4. ENVIRONMENTAL IMPACT ANALYSIS
L. TRANSPORTATION AND TRAFFIC

1. INTRODUCTION

This section describes potential impacts associated with construction and operational transportation and traffic. The section provides an analysis of construction traffic; intersection capacity; the regional transportation system; public transit and alternative transportation; vehicular access and circulation; and parking supply. 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 Analysis* (Traffic Study*)* prepared by Fehr & Peers, Inc. dated February 2016. The Traffic Study, which provides more detailed information, data, and analyses, is included as Appendix I of this Draft EIR. The Traffic Study was prepared following extensive coordination with staff from Los Angeles County, Caltrans, City of Los Angeles, City of Carson and City of Torrance. Further, the Traffic Study for this County project was prepared pursuant to a Memorandum of Understanding (MOU) with the County of Los Angeles Department of Public Works (DPW) Traffic and Lighting Division (TLD), which is appended to the Traffic Study provided in Appendix I of this Draft EIR.

2. ENVIRONMENTAL SETTING

a. Existing Conditions

(1) Study Area Street System

The Project Site is located at 1000 West Carson Street in the unincorporated community of West Carson, California. The study area includes intersections located in or bordering Los Angeles County, City of Los Angeles, City of Carson and City of Torrance. Carson Street, Vermont Avenue, Normandie Avenue and 220th Street currently provide access to the site via 11 driveways. In addition, a parking lot for staff is located on the southeast corner of Vermont Avenue & 220th Street, with access provided by four driveways on 220th Street. The study area for this analysis is bounded by Torrance Boulevard on the north, 223rd Street on the south, Figueroa Street on the east, and Western Avenue on the west. **Figure 4.L-1**, *Study Area Intersections*, depicts the Project's Traffic Study area and the intersections analyzed for potential Project impacts. As described in further detail below, the study area is well served by a network of freeways and streets.[1] Freeways are under the jurisdiction of the California Department of Transportation (Caltrans).

(a) Freeways

Primary regional access to the site is provided by Carson Street, I-110, I-405 and State Route 91. Following is a brief description of the freeways that serve the site.

San Diego Freeway (I-405) – The San Diego Freeway runs east/west approximately two miles north of the Project Site and southeast/northwest approximately two miles east of the Project Site. Access from the

[1] *More detailed information regarding the major arterials in the study area and lane configurations is presented in the Traffic Impact Analysis, which is included as Appendix I of this Draft EIR.*

Project Site to the San Diego Freeway is provided by interchanges at Western Avenue, Normandie Avenue, Vermont Avenue (westbound vehicles only), Carson Street, and Wilmington Avenue.

Harbor Freeway (I-110) – The Harbor Freeway runs north/south approximately ¼ mile east of the Project Site. Access from the Project Site to the Harbor Freeway is provided by via interchanges at Carson Street and 223rd Street for southbound vehicles and at 220th Street for northbound vehicles.

Gardena Freeway/Artesia Freeway (State Route 91) – State Route 91 (SR 91) runs east/west approximately three miles north of the Project Site. East of the Harbor Freeway, SR 91 is known as the Gardena Freeway. West of the Harbor Freeway, SR 91 is known as the Artesia Freeway. Access from the Project Site to SR 91 is provided by the 110 Freeway and Vermont Avenue.

The following three types of analyses were conducted on Caltrans facilities: 1) freeway mainline segments, 2) Caltrans intersections, and 3) off-ramp queuing. More specifically, the following facilities were analyzed: two freeway mainline segments on I-110, three segments on I-405 and one segment on SR-91 to determine density and LOS; one intersection (Western Ave. (State Route 213) & Carson Street); and six freeway off-ramps to estimate queues.

With regard to the freeway mainline segments, level of service (LOS) is a measure used to describe traffic flow conditions or the freedom to maneuver within traffic stream. The LOS ranges from nearly free-flow traffic at LOS A to breakdown and oversaturation at LOS F. The definitions of the LOS levels are shown in **Table 4.L-1**, *Highway Capacity Manual Level of Service Definitions for Freeway Segments*. The six freeway segments and respective LOS are summarized in **Table 4.L-2**, *Existing Conditions Freeway Segment Levels of Service*. As shown in Table 4.L-2, the I-110 at 228th Street and the I-110 at El Segundo operates at a LOS ranging from C to E during the AM and PM peak hours. The I-405 Freeway at I-710, I-405 south of I-110, and I-405 north of Western Ave/Van Ness Ave operates at a LOS ranging from LOS C to LOS F, with LOS F occurring during the AM peak hour at the I-405 at I-710 segment. The SR-91 at Avalon Boulevard interchange operates at a LOS ranging from LOS C to D.

With regard to intersections with the freeways, LOS provides a qualitative measure to describe the flow of traffic through the intersection. The LOS ranges from LOS A, which is excellent to LOS F, which is failure of the intersection. **Table 4.L-3**, *Highway Capacity Manual Level of Service Definitions for Intersections*, shows the LOS for signalized intersections. The one study intersection at Western Ave. (State Route 213) & Carson Street (Intersection ID 3) and its respective LOS is summarized in **Table 4.L-4**, *Existing Conditions Caltrans' Intersection Level of Service Impact Analysis*. As shown in Table 4.L-4, Signalized Intersection 3 - Western Ave. (State Route 213) & Carson Street operates at LOS E during the morning and afternoon peak hours.

With regard to freeway ramps, Caltrans' primary concern at off-ramps is that queued vehicles may extend past the back of the ramp onto the mainline. The six off-ramps analyzed include: I-110 SB ramps at Carson Street; 220th Street/I-210 NB ramps at Figueroa Street; 1-110 SB ramps at 223rd Street; I-405 SB ramps at Carson Street; I-405 NB ramps at Carson Street; and I-405 NB ramps at Wilmington Avenue. Table 17 in Traffic Study includes the peak hour off-ramp intersection 95th percentile queues for the analyzed ramps. As shown therein, the AM and PM peak hour queues at all ramp locations do not exceed the ramp length under existing conditions.

1 Study Intersection

PCR

N

0 0.4 Miles

Study Area Intersections

Harbor-UCLA Medical Center Master Plan

Source: Fehr & Peers, 2016.

FIGURE

4.L-1

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Table 4.L-1

Highway Capacity Manual Level of Service Definitions for Freeway Segments

Level of Service	Description	Density[a]
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	≤ 11
B	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.	> 11 and ≤ 18
C	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	> 18 and ≤ 26
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	> 26 and ≤ 35
E	Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.	> 35 and ≤ 45
F	Represents a breakdown in flow and oversaturated conditions.	> 45

[a] *Density is defined in vehicles per mile per lane and describes the proximity to other vehicles and is related to the freedom to maneuver within the traffic stream (2010 Highway Capacity Manual, Transportation Research Board, 2010).*

Source: 2010 Highway Capacity Manual (Transportation Research Board, 2010) and Caltrans.

(b) Roadways

The Project Site is served by a grid of streets that are oriented toward the north-south and east-west directions. The major arterials providing regional and sub-regional access to the Project vicinity include Vermont Avenue, Normandie Avenue, and Carson Street. Within the City of Los Angeles, the Mobility Plan 2035, which was adopted in August 2015 and is a comprehensive update of the Transportation Element, provides a classification system for roadways within the City boundaries.

