4.J. Transportation and Circulation

This section contains the following revisions to the 2017 Draft EIR:
- *Expands the study area to the east to include four additional intersections.*
- *Provides an updated cumulative traffic analysis.*

1. Introduction

This section describes the potential impacts of construction and operation of the Project on transportation facilities. The analysis summarizes the Revised Traffic Impact Study, provided in Appendix C of this RPDEIR, prepared by Kimley-Horn and Associates, Inc. The section analyzes construction traffic; intersection capacity (revised); the regional transportation system; public transit; and safety with regard to pedestrian and bicycle safety. The evaluation of intersection capacity examines the impact of the Project relative to existing and future conditions. ~~This section is based on the Traffic Impact Study, provided in Appendix H of this EIR, prepared by Kimley-Horn and Associates, Inc.~~

2. Environmental Setting

a. Existing Conditions

(1) Local and Regional Access

Regional access to the Project Site is provided by the Century Freeway (I-105), which is oriented in an east-west direction approximately three-quarters of a mile north of the Project Site. Regional access is also provided via the San Diego Freeway (I-405) which is a north-south major travel corridor approximately 1.5 miles east of the Project Site, with a full interchange at Imperial Highway and at El Segundo Boulevard. Local access to the project site is provided by the following local roadways:

~~Sepulveda Boulevard~~ Pacific Coast Highway (State ~~Highway~~ Route 1)[1] is classified as a Major Arterial and is a designated truck route on the City of El Segundo (City) Circulation Element of the General Plan. ~~Sepulveda Boulevard~~ Pacific Coast Highway is a north-south arterial located approximately 1,200 feet west of the Site. This roadway provides four travel lanes in each direction with a raised landscaped median in the Project vicinity. Sidewalks are provided and parking is prohibited along both sides of ~~Sepulveda Boulevard~~ the street. The posted speed limit in the Project vicinity is 40 miles per hour (mph).

Continental Boulevard, which is classified as a Secondary Arterial, is a north-south street that forms the eastern boundary of the Project Site. It has three lanes in each direction with a landscaped median from Mariposa Avenue on the north to El Segundo Boulevard on the south. Sidewalks are

[1] The portion of Pacific Coast Highway through the study area was previously named Sepulveda Boulevard. It was renamed Pacific Coast Highway in 2017. Therefore, this section is updated throughout to reflect the name change.

provided and parking is prohibited along both sides of the street, and the posted speed limit is 30 mph. Continental Boulevard is classified as a Secondary Arterial on the Circulation Element.

Nash Street, which is classified as a Secondary Arterial, is a north-south street located approximately 1,200 feet east of the Project Site. It has two lanes in each direction and connects Imperial Highway on the north to El Segundo Boulevard on the south. Sidewalks are provided on both sides of the street. Nash Street terminates at the westbound I-105 (Glenn Anderson Freeway) off-ramp at Imperial Highway. Parking is prohibited along both sides of Nash Street and the posted speed limit is 35 mph.

Douglas Street, which is classified as a Secondary Arterial, is a six-lane north-south arterial located approximately one-half mile east of the Project Site. Douglas Street provides a connection between Imperial Highway and Rosecrans Avenue through the industrial/manufacturing/ aerospace area of El Segundo. Sidewalks are provided along both sides of the street. The posted speed limit on Douglas Street is 40 mph. South of El Segundo Boulevard, Douglas Street narrows to four lanes and the speed limit is reduced to 25 mph north of Rosecrans Avenue.

Aviation Boulevard is classified as a Major Arterial and is a designated truck route on the Circulation Element of the General Plan. Aviation Boulevard is a north-south arterial located approximately three-quarters of a mile east of the Project Site. A sidewalk is provided along the east side of Aviation Boulevard. Parking is prohibited along both sides of the street. The posted speed limit is 40 mph.

Imperial Highway is classified as a Secondary Arterial and is a designated truck route on the Circulation Element of the General Plan. Imperial Highway is an east-west arterial extending from the City eastward into Orange County. Imperial Highway forms the southern boundary of the Los Angeles International Airport, and runs under and parallel to the Century Freeway (I-105). In the Project vicinity, Imperial Highway provides three travel lanes in each direction, separated by a raised median. The roadway narrows to two lanes in each direction approximately one-half mile west of ~~Sepulveda Boulevard~~ Pacific Coast Highway. Sidewalks are provided along both sides of the street. The speed limit on Imperial Highway in the Project vicinity is posted at 40 mph.

Walnut Avenue, which is classified as a Secondary Arterial, is an east-west street located approximately one-half mile north of the Project Site. Walnut Avenue provides one travel lane in each direction. Sidewalks are provided along both sides of the street. Parking is allowed on both sides of Walnut Avenue. To the east of ~~Sepulveda Boulevard~~ Pacific Coast Highway, Walnut Avenue terminates at Selby Street.

Maple Avenue, which is classified as a Collector to the east of ~~Sepulveda Boulevard~~ Pacific Coast Highway and as a Local Street to the west of ~~Sepulveda Boulevard~~ Pacific Coast Highway, is located approximately 2,000 feet north of the Project Site. Maple Avenue provides one lane in each direction to the west of ~~Sepulveda Boulevard~~ Pacific Coast Highway, and two lanes in each direction to the east of ~~Sepulveda Boulevard~~ Pacific Coast Highway. Sidewalks are provided and on-street parking is allowed on both sides of the street.

Mariposa Avenue, which is classified as a Secondary Arterial east of ~~Sepulveda Boulevard~~ Pacific Coast Highway and a two-lane Collector west of ~~Sepulveda Boulevard~~ Pacific Coast Highway, is a four-lane roadway located approximately 1,100 feet north of the Project Site. Mariposa Avenue connects Douglas Street on the east to the residential area of El Segundo on the west side of the City. Sidewalks are provided along both sides of the street. The posted speed limit is 40 mph.

Grand Avenue, which is classified as a Secondary Arterial and is a designated truck route west of ~~Sepulveda Boulevard~~ Pacific Coast Highway, forms the southern border of the Project Site. Grand Avenue begins at Duley Road on the east and extends westerly through the City's downtown area to Vista del Mar, near the Pacific Ocean. In the Project vicinity, Grand Avenue has two lanes east of Nash Street and six lanes west of Nash Street. Sidewalks are provided along both sides of the street. The posted speed limit on Grand Avenue is 35 mph.

El Segundo Boulevard is classified as a Secondary Arterial west of ~~Sepulveda Boulevard~~ Pacific Coast Highway and a Major Arterial east of ~~Sepulveda Boulevard~~ Pacific Coast Highway. El Segundo Boulevard, which is an east-west arterial located approximately one-quarter mile south of the Project Site, is a designated truck route. El Segundo Boulevard extends from near the Pacific Ocean through the City to the San Diego Freeway and beyond. The posted speed limit in the Project vicinity is 40 mph. Sidewalks are provided along both sides of the street.

Isis Avenue is a north-south local street located in the City of Hawthorne and County of Los Angeles. Isis Avenue extends north from El Segundo Boulevard, to 116th Street and has one lane in each direction. The posted speed limit is 25 mph. Parking is allowed on both sides of the street.

La Cienega Boulevard is a north-south arterial located in the City of Hawthorne and County of Los Angeles. La Cienega Boulevard runs through Hawthorne, from El Segundo Boulevard north to the City's boundary. The posted speed limit is 40 mph, and parking is restricted on both sides of the street.

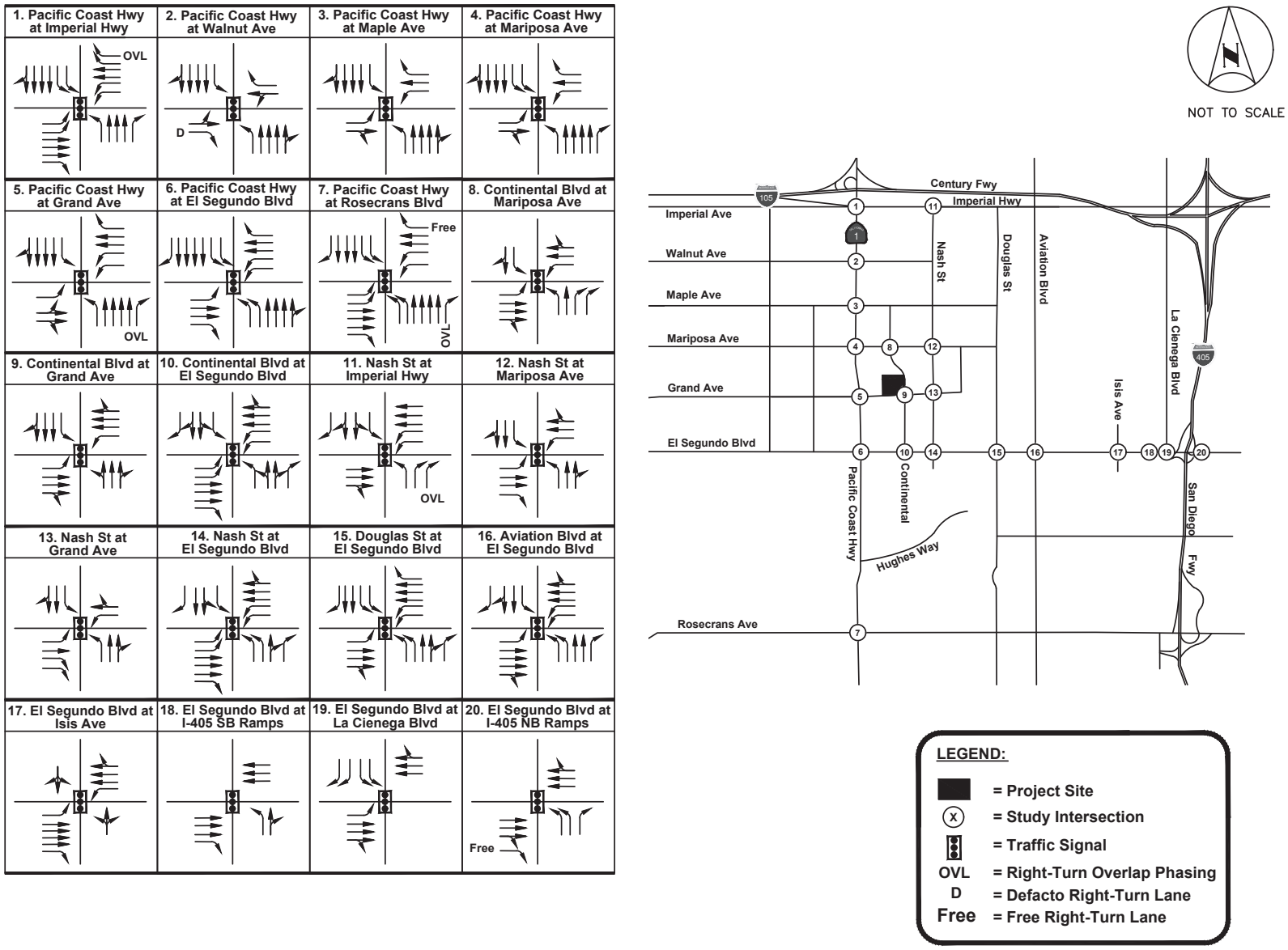
(2) Study Area

Weekday morning and evening peak hours were evaluated at a total of ~~16~~ 20 study intersections, which were selected through consultation with City Staff. **Table 4.J-1**, *Study Intersections*, lists the ~~16~~ 20 intersections within the Study Area and provides the jurisdiction. As shown in Table 4.J-1, nine of the study intersections are under City of El Segundo jurisdiction, two are under City of Hawthorne jurisdiction, and ~~seven~~ nine are under Caltrans jurisdiction. **Figure 4.J-1**, *Study Intersection Locations, Lane Configuration, and Traffic Control (Revised)*, shows the locations of the study area intersections, as well as existing lane configurations and traffic control.

TABLE 4.J-1
STUDY INTERSECTIONS

		Jurisdiction		
Int. #	**Intersection**	**City of El Segundo**	**City of Hawthorne**	**Caltrans**
1	~~Sepulveda Blvd~~ Pacific Coast Hwy/Imperial Hwy			X
2	~~Sepulveda Blvd~~ Pacific Coast Hwy/Walnut Ave			X
3	~~Sepulveda Blvd~~ Pacific Coast Hwy/Maple Ave			X
4	~~Sepulveda Blvd~~ Pacific Coast Hwy/Mariposa Ave			X
5	~~Sepulveda Blvd~~ Pacific Coast Hwy/Grand Ave			X
6	~~Sepulveda Blvd~~ Pacific Coast Hwy/El Segundo Blvd			X
7	~~Sepulveda Blvd~~ Pacific Coast Hwy/Rosecrans Blvd			X
8	Continental Blvd/Mariposa Ave	X		
9	Continental Blvd/Grand Ave	X		
10	Continental Blvd/El Segundo Blvd	X		
11	Nash St/Imperial Hwy	X		
12	Nash St/Mariposa Ave	X		
13	Nash St/Grand Ave	X		
14	Nash St/El Segundo Blvd	X		
15	Douglas St/El Segundo Blvd	X		
16	Aviation Blvd/El Segundo Blvd	X		
17	El Segundo Blvd/Isis Ave		X	
18	El Segundo Blvd/I-405 Southbound Ramps			X
19	El Segundo Blvd/La Cienega Blvd		X	
20	El Segundo Blvd/I-405 Northbound Ramps			X

SOURCE: Kimley-Horn and Associates, Inc., ~~2017~~ 2019.



