

5.2 Transportation and Traffic



5.2 TRANSPORTATION AND TRAFFIC

This Section is based on the El Segundo South Campus Specific Plan (ESSCSP) Traffic Impact Analysis (RBF Consulting, May 27, 2014); see [Appendix 10.3, *Traffic Impact Analysis*](#).

The following analysis scenarios are addressed below:

- Existing Conditions;
- Forecast Existing With Project Buildout Conditions;
- Forecast Near-Term (2015) Without Phase I Project Conditions;
- Forecast Near-Term (2015) With Phase I Project Conditions;
- Forecast Long-Range (2022) Without Project Conditions; and
- Forecast Long-Range (2022) With Project Buildout Conditions.

5.2.1 EXISTING REGULATORY SETTING

CALIFORNIA DEPARTMENT OF TRANSPORTATION

The California Department of Transportation (Caltrans) publishes a document entitled “Guide for the Preparation of Traffic Impact Studies,” which provides guidelines and recommended elements of traffic studies for projects that could potentially impact state facilities such as State Route highways and freeway facilities. This is a State-level document that is used by each of the Caltrans District offices.

The Guide defines when traffic studies should be conducted to address impacts to state facilities, but does not define quantitative impact standards. The Guide states that Measures of Effectiveness (MOEs) are used to evaluate Caltrans facilities, and that Caltrans strives to maintain a LOS value of C on its facilities. However, the Guide states that the appropriate target LOS varies by facility and congestion level, and is defined differently by Caltrans depending on the analyzed facility.

LOS ANGELES COUNTY

METROPOLITAN TRANSPORTATION AUTHORITY

The Los Angeles County Metropolitan Transportation Authority (Metro) is responsible for the continuous improvement of an efficient and effective transportation system for the County of Los Angeles. Metro’s service area covers approximately 1,433 square miles. Government Code § 65089 requires that a congestion management program be developed, adopted, and updated biennially for every county that includes an urbanized area and requires that it include every city and the county government within that county. As the Congestion Management Agency for Los Angeles County, Metro is responsible for implementing the Congestion Management Plan (CMP) for the County.

Since 1990, the CMP has become an effective tool in linking transportation, land use, and air quality decisions for the County. The CMP addresses the impact of local growth on the regional transportation system. Statutory elements of the CMP include Highway and Roadway System monitoring, multi-modal system performance analysis, the Transportation Demand Management Program, the Land Use Analysis Program, and local conformance for all of the County’s jurisdictions.



CONGESTION MANAGEMENT PLAN

Every county in California is required to develop a Congestion Management Program (CMP) that examines the relationships between land use, transportation, and air quality. The CMP addresses the impact of local growth on the regional transportation system. In 1990, Proposition 111 (the "Traffic Congestion Relief and Spending Limitation Act of 1990") amended the California Constitution by, among other things, establishing a nine cent per gallon gas tax, staged over a five-year period, for the purpose of funding transportation-related improvements statewide. In order to be eligible for the revenues associated with Proposition 111, Government Code § 65089 requires that a CMP be developed, adopted, and updated biennially for every county that includes an urbanized area and shall include every city and the county government within that county. Statutory elements of the CMP include Highway and Roadway System monitoring, multi-modal system performance analysis, the Transportation Demand Management Program, the Land Use Analysis Program, and local conformance for all the county's jurisdictions.

As the Congestion Management Agency for Los Angeles County, the Los Angeles County Metropolitan Transportation Authority (Metro) is responsible for implementing Los Angeles County's CMP. Metro serves as Los Angeles County's transportation planner and coordinator, designer, builder and operator.

The purpose of the CMP is to develop a coordinated approach to managing and decreasing traffic congestion by linking the various transportation, land use and air quality planning programs throughout the County. The program is consistent with that of the Regional Transportation Plan (RTP) prepared by the Southern California Association of Governments (SCAG). The CMP program requires review of significant individual projects, which might on their own impact the CMP transportation system.

According to the 2010 CMP (Los Angeles County Metropolitan Transportation Authority), which is the most current adopted CMP, proposed projects that meet the following criteria, must be evaluated:

- All CMP arterial monitoring intersections, including monitored freeway on- or off-ramp intersections, where the proposed project would add 50 or more trips during either the a.m. or p.m. weekday peak hours (of adjacent street traffic).
- Mainline freeway monitoring locations where the Project would add 150 or more trips, in either direction, during either the AM or PM weekday peak hours.

The following CMP-monitored facilities are located within the Project study area:

- Intersection 7 (Sepulveda Boulevard (SR-1)/Lincoln Boulevard);
- Intersection 15 (Sepulveda Boulevard (SR-1)/El Segundo Boulevard);
- Intersection 18 (Sepulveda Boulevard (SR-1)/Rosecrans Avenue);
- Intersection 68 (Lincoln Boulevard (SR-1)/Manchester Avenue);
- Intersection 69 (Sepulveda Boulevard/Manchester Avenue);
- Intersection 70 (Pacific Coast Highway (SR-1)/Artesia Boulevard); and
- Intersection 71 (Pacific Coast Highway (SR-1)/Torrance Boulevard).



CITY OF EL SEGUNDO

General Plan Circulation Element

The Circulation Element is intended to assist the City in providing a safe, convenient, and efficient circulation system. It provides the general location and extent of existing and proposed major thoroughfares, transportation routes, and other public facilities. It also identifies the system capable of responding to the anticipated growth, consistent with the Policies and Land Use Plan presented in the Land Use Element. The Circulation Element identifies the physical improvements needed to attain the circulation Goals and Objectives and alternative techniques to improve the City's circulation system.

2004 MASTER PLAN OF STREETS

Circulation Element Exhibit C-10 illustrates the City's Master Plan of Streets (Master Plan). The Master Plan designates the preferred number of traffic lanes (roadway classification) to support buildout of the Land Use Element. According to Circulation Element Exhibit C-10, the primary roadways that provide local access to the Project site (El Segundo Boulevard, Rosecrans Avenue, Aviation Boulevard, and Sepulveda Boulevard) are classified as Major Arterials. Major Arterials function to connect traffic from collectors to the major freeway system and should be planned for eight lanes of through traffic. Circulation Element Exhibit C-8 specifies the geometrics (minimum standards) for each roadway classification. When new roadways are constructed or existing roadways are improved, the standards shown on Exhibit C-8 should be used to establish minimum and maximum right-of-way improvements.¹ Additionally, Nash Street and Continental Boulevard, which terminate at El Segundo Boulevard adjacent to the Project site, are classified as Secondary Arterials. Exhibit C-10 also notes that the circulation along the perimeter of the Project site is "to be developed in conjunction with land development."

TRANSPORTATION SYSTEM MANAGEMENT AND TRANSPORTATION DEMAND MANAGEMENT

The Circulation Element recognizes the buildout traffic projections in many instances cannot be accommodated solely by conventional roadway widening techniques. The Element requires the use of Transportation System Management (TSM) and Transportation Demand Management (TDM) techniques to handle the Projected "person trips" in the area.

RAIL RAPID TRANSIT AND PEDESTRIAN/BICYCLE CIRCULATION

A portion of the elevated Metro Green Line railway traverses the northeastern corner of the site. The Green Line is a light rail line running between Redondo Beach and Norwalk. The Circulation Element (Pages 4-33 and 34) notes the following regarding the Metro Green Line and pedestrian/bicycle circulation:

To ensure that the Metro Green Line is integrated into the City's circulation system and City activities in general, consideration of the rail line should be incorporated into all aspects of City planning activities and the development review process. This is particularly important in the vicinity of the rail line stations. In addition, the pedestrian

¹ City of El Segundo, *City of El Segundo General Plan Circulation Element*, Page 4-12.



and bicycle circulation system must be designed to allow convenient access to each of the stations.

A multi-modal transit center with a park-and-ride facility is planned to be constructed on City property adjacent to the Douglas Street Metro Green Line Station, as part of the Douglas Street extension project.

MASTER PLAN OF BICYCLE ROUTES

There are no bicycle facilities located in the Project's vicinity. Circulation Element Exhibit C-15 illustrates the City's Master Plan of Bicycle Routes and identifies a Class II or III bicycle facility on El Segundo Boulevard fronting the Project site. The South Bay Bicycle Master Plan, adopted by the City on October 4, 2011 (see Section 5.10, *Public Services and Recreation*) identifies a Class I bike path on El Segundo Boulevard.² The South Bay Bicycle Master Plan's more stringent requirement of a Class I bike path is applicable to the Project. The Class I bike path on El Segundo Boulevard is included as a Project component evaluated within this EIR.

Refer to Table 5.1-1, *General Plan Consistency Analysis*, for the relevant Circulation Element policies.

El Segundo Municipal Code

The El Segundo Municipal Code (ESMC) regulates municipal affairs within the City's jurisdiction including, without limitation, subdivision regulations (codified in ESMC Title 14) and zoning regulations (codified in ESMC Title 15).

ESMC TITLE 15, ZONING REGULATIONS

ESMC Title 15 is the primary tool for implementing the El Segundo General Plan's Goals, Objectives, and Policies.

ESMC Chapter 15-16: Developer Transportation Demand Management

ESMC Chapter 15-16 sets forth requirements for major new developments to provide facilities that encourage and accommodate the use of ridesharing, transit, pedestrian, and bicycle commuting as alternatives to single occupant motor vehicle trips. According to ESMC § 15-16-2, before approval of any development project, the Applicant must provide for, at a minimum, all of the applicable TDM and trip reduction measures, as specified in ESMC § 15-16-3: *Development Standards*, which include the following among others:

- A. Development of 25,000 square feet or more: a bulletin board, display case or kiosk displaying transportation information located where the greatest number of employees are likely to see it (ESMC includes specific requirements regarding content).
- B. Development of 50,000 square feet or more: the measures in subsection A above; preferential parking (not less than 15 percent of employee parking areas; high occupancy vehicle (HOV) loading area; vanpool access; on site amenities or shuttle;

² The Master Plan was approved; however, no CEQA analysis was ever performed for the various projects it identified.



bicycle facilities; shower and lockers (optional); transit support facilities (optional): Projects may provide facilities which will promote transit use.

- C. Development of 100,000 square feet or more: the measures in subsections A and B above; sidewalks or other designated pathways; bus stop improvements (if deemed necessary by the City); and access from external circulation system to onsite bicycle parking facilities.

ESMC Chapter 15-24A: Right-of-Way Dedications and Improvements

This chapter is intended to implement the orderly acquisition and improvement of public right-of-ways (“ROW”). Private property owners should provide and improve public ROW to ensure that private property development does not adversely impact other public and private facilities and services.

ESMC § 15-24A-3: Dedication. According to this Section, unless otherwise provided, any development requiring an environmental assessment located on a lot abutting public rights of way, must dedicate a portion of that lot to widen the public rights of way in accordance with the standards in General Plan Circulation Element Exhibit C-8. Property dedications must be noted on building plans before the City issues a Building Permit and the dedications must be made before the City approves a final inspection for a Building Permit or issues a Certificate of Occupancy for a project.

ESMC § 15-24A-4: Improvements. This Section specifies that before the City approves a final inspection for a Building Permit or Issues a Certificate of Occupancy for any development or change of use, a property owner must make all required improvements and repairs to abutting public ROW. All developments are required to provide the ROW improvements that the Director determines to be required and applicable, including curb/gutter, parkway trees, and roadway paving among others. All improvements within public ROW must be installed in conformance with the specifications on file with the City Engineer’s Office.

ESMC § 15-24A-4 Table 1, which is based on General Plan Circulation Element Exhibit C-8, establishes the standard ROW widths for the various classifications for public ROW.

5.2.2 EXISTING ENVIRONMENTAL SETTING

INTERSECTION ANALYSIS METHODOLOGY

Study Intersections

Level of service (LOS) is commonly used as a qualitative description of intersection operation and is based on the capacity of the intersection and the volume of traffic using the intersection. The *Intersection Capacity Utilization (ICU)* analysis method is utilized by the City of El Segundo, City of Hawthorne, City of Los Angeles, County of Los Angeles, City of Redondo Beach, and City of Manhattan Beach to determine the operating LOS of signalized intersections. The *ICU* analysis methodology describes the operation of a signalized intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding volume to capacity (V/C) ratios shown in Table 5.2-1, *ICU LOS and V/C Ratios for Signalized Intersections*.



**Table 5.2-1
ICU LOS and V/C Ratios for Signalized Intersections**

LOS	V/C ¹ Ratio
A	< 0.60
B	> 0.60 < 0.70
C	> 0.70 < 0.80
D	> 0.80 < 0.90
E	> 0.90 < 1.00
F	> 1.00
Source: 1990 Transportation Research Board.	
Note:	
1. V/C = volume to capacity ratio.	

El Segundo utilizes the Highway Capacity Manual (HCM) intersection analysis methodology to analyze the operation of unsignalized intersections. The HCM analysis methodology describes the operation of an unsignalized intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding stopped delay experienced per vehicle for unsignalized intersections shown in Table 5.2-2, HCM LOS and Delay Ranges for Unsignalized Intersections.

**Table 5.2-2
HCM LOS and Delay Ranges for Unsignalized Intersections**

LOS	Delay (seconds/vehicle)
A	< 10.0
B	> 10.0 to < 15.0
C	> 15.0 to < 25.0
D	> 25.0 to < 35.0
E	> 35.0 to < 50.0
F	> 50.0
Source: 2000 Highway Capacity Manual.	

Level of service is based on the average stopped delay per vehicle for all movements of signalized intersections and all-way stop-controlled intersections; for one-way or two-way stop-controlled intersections, LOS is based on the worst stop-controlled approach.

State Highway Intersections

Caltrans advocates use of HCM intersection analysis methodology to analyze the operation of signalized intersections. The HCM analysis methodology describes the operation of a signalized intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding stopped delay experienced per vehicle as shown in Table 5.2-3, State-Controlled Intersection HCM LOS and Delay Ranges.



**Table 5.2-3
State-Controlled Intersection HCM LOS and Delay Ranges**

LOS	Delay (seconds/vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10.0	≤ 10.0
B	> 10.0 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	> 80.0	> 50.0

Source: 2000 Highway Capacity Manual.

Level of service is based on the average stopped delay per vehicle for all movements of signalized intersections and all-way stop-controlled intersections; for one-way or two-way stop-controlled intersections, LOS is based on the worst stop-controlled approach.

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State Highway facilities.

STUDY AREA

Study Area Intersections

This analysis evaluates 67 study area intersections, as identified through consultation with City Staff. Table 5.2-4, Study Intersection by Jurisdiction, outlines the study area intersections and identifies the jurisdictions under which they will be analyzed. Exhibit 5.2-1, Study Intersection Locations, shows the location of the study intersections, which are analyzed for the following seven analysis scenarios:

**Table 5.2-4
Study Intersection by Jurisdiction**

Study Intersection	Jurisdiction						
	City of El Segundo	City of Hawthorne	City of Los Angeles	City of Manhattan Beach	City of Redondo Beach	County of Los Angeles	State Highway
SIGNALIZED							
1 Pershing Drive/ Imperial Highway	X		XX ¹				
2 Vista del Mar/ Grand Avenue			XX				
3 Highland Avenue/ Rosecrans Avenue				XX			
4 Main Street/ Grand Avenue	XX						
5 Lomita Street/ Grand Avenue	XX						



**Table 5.2-4 [continued]
Study Intersection by Jurisdiction**

Study Intersection		Jurisdiction						State Highway
		City of El Segundo	City of Hawthorne	City of Los Angeles	City of Manhattan Beach	City of Redondo Beach	County of Los Angeles	
6	Kansas Street/ Grand Avenue	XX						
7	Sepulveda Boulevard (SR-1)/ Lincoln Boulevard							XX ²
8	Sepulveda Boulevard (SR-1)/ Century Boulevard							XX
9	Sepulveda Boulevard (SR-1)/ I-105 WB Off-Ramp							XX
10	Sepulveda Boulevard (SR-1)/ Imperial Highway							XX
11	Sepulveda Boulevard (SR-1)/ Walnut Avenue							XX
12	Sepulveda Boulevard (SR-1)/ Maple Avenue							XX
13	Sepulveda Boulevard (SR-1)/ Mariposa Avenue							XX
14	Sepulveda Boulevard (SR-1)/ Grand Avenue							XX
15	Sepulveda Boulevard (SR-1)/ El Segundo Boulevard							XX ²
16	Sepulveda Boulevard (SR-1)/ Hughes Way							XX
17	Sepulveda Boulevard (SR-1)/ Park Place							XX
18	Sepulveda Boulevard (SR-1)/ Rosecrans Avenue							XX ²
19	Sepulveda Boulevard (SR-1)/ 33rd Street							XX
20	Sepulveda Boulevard (SR-1)/ Marine Avenue							XX
21	Sepulveda Boulevard (SR-1)/ 18th Street							XX
22	Sepulveda Boulevard (SR-1)/ Manhattan Beach Boulevard							XX
23	Hughes Way/ Imperial Highway	X		XX				
24	Continental Boulevard/ Mariposa Boulevard	XX						
25	Continental Boulevard/ Grand Avenue	XX						
26	Continental Boulevard/ El Segundo Boulevard	XX						
27	Nash Street – I-105 WB Off-Ramp/ Imperial Highway							XX



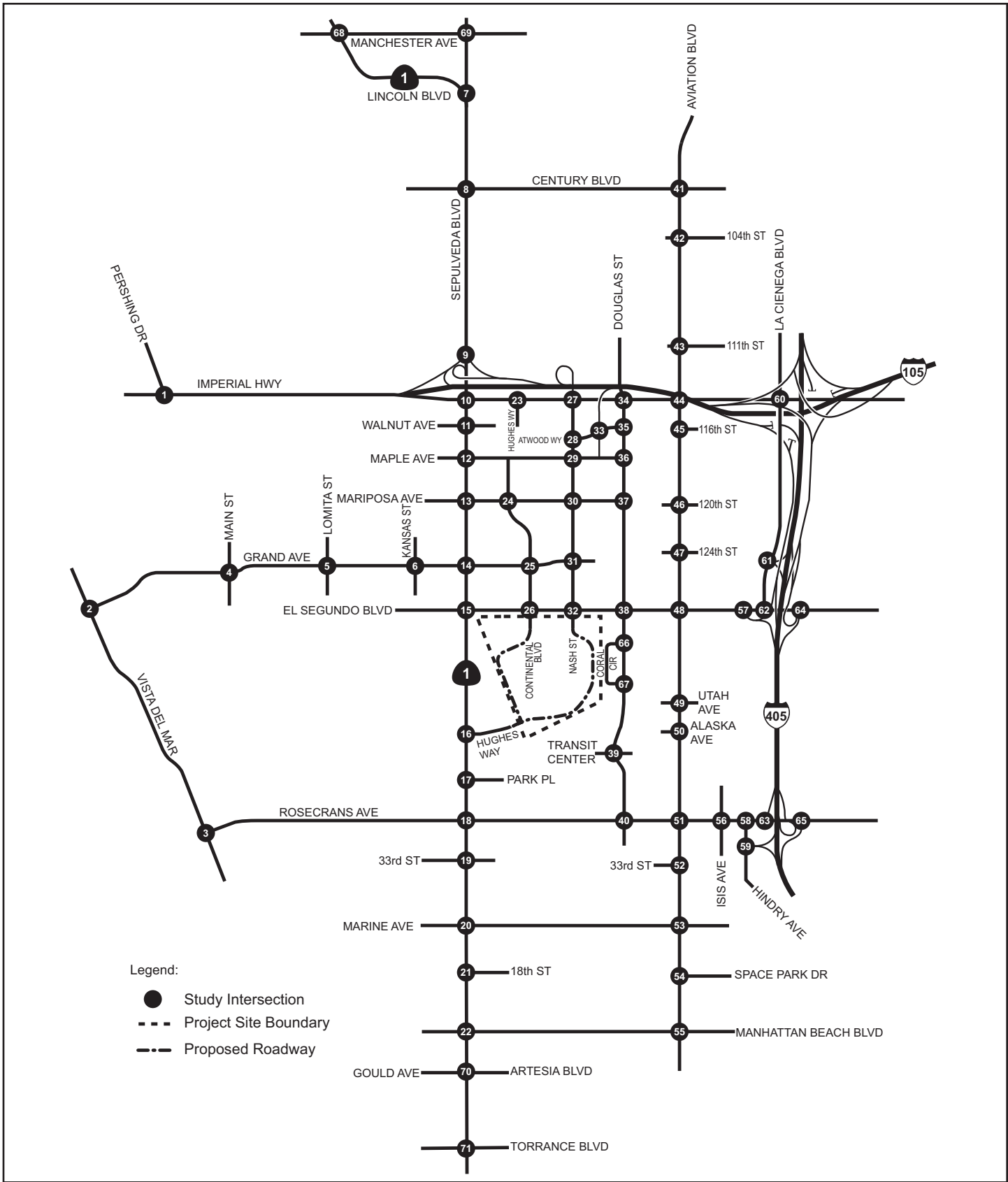
**Table 5.2-4 [continued]
Study Intersection by Jurisdiction**

	Study Intersection	Jurisdiction						State Highway
		City of El Segundo	City of Hawthorne	City of Los Angeles	City of Manhattan Beach	City of Redondo Beach	County of Los Angeles	
28	Nash Street/ Atwood Way	XX						
29	Nash Street/ Maple Avenue	XX						
30	Nash Street/ Mariposa Avenue	XX						
31	Nash Street/ Grand Avenue	XX						
32	Nash Street/ El Segundo Boulevard	XX						
33	I-105 EB On-Ramp (Parkview Drive)/ Atwood Way							XX
34	Douglas Street/ Imperial Highway	X		XX				
35	Douglas Street/ Atwood Way	XX						
36	Douglas Street/ Maple Avenue	XX						
37	Douglas Street/ Mariposa Avenue	XX						
38	Douglas Street/ El Segundo Boulevard	XX						
39	Douglas Street/ Transit Center	XX						
40	Douglas Street/ Rosecrans Avenue	X			XX			
41	Aviation Boulevard/ Century Boulevard			XX				
42	Aviation Boulevard/ 104th Street			XX				
43	Aviation Boulevard/ 111th Street			XX				
44	Aviation Boulevard/ Imperial Highway	X		XX				
45	Aviation Boulevard/ 116th Street	X		XX			X	
46	Aviation Boulevard/ 120th Street	X					XX	
47	Aviation Boulevard/ 124th Street	X					XX	
48	Aviation Boulevard/ El Segundo Boulevard	X	XX					
49	Aviation Boulevard/ Utah Avenue	X	XX					
50	Aviation Boulevard/ Alaska Avenue	X	XX					



**Table 5.2-4 [continued]
Study Intersection by Jurisdiction**

	Study Intersection	Jurisdiction						State Highway
		City of El Segundo	City of Hawthorne	City of Los Angeles	City of Manhattan Beach	City of Redondo Beach	County of Los Angeles	
51	Aviation Boulevard/ Rosecrans Avenue	X	XX		X			
52	Aviation Boulevard/ 33rd Street		XX		X			
53	Aviation Boulevard/ Marine Avenue		XX		X	X		
54	Aviation Boulevard/ Space Park Drive				X	XX		
55	Aviation Boulevard/ Manhattan Beach Boulevard				X	XX		
56	Isis Avenue/ Rosecrans Avenue		XX					
57	I-405 SB Ramps/ El Segundo Boulevard							XX
58	Hindry Avenue/ Rosecrans Avenue		XX					
59	Hindry Avenue/ I-405 SB Ramps							XX
60	La Cienega Boulevard/ Imperial Highway			XX			X	
61	La Cienega Boulevard/ I-405 SB Ramps							XX
62	La Cienega Boulevard/ El Segundo Boulevard		XX				X	
63	I-405 SB Off-Ramp/ Rosecrans Avenue							XX
64	I-405 NB Ramps/ El Segundo Boulevard							XX
65	I-405 NB Ramps/ Rosecrans Avenue							XX
68	Lincoln Boulevard (SR-1)/ Manchester Avenue			X				XX ²
69	Sepulveda Boulevard/ Manchester Avenue			XX ²				
70	Pacific Coast Highway (SR-1)/ Artesia Boulevard				X ³			XX ²
71	Pacific Coast Highway (SR-1)/ Torrance Boulevard					X		XX ²
UNSIGNALIZED								
66	Douglas Street/ Coral Circle North	XX						
67	Douglas Street/ Coral Circle South	XX						
Notes:								
1. Bold "XX" denotes the jurisdiction under which the study intersection is analyzed.								
2. Intersection is also a Congestion Management Plan (CMP) facility.								
3. Intersection is partially located within the City of Hermosa Beach.								



NOT TO SCALE



07/14 • JN 10-107917 (130148)

ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
Study Intersection Locations



State Highway Intersections

The following 24 State Highway study intersections are located within the Project's study area:

1. Sepulveda Boulevard (SR-1)/Lincoln Boulevard;
2. Sepulveda Boulevard (SR-1)/Century Boulevard;
3. Sepulveda Boulevard (SR-1)/I-105 Westbound Off-Ramp;
4. Sepulveda Boulevard (SR-1)/Imperial Highway;
5. Sepulveda Boulevard (SR-1)/Walnut Avenue;
6. Sepulveda Boulevard (SR-1)/Maple Avenue;
7. Sepulveda Boulevard (SR-1)/Mariposa Avenue;
8. Sepulveda Boulevard (SR-1)/Grand Avenue;
9. Sepulveda Boulevard (SR-1)/El Segundo Boulevard;
10. Sepulveda Boulevard (SR-1)/Hughes Way;
11. Sepulveda Boulevard (SR-1)/Park Place;
12. Sepulveda Boulevard (SR-1)/Rosecrans Avenue;
13. Sepulveda Boulevard (SR-1)/33rd Street;
14. Sepulveda Boulevard (SR-1)/Marine Avenue;
15. Sepulveda Boulevard (SR-1)/18th Street;
16. Sepulveda Boulevard (SR-1)/Manhattan Beach Boulevard;
27. Nash Street I-105 Westbound Off-ramp/Imperial Highway;
33. I-105 Eastbound Onramp/Atwood Way;
57. I-405 Southbound Ramps/El Segundo Boulevard;
59. Hindry Avenue/I-405 Southbound Ramps;
61. La Cienega Boulevard/Southbound I-405 Ramps;
63. I-405 Southbound Off-ramp/Rosecrans Avenue;
64. I-405 Northbound Ramps/El Segundo Boulevard;
65. I-405 Northbound Ramps/Rosecrans Avenue;
68. Lincoln Boulevard (SR-1)/Manchester Avenue;
70. Pacific Coast Highway (SR-1)/Artesia Boulevard; and
71. Pacific Coast Highway (SR-1)/Torrance Boulevard.

Study Area Roadways

The characteristics of the roadway system are described below:

- 18th Street is a two-lane undivided roadway trending in an east-west direction. The speed limit is not posted on 18th Street; on-street parking is permitted.
- 33rd Street west of Aviation Boulevard is four-lane divided roadway with a raised median trending in an east-west direction. East of Aviation Boulevard, 33rd Street is a two-lane undivided roadway trending in an east-west direction. The speed limit is not posted on 33rd Street; on-street parking is prohibited.
- 104th Street is a two-lane undivided roadway trending in an east-west direction. The speed limit is not posted on 104th Street; on-street parking is permitted.
- 111th Street is a two-lane divided roadway with a painted median trending in an east-west direction. The speed limit is not posted on 111th Street; on-street parking is prohibited.



- Aviation/LAX Green Line Station Access/116th Street is a four-lane undivided roadway providing access to the Aviation/LAX Green Line Station located just south of the I-105 Freeway. The speed limit is 10 miles per hour; on-street parking is prohibited.
- 120th Street is a four-lane undivided roadway trending in an east-west direction. The posted speed limit on 120th Street is 35 miles per hour; on-street parking is permitted.
- 124th Street is a two-lane undivided roadway trending in an east-west direction. The posted speed limit on 124th Street is 25 miles per hour; on-street parking is permitted.
- Alaska Avenue is a four-lane undivided roadway trending in an east-west direction. The posted speed limit on Alaska Avenue is 35 miles per hour; on-street parking is prohibited.
- Artesia Boulevard west of Pacific Coast Highway (SR-1) is a two-lane undivided roadway with on-street parking prohibited and a posted speed limit of 25 miles per hour. Artesia Boulevard east of Pacific Coast Highway (SR-1) is a four-lane divided roadway with a raised median trending in an east-west direction and posted speed limit of 40 miles per hour. On-street parking is permitted east of Sepulveda Boulevard (SR-1).
- Aviation Boulevard north of Rosecrans Avenue is a four-lane divided roadway with a painted median trending in a north-south direction. Between Rosecrans Avenue and Manhattan Beach Boulevard, Aviation Boulevard is a six-lane divided roadway with a painted median trending in the north-south direction. Aviation Boulevard transitions to a four-lane divided roadway with a painted median trending in the north-south direction south of Manhattan Beach Boulevard. The posted speed limit on Aviation Boulevard is 40 miles per hour; on-street parking is prohibited.
- Century Boulevard is an eight-lane divided roadway with a raised median trending in an east-west direction. Century Boulevard provides access to and from the Los Angeles International Airport (LAX). The posted speed limit on Century Boulevard is 35 miles per hour; on-street parking is prohibited.
- Continental Boulevard/Lairport Street south of Mariposa Avenue is a six-lane divided roadway with a raised median trending in a north-south direction. North of Mariposa Avenue, the roadway changes name to Lairport Street, a two-lane undivided roadway continuing in a north-south direction. The posted speed limit on Continental Boulevard is 30 miles per hour; on-street parking is permitted on Lairport Street (north of Mariposa Avenue) and prohibited on Continental Boulevard (south of Mariposa Avenue). As a public roadway Continental Boulevard currently terminates at its intersection with El Segundo Boulevard. South of El Segundo Boulevard, Continental Boulevard serves as an access to the Raytheon site.
- Coral Circle is a two-lane undivided loop road intersecting Douglas Street at two locations. The posted speed limit is not posted; on-street parking is permitted.
- Douglas Street from its northerly terminus at LAX to Imperial Highway is a four-lane undivided roadway trending in the north-south direction and providing access to cargo facilities and land uses serving LAX. From Imperial Highway to El Segundo Boulevard, Douglas Street is a six-lane divided roadway with a painted median trending in the north-



south direction. Douglas Street between El Segundo Boulevard and the Transit Center (Metro station access located just north of the Green Line overcrossing) is a four-lane divided roadway with a painted median. South of Transit Center, Douglas Street continues as a four-lane divided roadway with a raised median. The posted speed limit on Douglas Street is 40 miles per hour north of Transit Center and 25 miles per hour south of Transit Center; on-street parking is prohibited.

- El Segundo Boulevard from its westerly terminus at Whiting Street to Main Street is a two-lane undivided roadway trending in the east-west direction. From Main Street to Sepulveda Boulevard (SR-1), El Segundo Boulevard is four-lane undivided roadway. El Segundo Boulevard continues as a six-lane divided roadway with a raised median between Sepulveda Boulevard (SR-1) and Douglas Street. Between Douglas Street and Aviation Boulevard, El Segundo Boulevard is an eight-lane divided roadway with a raised median and begins to transition into a six-lane divided roadway east of Aviation Boulevard. The posted speed limit on El Segundo Boulevard ranges between 35 and 40 miles per hour; on-street parking is prohibited.
- Hindry Avenue is a four-lane undivided roadway north of the I-405 southbound ramps and a two lane undivided roadway south of the I-405 southbound ramps trending in a north-south direction. The speed limit is not posted on Hindry Avenue; on-street parking is prohibited.
- Grand Avenue is a three-lane undivided roadway (two-westbound lanes, and one-eastbound lane) trending in the east-west direction with on-street parking prohibited from its westerly terminus at Vista del Mar to Loma Vista Street. Grand Avenue continues east of Loma Vista Street to Concord Street as a four-lane undivided roadway with on-street parking prohibited. Between Concord Street and Eucalyptus Drive, Grand Avenue is a four-lane divided roadway with a raised median and permitted on-street parking. Grand Avenue is a four-lane undivided roadway with on-street parking prohibited between Eucalyptus Drive to Sepulveda Boulevard (SR-1) and transitions into a six-lane divided roadway with a raised median and no on-street parking east of Sepulveda Boulevard (SR-1). East of Nash to its easterly terminus at Duley Road, Grand Avenue is a two-lane undivided roadway with on-street parking permitted. The posted speed limit on Grand Avenue ranges between 25 miles per hour and 35 miles per hour.
- Hughes Way is a private north-south roadway located south of Imperial Highway. The private drive provides access to Raytheon's North Campus, Boeing facilities, and DirectTV corporate offices. The posted speed limit is 10 miles per hour.
- Imperial Highway is a four-lane divided roadway with a raised median trending in an east-west direction from its westerly terminus at Vista del Mar to California Street (terminus of the I-105 Freeway). East of California Street, Imperial Highway transitions into a six-lane divided roadway with a raised median extending under the I-105 Freeway. The posted speed limit on Imperial Highway ranges between 40 and 50 miles per hour; on-street parking is prohibited.
- Isis Avenue is a two-lane undivided roadway trending in a north-south direction. The posted speed limit on Isis Avenue is 25 miles per hour; on-street parking is permitted.
- Kansas Street is a two-lane undivided roadway trending in a north-south direction. The speed limit is not posted on Kansas Street; on-street parking is permitted.



- La Cienega Boulevard north of 123rd Street is a four to five-lane divided roadway with raised or painted medians trending in the north-south direction. South of 123rd Street, La Cienega Boulevard is a four-lane divided roadway with a raised median. The posted speed limit on La Cienega Boulevard is 40 miles per hour; on-street parking is prohibited.
- Lincoln Boulevard is a six-lane divided roadway with a raised median trending in an east-west direction. The posted speed limit on Lincoln Boulevard is 50 miles per hour; on-street parking is prohibited. Lincoln Boulevard west of Sepulveda Boulevard is designated State Route 1 (SR-1) by Caltrans.
- Lomita Street is a two-lane undivided roadway trending in a north-south direction. The speed limit is not posted on Lomita Street; on-street parking is permitted.
- Main Street is a four-lane undivided roadway trending in a north-south direction. The posted speed limit on Main Street is 25 miles per hour; on-street parking is permitted.
- Manchester Avenue is a four-lane divided roadway with a raised median trending in an east-west direction. The posted speed limit on Manchester Avenue is 40 miles per hour; on-street parking is permitted,
- Manhattan Beach Boulevard is a four-lane divided roadway with a raised median trending in an east-west direction. The posted speed limit on Manhattan Beach Boulevard is 35 miles per hour; on-street parking is permitted.
- Maple Avenue is a two-lane undivided roadway trending in an east-west direction. The posted speed limit on Maple Avenue is 35 miles per hour; on-street parking is permitted.
- Marine Avenue west of Sepulveda Boulevard (SR-1) is a two-lane undivided roadway trending in the east-west direction with on-street parking prohibited. Marine Avenue between Sepulveda Boulevard (SR-1) and Aviation Boulevard is generally a four-lane divided roadway with a raised median and permitted on-street parking. East of Aviation Boulevard, Marine Avenue is a four-lane divided roadway with a painted median and on-street parking prohibited. The posted speed limit on Marine Avenue is ranges from 25 to 40 miles per hour.
- Mariposa Avenue is a five-lane (two westbound lanes and three eastbound lanes) divided roadway east of Sepulveda Boulevard (SR-1) and a two-lane undivided roadway west of Sepulveda Boulevard (SR-1) trending in an east-west direction. The posted speed limit on Mariposa Avenue is 40 miles per hour. On-street parking is prohibited on Mariposa Avenue east of Sepulveda Boulevard (SR-1); on-street parking is permitted on Mariposa Avenue west of Sepulveda Boulevard (SR-1).
- Nash Street is a four-lane divided roadway with a painted median north of Atwood Way and a four-lane undivided roadway south of Atwood Way trending in a north-south direction. The posted speed limit on Nash Street is 35 miles per hour; on-street parking is prohibited. As a public roadway Nash Street currently terminates at its intersection with El Segundo Boulevard. South of El Segundo Boulevard, Nash Street serves as an access to the Raytheon site.



- Park Place is a four-lane undivided roadway trending in an east-west direction. The speed limit is not posted on Park Place; on-street parking is prohibited.
- Pershing Drive is a four-lane divided roadway with a raised median trending in a north-south direction. The posted speed limit on Pershing Drive is 55 miles per hour; on-street parking is prohibited.
- Rosecrans Avenue west of Highland Avenue is a two-lane undivided roadway trending in an east-west direction with permitted on-street parking. From Highland Avenue to Bell Avenue, Rosecrans Avenue is a four-lane divided roadway with a raised median and permitted on-street parking on the entire eastbound direction and a portion of the westbound direction. From Bell Avenue to Sepulveda Boulevard (SR-1), Rosecrans Avenue is a five-lane divided roadway (three westbound lanes and two eastbound lanes) with a raised median, permitted on-street parking on the eastbound direction, and no on-street parking on the westbound direction. Rosecrans Avenue is a six-lane divided roadway with a raised median with on-street parking prohibited from Sepulveda Boulevard (SR-1) to Douglas Street. East of Douglas Street, Rosecrans Avenue continues as an eight-lane divided roadway with a painted median. The posted speed limit on Rosecrans Avenue ranges from 35 to 45 miles per hour.
- Sepulveda Boulevard (SR-1) – Pacific Coast Highway north of Rosecrans Avenue is generally an eight-lane divided roadway with a raised median trending in a north-south direction. South of Rosecrans Avenue, Sepulveda Boulevard (SR-1) is generally a six-lane divided roadway with a raised median. The posted speed limit on Sepulveda Boulevard (SR-1) ranges from 35 to 45 miles per hour; on-street parking is prohibited. Sepulveda Boulevard south of Lincoln Boulevard is designated State Route 1 (SR-1) by Caltrans and changes name to Pacific Coast Highway south of Manhattan Beach.
- South Hughes Way is a four to six-lane divided roadway located east of Sepulveda Boulevard (SR-1). Approximately 2,000 feet east of Sepulveda Boulevard (SR-1), Hughes Way provides gated access into the Raytheon site and public traffic access is prohibited beyond the gates. The posted speed limit on South Hughes Way is 40 Miles an hour; on-street parking is prohibited.
- Space Park Drive is a two-lane undivided roadway trending in an east-west direction. The speed limit is not posted on Space Park Drive; on-street parking is prohibited.
- Torrance Boulevard is a four-lane divided roadway with a raised median trending in an east-west direction. On-street parking is permitted; the posted speed limit is 30 miles per hour.
- Utah Avenue is a four-lane undivided roadway trending in an east-west direction. The posted speed limit on Utah Avenue is 35 miles per hour; on-street parking is prohibited.
- Vista del Mar (Highland Avenue south of 45th Street) is a four-lane undivided roadway trending in a north-south direction. The posted speed limit on Vista del Mar ranges between 30 and 45 miles per hour; on-street parking is permitted south of 45th Street and north of Imperial Highway.



- Walnut Avenue west of Sepulveda Boulevard (SR-1) is a two-lane undivided roadway trending in the east-west direction. East of Sepulveda Boulevard (SR-1), Walnut Avenue is a four-lane undivided roadway. The speed limit is not posted on Walnut Avenue; on-street parking is permitted.

EXISTING TRAFFIC CONDITIONS

Existing Conditions Traffic Volumes

To determine existing operation of the study intersections, weekday a.m. and p.m. peak period traffic volume counts were collected in February 2012, March 2012, June 2013, and October 2013 during typical weekday conditions. The a.m. peak period intersection counts were collected from 7:00 a.m. to 9:00 a.m.; the p.m. peak period intersection counts were collected from 4:00 p.m. to 6:00 p.m. The traffic volumes used in this analysis were taken from the highest hour within the peak period counted. Additionally, average daily traffic (ADT) counts were collected on the study roadway segments in February and March 2012. Detailed traffic count data sheets are contained in Appendix B of [Appendix 10.3](#).

[Exhibits 5.2-2](#) through [5.2-5](#), *Existing AM/PM Peak Hour Study Intersection Volumes*, show existing conditions a.m. and p.m. peak hour volumes at the study intersections. [Exhibits 5.2-6](#) through [5.2-9](#), *Existing Study Intersection Geometry*, show existing study intersection geometry and control. All exhibits are located at the end of this section.

Existing Conditions Study Intersection Peak Hour LOS

[Table 5.2-5](#), *Existing Conditions Peak Hour Study Intersection LOS*, summarizes existing conditions a.m. peak hour and p.m. peak hour LOS of the study intersections; detailed LOS analysis sheets are contained in Appendix C of [Appendix 10.3](#).

As shown in [Table 5.2-5](#), the intersections are currently operating at an acceptable LOS (LOS D or better) according to agency performance criteria, except the following study intersections:

- Intersection 38 (Douglas Street/El Segundo Boulevard, El Segundo) p.m. peak hour only;
- Intersection 48 (Aviation Boulevard/El Segundo Boulevard, Hawthorne) p.m. peak hour only;
- Intersection 53 (Aviation Boulevard/Marine Avenue, Hawthorne) a.m. peak hour only;
- Intersection 55 (Aviation Boulevard/Manhattan Beach Boulevard, Redondo Beach) both a.m. and p.m. peak hours;
- Intersection 66 (Douglas Street/Coral Circle North, El Segundo) p.m. peak hour only; and
- Intersection 69 (Sepulveda Boulevard/Manchester Avenue, City of Los Angeles) a.m. peak hour only.