Roadway descriptions are also described per the County's General Plan and the City of Carson General Plan, as applicable. The following is a brief description of the major roadways in the study area including the classifications under per the applicable planning documents referenced above:

Table 4.L-2

Existing Conditions Freeway Segment Levels of Service

ID	Freeway Segment	Peak Hour	Direction	Existing Conditions	
				Density [a]	LOS
FS-1	I-110 at 228th Street	A.M.	NB	37.0	E
			SB	22.9	C
		P.M.	NB	23.1	C
			SB	33.7	D
FS-2	I-110 at El Segundo Boulevard	A.M.	NB	27.0	D
			SB	36.9	E
		P.M.	NB	26.1	D
			SB	37.4	E
FS-3	I-405 at I-710	A.M.	NB	47.5	F
			SB	27.4	D
		P.M.	NB	28.5	D
			SB	43.8	E
FS-4	I-405 south of I-110/ Carson Scales	A.M.	NB	33.9	D
			SB	28.2	D
		P.M.	NB	26.0	C
			SB	37.9	E
FS-5	I-405 north of Western Ave/Van Ness Ave.	A.M.	NB	30.8	D
			SB	29.0	D
		P.M.	NB	27.5	D
			SB	31.8	D
FS-6	SR 91 at Avalon Blvd.	A.M.	EB	21.9	C
			WB	28.7	D
		P.M.	EB	26.1	D
			WB	19.9	C

[a] *Measured in passenger cars per mile per lane (pc/mi/ln) for freeways assuming a free-flow speed of 55 mph per Caltrans request.*

Source: Fehr & Peers, 2016.

(i) North/South Roadways

Vermont Avenue – Vermont Avenue is designated as a Major Highway in the Los Angeles County General Plan that runs north/south on the east side of the Project Site and provides two travel lanes and a bicycle lane in each direction. The street also has a center turn lane. Parallel parking is available on both sides of the street. The posted speed limit is 40 miles per hour (mph).

Table 4.L-3

Highway Capacity Manual Level of Service Definitions for Intersections

Level of Service	Description	Seconds of Delay Signalized Intersections
A	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.	≤ 10
B	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.	> 10 and ≤ 20
C	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.	> 20 and ≤ 35
D	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.	> 35 and ≤ 55
E	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.	> 55 and ≤ 80
F	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.	> 80

Source: 2010 Highway Capacity Manual (Transportation Research Board, 2010) and Caltrans.

Table 4.L-4

Existing Conditions Caltrans' Intersection Level of Service Impact Analysis

ID	Intersection	Peak Hour	Existing Delay	Existing LOS
Signalized Intersections				
3.	Western Ave. (State Route 213) & Carson Street	A.M.	61.4	E
		P.M.	61.4	E

Delay is measured in average seconds per vehicle; LOS = Level of service

Source: Fehr & Peers, 2016.

Normandie Avenue – Normandie Avenue is designated as a Secondary Highway in the Los Angeles County General Plan that runs north/south on the west side of the Project Site and provides two travel lanes in each direction. This roadway is part of the City of Los Angeles Bicycle Lane Network in the City of Los Angeles Mobility Plan. Restricted and unrestricted parking is available on both sides of the street. The posted speed limit is 35 mph. Within the study area, Normandie Avenue forms the boundary between the City of Los Angeles and the unincorporated community of West Carson.

Western Avenue (State Route 213) – Western Avenue is designated as a Major Highway in the Los Angeles County General Plan that runs north/south to the west of the Project Site. The roadway provides two travel lanes in each direction and contains a raised median with intersection turn lanes on portions of the roadway. Western Avenue is part of the City of Los Angeles Mobility Plan's Bicycle Enhanced Network. Restricted and unrestricted parking is available on both sides of the street near the Project Site. The posted speed limit is 40 mph. Within the study area, Normandie Avenue forms the boundary between the City of Los Angeles and the City of Torrance.

Figueroa Street – Figueroa Street is designated as a Major Highway in the City of Carson General Plan that runs north/south to the east of the Project Site. The roadway provides two travel lanes in each direction and contains a raised median with intersection turn lanes on portions of the roadway. Restricted and unrestricted parking is available on both sides of the street near the Project Site. The posted speed limit is 40 mph.

Meyler Street – Meyler Street is a local street that runs north/south south of the Project Site. Unrestricted parking is available on both sides of the street near the Project Site.

Berendo Avenue – Berendo Street is a local street that runs north/south north of the Project Site. Restricted and unrestricted parking is available on both sides of the street near the Project Site.

Budlong Avenue – Budlong Avenue is a local street that runs north/south north of the Project Site. Restricted and unrestricted parking is available on both sides of the street near the Project Site.

(ii) East/West Roadways

Carson Street – Carson Street is designated as a Major Highway in the Los Angeles County General Plan that runs east/west on the north side of the Project Site and provides two travel lanes in each direction. The portions of the roadway within the City of Los Angeles are part of the City of Los Angeles Bicycle Lane Network. Restricted and unrestricted parking is available on either side of the street on portions of the roadway. The posted speed limit is 35 mph.

220th Street – 220th Street is a local street that runs east/west on the south side of the Project Site and provides four vehicle travel lanes, two in each direction. This roadway is part of the County of Los Angeles proposed Bicycle Network. Restricted and unrestricted parking is available on either side of the street on portions of the roadway near the Project Site. The posted speed limit is 30 mph.

223rd Street – 223rd Street is designated as a Secondary Highway in the Los Angeles County General Plan that runs east/west to the south of the Project Site and provides two travel lanes in each direction. This

roadway is part of the County of Los Angeles proposed Bicycle Network. The majority of parking is unrestricted on either side of the street. The posted speed limit is between 35 and 40 mph.

Torrance Boulevard – Torrance Boulevard is designated as a Secondary Highway in the Los Angeles County General Plan that runs east/west north of the Project Site and provides two travel lanes in each direction. Parking is available on most blocks within the study area for passenger vehicles. Commercial vehicles are not allowed to park on the roadway. The posted speed limit is 35 mph.

Sepulveda Boulevard – Sepulveda Boulevard is designated as a Major Highway in the Los Angeles County General Plan that runs east/west south of the Project Site and provides three travel lanes in each direction, with a raised median on portions of the roadway. Parking is not available on either side of the street. The posted speed limit is 40 mph.

(2) Existing Intersection Service Levels

Twenty-two study intersections, 21 signalized and one (1) unsignalized, were selected for the Project traffic analysis (See Figure 4.L-1 for intersection locations). Level of service (LOS) is a qualitative measure used to describe the condition of traffic flow on the street system, ranging from excellent conditions at LOS A to overloaded conditions at LOS F. LOS D is typically recognized as the minimum desirable level of service in urban areas. Levels of service definitions are provided in **Table 4.L-5**, *Level of Service Definitions for Signalized Intersections*.

Per the requirements of Los Angeles County, City of Torrance and City of Carson, Intersection Capacity Utilization (ICU) methodology was used to determine the intersection volume-to-capacity (V/C) ratio and corresponding LOS for the 21 signalized study intersections wholly or partly in these jurisdictions. The ICU method of intersection capacity analysis determines the intersection V/C ratio and corresponding LOS for the turning movements and intersection characteristics at signalized intersections. "Capacity" represents the maximum volume of vehicles in the critical lanes that have a reasonable expectation of passing through an intersection in one hour under prevailing roadway and traffic conditions. The ICU were calculated by dividing critical traffic movement volumes at an intersection by the capacity per number of lanes for the movement.

The one unsignalized study intersection, Meyler Street & 220th Street, is located in unincorporated Los Angeles County. The County's Impact Analysis Report Guidelines do not specify a specific methodology or thresholds of significance when analyzing unsignalized intersections. Consistent with County practices, this intersections is evaluated as if it were signalized, using the ICU methodology. The County of Los Angeles thresholds of significance for a signalized intersection are also applied to this intersection (described below).

The City of Los Angeles requires the use of Critical Movement Analysis (CMA) methodology to evaluate the operations of intersections and this methodology was used to analyze the study locations in the City of Los Angeles. The CMA method of intersection capacity analysis determines the intersection V/C ratio and corresponding LOS for the turning movements and intersection characteristics at signalized intersections. The CALCADB software package developed by Los Angeles Department of Transportation (LADOT) was used to implement the CMA methodology at the eight study intersections wholly or partly under City of Los Angeles jurisdiction.

Table 4.L-5

Level of Service Definitions for Signalized Intersections

Level of Service	Intersection Capacity Utilization[a]	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.

[a] *Transportation Research Circular No. 212, Interim Materials on Highway Capacity, Transportation Research Board, 1980.*

Source: Fehr & Peers, 2016.