SOURCE: Kimley Horn, 2019

Figure 4.J-1

Study Intersection Locations, Lane Configuration, and Traffic Control (Revised)

The freeway mainline analysis was conducted on the I-405 Freeway between Century Boulevard and Rosecrans Avenue, and on the I-105 Freeway between ~~Sepulveda Boulevard~~ Pacific Coast Highway and Hawthorne Boulevard. Traffic was evaluated in both directions for the following six mainline freeway segments during the AM and PM peak hours:

I-405

- Southbound
  1. Century Boulevard to I-105
  2. I-105 to El Segundo Boulevard
  3. El Segundo Boulevard to Rosecrans Avenue
- Northbound
  1. Rosecrans Avenue to El Segundo Boulevard
  2. El Segundo Boulevard to I-105
  3. I-105 to Century Boulevard

I-105

- Westbound
  1. Hawthorne Boulevard to I-405
  2. I-405 to Douglas Street
  3. Douglas Street to ~~Sepulveda Boulevard~~ Pacific Coast Highway
- Eastbound
  1. ~~Sepulveda Boulevard~~ Pacific Coast Highway to Douglas Street
  2. Douglas Street to I-405
  3. I-405 to Hawthorne Boulevard

(3) Existing Intersection Operating Conditions

All of the study intersections for this analysis are signalized. Peak hour operating conditions at signalized intersections were evaluated using the Intersection Capacity Utilization (ICU) methodology, in accordance with the City and Los Angeles County Congestion Management Program (CMP) requirements. The ICU methodology provides a comparison of the number of vehicles passing through an intersection to the theoretical hourly vehicular capacity of that intersection during a given hour.

The ICU calculation results in a volume-to-capacity (V/C) ratio that translates into a corresponding Level of Service (LOS) measure, ranging from LOS A, representing uncongested, free-flowing conditions; to LOS F, representing over-capacity conditions. **Table 4.J-2**, *Level of Service Descriptions – ICU Methodology*, provides a description of each LOS grade and the corresponding V/C ratio.

TABLE 4.J-2
LEVEL OF SERVICE DESCRIPTIONS – ICU METHODOLOGY

Level of Service	V/C Ratio	Definition
A	0.000 - 0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	0.601 - 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701 - 0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801 - 0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.901 - 1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

SOURCE: Transportation Research Board, Transportation Research Circular No. 212, Interim Materials on Highway Capacity, 1980.

Peak hour operating conditions at the unsignalized project driveway intersections and at intersections along ~~Sepulveda Boulevard~~ Pacific Coast Highway, which are under Caltrans' jurisdiction, were analyzed using the Highway Capacity Manual (HCM) delay methodology in accordance with the Caltrans *Guide for the Preparation of Traffic Impact Studies*.

The HCM delay values ~~translate~~ correspond to LOS designations, also ranging from LOS A to LOS F. **Table 4.J-3**, *Level of Service and Delay Ranges – HCM Methodology*, provides a summary of the delay ranges for each LOS grade. Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State Highway facilities.

TABLE 4.J-3
LEVEL OF SERVICE AND DELAY RANGES – HCM METHODOLOGY

Level of Service	Signalized Intersection (Average delay per vehicle, in seconds)	Unsignalized Intersection (Average delay per vehicle, in seconds)
A	0 - 10	0 – 10
B	> 10 – 20	> 10 – 15
C	> 20 – 35	> 15 – 25
D	> 35 – 55	> 25 – 35
E	> 55 – 80	> 35 – 50
F	> 80	> 50

SOURCE: Highway Capacity Manual (HCM 2010), Exhibits 18-4, 19-1, and 20-2.

Table 4.J-4, *Intersection Operations – Existing Conditions*, provides a summary of conditions using both the ICU and HCM methodologies.[2] As shown in Table 4.J-4 all study intersections currently operate at LOS D or better during both peak hours, with the exception of the following:

- No. 1 – ~~Sepulveda Boulevard~~ Pacific Coast Highway at Imperial Highway (ICU) – PM LOS E~~)~~
- No. 16 – Aviation Boulevard at El Segundo Boulevard (ICU) – PM LOS E~~)~~

TABLE 4.J-4
INTERSECTION OPERATIONS – EXISTING CONDITIONS

ICU Methodology

Int. No.	Intersection	AM Peak Hour V/C	AM Peak Hour LOS	PM Peak Hour V/C	PM Peak Hour LOS
1	~~Sepulveda Blvd~~ Pacific Coast Hwy/Imperial Hwy	0.798	C	0.957	**E**
2	~~Sepulveda Blvd~~ Pacific Coast Hwy/Walnut Ave	0.561	A	0.564	A
3	~~Sepulveda Blvd~~ Pacific Coast Hwy/Maple Ave	0.575	A	0.629	B
4	~~Sepulveda Blvd~~ Pacific Coast Hwy/Mariposa Ave	0.675	B	0.684	B
5	~~Sepulveda Blvd~~ Pacific Coast Hwy/Grand Ave	0.737	C	0.781	C
6	~~Sepulveda Blvd~~ Pacific Coast Hwy/El Segundo Blvd	0.760	C	0.883	D
7	~~Sepulveda Blvd~~ Pacific Coast Hwy/Rosecrans Blvd	0.797	C	0.879	D
8	Continental Blvd/Mariposa Ave	0.383	A	0.366	A
9	Continental Blvd/Grand Ave	0.311	A	0.317	A
10	Continental Blvd/El Segundo Blvd	0.395	A	0.419	A
11	Nash St/Imperial Hwy	0.631	B	0.474	A
12	Nash St/Mariposa Ave	0.462	A	0.554	A
13	Nash St/Grand Ave	0.480	A	0.527	A
14	Nash St/El Segundo Blvd	0.457	A	0.546	A
15	Douglas St/El Segundo Blvd	0.699	B	0.881	D
16	Aviation Blvd/El Segundo Blvd	0.811	D	0.943	**E**
17	El Segundo Blvd/Isis Ave	0.577	A	0.632	B
18	El Segundo Blvd/I-405 SB Ramps	0.522	A	0.874	D
19	El Segundo Blvd/La Cienega Blvd	0.570	A	0.643	B
20	El Segundo Blvd/I-405 NB Ramps	0.700	C	0.681	B

HCM Methodology

Int. No.	Intersection ~~Traffic Control~~	AM Peak Hour Delay	AM Peak Hour LOS	PM Peak Hour Delay	PM Peak Hour LOS
1	~~Sepulveda Blvd~~ Pacific Coast Hwy/Imperial Hwy	29.5	C	37.4	D
2	~~Sepulveda Blvd~~ Pacific Coast Hwy/Walnut Ave	7.8	A	9.8	A
3	~~Sepulveda Blvd~~ Pacific Coast Hwy/Maple Ave	10.6	B	12.4	B

[2] Detailed LOS analysis worksheets are provided in Appendix ~~H~~ C of this RPDEIR.

Int. No.	Intersection	AM Peak Hour V/C	AM Peak Hour LOS	PM Peak Hour V/C	PM Peak Hour LOS
4	~~Sepulveda Blvd~~ Pacific Coast Hwy/Mariposa Ave	18.2	B	19.9	B
5	~~Sepulveda Blvd~~ Pacific Coast Hwy/Grand Ave	22.2	C	30.0	C
6	~~Sepulveda Blvd~~ Pacific Coast Hwy/El Segundo Blvd	26.2	C	36.0	D
7	~~Sepulveda Blvd~~ Pacific Coast Hwy/Rosecrans Blvd	27.2	C	31.8	C
18	El Segundo Blvd/I-405 SB Ramps	17.7	B	26.8	C
20	El Segundo Blvd/I-405 NB Ramps	17.8	B	11.7	B

LOS shown in **bold** ~~and shaded~~ indicates unacceptable Level of Service.
ICU = Intersection Capacity Utilization
HCM = Highway Capacity Manual
LOS = Level of Service
Intersection operation is expressed in volume-to-capacity (v/c) ratio for the ICU Methodology.
Intersection operation is expressed in average seconds of delay per vehicle for the HCM Methodology.

SOURCE: Kimley-Horn and Associates, Inc., ~~2017~~ 2019.

(4) Existing Freeway Operating Conditions

An analysis of freeway mainline segments in the Project vicinity was conducted in accordance with the *Caltrans Guide for the Preparation of Traffic Impact Studies*, which specifies application of the HCM methodology for freeway analysis. Freeway analysis results are expressed in terms of density, which measures the number of passenger cars per lane mile (pc/mi/ln) on the freeway mainline.

Table 4.J-5, *Freeway Segment Operations – Existing Conditions*, provides existing peak hour freeway volumes and analysis results for the morning and evening peak hours, by segment, and by direction. As shown in Table 4.J-5, each freeway segment currently operates at LOS D or better in each direction, and in both peak hours, with the exception of the I-405 southbound segment between El Segundo Boulevard and Rosecrans Avenue, which currently operates at LOS E in the evening peak hour.

TABLE 4.J-5
FREEWAY SEGMENT OPERATIONS – EXISTING CONDITIONS

Freeway Segment	Lanes	AM Peak Hour Volume	AM Peak Hour Density (pc/mi/ln)	AM Peak Hour LOS	PM Peak Hour Volume	PM Peak Hour Density (pc/mi/ln)	PM Peak Hour LOS
I-405							
Century Blvd to I-105							
Southbound	7	7,508	15.5	B	12,789	26.5	D
Northbound	7	11,897	24.6	C	9,779	20.2	C
I-105 to El Segundo Blvd							
Southbound	5	5,811	16.8	B	9,899	28.7	D
Northbound	5	9,209	26.7	D	7,569	21.9	C
El Segundo Blvd to Rosecrans Ave							

		AM Peak Hour			PM Peak Hour		
Freeway Segment	**Lanes**	**Volume**	**Density (pc/mi/ln)**	**LOS**	**Volume**	**Density (pc/mi/ln)**	**LOS**
Southbound	5	7,182	20.8	C	12,235	35.5	E
Northbound	5	11,382	33.0	D	9,335	27.1	D
I-105							
Hawthorne Blvd to I-405							
Westbound	4	5,475	19.8	C	6,995	25.3	C
Eastbound	4	6,632	24.0	C	6,595	23.9	C
I-405 to Douglas St							
Westbound	4	3,709	13.4	B	4,738	17.2	B
Eastbound	4	4,493	16.3	B	4,468	16.2	B
Douglas St to ~~Sepulveda Blvd~~ Pacific Coast Hwy							
Westbound	4	2,927	10.6	A	3,739	13.5	B
Eastbound	4	3,545	12.8	B	3,526	12.8	B

SOURCE: Kimley-Horn and Associates, Inc., 2017.

(5) Public Transit

Public transportation services for the Project area are provided by the Los Angeles County Metropolitan Transportation Authority (Metro), the Los Angeles Department of Transportation (LADOT), and other local transit services, as described below. The LADOT operates Commuter Express (CE) lines to facilitate commuter travel to downtown Los Angeles and other employment destinations during the morning and afternoon commute hours.

Metro Bus Line 232 travels mainly north-south along ~~Sepulveda Boulevard~~ Pacific Coast Highway in the Project vicinity, with a one-way loop via Mariposa Avenue, Nash Street, and Grand Avenue. Line 232 originates at LAX and travels south on ~~Sepulveda Boulevard~~ Pacific Coast Highway through the cities of Manhattan Beach, Hermosa Beach, and Redondo Beach, then turns eastward on Pacific Coast Highway, terminating at the Transit Mall in the City of Long Beach. Line 232 operates with headways (the interval between arrivals) of 10-15 minutes during the weekday peak commuting hours, and 20-60 minutes during other hours. Line 232 operates on the weekends with headways of 30 minutes during the day and 40-60 minutes in the evenings. The bus stop closest to the Project Site is located on Grand Avenue west of Continental Boulevard, adjacent to the Project Site.

The Metro Green Line is a light rail system that travels between Redondo Beach and Norwalk every day of the week with headways of six to eight minutes during weekday peak hours and 15-20 minutes during non-peak hours and weekends. The Green Line stations in the vicinity of the Project are the El Segundo Station, located near the intersection of El Segundo Boulevard at Nash Street (approximately one-half mile from the Project Site); the Mariposa Station, located at the intersection of Mariposa Avenue and Nash Street (approximately one-half mile from the project site); and the Aviation/LAX Station, located at the intersection of Aviation Boulevard and Imperial Highway (approximately one and one-half mile from the Project Site).

LADOT Commuter Express 574 serves the communities of El Segundo, Manhattan Beach, Redondo Beach, and Hermosa Beach via ~~Sepulveda Boulevard~~ Pacific Coast Highway, El Segundo Boulevard, and Aviation Boulevard. Line 574 operates southbound only during weekday mornings and northbound during the evenings, and travels non-stop via the I-405 Freeway between Space Park Drive at Aviation Boulevard in El Segundo, and the Sylmar/Encino area. Line 574 operates on 30- to 60-minute headways during the morning and afternoon commute periods (5:20 to 8:56 AM and 3:35 to 7:42 PM) on weekdays only. Line 574 stops at the bus stop located at the corner of Grand Avenue and Continental Boulevard.

Torrance Transit Line 8 originates at the LAX Transit Center and travels south via ~~Sepulveda Boulevard~~ Pacific Coast Highway, Nash Street, and Aviation Boulevard to the City of Torrance. Line 8 has headways of approximately 30 minutes on weekdays and provides limited service on weekends with 30- to 60-minute headways. The nearest bus stop is located near the corner of Grand Avenue at Nash Street.

City of Redondo Beach - Beach Cities Transit Line 109 operates between the cities of El Segundo and Redondo Beach, and provides service to Downtown Manhattan Beach, Downtown El Segundo, Plaza El Segundo, the Douglas and Aviation Green Line Stations, the LAX City Bus Center, and other areas. Line 109 travels along Imperial Avenue, Main Street, Grand Avenue, and ~~Sepulveda Boulevard~~ Pacific Coast Highway in the vicinity of the Project Site. This bus line operates with headways of 30 to 45 minutes on weekdays and one hour on weekends.

City of El Segundo - Lunchtime Shuttle: The City operates a Lunchtime Shuttle to connect the corporate business area on the east side of the city with the downtown area on the west side of the City. The shuttle operates free of charge, Monday through Friday from 11:30 AM to 2:15 PM, with 10-minute headways. The shuttle does not run on weekends or holidays. The Lunchtime Shuttle stops closest to the Project Site are located on Continental Boulevard between Mariposa Avenue and Grand Avenue; and on Grand Avenue, between Continental Boulevard and Nash Street.

b. Regulatory Framework

(1) State

(a) California Department of Transportation

The California Department of Transportation (Caltrans) publishes the *Guide for the Preparation of Traffic Impact Studies* (Guide), 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.