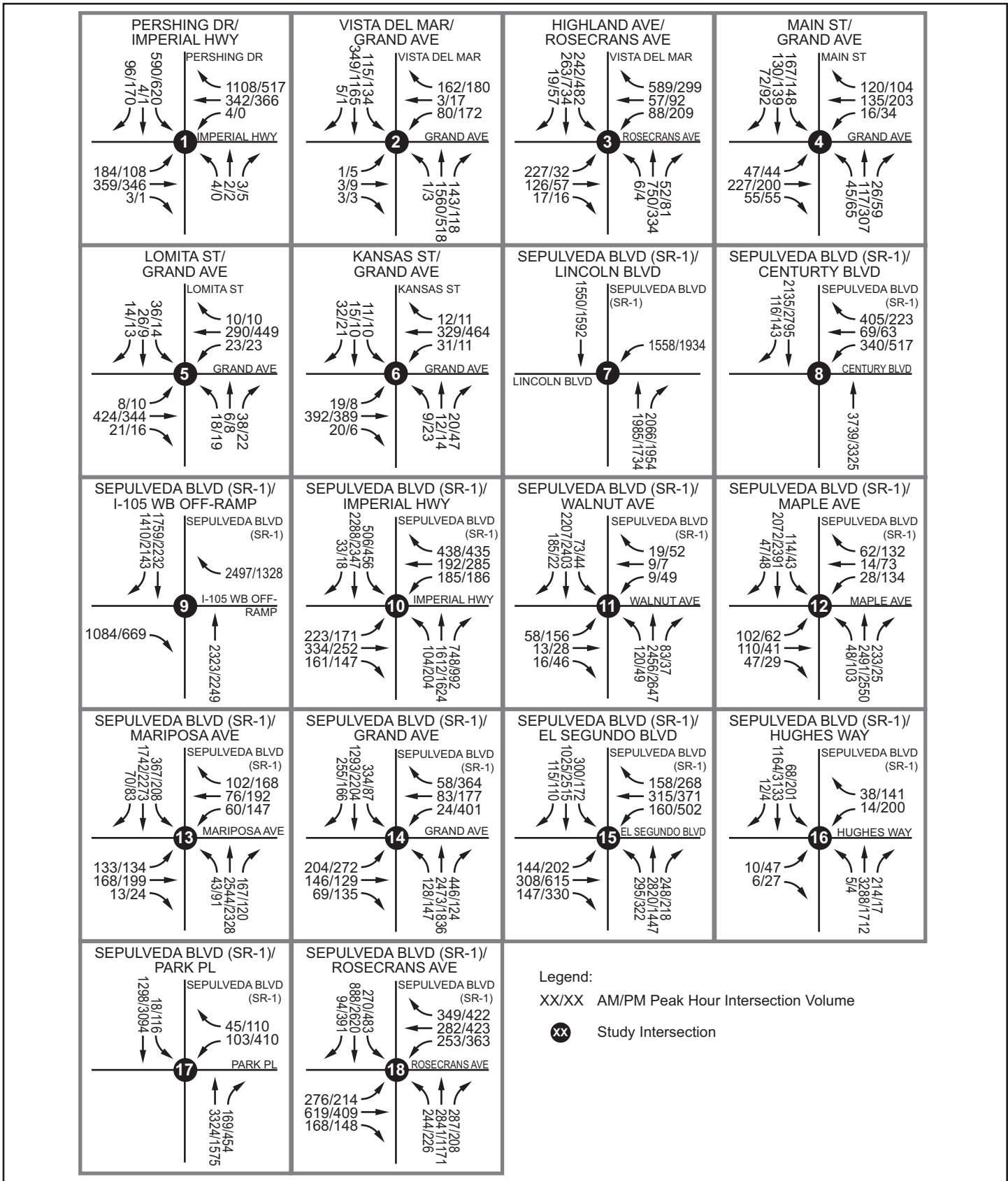
**Table 5.2-5
Existing Conditions Peak Hour Study Intersection LOS**

Study Intersection		Existing Conditions	
		AM Peak Hour	PM Peak Hour
		V/C ¹ – LOS ²	V/C ¹ – LOS ²
SIGNALIZED			
1	Pershing Drive/Imperial Highway	0.516 – A	0.450 – A
2	Vista del Mar/Grand Avenue	0.810 – D	0.589 – A
3	Highland Avenue/Rosecrans Avenue	0.861 – D	0.748 – C
4	Main Street/Grand Avenue	0.377 – A	0.461 – A
5	Lomita Street/Grand Avenue	0.315 – A	0.296 – A
6	Kansas Street/Grand Avenue	0.296 – A	0.316 – A
23	Hughes Way/Imperial Highway	0.643 – B	0.721 – C
24	Continental Boulevard/Mariposa Boulevard	0.488 – A	0.392 – A
25	Continental Boulevard/Grand Avenue	0.378 – A	0.354 – A
26	Continental Boulevard/El Segundo Boulevard	0.436 – A	0.471 – A
28	Nash Street/Atwood Way	0.522 – A	0.424 – A
29	Nash Street/Maple Avenue	0.742 – C	0.637 – B
30	Nash Street/Mariposa Avenue	0.531 – A	0.493 – A
31	Nash Street/Grand Avenue	0.509 – A	0.520 – A
32	Nash Street/El Segundo Boulevard	0.461 – A	0.554 – A
34	Douglas Street/Imperial Highway	0.421 – A	0.513 – A
35	Douglas Street/Atwood Way	0.235 – A	0.439 – A
36	Douglas Street/Maple Avenue	0.305 – A	0.338 – A
37	Douglas Street/Mariposa Avenue	0.351 – A	0.448 – A
38	Douglas Street/El Segundo Boulevard	0.667 – B	0.910 – E
39	Douglas Street/Transit Center	0.271 – A	0.356 – A
40	Douglas Street/Rosecrans Avenue	0.655 – B	0.743 – C
41	Aviation Boulevard/Century Boulevard	0.759 – C	0.736 – C
42	Aviation Boulevard/104th Street	0.603 – B	0.583 – A
43	Aviation Boulevard/111th Street	0.635 – B	0.583 – A
44	Aviation Boulevard/Imperial Highway	0.807 – D	0.713 – C
45	Aviation Boulevard/116th Street	0.471 – A	0.484 – A
46	Aviation Boulevard/120th Street	0.694 – B	0.516 – A
47	Aviation Boulevard/124th Street	0.451 – A	0.515 – A
48	Aviation Boulevard/El Segundo Boulevard	0.885 – D	1.042 – F
49	Aviation Boulevard/Utah Avenue	0.892 – D	0.827 – D
50	Aviation Boulevard/Alaska Avenue	0.619 – B	0.831 – D
51	Aviation Boulevard/Rosecrans Avenue	0.730 – C	0.848 – D
52	Aviation Boulevard/33rd Street	0.676 – B	0.723 – C
53	Aviation Boulevard/Marine Avenue	1.074 – F	0.888 – D
54	Aviation Boulevard/Space Park Drive	0.717 – C	0.611 – B



**Table 5.2-5 [continued]
Existing Conditions Peak Hour Study Intersection LOS**

Study Intersection		Existing Conditions	
		AM Peak Hour	PM Peak Hour
		V/C – LOS	V/C – LOS
55	Aviation Boulevard/Manhattan Beach Boulevard	0.958 – E	0.965 – E
56	Isis Avenue/Rosecrans Avenue	0.726 – C	0.723 – C
58	Hindry Avenue/Rosecrans Avenue	0.636 – B	0.766 – C
60	La Cienega Boulevard/Imperial Highway	0.533 – A	0.653 – B
62	La Cienega Boulevard/El Segundo Boulevard	0.730 – C	0.834 – D
69	Sepulveda Boulevard/Manchester Avenue	0.914 – E	0.815 – D
UNSIGNALIZED			
Study Intersection		Delay ³ – LOS	Delay ³ – LOS
66	Douglas Street/Coral Circle North	19.4 – C	59.8 – F
67	Douglas Street/Coral Circle South	17.3 – C	25.5 – D
Notes:			
1. V/C = volume to capacity ratio;			
2. Deficient intersection operation shown in bold .			
3. Delay shown in seconds per vehicle.			



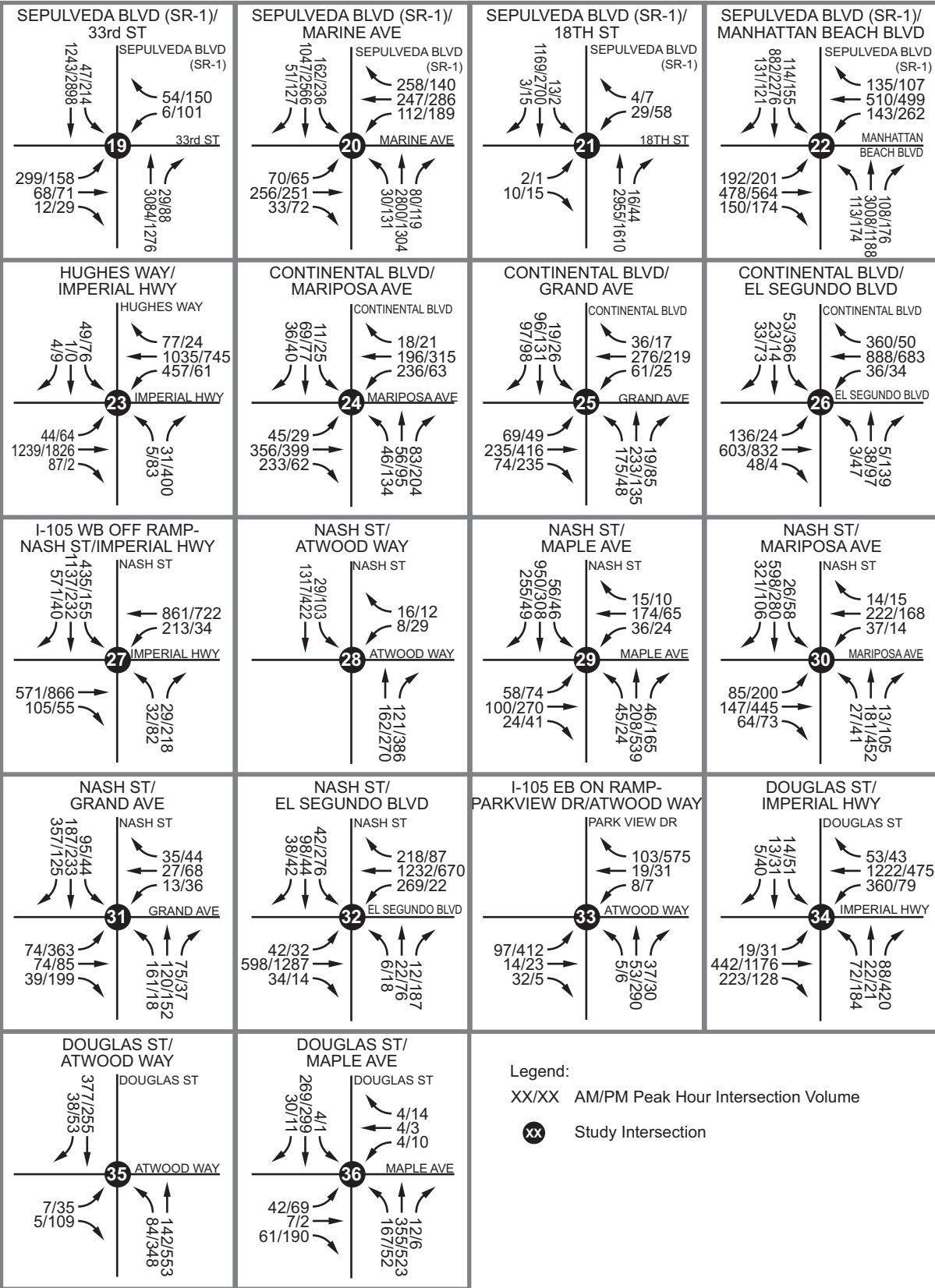
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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Existing AM/PM Peak Hour Study Intersection Volumes
 (Intersections 1 through 18)**

Exhibit 5.2-2

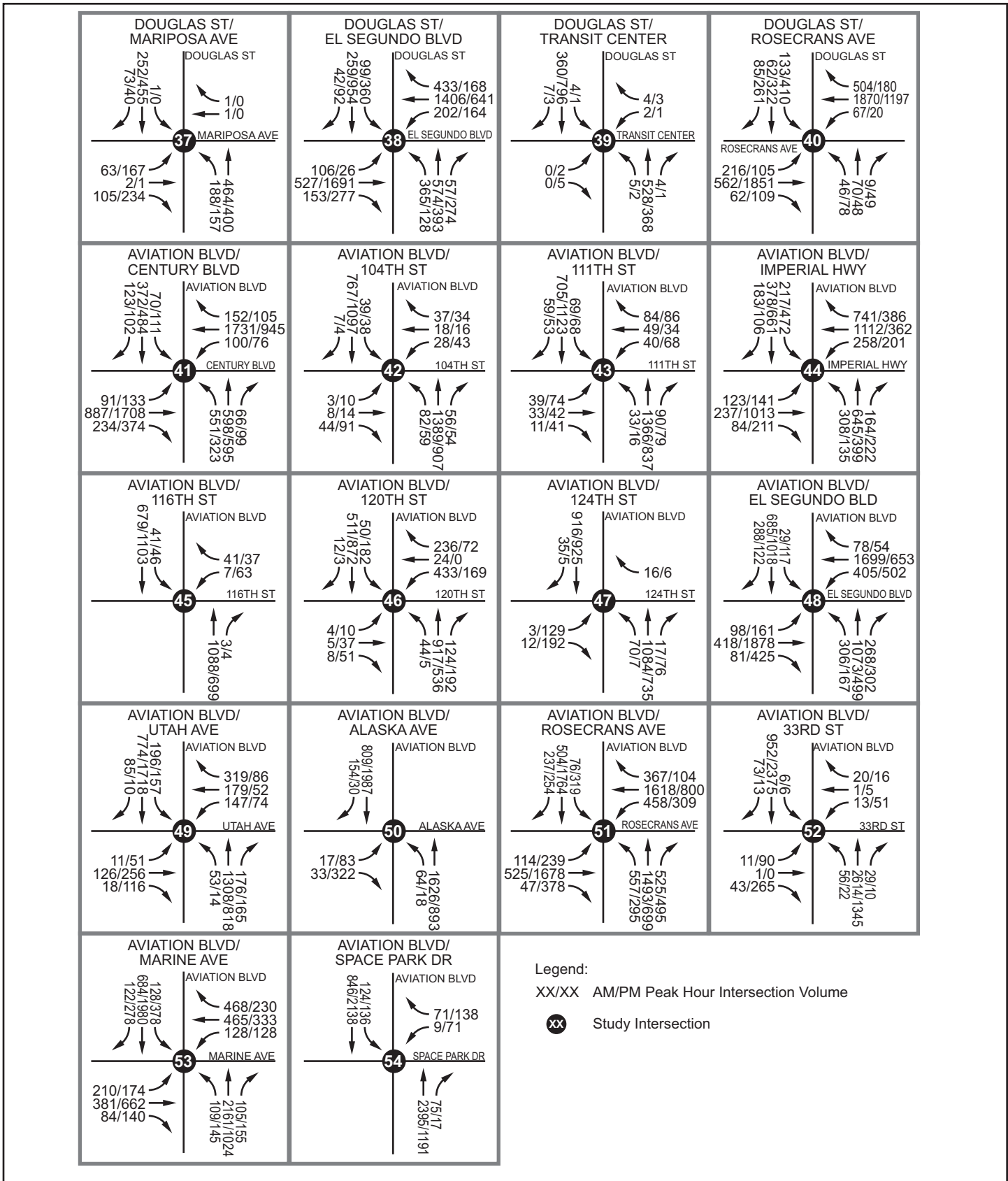


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07/14 • JN 10-107917 (130148)

ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Existing AM/PM Peak Hour Study Intersection Volumes
 (Intersections 19 through 36)**

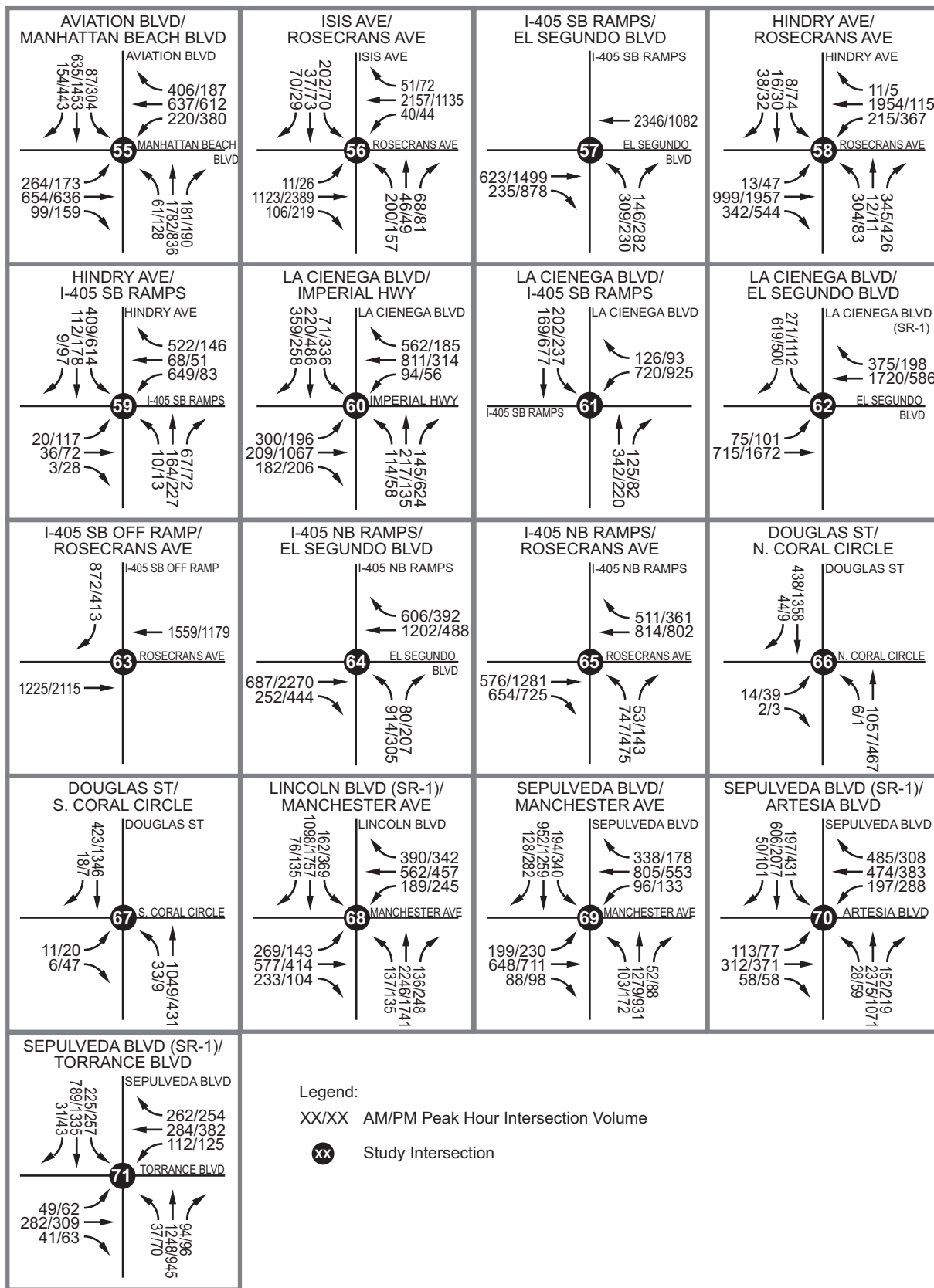


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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
Existing AM/PM Peak Hour Study Intersection Volumes
(Intersections 37 through 54)

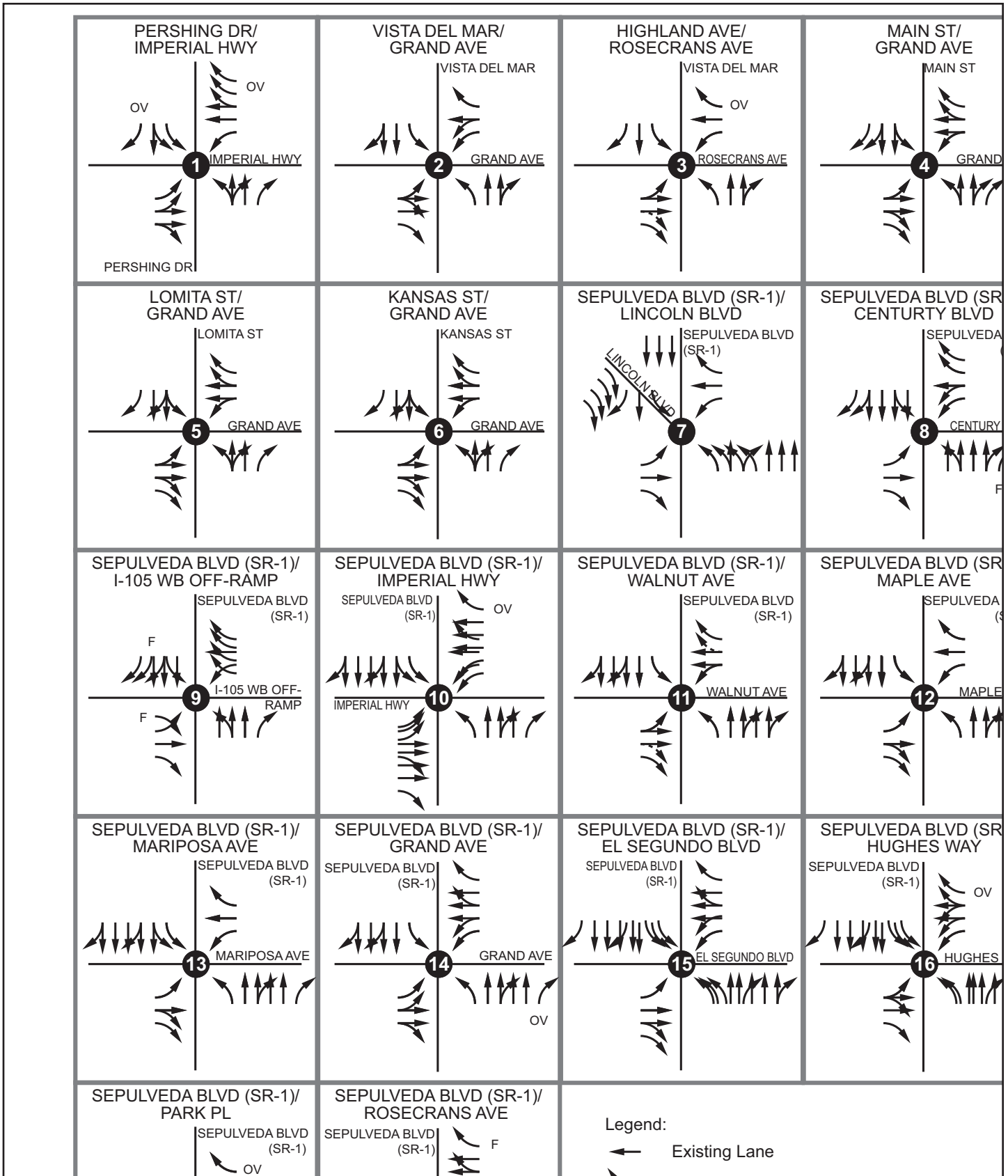


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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
Existing AM/PM Peak Hour Study Intersection Volumes
(Intersections 55 through 71)



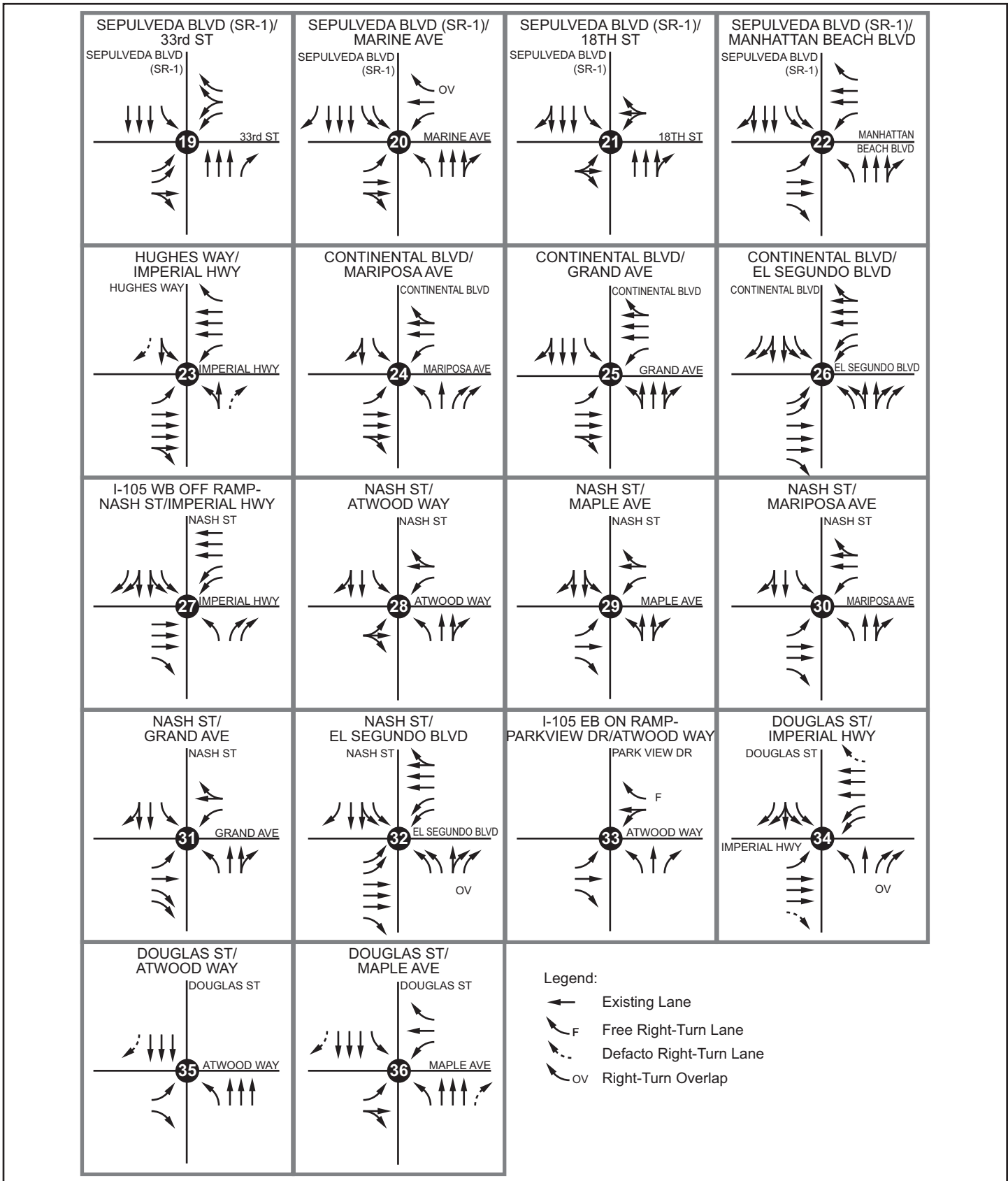
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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Existing Study Intersection Geometry
 (Intersections 1 through 18)**

Exhibit 5.2-6

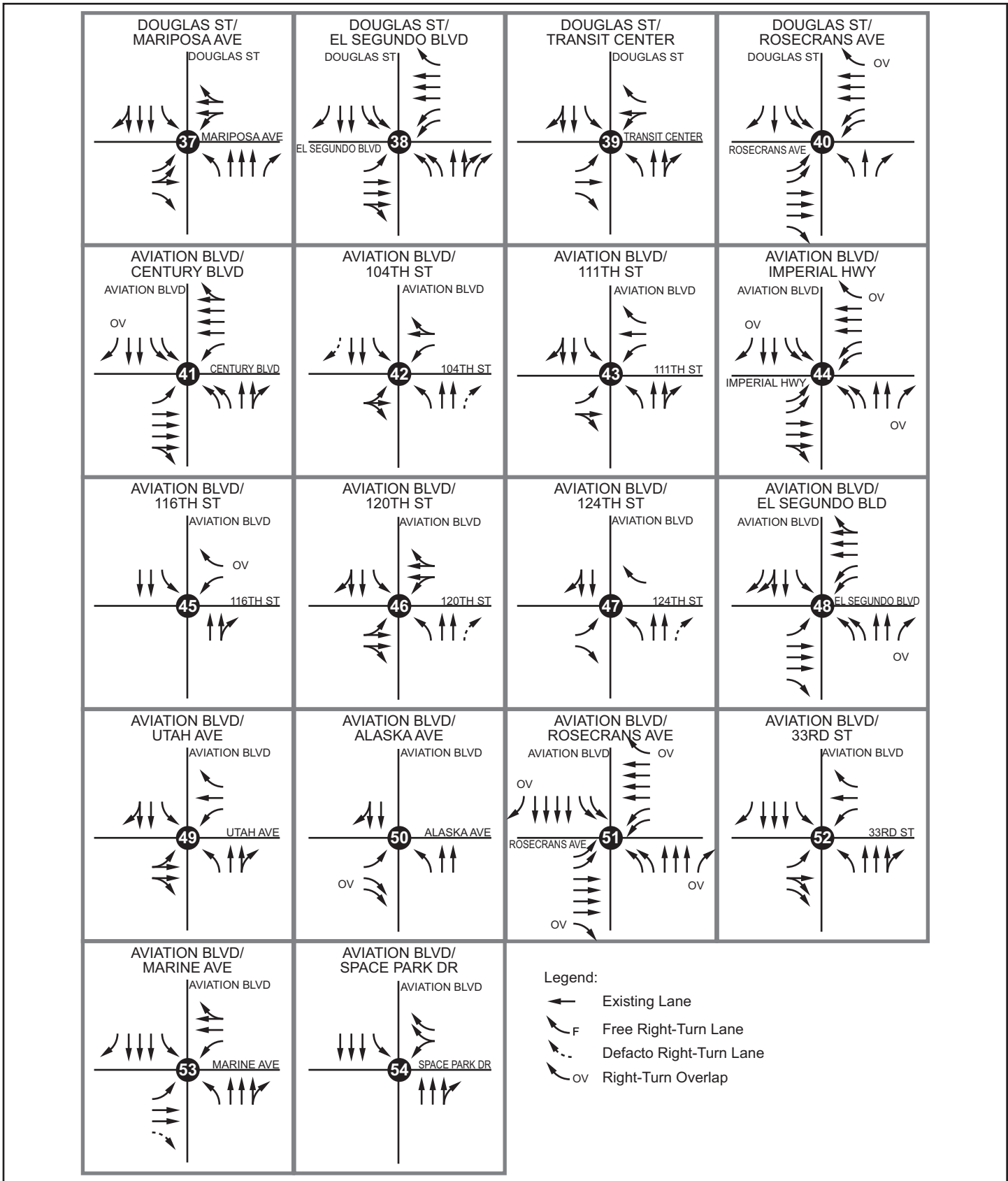


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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Existing Study Intersection Geometry
 (Intersections 19 through 36)**

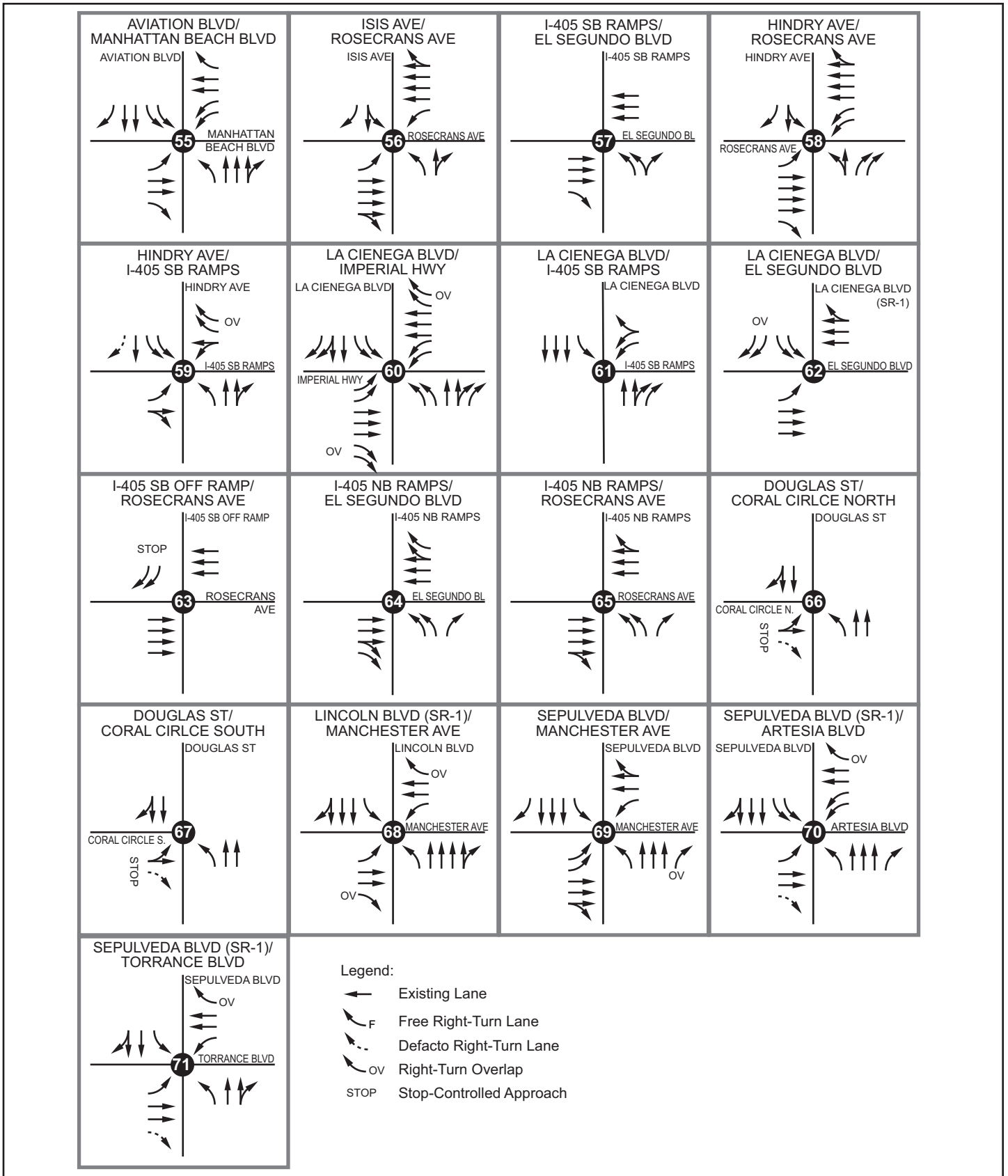


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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Existing Study Intersection Geometry
 (Intersections 37 through 54)**



NOT TO SCALE



07/14 • JN 10-107917 (130148)

ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Existing Study Intersection Geometry
 (Intersections 55 through 71)**



Existing Conditions State Highway Study Intersection Peak Hour LOS

This State Highway intersection analysis has been prepared in accordance with the Caltrans *Guide for the Preparation of Traffic Impact Studies* (State of California Department of Transportation, December 2002). This section evaluates the existing conditions at the State Highway study intersections.

Table 5.2-6, *Existing Conditions Peak Hour State Highway Study Intersection LOS*, summarizes existing conditions a.m. peak hour and p.m. peak hour LOS of the State Highway study intersections; detailed LOS analysis sheets are contained in Appendix C of Appendix 10.3.

**Table 5.2-6
Existing Conditions Peak Hour State Highway Study Intersection LOS**

Study Intersection		Existing Conditions	
		AM Peak Hour	PM Peak Hour
		Delay ¹ – LOS ²	Delay ¹ – LOS ²
7	Sepulveda Boulevard (SR-1)/Lincoln Boulevard	19.6 – B	21.7 – C
8	Sepulveda Boulevard (SR-1)/Century Boulevard	11.4 – B	12.5 – B
9	Sepulveda Boulevard (SR-1)/I-105 WB Off-Ramp	999.9 – F	999.9 – F
10	Sepulveda Boulevard (SR-1)/Imperial Highway	34.0 – C	48.4 – D
11	Sepulveda Boulevard (SR-1)/Walnut Avenue	10.2 – B	14.5 – B
12	Sepulveda Boulevard (SR-1)/Maple Avenue	12.9 – B	13.8 – B
13	Sepulveda Boulevard (SR-1)/Mariposa Avenue	17.4 – B	20.8 – C
14	Sepulveda Boulevard (SR-1)/Grand Avenue	25.9 – C	36.0 – D
15	Sepulveda Boulevard (SR-1)/El Segundo Boulevard	30.9 – C	42.5 – D
16	Sepulveda Boulevard (SR-1)/Hughes Way	5.7 – A	13.4 – B
17	Sepulveda Boulevard (SR-1)/Park Place	4.5 – A	11.9 – B
18	Sepulveda Boulevard (SR-1)/Rosecrans Avenue	30.2 – C	35.0 – C
19	Sepulveda Boulevard (SR-1)/33rd Street	17.5 – B	41.3 – D
20	Sepulveda Boulevard (SR-1)/Marine Avenue	30.6 – C	33.0 – C
21	Sepulveda Boulevard (SR-1)/18th Street	3.5 – A	4.7 – A
22	Sepulveda Boulevard (SR-1)/Manhattan Beach Boulevard	56.4 – E	53.1 – D
27	Nash Street – I-105 WB ³ Off-Ramp/Imperial Highway	28.4 – C	24.1 – C
33	I-105 EB On-Ramp (Parkview Drive)/Atwood Way	21.4 – C	21.9 – C
57	I-405 SB Ramps/El Segundo Boulevard	12.5 – B	15.0 – B
59	Hindry Avenue/I-405 SB Ramps	26.3 – C	27.3 – C
61	La Cienega Boulevard/I-405 SB Ramps	26.7 – C	27.1 – C
63	I-405 SB Off-Ramp/Rosecrans Avenue	353.0 – F	22.2 – C
64	I-405 NB Ramps/El Segundo Boulevard	19.0 – B	10.5 – B
65	I-405 NB Ramps/Rosecrans Avenue	16.0 – B	11.3 – B
68	Lincoln Boulevard (SR-1)/Manchester Avenue	34.2 – C	33.5 – C
70	Pacific Coast Highway (SR-1)/Artesia Boulevard	42.1 – D	28.3 – C
71	Pacific Coast Highway (SR-1)/Torrance Boulevard	28.6 – C	29.0 – C

Notes:

1. Delay shown in seconds per vehicle.
2. Deficient intersection operation shown in **bold**.
3. NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound.



As shown in [Table 5.2-6](#), the State Highway study intersections are currently operating at an acceptable LOS (LOS C or better) according to Caltrans performance criteria for existing conditions, except the following:

- Intersection 9 – Sepulveda Boulevard (SR-1)/I-105 Westbound Off-Ramp (Caltrans - both a.m. and p.m. peak hours);
- Intersection 10 – Sepulveda Boulevard (SR-1)/Imperial Highway (Caltrans - p.m. peak hour only);
- Intersection 14 – Sepulveda Boulevard (SR-1)/Grand Avenue (Caltrans - p.m. peak hour only);
- Intersection 15 – Sepulveda Boulevard (SR-1)/El Segundo Boulevard (Caltrans - p.m. peak hour only);
- Intersection 19 – Sepulveda Boulevard (SR-1)/33rd Street (Caltrans - p.m. peak hour only);
- Intersection 22 – Sepulveda Boulevard (SR-1)/Manhattan Beach Boulevard (Caltrans - both a.m. and p.m. peak hours);
- Intersection 63 – I-405 SB Off-Ramp/Rosecrans Avenue (Caltrans - a.m. peak hour only); and
- Intersection 70 – Pacific Coast Highway (SR-1)/Artesia Boulevard (Caltrans – a.m. peak hour only).

Existing Conditions Freeway Off-Ramp Queue Analysis

To determine off-ramp queue conditions of vehicles transitioning from the freeway mainline to surface streets, a Highway Capacity Manual (HCM) queue analysis has been prepared at the following freeway off-ramps:

- I-105 Westbound Off-Ramp at northbound Sepulveda Boulevard (SR-1);
- I-105 Westbound Off-Ramp at Imperial Highway;
- I-405 Southbound Off-Ramp at El Segundo Boulevard;
- I-405 Southbound Off-Ramp at Hindry Avenue;
- I-405 Southbound Off-Ramp at La Cienega Boulevard;
- I-405 Southbound Off-Ramp at Rosecrans Avenue;
- I-405 Northbound Off-Ramp at El Segundo Boulevard; and
- I-405 Northbound Off-Ramp at Rosecrans Avenue.

[Table 5.2-7](#), *Existing Conditions Off-Ramp Queue Analysis*, summarizes the results for the off-ramp movement queue analysis at the study off-ramps for existing conditions; detailed queue analysis sheets are contained in Appendix C of [Appendix 10.3](#). As indicated in [Table 5.2-7](#), adequate queue storage exists at the study off-ramp locations for existing conditions.



**Table 5.2-7
Existing Conditions Off-Ramp Queue Analysis**

Location	Freeway Off-Ramp Queue Storage Provided (feet)	Forecast Off-Ramp Queue (feet)		Adequate Off-Ramp Storage Provided?
		Existing Conditions		
		AM Peak Hour	PM Peak Hour	
I-105 WB Off-Ramp at NB Sepulveda Boulevard (SR-1)	4,460	1,200	550	Yes
I-105 WB Off-Ramp at Imperial Highway	2,660	175	175	Yes
I-405 SB Off-Ramp at El Segundo Boulevard	2,450	225	350	Yes
I-405 SB Off-Ramp at Hindry Avenue	1,300	425	100	Yes
I-405 SB Off-Ramp at La Cienega Boulevard	1,410	275	300	Yes
I-405 SB Off-Ramp at Rosecrans Avenue	1,160	715	115	Yes
I-405 NB Off-Ramp at El Segundo Boulevard	2,715	275	175	Yes
I-405 NB Off-Ramp at Rosecrans Avenue	1,710	275	200	Yes
Note: NB = Northbound; SB = Southbound; WB = Westbound.				

5.2.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

CITY OF EL SEGUNDO

Performance Criteria. As stated in the City of El Segundo General Plan Circulation Element, the City goal for peak hour intersection operation is LOS D or better.

Thresholds of Significance. To determine whether the addition of Project-generated trips results in a significant impact at a signalized study intersection, and thus requires mitigation, El Segundo has established the following thresholds of significance:

- A significant project impact occurs at a signalized study intersection when the addition of Project-generated trips causes the peak hour LOS of the study intersection to change from acceptable operation (LOS A, B, C, or D) to deficient operation (LOS E or F); or
- A significant project impact occurs at a signalized study intersection when the addition of Project-generated trips causes an ICU increase of 0.02 or more when the “with Project” intersection LOS is at LOS E or F.

Most jurisdictions, including El Segundo, have not established thresholds of significance for stop-controlled intersections. However, the following threshold of significance, which is in the



range of thresholds used by several jurisdictions, is utilized to determine whether the addition of Project-generated trips results in a significant impact at an unsignalized study intersection, and thus requires mitigation:

- At stop-controlled intersections, a significant project impact occurs if one of the minor street approaches is forecast to operate at LOS E or F and the addition of Project-generated trips causes an increase in delay of four or more seconds. However, this is not a rigid threshold and judgment is required to consider the relevance of turning traffic volume, lane configuration, queuing impacts and other parameters affecting intersection operations.

CITY OF MANHATTAN BEACH

Performance Criteria. The City of Manhattan Beach goal for peak hour intersection operation is LOS D or better.

Thresholds of Significance. To determine whether the addition of Project-generated trips results in a significant impact at a study intersection, and thus requires mitigation, Manhattan Beach has established the following thresholds of significance, which are based on the County of Los Angeles Department of Public Works (January 1997):

- A significant project impact occurs at a study intersection when the addition of Project-generated trips causes an ICU increase of 0.02 while operating at LOS D; or
- A significant project impact occurs at a study intersection when the addition of Project-generated trips causes an ICU increase of 0.01 while operating at LOS E or F.

CITY OF REDONDO BEACH

Performance Criteria. According to the City of Redondo Beach Circulation Element (November 2009), the City goal for peak hour intersection operation is LOS D or better.

Thresholds of Significance. To determine whether the addition of Project-generated trips results in a significant impact at a study intersection, and thus requires mitigation, Redondo Beach has established the following thresholds of significance:

- A significant project impact occurs at a study intersection when the addition of Project-generated trips causes an ICU increase of 0.04 while operating at LOS C; or
- A significant project impact occurs at a study intersection when the addition of Project-generated trips causes an ICU increase of 0.02 while operating at LOS D; or
- A significant project impact occurs at a study intersection when the addition of Project-generated trips causes an ICU increase of 0.01 while operating at LOS E or F.



CITY OF HAWTHORNE

Performance Criteria. Since intersection LOS performance criteria is not stated in the traffic study guidelines for the City of Hawthorne, this report assumes a goal for peak hour operation at the study intersections of LOS D or better.

Thresholds of Significance. To determine whether the addition of Project-generated trips results in a significant impact at a study intersection, and thus requires mitigation, Hawthorne has established the following thresholds of significance based on the Los Angeles County Congestion Management Program (CMP) Manual (2010):

- A significant project impact occurs at a study intersection when the addition of Project-generated trips causes an ICU increase of 0.04 while operating at LOS C; or
- A significant project impact occurs at a study intersection when the addition of Project-generated trips causes an ICU increase of 0.02 while operating at LOS D; or
- A significant project impact occurs at a study intersection when the addition of Project-generated trips causes an ICU increase of 0.01 while operating at LOS E or F.

CITY OF LOS ANGELES

Performance Criteria. Since intersection LOS performance criteria is not stated in the traffic study guidelines for the City of Los Angeles, this report assumes a goal for peak hour operation at the study intersections of LOS D or better.

Thresholds of Significance. To determine whether the addition of Project-generated trips results in a significant impact at a study intersection, and thus requires mitigation, the City of Los Angeles has established the following thresholds of significance based on the LADOT Traffic Study Policies and Procedures (March 2002):

- A significant project impact occurs at a study intersection when the addition of Project-generated trips causes an ICU increase of 0.04 while operating at LOS C; or
- A significant project impact occurs at a study intersection when the addition of Project-generated trips causes an ICU increase of 0.02 while operating at LOS D; or
- A significant project impact occurs at a study intersection when the addition of Project-generated trips causes an ICU increase of 0.01 while operating at LOS E or F.

COUNTY OF LOS ANGELES

Performance Criteria. Since intersection LOS performance criteria is not stated in the traffic study guidelines for the County of Los Angeles, this report assumes a goal for peak hour operation at the study intersections of LOS D or better.

Thresholds of Significance. To determine whether the addition of Project-generated trips results in a significant impact at a study intersection, and thus requires mitigation, the County of Los Angeles has established the following thresholds of significance based on the County of Los Angeles Department of Public Works, Traffic Impact Analysis Report Guidelines (January 1997):



- A significant project impact occurs at a study intersection when the addition of Project-generated trips causes an ICU increase of 0.04 while operating at LOS C; or
- A significant project impact occurs at a study intersection when the addition of Project-generated trips causes an ICU increase of 0.02 while operating at LOS D; or
- A significant project impact occurs at a study intersection when the addition of Project-generated trips causes an ICU increase of 0.01 while operating at LOS E or F.

STATE HIGHWAY

Thresholds of Significance. While Caltrans has not established traffic thresholds of significance, this traffic analysis utilizes the following traffic thresholds of significance:

- A significant project impact occurs at a State Highway signalized study intersection when the addition of Project-generated trips causes the peak hour LOS of the study intersection to change from acceptable operation (LOS A, B, or C) to deficient operation (LOS D, E or F).