The City of Los Angeles' Automated Traffic Surveillance and Control (ATSAC) system is a computer-based traffic signal control system that monitors traffic conditions and system performance to allow ATSAC-operations to manage signal timing to improve traffic flow conditions. All eight signalized study intersections under City of Los Angeles jurisdiction are currently operating under the City's ATSAC system. In accordance with established City of Los Angeles procedures, a 0.07 V/C reduction was applied at each intersection where ATSAC is implemented. Per direction from LADOT, the benefits of the Adaptive Traffic Control System (ATCS) in place at these intersections (normally estimated at 0.03 V/C) are not reflected in this analysis due to the limited area of the City's system.

Table 4.L-6, *Existing Intersection Levels of Service Analysis,* summarizes the existing LOS analysis results. As shown in the table, the following nine intersections are currently operating at poor levels of service, i.e., LOS E or F, during one or both of the analyzed peak hours:

1. Normandie Avenue & Torrance Boulevard
2. Vermont Avenue & Torrance Boulevard
3. Western Avenue & Carson Street
4. Normandie Avenue & Carson Street
8. Vermont Avenue & Carson Street
15. Figueroa Street and 220th Street/I-110 Northbound Ramps
16. Western Avenue & 223rd Street
19. Vermont Avenue & 223rd Street
22. Western Avenue & Sepulveda Boulevard

Detailed LOS calculation worksheets are presented in Appendix C of the Traffic Study.

Table 4.L-6

Existing Intersection Level of Service Analysis

ID	N/S St. Name	E/W St. Name [a]	Jurisdiction	Analysis Methodology	Analyzed Period	Existing V/C or Delay	Existing LOS
1	Normandie Ave.	Torrance Blvd.	City of Los Angeles	CMA	AM	0.902	E
					PM	0.904	E
			Los Angeles County	ICU	AM	0.935	E
					PM	0.936	E
2	Vermont Ave.	Torrance Blvd.	Los Angeles County	ICU	AM	0.927	E
					PM	0.880	D
3	Western Ave.	Carson St.	City of Los Angeles	CMA	AM	0.877	D
					PM	0.948	E
			City of Torrance	ICU	AM	0.943	E
					PM	1.006	F
4	Normandie Ave.	Carson St.	City of Los Angeles	CMA	AM	0.763	C
					PM	0.837	D
			Los Angeles County	ICU	AM	0.904	E
					PM	0.930	E
5	Budlong Ave.	Carson St.	Los Angeles County	ICU	AM	0.570	A
					PM	0.539	A
6	Berendo Ave.	Carson St.	Los Angeles County	ICU	AM	0.575	A
					PM	0.569	A
7	Medical Ctr Dr.	Carson St.	Los Angeles County	ICU	AM	0.628	B
					PM	0.611	B
8	Vermont Ave.	Carson St.	Los Angeles County	ICU	AM	0.905	E
					PM	0.917	E
9	I-110 SB Ramps	Carson St.	Los Angeles County	ICU	AM	0.814	D

Table 4.L-6

Existing (2014) Intersection Level of Service Analysis

ID	N/S St. Name	E/W St. Name [a]	Jurisdiction	Analysis Methodology	Analyzed Period	Existing V/C or Delay	Existing LOS
					PM	0.849	D
10	Figueroa St.	Carson St.	City of Carson	ICU	AM	0.661	B
					PM	0.762	C
11	Western Ave.	220th St.	City of Los Angeles	CMA	AM	0.554	A
					PM	0.698	B
			City of Torrance	ICU	AM	0.685	B
					PM	0.819	D
12	Normandie Ave.	220th St.	City of Los Angeles	CMA	AM	0.409	A
					PM	0.293	A
			Los Angeles County	ICU	AM	0.549	A
					PM	0.441	A
13	Meyler St.	220th St.	Los Angeles County	ICU	AM	0.460	A
					PM	0.446	A
14	Vermont Ave.	220th St.	Los Angeles County	ICU	AM	0.645	B
					PM	0.696	B
15	Figueroa St.	220th St./I-110 NB Ramps	City of Carson	ICU	AM	0.913	E
					PM	0.886	D
16	Western Ave.	223rd St.	City of Los Angeles	CMA	AM	0.822	D
					PM	0.851	D
			City of Torrance	ICU	AM	0.893	D
					PM	0.919	E
17	Normandie Ave.	223rd St.	City of Los Angeles	CMA	AM	0.623	B
					PM	0.701	C
			Los Angeles County	ICU	AM	0.807	D
					PM	0.822	D
18	Meyler St.	223rd St.	Los Angeles County	ICU	AM	0.649	B
					PM	0.578	A
19	Vermont Ave.	223rd St.	Los Angeles County	ICU	AM	0.917	E
					PM	0.880	D
20	I-110 SB Ramps	223rd St.	Los Angeles County	ICU	AM	0.755	C
					PM	0.843	D
21	Figueroa St.	223rd St.	City of Carson	ICU	AM	0.827	D
					PM	0.718	C
22	Western Ave.	Sepulveda Blvd	City of Los Angeles	CMA	AM	0.927	E
					PM	0.990	E
			City of Torrance	ICU	AM	0.957	E
					PM	1.011	F

A All Intersections are signalized except for #13, Meyler St. and 220th St., which is all way-stop controlled.

Source: Fehr & Peers, 2016

(3) CMP Monitoring Stations

The following six (6) Congestion Management Program (CMP) arterial monitoring intersections are located nearest to the Project study area:

- Western Avenue & Carson Street (City of Torrance)
- Western Avenue & 190th Street (City of Torrance)
- Western Avenue & Sepulveda Boulevard (City of Torrance)
- Pacific Coast Highway & Western Avenue (City of Los Angeles)
- Pacific Coast Highway & Figueroa Street (City of Los Angeles)
- Artesia Boulevard & Vermont Avenue (City of Gardena)

The CMP Program is discussed further below.

(4) Public Transit and Alternative Transportation Facilities

(a) Public Transit Service

The Project area is served by bus lines operated by Los Angeles County Metropolitan Transportation Authority (Metro), Torrance Transit, Carson Circuit and Gardena Municipal Bus. **Figure 4.L-2**, *Existing Transit Lines*, illustrates the existing transit service in the study area. The following is a summary of the transit services in the Project vicinity:

Metro Line 205 – Line 205 is a north/south line that runs from the Willowbrook/Rosa Parks Station to San Pedro. The line has 30- to 35-minute headways during AM/PM peak hours and runs on Vermont Avenue within the study area, with stops every few blocks. Project site access is provided via stops at the intersections of Vermont Avenue & Carson Street and Vermont Avenue & 220th Street.

Metro Line 950X – Line 950X is a north/south line that runs from downtown Los Angeles to San Pedro via the Harbor Freeway and provides limited service. The line has 12- to 30-minute headways during AM/PM peak periods and runs on the Harbor Freeway within the study area. Project site access is provided via a stop at Carson Street.

Metro Line 550 – Line 550 is a north/south line that runs from the University of Southern California to San Pedro. The line has 30- to 35-minute headways during AM/PM peak hours and runs on Vermont Avenue within the study area, with stops at Torrance Boulevard and Carson Street. Project site access is provided via a stop at the intersection of Vermont Avenue & Carson Street.

Carson Circuit Line F – Line F travels on a loop route that runs primarily along 223rd Street, Figueroa Street, 213th Street and Martin Street. The line has 40-minute headways during AM and PM peak periods and runs on 223rd Street and Figueroa Street within the study area, with stops at Figueroa Street & 223rd Street, Figueroa Street & 220th Street, Figueroa Street & Carson Street, Carson Town Center, and Figueroa Street & Torrance Boulevard.

Carson North/South Shuttle Line S – Line S is a north/south line that runs from Wilmington to the Harbor Gateway Transit Center and provides morning and afternoon peak period service only. The line has 50-minute headways and runs on Figueroa Street within the study area, with stops at Figueroa Street & 223rd Street, Figueroa Street & 220th Street, Figueroa Street & Carson Street, Carson Town Center, and Figueroa Street & Torrance Boulevard.