(b) Senate Bill No. 743

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743, which became effective on January 1, 2014. The purpose of SB 743 is to streamline the review under the California Environmental Quality Act (CEQA) for several categories of development projects including the development of infill projects in transit priority areas and to balance the needs of congestion management with Statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions. SB 743 adds Chapter 2.7: Modernization of Transportation Analysis for Transit Oriented Infill Projects to the CEQA Statute (Section 21099). Section 21099(d)(1) provides that aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment. In addition, SB 743 will result in a change in the metrics for determining impacts relative to the transportation network through the development of new methodologies for traffic analyses for CEQA documents to promote the State's goals of reducing greenhouse gas emissions and traffic-related air pollution, promoting the development of multimodal transportation system, and providing clean, efficient access to destinations.

Currently, environmental review of transportation impacts focuses on the delay that vehicles experience at intersections and on roadway segments, which is often measured using LOS. Mitigation for increased delay often involves widening a roadway or the size of an intersection, which increases capacity and may therefore, increase auto use and emissions and discourage alternative forms of transportation. Under SB 743, the focus of transportation analysis will shift from driver delay to reduction of greenhouse gas emissions, creation of multimodal networks, and promotion of a mix of land uses.

In accordance with SB 743, the new CEQA Guidelines section 15064.3, subdivision (b) was adopted in December 2018 by the California Natural Resources Agency. These revisions to the CEQA Guidelines criteria for determining the significance of transportation impacts are primarily focused on projects within transit priority areas, and shifts the focus from driver delay to reduction of greenhouse gas emissions, creation of multimodal networks, and promotion of a mix of land uses. Vehicle miles traveled, or VMT, is a measure of the total number of miles driven to or from a development and is sometimes expressed as an average per trip or per person.

The newly adopted guidance provides that a lead agency may elect to be governed by the provisions of this section immediately. However, beginning on July 1, 2020, the provisions of this section shall apply statewide. The City is currently engaged in this process and has not yet formally adopted its updated transportation significance thresholds or its updated transportation impact analysis procedures. Since the regulations of SB 743 have not been finalized or adopted by the City, delay and LOS are the measures used in this EIR to determine the significance of transportation impacts. ~~Among other things, SB 743 requires that the Office of Planning and Research (OPR) prepare revisions to the CEQA Guidelines criteria for determining the significance of transportation impacts of projects within transit priority areas. OPR will submit the proposed changes to the Secretary of the Natural Resources Agency to certify and adopt. In August 2014 OPR released a report entitled "Updating Transportation Impacts Analysis in the CEQA Guidelines" for public comment. The report contained a new proposed Section 15064.3 to the CEQA Guidelines as well~~

~~as proposed amendments to Appendix F (Energy Conservation) and Appendix G (Initial Study Checklist) of the CEQA Guidelines. The comment period closed November 21, 2014 and OPR reviewed and considered comments to determine if revisions were needed. OPR conducted many months of intensive engagement with the public, public agencies, environmental organizations, development advocates, industry experts, and many others, regarding the analysis of transportation impacts. On January 20, 2016 OPR released a Notice of Availability for the Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA. The comment period closed on February 29, 2016. After substantial study and public comment throughout the process, it is expected that OPR will submit a set of final revisions to the Natural Resources Agency in mid-2017. The subsequent "rulemaking" process is anticipated to take approximately 6 months and SB 743 is expected to go into effect in late 2017/early 2018.~~

(2) Regional

(a) 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 Section 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 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.

(i) Congestion Management Program

Every county in California is required to develop a 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, 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 / Sustainable Communities Strategy (RTP/SCS) 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.

The CMP requires an EIR to evaluate traffic and public transit impact analyses for select regional facilities based on the quantity of project traffic expected to use those facilities. Metro's 2010 CMP guidelines, which is the most current adopted CMP, state that areas selected for analysis should be those that include the following locations:

- All CMP arterial monitoring intersections, including monitored on- or off-ramp intersections, where the proposed project will add 50 or more trips during either the A.M. or P.M. weekday peak hours of adjacent street traffic; and
- Mainline freeway monitoring locations where the project will add 150 or more trips, in either direction, during either the A.M. or P.M. weekday peak hours.

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

- Intersection #6: ~~Sepulveda Boulevard~~ Pacific Coast Highway ~~(SR-1)~~/El Segundo Boulevard
- Intersection #7: ~~Sepulveda Boulevard~~ Pacific Coast Highway ~~(SR-1)~~/Rosecrans Avenue

(3) Local

(a) 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.

(i) 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 build-out of the Land Use Element. According to Circulation Element Exhibit C-10, the primary roadways that provide local access to the Project Site, Grand Avenue and Continental Boulevard, are classified as Secondary Arterials; ~~Sepulveda Boulevard~~ Pacific Coast Highway ~~(SR-1)~~ to the west of the Project Site, and El Segundo Boulevard to the south of the Project Site, are classified as a Secondary Arterials. Major Arterials function to connect traffic from collectors to the major freeway system and should be planned for eight lanes of through traffic. Secondary Arterials

function similar to Major Arterials, connecting traffic from collectors to the major freeway system, and should be planned for six 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.[3]

(ii) Transportation System Management and Transportation Demand Management

The Circulation Element recognizes the build-out 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.

(iii) Rail Rapid Transit and Pedestrian/Bicycle Circulation

The El Segundo and Mariposa Stations allowing access to the Metro Green Line railway are located approximately 0.5 miles southeast and 0.5 miles northeast, respectively, of the Project Site. The Green Line is a light rail line running between the cities of Redondo Beach (to the south) and Norwalk (to the east). 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 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.*

(iv) Master Plan of Bicycle Routes

Circulation Element Exhibit C-15 illustrates the City's Master Plan of Bicycle Routes and identifies a Class III (Shared) bicycle facility on Grand Avenue and a Class II (Bike Lane) or III (Shared) facility on Mariposa Avenue in the Project vicinity. The South Bay Bicycle Master Plan, adopted by the City on October 4, 2011, identifies Class III Bike Routes on Grand Avenue and Nash Street, and a Class II Bike Lane on Mariposa Avenue, in the Project vicinity.[4]

(b) City of El Segundo Municipal Code

The El Segundo Municipal Code (ESMC) includes Chapter 15-16, Developer Transportation Demand Management, which 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 Section 15-16-2, before approval of any development project, the Applicant must provide for, at a minimum,

[3] City of El Segundo, City of El Segundo General Plan Circulation Element, Page 4-12.

[4] The Master Plan was approved; however, no CEQA analysis was performed for the various projects it identified.

all of the applicable TDM and trip reduction measures, as specified in ESMC Section 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; 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.

3. Environmental Impacts

a. Methodology

The analysis of potential transportation and traffic impacts considers potential Project effects related to construction, intersection service levels, and the regional transportation system (i.e., CMP and Caltrans facilities).

(1) Construction Impacts

The analysis of construction traffic includes a determination of the number of construction-related trips (i.e., construction worker trips and construction truck trips) that would occur as a result of the Project~~, the contributions of those trips to the local traffic system, and an analysis of the potential conflicts between construction activity and ongoing activity in the Project vicinity~~. The potential impact of construction traffic, including haul trucks, would be a lessening of the capacities of access streets and haul routes due to slower movements and larger turning radii of trucks.~~ Potential conflicts, including vehicular, pedestrian, bicyclists, site access, transit, and parking are evaluated.~~

(2) Intersection and Freeway Service Levels

The methodology for intersection traffic impacts involves several steps. The Traffic Study evaluates the following scenarios:

- Existing Conditions
- Existing with Project
- Future Condition - Year (2022) without Project
- Future Condition - Year (2022) with Project (Phase 1)

- Future Condition - Year (2023) without Project
- Future Condition - Year (2023) with Project (Buildout)

Based on consultation with the City's Planning Department, morning and evening peak hour turning movement counts were collected for the study intersections in October 2015, ~~and~~ May 2016, and April 2018. Counts were collected on a typical weekday, while local schools were in session. The AM peak period intersection counts were collected from 7:00 AM to 9:00 AM; PM peak period intersection counts were collected from 4:00 PM to 6:00 PM. The traffic volumes used in the analysis were taken from the highest-volume hour within each two-hour peak period. Counts collected in 2015 were grown 0.26 percent, per the Los Angeles CMP, to be consistent with 2016 counts. Although the Project Site is located within proximity to public transit, no transit credits were taken. Thus, the Traffic Study provides a conservative analysis. Detailed traffic count data worksheets are provided in Appendix ~~H~~ C of this ~~Draft~~ RPDEIR.

Peak hour freeway volumes were obtained from the Caltrans website. The most recent data available was 2015. A conservative growth factor of 1.0 percent per year was applied to the traffic volumes to derive Existing Conditions (2016) volumes.

(3) Trip Generation, Distribution, and Assignment

Table 4.J-6, *Summary of Project Trip Generation*, provides the trip generation rates and the resulting trip generation estimates for Phase 1 and Phase 2 of the Project. As shown on Table 4.J-6 the Project is estimated to generate a total of 4,555 trips on a daily basis, with 746 trips in the morning peak hour, and 696 trips in the evening peak hour.

Trip distribution assumptions for the Project were developed by considering Project access, the surrounding land uses, and the area roadway system. Trip distribution for the Project includes the following Project site access assumptions:

- I-405: 35 percent of Project trips;
- ~~Sepulveda Boulevard~~ Pacific Coast Highway ~~(SR-1)~~: 20 percent of Project trips;
- I-105: 15 percent of Project trips;
- El Segundo Boulevard: 10 percent of Project trips;
- Imperial Avenue/Imperial highway: 10 percent of Project trips;
- Mariposa Avenue: five percent of Project trips; and
- Grand Avenue: five percent of Project trips.

Based on these trip distribution assumptions, Project trips were assigned to each study intersection. Further detail on Project trip distribution and assignment is provided in Appendix ~~H of this Draft EIR~~ C of this RPDEIR.

TABLE 4.J-6
SUMMARY OF PROJECT TRIP GENERATION

			Trip Generation Rates[a]						
				AM Peak Hour			PM Peak Hour		
Land Use	**ITE Code**	**Unit**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Corporate Headquarters Building	714	KSF	7.980	1.414	0.106	1.520	0.141	1.269	1.410
Research and Development Center	760	KSF	8.110	1.013	0.207	1.220	0.161	0.910	1.070
General Office Building	710	KSF	11.030	1.373	0.187	1.560	0.253	1.237	1.490

			Trip Generation Estimates						
				AM Peak Hour			PM Peak Hour		
Land Use	**Quantity**	**Unit**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Phase 1: 455 Continental Avenue									
Corporate Headquarters Building	246.459	KSF	1,967	348	26	374	35	313	348
Research and Development Center	82.153	KSF	666	83	17	100	13	75	88
		Subtotal	*2,633*	*431*	*43*	*474*	*48*	*388*	*436*
Phase 2: 1955 Grand Avenue									
General Office Building	174.236	KSF	1,922	239	33	272	44	216	260
Total Project Trips			**4,555**	**670**	**76**	**746**	**92**	**604**	**696**

[a] ITE *Trip Generation Manual*, 9th Edition.

SOURCE: Kimley-Horn, Traffic Impact Study, ~~2017~~ 2019.

(4) Future Conditions (Cumulative Scenario)

Traffic forecasts have been developed to evaluate Future Conditions (Cumulative Scenario) for the anticipated Project opening year. Phase 1 of the Project is anticipated to be operational by 2022, and Phase 2 of the Project is anticipated to be operational by 2023; as such, the future year analysis was conducted for two scenarios: Year 2022 (Phase 1) and Year 2023 (Buildout). The surrounding transportation network, intersection lane configurations, and traffic control are assumed to be the same as Existing Conditions. Traffic forecast volumes were developed using the "build-up" process, starting with existing traffic volumes, and adding a background growth factor and traffic from cumulative projects.

Based on the Los Angeles County CMP, the traffic growth factor for the South Bay/LAX area is estimated to be 0.26 percent per year between years 2016 and 2020, and 0.18 percent between years 2020 and 2025. As noted above, the Project is expected to be completed in two phases, with Phase 1 completion in 2022 and Phase 2 completion in 2023; accordingly, Existing Conditions volumes

were adjusted by a growth factor of 1.014 to reflect Year 2022 conditions and 1.0158 for Year 2023 conditions.

Information about cumulative projects (approved and pending projects) was obtained from the City's Planning Department and the Cities of Manhattan Beach and Los Angeles. ~~Twenty-six~~ Thirty-one approved and pending projects in the vicinity of the project site were identified (see Table 3-1, Related Projects List, in Chapter 3 of this RPDEIR). The location, approved/proposed land uses, and estimated peak hour trips for each of the cumulative projects is provided in Appendix ~~H of this Draft EIR~~ C of this RPDEIR. Trip generation estimates and trip distribution assumptions for the cumulative projects were derived from approved traffic studies, where available; and developed by Kimley-Horn if approved traffic studies were not available. Based on these trip distribution assumptions, cumulative project trips were assigned to each study intersection.

b. Thresholds of Significance

The significance thresholds below are derived from the Environmental Checklist questions in Appendix G of the *State CEQA Guidelines*.

(1) Construction Traffic

The City generally considers construction-related traffic to cause adverse but not significant impacts because, while sometimes inconvenient, construction-related traffic effects are temporary. Factors considered are street or lane closures, presence of emergency services (fire, hospital, etc.) located nearby that use the affected streets, loss of vehicular or pedestrian access, loss of bus stops or rerouting of bus lines, and loss of on-street parking. Based on these considerations, Project construction activities would have a significant construction traffic impact if the Project would:

TRAF-1 (1) Cause substantial delays and disruption of existing traffic flow; (2) require temporary relocation of existing bus stops to more than one-quarter mile from their existing stops; (3) result in impacts based on the operational thresholds at intersections during peak periods; or (4) result in the substantial loss of on-street parking such that the parking needs of the Project area would not be met.

(2) Intersection Capacity and Freeway Segments

According to the City's Circulation Element, the minimum acceptable level of service for signalized intersections in the City is LOS D. The project impact at an intersection would be considered to be significant if the project's traffic results in a change in Level of Service from LOS D or better to LOS E or F, or if there is an increase in intersection capacity utilization (ICU) value of 0.020 or more, when the "Without Project" intersection level of service is already at LOS E or F (ICU = 0.901 or more).[5]

[5] While the Appendix G Checklist Question has been modified by the Natural Resources Agency to address consistency with CEQA Guidelines section 15064.3, subdivision (b), which relates to use of VMT as the performance measure for evaluating traffic impacts, the City has not yet adopted VMT thresholds to address this updated Appendix G Checklist

For Caltrans intersections, LOS standards and impact criteria specified by Caltrans will apply. The *Caltrans Guide for the Preparation of Traffic Impact Studies* states that "Caltrans endeavors to maintain a target Level of Service at the transition between LOS C and LOS D on State highway facilities. If an existing State highway facility is operating at less than the target LOS, the existing Level of Service is to be maintained." The target LOS for freeway mainline segments is LOS D, which is a density between 26 and 35 pc/mi/ln. If the existing density exceeds the target LOS, the existing LOS is to be maintained.

