on surface streets than would otherwise occur, as the ICU value would improve at 21 intersections in the a.m. peak hour and 21 intersections in the p.m. peak hour under the proposed Circulation Element Update. Thus the proposed Circulation Element Update would not cause additional traffic to utilize the surrounding freeways to bypass conditions of congestion within the City. As such, the proposed Circulation Element Update would not cause additional traffic congestion on the San Diego and Century Freeways.

Impacts of the proposed Circulation Element Update with respect to the CMP would be less than significant.

CUMULATIVE IMPACTS

The analysis of traffic impacts of the proposed Circulation Element Update considers the effects of both background growth in the region, as reflected in the SCAG regional model, and within the City, in accordance with the existing land use designations of the City's General Plan. Consequently, impacts of cumulative growth are already incorporated into the 2025 traffic model and are equivalent to those indicated for the Without Project and With Project conditions in Table IV.B-3 above. As indicated, impacts of cumulative traffic growth within the City to 2025 would be significant at 6 of the 55 study intersections.

MITIGATION MEASURES

The proposed Circulation Element Update includes policies that provide for the implementation of all feasible intersection improvements to achieve LOS D or better at intersections throughout the City. There are no further feasible mitigation measures that could be implemented at the six locations where the City's level of service standard would be exceeded.

Because no significant impacts would occur with respect to the Congestion Management Program, no mitigation measures are required.

LEVEL OF IMPACT AFTER MITIGATION

Because no feasible mitigation measures are available, impacts at the six intersections where the City's level of service standard would be exceeded would be significant and unavoidable. Impacts at the remaining 49 intersections would be less than significant. Impacts related to the CMP would be less than significant.