Torrance Transit Line 1 – Line 1 runs from Del Amo Fashion Center to the Harbor Gateway Center. The line runs east/west along Torrance Boulevard, north/south along Normandie Avenue and Vermont Avenue and east/west along Carson Street within the study area, with stops at every few blocks. The Project Site is served by two stops along Carson Street with 40- to 45-minute headways during the AM and PM peak periods.

Torrance Transit Line 3 – Line 3 is an east/west line that runs from the Redondo Beach Pier to downtown Long Beach. The line runs along Carson Street within the study area with 20- to 25-minute headways during the AM and PM peak periods and stops at every few of blocks.

Torrance Transit Line Rapid 3 – Line Rapid 3 is an east/west line that runs from the South Bay Galleria to downtown Long Beach and travels much of the same route as Line 3 adding frequent service to the study area between 6:30 and 8:30 AM and between 2:30 and 6:00 PM. The line runs along Carson Street within the study area and provides service with headways between 10 and 20 minutes during the AM and PM peak periods. Stops are provided at Carson Street & Western Avenue, Carson Street & Normandie Avenue, and Carson Street & Vermont Avenue within the study area.

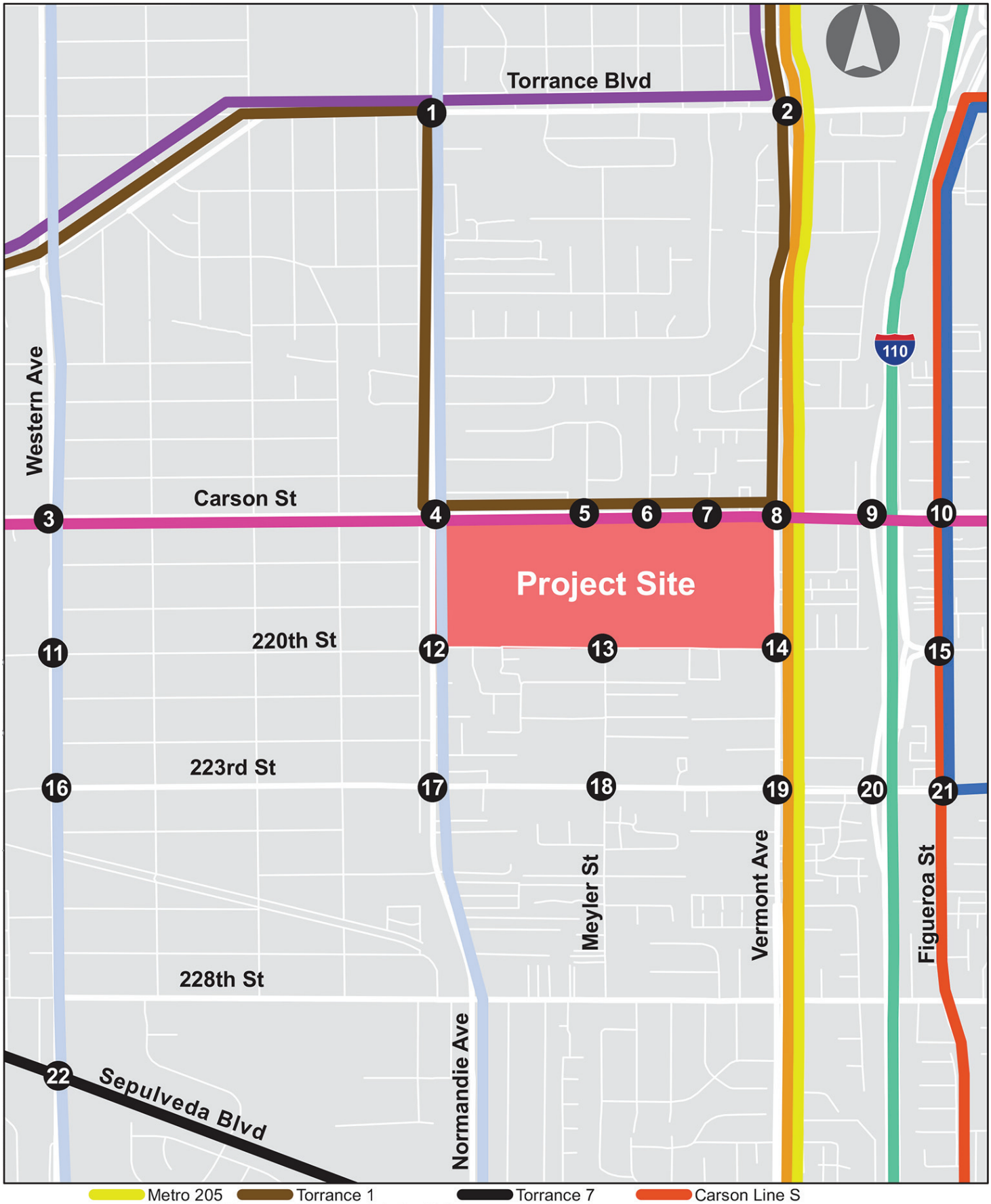
Torrance Transit Line 4 – Line 4 is a north/south express line that runs from the intersection of Hawthorne Boulevard and the Pacific Coast Highway to downtown Los Angeles. The line travels east/west on Torrance Boulevard and north/south on Vermont Boulevard within the study area with stops located at Torrance Boulevard & Western Avenue, Torrance Boulevard & Normandie Avenue, and Torrance Boulevard & Vermont Avenue. The line operates between 5:30 and 8:50 AM and between 3:30 and 7:00 PM with 40-minute headways.

Torrance Transit Line 7 – Line 7 is an east/west line that runs from the intersection of Catalina Street & Torrance Boulevard to the intersection of Sepulveda Boulevard & Avalon Boulevard. The line runs along Sepulveda Boulevard within the study area with 60-minute AM and PM peak period headways and provides a stop at Western Avenue & Sepulveda Boulevard.

Gardena Municipal Bus Lines 2 – Line 2 is a north/south line that runs from the Metro Green Line Vermont Station to the intersection of the Pacific Coast Highway & Normandie Avenue. The line runs along Western Avenue and Normandie Avenue within the study area and provides stops every few blocks. The line provides service with headways of 15 minutes during AM and PM peak periods.

(b) Bicycle and Pedestrian Facilities

Currently, there is limited dedicated bicycle infrastructure in the study area. East of the Project Site, bicycle lanes (Class II facilities) extend north/south on Vermont Avenue from 223rd Street through the northern edge of the study area. An east/west Class II facility exists on Carson Street between Normandie Avenue and



PCR

N

0 0.4 Miles

Existing Transit Lines

Harbor-UCLA Medical Center Master Plan

Source: Fehr & Peers, 2016.

FIGURE

4.L-2

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Western Avenue. The City of Los Angeles Mobility Plan includes a proposed protected bicycle lane on Western Avenue within the study area. The Los Angeles County Bicycle Master Plan includes a proposed Class II bicycle lane on 223rd Street between Normandie Avenue and the Harbor Freeway and a Class III bicycle route on 220th Street between Normandie Avenue and Vermont Avenue. The City of Carson Master Plan of Bikeways includes proposed buffered bicycle lanes on Figueroa Street south of 223rd Street and bicycle lanes north of 223rd Street within the study area. The plan also calls for buffered bike lanes on 223rd Street, sharrows[2] on Carson Street and bicycle lanes on 220th Street in the City of Carson portion of the study area. Existing and planned bicycle facilities are illustrated in **Figure 4.L-3**, *Existing and Planned Bicycle Facilities*. Pedestrian traffic typically enters the Medical Center Campus from one of the parking structures, parking lots or from the nearby transit stops. The Medical Center Campus is located in an established neighborhood with a moderate population density. All of the streets immediately bordering the Medical Center Campus and nearly all of the other streets in the vicinity include sidewalks, facilitating pedestrian movement. Marked crosswalks are present at most intersections in the study area. Pedestrian walk phases are either automatically provided at the intersections or are actuated by pedestrian push-buttons.