Based on the above, a significant impact on intersection service levels or a freeway segment would occur if the Project would:

TRAF-2 Result in a change in LOS from LOS D or better to LOS E or F, or if there is an increase in intersection capacity utilization (ICU) value of 0.020 or more, when the "Without Project" intersection level of service is already at LOS E or F (ICU = 0.901 or more).

TRAF-3 Result in the LOS worsening from acceptable to unacceptable, or would cause a freeway segment that is already operating at a deficient LOS to deteriorate to a worse LOS.

(3) Regional Transportation System

TRAF-4 Conflict with an applicable congestion management plan including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

(4) Alternative Transportation Plan Consistency

The Project would result in a significant impact if the Project would:

TRAF-5 Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

As discussed in the Initial Study, which is contained in Appendix A of ~~this~~ the Draft EIR, and in Chapter 6, Subsection G, Effects Found Not to be Significant, of ~~this~~ the Draft EIR, the Project would have a less than significant impact with respect to question "c", a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks; question "d", substantially increase hazards due to a design feature or incompatible uses; and question "e", result in inadequate emergency access. As such, no further analysis of these questions in this Draft EIR is necessary.

Question. Thus, the analysis is based on the City's adopted methodology, which requires the use of LOS and delay to evaluate the traffic impacts of a project.

c. Project Design Features

The following Project Design Feature (PDF) is proposed to reduce construction related traffic impacts:

PDF TRAF-1: Construction Traffic Management Plan: Prior to the issuance of a building permit for the Project, a detailed Construction Traffic Management Plan (CTMP) ~~shall be reviewed and approved by~~ shall be prepared by the applicant's contractor and submitted to the City Public Works Department for review and approval. The CTMP ~~would~~ will formalize how construction ~~would~~ shall be carried out and identify specific actions that ~~would~~ shall be required to reduce traffic/transportation effects on the surrounding community. The CTMP shall be based on the nature and timing of the specific construction activities and other projects in the vicinity of the Project Site. The CTMP shall include at a minimum, but not be limited to, the following elements as deemed appropriate and effective by the City Public Works Department to limit construction-period impacts to transportation and traffic:

- Temporary pedestrian and vehicular traffic controls during all construction activities adjacent to the Project Site to ensure traffic safety on public right of ways. These controls shall include, but are not limited to, flag people trained in pedestrian safety.
- Temporary traffic control during all construction activities adjacent to public rights-of-way to improve traffic flow on public roadways (e.g., flag men).
- Scheduling of construction-related deliveries, haul trips, etc., so as to occur outside the commuter peak hours to the extent feasible.
- Construction-related vehicles shall not park on surrounding public streets.
- If needed during the peak construction periods, off-site parking would be provided, and workers would carpool or be shuttled to the worksite.
- Coordination with public transit agencies to provide advanced notifications of stop relocations and durations, if necessary.
- Provide detour plans to address temporary road closures during construction.
- Perform monthly monitoring of traffic conditions adjacent to the Project Site and report findings to the City Public Works Department to determine whether additional measures are necessary to reduce construction-related delays to motorists, bicyclists, and pedestrians.

d. Project Impacts

(1) Construction Impacts

Threshold TRAF-1: The Project's construction activities would result in a significant construction traffic impact if the Project would (1) cause substantial delays and disruption of existing traffic flow; (2) require temporary relocation of existing bus stops to more than one-quarter mile from their existing stops; (3) result in impacts based on the operational thresholds at intersections during peak periods; or (4) result in the substantial loss of on-street parking such that the parking needs of the Project area would not be met.

Impact Statement TRAF-1: With the implementation of PDF TRAF-1 potential construction impacts associated with hauling, deliveries, lane closures, and worker vehicles would be reduced through scheduling, traffic controls, notification, and safety procedures to ensure that the Project would not result in: substantial disruption of traffic flow, intersection operational impacts, conflicts with pedestrians and/or bicyclists, the loss of on-street parking, or conflicts with existing transit operations. Any temporary relocation of bus stops would not exceed one-quarter mile distance from the existing bus stop location. Transportation and parking impacts related to construction would be less than significant.

Construction of the Project would occur over two phases and would add construction-related trips to and from the site. The number of construction trips would be less than the number of trips generated by occupation of the new office floor area. The trips are associated with construction activities, including construction workers, grading and construction of structures and site features. Large construction equipment such as bulldozers, loaders, scrapers, and pavers would be required during various construction phases. Large equipment is generally brought to the site at the start of the construction phase, and kept on site until its term of use ends. A staging area would be designated on-site to store construction equipment and supplies during construction.

Throughout construction, the size of the work crew reporting to the site each day would vary, depending on the construction phase and the different construction activities taking place at the time. Parking for workers would be provided on-site during all phases of construction; construction workers would not be allowed to park on local streets. If needed during the peak construction periods, off-site parking would be provided, and workers would carpool or be shuttled to the worksite.

Phase 1 would include the construction of the 455 Continental Boulevard building, which would consist of three stages of construction activity: demolition, excavation, and construction. Demolition and excavation activities would require the removal of approximately 4,000 cubic yards (cy) of dirt over the course of three to five months. Assuming a capacity of nine cy per truckload, grading activities would require approximately 445 truckloads of material. In a conservative scenario in which excavation is completed in three months (65 working days), an average of seven truckloads of material would need to be moved per day. This would equate to seven inbound trucks and seven outbound trucks per day, which would be spread over the course of the 11-hour workday (7:00 AM to 6:00 PM). On an hourly basis, this would equate to one or two truck trips, which would

be minimal considering the existing traffic volumes on study area roadways described above in Section 2.0, *Environmental Setting*.

Phase 2 would include the construction of the 1955 Grand Avenue building, which would also consist of three stages of activity: demolition, excavation, and construction. Demolition and excavation activities would require the removal of approximately 23,200 cy of dirt over the course of three to five months. Assuming a capacity of nine cy per truckload, grading activities would require approximately 2,578 truckloads of cut material. In a conservative scenario in which demolition and excavation is completed in five months (109 working days), an average of 24 truckloads of material would need to be moved per day. This would equate to 24 inbound trucks and 24 outbound trucks per day, which would be spread over the course of the 11-hour workday (7:00 AM to 6:00 PM). On an hourly basis, this would equate to four or five truck trips, which would be minimal considering the existing traffic volumes on study area roadways described above in Section 2.0, *Environmental Setting*.

Heavy vehicles associated with construction would use the existing regional and local truck route network to approach the site, getting as close to the destination site as possible before turning off the designated truck route. As stipulated in PDF TRAF-1, the applicant would be required to identify planned haul routes, and obtain a haul route permit from the City. Designated truck routes serving the project area include ~~Sepulveda Boulevard~~ Pacific Coast Highway and El Segundo Boulevard. Approach and departure routes for construction vehicles, therefore, would most likely be via ~~Sepulveda Boulevard~~ Pacific Coast Highway or El Segundo Boulevard. Depending on the origin/destination (the nearest landfill, or the deposit site identified for cut material), trucks would either arrive and depart on ~~Sepulveda Boulevard~~ Pacific Coast Highway via the I-105 Freeway, to the north of the site; or El Segundo Boulevard via the I-405 Freeway, to the east of the site.

Temporary delays in traffic may occasionally occur due to oversized vehicles traveling at lower speeds on local streets. Such delays would be occasional and of short duration. These temporary delays would be considered less than significant. The Project would be required to prepare a Construction Traffic Management Plan (PDF TRAF-1), which would include such things as requiring an encroachment permit for work in the public right-of-way, limiting heavy truck activity during peak hours, using flag men to manage short-term traffic control, requiring a formal traffic control plan for extended street and lane closures, limiting time and duration of closures, or requiring a minimum number of lanes be open for travel during peak hours.

Project construction is not expected to create hazards for roadway travelers, bus riders, or parked vehicles, so long as commonly practiced safety procedures for construction are followed. Such procedures and other measures (e.g., to address temporary traffic control, lane closures, sidewalk closures, etc.) have been incorporated into the Construction Traffic Management Plan (PDF TRAF-1). With the implementation of PDF TRAF-1, construction-related impacts would be less than significant.

(2) Operations Impacts

Threshold TRAF-2: The Project would have a significant impact on the performance of a study intersection if it would result in a change in Level of Service from LOS D or better to LOS E or F, or if there is an increase in intersection capacity utilization (ICU) value of 0.020 or more, when the "Without Project" intersection level of service is already at LOS E or F (ICU = 0.901 or more).

(a) Existing with Project Conditions

Impact Statement TRAF-2a: The Project would have a significant impact at Intersection Nos. 1, 15, ~~and~~ 16, and 18 during the PM peak hour under Existing with Project Conditions. While mitigation measures are identified for Intersection Nos. 1 and 18, their implementation is uncertain because the City does not have jurisdictional control or authority over these intersections, and therefore impacts at these intersections are considered significant and unavoidable. As there are no feasible mitigation measures for Intersection Nos. 15 and 16, impacts at these intersections would also be significant and unavoidable.

This section addresses the impacts associated with adding Project-generated trips (Phase 1 and Phase 2) to Existing Conditions traffic volumes. The Existing with Project analysis scenario is a hypothetical scenario that assumes completion of the Project and full absorption of the Project traffic on the surrounding street network at the current time, with no other changes in traffic conditions. The Existing with Project scenario is required by CEQA and is provided for informational purposes only, and is not used for impact determinations or mitigation.

The Project-generated peak hour trips were added to the existing peak hour volumes to evaluate Existing with Project conditions. **Table 4.J-7**, *Intersection Operations – Existing with Project Conditions*, summarizes the results of the AM and PM peak hour intersection analysis for Existing with Project Conditions. As shown in the table, with the addition of Project traffic, all study intersections would continue to operate at an acceptable LOS (LOS D or better), with the following exceptions:

- Intersection No. 1 – ~~Sepulveda Boulevard~~ Pacific Coast Highway at Imperial Highway (ICU) – PM LOS F
- Intersection No. 15 – Douglas Street at El Segundo Boulevard (ICU) – PM LOS E
- Intersection No. 16 – Aviation Boulevard at El Segundo Boulevard (ICU) – PM LOS E
- Intersection No. 18 – El Segundo Boulevard at I-405 SB Ramps (ICU) – PM LOS E

Compared to Existing Conditions, Intersection Nos. 1, 15, ~~and~~ 16, and 18 would experience a significant impact based on the City's significance thresholds. All four Project driveways would operate at LOS C or better. Detailed LOS analysis sheets are provided in Appendix ~~H~~ C of this ~~Draft~~ RPDEIR. Mitigation Measures (MM) are discussed in Section 4, Mitigation Measures, below.

While the driveways would operate at LOS C or better based on the traffic analysis, the Traffic Impact Study recommends that the Project include the construction of a left-turn pocket on eastbound Grand Avenue. The Grand Avenue median does not have a left-turn pocket for eastbound left-turning traffic. However, as a result of a break in the median, left-turning vehicles can turn

from the Number 1 through lane (the left-most lane closest to the median). The presence of a median break on a six-lane roadway without a left-turn pocket is an unusual and potentially unsafe condition. However, the lack of a left-turn pocket at the median break on Grand Avenue and the Mattel driveway does not cause a deficient condition from a peak hour LOS standpoint. Thus, the Traffic Study includes a recommendation that the City consider requiring an improvement to the median to provide a left-turn pocket as a condition of the Project approval.

(b) Future with Project Conditions

(i) Year 2022

Impact Statement TRAF-2b: The Project would have a significant impact at ~~three~~ five study intersections (~~intersection~~ Intersection Nos. 14, 15, 16, 18, and 20) during the AM and/or PM peak hours under the Year 2022 (Phase 1) scenario. As there are no feasible mitigation measures for Intersection Nos. 15 and 16 and the implementation of feasible mitigation measures for Intersection Nos. 18 and 20 is uncertain since the City does not have jurisdictional control or authority over these intersections, impacts at these intersections would be significant and unavoidable.

The Project-generated peak hour trips for Phase 1 were added to the volumes developed for Opening Year 2022 without Project to determine Opening Year 2022 with Phase 1 conditions. **Table 4.J-8**, *Intersection Operations –Year 2022 with Project Conditions*, summarizes the results of the AM and PM peak hour intersection analysis for Opening Year 2022. Detailed LOS analysis sheets are provided in Appendix ~~H~~ C of this ~~Draft EIR~~ RPDEIR.