CEQA SIGNIFICANCE CRITERIA

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by Appendix G of the *CEQA Guidelines*, as amended, and used by the City of El Segundo in its environmental review process. The Initial Study Checklist includes questions relating to Transportation and Traffic. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant adverse environmental impact if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- Conflict with an applicable congestion management program, including, but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks; refer to Section 8.0, *Effects Found Not To Be Significant*;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access; refer to Section 5.7, *Hazards and Hazardous Materials*;
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.



Based on these standards/criteria, the Project’s effects have been categorized as either a “less than significant impact” or a “potentially significant impact.” If a potentially significant impact cannot be reduced to a less than significant level through the application of goals, policies, standards or mitigation, it is categorized as a significant and unavoidable impact. The standards used to evaluate the significance of impacts are often qualitative rather than quantitative because appropriate quantitative standards are either not available for many types of impacts or are not applicable for some types of projects.

5.2.4 IMPACTS AND MITIGATION MEASURES

GENERATION OF TRANSPORTATION AND TRAFFIC

- **THE PROJECT WOULD GENERATE TRAFFIC VOLUMES THAT COULD CONFLICT WITH APPLICABLE CIRCULATION SYSTEM PERFORMANCE CRITERIA.**

Impact Analysis:

Proposed Project

The ESSCSP Project proposes to establish a maximum allowable development within the Specific Plan area of 4,231,547 gross square feet, or a net additional 2,142,457 gross square feet over existing conditions. The Project is planned to be constructed in two phases. Phase I analyzed in this DEIR is consistent with Phase I of the proposed Vesting Tentative Map. Phase II of the DEIR is inclusive of both Phases II and III of the proposed Vesting Tentative Map.

Table 5.2-8, *Existing and Proposed Land Use Summary*, summarizes the existing and proposed land uses for the Project site.

**Table 5.2-8
Existing and Proposed Land Use Summary**

Land Use	Existing	Displaced	Phase I Project (2015)	Phase II Project (2022)	Net Addition at Buildout	Project Site at Buildout
General Office	1,180,962	-879	0	1,752,800	1,751,921	2,932,883
Research & Development	352,129	0	0	0	0	352,129
Manufacturing	433,037	0	0	0	0	433,037
Warehouse	122,962	-18,263	0	91,840	73,577	196,539
Light Industrial	0	0	0	168,000	168,000	168,000
Retail	0	0	92,960	56,000	148,960	148,960

Project buildout also includes the Nash Street and Continental Boulevard extensions south of El Segundo Boulevard within the Project site to provide a public roadway connection between El Segundo Boulevard and Sepulveda Boulevard (SR-1), via the existing Hughes Way alignment and its intersection with Sepulveda Boulevard (SR-1). *Exhibit 3-8, Conceptual Site Plan*, shows the conceptual site plan.



PROJECT TRIP GENERATION

To calculate trips forecast to be generated by the proposed Project, *Institute of Transportation Engineers (ITE)* trip generation rates were utilized. Table 5.2-9, *ITE Trip Generation Rates for Phase I Project Land Uses*, summarizes the *ITE* trip generation rates used to calculate the number of trips forecast to be generated by the Phase I Project land use.

**Table 5.2-9
ITE Trip Generation Rates for Phase I Project Land Uses**

Land Use (ITE Code)	Units	AM Peak Hour Trip Generation Rate			PM Peak Hour Trip Generation Rate			Daily Trip Generation Rate
		In	Out	Total	In	Out	Total	
Retail (820)	Tsf ¹	0.60	0.36	0.96	1.78	1.93	3.71	42.70
Source: 2012 <i>ITE Trip Generation Manual, 9th Edition</i> .								
Note:								
1. tsf = thousand square feet.								

Table 5.2-10, *ITE Trip Generation Rates for Phase II Project Land Uses*, summarizes the *ITE* trip generation rates used to calculate the number of trips forecast to be generated by the Phase 2 Project land uses.

**Table 5.2-10
ITE Trip Generation Rates for Phase II Project Land Uses**

Land Use (ITE Code)	Units	AM Peak Hour Trip Generation Rate			PM Peak Hour Trip Generation Rate			Daily Trip Generation Rate
		In	Out	Total	In	Out	Total	
Light Industrial (110)	tsf ¹	0.81	0.11	0.92	0.12	0.85	0.97	6.97
Warehouse (150)	tsf	0.24	0.06	0.30	0.08	0.24	0.32	3.56
General Office (710)	tsf	1.37	0.19	1.56	0.25	1.24	1.49	11.03
Retail (820)	tsf	0.60	0.36	0.96	1.78	1.93	3.71	42.70
Source: 2012 <i>ITE Trip Generation Manual, 9th Edition</i> .								
Note:								
1. tsf = thousand square feet.								

PROJECT TRIP ADJUSTMENTS

ITE Pass-By Trip Adjustment. As documented in *ITE's Trip Generation Manual (Institute of Transportation Engineers, 9th Edition, 2012)*, a pass-by trip reduction is applicable to retail land uses located along busy arterial highways attracting vehicle trips already on the roadway; this is particularly the case when the roadway is experiencing peak operating conditions. For example, during the p.m. peak hour, a motorist already traveling along Sepulveda Boulevard (SR-1) or El Segundo Boulevard between work and home or other destinations may stop at the Project site. A pass-by discount under this example would reduce/eliminate both the inbound trip and the outbound trip from the surrounding roadway circulation system, since the vehicle



was already traveling on the roadway. Without the pass-by trip discount, two trips would be generated: an inbound trip to the Project site, and an outbound trip from the Project site.

Table 5.2-11, *Pass-by Trip Reduction Percentage Applicable to Proposed Project*, summarizes the pass-by trip reductions applicable to the Project land uses identified by ITE and utilized in this analysis.

**Table 5.2-11
Pass-by Trip Reduction Percentage Applicable to Proposed Project**

Proposed Project Land Use	AM Peak Hour	PM Peak Hour
Retail	0%	34%
Note: Pass-by trip reduction percentages as identified by ITE.		

ITE Internal Trip Capture Adjustments. As documented in ITE’s *Trip Generation Manual (Institute of Transportation Engineers, 9th Edition, 2012)*, an internal trip capture reduction is applicable when a project site has more than one destination (such as the proposed Project), in which a person visits more than one destination onsite during the same visit.

Consistent with industry standards, internal trip capture for each of the Project phases have been calculated as directed in *Trip Generation Manual (Institute of Transportation Engineers, 9th Edition, 2012)*. Detailed internal trip capture summary calculation sheets are contained in Appendix D of Appendix 10.3. Table 5.2-12, ITE Internal Trip Capture Percentages for Project, shows the internal capture rates utilized in the analysis for Phase I Project and Project buildout.

**Table 5.2-12
ITE Internal Trip Capture Percentages for Project**

<i>ITE Internal Trip Capture Percentage</i>			
Project Phase	AM Peak Hour	PM Peak Hour	Daily
Phase I Project	0%	1%	2%
Project Buildout	0%	1%	1%

ITE Transit Service Trip Adjustment. As documented in ITE’s *Trip Generation Manual (Institute of Transportation Engineers, 9th Edition, 2012)*, a reduction in trip generation is applicable when a project site is in close proximity to transit services including bus and/or light-rail stations (such as the proposed Project).

Based on data gathered by the *Los Angeles County Metropolitan Transportation Authority (LAMTA)*, ITE recommends a 5.0 percent trip reduction adjustment for commercial and light industrial uses within the 0.25-mile radius of a transit center or light rail station. Consistent with ITE and studies LAMTA on similar sites, a 5.0 percent reduction associated with use of transit service has been applied to the proposed land uses, which are within 0.25 miles of the Metro Green Line station adjacent to the Project site.



Table 5.2-13, *Forecast Trip Generation of Phase I Project*, summarizes the trip generation of Phase I Project utilizing the *ITE* trips rates contained in Table 5.2-9, the applicable *ITE* pass-by trip adjustments contained in Table 5.2-11, and the applicable *ITE* internal trip capture adjustments contained in Table 5.2-12.

**Table 5.2-13
Forecast Trip Generation of Phase I Project**

Land Use	AM Peak Hour Trips			PM Peak Hour Trips			Daily Trips
	In	Out	Total	In	Out	Total	
92.96 tsf ¹ Retail	56	33	89	165	179	344	3,969
<i>ITE Internal Trip Capture (1% PM, 2% ADT)</i>	0	0	0	-2	-2	-4	-79
<i>ITE Pass-by Trip Reduction (34% PM)</i>	0	0	0	-55	-60	-115	-115
Phase I Total Trip Generation	56	33	89	108	117	225	3,775
Note: 1. tsf = thousand square feet.							

As shown in Table 5.2-13, the Project buildout is forecast to generate approximately 26,585 daily trips, which include approximately 3,042 a.m. peak hour trips and approximately 3,120 p.m. peak hour trips.

As shown in Table 5.2-13, the Phase I Project is forecast to generate approximately 3,775 daily trips, which include approximately 89 a.m. peak hour trips and approximately 225 p.m. peak hour trips.

Table 5.2-14, *Forecast Trip Generation of Project Buildout*, summarizes the trip generation of Project buildout utilizing the *ITE* trips rates contained in Table 5.2-10, the applicable *ITE* pass-by trip adjustments contained in Table 5.2-11, the applicable *ITE* internal trip capture adjustments contained in Table 5.2-12, and the *ITE* transit use adjustments applicable to the commercial and light industrial uses of the Project site located within 0.25 miles of the Green Line light rail station.

PROJECT TRIP DISTRIBUTION

Trip distribution for the Project is based on forecast geographical distribution of anticipated Project users.

To determine the Project's trip percent distribution and employee travel patterns of the El Segundo area, employee zip code information was provided by the Project applicant for users on the existing site. This information was mapped, evaluated and utilized to derive forecast geographical distribution of trips and related travel patterns associated with the proposed additional land use on the Project site.

Exhibit 5.2-10, *Proposed Project Percent Trip Distribution (Retail Component)*, shows forecast trip percent distribution of Project-generated trips for the Project's retail component. Exhibit 5.2-11, *Proposed Project Percent Trip Distribution (Non-Retail Component)*, shows forecast trip percent distribution of Project-generated trips for the Project's non-retail components.



**Table 5.2-14
Forecast Trip Generation of Project Buildout**

Land Use	AM Peak Hour Trips			PM Peak Hour Trips			Daily Trips
	In	Out	Total	In	Out	Total	
136.438 tsf ¹ General Office	187	26	213	34	169	203	1,505
<i>ITE Internal Trip Capture (1% PM, 1% ADT)</i>	0	0	0	0	-2	-2	-15
<i>ITE Transit Service & Light Rail Trip Adjustment (5%)²</i>	-9	-1	-10	-2	-8	-10	-75
Subtotal General Office	178	25	203	32	159	191	1,415
1,615.483 tsf General Office	2,213	307	2,520	404	2,003	2,407	17,819
<i>ITE Internal Trip Capture (1% PM, 1% ADT)</i>	0	0	0	-4	-20	-24	-178
Subtotal General Office	2,213	307	2,520	400	1,983	2,383	17,641
73.577 tsf Warehouse	18	4	22	6	18	24	262
<i>ITE Internal Trip Capture (1% PM, 1% ADT)</i>	0	0	0	0	0	0	-3
Subtotal Warehouse	18	4	22	6	18	24	259
168 tsf Light Industrial	136	18	154	20	143	163	1,171
<i>ITE Internal Trip Capture (1% PM, 1% ADT)</i>	0	0	0	0	-1	-1	-12
Subtotal Light Industrial	136	18	154	20	142	162	1,159
148.96 tsf Retail ³	89	54	143	265	287	552	6,361
<i>ITE Internal Trip Capture (1% PM, 1% ADT)</i>	0	0	0	-3	-3	-6	-64
<i>ITE Pass-by Trip Reduction (34% PM)</i>	0	0	0	-89	-97	-186	-186
Subtotal Retail	89	54	143	173	187	360	6,111
Proposed Project Trip Generation	2,634	408	3,042	631	2,489	3,120	26,585

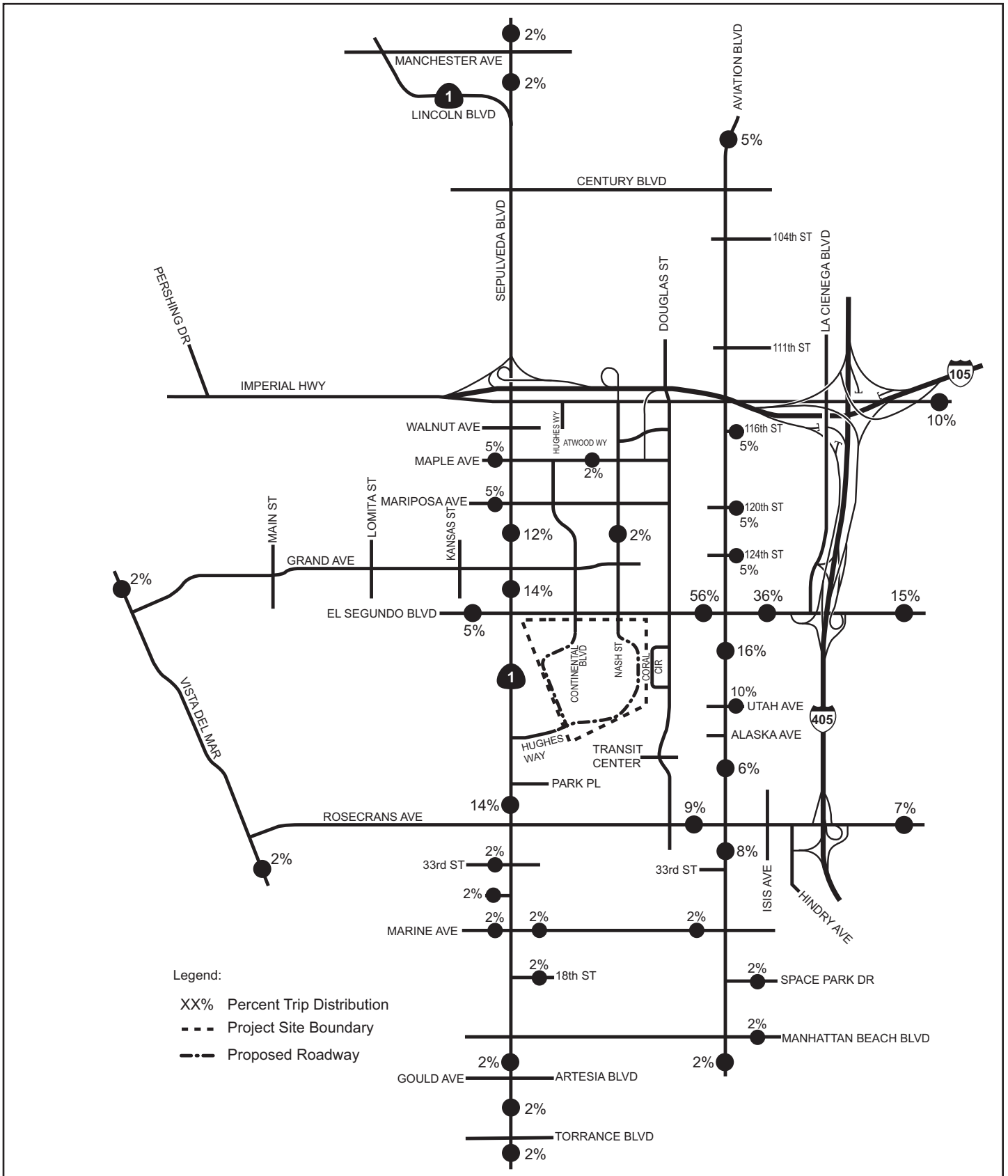
Notes:

1. tsf = thousand square feet.
2. Trip generation adjustment discount associated with proximity to transit service for similar sites based on recommendations published by LOS Angeles County Metropolitan Transportation Authority (LAMTA) and ITE.
3. Includes 92.96 tsf of retail land use associated with Phase I Project.

PROJECT TRIP ASSIGNMENT

Exhibits 5.2-12 through 5.2-15, *Forecast AM/PM Peak Hour Trip Assignment of Phase I Project*, show the corresponding a.m. peak hour and p.m. peak hour assignment of Phase I Project-generated peak hour trips assuming the trip percent distribution shown in Exhibit 5.2-10.

Exhibits 5.2-16 through 5.2-19, *Forecast AM/PM Peak Hour Trip Assignment of Phase I Project*, show the corresponding a.m. peak hour and p.m. peak hour assignment of Project buildout-generated peak hour trips assuming the trip percent distributions shown in Exhibit 5.2-10 and Exhibit 5.2-11.



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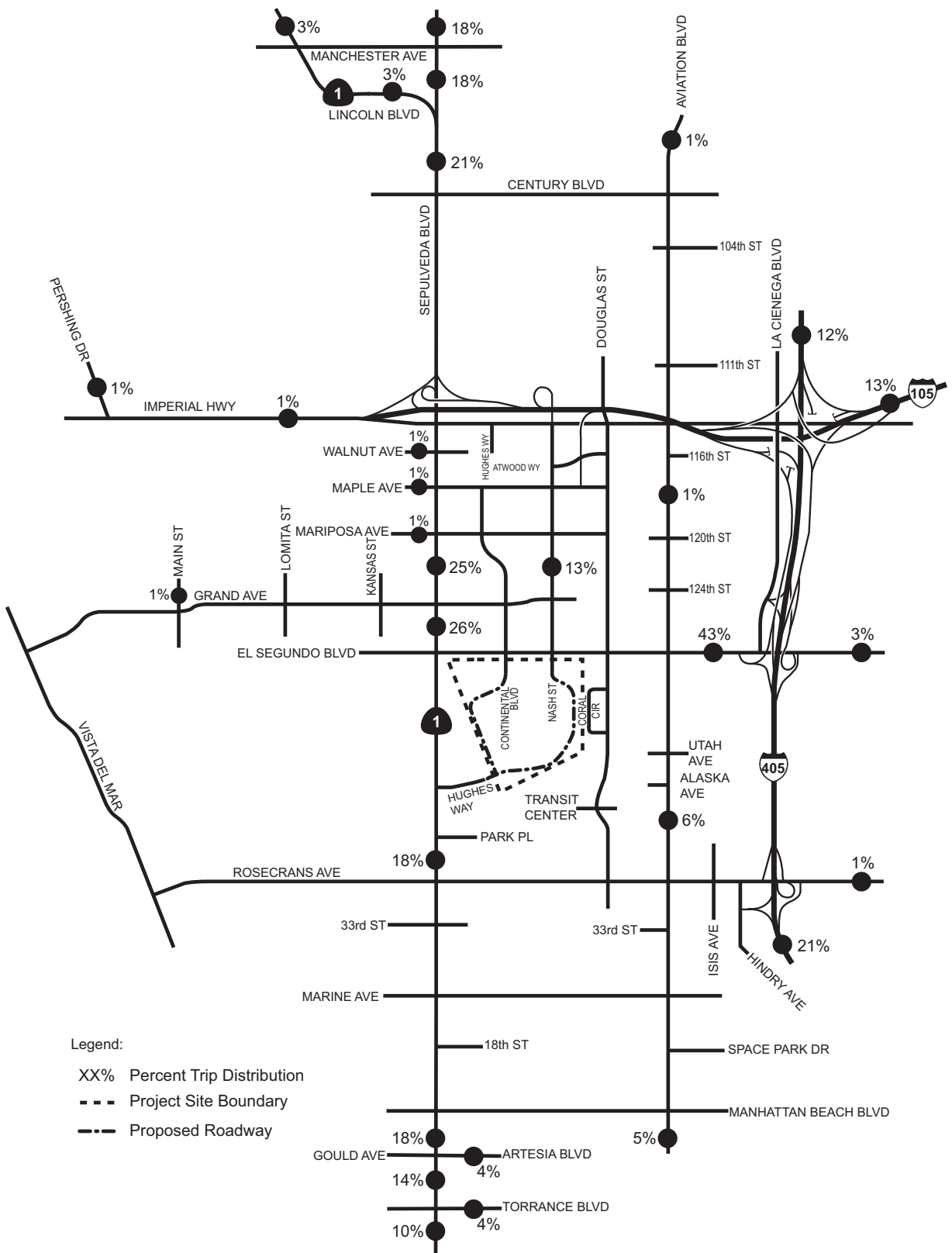


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ENVIRONMENTAL IMPACT REPORT
EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)

Proposed Project Percent Trip Distribution (Retail Component)

Exhibit 5.2-10



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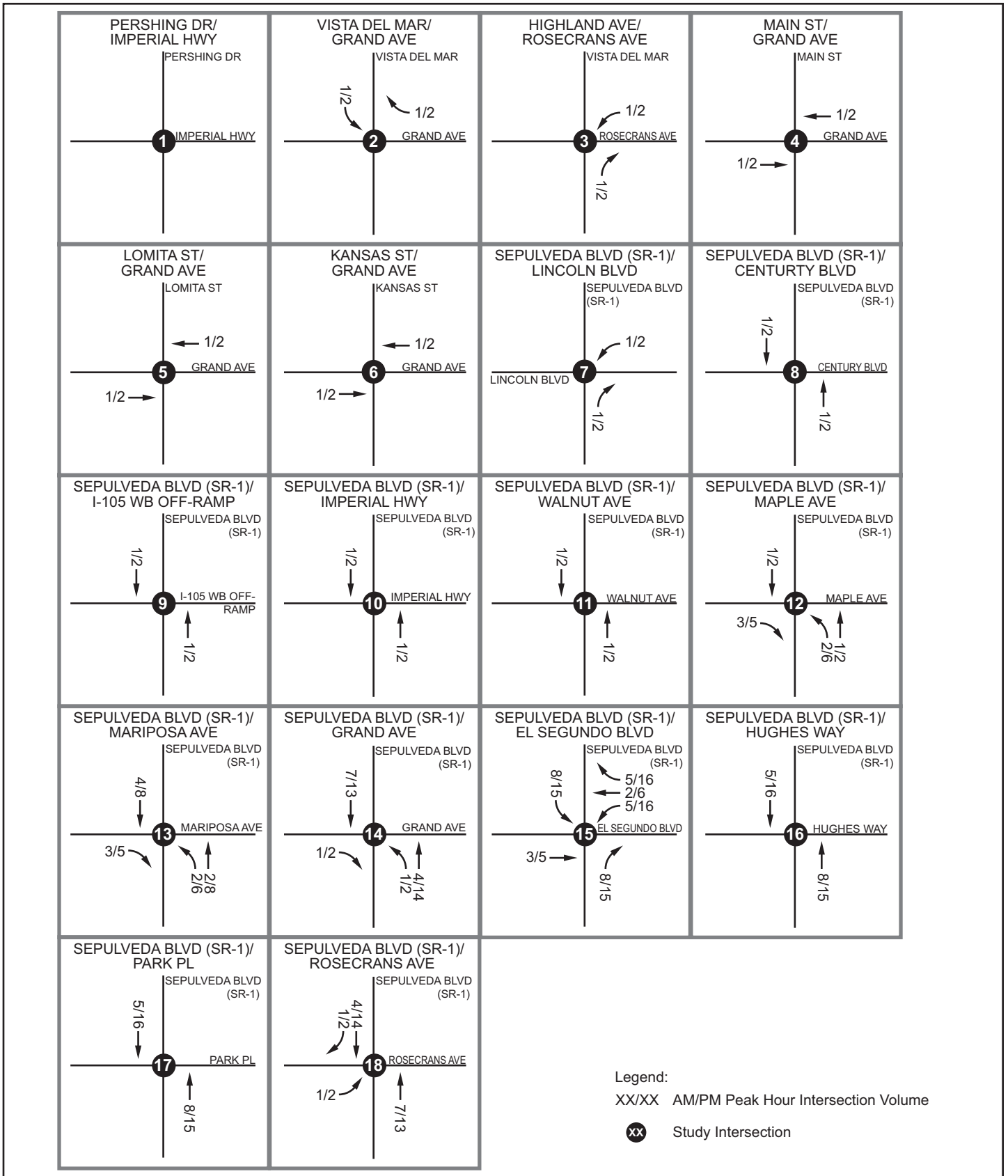


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ENVIRONMENTAL IMPACT REPORT
EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)

Proposed Project Percent Trip Distribution (Non-Retail Component)

Exhibit 5.2-11

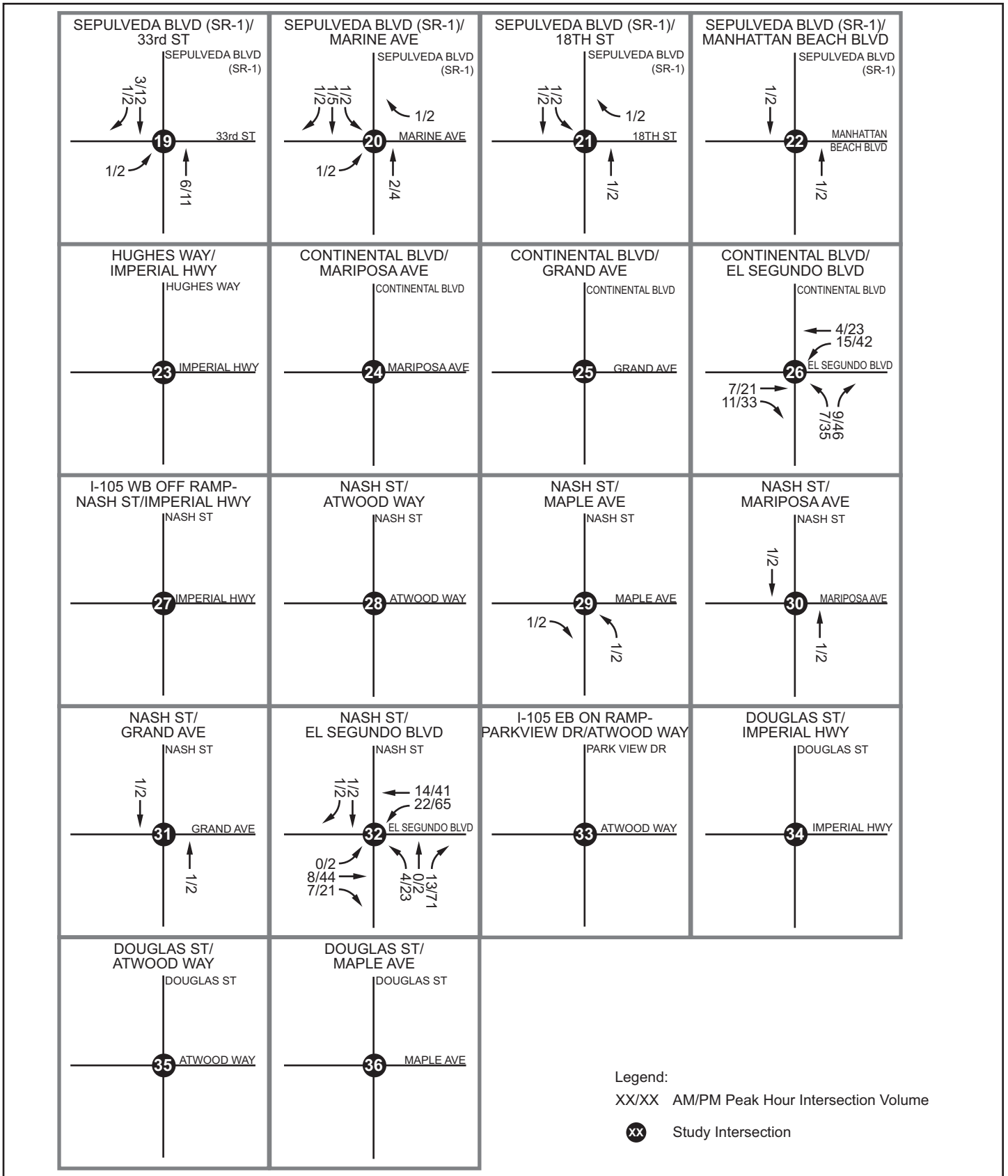


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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast AM/PM Peak Hour Trip Assignment
 of Phase 1 Project (Intersections 1 through 18)**

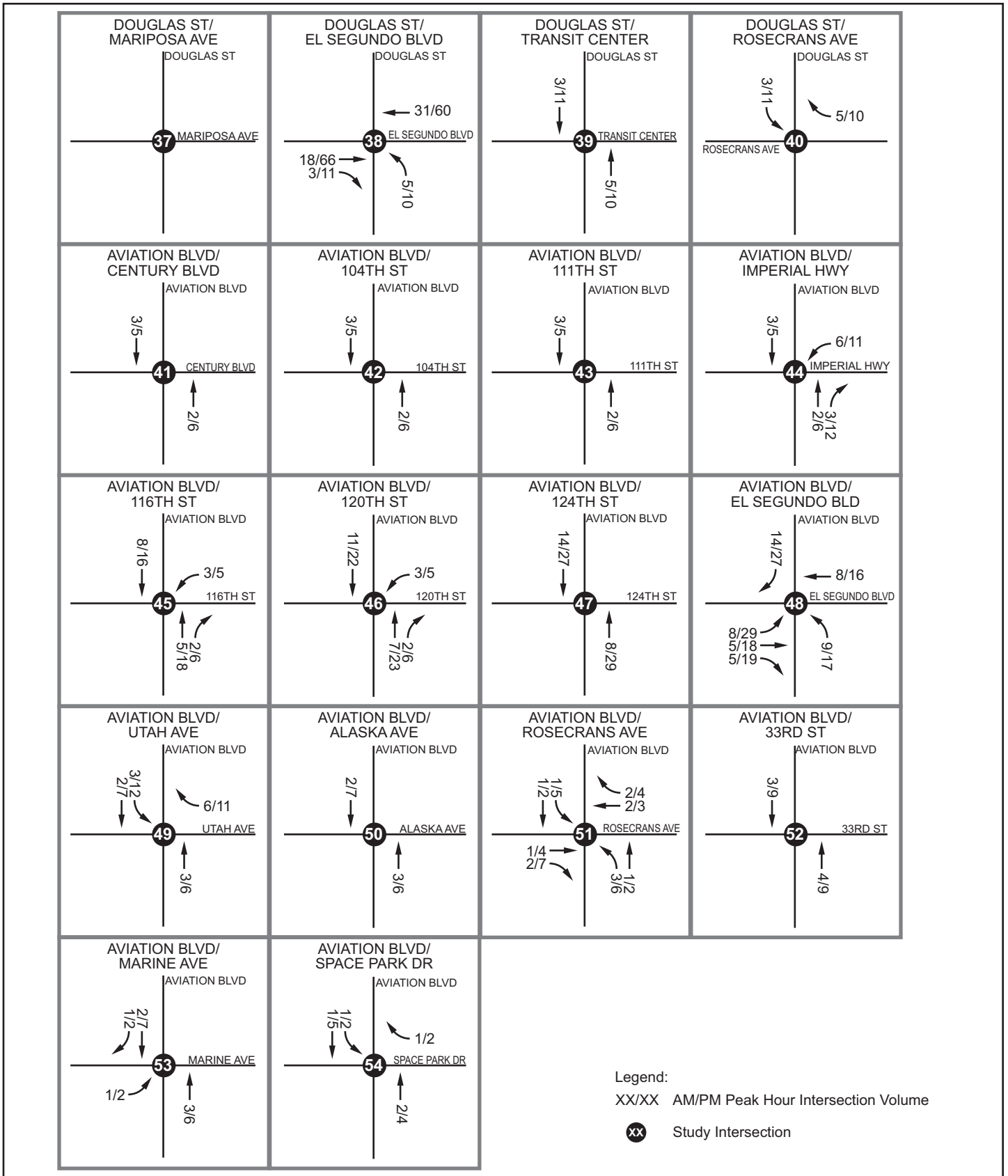


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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast AM/PM Peak Hour Trip Assignment
 of Phase 1 Project (Intersections 19 through 36)**

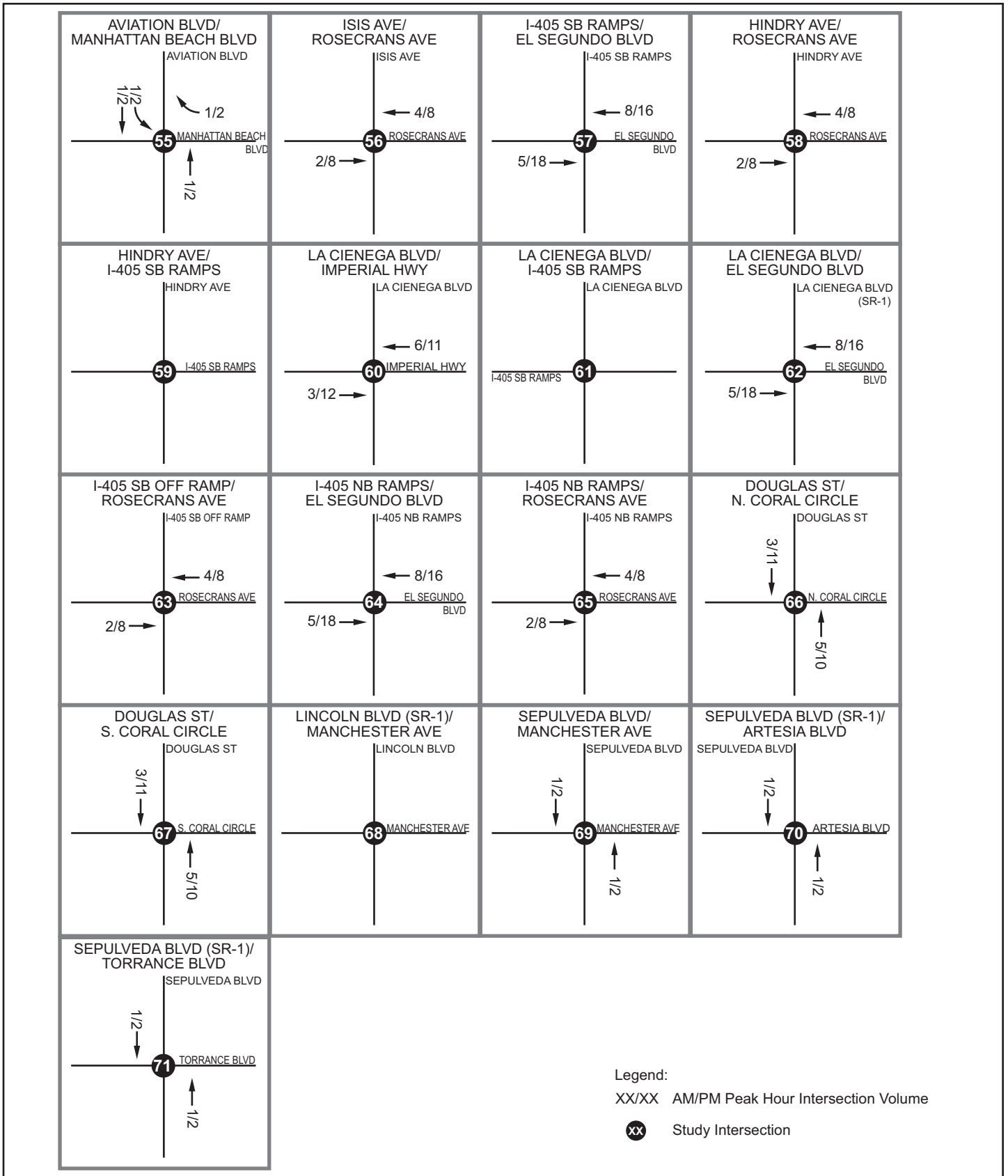


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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast AM/PM Peak Hour Trip Assignment
 of Phase 1 Project (Intersections 37 through 54)**

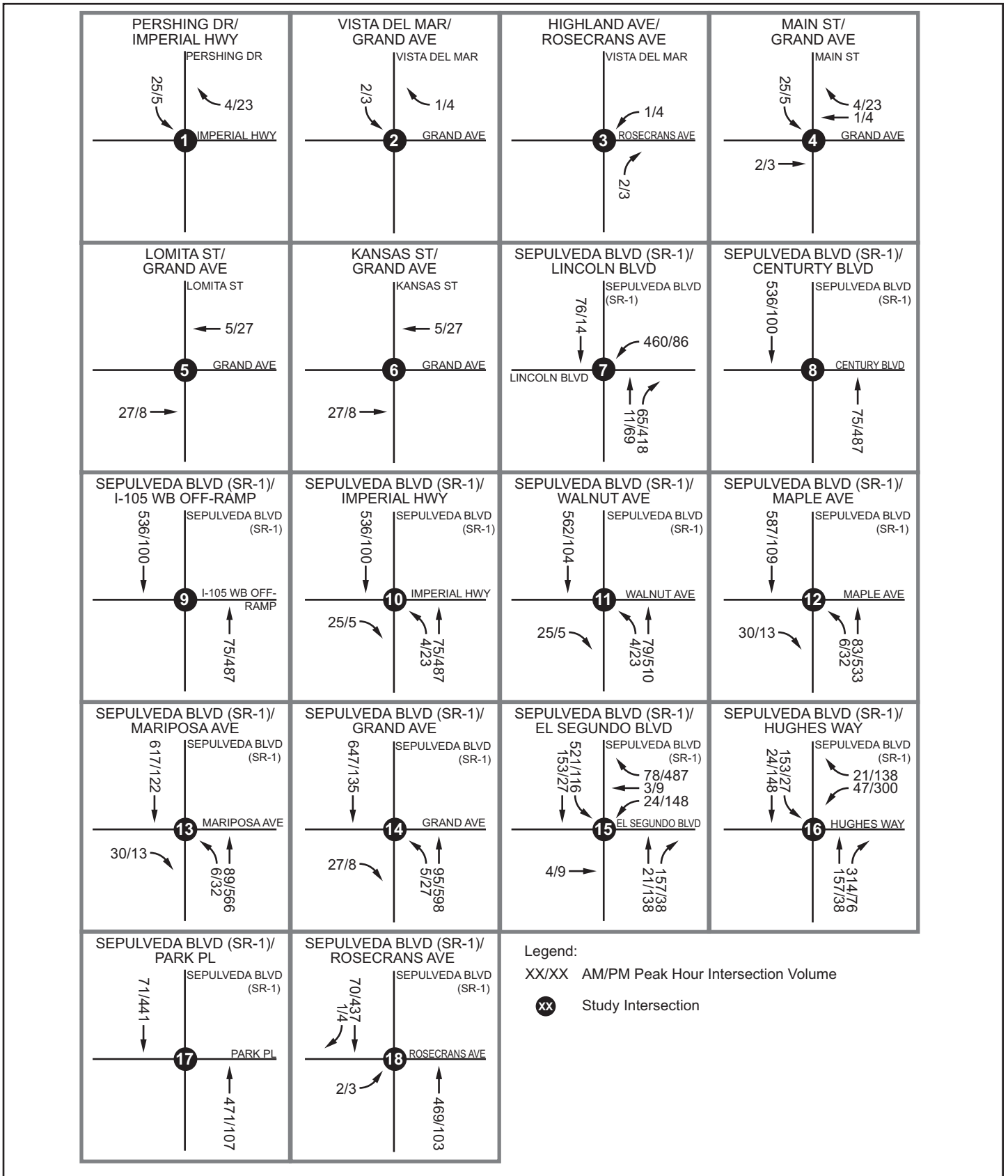


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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast AM/PM Peak Hour Trip Assignment
 of Phase 1 Project (Intersections 55 through 71)**



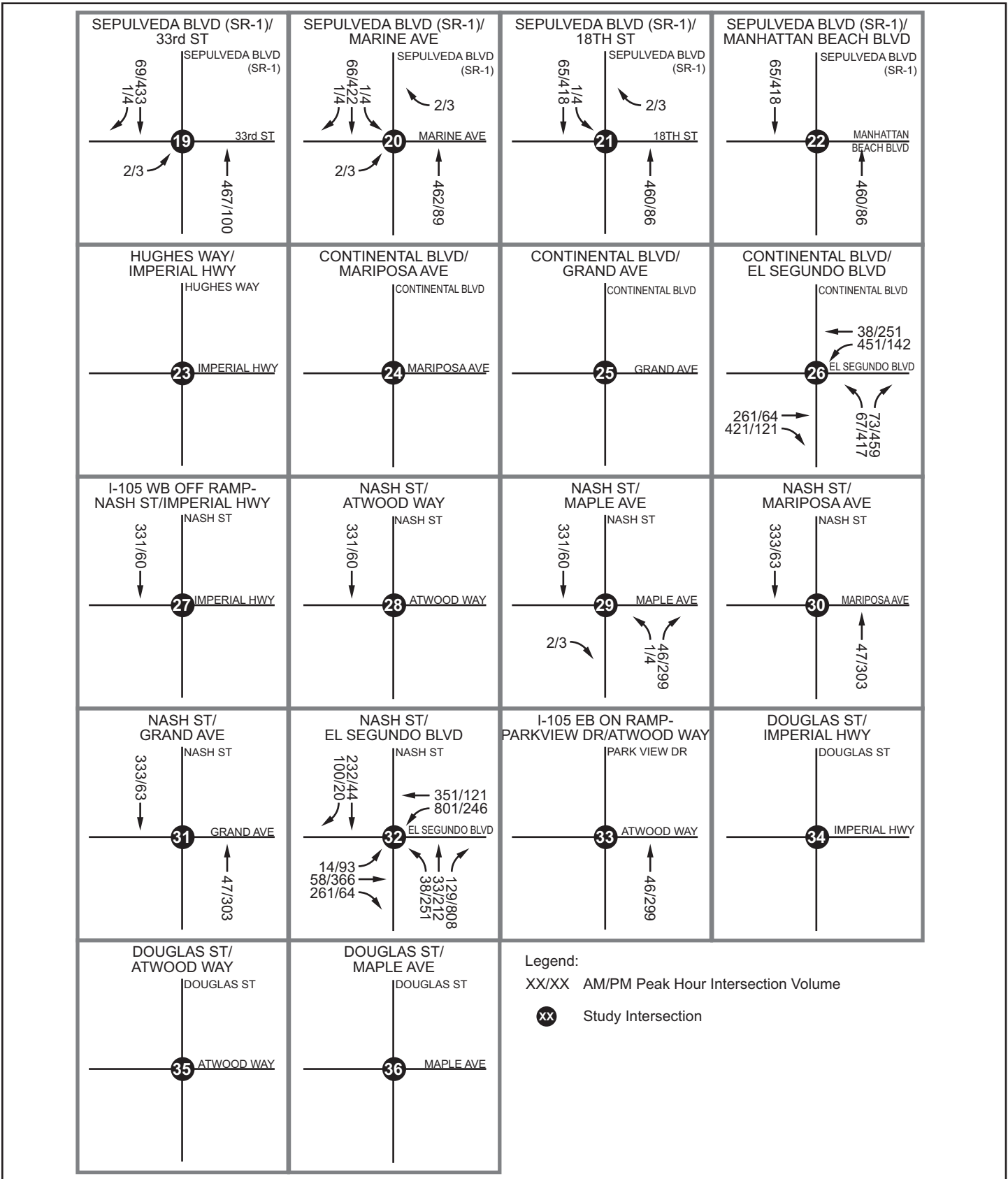
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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast AM/PM Peak Hour Trip Assignment
 of Project Buildout (Intersections 1 through 18)**