(5) Existing Project Site Vehicular Circulation

Vehicular access to the Harbor-UCLA Medical Center Campus, as illustrated below in **Figure 4.L-4**, *Existing Site Circulation*, is provided by a primary driveway on Carson Street, near the Existing Hospital and a second driveway west of the primary driveway; two driveways on Vermont Avenue; five driveways along 220th Street; and one driveway on Normandie Avenue. Only the Carson Street driveways are signalized. Internal circulation on-site follows the original grid layout established on the property, with four east-west roadways and numerous short north-south connector roadways. Most interior intersections of two roadways or drive aisles are stop-sign controlled. To aid wayfinding, most of the internal roadways are named and display street name signs at intersections. In addition, most buildings or modular structures have a building number (consisting of a letter and a number) or a building name, or both, visible to drivers. However, few directory boards are located within the Medical Center Campus, and wayfinding for motorists as well as pedestrians can be confusing. Contributing to this confusion is the lack of distinctions between Medical Center Campus entrances and parking areas for Harbor-UCLA staff and those for the general public.

(6) Parking Facilities

Existing parking facilities consist primarily of on-site surface parking lots and one multi-level parking structure located at the southeast corner of the Medical Center Campus, as well as three off-site surface parking lots. On-site parking facilities at the Medical Campus are illustrated in Figure 2-5 in Chapter 2.0, *Project Description*, of this Draft. The larger parking lots are generally distributed along the Medical Center Campus perimeter, with smaller lots throughout the Medical Center Campus interior; parking is allowed on one or both sides of internal roadways, though incidental on-street parking also occurs in areas not officially designated as parking areas, as discussed below.

The on-site parking supply totals 2,905 spaces, which exceeds the County's parking code requirement of 2,709 spaces. Specifically, as discussed in further detail below under Regulatory Framework Summary, Los Angeles County Code, Section 22.52.1120, Hospitals, Convalescent Hospitals, Adult Residential Facilities, and

[2] *Sharrows are chevrons combined with bicycle stencils placed in the center of a travel lane. They indicate that bicycles and motor vehicles share the lane. These are often times accompanied by signage such as "bicyclists can use full lane".*

Group Homes for Children, requires 2 spaces per bed, 1 space per 250 square feet for outpatient facilities, and 1 space per 400 square feet for research use. This supply includes 2,168 standard spaces and 124 American with Disabilities Act (ADA) spaces in designated surface parking lots and the new parking structure in the southeastern corner of the Harbor-UCLA Medical Center Campus, and 596 standard spaces and 17 ADA spaces along the internal streets. An additional 281 spaces (278 standard spaces and three ADA spaces) are provided in off-site parking facilities, and street parking is permitted along all or portions of the four public streets surrounding the Medical Center Campus. However, parking is not uniformly utilized, with parking for the Existing Hospital Tower and other facilities near the eastern end of the Medical Center Campus and along the northern perimeter experiencing severe localized shortfalls, while in other locations, designated parking for specific facilities is underutilized. A considerable number of makeshift parking spaces have been created along internal roadways to accommodate localized demand, though many of these areas are not designated for on-street parking. Moreover, most of the interior roadways do not provide sidewalks or curbs and pedestrians must share the roadways with vehicle traffic, adversely affecting access, including disabled access, to facilities throughout the Harbor-UCLA Medical Center Campus.

b. Regulatory Framework Summary

(1) Federal

No federal traffic/transportation regulations apply to the Project.

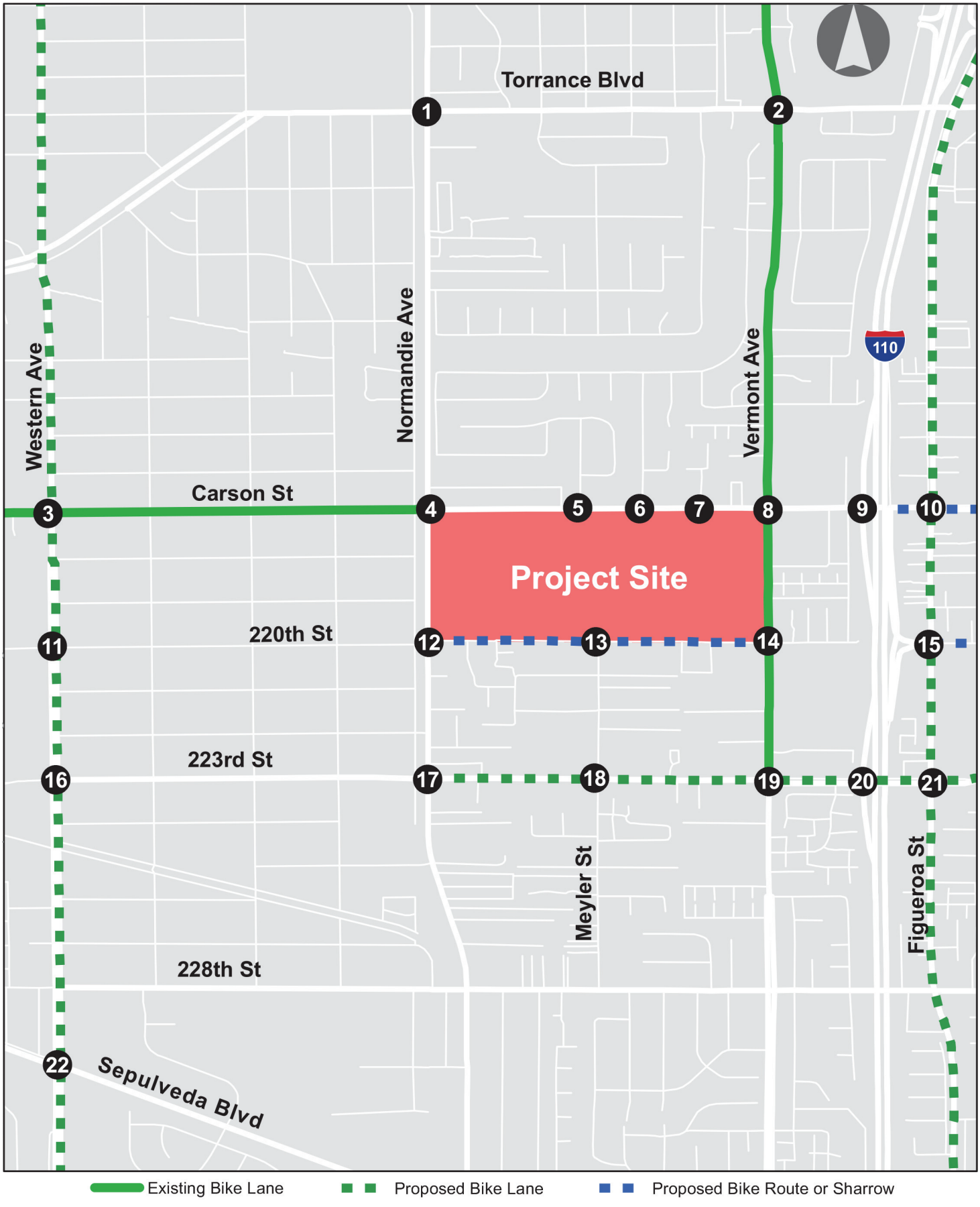
(2) State

(a) Statewide Transportation Improvement Program

Caltrans administers transportation programming, which is the public decision-making process that sets priorities and funds projects envisioned in long-range transportation plans. Caltrans commits expected revenues over a multi-year period to transportation projects. The Statewide Transportation Improvement Program (STIP) is a multiyear capital improvement program of transportation projects on and off the State Highway System, funded with revenues from the State Highway Account and other sources.

(b) Congestion Management Program

The Congestion Management Program (CMP) is a state-mandated program enacted by the State legislature to address the increasing concern that urban congestion is affecting the economic vitality of the state and diminishing the quality of life in some communities. The 2010 CMP is the eighth CMP adopted for Los Angeles County since the requirement became effective with the passage of Proposition 111 in 1990. The hallmark of the CMP program is that it is intended to address the impact of local growth on the regional transportation system. Statutory requirements of the CMP include monitoring LOS on the CMP Highway and Roadway network, measuring frequency and routing of public transit, implementing the Transportation Demand Management and Land Use Analysis Program and helping local jurisdictions meet their responsibilities under the CMP. Metro, the local CMP agency, has established a countywide approach to implement the statutory requirements of the CMP in their governing 2010 CMP for Los Angeles County. Please see discussion below.