TABLE 4.J-7
INTERSECTION OPERATIONS – EXISTING WITH PROJECT CONDITIONS

ICU Methodology

		AM Peak Hour					PM Peak Hour				
		Without Project		With Project			Without Project		With Project		
Int. #	Intersection	V/C	LOS	V/C	LOS	Project Impact	V/C	LOS	V/C	LOS	Project Impact
1	~~Sepulveda Blvd~~ Pacific Coast Hwy/Imperial Hwy	0.798	C	0.799	C	0.001	0.957	**E**	1.004	**F**	**0.047**
2	~~Sepulveda Blvd~~ Pacific Coast Hwy/Walnut Ave	0.561	A	0.571	A	0.010	0.564	A	0.585	A	0.021
3	~~Sepulveda Blvd~~ Pacific Coast Hwy/Maple Ave	0.575	A	0.578	A	0.003	0.629	B	0.630	B	0.001
4	~~Sepulveda Blvd~~ Pacific Coast Hwy/Mariposa Ave	0.675	B	0.713	C	0.038	0.684	B	0.703	B	0.019
5	~~Sepulveda Blvd~~ Pacific Coast Hwy/Grand Ave	0.737	C	0.820	D	0.083	0.781	C	0.862	D	0.081
6	~~Sepulveda Blvd~~ Pacific Coast Hwy/El Segundo Blvd	0.760	C	0.779	C	0.019	0.883	D	0.898	D	0.015
7	~~Sepulveda Blvd~~ Pacific Coast Hwy/Rosecrans Blvd	0.797	C	0.812	D	0.015	0.879	D	0.898	D	0.019
8	Continental Blvd/Mariposa Ave	0.383	A	0.516	A	0.133	0.366	A	0.401	A	0.035
9	Continental Blvd/Grand Ave	0.311	A	0.498	A	0.187	0.317	A	0.364	A	0.047
10	Continental Blvd/El Segundo Blvd	0.395	A	0.466	A	0.071	0.419	A	0.469	A	0.050

		AM Peak Hour					PM Peak Hour				
		Without Project		With Project			Without Project		With Project		
Int. #	Intersection	V/C	LOS	V/C	LOS	Project Impact	V/C	LOS	V/C	LOS	Project Impact
11	Nash St/Imperial Hwy	0.631	B	0.705	C	0.074	0.474	A	0.488	A	0.014
12	Nash St/Mariposa Ave	0.462	A	0.544	A	0.082	0.554	A	0.639	B	0.085
13	Nash St/Grand Ave	0.480	A	0.546	A	0.066	0.527	A	0.533	A	0.006
14	Nash St/El Segundo Blvd	0.457	A	0.499	A	0.042	0.546	A	0.584	A	0.038
15	Douglas St/El Segundo Blvd	0.699	B	0.724	C	0.025	0.881	D	0.918	**E**	**0.037**
16	Aviation Blvd/El Segundo Blvd	0.811	D	0.853	D	0.042	0.943	**E**	0.971	**E**	**0.028**
17	El Segundo Blvd/Isis Ave	0.577	A	0.619	B	0.042	0.632	B	0.660	B	0.028
18	El Segundo Blvd/I-405 SB Ramps	0.522	A	0.564	A	0.042	0.874	D	0.949	**E**	**0.075**
19	El Segundo Blvd/La Cienega Blvd	0.570	A	0.612	B	0.042	0.643	B	0.656	B	0.013
20	El Segundo Blvd/I-405 NB Ramps	0.700	C	0.742	C	0.042	0.681	B	0.694	B	0.013
D1	Driveway 1/Grand Ave	-	-	9.9	A	N/A	-	-	14.0	B	N/A
D2	Driveway 2/Grand Ave	-	-	15.6	C	N/A	-	-	16.1	C	N/A
D3	Driveway 3/Continental Blvd	-	-	17.0	C	N/A	-	-	13.4	B	N/A
D4	Driveway 4/Continental Blvd	-	-	12.9	B	N/A	-	-	13.0	B	N/A

HCM Methodology

		AM Peak Hour					PM Peak Hour				
		Without Project		With Project			Without Project		With Project		
Int. #	Intersection Traffic Control	Delay	LOS	Delay	LOS	Project Impact	Delay	LOS	Delay	LOS	Project Impact
1	~~Sepulveda Blvd~~ Pacific Coast Hwy/Imperial Hwy	29.5	C	29.7	C	0.2	37.4	D	43.3	D	5.9
2	~~Sepulveda Blvd~~ Pacific Coast Hwy/Walnut Ave	7.8	A	7.7	A	-0.1	9.8	A	9.5	A	-0.3
3	~~Sepulveda Blvd~~ Pacific Coast Hwy/Maple Ave	10.6	B	10.5	B	-0.1	12.4	B	12.4	B	0.0
4	~~Sepulveda Blvd~~ Pacific Coast Hwy/Mariposa Ave	18.2	B	19.6	B	1.4	19.9	B	20.5	C	0.6
5	~~Sepulveda Blvd~~ Pacific Coast Hwy/Grand Ave	22.2	C	23.5	C	1.3	30.0	C	34.6	C	4.6
6	~~Sepulveda Blvd~~ Pacific Coast Hwy/El Segundo Blvd	26.2	C	26.4	C	0.2	36.0	D	37.3	D	1.3
7	~~Sepulveda Blvd~~ Pacific Coast Hwy/Rosecrans Blvd	27.2	C	27.3	C	0.1	31.8	C	32.5	C	0.7
18	El Segundo Blvd/I-405 SB Ramps	17.7	B	17.1	B	-0.6	26.8	C	36.9	D	10.1
20	El Segundo Blvd/I-405 NB Ramps	17.8	B	19.5	B	1.7	11.7	B	11.8	B	0.1

LOS shown in **bold** ~~and shaded~~ indicates unacceptable Level of Service.
Project impact shown in **bold** and shaded indicates a significant Project impact.
ICU = Intersection Capacity Utilization
HCM = Highway Capacity Manual
LOS = Level of Service
Intersection operation is expressed in volume-to-capacity (v/c) ratio for the ICU Methodology.
Intersection operation is expressed in average seconds of delay per vehicle for the HCM Methodology.
Four study driveways were only studied for with Project conditions; therefore, no comparison ~~is provided with~~to Existing without Project Conditions is provided.

SOURCE: Kimley-Horn and Associates, Inc., ~~2017~~ 2019.

TABLE 4.J-8
INTERSECTION OPERATIONS –YEAR 2022 WITH PROJECT CONDITIONS

ICU Methodology

		AM Peak Hour					PM Peak Hour				
		Without Project		With Project			Without Project		With Project		
Int. #	Intersection	V/C	LOS	V/C	LOS	Project Impact	V/C	LOS	V/C	LOS	Project Impact
1	~~Sepulveda Blvd~~ Pacific Coast Hwy/Imperial Hwy	~~0.861~~ 0.868	D	~~0.865~~ 0.872	D	0.004	~~1.025~~ 1.036	F	~~1.025~~ 1.036	F	0.000
2	~~Sepulveda Blvd~~ Pacific Coast Hwy/Walnut Ave	~~0.720~~ 0.727	C	~~0.727~~ 0.734	C	0.007	~~0.747~~ 0.754	C	~~0.753~~ 0.760	C	0.006
3	~~Sepulveda Blvd~~ Pacific Coast Hwy/Maple Ave	~~0.698~~ 0.725	~~B~~ C	~~0.698~~ 0.726	~~B~~ C	~~0.000~~ 0.001	~~0.724~~ 0.756	C	~~0.729~~ 0.771	C	~~0.005~~ 0.015
4	~~Sepulveda Blvd~~ Pacific Coast Hwy/Mariposa Ave	~~0.759~~ 0.764	C	~~0.780~~ 0.785	C	0.021	~~0.823~~ 0.830	D	~~0.828~~ 0.835	D	0.005
5	~~Sepulveda Blvd~~ Pacific Coast Hwy/Grand Ave	~~0.841~~ 0.852	D	~~0.837~~ 0.841	D	~~-0.004~~ -0.011	0.874 0.886	D	~~0.886~~ 0.898	D	0.012
6	~~Sepulveda Blvd~~ Pacific Coast Hwy/El Segundo Blvd	~~1.060~~ 1.069	F	~~1.070~~ 1.079	F	0.010	~~1.068~~ 1.080	F	~~1.077~~ 1.089	F	0.009
7	~~Sepulveda Blvd~~ Pacific Coast Hwy/Rosecrans Blvd	0.924	E	0.934	E	0.010	1.003	F	1.015	F	0.012
8	Continental Blvd/Mariposa Ave	0.390	A	0.500	A	0.110	0.370	A	0.405	A	0.035
9	Continental Blvd/Grand Ave	0.329	A	0.402	A	0.073	0.344	A	0.378	A	0.034
10	Continental Blvd/El Segundo Blvd	0.547	A	0.551	A	0.004	0.640	B	0.676	B	0.036
11	Nash St/Imperial Hwy	0.773	C	0.820	D	0.047	0.521	A	0.530	A	0.009
12	Nash St/Mariposa Ave	0.605	B	0.662	B	0.057	0.698	B	0.783	C	0.085
13	Nash St/Grand Ave	0.547	A	0.553	A	0.006	0.612	B	0.612	B	0.000
14	Nash St/El Segundo Blvd	0.729	C	0.729	C	0.000	1.038	F	1.062	F	**0.024**
15	Douglas St/El Segundo Blvd	~~0.987~~ 0.988	E	~~1.014~~ 1.015	F	**0.027**	~~1.178~~ 1.179	F	~~1.202~~ 1.203	F	**0.024**
16	Aviation Blvd/El Segundo Blvd	~~1.158~~ 1.165	F	~~1.185~~ 1.192	F	**0.027**	~~1.156~~ 1.159	F	~~1.174~~ 1.177	F	0.018
17	El Segundo Blvd/Isis Ave	0.826	D	0.853	D	0.027	0.785	C	0.803	C	0.018
18	El Segundo Blvd/I-405 SB Ramps	0.771	C	0.798	C	0.027	1.187	F	1.236	F	**0.049**
19	El Segundo Blvd/La Cienega Blvd	0.847	D	0.873	D	0.026	0.753	C	0.761	C	0.008
20	El Segundo Blvd/I-405 NB Ramps	0.880	D	0.916	**E**	**0.036**	0.730	C	0.741	C	0.011
D1	Driveway 1/Grand Ave	-	-	9.0	A	N/A	-	-	10.9	B	N/A
D2	Driveway 2/Grand Ave	-	-	13.1	B	N/A	-	-	17.0	C	N/A
D3	Driveway 3/Continental Blvd	-	-	16.6	C	N/A	-	-	13.5	B	N/A
D4	Driveway 4/Continental Blvd	-	-	12.6	B	N/A	-	-	13.0	B	N/A

HCM Methodology

		AM Peak Hour					PM Peak Hour				
		Without Project		With Project			Without Project		With Project		
Int. #	Intersection Traffic Control	Delay	LOS	Delay	LOS	Project Impact	Delay	LOS	Delay	LOS	Project Impact
1	~~Sepulveda Blvd~~ Pacific Coast Hwy/Imperial Hwy	29.2	C	29.5	C	0.3	43.4	D	43.7	D	0.3
2	~~Sepulveda Blvd~~ Pacific Coast Hwy/Walnut Ave	8.9	A	9.0	A	0.1	15.5	B	15.4	B	-0.1
3	~~Sepulveda Blvd~~ Pacific Coast Hwy/Maple Ave	14.4	B	14.4	B	0.0	15.4	B	15.4	B	0.0

		AM Peak Hour					PM Peak Hour				
		Without Project		With Project			Without Project		With Project		
Int. #	Intersection	V/C	LOS	V/C	LOS	Project Impact	V/C	LOS	V/C	LOS	Project Impact
4	~~Sepulveda Blvd~~ Pacific Coast Hwy/Mariposa Ave	19.8	B	20.7	C	0.9	23.0	C	23.3	C	0.3
5	~~Sepulveda Blvd~~ Pacific Coast Hwy/Grand Ave	25.4	C	23.4	C	-2.0	34.7	C	35.9	D	1.2
6	~~Sepulveda Blvd~~ Pacific Coast Hwy/El Segundo Blvd	62.4	**E**	65.0	**E**	2.6	74.0	**E**	74.9	**E**	0.8
7	~~Sepulveda Blvd~~ Pacific Coast Hwy/Rosecrans Blvd	33.8	C	34.4	C	0.6	42.1	D	43.9	D	1.8
18	El Segundo Blvd/I-405 SB Ramps	17.8	B	18.5	B	0.7	74.7	**E**	84.0	**F**	**~~9.3~~**
20	El Segundo Blvd/I-405 NB Ramps	27.2	C	30.3	C	3.1	12.5	B	12.7	B	0.2

LOS shown in **bold** ~~and shaded~~ indicates unacceptable Level of Service.
Project impact shown in **bold** and shaded indicates a significant Project impact.
ICU = Intersection Capacity Utilization
HCM = Highway Capacity Manual
LOS = Level of Service
Intersection operation is expressed in volume-to-capacity (v/c) ratio for the ICU Methodology.
Intersection operation is expressed in average seconds of delay per vehicle for the HCM Methodology.
Four study driveways were only studied for with Project conditions; therefore, no comparison ~~is provided with Existing~~to Year 2020 without Project Conditions is provided.

SOURCE: Kimley-Horn and Associates, Inc., ~~2017~~ 2019.

As shown in Table 4.J-8, with the addition of Phase 1 Project traffic, all study intersections would continue to operate at an acceptable LOS (LOS D or better), with the following exceptions:

- No. 1 – ~~Sepulveda Boulevard~~ Pacific Coast Highway/Imperial Highway (ICU) – PM LOS F
- No. 6 – ~~Sepulveda Boulevard~~ Pacific Coast Highway/El Segundo Boulevard ~~(ICU)~~
  - (ICU) – AM LOS F, PM LOS F
  - (HCM) – AM and PM LOS E
- No. 7 – ~~Sepulveda Boulevard~~ Pacific Coast Highway/Rosecrans Boulevard (ICU) – AM LOS E, PM LOS F
- No. 14 – Nash Street/El Segundo Boulevard (ICU) – PM LOS F
- No. 15 – Douglas Street/El Segundo Boulevard (ICU) – AM and ~~LOS F,~~ PM LOS F
- No. 16 – Aviation Boulevard/El Segundo Boulevard (ICU) – AM and ~~LOS F,~~ PM LOS F
- No. 18 – El Segundo Boulevard/I-405 Southbound Ramps
  - (ICU) – PM LOS F
  - (HCM) – PM LOS F
- No. 20 – El Segundo Boulevard/I-405 Northbound Ramps (ICU) – AM LOS E

All four Project driveways would operate at LOS C or better. Table 4.J-8 also shows the change in V/C ratio or in the seconds of delay as a result of the Phase 1 Project-generated traffic. Compared to the Year 2022 without Project conditions, the Phase 1 Project would ~~not~~ cause ~~any~~ Intersection No. 20 (El Segundo Boulevard/I-405 Northbound Ramps) ~~additional intersections~~ to

operate at an unacceptable LOS (LOS E or F). ~~However~~ In addition, the Phase 1 Project would cause the ICU value at ~~three~~ four already-deficient intersections to worsen by 0.02 V/C or more thereby exceeding the threshold. Therefore, the Project (Phase 1) would result in a significant impact at the following ~~three~~ five locations:

- No. 14 – Nash Street/El Segundo Boulevard (ICU) – PM LOS F
- No. 15 – Douglas Street/El Segundo Boulevard (ICU) – AM and ~~LOS F,~~ PM LOS F
- No. 16 – Aviation Boulevard/El Segundo Boulevard (ICU) – AM LOS F
- No. 18 – El Segundo Boulevard/I-405 Southbound Ramps
  - (ICU) PM LOS F
  - (HCM) PM LOS F
- No. 20 – El Segundo Boulevard/I-405 Northbound Ramps (ICU) – Project causes AM LOS E

Mitigation measures are discussed in Section 4, Mitigation Measures, below.