Exhibit 5.2-16

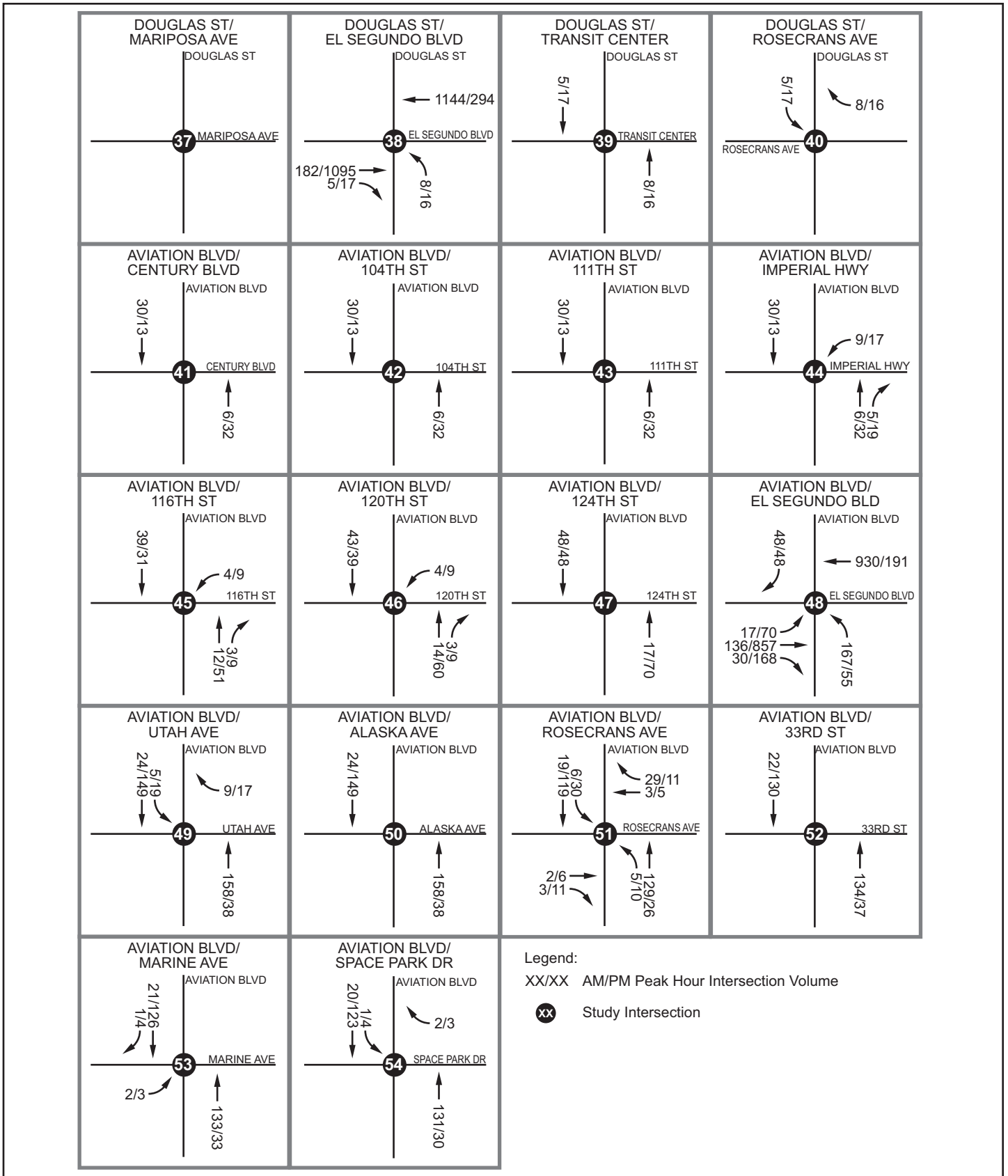


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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast AM/PM Peak Hour Trip Assignment
 of Project Buildout (Intersections 19 through 36)**



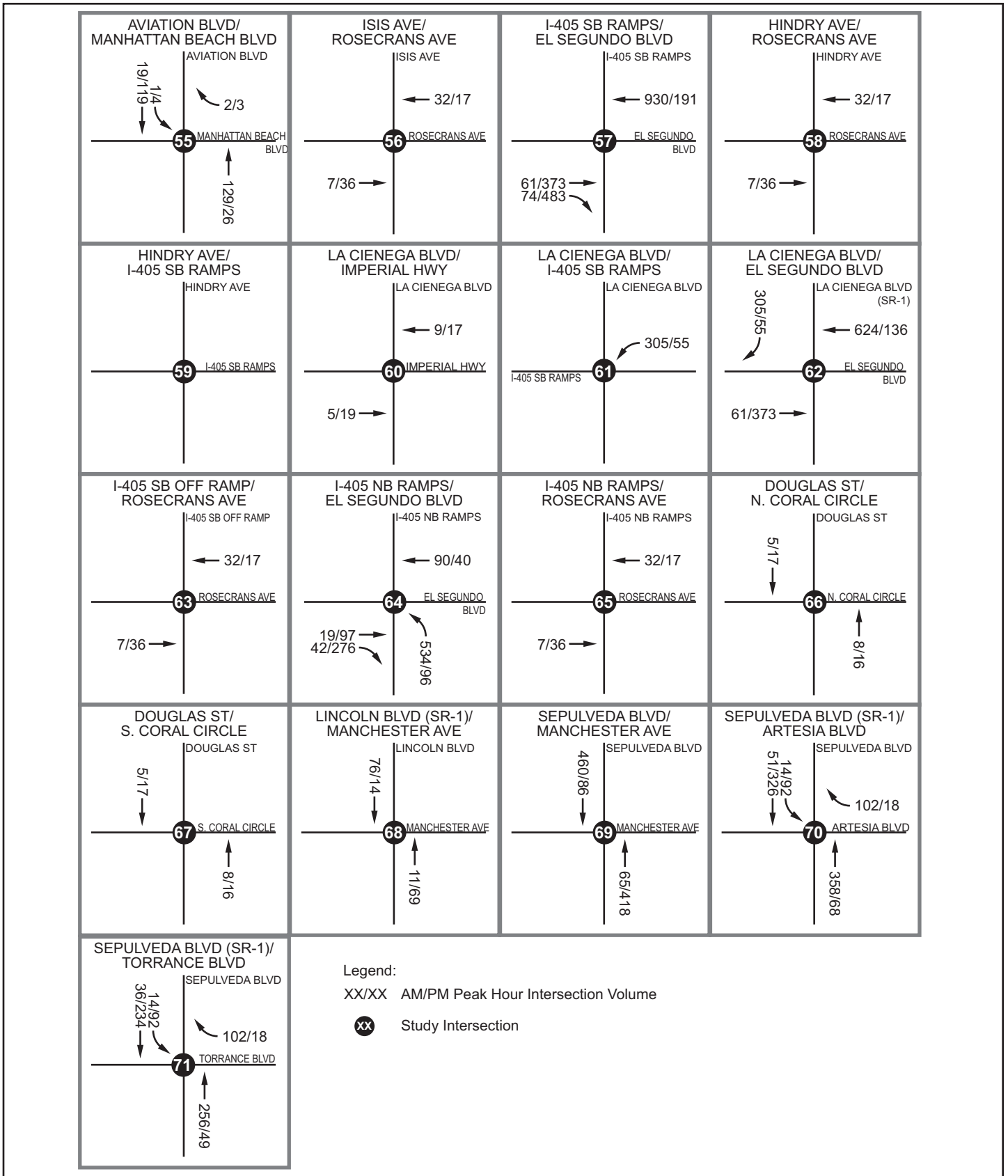
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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast AM/PM Peak Hour Trip Assignment
 of Project Buildout (Intersections 37 through 54)**

Exhibit 5.2-18



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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast AM/PM Peak Hour Trip Assignment
 of Project Buildout (Intersections 55 through 71)**



Forecast Existing With Project Buildout Conditions

This section addresses the impacts associated with adding Project buildout-generated trips to existing conditions traffic volumes. The existing with Project buildout scenario is a hypothetical scenario that assumes the Project would be fully implemented at the present time, with no other changes to area traffic volumes. This analysis is intended to comply with *CEQA Guidelines* §15125, and specifically recent court cases including, without limitation, *Neighbors for Smart Rail v. Exposition Metro Line Const. Authority* (2013) 57 Cal.4th 439. This scenario assumes full development of the Project and full absorption of the Project traffic on the circulation systems at the present time. This scenario is provided for information purposes only, and is not used for impact determinations or mitigation.

Forecast existing with Project buildout conditions assumes the Nash Street and Continental Boulevard realignments/extensions south of El Segundo Boulevard within the Project site. These extensions would provide a public roadway connection between El Segundo Boulevard and Sepulveda Boulevard (SR-1) via the existing Hughes Way alignment and its intersection with Sepulveda Boulevard (SR-1).

FORECAST EXISTING WITH PROJECT BUILDOUT TRAFFIC VOLUMES

Forecast existing with Project buildout conditions a.m. and p.m. peak hour volumes were derived by adding forecast Project buildout-generated trips to existing conditions traffic volumes. Exhibits 5.2-20 through 5.2-23, *Forecast Existing With Project Buildout Conditions Peak Hour Study Intersection Volumes*, show forecast existing with Project buildout conditions a.m. and p.m. peak hour volumes at the study intersections.

FORECAST EXISTING WITH PROJECT BUILDOUT CONDITIONS STUDY INTERSECTION PEAK HOUR LOS

Table 5.2-15, *Forecast Existing With Project Buildout Conditions Peak Hour Study Intersection LOS*, summarizes forecast existing with Project buildout conditions a.m. peak hour and p.m. peak hour LOS of the study intersections; detailed LOS analysis sheets are contained in Appendix C of Appendix 10.3.

**Table 5.2-15
Forecast Existing With Project Buildout Conditions
Peak Hour Study Intersection LOS**

Study Intersection		Existing Conditions		Forecast Existing With Project Buildout Conditions		Delta V/C ¹	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
		V/C – LOS ²	V/C – LOS	V/C – LOS	V/C – LOS		
1	Pershing Drive/ Imperial Highway	0.516 – A	0.450 – A	0.517 – A	0.452 – A	0.001	0.002
2	Vista del Mar/ Grand Avenue	0.810 – D	0.589 – A	0.812 – D	0.592 – A	0.002	0.003
3	Highland Avenue/ Rosecrans Avenue	0.861 – D	0.748 – C	0.861 – D	0.750 – C	0.000	0.002



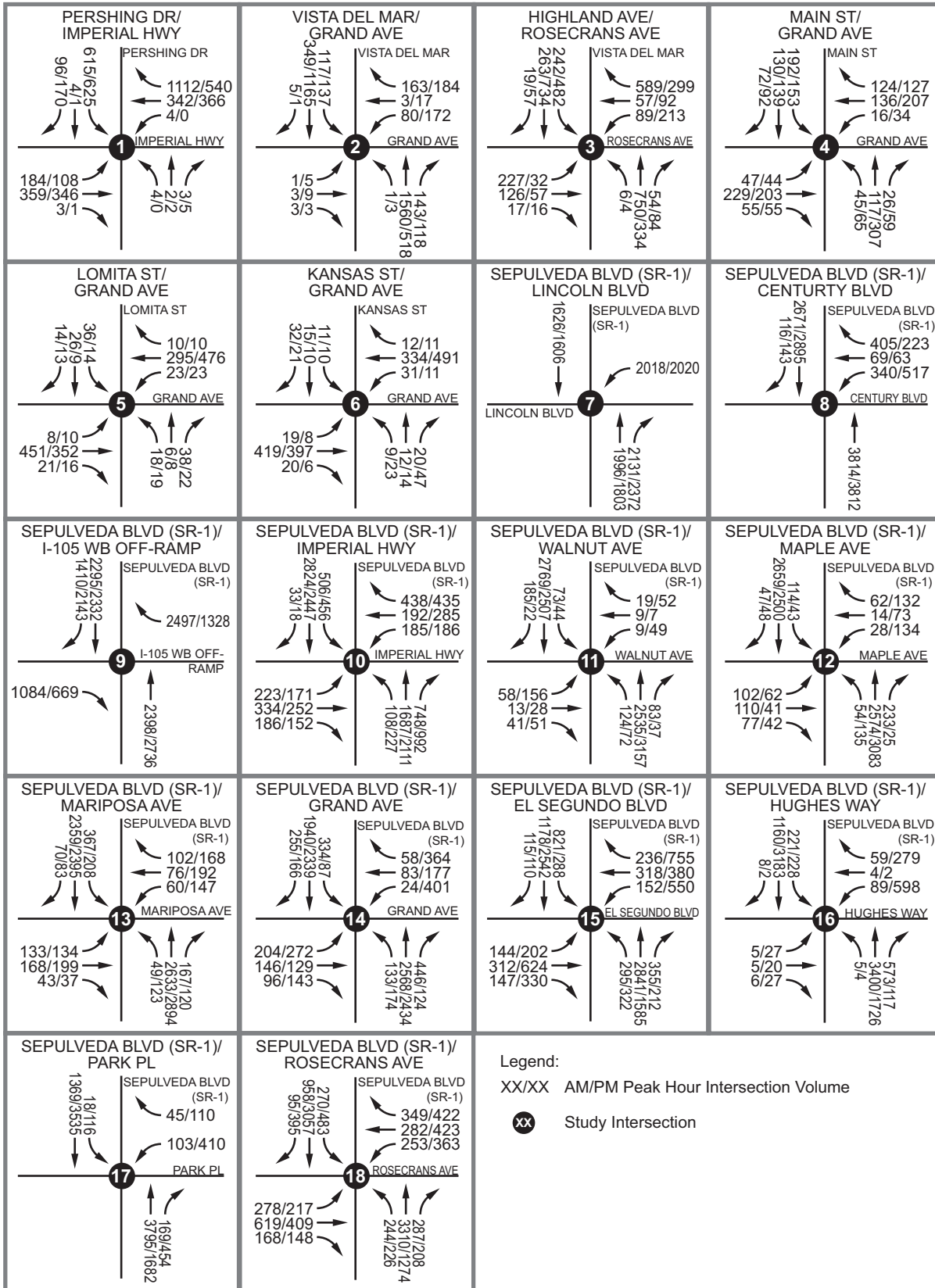
**Table 5.2-15 [continued]
Forecast Existing With Project Buildout Conditions
Peak Hour Study Intersection LOS**

Study Intersection		Existing Conditions		Forecast Existing With Project Buildout Conditions		Delta V/C	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
		V/C – LOS	V/C – LOS	V/C – LOS	V/C – LOS		
4	Main Street/ Grand Avenue	0.377 – A	0.461 – A	0.394 – A	0.473 – A	0.017	0.012
5	Lomita Street/ Grand Avenue	0.315 – A	0.296 – A	0.323 – A	0.305 – A	0.008	0.009
6	Kansas Street/ Grand Avenue	0.296 – A	0.316 – A	0.304 – A	0.324 – A	0.008	0.008
23	Hughes Way/ Imperial Highway	0.643 – B	0.721 – C	0.643 – B	0.721 – C	0.000	0.000
24	Continental Boulevard/ Mariposa Boulevard	0.488 – A	0.392 – A	0.488 – A	0.392 – A	0.000	0.000
25	Continental Boulevard/ Grand Avenue	0.378 – A	0.354 – A	0.378 – A	0.354 – A	0.000	0.000
26	Continental Boulevard/ El Segundo Boulevard	0.436 – A	0.471 – A	0.614 – B	0.669 – B	0.178	0.198
28	Nash Street/ Atwood Way	0.522 – A	0.424 – A	0.625 – B	0.424 – A	0.103	0.000
29	Nash Street/ Maple Avenue	0.742 – C	0.637 – B	0.860 – D	0.751 – C	0.118	0.114
30	Nash Street/ Mariposa Avenue	0.531 – A	0.493 – A	0.635 – B	0.587 – A	0.104	0.094
31	Nash Street/ Grand Avenue	0.509 – A	0.520 – A	0.560 – A	0.578 – A	0.051	0.058
32	Nash Street/ El Segundo Boulevard	0.461 – A	0.554 – A	0.836 – D	1.045 – F	0.375	0.491
34	Douglas Street/ Imperial Highway	0.421 – A	0.513 – A	0.421 – A	0.513 – A	0.000	0.000
35	Douglas Street/ Atwood Way	0.235 – A	0.439 – A	0.235 – A	0.439 – A	0.000	0.000
36	Douglas Street/ Maple Avenue	0.305 – A	0.338 – A	0.305 – A	0.338 – A	0.000	0.000
37	Douglas Street/ Mariposa Avenue	0.351 – A	0.448 – A	0.351 – A	0.448 – A	0.000	0.000
38	Douglas Street/ El Segundo Boulevard	0.667 – B	0.910 – E	0.908 – E	1.147 – F	0.241	0.237
39	Douglas Street/ Transit Center	0.271 – A	0.356 – A	0.274 – A	0.361 – A	0.003	0.005
40	Douglas Street/ Rosecrans Avenue	0.655 – B	0.743 – C	0.656 – B	0.743 – C	0.001	0.000
41	Aviation Boulevard/ Century Boulevard	0.759 – C	0.736 – C	0.768 – C	0.740 – C	0.009	0.004
42	Aviation Boulevard/ 104th Street	0.603 – B	0.583 – A	0.605 – B	0.587 – A	0.002	0.004
43	Aviation Boulevard/ 111th Street	0.635 – B	0.583 – A	0.637 – B	0.587 – A	0.002	0.004



**Table 5.2-15 [continued]
Forecast Existing With Project Buildout Conditions
Peak Hour Study Intersection LOS**

Study Intersection		Existing Conditions		Forecast Existing With Project Buildout Conditions		Delta V/C	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
		V/C – LOS	V/C – LOS	V/C – LOS	V/C – LOS		
44	Aviation Boulevard/ Imperial Highway	0.807 – D	0.713 – C	0.809 – D	0.729 – C	0.002	0.016
45	Aviation Boulevard/ 116th Street	0.471 – A	0.484 – A	0.478 – A	0.499 – A	0.007	0.015
46	Aviation Boulevard/ 120th Street	0.694 – B	0.516 – A	0.701 – C	0.540 – A	0.007	0.024
47	Aviation Boulevard/ 124th Street	0.451 – A	0.515 – A	0.468 – A	0.530 – A	0.017	0.015
48	Aviation Boulevard/ El Segundo Boulevard	0.885 – D	1.042 – F	1.114 – F	1.239 – F	0.229	0.197
49	Aviation Boulevard/ Utah Avenue	0.892 – D	0.827 – D	0.951 – E	0.874 – D	0.059	0.047
50	Aviation Boulevard/ Alaska Avenue	0.619 – B	0.831 – D	0.668 – B	0.878 – D	0.049	0.047
51	Aviation Boulevard/ Rosecrans Avenue	0.730 – C	0.848 – D	0.759 – C	0.871 – D	0.029	0.023
52	Aviation Boulevard/ 33rd Street	0.676 – B	0.723 – C	0.704 – C	0.750 – C	0.028	0.027
53	Aviation Boulevard/ Marine Avenue	1.074 – F	0.888 – D	1.103 – F	0.916 – E	0.029	0.028
54	Aviation Boulevard/ Space Park Drive	0.717 – C	0.611 – B	0.746 – C	0.637 – B	0.029	0.026
55	Aviation Boulevard/ Manhattan Beach Boulevard	0.958 – E	0.965 – E	0.986 – E	1.002 – F	0.028	0.037
56	Isis Avenue/ Rosecrans Avenue	0.726 – C	0.723 – C	0.731 – C	0.728 – C	0.005	0.005
58	Hindry Avenue/ Rosecrans Avenue	0.636 – B	0.766 – C	0.641 – B	0.766 – C	0.005	0.000
60	La Cienega Boulevard/ Imperial Highway	0.533 – A	0.653 – B	0.535 – A	0.657 – B	0.002	0.004
62	La Cienega Boulevard/ El Segundo Boulevard	0.730 – C	0.834 – D	0.955 – E	0.912 – E	0.225	0.078
69	Sepulveda Boulevard/ Manchester Avenue	0.914 – E	0.815 – D	0.928 – E	0.902 – E	0.014	0.087
UNSIGNALIZED							
Study Intersection		Delay ³ – LOS	Delay ³ – LOS	Delay ³ – LOS	Delay ³ – LOS	Delta Delay ³	
66	Douglas Street/ Coral Circle North	19.4 – C	59.8 – F	19.6 – C	63.1 – F	0.200	3.300
67	Douglas Street/ Coral Circle South	17.3 – C	25.5 – D	17.4 – C	26.3 – D	0.100	0.800
Notes:							
1. V/C = volume to capacity ratio.							
2. Deficient intersection operation shown in bold .							
3. Delay shown in seconds per vehicle.							



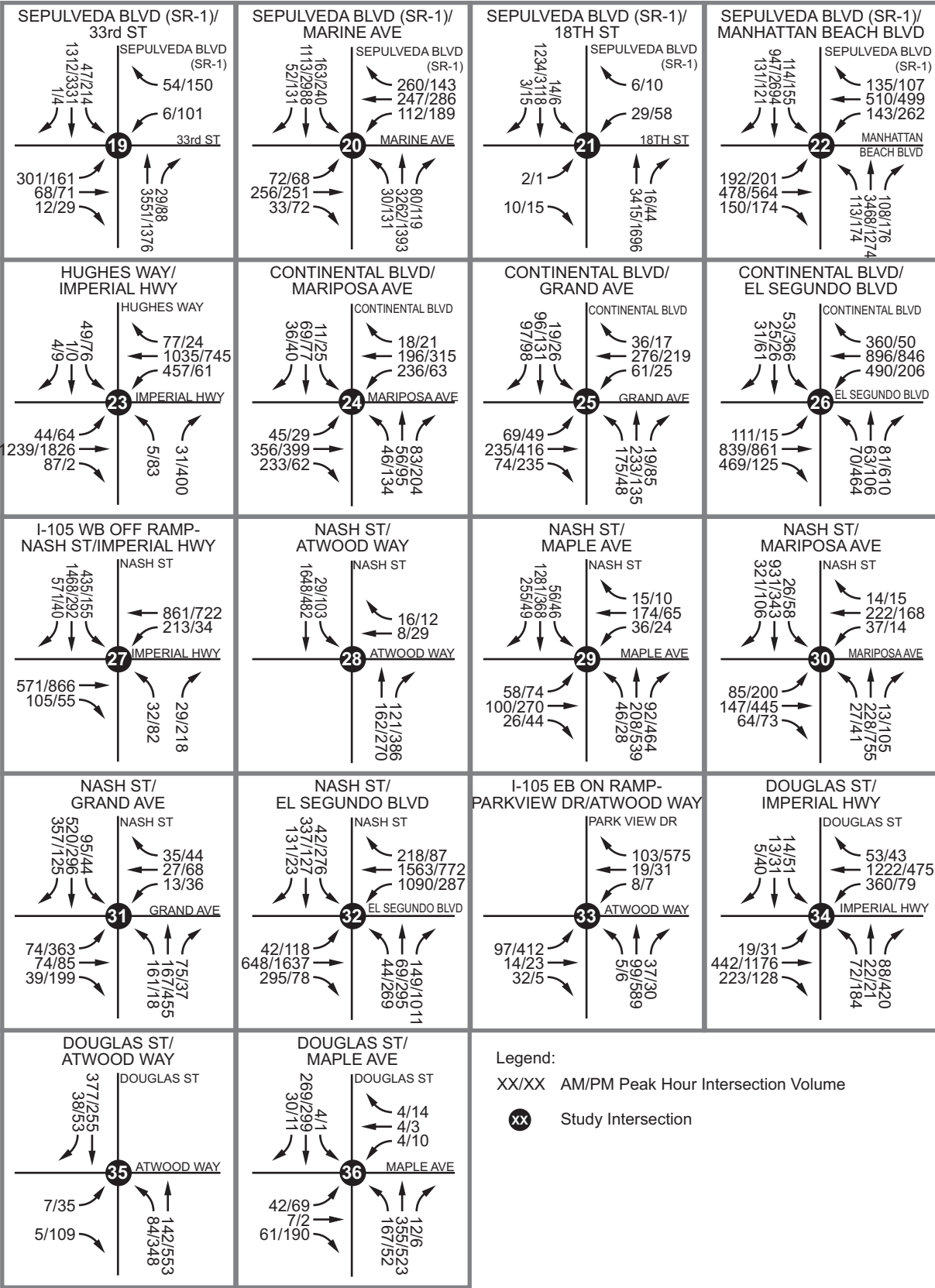
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Forecast Existing With Project Buildout Conditions Peak Hour Study Intersection Volumes (Intersections 1 through 18)

ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)



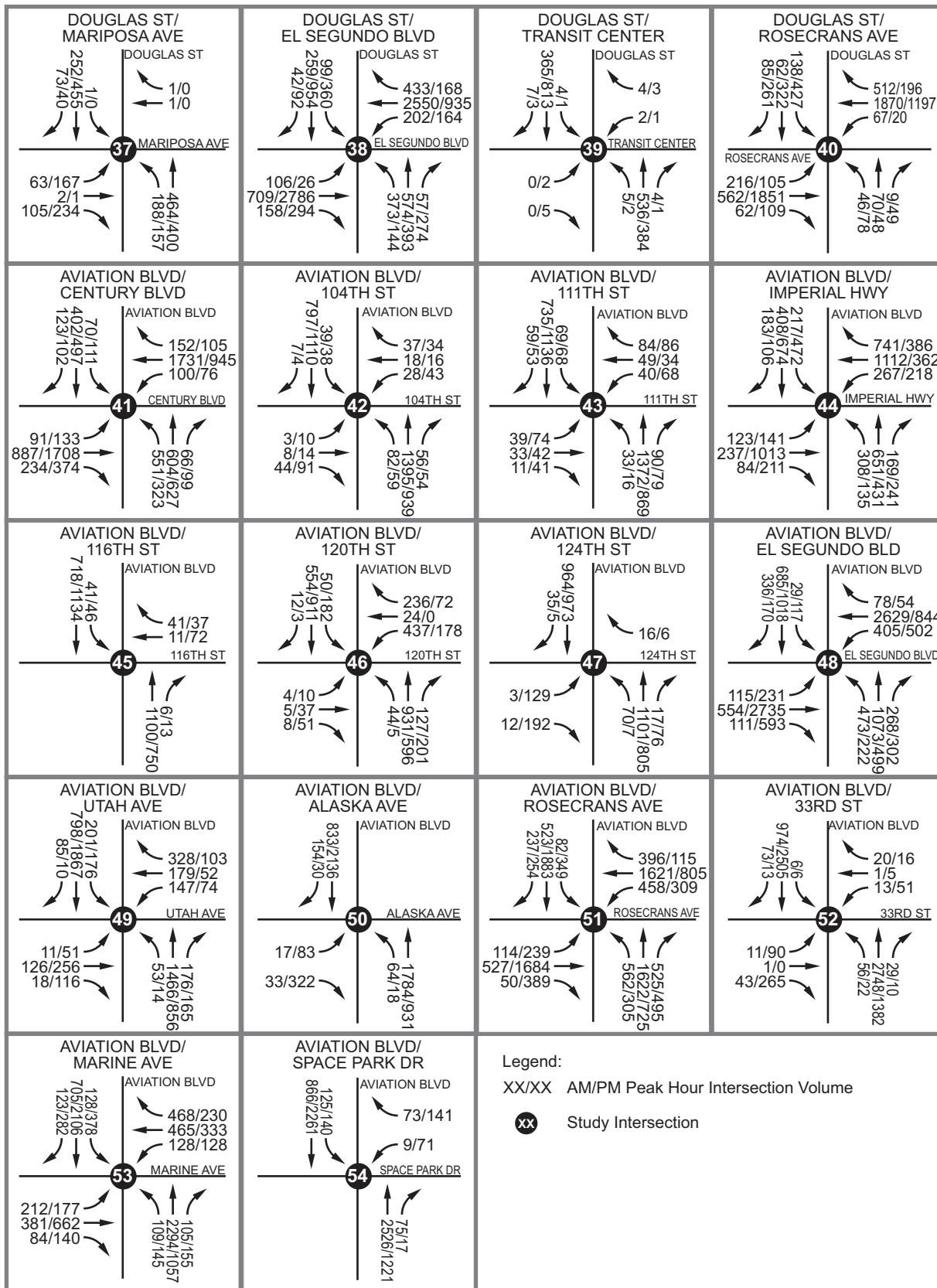
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Forecast Existing With Project Buildout Conditions Peak Hour Study Intersection Volumes (Intersections 19 through 36)

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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)



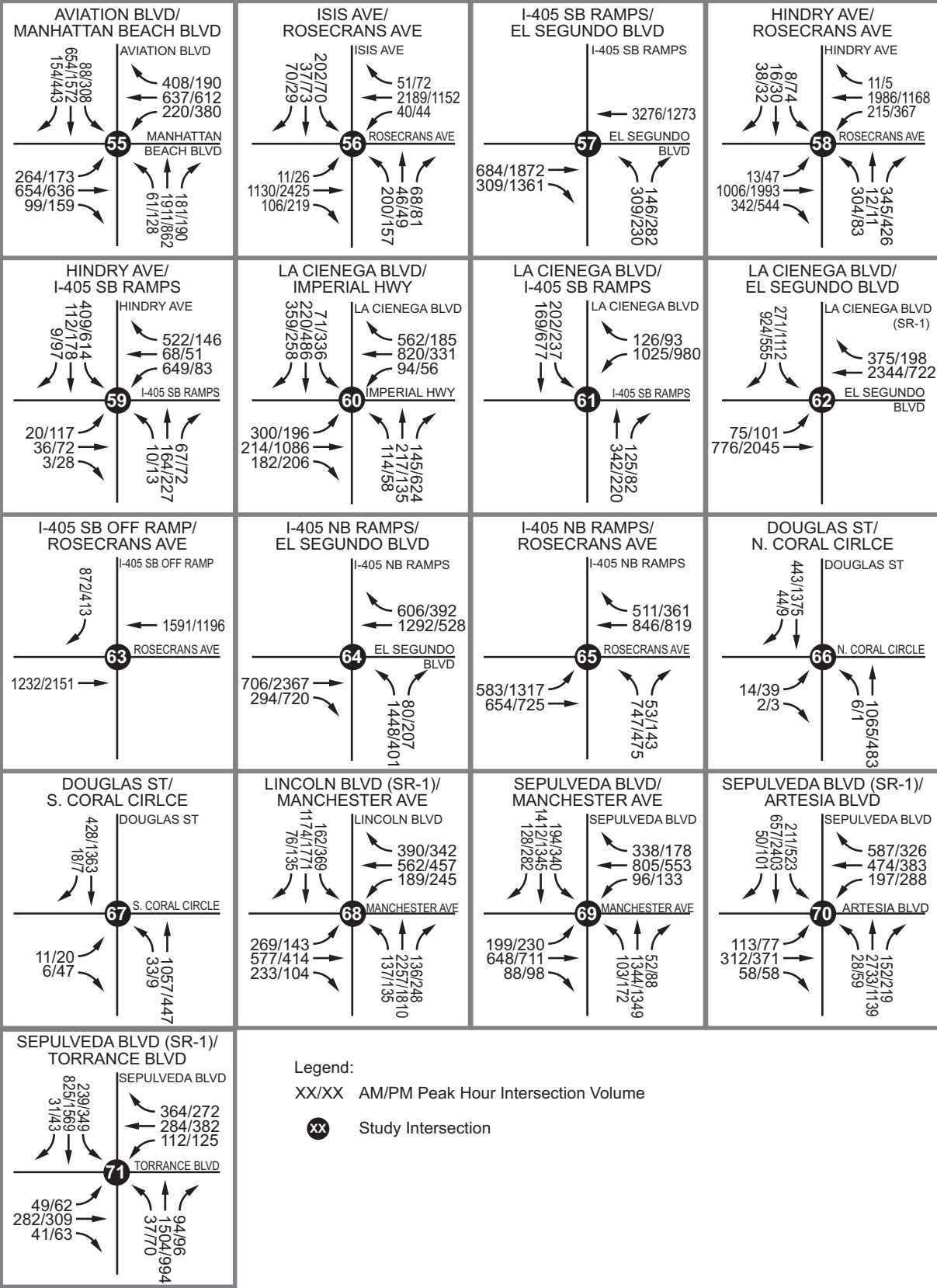
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Forecast Existing With Project Buildout Conditions Peak Hour Study Intersection Volumes (Intersections 37 through 54)

ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)



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Forecast Existing With Project Buildout Conditions Peak Hour Study Intersection Volumes (Intersections 55 through 71)

ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)

Exhibit 5.2-23



As shown in [Table 5.2-15](#), with the addition of Project buildout-generated trips, the following Study intersections are forecast to operate at a deficient LOS (LOS E or worse) according to agency performance criteria for forecast existing with Project buildout conditions:

- Intersection 32 – Nash Street/El Segundo Boulevard (El Segundo - p.m. peak hour only);
- Intersection 38 – Douglas Street/El Segundo Boulevard (El Segundo - both a.m. and p.m. peak hours);
- Intersection 48 – Aviation Boulevard/El Segundo Boulevard (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 49 – Aviation Boulevard/Utah Avenue (Hawthorne - a.m. peak hour only);
- Intersection 53 – Aviation Boulevard/Marine Avenue (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 55 – Aviation Boulevard/Manhattan Beach Boulevard (Redondo Beach - both a.m. and p.m. peak hours);
- Intersection 62 – La Cienega Boulevard/El Segundo Boulevard (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 66 – Douglas Street/Coral Circle North (El Segundo - p.m. peak hour only); and
- Intersection 69 – Sepulveda Boulevard/Manchester Avenue (City of Los Angeles – both a.m. and p.m. peak hours).

FORECAST EXISTING WITH PROJECT BUILDOUT CONDITIONS STATE HIGHWAY STUDY INTERSECTION PEAK HOUR LOS

[Table 5.2-16](#), *Forecast Existing With Project Buildout Conditions Peak Hour State Highway Study Intersection LOS*, summarizes forecast existing with Project buildout conditions a.m. peak hour and p.m. peak hour LOS of the State Highway study intersections; detailed LOS analysis sheets are contained in Appendix C of [Appendix 10.3](#).

As shown in [Table 5.2-16](#), with the addition of Project-generated trips, the State Highway study intersections are forecast to continue to operate at an acceptable LOS (LOS C or better) according to Caltrans performance criteria for forecast existing with Project buildout conditions, except the following:

- Intersection 9 – Sepulveda Boulevard (SR-1)/I-105 Westbound Off-Ramp (Caltrans - both a.m. and p.m. peak hours);
- Intersection 10 – Sepulveda Boulevard (SR-1)/Imperial Highway (Caltrans - p.m. peak hour only);
- Intersection 14 – Sepulveda Boulevard (SR-1)/Grand Avenue (Caltrans - p.m. peak hour only);
- Intersection 15 – Sepulveda Boulevard (SR-1)/El Segundo Boulevard (Caltrans - p.m. peak hour only);
- Intersection 18 – Sepulveda Boulevard (SR-1)/Rosecrans Avenue (Caltrans - p.m. peak hour only);
- Intersection 19 – Sepulveda Boulevard (SR-1)/33rd Street (Caltrans - p.m. peak hour only);
- Intersection 20 – Sepulveda Boulevard (SR-1)/Marine Avenue (Caltrans - both a.m. and p.m. peak hours);
- Intersection 22 – Sepulveda Boulevard (SR-1)/Manhattan Beach Boulevard (Caltrans - both a.m. and p.m. peak hours);



- Intersection 57 – I-405 Southbound Ramps/El Segundo Boulevard (Caltrans - p.m. peak hour);
- Intersection 63 – I-405 Southbound Off-Ramp/Rosecrans Avenue (Caltrans - a.m. peak hour only); and
- Intersection 70 – Pacific Coast Highway (SR-1)/Artesia Boulevard (Caltrans - a.m. peak hour only).

**Table 5.2-16
Forecast Existing With Project Buildout Conditions
Peak Hour State Highway Study Intersection LOS**

Study Intersection		Existing Conditions		Forecast Existing With Project Buildout Conditions	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
		Delay ¹ - LOS ²	Delay ¹ - LOS ²	Delay ¹ - LOS ²	Delay ¹ - LOS ²
7	Sepulveda Boulevard (SR-1)/ Lincoln Boulevard	19.6 – B	21.7 – C	22.0 – C	22.1 – C
8	Sepulveda Boulevard (SR-1)/ Century Boulevard	11.4 – B	12.5 – B	11.3 – B	12.5 – B
9	Sepulveda Boulevard (SR-1)/ I-105 WB Off-Ramp	999.9 – F	999.9 – F	999.9 – F	999.9 – F
10	Sepulveda Boulevard (SR-1)/ Imperial Highway	34.0 – C	48.4 – D	34.0 – C	47.4 – D
11	Sepulveda Boulevard (SR-1)/ Walnut Avenue	10.2 – B	14.5 – B	10.1 – B	14.7 – B
12	Sepulveda Boulevard (SR-1)/ Maple Avenue	12.9 – B	13.8 – B	14.0 – B	14.3 – B
13	Sepulveda Boulevard (SR-1)/ Mariposa Avenue	17.4 – B	20.8 – C	17.6 – B	21.8 – C
14	Sepulveda Boulevard (SR-1)/ Grand Avenue	25.9 – C	36.0 – D	25.4 – C	39.2 – D
15	Sepulveda Boulevard (SR-1)/ El Segundo Boulevard	30.9 – C	42.5 – D	70.3 – E	95.6 – F
16	Sepulveda Boulevard (SR-1)/ Hughes Way	5.7 – A	13.4 – B	10.9 – B	20.3 – C
17	Sepulveda Boulevard (SR-1)/ Park Place	4.5 – A	11.9 – B	4.7 – A	11.7 – B
18	Sepulveda Boulevard (SR-1)/ Rosecrans Avenue	30.2 – C	35.0 – C	32.3 – C	45.3 – D
19	Sepulveda Boulevard (SR-1)/ 33rd Street	17.5 – B	41.3 – D	24.7 – C	57.1 – E
20	Sepulveda Boulevard (SR-1)/ Marine Avenue	30.6 – C	33.0 – C	45.9 – D	43.6 – D
21	Sepulveda Boulevard (SR-1)/ 18th Street	3.5 – A	4.7 – A	4.6 – A	5.4 – A
22	Sepulveda Boulevard (SR-1)/ Manhattan Beach Boulevard	56.4 – E	53.1 – D	85.7 – F	74.3 – E
27	Nash Street – I-105 WB Off-Ramp/ Imperial Highway	28.4 – C	24.1 – C	29.7 – C	24.8 – C
33	I-105 EB ³ On-Ramp/ Atwood Way	21.4 – C	21.9 – C	21.5 – C	24.9 – C



**Table 5.2-16 [continued]
Forecast Existing With Project Buildout Conditions
Peak Hour State Highway Study Intersection LOS**

Study Intersection		Existing Conditions		Forecast Existing With Project Buildout Conditions	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
		Delay – LOS	Delay – LOS	Delay – LOS	Delay - LOS
57	I-405 SB Ramps/ El Segundo Boulevard	12.5 – B	15.0 – B	14.1 – B	40.1 – D
59	Hindry Avenue/ I-405 SB Ramps	26.3 – C	27.3 – C	26.3 – C	27.3 – C
61	La Cienega Boulevard/ I-405 SB Ramps	26.7 – C	27.1 – C	25.8 – C	27.1 – C
63	I-405 SB Off-Ramp/ Rosecrans Avenue	353.0 – F	22.2 – C	365.5 – F	22.6 – C
64	I-405 NB Ramps/ El Segundo Boulevard	19.0 – B	10.5 – B	24.1 – C	11.0 – B
65	I-405 NB Ramps/ Rosecrans Avenue	16.0 – B	11.3 – B	16.0 – B	11.3 – B
68	Lincoln Boulevard (SR-1)/ Manchester Avenue	34.2 – C	33.5 – C	34.2 – C	33.9 – C
70	Pacific Coast Highway (SR-1)/ Artesia Boulevard	42.1 – D	28.3 – C	76.6 – E	29.6 – C
71	Pacific Coast Highway (SR-1)/ Torrance Boulevard	28.6 – C	29.0 – C	32.7 – C	31.0 – C

Notes:
 1. Delay shown in seconds per vehicle
 2. Deficient intersection operation shown in **bold**.
 3. NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound.

**FORECAST EXISTING WITH PROJECT BUILDOUT CONDITIONS
FREEWAY OFF-RAMP QUEUE ANALYSIS**

To determine off-ramp queue conditions of vehicles transitioning from the freeway mainline to surface streets, a Highway Capacity Manual (HCM) queue analysis has been prepared.

Table 5.2-17, Existing and Forecast Existing With Project Buildout Conditions Off-Ramp Queue Analysis, summarizes the results for the off-ramp movement queue analysis at the study off-ramps for forecast existing and forecast existing with Project buildout conditions; detailed queue analysis sheets are contained in Appendix C of Appendix 10.3. As indicated in Table 5.2-17, adequate queue storage is forecast to continue to be provided at the study off-ramp locations for forecast existing with Project buildout conditions.



**Table 5.2-17
Forecast Existing With Project Buildout Conditions Off-Ramp Queue Analysis**

Location	Freeway Off-Ramp Queue Storage Provided (feet)	Forecast Off-Ramp Queue (feet)				Adequate Off-Ramp Storage Provided?
		Existing Conditions		Forecast Existing With Project Buildout Conditions		
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
I-105 WB Off-Ramp at NB Sepulveda Boulevard (SR-1)	4,460	1,200	550	1,475	575	Yes
I-105 WB Off-Ramp at Imperial Highway	2,660	175	175	200	175	Yes
I-405 SB Off-Ramp at El Segundo Boulevard	2,450	225	350	300	575	Yes
I-405 SB Off-Ramp at Hindry Avenue	1,300	425	100	425	100	Yes
I-405 SB Off-Ramp at La Cienega Boulevard	1,410	275	300	350	300	Yes
I-405 SB Off-Ramp at Rosecrans Avenue	1,160	715	115	725	115	Yes
I-405 NB Off-Ramp at El Segundo Boulevard	2,715	275	175	475	175	Yes
I-405 NB Off-Ramp at Rosecrans Avenue	1,710	275	200	275	200	Yes
Note: NB = Northbound; SB = Southbound; WB = Westbound.						

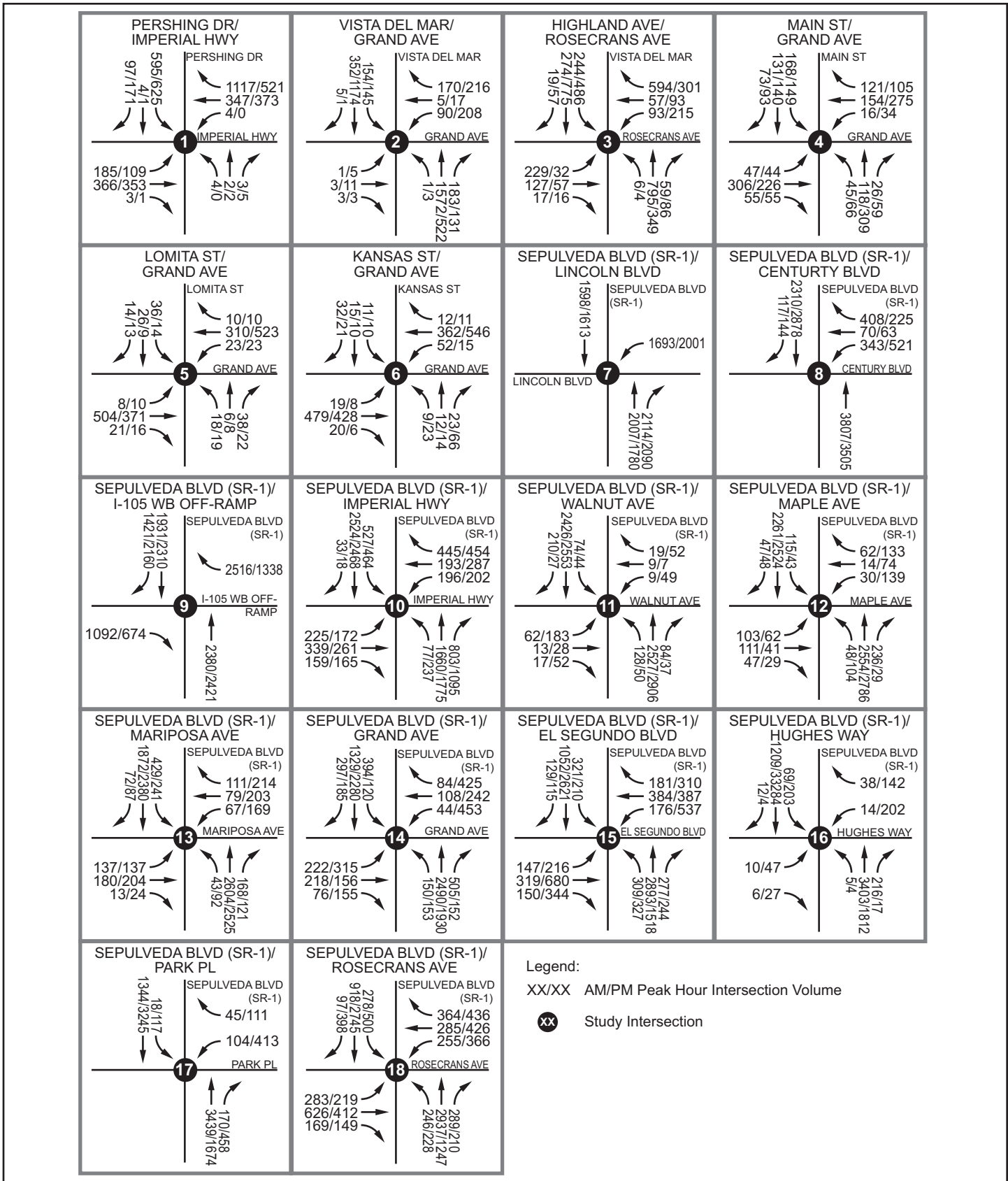
Forecast Near-Term Without Project Conditions

Consistent with the *Los Angeles County Congestion Management Program (LACMTA, 2010)* future growth forecasts for the study area, forecast near-term without Project traffic volumes were derived by applying an annual growth rate of 0.26 percent per year over a three-year period to existing traffic volumes to account for background and cumulative growth. It is noted that this is a conservative assumption, since the growth rate is applied to all study intersection movements.