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0 0.4 Miles

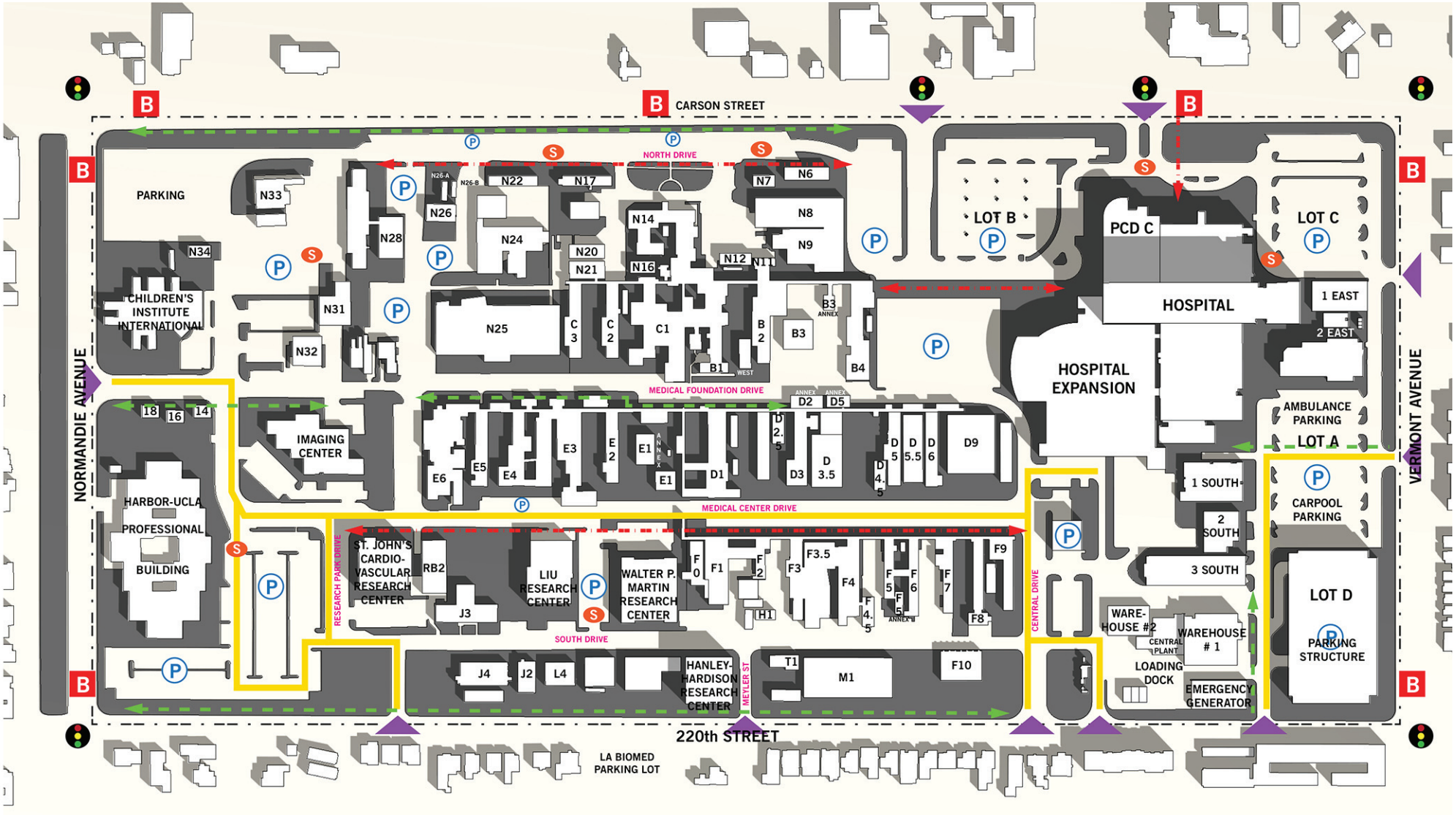
Existing and Planned Bicycle Facilities

Harbor-UCLA Medical Center Master Plan

Source: Fehr & Peers, 2016.

FIGURE

4.L-3



LEGEND

- PARKING
- SHUTTLE BUS STOPS
- STOP LIGHTS
- FIRE DEPT. FIRE LANE ACCESS 26'0" ACCESS ROAD
- BUS STOP
- PRIMARY PEDESTRIAN ROUTE
- SECONDARY PEDESTRIAN ROUTE
- CAMPUS ENTRY
- PROPERTY LINE

PCR

0 400 Feet

Existing Site Circulation

Harbor-UCLA Medical Center Master Plan

Source: Perkins+Will, 2012.

FIGURE

4.L-4

(c) 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 CEQA for several categories of development projects including the development of infill projects in transit priority areas. The bill adds to the CEQA Statute, California Public Resources Code Chapter 2.7, Modernization of Transportation Analysis for Transit-Oriented Infill Projects, Section 21099. Pursuant to Section 21099(d)(1) "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."[3] The provisions of SB 743 apply to projects located on a "lot within an urban area that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated only by, an improved public right-of-way from, parcels that are developed with qualified urban uses….and it is located within one-half mile of a major transit stop."[4] The Project would meet the criteria set forth in SB 743 because it (1) is located within a transit priority area less than one-half mile from the Harbor Freeway/Carson Station TOD (connection to Metro Silver Line) and (2) comprises an employment center within an established urban area. Under SB 743, the Project would be exempt from findings of significance related to parking effects. However, for the purpose of this EIR, parking effects are evaluated for informational and disclosure purposes.

(3) Regional

(a) Southern California Association of Governments' Regional Transportation Plan

The Southern California Association of Governments' (SCAG) Regional Transportation Plan (RTP) is a federal- and State-mandated transportation plan that envisions the future multimodal transportation system for the region and provides the basic framework for coordinated, long-term investment in the regional transportation system over the RTP planning horizon of 2035. In compliance with State and federal requirements, SCAG prepares the RTIP to implement projects and programs listed in the RTP. Updated every other year, the RTP lists all transportation projects proposed for the region over a six-year period. Transportation projects proposed in the region are required to be consistent with the RTP and included within the RTIP to be eligible for State or federal funding.

The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) was adopted by SCAG on April 7, 2016. The 2016 RTP/SCS identifies mobility as an important component of a much larger picture with added emphasis on sustainability and integrated planning. In addition, the RTP/SCS includes goals and policies that pertain to mobility, accessibility, safety, productivity of the transportation system, protection of the environment and energy efficiency, and land use and growth patterns that complement the State and region's transportation investments. An integral component of the RTP/SCS is a strong commitment to reduce emissions from transportation sources in order to comply with Senate Bill 375, improve public health, and meet the National Ambient Air Quality Standards as set forth by the Clean Air Act. For further discussion of air quality and greenhouse gas emissions, see Section 4.B, *Air Quality*, and Section 4.E, *Greenhouse Gas Emissions*, respectively, of this Draft EIR.

[3] *Section 21009(2)(B) clarifies that "For the purposes of this subdivision, aesthetic impacts do not include impacts on historical or cultural resources."*

[4] *Per definitions included in Section 21099(a).*

(b) Los Angeles County Congestion Management Program

The CMP is a State-mandated program enacted by the State legislature to address the increasing concern that urban congestion is affecting the economic vitality of the State and diminishing the quality of life in some communities. The 2010 CMP is the eighth CMP adopted for Los Angeles County since the requirement became effective with the passage of Proposition 111 in 1990. The hallmark of the CMP program is that it is intended to address the impact of local growth on the regional transportation system. Statutory requirements of the CMP include monitoring LOS on the CMP highway and roadway network, measuring frequency and routing of public transit, implementing the Transportation Demand Management and Land Use Analysis Program, and helping local jurisdictions meet their responsibilities under the CMP.