(ii) Year 2023

Impact Statement TRAF-2c: The Project would have a significant impact at ~~six~~ eight study intersections (Intersection Nos. 1, 5, 6, 14, 15, 16, 18, and 20) during the AM and/or PM peak hours under the Year 2023 (Buildout) scenario. While mitigation measures are identified for Intersection Nos. 1, 5, ~~and~~ 6, 18, and 20, the ~~because the~~ implementation ~~of the mitigation measures are~~ is uncertain as a result of jurisdictional control, and therefore, impacts at these intersections are considered significant and unavoidable. ~~Even with the implementation of a mitigation measure for Intersection No. 14 impacts would be significant and unavoidable under the Year 2023 (Buildout) scenario.~~ No feasible mitigation measures were identified for Intersection Nos. 15 and 16 and impacts at these intersections would also be significant and unavoidable.

The Project-generated peak hour trips for Phases 1 and 2 were added to the volumes developed for Year 2023 without Project to determine Year 2023 with Phase 1 and 2 Project conditions. **Table 4.J-9**, *Intersection Operations – Year 2023 with Project Conditions*, summarizes the results of the AM and PM peak hour intersection analysis for Year 2023. Detailed LOS analysis sheets are provided in Appendix ~~H~~ C of this ~~Draft EIR~~ RPDEIR.

TABLE 4.J-9
INTERSECTION OPERATIONS –YEAR 2023 WITH PROJECT CONDITIONS

ICU Methodology

		AM Peak Hour					PM Peak Hour				
		Without Project		With Project			Without Project		With Project		
Int. #	Intersection	V/C	LOS	V/C	LOS	Project Impact	V/C	LOS	V/C	LOS	Project Impact
1	~~Sepulveda Blvd~~ Pacific Coast Hwy/Imperial Hwy	~~0.862~~ 0.869	D	~~0.870~~ 0.877	D	0.008	~~1.027~~ 1.038	**F**	~~1.074~~ 1.085	**F**	**0.047**
2	~~Sepulveda Blvd~~ Pacific Coast Hwy/Walnut Ave	~~0.721~~ 0.728	C	~~0.731~~ 0.739	C	~~0.010~~ 0.011	~~0.748~~ 0.755	C	~~0.769~~ 0.776	C	0.021
3	~~Sepulveda Blvd~~ Pacific Coast Hwy/Maple Ave	~~0.699~~ 0.726	~~B~~ C	~~0.705~~ 0.729	C	~~0.006~~ 0.003	~~0.725~~ 0.757	C	~~0.745~~ 0.787	C	~~0.020~~ 0.030
4	~~Sepulveda Blvd~~ Pacific Coast Hwy/Mariposa Ave	~~0.760~~ 0.766	C	~~0.798~~ 0.803	C	~~0.038~~ 0.037	~~0.824~~ 0.832	D	~~0.847~~ 0.855	D	0.023
5	~~Sepulveda Blvd~~ Pacific Coast Hwy/Grand Ave	~~0.842~~ 0.853	D	~~0.863~~ 0.867	D	~~0.021~~ 0.014	~~0.876~~ 0.887	D	~~0.956~~ 0.967	**E**	**0.080**
6	~~Sepulveda Blvd~~ Pacific Coast Hwy/El Segundo Blvd	~~1.061~~ 1.070	**F**	~~1.080~~ 1.089	**F**	0.019	~~1.069~~ 1.081	**F**	~~1.083~~ 1.095	**F**	0.014
7	~~Sepulveda Blvd~~ Pacific Coast Hwy/Rosecrans Blvd	0.925	**E**	0.941	**E**	0.016	1.004	**F**	1.023	**F**	0.019
8	Continental Blvd/Mariposa Ave	0.391	A	0.523	A	0.132	0.371	A	0.407	A	0.036
9	Continental Blvd/Grand Ave	0.328	A	0.517	A	0.189	0.345	A	0.391	A	0.046
10	Continental Blvd/El Segundo Blvd	0.547	A	0.552	A	0.005	0.640	B	0.690	B	0.050
11	Nash St/Imperial Hwy	0.774	C	0.848	D	0.074	0.522	A	0.535	A	0.013
12	Nash St/Mariposa Ave	0.606	B	0.689	B	0.083	0.699	B	0.784	C	0.085
13	Nash St/Grand Ave	0.547	A	0.580	A	0.033	0.612	B	0.612	B	0.000
14	Nash St/El Segundo Blvd	0.729	C	0.729	C	0.000	1.039	**F**	1.076	**F**	**0.037**
15	Douglas St/El Segundo Blvd	~~0.988~~ 0.989	**E**	~~1.030~~ 1.031	**F**	**0.042**	~~1.179~~ 1.181	**F**	~~1.217~~ 1.218	**F**	~~**0.038**~~ **0.037**
16	Aviation Blvd/El Segundo Blvd	~~1.159~~ 1.166	**F**	~~1.201~~ 1.208	**F**	**0.042**	~~1.157~~ 1.161	**F**	~~1.186~~ 1.189	**F**	~~**0.029**~~ **0.028**
17	El Segundo Blvd/Isis Ave	0.827	D	0.869	D	0.042	0.786	C	0.814	D	0.028
18	El Segundo Blvd/I-405 SB Ramps	0.772	C	0.814	D	0.042	1.189	**F**	1.264	**F**	**0.075**
19	El Segundo Blvd/La Cienega Blvd	0.847	D	0.889	D	0.042	0.754	C	0.767	C	0.013
20	El Segundo Blvd/I-405 NB Ramps	0.881	D	0.937	**E**	**0.056**	0.731	C	0.749	C	0.018
D1	Driveway 1/Grand Ave	-	-	9.9	A	N/A	-	-	14.7	B	N/A
D2	Driveway 2/Grand Ave	-	-	16.4	C	N/A	-	-	18.2	C	N/A
D3	Driveway 3/Continental Blvd	-	-	17.3	C	N/A	-	-	13.6	B	N/A
D4	Driveway 4/Continental Blvd	-	-	13.0	B	N/A	-	-	13.1	B	N/A

HCM Methodology

			AM Peak Hour					PM Peak Hour				
			Without Project		With Project			Without Project		With Project		
Int. #	Intersection	Traffic Control	Delay	LOS	Delay	LOS	Project Impact	Delay	LOS	Delay	LOS	Project Impact
1	~~Sepulveda Blvd~~ Pacific Coast Hwy/Imperial Hwy		~~29.3~~ 29.6	C	~~29.8~~ 30.2	C	~~0.5~~ 0.6	~~43.6~~ 45.3	D	~~49.9~~ 51.9	D	~~6.3~~ 6.6
2	~~Sepulveda Blvd~~ Pacific Coast Hwy/Walnut Ave		~~9.0~~ 9.1	A	~~9.0~~ 9.1	A	0.0	~~15.5~~ 15.7	B	~~15.4~~ 15.6	B	-0.1
3	~~Sepulveda Blvd~~ Pacific Coast Hwy/Maple Ave		~~14.4~~ 15.4	B	~~14.3~~ 15.4	B	~~-0.1~~ 0.0	~~15.4~~ 17.2	B	~~15.4~~ 17.2	B	0.0

Int. #	Intersection	AM Peak Hour					PM Peak Hour				
		Without Project		With Project			Without Project		With Project		
		V/C	LOS	V/C	LOS	Project Impact	V/C	LOS	V/C	LOS	Project Impact
4	~~Sepulveda Blvd~~ Pacific Coast Hwy/Mariposa Ave	19.9	B	~~21.3~~ 21.4	C	~~1.4~~ 1.5	~~23.0~~ 23.2	C	~~23.9~~ 24.2	C	~~0.9~~ 1.0
5	~~Sepulveda Blvd~~ Pacific Coast Hwy/Grand Ave	~~25.5~~ 25.9	C	~~24.1~~ 24.3	C	~~-1.4~~ -1.6	~~34.8~~ 35.8	~~C~~ D	~~45.4~~ 47.8	D	~~10.6~~ 12.0
6	~~Sepulveda Blvd~~ Pacific Coast Hwy/El Segundo Blvd	~~62.7~~ 64.8	**E**	~~67.7~~ 69.9	**E**	~~5.0~~ 5.1	~~74.4~~ 78.9	**E**	~~81.4~~ 88.1	**F**	~~**7.0**~~ **9.2**
7	~~Sepulveda Blvd~~ Pacific Coast Hwy/Rosecrans Blvd	33.9	C	34.9	C	1.0	42.3	D	45.3	D	3.0
18	El Segundo Blvd/I-405 SB Ramps	17.8	B	19.2	B	1.4	75.0	**E**	89.5	**E**	~~**14.5**~~
20	El Segundo Blvd/I-405 NB Ramps	27.2	C	33.0	C	5.8	12.6	B	12.9	B	0.3

LOS shown in **bold** ~~and shaded~~ indicates unacceptable Level of Service.
Project impact shown in **bold** and shaded indicates a significant Project impact.
ICU = Intersection Capacity Utilization
HCM = Highway Capacity Manual
LOS = Level of Service
Intersection operation is expressed in volume-to-capacity (v/c) ratio for the ICU Methodology.
Intersection operation is expressed in average seconds of delay per vehicle for the HCM Methodology.
Four study driveways were only studied for with Project conditions; therefore, no comparison ~~is provided with Existing~~to Year 2023 without Project Conditions is provided.

SOURCE: Kimley-Horn and Associates, Inc., ~~2017~~ 2019.

As shown in Table 4.J-9, with the addition of Project traffic at buildout, all four Project driveways would operate at LOS C or better. All study intersections would continue to operate at an acceptable LOS (LOS D or better), with the following exceptions:

- No. 1 – ~~Sepulveda Boulevard~~ Pacific Coast Highway/Imperial Highway (ICU) – PM LOS F
- No. 5 – Pacific Coast Highway/Grand Avenue (ICU) – Project causes PM LOS E
- No. 6 – ~~Sepulveda Boulevard~~ Pacific Coast Highway/El Segundo Boulevard ~~(ICU)~~
  - (ICU) – AM and PM LOS F
  - (HCM) – AM LOS E and PM LOS ~~E~~F
- No. 7 – ~~Sepulveda Boulevard~~ Pacific Coast Highway/Rosecrans Boulevard (ICU) – AM LOS E, PM LOS F
- No. 14 – Nash Street/El Segundo Boulevard (ICU) – PM LOS F
- No. 15 – Douglas Street/El Segundo Boulevard (ICU) – AM and ~~LOS F,~~ PM LOS F
- No. 16 – Aviation Boulevard/El Segundo Boulevard (ICU) – AM and ~~LOS F,~~ PM LOS F
- No. 18 – El Segundo Boulevard/I-405 Southbound Ramps
  - (ICU) – PM LOS F
  - (HCM) – PM LOS F
- No. 20 – El Segundo Boulevard/I-405 Northbound Ramps (ICU) – Project causes AM LOS E

Table 4.J-9 also shows the change in V/C ratio or in the seconds of delay as a result of the Project-generated traffic. Compared to the Year 2023 without Project conditions, full buildout of the Project would cause Intersection No. 5 (~~Sepulveda Boulevard~~ Pacific Coast Highway/Grand Avenue) and Intersection No. 20 (El Segundo Boulevard/I-405 Northbound Ramps) to operate at an unacceptable LOS (LOS E or F). In addition, full buildout of the Project would increase the traffic such that the ICU value at four already deficient intersections would worsen by 0.02 V/C or more thereby exceeding the threshold. Thus, based on the ICU methodology the Project would result in significant impacts at the following ~~five~~ seven locations:

- No. 1 – ~~Sepulveda Boulevard~~ Pacific Coast Highway/Imperial Highway - (ICU) - PM LOS F
- No. 5 – ~~Sepulveda Boulevard~~ Pacific Coast Highway/Grand Avenue (ICU) - Project causes PM LOS E
- No. 14 – Nash Street/El Segundo Boulevard (ICU) - PM LOS F
- No. 15 – Douglas Street/El Segundo Boulevard (ICU) - AM and ~~LOS F,~~ PM LOS F
- No. 16 – Aviation Boulevard/El Segundo Boulevard (ICU) - AM and ~~LOS F,~~ PM LOS F
- No. 18 – El Segundo Boulevard/I-405 Southbound Ramps (ICU) – PM LOS F
- No. 20 – El Segundo Boulevard/I-405 Northbound Ramps (ICU) - Project causes AM LOS E

In addition, based on the HCM delay methodology, Project Buildout (Phase 1 and Phase 2) would cause ~~one~~ two intersections already operating at a deficient LOS to worsen from LOS E to LOS F:

- No. 6 – ~~Sepulveda Boulevard~~ Pacific Coast Highway/El Segundo Boulevard (HCM) – PM LOS E worsens to LOS F.
- No. 18 – El Segundo Boulevard/I-405 Southbound Ramps (HCM) – PM LOS E worsens to LOS F.

Mitigation measures are discussed in Section 4, Mitigation Measures, below.

In summary, based on the significance criteria presented earlier, the addition of vehicle trips generated by buildout of the Project would result in a significant impact at these ~~six~~eight intersections. No significant impacts would occur at the Project driveways.

Threshold TRAF-3: The Project would have a significant impact on the performance of a study freeway segment if it would result in the LOS worsening from acceptable to unacceptable, or would cause a freeway segment that is already operating at a deficient LOS to deteriorate to a worse LOS.

Impact Statement TRAF-3: The Project would have a less-than-significant impact at study area freeway segments under the Year 2022 (Phase 1) and Year 2023 (buildout) cumulative scenario.

Existing with Project peak hour freeway volumes and analysis results for the morning and evening peak hours, by segment, and by direction are summarized on **Table 4.J-10**, *Freeway Segment Operations – Existing with Project Conditions*. The results of the analysis indicate that, compared to Existing Conditions, each freeway segment would continue to operate at LOS D or better in each

direction, and in both peak hours, with the exception of the I-405 southbound segment between El Segundo Boulevard and Rosecrans Avenue, which would continue to operate at LOS E in the evening peak hour.