Additionally, forecast near-term without Project traffic volumes include the addition of trips associated with 28 City of El Segundo cumulative projects that are expected to be constructed and generating trips by 2015; Cumulative project information is contained in Appendix E of Appendix 10.3.

FORECAST NEAR-TERM WITHOUT PROJECT CONDITIONS TRAFFIC VOLUMES

Exhibits 5.2-24 through 5.2-27, Forecast Near-Term Without Project Conditions AM/PM Peak Hour Study Intersection Volumes, show forecast near-term without Project conditions a.m. and p.m. peak hour traffic volumes at the study intersections.

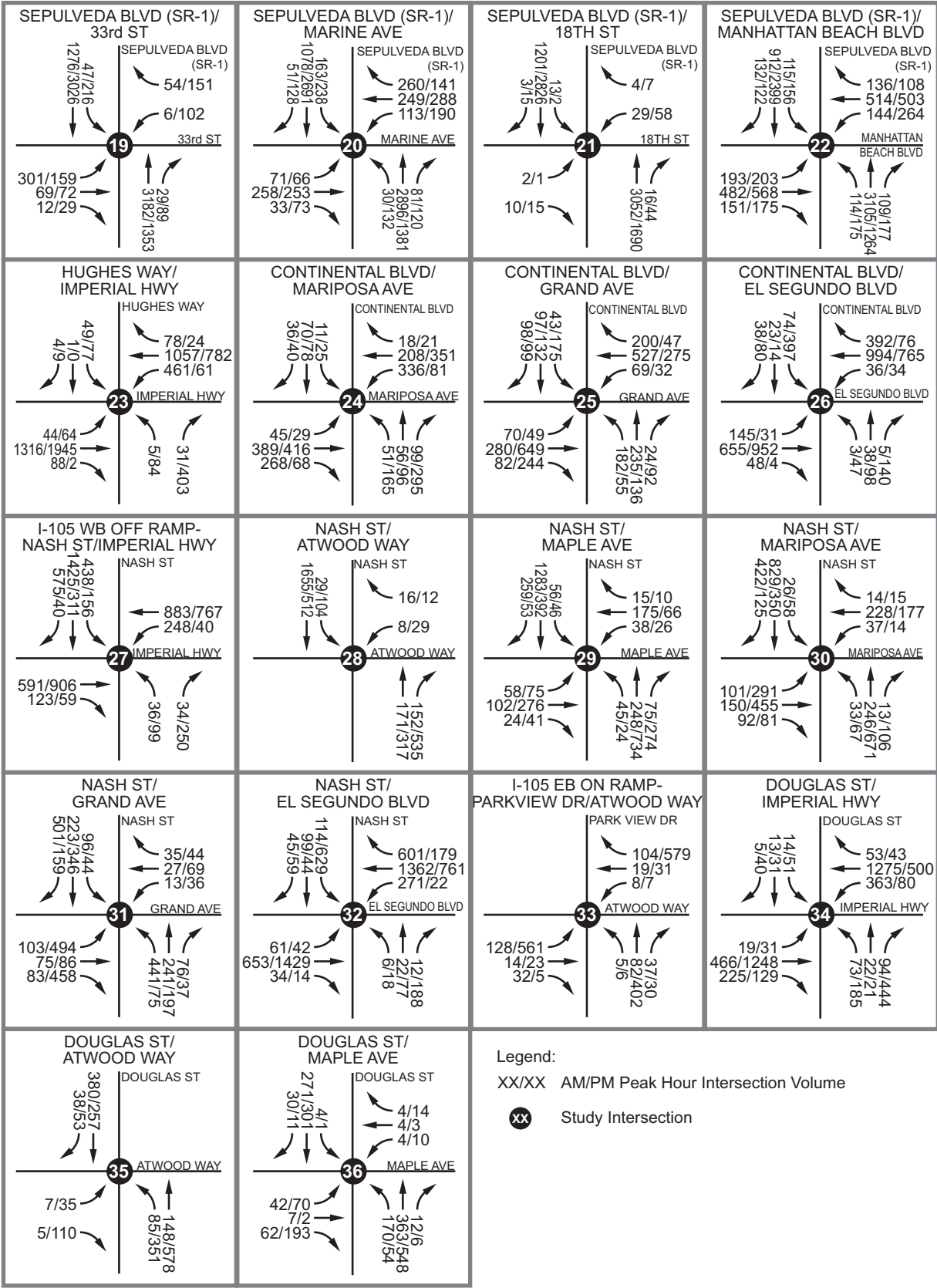


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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast Near-Term Without Project Conditions AM/PM Peak
 Hour Study Intersection Volumes (Intersections 1 through 18)**

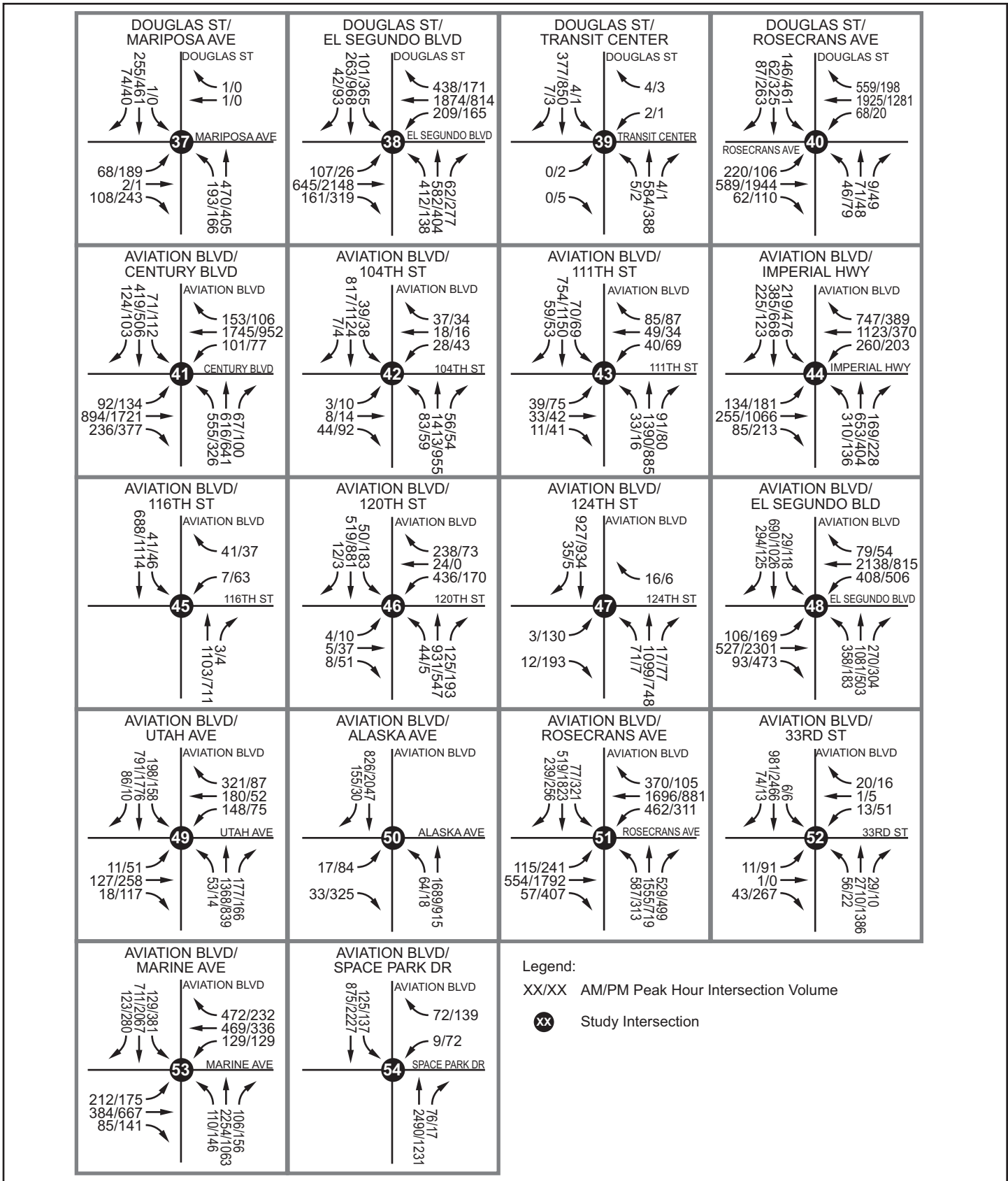


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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast Near-Term Without Project Conditions AM/PM Peak
 Hour Study Intersection Volumes (Intersections 19 through 36)**

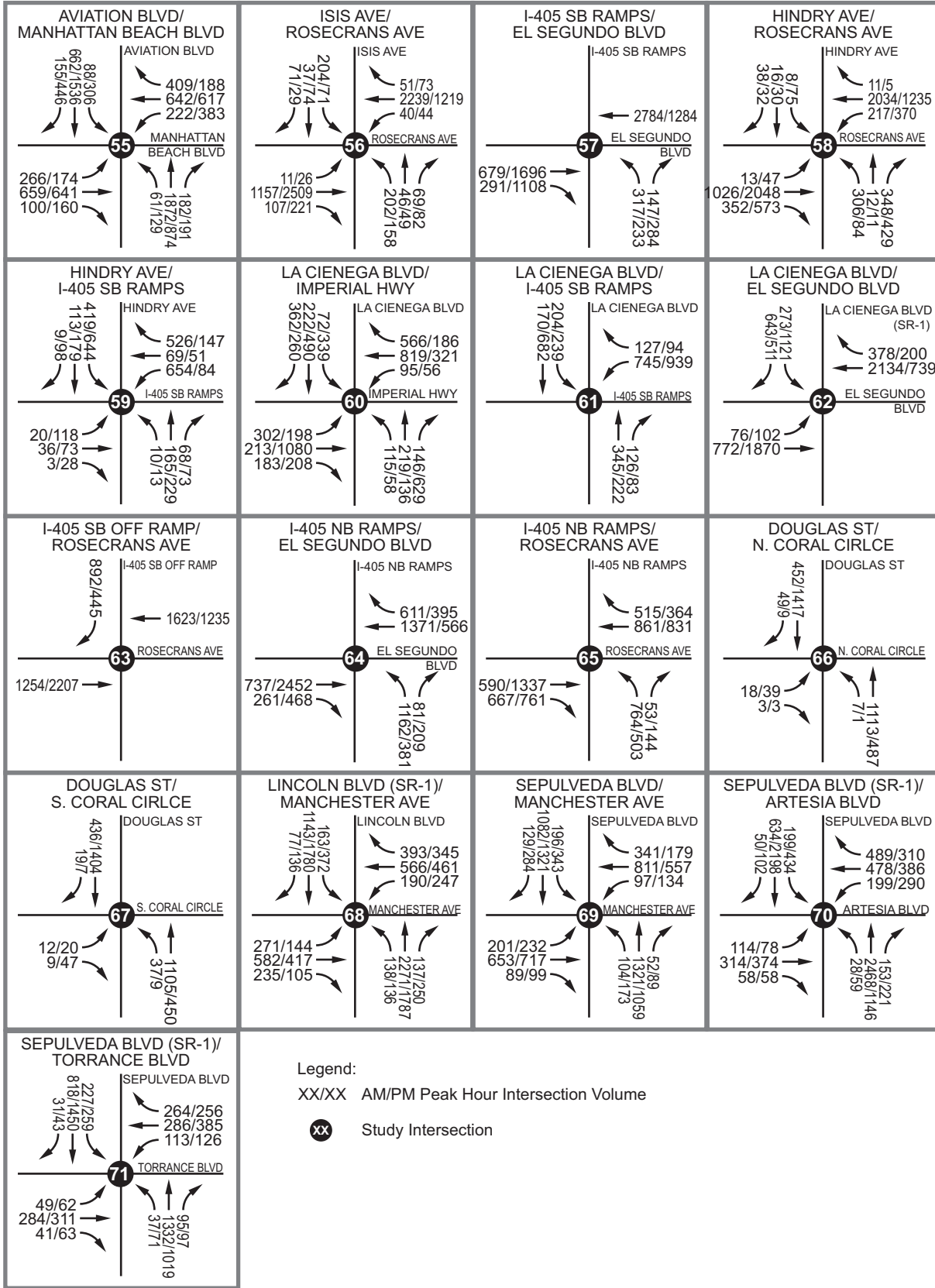


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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast Near-Term Without Project Conditions AM/PM Peak
 Hour Study Intersection Volumes (Intersections 37 through 54)**



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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast Near-Term Without Project Conditions AM/PM Peak
 Hour Study Intersection Volumes (Intersections 55 through 71)**



**FORECAST NEAR-TERM WITHOUT PROJECT CONDITIONS
STUDY INTERSECTION PEAK HOUR LOS**

Table 5.2-18, *Forecast Near-Term Without Project Conditions Peak Hour Study Intersection LOS*, summarizes forecast near-term without Project conditions a.m. peak hour and p.m. peak hour LOS of the study intersections; detailed LOS analysis sheets are contained in Appendix C of Appendix 10.3.

**Table 5.2-18
Forecast Near-Term Without Project
Conditions Peak Hour Study Intersection LOS**

Study Intersection		Forecast Near-Term Without Project Conditions	
		AM Peak Hour	PM Peak Hour
		V/C – LOS	V/C – LOS
SIGNALIZED			
1	Pershing Drive/Imperial Highway	0.519 – A	0.454 – A
2	Vista del Mar/Grand Avenue	0.856 – D	0.616 – B
3	Highland Avenue/Rosecrans Avenue	0.881 – D	0.777 – C
4	Main Street/Grand Avenue	0.402 – A	0.486 – A
5	Lomita Street/Grand Avenue	0.340 – A	0.320 – A
6	Kansas Street/Grand Avenue	0.337 – A	0.355 – A
23	Hughes Way/Imperial Highway	0.658 – B	0.743 – C
24	Continental Boulevard/Mariposa Boulevard	0.576 – A	0.429 – A
25	Continental Boulevard/Grand Avenue	0.470 – A	0.475 – A
26	Continental Boulevard/El Segundo Boulevard	0.474 – A	0.508 – A
28	Nash Street/Atwood Way	0.627 – B	0.518 – A
29	Nash Street/Maple Avenue	0.870 – D	0.765 – C
30	Nash Street/Mariposa Avenue	0.650 – B	0.621 – B
31	Nash Street/Grand Avenue	0.792 – C	0.684 – B
32	Nash Street/El Segundo Boulevard	0.588 – A	0.707 – C
34	Douglas Street/Imperial Highway	0.435 – A	0.530 – A
35	Douglas Street/Atwood Way	0.236 – A	0.441 – A
36	Douglas Street/Maple Avenue	0.309 – A	0.346 – A
37	Douglas Street/Mariposa Avenue	0.357 – A	0.460 – A
38	Douglas Street/El Segundo Boulevard	0.782 – C	1.022 – F
39	Douglas Street/Transit Center	0.289 – A	0.373 – A
40	Douglas Street/Rosecrans Avenue	0.672 – B	0.764 – C
41	Aviation Boulevard/Century Boulevard	0.778 – C	0.747 – C
42	Aviation Boulevard/104th Street	0.611 – B	0.592 – A
43	Aviation Boulevard/111th Street	0.643 – B	0.593 – A
44	Aviation Boulevard/Imperial Highway	0.817 – D	0.728 – C
45	Aviation Boulevard/116th Street	0.476 – A	0.488 – A
46	Aviation Boulevard/120th Street	0.701 – C	0.521 – A
47	Aviation Boulevard/124th Street	0.456 – A	0.519 – A



**Table 5.2-18 [continued]
Forecast Near-Term Without Project
Conditions Peak Hour Study Intersection LOS**

Study Intersection		Forecast Near-Term Without Project Conditions	
		AM Peak Hour	PM Peak Hour
		V/C ¹ – LOS ²	V/C ¹ – LOS ²
48	Aviation Boulevard/El Segundo Boulevard	0.984 – E	1.139 – F
49	Aviation Boulevard/Utah Avenue	0.914 – E	0.847 – D
50	Aviation Boulevard/Alaska Avenue	0.638 – B	0.851 – D
51	Aviation Boulevard/Rosecrans Avenue	0.755 – C	0.882 – D
52	Aviation Boulevard/33rd Street	0.697 – B	0.743 – C
53	Aviation Boulevard/Marine Avenue	1.097 – F	0.909 – E
54	Aviation Boulevard/Space Park Drive	0.738 – C	0.630 – B
55	Aviation Boulevard/Manhattan Beach Boulevard	0.980 – E	0.994 – E
56	Isis Avenue/Rosecrans Avenue	0.741 – C	0.743 – C
58	Hindry Avenue/Rosecrans Avenue	0.651 – B	0.786 – C
60	La Cienega Boulevard/Imperial Highway	0.537 – A	0.659 – B
62	La Cienega Boulevard/El Segundo Boulevard	0.824 – D	0.879 – D
69	Sepulveda Boulevard/Manchester Avenue	0.927 – E	0.846 – D
UNSIGNALIZED			
Study Intersection		Delay ³ – LOS	Delay ³ – LOS
66	Douglas Street/Coral Circle North	20.5 – C	69.8 – F
67	Douglas Street/Coral Circle South	17.3 – C	27.8 – D
Notes:			
1. V/C = volume to capacity ratio.			
2. Deficient intersection operation shown in bold .			
3. Delay shown in seconds per vehicle.			

As shown in Table 5.2-18, the study intersections are forecast to continue to operate at an acceptable LOS (LOS D or better) according to agency performance criteria for forecast near-term without Project conditions, except the following:

- Intersection 38 – Douglas Street/El Segundo Boulevard (El Segundo - p.m. peak hour only);
- Intersection 48 – Aviation Boulevard/El Segundo Boulevard (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 49 – Aviation Boulevard/Utah Avenue (Hawthorne - a.m. peak hour only);
- Intersection 53 – Aviation Boulevard/Marine Avenue (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 55 – Aviation Boulevard/Manhattan Beach Boulevard (Redondo Beach - both a.m. and p.m. peak hours);
- Intersection 66 – Douglas Street/Coral Circle North (El Segundo - p.m. peak hour only); and
- Intersection 69 – Sepulveda Boulevard/Manchester Avenue (City of Los Angeles - a.m. peak hour only).



**FORECAST NEAR-TERM WITHOUT PROJECT CONDITIONS
STATE HIGHWAY STUDY INTERSECTION PEAK HOUR LOS**

Table 5.2-19, *Forecast Near-Term Without Project Conditions Peak Hour State Highway Study Intersection LOS*, summarizes forecast near-term without Project conditions a.m. peak hour and p.m. peak hour LOS of the State Highway study intersections; detailed LOS analysis sheets are contained in Appendix C of Appendix 10.3.

**Table 5.2-19
Forecast Near-Term Without Project Conditions
Peak Hour State Highway Study Intersection LOS**

Study Intersection		Forecast Near-Term Without Project Conditions	
		AM Peak Hour	PM Peak Hour
		Delay ¹ – LOS ²	Delay ¹ – LOS ²
7	Sepulveda Boulevard (SR-1)/Lincoln Boulevard	20.4 – C	22.0 – C
8	Sepulveda Boulevard (SR-1)/Century Boulevard	11.5 – B	12.6 – B
9	Sepulveda Boulevard (SR-1)/I-105 WB Off-Ramp	999.9 – F	999.9 – F
10	Sepulveda Boulevard (SR-1)/Imperial Highway	36.6 – D	60.2 – E
11	Sepulveda Boulevard (SR-1)/Walnut Avenue	10.4 – B	15.9 – B
12	Sepulveda Boulevard (SR-1)/Maple Avenue	12.8 – B	14.0 – B
13	Sepulveda Boulevard (SR-1)/Mariposa Avenue	18.5 – B	22.3 – C
14	Sepulveda Boulevard (SR-1)/Grand Avenue	31.1 – C	46.0 – D
15	Sepulveda Boulevard (SR-1)/El Segundo Boulevard	34.1 – C	48.9 – D
16	Sepulveda Boulevard (SR-1)/Hughes Way	5.8 – A	13.4 – B
17	Sepulveda Boulevard (SR-1)/Park Place	4.5 – A	11.8 – B
18	Sepulveda Boulevard (SR-1)/Rosecrans Avenue	30.8 – C	37.1 – D
19	Sepulveda Boulevard (SR-1)/33rd Street	18.4 – B	47.7 – D
20	Sepulveda Boulevard (SR-1)/Marine Avenue	32.6 – C	35.1 – D
21	Sepulveda Boulevard (SR-1)/18th Street	3.7 – A	4.9 – A
22	Sepulveda Boulevard (SR-1)/Manhattan Beach Boulevard	62.7 – E	59.1 – E
27	Nash Street – I-105 WB ³ Off-Ramp/Imperial Highway	27.2 – C	25.6 – C
33	I-105 EB On-Ramp/Atwood Way	20.9 – C	24.5 – C
57	I-405 SB Ramps/El Segundo Boulevard	12.8 – B	21.5 – C
59	Hindry Avenue/I-405 SB Ramps	26.6 – C	27.2 – C
61	La Cienega Boulevard/I-405 SB Ramps	26.7 – C	27.2 – C
63	I-405 SB Off-Ramp/Rosecrans Avenue	396.1 – F	26.8 – D
64	I-405 NB Ramps/El Segundo Boulevard	21.5 – C	10.9 – B
65	I-405 NB Ramps/Rosecrans Avenue	16.2 – B	11.7 – B
68	Lincoln Boulevard (SR-1)/Manchester Avenue	34.6 – C	34.0 – C
70	Pacific Coast Highway (SR-1)/Artesia Boulevard	45.8 – D	28.7 – C
71	Pacific Coast Highway (SR-1)/Torrance Boulevard	29.3 – C	29.5 – C

Notes:
 1. Delay shown in seconds per vehicle.
 2. Deficient intersection operation shown in **bold**.
 3. NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound.



As shown in [Table 5.2-19](#), the State Highway study intersections are forecast to continue to operate at an acceptable LOS (LOS C or better) according to Caltrans performance criteria for forecast near-term without Project conditions, except the following:

- Intersection 9 – Sepulveda Boulevard (SR-1)/I-105 Westbound Off-Ramp (Caltrans - both a.m. and p.m. peak hours);
- Intersection 10 – Sepulveda Boulevard (SR-1)/Imperial Highway (Caltrans - both a.m. and p.m. peak hours);
- Intersection 14 – Sepulveda Boulevard (SR-1)/Grand Avenue (Caltrans - p.m. peak hour only);
- Intersection 15 – Sepulveda Boulevard (SR-1)/El Segundo Boulevard (Caltrans - p.m. peak hour only);
- Intersection 18 – Sepulveda Boulevard (SR-1)/Rosecrans Avenue (Caltrans - p.m. peak hour only);
- Intersection 19 – Sepulveda Boulevard (SR-1)/33rd Street (Caltrans - p.m. peak hour only);
- Intersection 20 – Sepulveda Boulevard (SR-1)/Marine Avenue (Caltrans - p.m. peak hour only);
- Intersection 22 – Sepulveda Boulevard (SR-1)/Manhattan Beach Boulevard (Caltrans - both a.m. and p.m. peak hours);
- Intersection 63 – I-405 Southbound Off-Ramp/Rosecrans Avenue (Caltrans - both a.m. and p.m. peak hours); and
- Intersection 70 – Pacific Coast Highway (SR-1)/Artesia Boulevard (Caltrans - a.m. peak hour only).

FORECAST NEAR-TERM WITHOUT PROJECT CONDITIONS OFF-RAMP QUEUE ANALYSIS

[Table 5.2-20](#), *Forecast Near-Term Without Project Conditions Off-Ramp Queue Analysis*, summarizes the results for the off-ramp movement queue analysis at the study off-ramps for forecast 2015 without Project conditions; detailed queue analysis sheets are contained in Appendix C of [Appendix 10.3](#). As shown in [Table 5.2-20](#), adequate queue storage is forecast to be provided at the study off-ramp locations for forecast near-term without Project conditions.

Forecast Near-Term With Phase I Project Conditions

This section analyzes the traffic conditions associated with the addition of trips forecast to be generated by the Phase I Project to forecast near-term without Project conditions.

FORECAST NEAR-TERM WITH PHASE I PROJECT CONDITIONS TRAFFIC VOLUMES

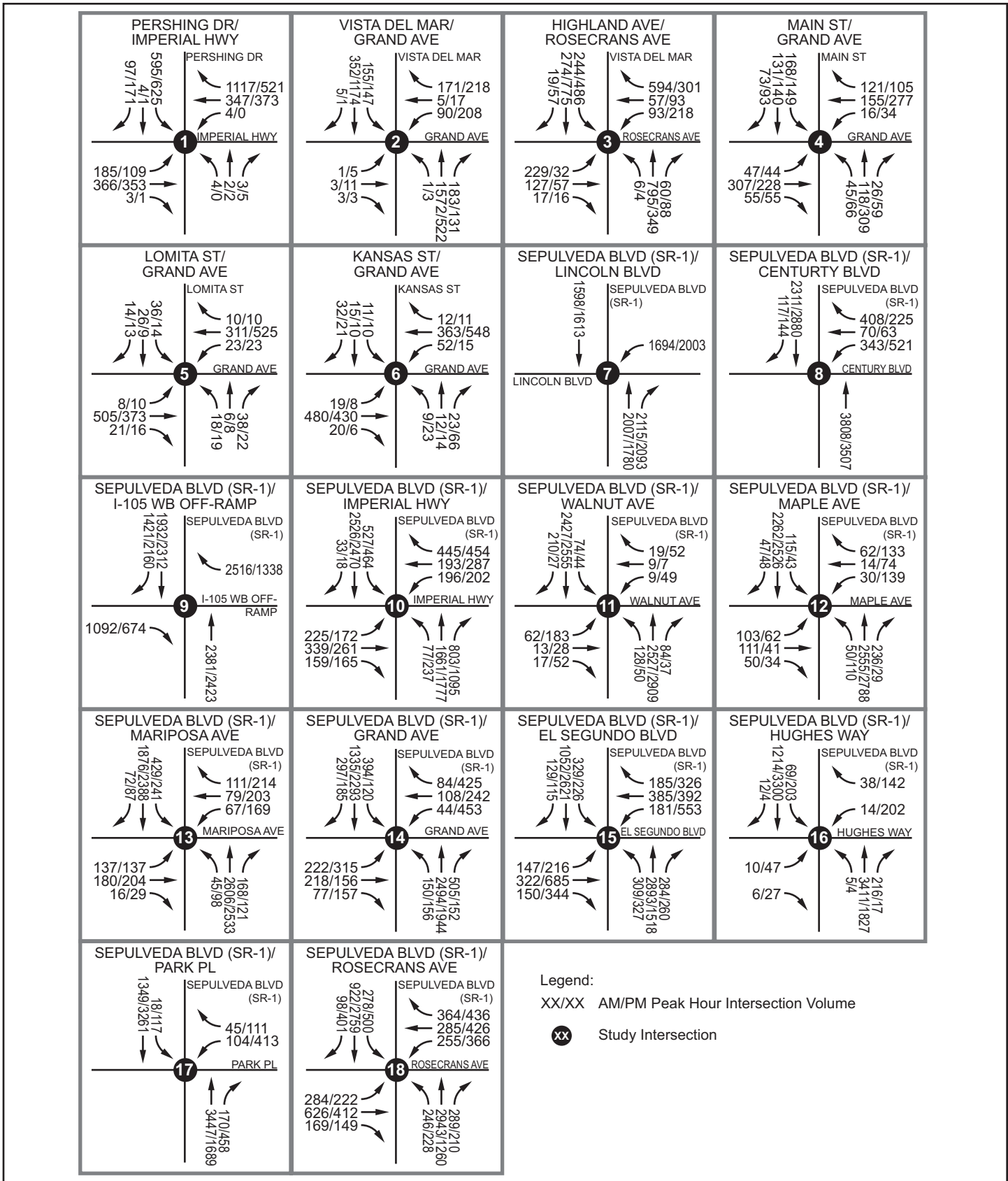
Forecast near-term with Phase I Project conditions a.m. and p.m. peak hour volumes were derived by adding forecast Phase I Project-generated trips to forecast near-term without Project conditions traffic volumes.

[Exhibits 5.2-28](#) through [5.2-31](#), *Forecast Near-Term With Project Phase I Conditions AM/PM Peak Hour Study Intersection Volumes*, show forecast near-term with Phase I Project conditions a.m. and p.m. peak hour volumes at the study intersections.



**Table 5.2-20
Forecast Near-Term Without Project Conditions Off-Ramp Queue Analysis**

Location	Freeway Off-Ramp Queue Storage Provided (feet)	Forecast Off-Ramp Queue (feet)		Adequate Off-Ramp Storage Provided?
		Forecast Near-Term Without Project Conditions		
		AM Peak Hour	PM Peak Hour	
I-105 WB Off-Ramp at NB Sepulveda Boulevard (SR-1)	4,460	1,325	575	Yes
I-105 WB Off-Ramp at Imperial Highway	2,660	175	225	Yes
I-405 SB Off-Ramp at El Segundo Boulevard	2,450	275	450	Yes
I-405 SB Off-Ramp at Hindry Avenue	1,300	425	100	Yes
I-405 SB Off-Ramp at La Cienega Boulevard	1,410	275	300	Yes
I-405 SB Off-Ramp at Rosecrans Avenue	1,160	765	140	Yes
I-405 NB Off-Ramp at El Segundo Boulevard	2,715	375	175	Yes
I-405 NB Off-Ramp at Rosecrans Avenue	1,710	300	200	Yes
Note: NB = Northbound; SB = Southbound; WB = Westbound.				



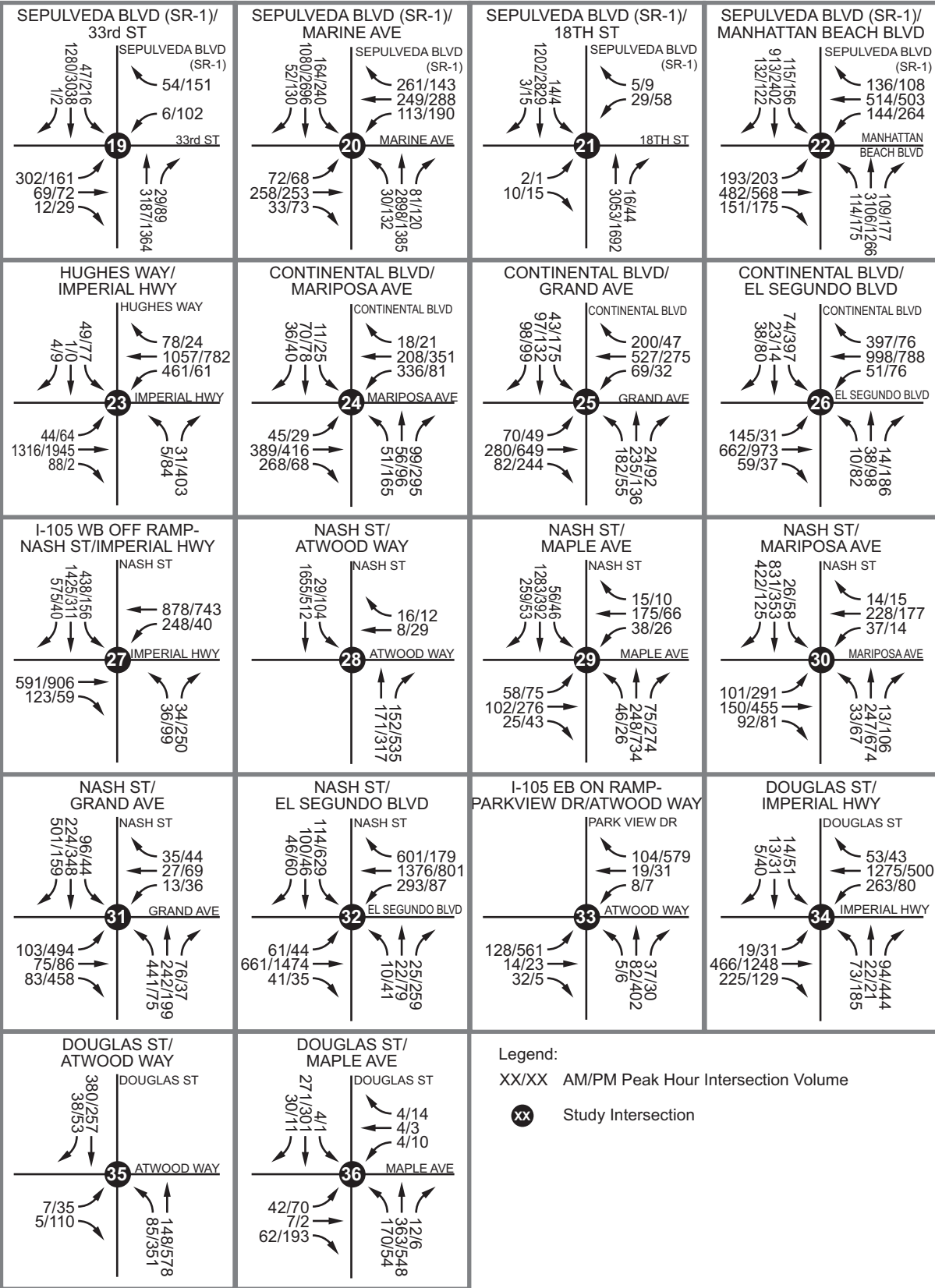
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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast Near-Term With Project Phase 1 Conditions AM/PM
 Peak Hour Study Intersection Volumes (Intersections 1 – 18)**

Exhibit 5.2-28



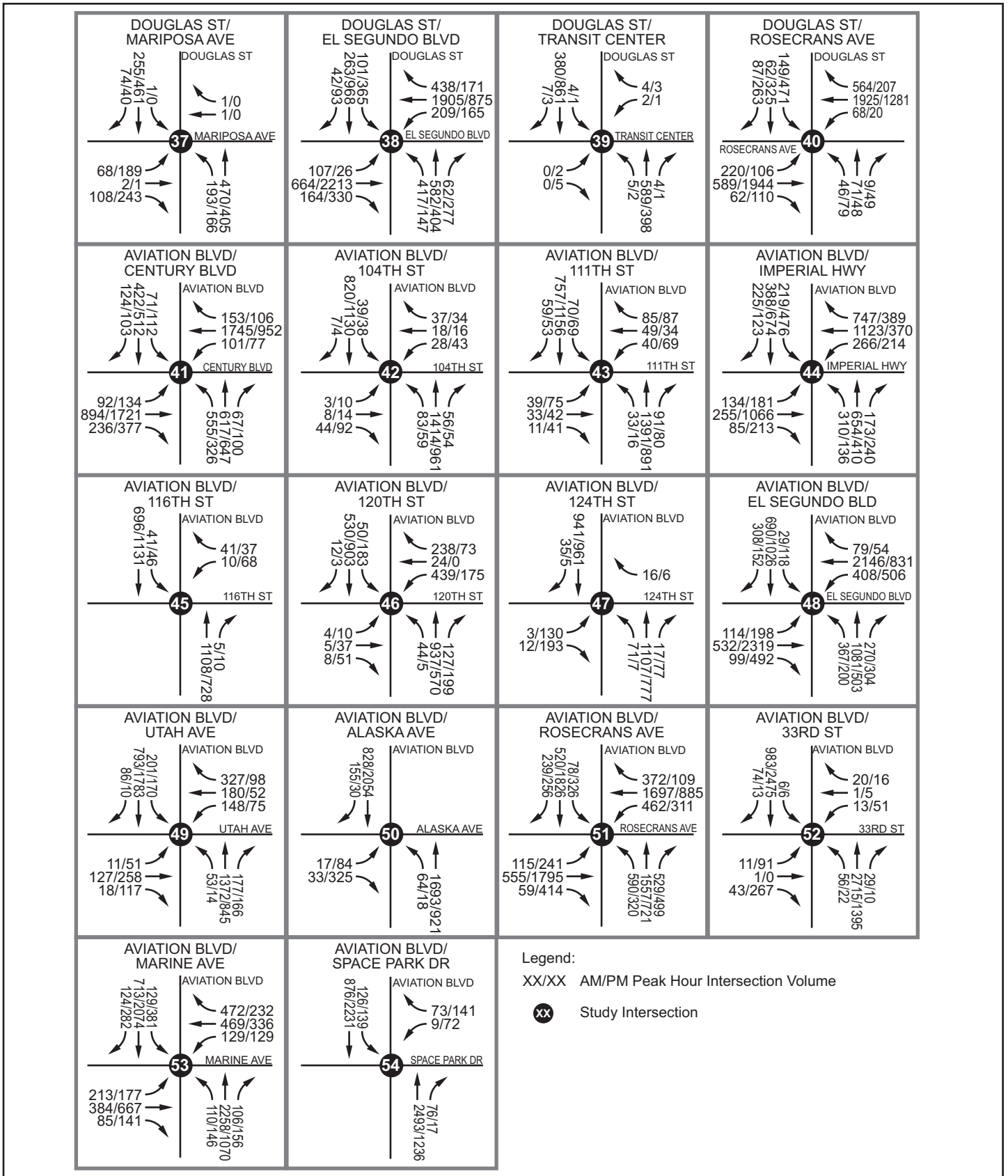
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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast Near-Term With Project Phase 1 Conditions AM/PM
 Peak Hour Study Intersection Volumes (Intersections 19 – 36)**

Exhibit 5.2-29



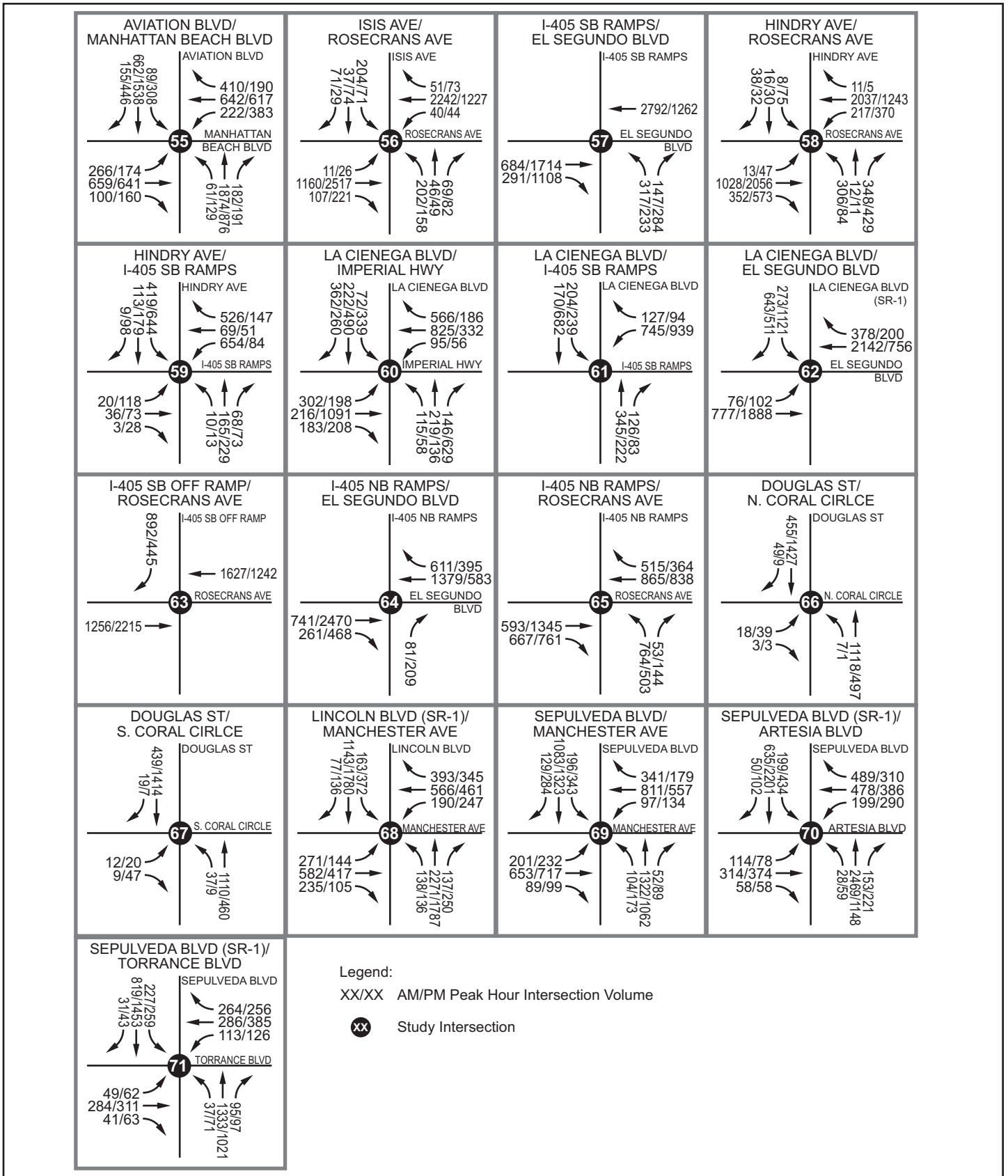
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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast Near-Term With Project Phase 1 Conditions AM/PM
 Peak Hour Study Intersection Volumes (Intersections 37 – 54)**

Exhibit 5.2-30



Forecast Near-Term With Project Phase 1 Conditions AM/PM Peak Hour Study Intersection Volumes (Intersections 55 – 71)

NOT TO SCALE



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**FORECAST NEAR-TERM WITH PHASE I
PROJECT CONDITIONS STUDY INTERSECTION PEAK HOUR LOS**

Table 5.2-21, *Forecast Near-Term With Phase I Project Conditions Peak Hour Study Intersection LOS*, summarizes forecast near-term with Phase I Project conditions a.m. peak hour and p.m. peak hour LOS of the study intersections; detailed LOS analysis sheets are contained in Appendix C of Appendix 10.3.