Los Angeles County Metropolitan Transportation Authority (Metro), the local CMP agency, has established a countywide approach to implement the statutory requirements of the CMP in its governing 2010 CMP for Los Angeles County. The CMP identifies a system of highways and roadways with minimum levels of service performance measurements designated at LOS E (unless exceeded in base year conditions) for highway segments and key roadway intersections on this system. If LOS standards deteriorate, then local jurisdictions must prepare a deficiency plan to be in conformance with the countywide plan.

The CMP requires that, when an EIR is prepared for a project, traffic and public transit impact analyses be conducted for select regional facilities based on the quantity of project traffic expected to use those facilities. Mixed-use developments that meet minimum density requirements and that are located within a one-quarter mile radius of a fixed rail station are exempt from CMP analysis. The CMP guidelines 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 morning or afternoon weekday peak hours of adjacent street traffic; and
- Mainline freeway monitoring locations where the proposed project will add 150 or more trips, in either direction, during either the morning or afternoon weekday peak hours.

If a project adds more traffic than the minimum threshold amount to an intersection, then that intersection has to be analyzed for deficiencies. The analysis must investigate measures which will mitigate the significant CMP system impacts; develop cost estimates, including the fair share costs to mitigate impacts of the proposed project; and indicate the responsible agency. In Los Angeles County, an impact is considered significant if the project related increase in the V/C ratio equals or exceeds the thresholds noted below under Thresholds of Significance.

(4) Local

(a) County of Los Angeles

(i) Los Angeles County General Plan 2035

The Mobility Element, included as Chapter 7 of the Los Angeles County General Plan 2035, provides an overview of the transportation infrastructure and strategies for developing an efficient and multimodal transportation network. The Element assesses the challenges and constraints of the County transportation system and offers policy guidance to reach the County's long-term mobility goals. The Element includes two sub-elements, the Highway Plan and the Bicycle Master Plan. These plans establish policies for the roadway

and bikeway systems in the unincorporated areas, which are coordinated with the networks in the 88 cities in the County. The General Plan also established a program to prepare community pedestrian plans, with guidelines and standards to promote walkability and connectivity throughout the unincorporated areas.

(ii) West Carson Transit Oriented District (TOD) Specific Plan

The Los Angeles County Department of Regional Planning is currently preparing the West Carson Transit Oriented District (TOD) Specific Plan. The Plan aims to improve access to transit, housing, and jobs, while creating a healthier, safer environment for walking and biking. The final document will be based on collaborative efforts with residents, other County agencies, adjacent cities, and other stakeholders, and will contain standards for zoning and land use as well as a mobility strategy, an economic development strategy, a capital improvement plan, and urban design guidelines for the West Carson TOD area, which includes the Harbor-UCLA Medical Center Campus.

(iii) Parking Requirements

Section 22.52.1120 of the County Code applies to parking for hospitals, convalescent hospitals, adult residential facilities and group homes for children. According to Section 22.52.1120:

a. *Every hospital shall have two automobile parking spaces, plus adequate access thereto, for each patient bed. The parking may be within 500 feet of the exterior boundary of the lot or parcel containing the main use. At least 25 percent of the required parking shall be reserved and marked for the use of employees only.*

b. *Outpatient clinics, laboratories, pharmacies and other similar uses shall have one parking space for each 250 square feet of floor area when established in conjunction with a hospital.*

c. *Every convalescent hospital shall have an amount of automobile parking spaces not less than the number of residents permitted by any license or permit which allows the maintenance of such facility. If employee dwelling units are provided on the premises there shall be, in addition to the automobile parking spaces required for the principal use, the number of automobile parking spaces required by this Part 11 for residential uses.*

d. *Every adult residential facility and group home for children shall have one automobile parking space for each staff member on the largest shift and one parking space for each vehicle used directly in conducting such use.*

With regard to bicycle parking, Section 22.52.1225 of the County Code applies to the provision of bicycle parking and related facilities. According to Section 22.52.1225, the minimum number of short-term and long-term bicycle parking spaces for a particular use shall be provided in accordance with the requirements for each particular type of land use. For a combination of uses on a single lot, the number of required bicycle parking spaces shall be equal to the combined total of the required bicycle parking spaces for each of the individual uses. For purposes of this calculation, when floor area is used, all calculations for the specific use shall be based on gross floor area, including the gross floor area of any proposed addition to the involved structure or site. The following requirements provided in Section 22.52.1225 apply to existing and proposed uses on the Medical Center Campus.

- Institutional uses, including hospitals, convalescent hospitals, adult residential facilities, and group homes for children: Short-term - One space per each 20,000 square feet of gross floor area (two space minimum); Long-term - One space per each 10,000 square feet of gross floor area (two space minimum)

(b) City of Los Angeles

(i) Mobility Plan 2035

The City of Los Angeles Mobility Plan 2035, which was approved by Los Angeles City Council on August 11, 2015, is a comprehensive update of the City's Transportation Element and incorporates "complete streets" principles. Government Code Sections 65302(b)(2)(A) and (B) require a circulation element (i.e., Mobility Plan) to provide for a balanced, multimodal transportation network that meets the needs of all users of street, roads, and highways. "All users" by definition in the statute is "bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors." This requirement was established as part of Assembly Bill 1358, which is referred to as the California Complete Streets Act, as well as Caltrans Deputy Directive DD-64-R1, Complete Streets: Integrating the Transportation System.

The Mobility Plan 2035 addresses the expanded definition of streets that has fundamentally changed the relationship of people with streets. The Plan also responds to changing demographics in the City, including people wanting safe and accessible active transportation options and alternatives to the automobile as well as an aging population needing to rely on alternatives to the automobile. The Mobility Plan also addresses the role of transportation in the City's economic vitality. The Plan serves to meet the goal in the Regional Transportation Plan to decrease the vehicle miles traveled (VMT) per capita by five percent every five years, to 20 percent by 2035 and to meet a nine percent per capita greenhouse gas reduction by 2020 and a 16 percent per capita reduction by 2035.

The Mobility Plan 2035 identifies Transit Enhanced Network (TEN), a Neighborhood Enhanced Network (NEN) to support pedestrian activity, and an expanded Bicycle Enhanced Network (BEN). Among other provisions the Mobility Plan 2035 includes roadway designations pursuant to updated policies and current transportation needs in the City.

Mobility Plan 2035 includes goals that define the City's five main priorities: 1) Safety First; 2) World Class Infrastructure; 3) Access for All Angelenos; 4) Collaboration, Communication and Informed Choices; and 5) Clean Environmental & Healthy Communities.

The 2010 Bicycle Plan, which is part of the Mobility Plan 2035, guides the development of a citywide bicycle transportation system. The Bicycle Plan recognizes the growing needs of the cycling public and seeks to further reduce the barriers to greater utilization of bicycles for both personal transportation and for recreation. Particular emphasis is placed on bicycling as a commute option. The overall intent is to expand bicycle usage through further development of bicycle riding facilities and improvement of existing facilities along with appropriate support programs. The Bicycle Plan establishes standards for development of these facilities, as well as criteria for prioritization of development of designated routes.

With a stated policy to reduce automobile trips and greenhouse gas emissions by making 5 percent of all daily trips and 3 percent of commute trips bicycle trips by 2020, the 2010 Bicycle Plan establishes a Backbone Network and Neighborhood Network linking Regional Centers to promote bicycle usage.

(c) City of Carson

(i) Carson General Plan Transportation and Infrastructure Element

The purpose of the City of Carson General Plan Transportation and Infrastructure Element is to document the methods and results of the analysis of the existing and projected future circulation conditions in the City of Carson. As part of the General Plan, this document outlines Transportation and Infrastructure System policies and describes the future circulation system needed to support the Land Use Element. In addition, this Element addresses public utilities and infrastructure.