TABLE 4.J-10
FREEWAY SEGMENT OPERATIONS – EXISTING WITH PROJECT CONDITIONS

		Without Project						With Project					
		AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
Freeway Segment	Lanes	Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
I-405													
Century Blvd to I-105													
Southbound	7	7,508	15.5	B	12,789	26.5	D	7,523	15.6	B	12,816	26.5	D
Northbound	7	11,897	24.6	C	9,779	20.2	C	11,922	24.7	C	9,799	20.3	C
I-105 to El Segundo Blvd													
Southbound	5	5,811	16.8	B	9,899	28.7	D	5,811	16.8	B	9,899	28.7	D
Northbound	5	9,209	26.7	D	7,569	21.9	C	9,209	26.7	D	7,569	21.9	C
El Segundo Blvd to Rosecrans Ave													
Southbound	5	7,182	20.8	C	12,235	35.5	E	7,203	20.9	C	12,270	35.6	E
Northbound	5	11,382	33.0	D	9,335	27.1	D	11,415	33.1	D	9,382	27.2	D
I-105													
Hawthorne Blvd to I-405													
Westbound	4	5,475	19.8	C	6,995	25.3	C	5,492	19.9	C	7,016	25.4	C
Eastbound	4	6,632	24.0	C	6,595	23.9	C	6,653	24.1	C	6,616	24.0	C
I-405 to Douglas St													
Westbound	4	3,709	13.4	B	4,738	17.2	B	3,742	13.6	B	4,782	17.3	B
Eastbound	4	4,493	16.3	B	4,468	16.2	B	4,534	16.4	B	4,508	16.3	B
Douglas St to ~~Sepulveda Blvd~~ Pacific Coast Hwy													
Westbound	4	2,927	10.6	A	3,739	13.5	B	2,961	10.7	A	3,783	13.7	B
Eastbound	4	3,545	12.8	B	3,526	12.8	B	3,586	13.0	B	3,566	12.9	B

SOURCE: Kimley-Horn and Associates, Inc., 2017.

Table 4.J-11, *Freeway Segment Operations -Year 2022 with Project Conditions*, provides the peak hour freeway volumes and analysis results for the morning and evening peak hours, by segment, and by direction. The results of the analysis indicate that, compared to Year 2022 without Project conditions, all freeway segments would continue operating at LOS D or better in each direction, and in both peak hours, with the exception of:

- I-405 southbound, between El Segundo Boulevard and Rosecrans Avenue, PM LOS E
- I-405 northbound, between Rosecrans Avenue and El Segundo Boulevard, AM LOS E

The addition of Phase 1 Project traffic to the freeway mainline system would not cause a freeway segment LOS to worsen from acceptable to unacceptable, and would not cause a freeway segment that is already operating at a deficient LOS to deteriorate to a worse LOS. Therefore, Phase 1 Project-generated traffic would result in a less-than-significant impact to the study freeway segments.

TABLE 4.J-11
FREEWAY SEGMENT OPERATIONS –YEAR 2022 WITH PROJECT CONDITIONS

		Without Project						With Project					
		AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
Freeway Segment	**Lanes**	**Volume**	**Density (pc/mi/ln)**	**LOS**	**Volume**	**Density (pc/mi/ln)**	**LOS**	**Volume**	**Density (pc/mi/ln)**	**LOS**	**Volume**	**Density (pc/mi/ln)**	**LOS**
I-405													
Century Blvd to I-105													
Southbound	7	8,455	17.5	B	14,403	29.8	D	8,464	17.5	B	14,418	29.9	D
Northbound	7	13,398	27.7	D	11,012	22.8	C	13,413	27.8	D	11,024	22.8	C
I-105 to El Segundo Blvd													
Southbound	5	6,544	19.0	C	11,148	32.3	D	6,544	19.0	C	11,148	32.3	D
Northbound	5	10,370	30.1	D	8,523	24.7	C	10,370	30.1	D	8,523	24.7	C
El Segundo Blvd to Rosecrans Ave													
Southbound	5	8,089	23.4	C	13,779	39.9	E	8,101	23.5	C	13,799	40.0	E
Northbound	5	12,817	37.2	E	10,535	30.5	D	12,836	37.2	E	10,551	30.6	D
I-105													
Hawthorne Blvd to I-405													
Westbound	4	6,166	22.3	C	7,877	28.5	D	6,175	22.4	C	7,890	28.6	D
Eastbound	4	7,469	27.1	D	7,428	26.9	D	7,481	27.1	D	7,439	27.0	D
I-405 to Douglas St													
Westbound	4	4,177	15.1	B	5,336	19.3	C	4,196	15.2	B	5,361	19.4	C
Eastbound	4	5,059	18.3	C	5,032	18.2	C	5,084	18.4	C	5,055	18.3	C
Douglas St to ~~Sepulveda Blvd~~ Pacific Coast Hwy													
Westbound	4	3,296	11.9	B	4,211	15.3	B	3,316	12.0	B	4,236	15.4	B
Eastbound	4	3,993	14.5	B	3,970	14.4	B	4,016	14.6	B	3,994	14.5	B

SOURCE: Kimley-Horn and Associates, Inc., 2017.

Year 2023 with Phase 1 and 2 Project peak hour freeway volumes and analysis results for the morning and evening peak hours, by segment, and by direction are summarized on **Table 4.J-12**, *Freeway Segment Operations – Opening Year 2023 with Project Conditions*. The results of the analysis indicate that, compared to Year 2023 without Project conditions, all freeway segments would continue operating at LOS D or better in each direction, and in both peak hours, with the exception of:

- I-405 southbound, between El Segundo Boulevard and Rosecrans Avenue, PM LOS E
- I-405 northbound, between Rosecrans Avenue and El Segundo Boulevard, AM LOS E

The addition of Project traffic at buildout to the freeway mainline system would not cause a freeway segment to worsen from acceptable to unacceptable, and would not cause a freeway segment that is already operating at a deficient LOS to deteriorate to a worse LOS. Therefore, vehicle trips generated by Phase 1 and 2 of the Project would result in a less-than-significant impact to the study freeway segments.

TABLE 4.J-12
FREEWAY SEGMENT OPERATIONS –YEAR 2023 WITH PROJECT CONDITIONS

		Without Project						With Project					
		AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
Freeway Segment	**Lanes**	**Volume**	**Density (pc/mi/ln)**	**LOS**	**Volume**	**Density (pc/mi/ln)**	**LOS**	**Volume**	**Density (pc/mi/ln)**	**LOS**	**Volume**	**Density (pc/mi/ln)**	**LOS**
I-405													
Century Blvd to I-105													
Southbound	7	8,624	17.9	B	14,691	30.4	D	8,640	17.9	B	14,717	30.5	D
Northbound	7	13,666	28.3	D	11,233	23.3	C	13,691	28.4	D	11,253	23.3	C
I-105 to El Segundo Blvd													
Southbound	5	6,675	19.3	C	11,371	33.0	D	6,675	19.3	C	11,371	33.0	D
Northbound	5	10,578	30.7	D	8,694	25.2	C	10,578	30.7	D	8,694	25.2	C
El Segundo Blvd to Rosecrans Ave													
Southbound	5	8,250	23.9	C	14,054	40.7	E	8,271	24.0	C	14,089	40.8	E
Northbound	5	13,074	37.9	E	10,746	31.1	D	13,107	38.0	E	10,773	31.2	D
I-105													
Hawthorne Blvd to I-405													
Westbound	4	6,289	22.8	C	8,035	29.1	D	6,306	22.9	C	8,057	29.2	D
Eastbound	4	7,618	27.6	D	7,576	27.5	D	7,639	27.7	D	7,596	27.5	D
I-405 to Douglas St													
Westbound	4	4,260	15.4	B	5,443	19.7	C	4,294	15.6	B	5,486	19.9	C
Eastbound	4	5,161	18.7	C	5,132	18.6	C	5,202	18.8	C	5,173	18.8	C
Douglas St to ~~Sepulveda Blvd~~ Pacific Coast Hwy													
Westbound	4	3,362	12.2	B	4,295	15.6	B	3,396	12.3	B	4,338	15.7	B
Eastbound	4	4,072	14.8	B	4,050	14.7	B	4,113	14.9	B	4,091	14.8	B

SOURCE: Kimley-Horn and Associates, Inc., 2017.

(3) Regional Transportation System

Threshold TRAF-4: The Project would have a significant impact on the regional transportation system if it would conflict with an applicable congestion management plan including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

Impact Statement TRAF-4: Under Year 2022 (Phase 1) with Project Conditions, the Project would have a less-than-significant impact at both CMP intersections located within the Project study area during the AM and PM peak hours. Under Year 2023 (Buildout) with Project Conditions, the Project would have a significant impact at one CMP intersection (intersection No. 6) during the PM peak hour.

As stated previously, the following CMP-monitored facilities are located within the Project study area:

- Intersection No. 6: ~~Sepulveda Boulevard~~ Pacific Coast Highway ~~(SR-1)~~/El Segundo Boulevard
- Intersection No. 7: ~~Sepulveda Boulevard~~ Pacific Coast Highway ~~(SR-1)~~/Rosecrans Avenue

The Project is forecasted to contribute 50 or more project trips to these two CMP intersections. Both intersections were included as study intersections and were evaluated under impact discussion TRAF-2, above. Since CMP significance thresholds are the same as the thresholds used by the City, the impact conclusions stated in the TRAF-2 discussion remain valid for the CMP evaluation. Below is a summary of those conclusions:

(a) Year 2022 (Phase 1)

No significant impacts would occur to CMP intersections as a result of vehicle trips generated by Phase 1 of the Project.

(b) Year 2023 (Buildout)

Based on the HCM delay methodology, vehicle trips generated by Phase 1 and 2 of the Project would cause one CMP intersection already operating at a deficient LOS (LOS E or F) to worsen from LOS E to LOS F:

- Intersection No. 6 – ~~Sepulveda Boulevard~~ Pacific Coast Highway/El Segundo Boulevard (HCM) – PM LOS E to LOS F

Therefore, the addition of vehicle trips generated by the Project at buildout would result in a significant impact during the PM peak hour at one CMP intersection. MM are discussed in Section 4, Mitigation Measures, below.

(4) Alternative Transportation Plan Consistency

Threshold TRAF-5: The Project would have a significant impact on alternative transportation if the Project would conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Impact Statement TRAF-5: The Project would not conflict with any adopted polices, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Therefore, the Project would result in a less-than-significant impact to transit, bicycle, and pedestrian facilities.

The Project would be consistent with policies, plans, and programs that support alternative transportation, including SCAG'S 2016 RTP/SCS, the City's Circulation Element and the South Bay Bicycle Master Plan. The Project would be located within 0.5 miles of the Metro Green Line station and numerous regional bus lines on ~~Sepulveda Boulevard~~ Pacific Coast Highway, Grand Avenue, and El Segundo Boulevard. The Project would concentrate employment opportunities and provide a range of on-site services, such as child care, cafeteria, on-site retail, as well as pedestrian access to restaurants and services in the immediate vicinity that would reduce vehicle miles, while maximizing the productivity of the transportation system.

The Circulation Element's Bicycle Master Plan shows Grand Avenue as a Class III Bike Route connecting to a Class I, II, or III bike route in Douglas Street and to the Green Line Station at Douglas Street and El Segundo Boulevard. In addition, the South Bay Bicycle Master Plan shows Grand Avenue as a proposed Class III Bike Route. The Project would not conflict with the development of the bike routes in the future. The bike routes would further encourage multi-modal access.

Pedestrian access to the site is facilitated by existing sidewalks on both sides of Grand Avenue and Continental Boulevard, and crosswalks on all four legs of the intersection. There are no bicycle routes in the project area. The Project would be required to meet the on-site bicycle parking requirements set forth in Section 15-15-6, *Required Parking Spaces*, of the City's Municipal Code. The Project would not make any changes to reduce or inhibit pedestrian access to the site. While the Project would not add bicycle routes, the Project would not preclude or conflict with the development of bike routes in the future. The Project would not permanently modify or relocate the existing Metro/LADOT bus stop located on Grand Avenue in front of the DoubleTree Hotel, nor would it impede access to this bus stop.

Therefore, the Project would not conflict with policies, plans, and programs that support alternative transportation, and impacts would be less than significant.

e. Cumulative Impacts

(1) Construction Impacts

Impacts on traffic associated with construction (e.g., an intermittent reduction in street and intersection operating capacity, potential conflicts with pedestrians/bicyclists, potential overlap with construction of other nearby projects, potential conflict with Metro operations) are typically

considered short-term adverse impacts, but not significant. The Project would result in a less-than-significant traffic impact during construction with the implementation of PDF TRAF-1, Construction Management Plan, which would incorporate scheduling, notification, and safety procedures. Each cumulative project would be required to comply with City requirements regarding haul routes and would implement MM and/or include PDFs, such as traffic controls and scheduling, notification, and safety procedures, to reduce potential traffic impacts during construction. Furthermore, like for the Project, construction worker traffic typically avoids the peak hours, and it is anticipated that many of the related projects, like the Project, would restrict construction truck traffic and deliveries to off-peak hours to the extent feasible. Accordingly, Project-related contributions to cumulatively significant construction traffic impacts, considered together with the impacts of related projects, would be less than cumulatively considerable.

(2) Operational Impacts

The Traffic Study (see Appendix ~~H~~ C of this ~~Draft~~ RPDEIR) was developed to address Project impacts in the context of existing baseline conditions (Year 2016) and future (Year 2022 and 2023) conditions. Future conditions take into account traffic caused by the 26 related projects identified in Chapter 3, Basis for Cumulative Analyses, as well as a growth factor to account for other ambient growth occurring in the region. Therefore, the analysis of future traffic conditions in 2022 and 2023 provides the cumulative analysis because it considers traffic generated by future proposed or planned land uses. Thus, the above analyses of Project impacts have taken into account the cumulative impacts associated with future growth.