**Table 5.2-21
Forecast Near-Term With Phase I Project Conditions
Peak Hour Study Intersection LOS**

Study Intersection	Forecast Near-Term Without Project Conditions		Forecast Near-Term With Phase I Project Conditions		Delta V/C ¹		Significant Impact?	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour		
	V/C – LOS ²	V/C – LOS ²	V/C – LOS ²	V/C – LOS ²				
SIGNALIZED								
1	Pershing Drive/ Imperial Highway	0.519 – A	0.454 – A	0.519 – A	0.454 – A	0.000	0.000	No
2	Vista del Mar/ Grand Avenue	0.856 – D	0.616 – B	0.857 – D	0.618 – B	0.001	0.002	No
3	Highland Avenue/ Rosecrans Avenue	0.881 – D	0.777 – C	0.881 – D	0.779 – C	0.000	0.002	No
4	Main Street/ Grand Avenue	0.402 – A	0.486 – A	0.402 – A	0.487 – A	0.000	0.001	No
5	Lomita Street/ Grand Avenue	0.340 – A	0.320 – A	0.341 – A	0.320 – A	0.001	0.000	No
6	Kansas Street/ Grand Avenue	0.337 – A	0.355 – A	0.337 – A	0.355 – A	0.000	0.000	No
23	Hughes Way/ Imperial Highway	0.658 – B	0.743 – C	0.658 – B	0.743 – C	0.000	0.000	No
24	Continental Boulevard/ Mariposa Boulevard	0.576 – A	0.429 – A	0.576 – A	0.429 – A	0.000	0.000	No
25	Continental Boulevard/ Grand Avenue	0.470 – A	0.475 – A	0.470 – A	0.475 – A	0.000	0.000	No
26	Continental Boulevard/ El Segundo Boulevard	0.474 – A	0.508 – A	0.475 – A	0.528 – A	0.001	0.020	No
28	Nash Street/ Atwood Way	0.627 – B	0.518 – A	0.627 – B	0.518 – A	0.000	0.000	No
29	Nash Street/ Maple Avenue	0.870 – D	0.765 – C	0.871 – D	0.766 – C	0.001	0.001	No
30	Nash Street/ Mariposa Avenue	0.650 – B	0.621 – B	0.651 – B	0.622 – B	0.001	0.001	No
31	Nash Street/ Grand Avenue	0.792 – C	0.684 – B	0.792 – C	0.685 – B	0.000	0.001	No
32	Nash Street/ El Segundo Boulevard	0.588 – A	0.707 – C	0.592 – A	0.761 – C	0.004	0.054	No
33	I-105 EB On-Ramp/ Atwood Way	20.9 – C	24.5 – C	20.9 – C	24.5 – C	0.000	0.000	No



**Table 5.2-21 [continued]
Forecast Near-Term With Phase I Project Conditions
Peak Hour Study Intersection LOS**

Study Intersection	Forecast Near-Term Without Project Conditions		Forecast Near-Term With Phase I Project Conditions		Delta V/C		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	V/C – LOS	V/C – LOS	V/C – LOS	V/C – LOS			
34 Douglas Street/ Imperial Highway	0.435 – A	0.530 – A	0.435 – A	0.530 – A	0.000	0.000	No
35 Douglas Street/ Atwood Way	0.236 – A	0.441 – A	0.236 – A	0.441 – A	0.000	0.000	No
36 Douglas Street/ Maple Avenue	0.309 – A	0.346 – A	0.309 – A	0.346 – A	0.000	0.000	No
37 Douglas Street/ Mariposa Avenue	0.357 – A	0.460 – A	0.357 – A	0.460 – A	0.000	0.000	No
38 Douglas Street/ El Segundo Boulevard	0.782 – C	1.022 – F	0.791 – C	1.041 – F	0.009	0.019	No
39 Douglas Street/ Transit Center	0.289 – A	0.373 – A	0.290 – A	0.376 – A	0.001	0.003	No
40 Douglas Street/ Rosecrans Avenue	0.672 – B	0.764 – C	0.673 – B	0.764 – C	0.001	0.000	No
41 Aviation Boulevard/ Century Boulevard	0.778 – C	0.747 – C	0.778 – C	0.749 – C	0.000	0.002	No
42 Aviation Boulevard/ 104th Street	0.611 – B	0.592 – A	0.611 – B	0.594 – A	0.000	0.002	No
43 Aviation Boulevard/ 111th Street	0.643 – B	0.593 – A	0.644 – B	0.594 – A	0.001	0.001	No
44 Aviation Boulevard/ Imperial Highway	0.817 – D	0.728 – C	0.818 – D	0.734 – C	0.001	0.006	No
45 Aviation Boulevard/ 116th Street	0.476 – A	0.488 – A	0.480 – A	0.496 – A	0.004	0.008	No
46 Aviation Boulevard/ 120th Street	0.701 – C	0.521 – A	0.704 – C	0.532 – A	0.003	0.011	No
47 Aviation Boulevard/ 124th Street	0.456 – A	0.519 – A	0.461 – A	0.527 – A	0.005	0.008	No
48 Aviation Boulevard/ El Segundo Boulevard	0.984 – E	1.139 – F	0.991 – E	1.149 – F	0.007	0.010	Yes
49 Aviation Boulevard/ Utah Avenue	0.914 – E	0.847 – D	0.921 – E	0.849 – D	0.007	0.002	No
50 Aviation Boulevard/ Alaska Avenue	0.638 – B	0.851 – D	0.640 – B	0.853 – D	0.002	0.002	No
51 Aviation Boulevard/ Rosecrans Avenue	0.755 – C	0.882 – D	0.756 – C	0.885 – D	0.001	0.003	No
52 Aviation Boulevard/ 33rd Street	0.697 – B	0.743 – C	0.698 – B	0.745 – C	0.001	0.002	No
53 Aviation Boulevard/ Marine Avenue	1.097 – F	0.909 – E	1.099 – F	0.912 – E	0.002	0.003	No
54 Aviation Boulevard/ Space Park Drive	0.738 – C	0.630 – B	0.739 – C	0.631 – B	0.001	0.001	54



**Table 5.2-21 [continued]
Forecast Near-Term With Phase I Project Conditions
Peak Hour Study Intersection LOS**

Study Intersection		Forecast Near-Term Without Project Conditions		Forecast Near-Term With Phase I Project Conditions		Delta V/C		Significant Impact?
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
		V/C – LOS	V/C – LOS	V/C – LOS	V/C – LOS			
55	Aviation Boulevard/ Manhattan Beach Boulevard	0.980 – E	0.994 – E	0.982 – E	0.995 – E	0.002	0.001	No
56	Isis Avenue/ Rosecrans Avenue	0.741 – C	0.743 – C	0.742 – C	0.744 – C	0.001	0.001	No
58	Hindry Avenue/ Rosecrans Avenue	0.651 – B	0.786 – C	0.651 – B	0.786 – C	0.000	0.000	No
60	La Cienega Boulevard/ Imperial Highway	0.537 – A	0.659 – B	0.538 – A	0.661 – B	0.001	0.002	No
62	La Cienega Boulevard/ El Segundo Boulevard	0.824 – D	0.879 – D	0.826 – D	0.882 – D	0.002	0.003	No
69	Sepulveda Boulevard/ Manchester Avenue	0.927 – E	0.846 – D	0.927 – E	0.846 – D	0.000	0.000	No
UNSIGNALIZED								
Study Intersection		Delay ³ – LOS	Delay ³ – LOS	Delay ³ – LOS	Delay ³ – LOS	Delta Delay ³		Significant Impact?
66	Douglas Street/ Coral Circle North	20.5 ³ – C	69.8³ – F	20.7 ³ – C	72.2³ – F	0.200 ³	2.400 ³	No
67	Douglas Street/ Coral Circle South	17.3 ³ – C	27.8 ³ – D	17.4 ³ – C	28.3 ³ – D	0.100 ³	0.500 ³	No
Notes: 1. V/C = volume to capacity ratio. 2. Deficient intersection operation shown in bold . 3. Delay shown in seconds per vehicle.								

As shown in Table 5.2-21, with the addition of Project-generated trips, the study intersections are forecast to continue to operate at an acceptable LOS (LOS D or better) according to agency performance criteria for forecast near-term with Phase I Project conditions, except the following:

- Intersection 38 – Douglas Street/El Segundo Boulevard (El Segundo - p.m. peak hour only);
- Intersection 48 – Aviation Boulevard/El Segundo Boulevard (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 49 – Aviation Boulevard/Utah Avenue (Hawthorne - a.m. peak hour only);
- Intersection 53 – Aviation Boulevard/Marine Avenue (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 55 – Aviation Boulevard/Manhattan Beach Boulevard (Redondo Beach - both a.m. and p.m. peak hours);
- Intersection 66 – Douglas Street/Coral Circle North (El Segundo - p.m. peak hour only); and



- Intersection 69 – Sepulveda Boulevard/Manchester Avenue (City of Los Angeles - a.m. peak hour only).

As also shown in [Table 5.2-21](#), the addition of Phase I Project-generated trips is forecast to cause a significant impact at the following study intersection based on agency-established thresholds of significance for forecast near-term with Phase I Project conditions:

- Intersection 48 – Aviation Boulevard/El Segundo Boulevard (Hawthorne - p.m. peak hour only).

FORECAST NEAR-TERM WITH PHASE I PROJECT CONDITIONS MITIGATION MEASURES

Mitigation at the following impacted intersection is infeasible due to right-of-way limitations and existing structures. Therefore, the Project impact at this intersection would remain a significant and unavoidable for forecast near-term with Phase I Project conditions.

- Intersection 48 (Aviation Boulevard/El Segundo Boulevard, Hawthorne) p.m. peak hour only.

FORECAST NEAR-TERM WITH PHASE I PROJECT CONDITIONS STATE HIGHWAY STUDY INTERSECTION PEAK HOUR LOS

[Table 5.2-22](#), *Forecast Near-Term With Phase I Project Conditions Peak Hour State Highway Study Intersection LOS*, summarizes forecast near-term with Phase I Project conditions a.m. peak hour and p.m. peak hour LOS of the State Highway study intersections; detailed LOS analysis sheets are contained in Appendix C of [Appendix 10.3](#).

As shown in [Table 5.2-22](#), with the addition of Phase I Project-generated trips, the State Highway study intersections are forecast to continue to operate at an acceptable LOS (LOS C or better) according to Caltrans performance criteria for forecast near-term with Phase I Project conditions, except the following:

- Intersection 9 – Sepulveda Boulevard (SR-1)/I-105 Westbound Off-Ramp (Caltrans - both a.m. and p.m. peak hours);
- Intersection 10 – Sepulveda Boulevard (SR-1)/Imperial Highway (Caltrans - both a.m. and p.m. peak hours);
- Intersection 14 – Sepulveda Boulevard (SR-1)/Grand Avenue (Caltrans - p.m. peak hour only);
- Intersection 15 – Sepulveda Boulevard (SR-1)/El Segundo Boulevard (Caltrans - p.m. peak hour only);
- Intersection 18 – Sepulveda Boulevard (SR-1)/Rosecrans Avenue (Caltrans - p.m. peak hour only);
- Intersection 19 – Sepulveda Boulevard (SR-1)/33rd Street (Caltrans - p.m. peak hour only);
- Intersection 20 – Sepulveda Boulevard (SR-1)/Marine Avenue (Caltrans - p.m. peak hour only);
- Intersection 22 – Sepulveda Boulevard (SR-1)/Manhattan Beach Boulevard (Caltrans - both a.m. and p.m. peak hours);
- Intersection 63 – I-405 Southbound Off-Ramp/Rosecrans Avenue (Caltrans - both a.m. and p.m. peak hours); and



- Intersection 70 – Pacific Coast Highway (SR-1)/Artesia Boulevard (Caltrans - a.m. peak hour only).

Table 5.2-22
Forecast Near-Term With Phase I Project Conditions
Peak Hour State Highway Study Intersection LOS

Study Intersection		Forecast Near-Term Without Project Conditions		Forecast Near-Term With Phase I Project Conditions		Significant Impact?
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
		Delay ¹ – LOS ²	Delay ¹ – LOS ²	Delay ¹ – LOS ²	Delay ¹ – LOS ²	
7	Sepulveda Boulevard (SR-1)/ Lincoln Boulevard	20.4 – C	22.0 – C	20.4 – C	22.0 – C	No
8	Sepulveda Boulevard (SR-1)/ Century Boulevard	11.5 – B	12.6 – B	11.5 – B	12.6 – B	No
9	Sepulveda Boulevard (SR-1)/ I-105 WB Off-Ramp	999.9 – F	999.9 – F	999.9 – F	999.9 – F	No
10	Sepulveda Boulevard (SR-1)/ Imperial Highway	36.6 – D	60.2 – E	36.6 – D	60.2 – E	No
11	Sepulveda Boulevard (SR-1)/ Walnut Avenue	10.4 – B	15.9 – B	10.4 – B	15.9 – B	No
12	Sepulveda Boulevard (SR-1)/ Maple Avenue	12.8 – B	14.0 – B	13.0 – B	14.1 – B	No
13	Sepulveda Boulevard (SR-1)/ Mariposa Avenue	18.5 – B	22.3 – C	18.6 – B	22.6 – C	No
14	Sepulveda Boulevard (SR-1)/ Grand Avenue	31.1 – C	46.0 – D	31.1 – C	46.7 – D	No
15	Sepulveda Boulevard (SR-1)/ El Segundo Boulevard	34.1 – C	48.9 – D	34.7 – C	50.1 – D	No
16	Sepulveda Boulevard (SR-1)/ Hughes Way	5.8 – A	13.4 – B	5.8 – A	13.4 – B	No
17	Sepulveda Boulevard (SR-1)/ Park Place	4.5 – A	11.8 – B	4.5 – A	11.8 – B	No
18	Sepulveda Boulevard (SR-1)/ Rosecrans Avenue	30.8 – C	37.1 – D	30.8 – C	37.4 – D	No
19	Sepulveda Boulevard (SR-1)/ 33rd Street	18.4 – B	47.7 – D	18.5 – B	48.6 – D	No
20	Sepulveda Boulevard (SR-1)/ Marine Avenue	32.6 – C	35.1 – D	32.8 – C	35.3 – D	No
21	Sepulveda Boulevard (SR-1)/ 18th Street	3.7 – A	4.9 – A	3.8 – A	5.0 – A	No
22	Sepulveda Boulevard (SR-1)/ Manhattan Beach Boulevard	62.7 – E	59.1 – E	62.8 – E	59.3 – E	No
27	Nash Street – I-105 WB Off-Ramp/ Imperial Highway	27.2 – C	25.6 – C	27.2 – C	25.6 – C	No
33	I-105 EB ³ On-Ramp/ Atwood Way	20.9 – C	24.5 – C	20.9 – C	24.5 – C	No
57	I-405 SB Ramps/ El Segundo Boulevard	12.8 – B	21.5 – C	12.8 – B	21.5 – C	No
59	Hindry Avenue/ I-405 SB Ramps	26.6 – C	27.2 – C	26.6 – C	27.2 – C	No



**Table 5.2-22 [continued]
Forecast Near-Term With Phase I Project Conditions
Peak Hour State Highway Study Intersection LOS**

Study Intersection		Forecast Near-Term Without Project Conditions		Forecast Near-Term With Phase I Project Conditions		Significant Impact?
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
		Delay – LOS	Delay – LOS	Delay – LOS	Delay - LOS	
61	La Cienega Boulevard/ I-405 SB Ramps	26.7 – C	27.2 – C	26.7 – C	27.2 – C	No
63	I-405 SB Off-Ramp/ Rosecrans Avenue	396.1 – F	26.8 – D	397.7 – F	27.1 – D	No
64	I-405 NB Ramps/ El Segundo Boulevard	21.5 – C	10.9 – B	21.5 – C	10.9 – B	No
65	I-405 NB Ramps/ Rosecrans Avenue	16.2 – B	11.7 – B	16.2 – B	11.6 – B	No
	Lincoln Boulevard (SR-1)/ Manchester Avenue	34.6 – C	34.0 – C	34.6 – C	34.0 – C	No
70	Pacific Coast Highway (SR-1)/ Artesia Boulevard	45.8 – D	28.7 – C	45.8 – D	28.7 – C	No
71	Pacific Coast Highway (SR-1)/ Torrance Boulevard	29.3 – C	29.5 – C	29.3 – C	29.5 – C	No
Notes:						
1. Delay shown in seconds per vehicle.						
2. Deficient intersection operation shown in bold .						
3. NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound.						

As also shown in [Table 5.2-22](#), based on agency-established thresholds of significance, the Project is forecast to result in no significant traffic impacts at the State Highway study intersections for forecast near-term with Phase I Project conditions.

**FORECAST NEAR-TERM WITH PHASE I PROJECT CONDITIONS
STATE HIGHWAY STUDY INTERSECTION MITIGATION MEASURES**

The Project is forecast to result in no significant traffic impacts at the State Highway study intersections for forecast near-term with Phase I Project conditions. Therefore, no mitigation is required and less than significant impacts would occur.

**FORECAST NEAR-TERM WITH PHASE I PROJECT CONDITIONS
OFF-RAMP QUEUE ANALYSIS**

[Table 5.2-23, Forecast Near-Term With Phase I Project Conditions Off-Ramp Queue Analysis](#), summarizes the results for the off-ramp movement queue analysis at the study off-ramps for forecast 2015 with Project buildout conditions; detailed queue analysis sheets are contained in Appendix C of [Appendix 10.3](#). As shown in [Table 5.2-23](#), adequate queue storage is forecast to be provided at the study off-ramp locations for forecast near-term with Phase I Project conditions.



**Table 5.2-23
Forecast Near-Term Without Project and Forecast Near-Term
With Phase I Project Conditions Off-Ramp Queue Analysis**

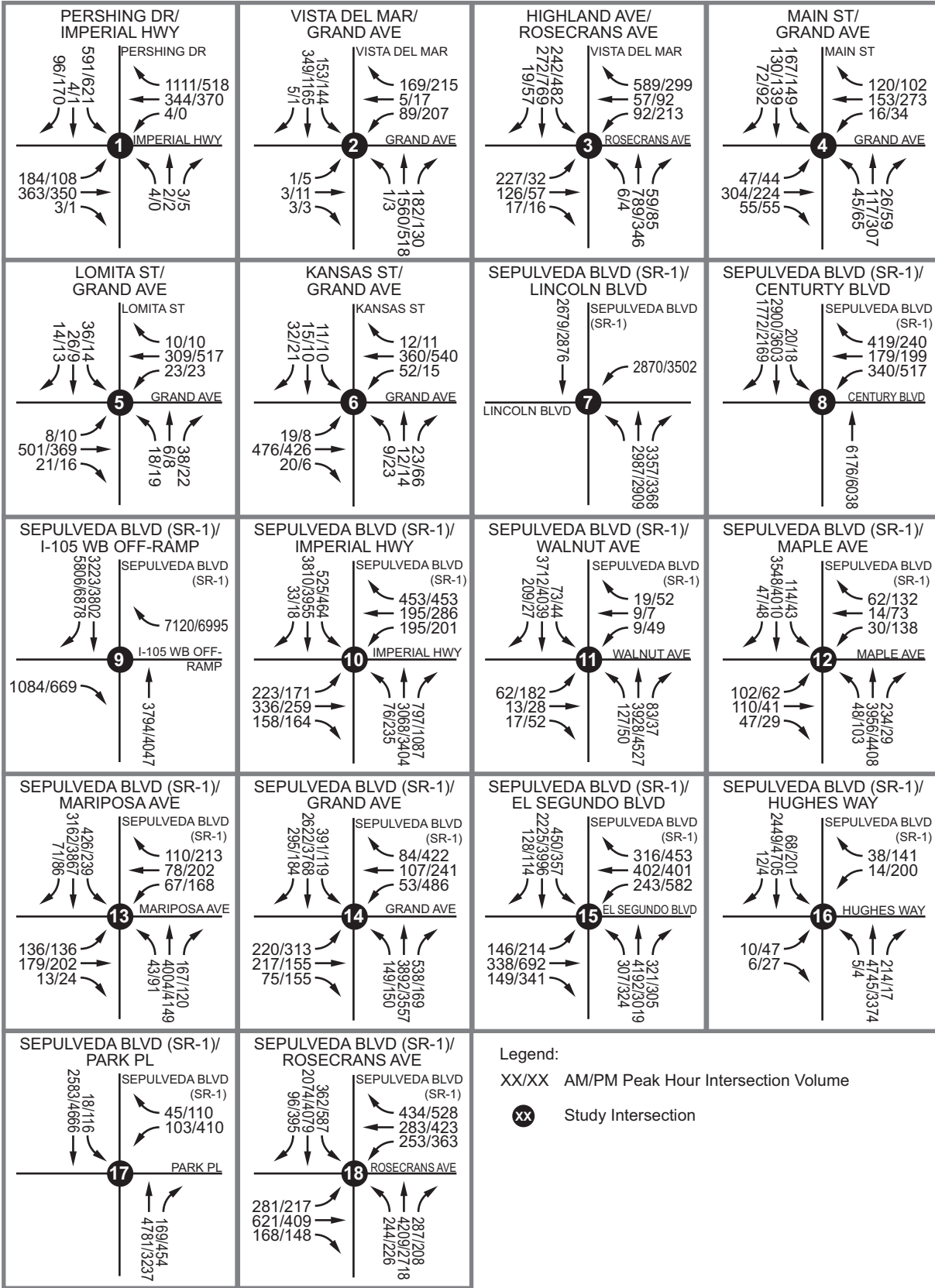
Location	Freeway Off-Ramp Queue Storage Provided (feet)	Forecast Off-Ramp Queue (feet)				Adequate Off-Ramp Storage Provided?
		Forecast Near-Term Without Project Conditions		Forecast Near-Term With Phase I Project Conditions		
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
I-105 WB Off-Ramp at NB Sepulveda Boulevard (SR-1)	4,460	1,325	575	1,325	575	Yes
I-105 WB Off-Ramp at Imperial Highway	2,660	175	225	175	225	Yes
I-405 SB Off-Ramp at El Segundo Boulevard	2,450	275	450	275	450	Yes
I-405 SB Off-Ramp at Hindry Avenue	1,300	425	100	425	100	Yes
I-405 SB Off-Ramp at La Cienega Boulevard	1,410	275	300	275	300	Yes
I-405 SB Off-Ramp at Rosecrans Avenue	1,160	765	140	765	140	Yes
I-405 NB Off-Ramp at El Segundo Boulevard	2,715	375	175	375	175	Yes
I-405 NB Off-Ramp at Rosecrans Avenue	1,710	300	200	300	200	Yes
Notes: NB = Northbound; SB = Southbound; WB = Westbound.						

Forecast Long-Range (Cumulative) Without Project Conditions

Forecast long-range without Project traffic volumes are derived by addition of trips associated with 149 cumulative projects expected to be constructed and generating trips by Project buildout. The 149 cumulative projects include the Los Angeles International Airport Specific Plan Amendment Study Project, the Aviation Station Project, the Prestige Villas Project, the Manhattan Village Shopping Center project and their related cumulative projects which in total consist of 14 projects located in the City of Inglewood, 34 projects located in the City of Los Angeles, 18 projects located in the unincorporated area of Los Angeles County, 15 projects located in the City of Hawthorne, 4 projects located in the City of Manhattan Beach, 36 projects located in the City of Culver City in addition to the 28 City of El Segundo projects included for near-term conditions. Cumulative project information is contained in Appendix E of Appendix 10.3.

FORECAST LONG-RANGE WITHOUT PROJECT CONDITIONS TRAFFIC VOLUMES

Exhibits 5.2-32 through 5.2-35, Forecast Long-Range Without Project Conditions AM/PM Peak Hour Study Intersection Volumes, show forecast long-range without Project conditions a.m. and p.m. peak hour volumes at the study intersections.



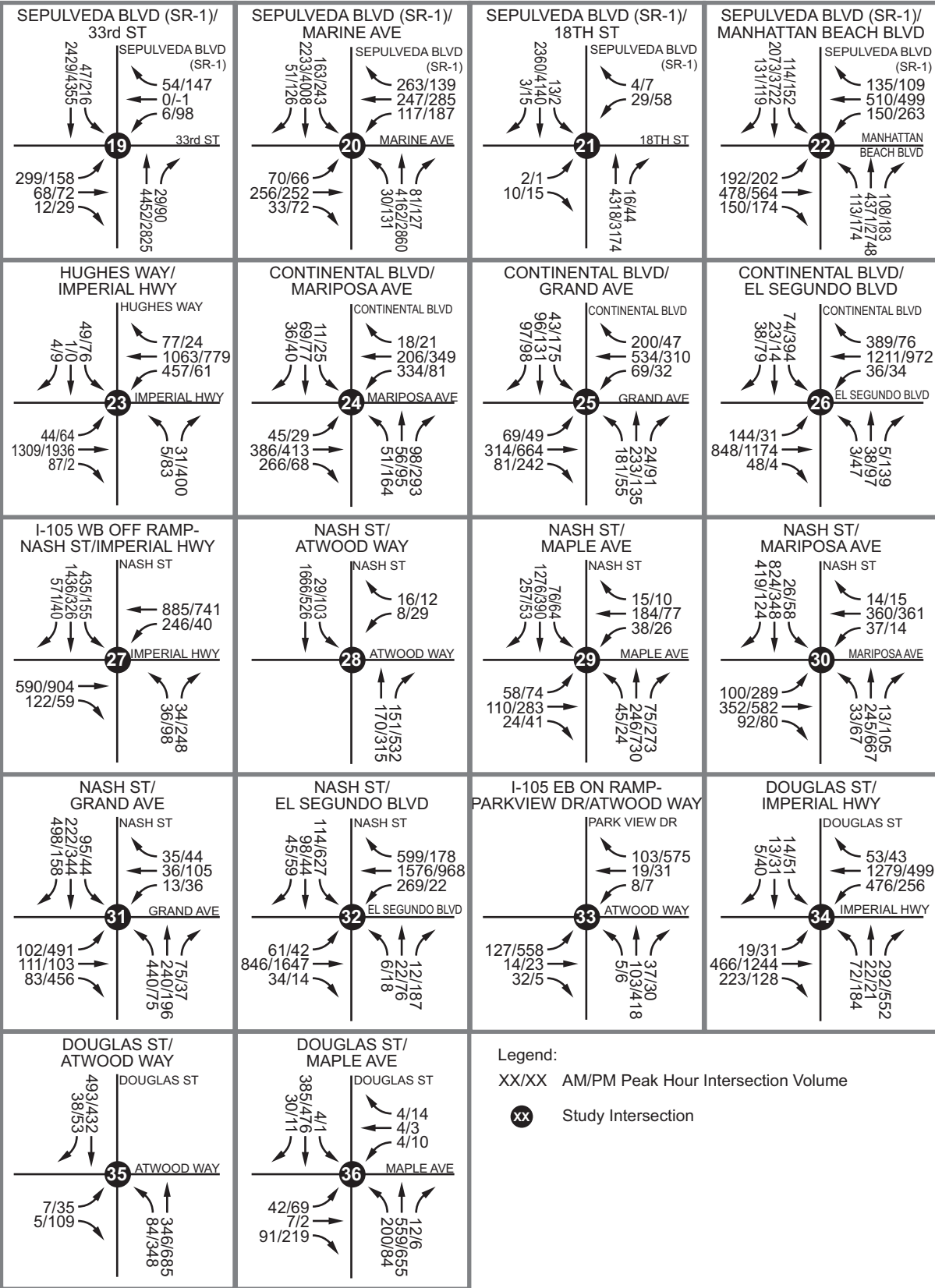
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Forecast Long-Range Without Project Conditions AM/PM Peak Hour Study Intersection Volumes (Intersections 1 – 18)

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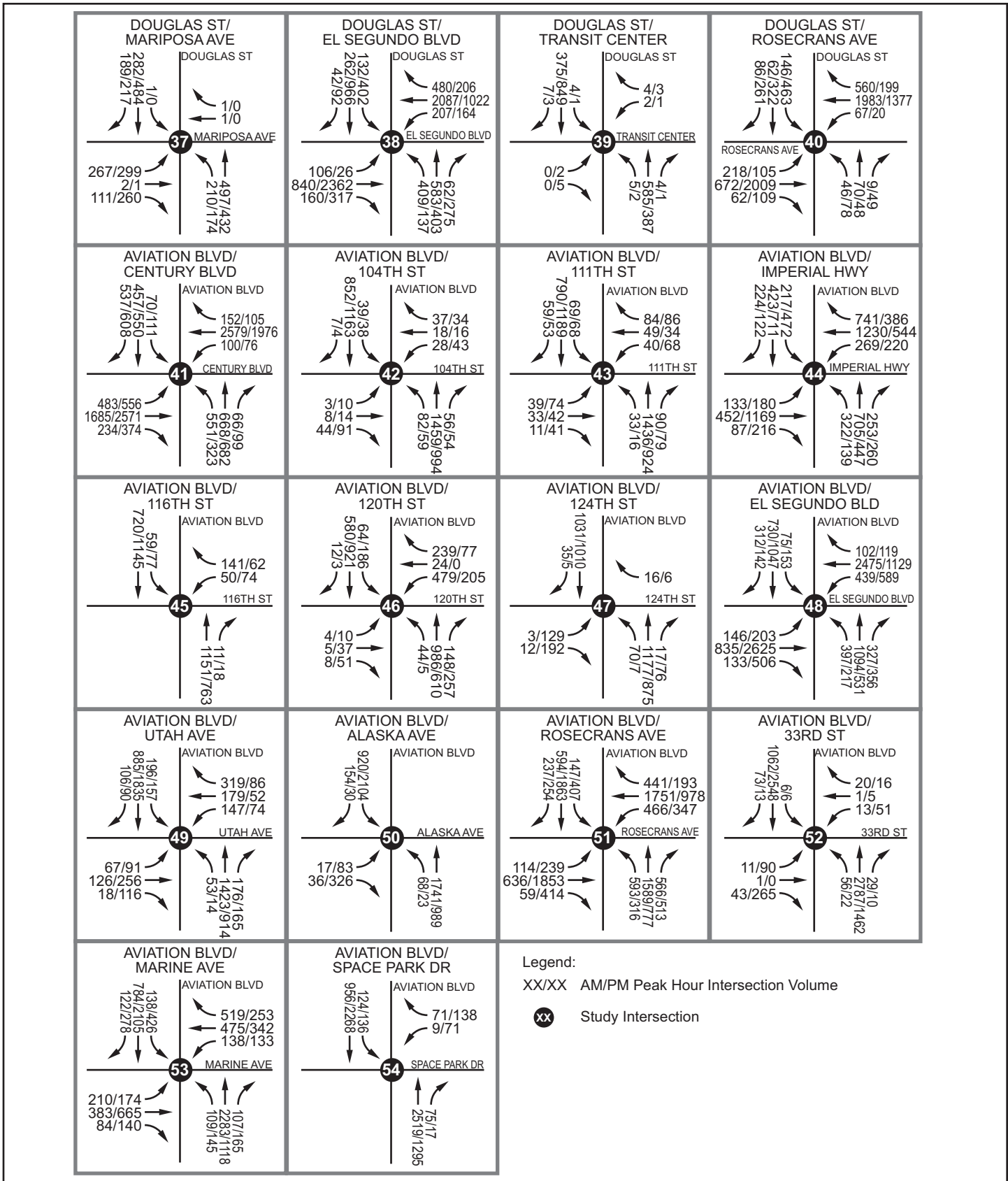


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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast Long-Range Without Project Conditions AM/PM Peak
 Hour Study Intersection Volumes (Intersections 19 – 36)**

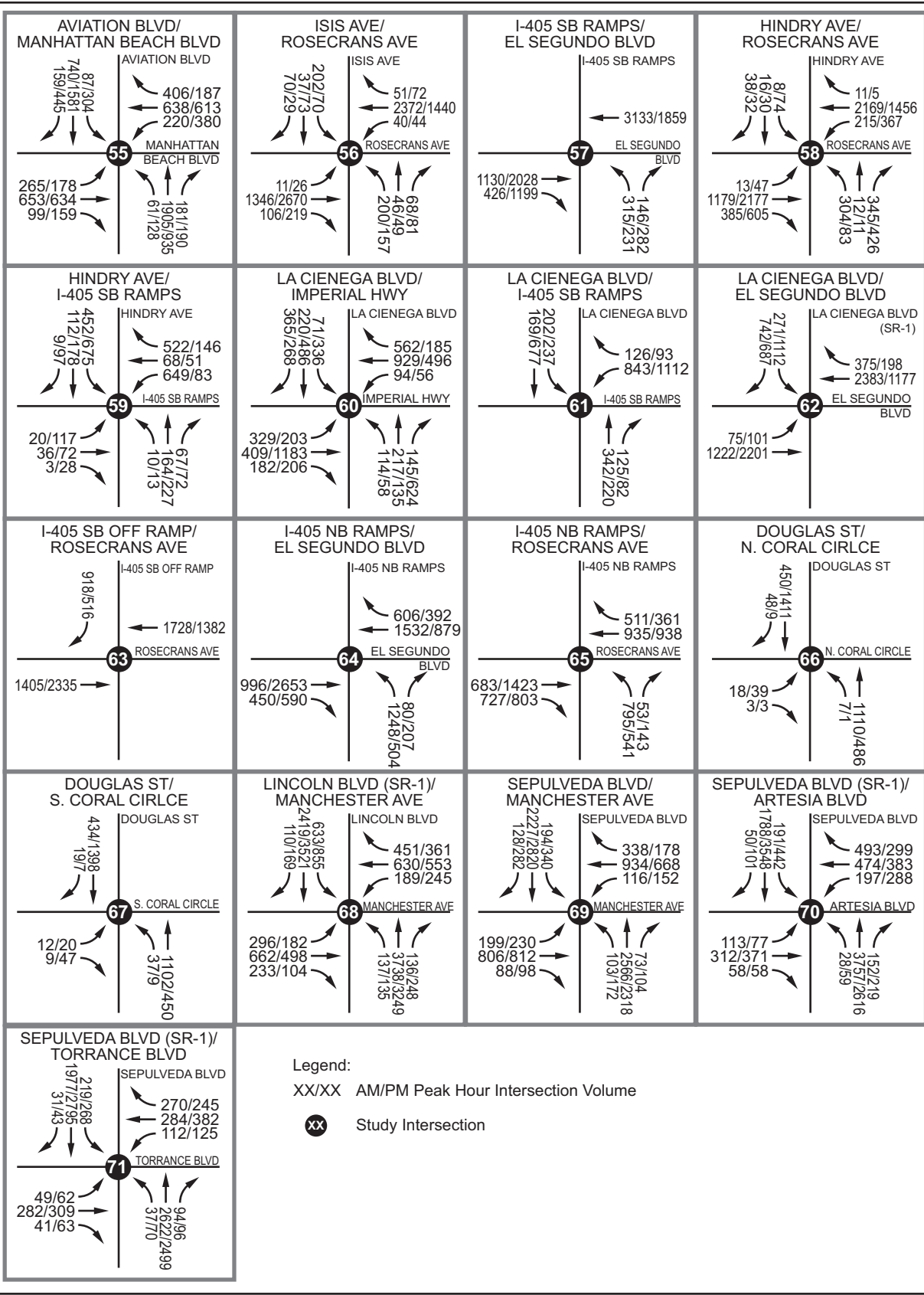


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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast Long-Range Without Project Conditions AM/PM Peak
 Hour Study Intersection Volumes (Intersections 37 – 54)**



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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast Long-Range Without Project Conditions AM/PM Peak
 Hour Study Intersection Volumes (Intersections 55 – 71)**



**FORECAST LONG-RANGE WITHOUT PROJECT CONDITIONS
STUDY INTERSECTION PEAK HOUR LOS**

Table 5.2-24, *Forecast Long-Range Without Project Conditions Peak Hour Study Intersection LOS*, summarizes forecast long-range without Project conditions a.m. peak hour and p.m. peak hour LOS of the study intersections; detailed LOS analysis sheets are contained in Appendix C of Appendix 10.3.

**Table 5.2-24
Forecast Long-Range Without Project Conditions
Peak Hour Study Intersection LOS**

Study Intersection		Forecast Long-Range Without Project Conditions	
		AM Peak Hour	PM Peak Hour
		V/C ¹ – LOS ²	V/C ¹ – LOS ²
SIGNALIZED			
1	Pershing Drive/Imperial Highway	0.517 – A	0.452 – A
2	Vista del Mar/Grand Avenue	0.850 – D	0.613 – B
3	Highland Avenue/Rosecrans Avenue	0.875 – D	0.772 – C
4	Main Street/Grand Avenue	0.400 – A	0.483 – A
5	Lomita Street/Grand Avenue	0.339 – A	0.317 – A
6	Kansas Street/Grand Avenue	0.335 – A	0.352 – A
23	Hughes Way/Imperial Highway	0.654 – B	0.738 – C
24	Continental Boulevard/Mariposa Boulevard	0.573 – A	0.426 – A
25	Continental Boulevard/Grand Avenue	0.470 – A	0.477 – A
26	Continental Boulevard/El Segundo Boulevard	0.518 – A	0.552 – A
28	Nash Street/Atwood Way	0.631 – B	0.515 – A
29	Nash Street/Maple Avenue	0.878 – D	0.773 – C
30	Nash Street/Mariposa Avenue	0.688 – B	0.676 – B
31	Nash Street/Grand Avenue	0.800 – C	0.704 – C
32	Nash Street/El Segundo Boulevard	0.632 – B	0.751 – C
34	Douglas Street/Imperial Highway	0.461 – A	0.589 – A
35	Douglas Street/Atwood Way	0.260 – A	0.476 – A
36	Douglas Street/Maple Avenue	0.369 – A	0.399 – A
37	Douglas Street/Mariposa Avenue	0.434 – A	0.517 – A
38	Douglas Street/El Segundo Boulevard	0.829 – D	1.065 – F
39	Douglas Street/Transit Center	0.289 – A	0.373 – A
40	Douglas Street/Rosecrans Avenue	0.683 – B	0.775 – C
41	Aviation Boulevard/Century Boulevard	1.163 – F	1.057 – F
42	Aviation Boulevard/104th Street	0.625 – B	0.603 – B
43	Aviation Boulevard/111th Street	0.657 – B	0.604 – B
44	Aviation Boulevard/Imperial Highway	0.830 – D	0.769 – C
45	Aviation Boulevard/116th Street	0.551 – A	0.504 – A
46	Aviation Boulevard/120th Street	0.753 – C	0.564 – A
47	Aviation Boulevard/124th Street	0.489 – A	0.542 – A



**Table 5.2-24 [continued]
Forecast Long-Range Without Project Conditions
Peak Hour Study Intersection LOS**

Study Intersection		Forecast Long-Range Without Project Conditions	
		AM Peak Hour	PM Peak Hour
		V/C – LOS	V/C – LOS
48	Aviation Boulevard/El Segundo Boulevard	1.117 – F	1.254 – F
49	Aviation Boulevard/Utah Avenue	0.963 – E	0.901 – E
50	Aviation Boulevard/Alaska Avenue	0.655 – B	0.869 – D
51	Aviation Boulevard/Rosecrans Avenue	0.795 – C	0.911 – E
52	Aviation Boulevard/33rd Street	0.712 – C	0.759 – C
53	Aviation Boulevard/Marine Avenue	1.140 – F	0.928 – E
54	Aviation Boulevard/Space Park Drive	0.743 – C	0.638 – B
55	Aviation Boulevard/Manhattan Beach Boulevard	0.984 – E	1.004 – F
56	Isis Avenue/Rosecrans Avenue	0.760 – C	0.766 – C
58	Hindry Avenue/Rosecrans Avenue	0.670 – B	0.804 – D
59	Hindry Avenue/I-405 SB Ramps	27.1 – C	26.9 – C
60	La Cienega Boulevard/Imperial Highway	0.569 – A	0.678 – B
62	La Cienega Boulevard/El Segundo Boulevard	0.906 – E	0.945 – E
69	Sepulveda Boulevard/Manchester Avenue	1.222 – F	1.139 – F
UN SIGNALIZED			
Study Intersection		Delay ³ – LOS	Delay ³ – LOS
66	Douglas Street/Coral Circle North	20.4 – C	68.6 – F
67	Douglas Street/Coral Circle South	17.2 – C	27.5 – D
Notes:			
1. V/C = volume to capacity ratio.			
2. Deficient intersection operation shown in bold .			
3. Delay shown in seconds per vehicle.			

As shown in Table 5.2-24, the study intersections are forecast to operate at an acceptable LOS (LOS D or better) according to agency performance criteria for forecast long-range without Project conditions, except the following:

- Intersection 38 – Douglas Street/El Segundo Boulevard (El Segundo - p.m. peak hour only);
- Intersection 41 – Aviation Boulevard/Century Boulevard (City of Los Angeles - both a.m. and p.m. peak hours);
- Intersection 48 – Aviation Boulevard/El Segundo Boulevard (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 49 – Aviation Boulevard/Utah Avenue (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 51 – Aviation Boulevard/Rosecrans Avenue (Hawthorne - p.m. peak hour only);
- Intersection 53 – Aviation Boulevard/Marine Avenue (Hawthorne - both a.m. and p.m. peak hours);



- Intersection 55 – Aviation Boulevard/Manhattan Beach Boulevard (Redondo Beach - both a.m. and p.m. peak hours);
- Intersection 62 – La Cienega Boulevard/El Segundo Boulevard (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 66 – Douglas Street/Coral Circle North (El Segundo - p.m. peak hour only); and
- Intersection 69 – Sepulveda Boulevard/Manchester Avenue (City of Los Angeles – both a.m. and p.m. peak hours).

FORECAST LONG-RANGE WITHOUT PROJECT CONDITIONS STATE HIGHWAY STUDY INTERSECTION PEAK HOUR LOS

Table 5.2-25, *Forecast Long-Range Without Project Conditions Peak Hour State Highway Intersection LOS*, summarizes forecast long-range without Project conditions a.m. peak hour and p.m. peak hour LOS of the State Highway study intersections; detailed LOS analysis sheets are contained in Appendix C of [Appendix 10.3](#).

As shown in [Table 5.2-25](#), the State Highway study intersections are forecast to continue to operate at an acceptable LOS (LOS C or better) according to Caltrans performance criteria for forecast long-range without Project conditions, except the following:

- Intersection 7 – Sepulveda Boulevard (SR-1)/Lincoln Boulevard (Caltrans - p.m. peak hour only);
- Intersection 8 – Sepulveda Boulevard (SR-1)/Century Boulevard (Caltrans - both a.m. and p.m. peak hours);
- Intersection 9 – Sepulveda Boulevard (SR-1)/I-105 Westbound Off-Ramp (Caltrans - both a.m. and p.m. peak hours);
- Intersection 10 – Sepulveda Boulevard (SR-1)/Imperial Highway (Caltrans - both a.m. and p.m. peak hours);
- Intersection 14 – Sepulveda Boulevard (SR-1)/Grand Avenue (Caltrans - both a.m. and p.m. peak hours);
- Intersection 15 – Sepulveda Boulevard (SR-1)/El Segundo Boulevard (Caltrans - both a.m. and p.m. peak hours);
- Intersection 18 – Sepulveda Boulevard (SR-1)/Rosecrans Avenue (Caltrans - both a.m. and p.m. peak hours);
- Intersection 19 – Sepulveda Boulevard (SR-1)/33rd Street (Caltrans - both a.m. and p.m. peak hours);
- Intersection 20 – Sepulveda Boulevard (SR-1)/Marine Avenue (Caltrans - both a.m. and p.m. peak hours);
- Intersection 22 – Sepulveda Boulevard (SR-1)/Manhattan Beach Boulevard (Caltrans - both a.m. and p.m. peak hours);
- Intersection 63 – I-405 Southbound Off-Ramp/Rosecrans Avenue (Caltrans - both a.m. and p.m. peak hours);
- Intersection 68 – Lincoln Boulevard (SR-1)/Manchester Avenue (Caltrans – both a.m. and p.m. peak hours);
- Intersection 70 – Pacific Coast Highway (SR-1)/Artesia Boulevard (Caltrans – both a.m. and p.m. peak hours);
- Intersection 71 – Pacific Coast Highway (SR-1)/Artesia Boulevard (Caltrans – both a.m. and p.m. peak hours).



**Table 5.2-25
Forecast Long-Range Without Project Conditions
Peak Hour State Highway Intersection LOS**

Study Intersection		Forecast Long-Range Without Project Conditions	
		AM Peak Hour	PM Peak Hour
		Delay ¹ – LOS ²	Delay ¹ – LOS ²
7	Sepulveda Boulevard (SR-1)/Lincoln Boulevard	32.9 – C	57.5 – E
8	Sepulveda Boulevard (SR-1)/Century Boulevard	74.5 – E	103.8 – F
9	Sepulveda Boulevard (SR-1)/I-105 WB Off-Ramp	999.9 – F	999.9 – F
10	Sepulveda Boulevard (SR-1)/Imperial Highway	56.5 – E	86.6 – F
11	Sepulveda Boulevard (SR-1)/Walnut Avenue	11.2 – B	21.6 – C
12	Sepulveda Boulevard (SR-1)/Maple Avenue	14.0 – B	15.9 – B
13	Sepulveda Boulevard (SR-1)/Mariposa Avenue	20.8 – C	34.3 – C
14	Sepulveda Boulevard (SR-1)/Grand Avenue	57.4 – E	109.5 – F
15	Sepulveda Boulevard (SR-1)/El Segundo Boulevard	103.5 – F	126.9 – F
16	Sepulveda Boulevard (SR-1)/Hughes Way	8.1 – A	16.3 – B
17	Sepulveda Boulevard (SR-1)/Park Place	5.9 – A	13.6 – B
18	Sepulveda Boulevard (SR-1)/Rosecrans Avenue	56.7 – E	93.5 – F
19	Sepulveda Boulevard (SR-1)/33rd Street	69.7 – E	188.4 – F
20	Sepulveda Boulevard (SR-1)/Marine Avenue	95.7 – F	95.2 – F
21	Sepulveda Boulevard (SR-1)/18th Street	11.8 – B	9.7 – A
22	Sepulveda Boulevard (SR-1)/Manhattan Beach Boulevard	139.2 – F	133.2 – F
27	Nash St – I-105 WB Off-Ramp/Imperial Highway	27.3 – C	25.7 – C
33	I-105 EB ³ On-Ramp/Atwood Way	21.1 – C	24.8 – C
57	I-405 SB Ramps/El Segundo Boulevard	12.7 – B	24.1 – C
59	Hindry Avenue/I-405 SB Ramps	27.1 – C	26.9 – C
61	La Cienega Boulevard/I-405 SB Ramps	26.3 – C	27.0 – C
63	I-405 SB Off-Ramp/Rosecrans Avenue	465.3 – F	50.8 – F
64	I-405 NB Ramps/El Segundo Boulevard	22.6 – C	11.9 – B
65	I-405 NB Ramps/Rosecrans Avenue	16.4 – B	12.0 – B
68	Lincoln Boulevard (SR-1)/Manchester Avenue	155.4 – F	176.3 – F
70	Pacific Coast Highway (SR-1)/Artesia Boulevard	110.2 – F	59.1 – F
71	Pacific Coast Highway (SR-1)/Torrance Boulevard	84.8 – F	115.4 – F
Notes: 1. Delay shown in seconds per vehicle. 2. Deficient intersection operation shown in bold . 3. NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound.			



**FORECAST LONG-RANGE WITHOUT PROJECT CONDITIONS
OFF-RAMP QUEUE ANALYSIS**

Table 5.2-26, *Forecast Long-Range Without Project Conditions Off-Ramp Queue Analysis*, summarizes the results for the off-ramp movement queue analysis at the study off-ramps for forecast long-range without Project conditions; detailed queue analysis sheets are contained in Appendix C of Appendix 10.3.

**Table 5.2-26
Forecast Long-Range Without Project Conditions Off-Ramp Queue Analysis**

Location	Freeway Off-Ramp Queue Storage Provided (feet)	Forecast Off-Ramp Queue (feet)		Adequate Off-Ramp Storage Provided?
		Forecast Long-Range Without Project Conditions		
		AM Peak Hour	PM Peak Hour	
I-105 WB Off-Ramp at NB Sepulveda Boulevard (SR-1)	4,460	7,325	7,325	No
I-105 WB Off-Ramp at Imperial Highway	2,660	200	225	Yes
I-405 SB Off-Ramp at El Segundo Boulevard	2,450	300	500	Yes
I-405 SB Off-Ramp at Hindry Avenue	1,300	450	100	Yes
I-405 SB Off-Ramp at La Cienega Boulevard	1,410	300	350	Yes
I-405 SB Off-Ramp at Rosecrans Avenue	1,160	835	218	Yes
I-405 NB Off-Ramp at El Segundo Boulevard	2,715	425	225	Yes
I-405 NB Off-Ramp at Rosecrans Avenue	1,710	325	225	Yes
Notes: NB = Northbound; SB = Southbound; WB = Westbound.				

As shown in Table 5.2-26, adequate queue storage is forecast to be provided at the study off-ramp locations for forecast long-range without Project conditions, except the following off-ramp:

- I-405 Westbound off-ramp at northbound Sepulveda Boulevard (SR-1).

Forecast Long-Range With Project Buildout Conditions

This section analyzes the potential impact of the addition of trips forecast to be generated by the Project buildout to forecast long-range without Project conditions.

Forecast long-range with Project buildout conditions assumes the realignment and extension of Nash Street and Continental Boulevard south of El Segundo Boulevard within the Project site to provide a public roadway connection between El Segundo Boulevard and Sepulveda Boulevard



(SR-1) via the existing Hughes Way alignment and its intersection with Sepulveda Boulevard (SR-1).

**FORECAST LONG-RANGE WITH PROJECT BUILDOUT CONDITIONS
TRAFFIC VOLUMES**

Forecast long-range with Project buildout conditions a.m. and p.m. peak hour volumes were derived by adding forecast Project buildout-generated trips to forecast long-range without Project conditions traffic volumes. Exhibits 5.2-36 through 5.2-39, *Forecast Long-Range With Project Buildout Conditions AM/PM Peak Hour Study Intersection Volumes*, show forecast long-range with Project buildout conditions a.m. and p.m. peak hour volumes at the study intersections.

**FORECAST LONG-RANGE WITH PROJECT BUILDOUT CONDITIONS
STUDY INTERSECTION PEAK HOUR LOS**

Table 5.2-27, *Forecast Long-Range With Project Buildout Conditions Peak Hour Study Intersection LOS*, summarizes forecast long-range with Project buildout conditions a.m. peak hour and p.m. peak hour LOS of the study intersections; detailed LOS analysis sheets are contained in Appendix C of Appendix 10.3.

**Table 5.2-27
Forecast Long-Range With Project Buildout Conditions
Peak Hour Study Intersection LOS**

Study Intersection	Forecast Long-Range Without Project Conditions		Forecast Long-Range With Project Buildout Conditions		Delta V/C ¹		Significant Impact?	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour		
	V/C – LOS ²	V/C – LOS ²	V/C – LOS ²	V/C – LOS ²				
SIGNALIZED								
1	Pershing Drive/ Imperial Highway	0.517 – A	0.452 – A	0.518 – A	0.453 – A	0.001	0.001	No
2	Vista del Mar/ Grand Avenue	0.850 – D	0.613 – B	0.852 – D	0.615 – B	0.002	0.002	No
3	Highland Avenue/ Rosecrans Avenue	0.875 – D	0.772 – C	0.875 – D	0.774 – C	0.000	0.002	No
4	Main Street/ Grand Avenue	0.400 – A	0.483 – A	0.417 – A	0.495 – A	0.017	0.012	No
5	Lomita Street/ Grand Avenue	0.339 – A	0.317 – A	0.347 – A	0.326 – A	0.008	0.009	No
6	Kansas Street/ Grand Avenue	0.335 – A	0.352 – A	0.344 – A	0.361 – A	0.009	0.009	No
23	Hughes Way/ Imperial Highway	0.654 – B	0.738 – C	0.654 – B	0.738 – C	0.000	0.000	No
24	Continental Boulevard/ Mariposa Boulevard	0.573 – A	0.426 – A	0.573 – A	0.426 – A	0.000	0.000	No
25	Continental Boulevard/ Grand Avenue	0.470 – A	0.477 – A	0.470 – A	0.477 – A	0.000	0.000	No
26	Continental Boulevard/ El Segundo Boulevard	0.518 – A	0.552 – A	0.622 – B	0.750 – C	0.104	0.198	No



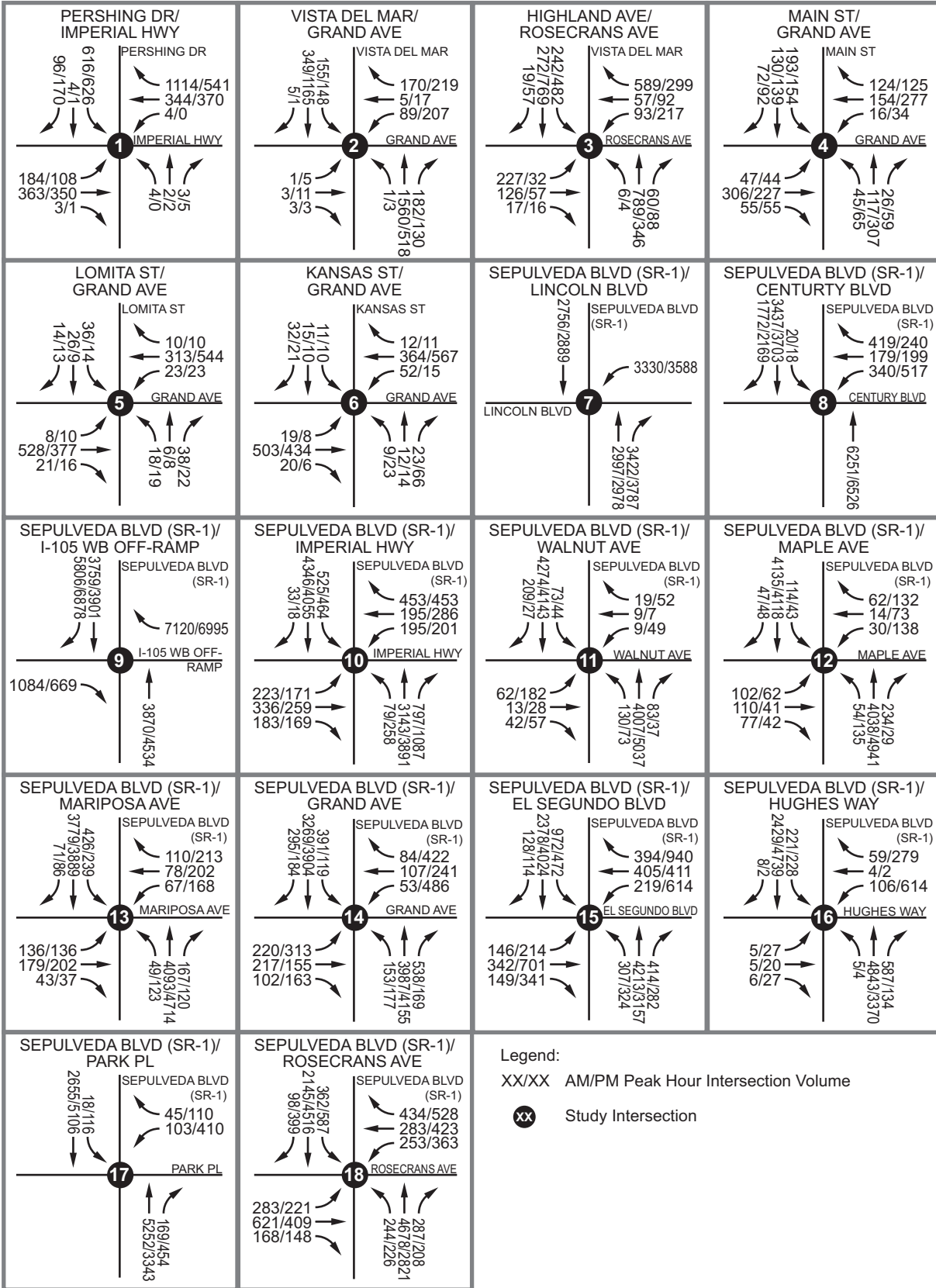
**Table 5.2-27 [continued]
Forecast Long-Range With Project Buildout Conditions
Peak Hour Study Intersection LOS**

Study Intersection	Forecast Long-Range Without Project Conditions		Forecast Long-Range With Project Buildout Conditions		Delta V/C		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	V/C – LOS	V/C – LOS	V/C – LOS	V/C – LOS			
29 Nash Street/ Maple Avenue	0.878 – D	0.773 – C	0.996 – E	0.886 – D	0.118	0.113	Yes
30 Nash Street/ Mariposa Avenue	0.688 – B	0.676 – B	0.792 – C	0.770 – C	0.104	0.094	No
31 Nash Street/ Grand Avenue	0.800 – C	0.704 – C	0.818 – D	0.723 – C	0.018	0.019	No
32 Nash Street/ El Segundo Boulevard	0.632 – B	0.751 – C	0.845 – D	1.244 – F	0.213	0.493	Yes
34 Douglas Street/ Imperial Highway	0.461 – A	0.589 – A	0.461 – A	0.589 – A	0.000	0.000	No
35 Douglas Street/ Atwood Way	0.260 – A	0.476 – A	0.260 – A	0.476 – A	0.000	0.000	No
36 Douglas Street/ Maple Avenue	0.369 – A	0.399 – A	0.369 – A	0.399 – A	0.000	0.000	No
37 Douglas Street/ Mariposa Avenue	0.434 – A	0.517 – A	0.434 – A	0.517 – A	0.000	0.000	No
38 Douglas Street/ El Segundo Boulevard	0.829 – D	1.065 – F	1.068 – F	1.301 – F	0.239	0.236	Yes
39 Douglas Street/ Transit Center	0.289 – A	0.373 – A	0.292 – A	0.378 – A	0.003	0.005	No
40 Douglas Street/ Rosecrans Avenue	0.683 – B	0.775 – C	0.685 – B	0.775 – C	0.002	0.000	No
41 Aviation Boulevard/ Century Boulevard	1.163 – F	1.057 – F	1.172 – F	1.061 – F	0.009	0.004	No
42 Aviation Boulevard/ 104th Street	0.625 – B	0.603 – B	0.627 – B	0.608 – B	0.002	0.005	No
43 Aviation Boulevard/ 111th Street	0.657 – B	0.604 – B	0.659 – B	0.608 – B	0.002	0.004	No
44 Aviation Boulevard/ Imperial Highway	0.830 – D	0.769 – C	0.831 – D	0.785 – C	0.001	0.016	No
45 Aviation Boulevard/ 116th Street	0.551 – A	0.504 – A	0.556 – A	0.519 – A	0.005	0.015	No
46 Aviation Boulevard/ 120th Street	0.753 – C	0.564 – A	0.760 – C	0.588 – A	0.007	0.024	No
47 Aviation Boulevard/ 124th Street	0.489 – A	0.542 – A	0.504 – A	0.557 – A	0.015	0.015	No
48 Aviation Boulevard/ El Segundo Boulevard	1.117 – F	1.254 – F	1.356 – F	1.452 – F	0.239	0.198	Yes
49 Aviation Boulevard/ Utah Avenue	0.963 – E	0.901 – E	1.022 – F	0.948 – E	0.059	0.047	Yes
50 Aviation Boulevard/ Alaska Avenue	0.655 – B	0.869 – D	0.704 – C	0.915 – E	0.049	0.046	Yes



**Table 5.2-27 [continued]
Forecast Long-Range With Project Buildout Conditions
Peak Hour Study Intersection LOS**

Study Intersection		Forecast Long-Range Without Project Conditions		Forecast Long-Range With Project Buildout Conditions		Delta V/C		Significant Impact?
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
		V/C – LOS	V/C – LOS	V/C – LOS	V/C – LOS			
51	Aviation Boulevard/ Rosecrans Avenue	0.795 – C	0.911 – E	0.825 – D	0.934 – E	0.030	0.023	Yes
52	Aviation Boulevard/ 33 rd Street	0.712 – C	0.759 – C	0.740 – C	0.786 – C	0.028	0.027	No
53	Aviation Boulevard/ Marine Avenue	1.140 – F	0.928 – E	1.169 – F	0.952 – E	0.029	0.024	Yes
54	Aviation Boulevard/ Space Park Drive	0.743 – C	0.638 – B	0.771 – C	0.664 – B	0.028	0.026	No
55	Aviation Boulevard/ Manhattan Beach Boulevard	0.984 – E	1.004 – F	1.013 – F	1.041 – F	0.029	0.037	Yes
56	Isis Avenue/ Rosecrans Avenue	0.760 – C	0.766 – C	0.765 – C	0.772 – C	0.005	0.006	No
58	Hindry Avenue/ Rosecrans Avenue	0.670 – B	0.804 – D	0.675 – B	0.804 – D	0.005	0.000	No
60	La Cienega Boulevard/ Imperial Highway	0.569 – A	0.678 – B	0.571 – A	0.682 – B	0.002	0.004	No
62	La Cienega Boulevard/ El Segundo Boulevard	0.906 – E	0.945 – E	1.132 – F	1.022 – F	0.226	0.077	Yes
69	Sepulveda Boulevard/ Manchester Avenue	1.222 – F	1.139 – F	1.236 – F	1.227 – F	0.014	0.088	Yes
UNSIGNALIZED								
Study Intersection		Delay ³ – LOS	Delay ³ – LOS	Delay ³ – LOS	Delay ³ – LOS	Delta Delay ³		Significant Impact?
66	Douglas Street/ Coral Circle North	20.4 – C	68.6 – F	20.7 – C	72.3 – F	0.3	3.700	No
67	Douglas Street/ Coral Circle South	17.2 – C	27.5 – D	17.3 – C	28.4 – D	0.1	0.900	No
Notes:								
1. V/C = volume to capacity ratio.								
2. Deficient intersection operation shown in bold .								
3. Delay shown in seconds per vehicle for unsignalized intersections.								

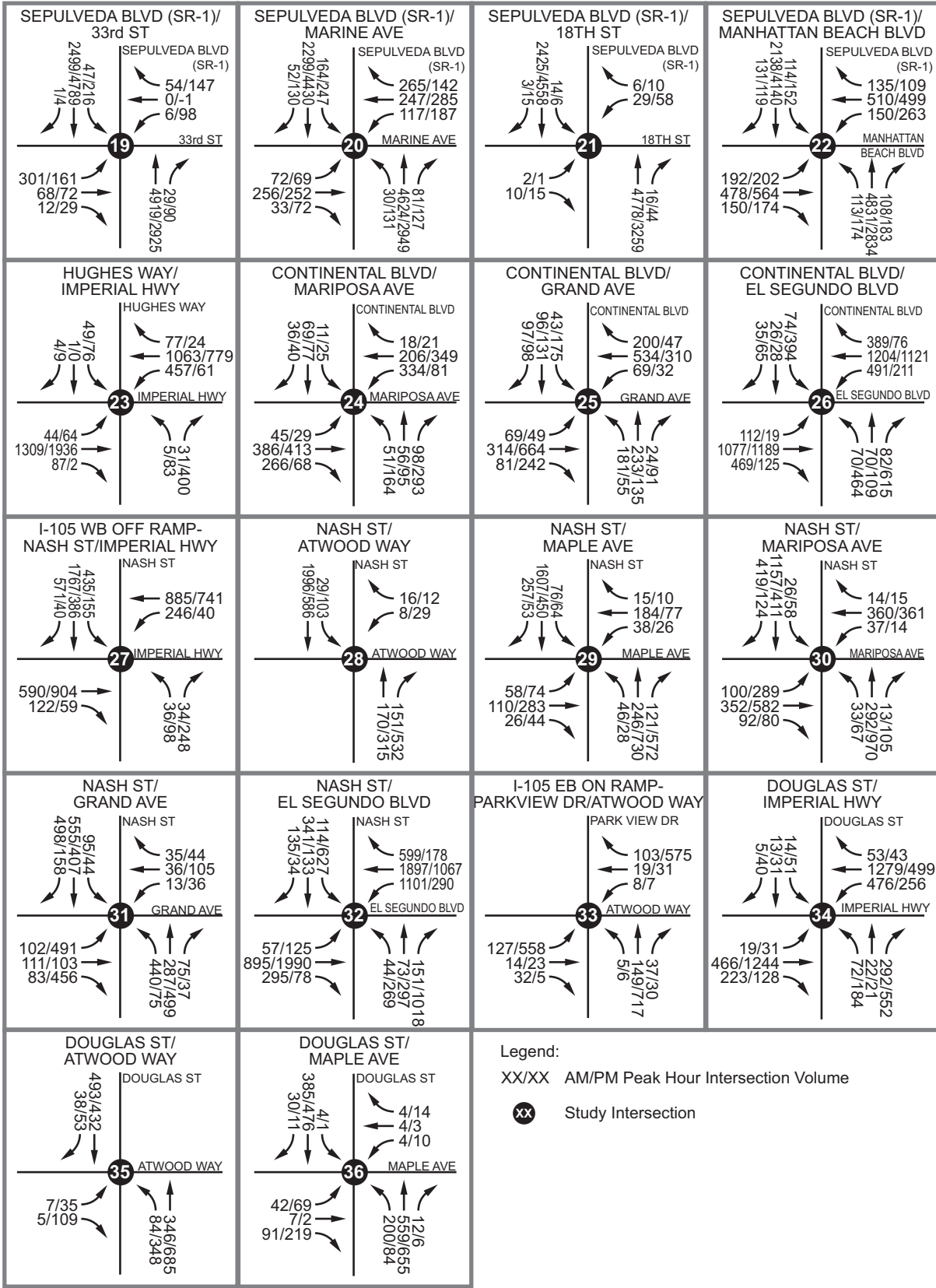


NOT TO SCALE



07/14 • JN 10-107917 (130148)

ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast Long-Range With Project Buildout Conditions AM/PM
 Peak Hour Study Intersection Volumes (Intersections 1 – 18)**

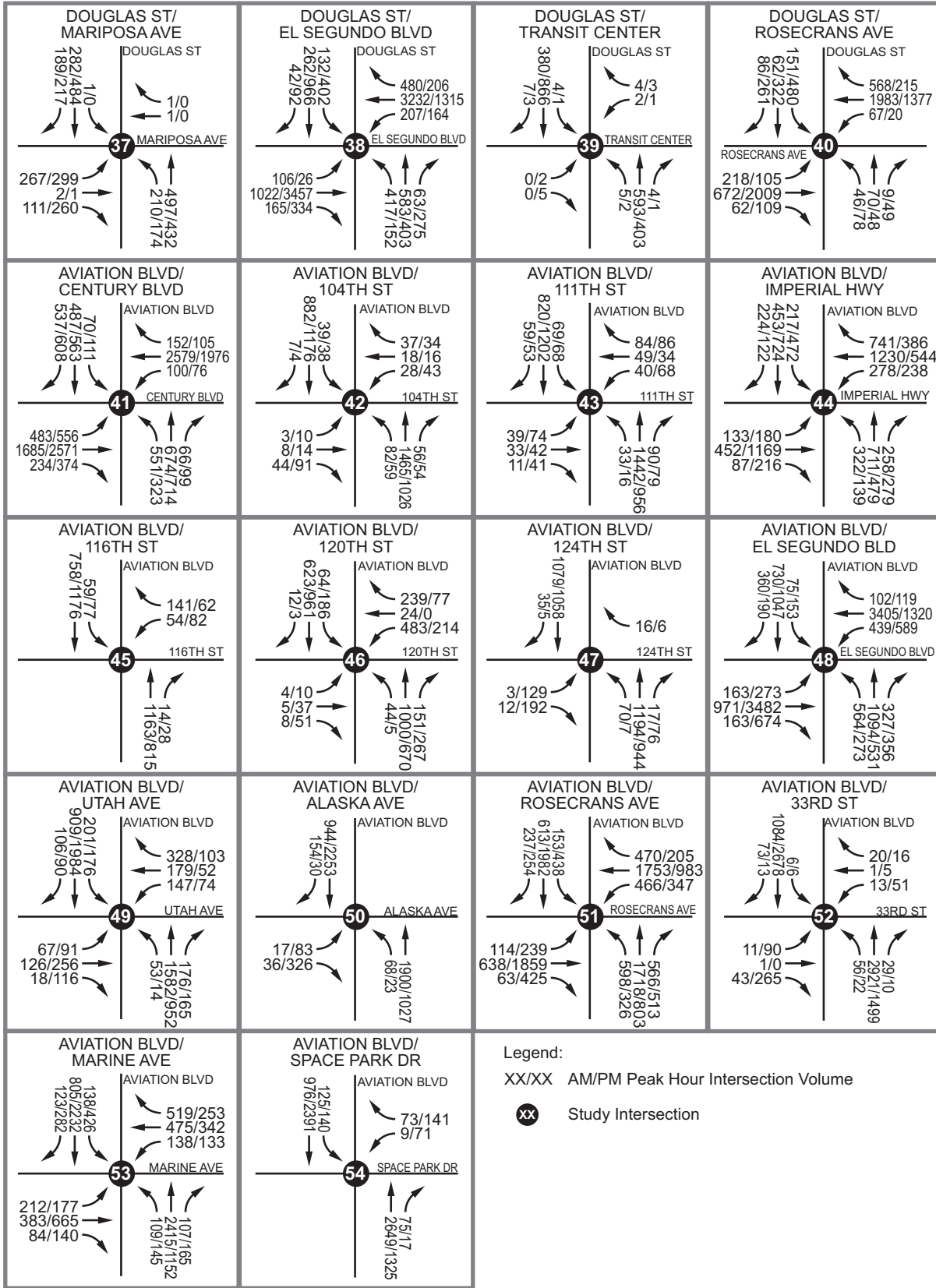


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07/14 • JN 10-107917 (130148)

ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast Long-Range With Project Buildout Conditions AM/PM
 Peak Hour Study Intersection Volumes (Intersections 19 – 36)**

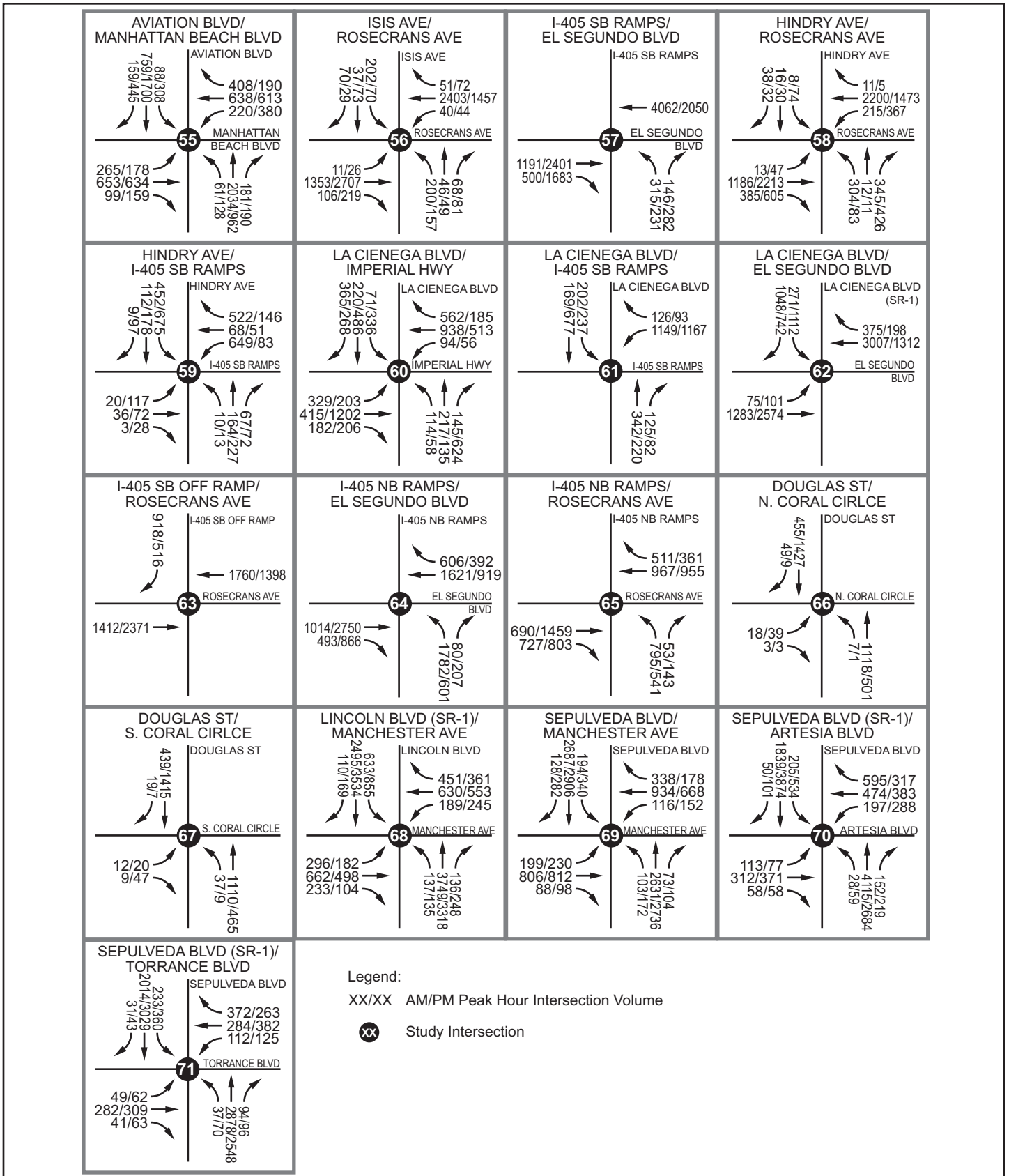


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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Forecast Long-Range With Project Buildout Conditions AM/PM
 Peak Hour Study Intersection Volumes (Intersections 37 – 54)**



Forecast Long-Range With Project Buildout Conditions AM/PM Peak Hour Study Intersection Volumes (Intersections 55 – 71)

NOT TO SCALE



07/14 • JN 10-107917 (130148)



As shown in Table 5.2-27, with the addition of Project buildout-generated trips, the study intersections are forecast to continue to operate at an acceptable LOS (LOS D or better) according to agency performance criteria for forecast long-range with Project buildout conditions, except the following.

- Intersection 29 – Nash Street/Maple Avenue (El Segundo - a.m. peak hour only);
- Intersection 32 – Nash Street/El Segundo Boulevard (El Segundo - p.m. peak hour only);
- Intersection 38 – Douglas Street/El Segundo Boulevard (El Segundo - both a.m. and p.m. peak hours);
- Intersection 41 – Aviation Boulevard/Century Boulevard (City of Los Angeles - both a.m. and p.m. peak hours);
- Intersection 48 – Aviation Boulevard/El Segundo Boulevard (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 49 – Aviation Boulevard/Utah Avenue (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 50 – Aviation Boulevard/Alaska Avenue (Hawthorne - p.m. peak hour only);
- Intersection 51 – Aviation Boulevard/Rosecrans Avenue (Hawthorne - p.m. peak hour only);
- Intersection 53 – Aviation Boulevard/Marine Avenue (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 55 – Aviation Boulevard/Manhattan Beach Boulevard (Redondo Beach - both a.m. and p.m. peak hours);
- Intersection 62 – La Cienega Boulevard/El Segundo Boulevard (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 66 – Douglas Street/Coral Circle North (El Segundo - p.m. peak hour only); and
- Intersection 69 – Sepulveda Boulevard/Manchester Avenue (City of Los Angeles – both a.m. and p.m. peak hours).

As also shown in Table 5.2-27, based on agency established thresholds of significance, the addition of Project buildout-generated trips is forecast to result in significant impacts at the following study intersections for forecast long-range with Project buildout conditions:

- Intersection 29 – Nash Street/Maple Avenue (El Segundo - a.m. peak hour only);
- Intersection 32 – Nash Street/El Segundo Boulevard (El Segundo - p.m. peak hour only);
- Intersection 38 – Douglas Street/El Segundo Boulevard (El Segundo - both a.m. and p.m. peak hours);
- Intersection 48 – Aviation Boulevard/El Segundo Boulevard (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 49 – Aviation Boulevard/Utah Avenue (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 50 – Aviation Boulevard/Alaska Avenue (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 51 – Aviation Boulevard/Rosecrans Avenue (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 53 – Aviation Boulevard/Marine Avenue (Hawthorne - both a.m. and p.m. peak hours);
- Intersection 55 – Aviation Boulevard/Manhattan Beach Boulevard (Redondo Beach - both a.m. and p.m. peak hours);



- Intersection 62 – La Cienega Boulevard/El Segundo Boulevard (Hawthorne - both a.m. and p.m. peak hours); and
- Intersection 69 – Sepulveda Boulevard/Manchester Avenue (City of Los Angeles – both a.m. and p.m. peak hours).

FORECAST LONG-RANGE WITH PROJECT BUILDOUT CONDITIONS MITIGATION MEASURES

The following feasible mitigation measures are identified to lessen the traffic impacts at the impacted study intersections:

- Mitigation Measure TRA-1, Intersection 29 (Nash Street/Maple Avenue, El Segundo);
- Mitigation Measure TRA-2, Intersection 32 (Nash Street/El Segundo Boulevard, El Segundo);
- Mitigation Measure TRA-3, Intersection 48 (Aviation Boulevard/El Segundo Boulevard, Hawthorne);
- Mitigation Measure TRA-4, Intersection 49 (Aviation Boulevard/Utah Avenue, Hawthorne);
- Mitigation Measure TRA-5, Intersection 50 (Aviation Boulevard/Alaska Avenue, Hawthorne);
- Mitigation Measure TRA-6, Intersection 53 (Aviation Boulevard/Marine Avenue, Hawthorne); and
- Mitigation Measure TRA-7, Intersection 55 (Aviation Boulevard/Manhattan Beach Boulevard, Redondo Beach).

Exhibits 5.2-40 and 5.2-41, *Mitigated Forecast Long-Range With Project Buildout Conditions Study Intersection Geometry*, show feasible mitigated forecast long-range with Project buildout conditions study intersection geometry.

Mitigation at the following impacted intersections is infeasible due to right-of-way limitations and existing structures:

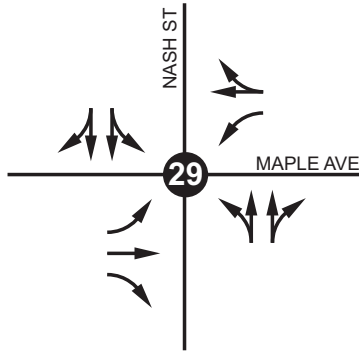
- Intersection 38 (Douglas Street/El Segundo Boulevard, El Segundo);
- Intersection 51 (Aviation Boulevard/Rosecrans Avenue, Hawthorne);
- Intersection 62 (La Cienega Boulevard/El Segundo Boulevard, Hawthorne); and
- Intersection 69 - Sepulveda Boulevard/Manchester Avenue (City of Los Angeles).

MITIGATED FORECAST LONG-RANGE WITH PROJECT BUILDOUT CONDITIONS STUDY INTERSECTION PEAK HOUR LOS

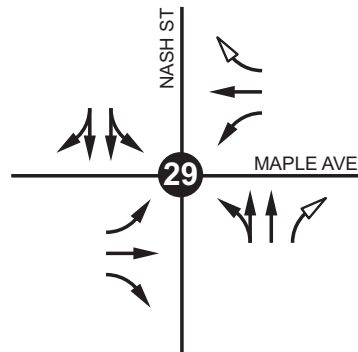
Table 5.2-28, *Mitigated Forecast Long-Range With Project Buildout Conditions Peak Hour Intersection LOS*, summarizes forecast long-range with Project buildout conditions assuming implementation of the identified feasible mitigation measures.

As shown Table 5.2-28, assuming implementation of feasible Mitigation Measure TRA-4, the traffic impact at study Intersection 49 (Aviation Boulevard/Utah Avenue, Hawthorne) would be reduced to less than significant for forecast long-range with Project buildout conditions.

NASH ST/MAPLE AVE

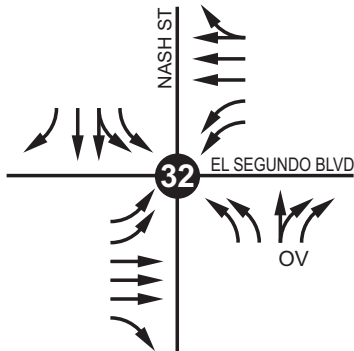


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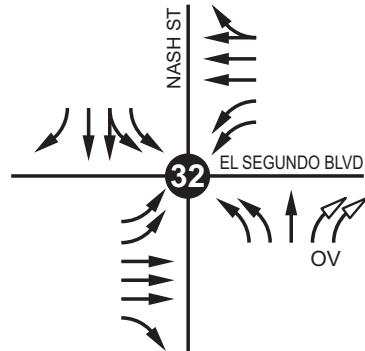


AM & PM: MITIGATED - IMPACT REMAINS SIGNIFICANT

NASH ST/EL SEGUNDO BLVD

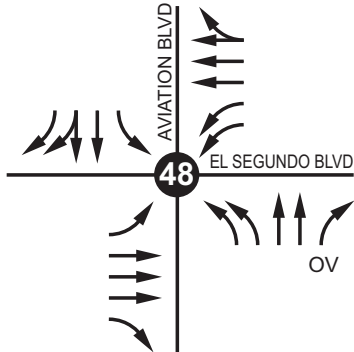


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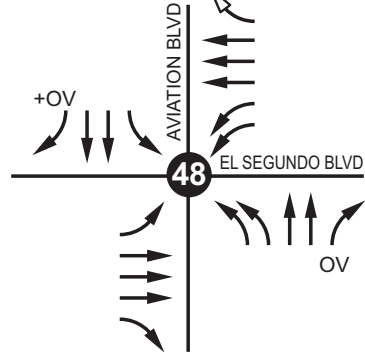


AM & PM: MITIGATED - IMPACT REMAINS SIGNIFICANT

AVIATION BLVD/EL SEGUNDO BLVD



EXISTING



AM & PM: MITIGATED - IMPACT REMAINS SIGNIFICANT

Legend:

- ← Existing Lane
- ⇄ Modified Lane
- ↪ ov Right-Turn Overlap
- +OV Add Right-Turn Overlap

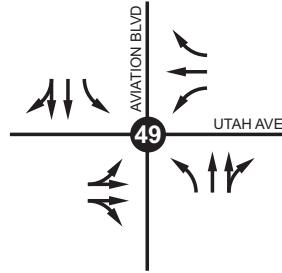
NOT TO SCALE



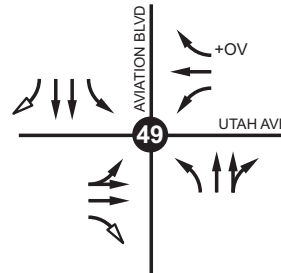
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ENVIRONMENTAL IMPACT REPORT
 EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Mitigated Forecast Long-Range With Project
 Buildout Conditions Study Intersection Geometry
 (Intersections 29, 32 & 48)**

AVIATION BLVD/UTAH AVE

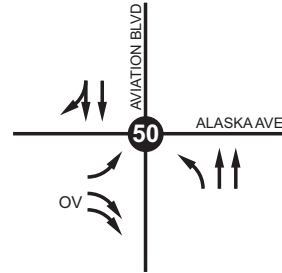


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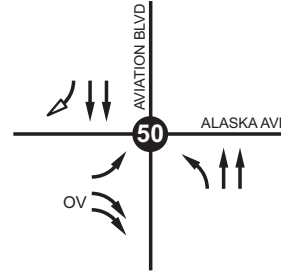


AM & PM: MITIGATED TO LEVEL LESS THAN SIGNIFICANT

AVIATION BLVD/ALASKA AVE

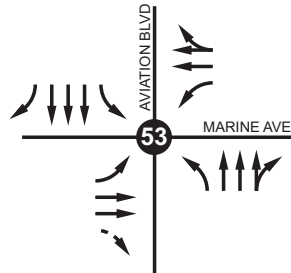


EXISTING

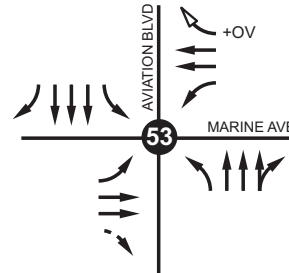


AM & PM: MITIGATED - IMPACT REMAINS SIGNIFICANT

AVIATION BLVD/MARINE AVE

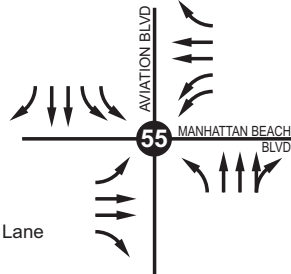


EXISTING

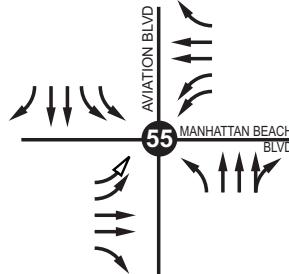


AM: MITIGATED TO LEVEL LESS THAN SIGNIFICANT
PM: IMPACT REMAINS SIGNIFICANT

AVIATION BLVD/MANHATTAN BEACH BLVD



EXISTING



AM: MITIGATED TO LEVEL LESS THAN SIGNIFICANT
PM: IMPACT REMAINS SIGNIFICANT

Legend:

- ← Existing Lane
- ↔ Modified Lane
- ↔ Defacto Right-Turn Lane
- ↔^{ov} Right-Turn Overlap
- +OV Add Right-Turn Overlap

NOT TO SCALE



07/14 • JN 10-107917 (130148)

ENVIRONMENTAL IMPACT REPORT
EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)
**Mitigated Forecast Long-Range With Project
Buildout Conditions Study Intersection Geometry
(Intersections 49, 50, 53 & 55)**



**Table 5.2-28
Mitigated Forecast Long-Range With Project Buildout Conditions
Peak Hour Intersection LOS**

Study Intersection		Forecast Long-Range Without Project Conditions		Mitigated Forecast Long-Range With Project Buildout Conditions		Delta V/C ¹		Significant Impact?
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
		V/C – LOS ²	V/C – LOS ²	V/C – LOS ²	V/C – LOS ²			
29	Nash Street/Maple Avenue	0.878 – D	0.773 – C	0.949 – E	0.828 – D	0.071	0.055	Yes
32	Nash Street/El Segundo Boulevard	0.632 – B	0.751 – C	0.821 – D	1.050 – F	0.189	0.299	Yes
48	Aviation Boulevard/El Segundo Boulevard	1.117 – F	1.254 – F	1.335 – F	1.452 – F	0.218	0.198	Yes
49	Aviation Boulevard/Utah Avenue	0.963 – E	0.901 – E	0.927 – E	0.883 – E	-0.036	-0.018	No
50	Aviation Boulevard/Alaska Avenue	0.655 – B	0.869 – D	0.704 – C	0.906 – E	0.049	0.037	Yes
53	Aviation Boulevard/Marine Avenue	1.140 – F	0.928 – E	1.082 – F	0.947 – E	-0.058	0.019	Yes
55	Aviation Boulevard/Manhattan Beach Boulevard	0.984 – E	1.004 – F	0.939 E	1.041 - F	-0.045	0.037	Yes
Notes:								
1. V/C = volume to capacity ratio.								
2. Deficient intersection operation shown in bold .								

As also shown in Table 5.2-28, assuming implementation of feasible Mitigation Measures TRA-1 through TR-7, Project traffic impacts at the following study intersections would remain significant and unavoidable for forecast long-range with Project buildout conditions:

- Intersection 29 (Nash Street/Maple Avenue, El Segundo) a.m. peak hour only;
- Intersection 32 (Nash Street/El Segundo Boulevard, El Segundo) p.m. peak hour only;
- Intersection 48 (Aviation Boulevard/El Segundo Boulevard, Hawthorne) both a.m. and p.m. peak hours;
- Intersection 50 (Aviation Boulevard/Alaska Avenue, Hawthorne) both a.m. and p.m. peak hours;
- Intersection 53 (Aviation Boulevard/Marine Avenue, Hawthorne) p.m. peak hour only; and
- Intersection 55 (Aviation Boulevard/Manhattan Beach Boulevard, Redondo Beach) both a.m. and p.m. peak hours;

Mitigation at the following study intersections is infeasible due to right-of-way limitations and existing structures. Therefore, Project impacts at the following study intersections would remain significant and unavoidable for forecast long-range with Project buildout conditions:



- Intersection 38 (Douglas Street/El Segundo Boulevard, El Segundo) both a.m. and p.m. peak hours;
- Intersection 51 (Aviation Boulevard/Rosecrans Avenue, Hawthorne) both a.m. and p.m. peak hours;
- Intersection 62 (La Cienega Boulevard/El Segundo Boulevard, Hawthorne) both a.m. and p.m. peak hours; and
- Intersection 69 - Sepulveda Boulevard/Manchester Avenue (City of Los Angeles).

Overall, despite implementation of all feasible mitigation, impacts at study Intersections 29, 32, 38, 48, 50, 51, 53, 55, 62, and 69 would remain significant and unavoidable for forecast long-range with Project buildout conditions.

**FORECAST LONG-RANGE WITH PROJECT BUILDOUT CONDITIONS
STATE HIGHWAY STUDY INTERSECTION PEAK HOUR LOS**

This section evaluates the forecast impact of Project-generated trips at the State Highway study intersections.

Table 5.2-29, Forecast Long-Range With Project Buildout Conditions Peak Hour State Highway Study Intersection LOS, summarizes forecast long-range with Project buildout conditions a.m. peak hour and p.m. peak hour LOS of the State Highway study intersections; detailed LOS analysis sheets are contained in Appendix C of Appendix 10.3.