As indicated above in Impact Statement TRAF-2a, under Existing With Project Conditions, the Project would result in less-than-significant impacts at the study intersections. Under Future With Project Conditions (Year 2022), the Project would result in a potentially significant impact at ~~three~~ five study intersections (Intersection Nos. 14, 15, 16, 18, and 20) during the AM and/or PM peak hours. Under the Future With Project Conditions (Year 2023), the Project would have a significant impact at ~~six~~ eight study intersections (intersection Nos. 1, 5, 6, 14, 15, 16, 18, and 20) during the AM and/or PM peak hours. Therefore, mitigation measures are proposed below.

With regard to the regional transportation system, as discussed above in Impact Statement TRAF-3, based on the HCM delay methodology, vehicle trips generated by Project Buildout (Year 2023) would result in a significant impact at Intersection No. 6 (~~Sepulveda Boulevard~~ Pacific Coast Highway/El Segundo Boulevard) during the PM peak hour.

4. Mitigation Measures

a. Construction

PDF TRAF-1 would ensure that impacts due to Project construction would be less than significant. Therefore, no mitigation measures are necessary.

b. Operation

The Project would result in a significant impact at ~~three~~ five intersections under Year 2022 (Phase 1) scenario, and at ~~six~~ eight intersections under Year 2023 (Buildout) scenario. No impacts would occur to the study freeway segments on I-105 or I-405.

(1) Year 2022 (Phase 1) Mitigation Measures

As stated previously, significant impacts would occur at the following ~~three~~ five intersections under Year 2022 with Project conditions:

- No. 14 – Nash Street/El Segundo Boulevard (ICU) – PM LOS F
- No. 15 – Douglas Street/El Segundo Boulevard (ICU) – AM LOS F, PM LOS F
- No. 16 – Aviation Boulevard/El Segundo Boulevard (ICU) – AM LOS F
- No. 18 – El Segundo Boulevard/I-405 Southbound Ramps
  - (ICU) PM LOS F
  - (HCM) PM LOS F
- No. 20 – El Segundo Boulevard/I-405 Northbound Ramps (ICU) – Project causes AM LOS E

Implementation of the following improvements would mitigate the Project impacts:

The south leg of Intersection No. 14 (Nash Street at El Segundo Boulevard) is one of the primary driveways for the approved Raytheon South Campus Specific Plan. As such, the need for the improvement would occur as a result of the proposed Raytheon-generated traffic. A mitigation measure was identified in the *Raytheon South Campus Specific Plan TIA* (RBF, May 2014) for the following improvements: 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. As the Project would contribute traffic to this intersection, the following mitigation measure is recommended:

> **MM TRAF-1 (Intersection No. 14 – Nash Street at El Segundo Boulevard):** The applicant for Continental Grand Campus Specific Plan shall contribute a fair share if the Raytheon project is developed as approved in the Raytheon South Campus Specific Plan. In accordance with adopted mitigation measure for the Raytheon South Campus Specific Plan and in order to provide additional capacity for the heavy northbound right-turn movement, 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.

The increase in capacity for the heavy northbound right-turn movement would improve the LOS from LOS F to LOS ~~D~~ E in the evening peak hour. Therefore, implementation of MM TRAF-1 would reduce the significant impact at Intersection No. 14 to a less-than-significant level in Year 2022 (Phase 1).

With regard to significant impacts at Intersection Nos. 15 (Douglas Street at El Segundo Boulevard) and 16 (Aviation Boulevard at El Segundo Boulevard), potential ~~MM~~ mitigation measures ~~at the remaining two intersections, are considered~~ were determined to be infeasible due to right-of-way constraints and ~~existing structures~~ the adverse effects that intersection widening would have on existing infrastructure and adjacent developed private property. Therefore, the Project impact at these intersections would remain significant and unavoidable.

The following improvements are recommended for impacts at Intersection Nos. 18 and 20:

> **MM TRAF-2 (Intersection No. 18 – El Segundo Boulevard at I-405 Southbound Ramps):** Add right-turn overlap phasing to the eastbound approach of the intersection.

This improvement would provide additional signal green time for the heavy eastbound right-turn movement which would improve operating conditions from LOS F to LOS E in the evening peak hour, thereby mitigating the Project impact.

> **MM TRAF-3 (Intersection No. 20 – El Segundo Boulevard at I-405 Northbound Ramps):** Re-stripe the northbound right-turn lane to a shared left/right-turn lane.

This improvement would provide additional capacity for the northbound left-turn movement which would improve operating conditions from LOS E to LOS C in the morning peak hour, thereby mitigating the Project impact.

While MM TRAF-2 and MM TRAF-3 would reduce impacts to a less-than-significant level, these intersections are under Caltrans jurisdiction. Since the implementation of these improvements are outside the City's jurisdiction and there is uncertainty regarding the ability to implement these improvements, the City determines that there is a potential for a significant and unavoidable impact to occur at Intersection Nos. 18 and 20 as a result of Phase 1 of the Project.

(2) Year 2023 (Buildout) Mitigation Measures

As stated previously, significant impacts would occur at the following ~~six~~ eight intersections under Year 2023 with Project conditions:

- No. 1 – ~~Sepulveda Boulevard~~ Pacific Coast Highway/Imperial Highway (ICU) - PM LOS F
- No. 5 – ~~Sepulveda Boulevard~~ Pacific Coast Highway/Grand Avenue (ICU) - Project causes PM LOS E
- No. 6 – ~~Sepulveda Boulevard~~ Pacific Coast Highway/El Segundo Boulevard (HCM) – PM LOS E worsens to LOS F
- No. 14 – Nash Street/El Segundo Boulevard (ICU) – PM LOS F
- No. 15 – Douglas Street/El Segundo Boulevard (ICU) – AM LOS F, PM LOS F
- No. 16 – Aviation Boulevard/El Segundo Boulevard (ICU) – AM LOS F
- No. 18 – El Segundo Boulevard/I-405 Southbound Ramps
  - (ICU) – PM LOS F
  - (HCM) – PM LOS E worsens to LOS F

- No. 20 – El Segundo Boulevard/I-405 Northbound Ramps (ICU) - Project causes AM LOS E

Implementation of MM TRAF-1, MM TRAF-2, and MM TRAF-3 would apply to Year 2023 (Buildout) as well as to Phase 1. The following improvements are recommended for impacts at Intersection Nos. 1, 5, and 6:

> **MM TRAF-~~2~~ 4 (Intersection No. 1 – ~~Sepulveda Boulevard~~ Pacific Coast Highway at Imperial Highway):** In order to provide additional capacity for the heavy northbound right-turn movement, the applicant shall re-stripe the northbound approach to provide a second northbound right-turn lane.

The increase in capacity for the heavy northbound right-turn movement would improve the LOS from LOS F to LOS D in the evening peak hour. Therefore, implementation of MM TRAF-~~2~~ 4 would reduce the significant impact at Intersection No. 1 to a less-than-significant level.

> **MM TRAF-~~3~~ 5 (Intersection No. 5 – ~~Sepulveda Boulevard~~ Pacific Coast Highway at Grand Avenue):** Re-stripe the westbound approach to convert the Number 1 through lane to a shared through/right-turn lane.

The increase in capacity for the heavy westbound right-turn movement would improve the LOS from LOS E to LOS D in the evening peak hour. Therefore, implementation of MM TRAF-~~3~~5 would reduce the significant impact at Intersection No. 5 to a less-than-significant level.

> **MM TRAF-~~4~~ 6 (Intersection No. 6 – ~~Sepulveda Boulevard~~ Pacific Coast Highway at El Segundo Boulevard):** In order to provide additional capacity for the heavy westbound right-turn movement, the applicant shall re-stripe the westbound approach to convert the Number 1 through lane to a shared through/right-turn lane.

The increase in capacity for the heavy westbound right-turn movement would improve the LOS from LOS F to LOS ~~D~~ E in the evening peak hour. The delay associated with the mitigated LOS E condition would be less than the delay that is projected at this intersection without the Project. Therefore, implementation of MM TRAF-~~4~~ 6 would reduce the significant impact at Intersection No. 6 to a less-than-significant level.

While MM TRAF-~~2~~ 4, TRAF-~~3~~ 5 and TRAF-~~4~~ 6 would reduce impacts to a less-than-significant level, these intersections are under Caltrans jurisdiction. Since the implementation of these improvements are outside the City's jurisdiction and there is uncertainty regarding the ability to implement these improvements, the City determines that there is a potential for a significant and unavoidable impact to occur at Intersection Nos. 1, 5 and 6 as a result of buildout of the Project.

MM TRAF-1 (No. 14 – Nash Street at El Segundo Boulevard), described above for Year 2022 with Project conditions, would also ~~serve to~~ mitigate the Project impact under Year ~~2022~~2023 with Project conditions to a less-than-significant level. The increase in capacity for the heavy northbound right-turn movement would improve operating conditions from LOS F to LOS E in the evening peak hour. This mitigation measure would also improve operating conditions as compared to the delay and LOS that is projected at this intersection without the Project. ~~However, MM TRAF-~~

~~1 would not reduce the impact at Intersection No. 14 to less than significant.~~ Therefore, implementation of MM TRAF-1 would reduce the significant ~~in~~ Year 2023 (Buildout) with Project ~~conditions the Project would contribute to a significant and unavoidable~~ impact at Intersection No. 14 to a less-than-significant level.

As described above for Year 2022 with Project conditions, mitigation measures at intersection No. 15 – Douglas Street at El Segundo Boulevard and No. 16 – Aviation Boulevard at El Segundo Boulevard are considered to be infeasible due to right-of-way constraints and ~~existing structures~~ the adverse effects that intersection widening would have on existing infrastructure and adjacent developed private property. Therefore, the Project would result in significant and unavoidable impacts at these intersections.

5. Level of Significance After Mitigation

a. Construction

Less-than-significant construction traffic impacts would occur and no MM are necessary.

b. Operation

A summary of the intersection operation before and after implementation of these MM is provided on **Table 4.J-13**, *Summary of Intersection Operations with Mitigation Measures*.

TABLE 4.J-13
SUMMARY OF INTERSECTION OPERATIONS WITH MITIGATION MEASURES

Int. #	Intersection	Methodology	Peak Hour	Without Mitigation		With Mitigation	
				ICU/Delay	LOS	ICU/Delay	LOS
1	~~Sepulveda Blvd~~ Pacific Coast Hwy/Imperial Hwy	ICU	PM	~~1.074~~ 1.085	**F**	0.895	D
5	~~Sepulveda Blvd~~ Pacific Coast Hwy/Grand Ave	ICU	PM	~~0.956~~ 0.967	**E**	0.819	D
6	~~Sepulveda Blvd~~ Pacific Coast Hwy/El Segundo Blvd	HCM	PM	~~81.400~~ 88.100	**F**	52.000	D
14	Nash St/El Segundo Blvd	ICU	PM	1.076	**F**	0.917	**E**
15	Douglas St/El Segundo Blvd	ICU	AM	~~1.030~~ 1.031	**F**	No Feasible Mitigation	
			PM	~~1.217~~ 1.218	**F**		
16	Aviation Blvd/El Segundo Blvd	ICU	AM	~~1.201~~ 1.208	**F**	No Feasible Mitigation	
			PM	~~1.186~~ 1.189	**F**		
18	El Segundo Blvd/I-405 SB Ramps	ICU	PM	1.264	**F**	1.137	**F**
		HCM	PM	89.5	**F**	42.0	D
20	El Segundo Blvd/I-405 NB Ramps	ICU	AM	0.937	**E**	0.776	C

LOS shown in **bold** ~~and shaded~~ indicates unacceptable Level of Service.
ICU = Intersection Capacity Utilization
HCM = Highway Capacity Manual
LOS = Level of Service
Intersection operation is expressed in volume-to-capacity (v/c) ratio for the ICU Methodology.
Intersection operation is expressed in average seconds of delay per vehicle for the HCM Methodology.

SOURCE: Kimley-Horn and Associates, Inc., ~~2017~~ 2019.

MM TRAF-2, TRAF-3, ~~and~~ TRAF-4, TRAF-5, and TRAF-6 would reduce impacts at the following ~~three~~ five intersections to less-than-significant levels:

- No. 1 – ~~Sepulveda Boulevard~~ Pacific Coast Highway/Imperial Highway
- No. 5 – ~~Sepulveda Boulevard~~ Pacific Coast Highway/Grand Avenue
- No. 6 – ~~Sepulveda Boulevard~~ Pacific Coast Highway/El Segundo Boulevard
- No. 18 – El Segundo Boulevard/I-405 Southbound Ramps
- No. 20 – El Segundo Boulevard/I-405 Northbound Ramps

However, while implementation of ~~MM TRAF-2, TRAF-3 and TRAF-4 at Intersection Nos. 1, 5, and 6, respectively,~~ these five mitigation measures would reduce impacts to a less-than-significant level, the~~se~~ intersections are under Caltrans jurisdiction. Since the implementation of these improvements are outside the City's jurisdiction and there is uncertainty regarding the ability to implement these improvements, the City determines that there is a potential for a significant and unavoidable impact to occur at Intersection Nos. 1, 5 ~~and~~ 6, 18, and 20 as a result of buildout of the Project.

With regard to Intersection No. 14 (Nash Street at El Segundo Boulevard), the need for MM TRAF-1 would occur if the Raytheon South Campus Specific Plan is developed as approved. The south leg of the intersection is one of the primary driveways for the approved Raytheon South Campus Specific Plan. As such, the need for the improvement would occur as a result of the proposed Raytheon-generated traffic. A mitigation measure was identified in the *Raytheon South Campus Specific Plan TIA* (RBF, May 2014) and is included in the adopted MMRP for that project. Therefore, the need for the MM TRAF-1 would occur if the Project and the related project were to both develop. If that occurs, the Project applicant would be required to contribute a fair share for the improvement. The implementation of MM TRAF-1 would reduce the impact at Intersection No. 14 to a less-than-significant level under both ~~the~~ Year 2022 (Phase 1) and ~~scenario. However, even with the implementation of MM TRAF-1, the impact would remain significant and unavoidable in the~~ Year 2023 (Buildout) traffic scenarios.

With regard to Intersection Nos. 15 and 16, potential ~~MM~~ mitigation measures at these two intersections are considered to be infeasible due to right-of-way constraints and ~~existing structures~~ the adverse effects that intersection widening would have on existing infrastructure and adjacent developed private property. Therefore, the Project impact at these intersections would remain significant and unavoidable.