**Table 5.2-29
Forecast Long-Range With Project Buildout Conditions
Peak Hour State Highway Study Intersection LOS**

Study Intersection	Forecast Long-Range Without Project Conditions		Forecast Long-Range With Project Buildout Conditions		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	Delay ¹ - LOS ²	Delay ¹ - LOS ²	Delay ¹ - LOS ²	Delay ¹ - LOS ²	
7 Sepulveda Boulevard (SR-1)/ Lincoln Boulevard	32.9 – C	57.5 – E	48.1 – D	64.5 – E	Yes
8 Sepulveda Boulevard (SR-1)/ Century Boulevard	74.5 – E	103.8 – F	74.6 – E	120.2 – F	No
9 Sepulveda Boulevard (SR-1)/ I-105 WB Off-Ramp	999.9 – F	999.9 – F	999.9 – F	999.9 – F	No
10 Sepulveda Boulevard (SR-1)/ Imperial Highway	56.5 – E	86.6 – F	65.8 – E	110.9 – F	No
11 Sepulveda Boulevard (SR-1)/ Walnut Avenue	11.2 – B	21.6 – C	12.7 – B	34.2 – C	No
12 Sepulveda Boulevard (SR-1)/ Maple Avenue	14.0 – B	15.9 – B	16.7 – B	20.6 – C	No
13 Sepulveda Boulevard (SR-1)/ Mariposa Avenue	20.8 – C	34.3 – C	23.0 – C	58.6 – E	Yes
14 Sepulveda Boulevard (SR-1)/ Grand Avenue	57.4 – E	109.5 – F	61.4 – E	142.2 – F	No
15 Sepulveda Boulevard (SR-1)/ El Segundo Boulevard	103.5 – F	126.9 – F	177.4 – F	259.3 – F	No



**Table 5.2-29 [continued]
Forecast Long-Range With Project Buildout Conditions
Peak Hour State Highway Study Intersection LOS**

Study Intersection		Forecast Long-Range Without Project Conditions		Forecast Long-Range With Project Buildout Conditions		Significant Impact?
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
		Delay - LOS	Delay - LOS	Delay - LOS	Delay - LOS	
16	Sepulveda Boulevard (SR-1)/ Hughes Way	8.1 - A	16.3 - B	16.0 - B	32.0 - C	No
17	Sepulveda Boulevard (SR-1)/ Park Place	5.9 - A	13.6 - B	7.6 - A	17.4 - B	No
18	Sepulveda Boulevard (SR-1)/ Rosecrans Avenue	56.7 - E	93.5 - F	78.2 - E	120.2 - F	No
19	Sepulveda Boulevard (SR-1)/ 33rd Street	69.7 - E	188.4 - F	102.1 - F	230.4 - F	No
20	Sepulveda Boulevard (SR-1)/ Marine Avenue	95.7 - F	95.2 - F	129.1 - F	121.7 - F	No
21	Sepulveda Boulevard (SR-1)/ 18th Street	11.8 - B	9.7 - A	33.6 - C	23.2 - C	No
22	Sepulveda Boulevard (SR-1)/ Manhattan Beach Boulevard	139.2 - F	133.2 - F	172.9 - F	160.8 - F	No
27	Nash Street - I-105 WB Off-Ramp/ Imperial Highway	27.3 - C	25.7 - C	29.7 - C	26.4 - C	No
33	I-105 EB ³ On-Ramp/ Atwood Way	21.1 - C	24.8 - C	20.9 - C	32.2 - C	No
57	I-405 SB Ramps/ El Segundo Boulevard	12.7 - B	24.1 - C	30.7 - C	63.4 - E	Yes
59	Hindry Avenue/ I-405 SB Ramps	27.1 - C	26.9 - C	27.1 - C	26.9 - C	No
61	La Cienega Boulevard/ I-405 SB Ramps	26.3 - C	27.0 - C	25.6 - C	27.1 - C	No
63	I-405 SB Off-Ramp/ Rosecrans Avenue	465.3 - F	50.8 - F	479.7 - F	52.5 - F	No
64	I-405 NB Ramps/ El Segundo Boulevard	22.6 - C	11.9 - B	30.7 - C	13.8 - B	No
65	I-405 NB Ramps/ Rosecrans Avenue	16.4 - B	12.0 - B	16.4 - B	12.0 - B	No
68	Lincoln Boulevard (SR-1)/ Manchester Avenue	155.4 - F	176.3 - F	155.7 - F	179.5 - F	No
70	Pacific Coast Highway (SR-1)/ Artesia Boulevard	110.2 - F	59.1 - E	156.2 - F	78.8 - E	No
71	Pacific Coast Highway (SR-1)/ Torrance Boulevard	84.8 - F	115.4 - F	115.7 - F	146.6 - F	No

Notes:

1. Delay shown in seconds per vehicle.
2. Deficient intersection operation shown in **bold**.
3. NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound.



As shown in [Table 5.2-29](#), with the addition of Project buildout-generated trips, the State Highway study intersections are forecast to continue to operate at an acceptable LOS (LOS C or better) according to Caltrans performance criteria for forecast long-range with Project buildout conditions, except the following:

- Intersection 7 – Sepulveda Boulevard (SR-1)/Lincoln Boulevard (Caltrans - both a.m. and p.m. peak hours);
- Intersection 8 – Sepulveda Boulevard (SR-1)/Century Boulevard (Caltrans - both a.m. and p.m. peak hours);
- Intersection 9 – Sepulveda Boulevard (SR-1)/I-105 Westbound Off-Ramp (Caltrans - both a.m. and p.m. peak hours);
- Intersection 10 – Sepulveda Boulevard (SR-1)/Imperial Highway (Caltrans - both a.m. and p.m. peak hours);
- Intersection 13 – Sepulveda Boulevard (SR-1)/Mariposa Avenue (Caltrans - p.m. peak hour only);
- Intersection 14 – Sepulveda Boulevard (SR-1)/Grand Avenue (Caltrans - both a.m. and p.m. peak hours);
- Intersection 15 – Sepulveda Boulevard (SR-1)/El Segundo Boulevard (Caltrans - both a.m. and p.m. peak hours);
- Intersection 18 – Sepulveda Boulevard (SR-1)/Rosecrans Avenue (Caltrans - both a.m. and p.m. peak hours);
- Intersection 19 – Sepulveda Boulevard (SR-1)/33rd Street (Caltrans - both a.m. and p.m. peak hours);
- Intersection 20 – Sepulveda Boulevard (SR-1)/Marine Avenue (Caltrans - both a.m. and p.m. peak hours);
- Intersection 22 – Sepulveda Boulevard (SR-1)/Manhattan Beach Boulevard (Caltrans - both a.m. and p.m. peak hours);
- Intersection 57 – I-405 Southbound Ramps/El Segundo Boulevard (Caltrans - p.m. peak hour);
- Intersection 63 – I-405 Southbound Off-Ramp/Rosecrans Avenue (Caltrans - both a.m. and p.m. peak hours);
- Intersection 68 – Lincoln Boulevard (SR-1)/Manchester Avenue (Caltrans – both a.m. and p.m. peak hours);
- Intersection 70 – Pacific Coast Highway (SR-1)/Artesia Boulevard (Caltrans – both a.m. and p.m. peak hours); and
- Intersection 71 – Pacific Coast Highway (SR-1)/Artesia Boulevard (Caltrans – both a.m. and p.m. peak hours).

As also shown in [Table 5.2-29](#), based on Caltrans thresholds of significance, the Project is forecast to result in significant traffic impacts at the following State Highway study intersections for forecast long-range with Project buildout conditions:

- Intersection 7 – Sepulveda Boulevard (SR-1)/Lincoln Avenue (Caltrans - a.m. peak hour only);
- Intersection 13 – Sepulveda Boulevard (SR-1)/Mariposa Avenue (Caltrans - p.m. peak hour only); and
- Intersection 57 – I-405 Southbound Ramps/El Segundo Boulevard (Caltrans - p.m. peak hour only).



**FORECAST LONG-RANGE WITH PROJECT BUILDOUT CONDITIONS
STATE HIGHWAY MITIGATION MEASURES**

The following feasible mitigation measures are identified to lessen the traffic impacts at the impacted State Highway study intersections:

- Mitigation Measure TRA-8, Intersection 13 (Sepulveda Boulevard (SR-1)/Mariposa Avenue, Caltrans); and
- Mitigation Measure TRA-9, Intersection 57 (I-405 Southbound Ramps/El Segundo Boulevard, Caltrans).

Exhibit 5.2-42, Mitigated Forecast Long-Range With Project Buildout Conditions State Highway Study Intersection Geometry (Intersections 13 and 57), shows feasible mitigated forecast long-range with Project buildout conditions State Highway study intersection geometry.

Mitigation at Intersection 7 (Sepulveda Boulevard (SR-1)/Lincoln Boulevard, Caltrans) is infeasible due to right-of-way limitations and existing structures.

**MITIGATED FORECAST LONG-RANGE WITH PROJECT BUILDOUT CONDITIONS
STATE HIGHWAY STUDY INTERSECTION PEAK HOUR LOS**

Table 5.2-30, Mitigated Forecast Long-Range With Project Buildout Conditions Peak Hour State Highway Study Intersection LOS, summarizes forecast long-range with Project buildout conditions State Highway study intersection LOS assuming implementation of the identified feasible mitigation measures.

**Table 5.2-30
Mitigated Forecast Long-Range With Project Buildout Conditions
Peak Hour State Highway Study Intersection LOS**

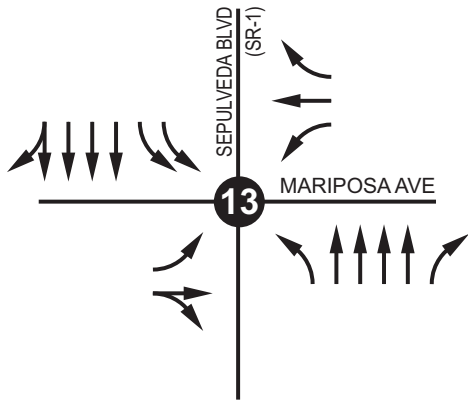
Study Intersection	Forecast Long-Range Without Project Conditions		Mitigated Forecast Long-Range With Project Buildout Conditions		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	Delay ¹ - LOS ²	Delay ¹ - LOS ²	Delay ¹ - LOS ²	Delay ¹ - LOS ²	
13 Sepulveda Boulevard (SR-1)/Mariposa Avenue	20.8 – C	34.3 – C	22.5 – C	41.4 – D	Yes
57 I-405 SB ³ Ramps/El Segundo Boulevard	12.7 – B	24.1 – C	30.4 – C	31.7 – C	No

Notes:

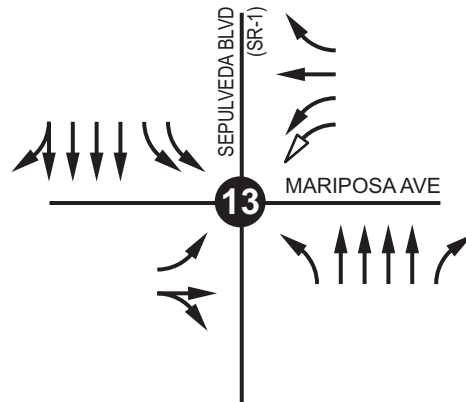
1. Delay shown in seconds per vehicle.
2. Deficient intersection operation shown in **bold**.
3. SB = Southbound.

As shown in Table 5.2-30, assuming implementation feasible Mitigation Measure TRA-9, the traffic impact at State Highway study Intersection 57 (I-405 SB Ramps/El Segundo Boulevard, Caltrans) would be reduced to less than significant for forecast long-range with Project buildout conditions.

SEPULVEDA BLVD (SR-1)/MARIPOSA AVE



EXISTING

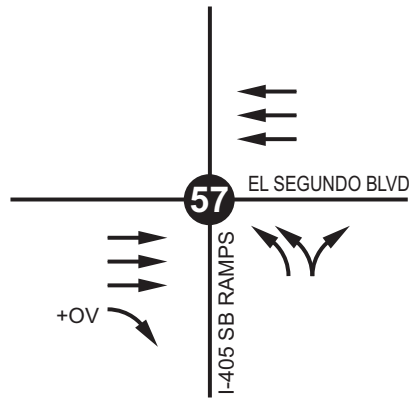


AM & PM: MITIGATED - IMPACT REMAINS SIGNIFICANT

I-405 SOUTHBOUND RAMPS/EL SEGUNDO BLVD



EXISTING



AM & PM: MITIGATED TO LEVEL LESS THAN SIGNIFICANT

Legend:

- ← Existing Lane
- ⇐ Modified Lane
- ↪^{ov} Right-Turn Overlap
- +OV Add Right-Turn Overlap

NOT TO SCALE



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ENVIRONMENTAL IMPACT REPORT
EL SEGUNDO SOUTH CAMPUS SPECIFIC PLAN (EA 905)

Mitigated Forecast Long-Range With Project Buildout Conditions State Highway Study Intersection Geometry (Intersections 13 & 57)



As also shown in Table 5.2-30, assuming implementation of feasible Mitigation Measure TRA-8, the Project traffic impact at the following State Highway study intersection would remain significant and unavoidable for forecast long-range with Project buildout conditions:

- Intersection 13 (Sepulveda Boulevard (SR-1)/Mariposa Avenue, Caltrans) p.m. peak hour only.

Mitigation at the following State Highway intersection is infeasible due to right-of-way limitations and existing structures. Therefore, the Project impact at this State Highway intersection would remain a significant and unavoidable for forecast long-range with Project buildout conditions.

- Intersection 7 (Sepulveda Boulevard (SR-1)/Lincoln Avenue, Caltrans) a.m. peak hour only).

Overall, despite implementation of all feasible mitigation, impacts at State Highway Intersections 7 and 13 would remain significant and unavoidable for forecast long-range with Project buildout conditions.

**FORECAST LONG-RANGE WITH PROJECT BUILDOUT CONDITIONS
OFF-RAMP QUEUE ANALYSIS**

Table 5.2-31, Forecast Long-Range Without Project and Forecast Long-Range With Project Buildout Conditions Off-Ramp Queue Analysis, summarizes the results for the off-ramp movement queue analysis at the study off-ramps for forecast long-range without Project and forecast long-range with Project buildout conditions; detailed queue analysis sheets are contained in Appendix C of Appendix 10.3.

**Table 5.2-31
Forecast Long-Range Without Project and Forecast Long-Range With
Project Buildout Conditions Off-Ramp Queue Analysis**

Location	Freeway Off-Ramp Queue Storage Provided (feet)	Forecast Off-Ramp Queue (feet)				Adequate Off-Ramp Storage Provided?
		Forecast Long-Range Without Project Conditions		Forecast Long-Range With Project Buildout Conditions		
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
I-105 WB Off-Ramp at NB Sepulveda Boulevard (SR-1)	4,460	7,325	7,325	7,475	7,350	No
I-105 WB Off-Ramp at Imperial Highway	2,660	200	225	250	250	Yes
I-405 SB Off-Ramp at El Segundo Boulevard	2,450	300	500	125	700	Yes
I-405 SB Off-Ramp at Hindry Avenue	1,300	450	100	450	100	Yes
I-405 SB Off-Ramp at La Cienega Boulevard	1,410	300	350	400	350	Yes
I-405 SB Off-Ramp at Rosecrans Avenue	1,160	835	218	845	223	Yes
I-405 NB Off-Ramp at El Segundo Boulevard	2,715	425	225	750	275	Yes
I-405 NB Off-Ramp at Rosecrans Avenue	1,710	325	225	325	225	Yes

Notes: NB = Northbound; SB = Southbound; WB = Westbound.



As shown in Table 5.2-31, adequate queue storage is forecast to be provided at the study off-ramp locations for forecast long-range with Project buildout conditions, except the following off-ramp:

- I-405 Westbound off-ramp at northbound Sepulveda Boulevard (SR-1).

Because there is no City-adopted threshold of significance for a queuing analysis, the queue analysis is provided for informational purposes only. Therefore, no impact would occur involving queue storage.

Summary of Project Impacts

Overall, despite implementation of all feasible mitigation, impacts at the following intersections would remain significant and unavoidable:

Forecast Near-Term With Phase I Project Conditions Study Area Intersection

- Intersection 48 (Aviation Boulevard/El Segundo Boulevard, Hawthorne) p.m. peak hour only.

Forecast Long-Range With Project Buildout Conditions Study Area Intersections

- Intersection 29 (Nash Street/Maple Avenue, El Segundo) a.m. peak hour only;
- Intersection 32 (Nash Street/El Segundo Boulevard, El Segundo) p.m. peak hour only;
- Intersection 38 (Douglas Street/El Segundo Boulevard, El Segundo) both a.m. and p.m. peak hours;
- Intersection 48 (Aviation Boulevard/El Segundo Boulevard, Hawthorne) both a.m. and p.m. peak hours;
- Intersection 50 (Aviation Boulevard/Alaska Avenue, Hawthorne) both a.m. and p.m. peak hours; and
- Intersection 51 (Aviation Boulevard/Rosecrans Avenue, Hawthorne) both a.m. and p.m. peak hours;
- Intersection 53 (Aviation Boulevard/Marine Avenue, Hawthorne) p.m. peak hour only;
- Intersection 62 (La Cienega Boulevard/El Segundo Boulevard, Hawthorne) both a.m. and p.m. peak hours;
- Intersection 69 (Sepulveda Boulevard/Manchester Avenue) both a.m. and p.m. peak hours.

Forecast Long-Range With Project Buildout Conditions State Highway Study Intersections

- Intersection 7 (Sepulveda Boulevard (SR-1)/Lincoln Avenue, Caltrans) a.m. peak hour only); and
- Intersection 13 (Sepulveda Boulevard (SR-1)/Mariposa Avenue, Caltrans) p.m. peak hour only.

Mitigation Measures:

TRA-1 Intersection 29 (Nash Street/Maple Avenue) – This intersection is within the City of El Segundo’s jurisdiction. Before the City issues a Certificate of Occupancy for any building located in Phase II of the Project, the Project Applicant must: 1) Coordinate with and obtain concurrence from the City for the improvements outlined below; 2) Payment of applicable fair share mitigation fees to fund the following improvements:



- a. Widen the northbound approach from one shared left-turn/through lane and one shared through/right-turn lane to consist of one shared left-turn/through lane, one through lane, and one right-turn lane; and
- b. Widen the westbound approach from one left-turn lane and one shared through/right-turn lane to consist of one left-turn lane, one through lane, and one right-turn lane.

TRA-2 Intersection 32 (Nash Street/El Segundo Boulevard) – This intersection is within the City of El Segundo’s jurisdiction. Before the City issues a Certificate of Occupancy for any building located in Phase II of the Project, the Project Applicant must: 1) Coordinate with and obtain concurrence from the City for the improvements outlined below; 2) Construct, or cause to be constructed, the following improvements:

- a. Widen the northbound approach from two left-turn lanes, one shared through/right-turn lane, and one right-turn lane with right-turn overlap signal phasing to consist of two left-turn lanes, one through lane, and two right-turn lanes with right-turn overlap signal phasing.

TRA-3 Intersection 48 (Aviation Boulevard/El Segundo Boulevard) – This intersection’s jurisdiction is shared between the Cities of El Segundo and Hawthorne. Before the City of El Segundo issues a Certificate of Occupancy for any building located in Phase II of the Project, the Project Applicant must: 1) Coordinate with and obtain concurrence from the Cities of El Segundo and Hawthorne for the improvements outlined below; 2) Payment of applicable fair share mitigation fees to fund the following improvements:

- a. Widen the southbound approach from one left-turn lane, one through lane, one shared through/right-turn lane and one right-turn lane to consist of one left-turn lane, two through lanes, and one right-turn lane with right-turn overlap signal phasing, which would preclude U-turn movements from eastbound to westbound El Segundo Boulevard; and
- b. Widen the westbound approach from two left-turn lanes, two through lanes, one shared through/right-turn lane, and one right-turn lane to consist of two left-turn lanes, three through lanes, and one right-turn lane.

TRA-4 Intersection 49 (Aviation Boulevard/Utah Avenue) – This intersection’s jurisdiction is shared between the Cities of El Segundo and Hawthorne. Before the City of El Segundo issues a Certificate of Occupancy for any building located in Phase II of the Project, the Project Applicant must: 1) Coordinate with and obtain concurrence from the Cities of El Segundo and Hawthorne for the improvements outlined below; 2) Payment of applicable fair share mitigation fees to fund the following improvements:

- a. Widen the southbound approach from one left-turn lane, one through lane, and one shared through/right-turn lane to consist of one left-turn lane, two through lanes, and one right-turn lane;
- b. Widen the eastbound approach from one shared left-turn/through lane and one shared through/right-turn lane to consist of one shared left-turn/through lane, one through lane, and one right-turn lane; and



- c. Modify the westbound signal phasing to include a right-turn overlap, which would preclude U-turn movements from southbound to northbound Aviation Boulevard.

TRA-5 Intersection 50 (Aviation Boulevard/Alaska Avenue) – This intersection’s jurisdiction is shared between the Cities of El Segundo and Hawthorne. Before the City of El Segundo issues a Certificate of Occupancy for any building located in Phase II of the Project, the Project Applicant must: 1) Coordinate with and obtain concurrence from the Cities of El Segundo and Hawthorne for the improvements outlined below; 2) Payment of applicable fair share mitigation fees to fund the following improvements:

- a. Widen the southbound approach from one through lane and one shared through/right-turn lane to consist of two through lanes and one right-turn lane.

TRA-6 Intersection 53 (Aviation Boulevard/Marine Avenue) – This intersection’s jurisdiction is shared among the Cities of Hawthorne, Manhattan Beach, and Redondo Beach. Before the City of El Segundo issues a Certificate of Occupancy for any building located in Phase II of the Project, the Project Applicant must: 1) Coordinate with and obtain concurrence from the Cities of Hawthorne, Manhattan Beach, and Redondo Beach for the improvements outlined below; 2) Payment of applicable fair share mitigation fees to fund the following improvements:

- a. Widen the westbound approach from one left-turn lane, one through lane, and one shared through/right-turn lane to consist of one left-turn lane, two through lanes, and one right-turn lane with right-turn overlap signal phasing, which would preclude U-turn movements from southbound to northbound Aviation Boulevard. The identified mitigation measure would reduce the Project-related impact to a level considered less than significant during the a.m. peak hour, however, the impact during the p.m. peak hour would remain significant and unavoidable.

TRA-7 Intersection 55 (Aviation Boulevard/Manhattan Beach Boulevard) – This intersection’s jurisdiction is shared between the Cities of Manhattan Beach and Redondo Beach. Before the City of El Segundo issues a Certificate of Occupancy for any building located in Phase II of the Project, the Project Applicant must: 1) Coordinate with and obtain concurrence from the Cities of Manhattan Beach and Redondo Beach for the improvements outlined below; 2) Payment of applicable fair share mitigation fees to fund the following improvements:

- a. Restripe the eastbound Manhattan Beach Boulevard approach from one left-turn lane, two Restripe the eastbound Manhattan Beach Boulevard approach from one left-turn lane, two through lanes, and one right-turn lane to consist of two left-turn lanes, two through lanes, and one right-turn lane. While the identified mitigation measure will reduce the project-related traffic impact to a level considered less than significant during the a.m. peak hour, the traffic impact during the p.m. peak hour will remain significant.

TRA-8 Intersection 13 (Sepulveda Boulevard (SR-1)/Mariposa Avenue) – This intersection is within Caltrans’ jurisdiction. Before the City issues a Certificate of Occupancy for any building located in Phase II of the Project, the Project Applicant must make: 1) Coordinate with and obtain concurrence from Caltrans for the improvements outlined below; 2) Payment of applicable fair share mitigation fees to fund the following improvements:



- a. Widen the westbound approach from one left-turn lane, one through lane, and one right-turn lane to consist of two left-turn lanes, one through lane, and one right-turn lane.

TRA-9 Intersection 57 (I-405 Southbound Ramps/El Segundo Boulevard) – This intersection is within Caltrans’ jurisdiction. Before the City of El Segundo issues a Certificate of Occupancy for any building located in Phase II of the Project, the Project Applicant must: 1) Coordinate with and obtain concurrence from Caltrans for the improvements outlined below; 2) Payment of applicable fair share mitigation fees to fund the following improvements:

- a. Modify the eastbound signal phasing to include a right-turn overlap, which would preclude U-turn movements from the I-405 Ramps back onto the freeway.

TRA-10 Pursuant to ESMC §§ 15-27A-1, *et seq.*, and before the City of El Segundo issues a Certificate of Occupancy for any building in the ESSCSP, the Project Applicant must pay one time traffic mitigation fees in accordance with City of El Segundo Resolution No. 4443.

Level of Significance: Significant and Unavoidable.

COMPLIANCE WITH CONGESTION MANAGEMENT PROGRAM

● THE PROJECT COULD CONFLICT WITH THE LOS ANGELES COUNTY CONGESTION MANAGEMENT PROGRAM LOS STANDARDS.

Impact Analysis: The purpose of the Congestion Management Program (CMP) is to develop a coordinated approach to managing and decreasing traffic congestion by linking the various transportation, land use and air quality planning programs throughout the County. The program is consistent with that of the Southern California Association of Governments (SCAG). The CMP program requires review of significant individual projects, which might on their own impact the CMP transportation system.

According to the CMP (*Los Angeles County Metropolitan Transportation Authority, 2010*), those proposed projects, which meet the following criteria, must be evaluated:

- All CMP arterial monitoring intersections, including monitored freeway on- or off-ramp intersections, where the project would add 50 or more trips during either the a.m. or p.m. weekday peak hours (of adjacent street traffic).
- Mainline freeway monitoring locations where the project would add 150 or more trips, in either direction, during either the AM or PM weekday peak hours.

This analysis evaluates the following CMP study intersections within the study area:

- Intersection 7: Sepulveda Boulevard (SR-1)/Lincoln Boulevard;
- Intersection 15: Sepulveda Boulevard (SR-1)/El Segundo Boulevard;
- Intersection 18: Sepulveda Boulevard (SR-1)/Rosecrans Avenue
- Intersection 68: Lincoln Boulevard (SR-1)/Manchester Avenue;



- Intersection 69: Sepulveda Boulevard/Manchester Avenue;
- Intersection 70: Pacific Coast Highway (SR-1)/Artesia Boulevard; and
- Intersection 71: Pacific Coast Highway (SR-1)/Torrance Boulevard.

Refer to Section 5.1, *Land Use and Planning*, for a discussion of the Project's consistency with the *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): Towards a Sustainable Future*.

CMP Performance Criteria and Thresholds of Significance

Performance Criteria. The goal for CMP intersection peak hour intersection operation is LOS E or better.

Thresholds of Significance. To determine whether the addition of Project-generated trips results in a significant impact at the CMP study facility, and thus requires mitigation, the Los Angeles County CMP utilizes the following threshold of significance:

- A significant project impact occurs when a proposed project increases traffic demand at a CMP study facility by two-percent or more of capacity ($V/C > 0.02$), causing or worsening LOS F ($V/C > 1.00$).

Forecast Existing With Project Buildout Conditions

FORECAST EXISTING WITH PROJECT BUILDOUT CONDITIONS CMP STUDY INTERSECTION PEAK HOUR LOS

This section addresses the impacts associated with adding Project buildout-generated trips to Existing Conditions traffic volumes. The existing with Project buildout scenario is a hypothetical scenario that assumes the Project would be fully implemented at the present time, with no other changes to area traffic volumes. This analysis is intended to comply with *CEQA Guidelines* Section 15125, and specifically recent court cases including, without limitation, *Neighbors for Smart Rail v. Exposition Metro Line Const. Authority* (2013) 57 Cal.4th 439. This scenario assumes the full development of the Project and full absorption of the Project traffic on the circulation systems at the present time. This scenario is provided for information purposes only, and will not be used to for impact determinations or mitigation.

Table 5.2-32, *Forecast Existing With Project Buildout Conditions CMP Study Intersection Peak Hour LOS*, summarizes forecast existing with Project buildout conditions a.m. peak hour and p.m. peak hour LOS of the CMP study intersections; detailed LOS analysis sheets are contained in Appendix C of Appendix 10.3.



**Table 5.2-32
Forecast Existing With Project Buildout Conditions
CMP Study Intersection Peak Hour LOS**

CMP Study Intersection		Existing Conditions		Forecast Existing With Project Buildout Conditions	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
		V/C ¹ – LOS ²	V/C ¹ – LOS ²	V/C ¹ – LOS ²	V/C ¹ – LOS ²
7	Sepulveda Boulevard (SR-1)/ Lincoln Boulevard	0.681 – B	0.707 – C	0.762 – C	0.732 – C
15	Sepulveda Boulevard (SR-1)/ El Segundo Boulevard	0.872 – D	0.985 – E	1.122 – F	1.207 – F
18	Sepulveda Boulevard (SR-1)/ Rosecrans Avenue	0.854 – D	0.936 – E	0.928 – E	1.027 – F
68	Lincoln Boulevard (SR-1)/ Manchester Avenue	0.917 – E	0.924 – E	0.919 – E	0.935 – E
69	Sepulveda Boulevard/ Manchester Avenue	0.914 – E	0.815 – D	0.928 – E	0.902 – E
70	Pacific Coast Highway (SR-1)/ Artesia Boulevard	0.969 – E	0.807 – D	1.107 – F	0.874 – D
71	Pacific Coast Highway (SR-1)/ Torrance Boulevard	0.818 – D	0.761 – C	0.907 – E	0.833 – D

Notes:
 1. V/C = volume to capacity ratio.
 2. Deficient intersection operation shown in **bold**.

As shown in Table 5.2-32, with the addition of Project-generated trips, the following CMP study intersections are forecast to operate at a deficient LOS (LOS F) according to CMP performance criteria for forecast existing with Project buildout conditions:

- Intersection 15 – Sepulveda Boulevard (SR-1)/El Segundo Boulevard (CMP - both a.m. and p.m. peak hours);
- Intersection 18 – Sepulveda Boulevard (SR-1)/Rosecrans Avenue (CMP - p.m. peak hour only); and
- Intersection 70 – Pacific Coast Highway (SR-1)/Artesia Boulevard (Caltrans – a.m. peak hour only).

**FORECAST NEAR-TERM WITH PHASE I PROJECT CONDITIONS
CMP STUDY INTERSECTION PEAK HOUR LOS**

Table 5.2-33, Forecast Near-Term With Phase I Project Conditions CMP Study Intersection Peak Hour LOS, summarizes forecast near-term with Phase I Project conditions a.m. peak hour and p.m. peak hour LOS of the CMP study intersections; detailed LOS analysis sheets are contained in Appendix C of Appendix 10.3.



**Table 5.2-33
Forecast Near-Term With Phase I Project Conditions
CMP Study Intersection Peak Hour LOS**

CMP Study Intersection	Forecast Near-Term Without Project Conditions		Forecast Near-Term With Phase I Project Conditions		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	V/C ¹ – LOS ²	V/C ¹ – LOS ²	V/C ¹ – LOS ²	V/C ¹ – LOS ²	
7 Sepulveda Boulevard (SR-1)/ Lincoln Boulevard	0.708 – C	0.725 – C	0.708 – C	0.726 – C	No
15 Sepulveda Boulevard (SR-1)/ El Segundo Boulevard	0.919 – E	1.022 – F	0.923 – E	1.029 – F	No
18 Sepulveda Boulevard (SR-1)/ Rosecrans Avenue	0.874 – D	0.964 – E	0.875 – D	0.967 – E	No
68 Lincoln Boulevard (SR-1)/ Manchester Avenue	0.925 – E	0.935 – E	0.925 – E	0.935 – E	No
69 Sepulveda Boulevard/ Manchester Avenue	0.927 – E	0.846 – D	0.927 – E	0.846 – D	No
70 Pacific Coast Highway (SR-1)/ Artesia Boulevard	0.991 – E	0.834 – D	0.991 – E	0.835 – D	No
71 Pacific Coast Highway (SR-1)/ Torrance Boulevard	0.847 – D	0.787 – C	0.847 – D	0.787 – C	No

Notes:
 1. V/C = volume to capacity ratio.
 2. Deficient intersection operation shown in **bold**.

As shown in [Table 5.2-33](#), with the addition of Phase I Project-generated trips, the following CMP study intersection is forecast to operate at a deficient LOS (LOS F) according to CMP performance criteria for forecast near-term with Phase I Project conditions:

- Intersection 15 – Sepulveda Boulevard (SR-1)/El Segundo Boulevard (CMP - p.m. peak hour only).

As also shown in [Table 5.2-33](#), based on CMP thresholds of significance, the addition of Project-generated trips is forecast to result in no significant impact at the CMP study intersections for forecast near-term with Phase I Project conditions.

**FORECAST NEAR-TERM WITH PHASE I PROJECT CONDITIONS
CMP INTERSECTION MITIGATION MEASURES**

The Project is forecast to result in no significant traffic impacts at the CMP study intersection for forecast near-term with Phase I Project conditions. Therefore, no mitigation is required and less than significant impacts would occur.



Forecast Long-Range With Project Buildout Conditions

FORECAST LONG-RANGE WITH PROJECT BUILDOUT CONDITIONS CMP STUDY INTERSECTION PEAK HOUR LOS

Table 5.2-34, *Forecast Long-Range With Project Buildout Conditions CMP Study Intersection Peak Hour LOS*, summarizes forecast long-range with Project buildout conditions a.m. peak hour and p.m. peak hour LOS of the CMP study intersections; detailed LOS analysis sheets are contained in Appendix C of Appendix 10.3.

**Table 5.2-34
Forecast Long-Range With Project Buildout Conditions
CMP Study Intersection Peak Hour LOS**

CMP Study Intersection		Forecast Long-Range Without Project Conditions		Forecast Long-Range With Project Buildout Conditions		Significant Impact?
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
		V/C ¹ – LOS ²	V/C ¹ – LOS ²	V/C ¹ – LOS ²	V/C ¹ – LOS ²	
7	Sepulveda Boulevard (SR-1)/ Lincoln Boulevard	1.065 – F	1.157 – F	1.146 – F	1.188 – F	Yes
15	Sepulveda Boulevard (SR-1)/ El Segundo Boulevard	1.250 – F	1.255 – F	1.498 – F	1.563 – F	Yes
18	Sepulveda Boulevard (SR-1)/ Rosecrans Avenue	1.101 – F	1.240 – F	1.174 – F	1.331 – F	Yes
68	Lincoln Boulevard (SR-1)/ Manchester Avenue	1.483 – F	1.490 – F	1.485 – F	1.500 – F	No
69	Sepulveda Boulevard/ Manchester Avenue	1.222 – F	1.139 – F	1.236 – F	1.227 – F	Yes
70	Pacific Coast Highway (SR-1)/ Artesia Boulevard	1.261 – F	1.113 – F	1.400 – F	1.181 – F	Yes
71	Pacific Coast Highway (SR-1)/ Torrance Boulevard	1.244 – F	1.253 – F	1.333 – F	1.326 – F	Yes
Notes:						
1. V/C = volume to capacity ratio.						
2. Deficient intersection operation shown in bold .						

As shown in Table 5.2-34, with the addition of Project-generated trips, the following CMP study intersections are forecast to continue to operate at a deficient LOS (LOS F) according to CMP performance criteria for forecast long-range with Project buildout conditions:

- Intersection 7 (Sepulveda Boulevard (SR-1)/Lincoln Boulevard, CMP) a.m. and p.m. peak hours;
- Intersection 15 (Sepulveda Boulevard (SR-1)/El Segundo Boulevard, CMP) a.m. and p.m. peak hours;
- Intersection 18 (Sepulveda Boulevard (SR-1)/Rosecrans Avenue, CMP) a.m. and p.m. peak hours;



- Intersection 68 (Lincoln Blvd (SR-1)/Manchester Ave, CMP) a.m. and p.m. peak hours;
- Intersection 69 (Sepulveda Blvd/Manchester Ave, CMP) a.m. and p.m. peak hours;
- Intersection 70 (Pacific Coast Hwy (SR-1)/Artesia Blvd, CMP) a.m. and p.m. peak hours; and
- Intersection 71 (Pacific Coast Hwy (SR-1)/Torrance Blvd, CMP) a.m. and p.m. peak hours.

As also shown in [Table 5.2-34](#), based on CMP thresholds of significance, the addition of Project-generated trips is forecast to result in significant impacts at the following CMP study intersections for forecast long-range with Project buildout conditions:

- Intersection 7 (Sepulveda Boulevard (SR-1)/Lincoln Boulevard, CMP) a.m. and p.m. peak hours;
- Intersection 15 (Sepulveda Boulevard (SR-1)/El Segundo Boulevard, CMP) a.m. and p.m. peak hours;
- Intersection 18 (Sepulveda Boulevard (SR-1)/Rosecrans Avenue, CMP) a.m. and p.m. peak hours;
- Intersection 69 (Sepulveda Blvd/Manchester Ave, CMP) a.m. and p.m. peak hours;
- Intersection 70 (Pacific Coast Hwy (SR-1)/Artesia Blvd, CMP) a.m. and p.m. peak hours; and
- Intersection 71 (Pacific Coast Hwy (SR-1)/Torrance Blvd, CMP) a.m. and p.m. peak hours.

FORECAST LONG-RANGE WITH PROJECT BUILDOUT CONDITIONS CMP STUDY INTERSECTION MITIGATION MEASURES

Mitigation at all CMP study intersections is infeasible due to right-of-way limitations and existing structures. Therefore, Project impacts at the following CMP intersections would remain significant and unavoidable for forecast long-range with Project buildout conditions:

- Intersection 7 (Sepulveda Boulevard (SR-1)/Lincoln Boulevard, CMP) a.m. and p.m. peak hours;
- Intersection 15 (Sepulveda Boulevard (SR-1)/El Segundo Boulevard, CMP) a.m. and p.m. peak hours; and
- Intersection 18 (Sepulveda Boulevard (SR-1)/Rosecrans Avenue, CMP) a.m. and p.m. peak hours;
- Intersection 69 (Sepulveda Blvd/Manchester Ave, CMP) a.m. and p.m. peak hours;
- Intersection 70 (Pacific Coast Hwy (SR-1)/Artesia Blvd, CMP) a.m. and p.m. peak hours; and
- Intersection 71 (Pacific Coast Hwy (SR-1)/Torrance Blvd, CMP) a.m. and p.m. peak hours.

Mitigation Measures: No mitigation is required.

Level of Significance: Significant and Unavoidable.



CMP TRANSIT IMPACTS

● **THE PROJECT COULD CONFLICT WITH ADOPTED POLICIES, PLANS, OR PROGRAMS REGARDING PUBLIC TRANSIT.**

Impact Analysis: The following analysis addresses transit services. For analyses of the Project’s consistency with policies, plans, and programs regarding pedestrian and bicycle facilities, refer to Section 5.1, *Land Use and Planning*, and Section 5.10, *Public Services and Recreation*.

The transit services that are available in the Project’s vicinity are as follows:

- Los Angeles County Metropolitan Transportation Authority (MTA) Bus Line Route 125 travels along Rosecrans Avenue and intersects Sepulveda Boulevard.
- Los Angeles County Metropolitan Transportation Authority (MTA) Bus Line Route 232 travels along Sepulveda Boulevard and intersects Rosecrans Avenue.
- Los Angeles County Metropolitan Transportation Authority (MTA) Train Route Green Line 801 travels alongside the Project site and stop at El Segundo station, located on El Segundo Boulevard and Nash Street.

The Project is forecast to generate approximately 26,585 daily trips, which include approximately 3,042 a.m. peak hour trips and approximately 3,120 p.m. peak hour trips. In accordance with CMP guidelines, person trips can be estimated using a 1.4 factor to convert total vehicle trips to person trips, which results in a total of approximately 4,259 a.m. peak hour person trips, approximately 4,368 p.m. peak hour person trips, and approximately 37,219 daily person trips generated by the Project.

Based on CMP guidelines for determining trips assigned to transit, the following factor applicable to the Project it utilized:

- 3.5 percent of Total Person Trips Generated.

Table 5.2-35, *CMP Transit Trip Generation of Proposed Project*, shows the calculation of Project-generated transit trips, utilizing CMP guidelines.

**Table 5.2-35
CMP Transit Trip Generation of Proposed Project**

Trips	AM Peak Hour Trips	PM Peak Hour Trips	Daily Trips
Trip Generation of Proposed Project (Vehicles)	3,042	3,120	26,585
Person Trips Conversion Factor	1.4	1.4	1.4
Person Trips of Proposed Project	4,259	4,368	37,219
3.5% Transit Trips Conversion Factor	3.5%	3.5%	3.5%
Total Transit Trips of Proposed Project	149	153	1,303



As shown in Table 5.2-35, based on the CMP guidelines, and the proximity of the various project land uses in relation to available transit in the Project vicinity, the Project is forecast to generate approximately 149 a.m. peak hour transit trips, approximately 153 p.m. peak hour transit trips, and approximately 1,303 daily transit trips. Since the Project transit trips can be accommodated by existing transit service in the Project vicinity, no significant CMP transit impacts are forecast to occur.

Mitigation Measures: No mitigation is required.

Level of Significance: Less Than Significant Impact.

CUMULATIVE IMPACTS

- **THE PROJECT, COMBINED WITH CUMULATIVE DEVELOPMENT, COULD GENERATE TRAFFIC VOLUMES THAT COULD CONFLICT WITH APPLICABLE CIRCULATION SYSTEM PERFORMANCE CRITERIA.**

Impact Analysis: For purposes of transportation and traffic impact analysis, cumulative impacts are considered for cumulative projects located in the Project's study area, as identified in Tables 4-1 and 4-2, and illustrated on Exhibit 4-1.

Project implementation would increase the onsite land uses by approximately 2.1 million square feet, or approximately 103 percent over existing conditions. Therefore, the Project's incremental effects to traffic and circulation, resulting from the proposed land uses' increased traffic volumes, are cumulatively considerable.

As outlined in Tables 4-1 and 4-2, and illustrated on Exhibit 4-1, the related projects and other possible development would occur in the Cities of El Segundo, Hawthorne, Los Angeles, and Manhattan Beach, as well as unincorporated Los Angeles County. Based on the projects identified in Tables 4-1 and 4-2, cumulative development would result in new commercial, residential, recreational, institutional, hotel, and other (airport) uses that would result in increased traffic volumes.

The forecast long-range without Project traffic volumes are derived by addition of trips associated with 149 cumulative projects expected to be constructed and generating trips by Project buildout. The forecast long-range with Project traffic volumes are derived by addition of trips forecast to be generated by Project buildout to trips associated with the 149 cumulative projects. As concluded above, despite implementation of all feasible mitigation, impacts at study intersections 29, 32, 38, 48, 50, 51, 53, 55, and 62, State Highway study intersections 7 and 13, and CMP intersections 7, 15, and 18 would remain significant and unavoidable for the forecast long-range with Project buildout conditions. Therefore, the combined cumulative traffic and circulation impacts associated with the Project's incremental effects and those of the cumulative projects would be significant and unavoidable for the identified intersections. However, cumulative projects would be evaluated on a project-by-project basis, as they are implemented within the City of El Segundo and the other cities/communities. Each cumulative project would undergo a similar plan review process as the proposed Project, to determine whether preparation of a Traffic Impact Analysis is warranted, and the potential traffic and circulation impacts. Each cumulative project would be analyzed within the context of their respective traffic study areas.



Mitigation Measures: No mitigation is required.

Level of Significance: Significant and Unavoidable Impact.

5.2.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Despite implementation of all feasible mitigation measures, Project impacts involving the following intersections would remain significant and unavoidable:

Near-Term With Phase I Project Conditions Study Area Intersection

- Intersection 48 (Aviation Boulevard/El Segundo Boulevard, El Segundo/Hawthorne).

Forecast Long-Range With Project Buildout (Cumulative) Conditions Study Area Intersections

- Intersection 29 (Nash Street/Maple Avenue, El Segundo);
- Intersection 32 (Nash Street/El Segundo Boulevard, El Segundo);
- Intersection 38 (Douglas Street/El Segundo Boulevard, El Segundo);
- Intersection 48 (Aviation Boulevard/El Segundo Boulevard, El Segundo/Hawthorne);
- Intersection 50 (Aviation Boulevard/Alaska Avenue, El Segundo/Hawthorne);
- Intersection 51 (Aviation Boulevard/Rosecrans Avenue, El Segundo/Hawthorne/Manhattan Beach);
- Intersection 53 (Aviation Boulevard/Marine Avenue, Hawthorne/Manhattan Beach/Redondo Beach);
- Intersection 55 (Aviation Boulevard/Manhattan Beach Boulevard, Manhattan Beach/Redondo Beach);
- Intersection 62 (La Cienega Boulevard/El Segundo Boulevard, Hawthorne/Los Angeles County); and
- Intersection 69 (Sepulveda Boulevard/Manchester Avenue, City of Los Angeles).

Forecast Long-Range With Project Buildout (Cumulative) Conditions State Highway Study Intersections

- Intersection 7 (Sepulveda Boulevard (SR-1)/Lincoln Avenue, Caltrans/CMP); and
- Intersection 13 (Sepulveda Boulevard (SR-1)/Mariposa Avenue, Caltrans/CMP).

Forecast Long-Range With Project Buildout (Cumulative) Conditions CMP Study Intersections

- Intersection 7 (Sepulveda Boulevard (SR-1)/Lincoln Avenue, Caltrans/CMP);
- Intersection 15 (Sepulveda Blvd (SR-1)/El Segundo Blvd, Caltrans/CMP);
- Intersection 18 (Sepulveda Blvd (SR-1)/Rosecrans Avenue, Caltrans/CMP);
- Intersection 69 (Sepulveda Blvd/Manchester Ave, Los Angeles City/CMP);
- Intersection 70 (Pacific Coast Hwy (SR-1)/Artesia Blvd, Manhattan Beach/Hermosa Beach/Caltrans/CMP); and
- Intersection 71 (Pacific Coast Hwy (SR-1)/Torrance Blvd, Redondo Beach/Caltrans/CMP).

If the City approves the proposed Project, the City Council would be required to cite its findings in accordance with CEQA Guidelines § 15091 and prepare a Statement of Overriding Considerations in accordance with CEQA Guidelines § 15093.



5.2.7 SOURCES CITED

RBF Consulting, *Raytheon South Campus Specific Plan Traffic Impact Analysis*, May 27, 2014.



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