(d) City of Torrance

(i) Torrance General Plan Circulation and Infrastructure Element

The Torrance General Plan Circulation and Infrastructure Element plans for the efficient and effective movement of people and goods between destinations within Torrance and throughout the region. A well-planned circulation system is a high priority, given that Torrance plays a unique role in the geography of the South Bay Region. Creative solutions, technology, right-of-way acquisition, and cooperation with adjacent cities are keys to addressing circulation issues and managing growth. While the Circulation and Infrastructure Element recognizes that automobiles will remain the leading mode of transportation for most Torrance residents and visitors, the objectives and policies included in this Element also stress the importance of accommodating and encouraging alternatives to automobile travel. The provision of facilities for pedestrians and bicycles and a comprehensive transit system will ensure that non-automobile transportation is a convenient alternative. In addition to planning for the City's long-term mobility needs, this Element also addresses the circulation of energy, water, sewage, storm drainage, and communications.

3. ENVIRONMENTAL IMPACTS

a. Methodology

The analysis of potential transportation and parking impacts considers potential project effects related to construction, intersection service levels, roadway segments, the regional transportation system (i.e., CMP analysis), Caltrans facilities (freeway mainline segments, Caltrans intersections, and off-ramp queuing), public transit and other alternative transportation modes, vehicular access and circulation, and parking supply.

(1) Construction Traffic 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 on-going 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.

(2) Operational Traffic Impacts

(a) Intersection Service Levels

The methodology for evaluating operational intersection traffic impacts involves several steps, including the identification of existing traffic conditions at all Project study intersections and the determination of existing conditions with the Project traffic, Interim Year baseline conditions without and with Project traffic, and future cumulative Full Buildout operating year baseline conditions without and with Project traffic at the 22 study intersections.

Weekday morning and evening peak hour traffic counts were conducted at the 22 analyzed intersections in October 2014, May 2015, November 2015 and December 2015. Existing peak hour weekday traffic volumes are illustrated in Figure 5 of the Traffic Study.

(i) Trip Generation

Vehicle trip generation for the Project was estimated using a combination of: standard rates developed by the ITE and published in *Trip Generation, 9th Edition* and trip generation reduction rates for similar sites. For the Hospital's inpatient facilities (ITE Code 610), the analysis used the number of beds to estimate trip generation. The proposed new hospital tower would provide more spacious facilities consistent with current best practices, meaning that the new facility will require more floor area per bed.

As this site is located adjacent to transit, mixed uses, and falls within the Los Angeles County West Carson Transit Oriented District Specific Plan, its trip generation pattern is likely to deviate from the data collection sites where rates from ITE were drawn. Internal trip credits, defined as a reduction that can be applied to the trip generation estimates due to trips made within the site between land uses, are also applied at a rate of 20% of the daily and peak hour trips to all land uses on the site. Many of the buildings and activities on the Harbor-UCLA Medical Center Campus are related to one another, and this will continue as the site continues to add complementary uses. The internal trip credits were estimated based on the recommended factors provided in *Trip Generation, 9th Edition*; review of traffic studies for projects located in the region; and consultation with county staff as part of the MOU process.

A 7% transit credit and a 2% walk credit were applied to the all land uses on the site. These credits account for trips to and from the Project Site using modes other than automobiles. These include trips on transit, bicycle, walk, etc. The site is located within walking distance to the several Metro and municipal bus lines including two express lines, and is in close proximity to a wide diversity of land uses within reasonable walking distance.

(ii) Trip Distribution

The geographic distribution of the traffic generated by the proposed Project depends on several factors. These factors include the type and density of the proposed land uses, the geographic distribution from which patients and staff are drawn, and the location of the Project in relation to the surrounding street system. The general distribution pattern used in this traffic study was developed in consultation with county staff and is illustrated in Figure 6 of the Traffic Study. Aggregated data on existing staff home zip codes and patient home zip codes was used to determine existing origins for trips coming to and leaving from the Project.

(iii) Traffic Assignment

The traffic expected to be generated by the proposed Project was assigned to the street network using the distribution pattern described in Figure 6 of the Traffic Study. Project traffic was assigned based on the vehicle access and circulation diagram from the Harbor-UCLA Master Plan, as seen in **Figure 4.L-5**, *Proposed Vehicular Access and Circulation*. Figure 8 in the Traffic Study illustrates the assignment of Project traffic for the Interim Development scenario at each of the 22 intersections analyzed in this study, and Figure 9 of the Traffic Study illustrates the assignment of Full Buildout Project traffic.

(iv) Future Cumulative Analysis (Interim Year and Full Buildout Year Conditions)

Future Street Network Changes

The existing traffic signal at the intersection of Western Avenue and Carson Street will be modified to include a protected/permitted left turn phase at the east and west approaches. The existing signal is being installed by the City of Los Angeles in consultation with Caltrans and the City of Torrance using funding from the Highway Safety Improvement Program (HSIP). As part of the proposed project, the southern leg of the intersection of Carson Street & Medical Center Drive, which serves as an entrance point to Harbor-UCLA Medical Center, would be closed and a new entrance will be opened on Carson Street between Budlong Avenue and Normandie Avenue.

Interim Year and Full Buildout Year Base Traffic Generation

In order to evaluate the potential impact of the Project in the future on the surrounding street system, it was necessary to develop estimates of future traffic conditions both with and without the Project. Future traffic volumes without the Project were first estimated, representing the Interim base conditions and the Cumulative base conditions. The trips generated by the Project are then estimated and separately assigned to the surrounding street system.

The Interim and Cumulative base traffic projections reflect growth in traffic from two primary sources: background or ambient growth in the existing traffic volumes to reflect the effects of overall regional growth both in and outside of the study area, and traffic generated by the related projects in, or in the vicinity of, the study area. These factors are described below.

Ultimately, the Project's added increment is compared to the significance thresholds to determine whether the Project-generated traffic would result in a significant impact in the Future (Year 2023 and 2030) scenarios.

Areawide Traffic Growth

As part of the MOU process with County staff, an areawide traffic growth of 0.73% per year was agreed upon for the study area. Future increases in the background traffic volumes due to regional growth and development are expected to continue at this rate, at least through 2030. For the Interim analysis period, existing baseline traffic volumes were adjusted upward by a factor of 6.8% to reflect areawide regional growth up to 2023. With the projected completion date of 2030 for the Medical Center, the existing baseline traffic volumes were adjusted upward by a factor of 12.3% to reflect areawide regional growth up to the Cumulative period. The methodology prescribed by Los Angeles County does not include adding areawide traffic growth to existing volumes.

Cumulative Projects Traffic Generation

As indicated above, the second major source of traffic growth in the study area is from specific cumulative development projects, also called related projects, expected to be built in the vicinity of the Project Site prior to the proposed buildout. Data describing cumulative projects in the area was developed using information obtained from Los Angeles County Department of Regional Planning, LADOT, City of Carson Department of Planning and City of Torrance Department of Planning. A total of 26 related projects were identified in the surrounding area and are listed in Chapter 3.0, *General Description of Environmental Setting*, of this Draft EIR. The locations of the related projects are illustrated in Figure 3-1, *Related Projects Map*.

Trip generation estimates for related projects within the City of Los Angeles were obtained from the LADOT. All other trip generation estimates were determined using standard rates developed by the ITE and published in *Trip Generation, 9th Edition*, or from data in the traffic studies prepared for the projects. Table 6 in the Traffic Study presents the resulting trip generation estimates for these related projects. These projections are conservative in that they do not in every case account for either the existing uses to be removed or the possible use of non-motorized travel modes (transit, walking, etc.). The cumulative projects are expected to generate approximately 85,391 daily trips, including 3,684 trips during the morning peak hour and 7,316 trips during the evening peak hour.

Cumulative Projects Trip Distribution and Traffic Assignment

The geographic distribution of the traffic generated by the cumulative projects is dependent on several factors. These factors include the type and density of the proposed land uses, the geographic distribution of population from which the employees and potential patrons of the proposed developments are drawn, and the location of the employment and commercial centers to which residents of residential projects would be drawn, and the location of the projects in relation to the surrounding street system. If available, trip distribution from a related project's traffic study was used in this analysis. When trip distribution was not available for a related project, it was estimated based on the factors described above. The trip generation estimates were assigned to the local street system using the trip distribution pattern described above. Figure 13 of the Traffic Study shows the traffic generated from the cumulative projects at the study intersections.

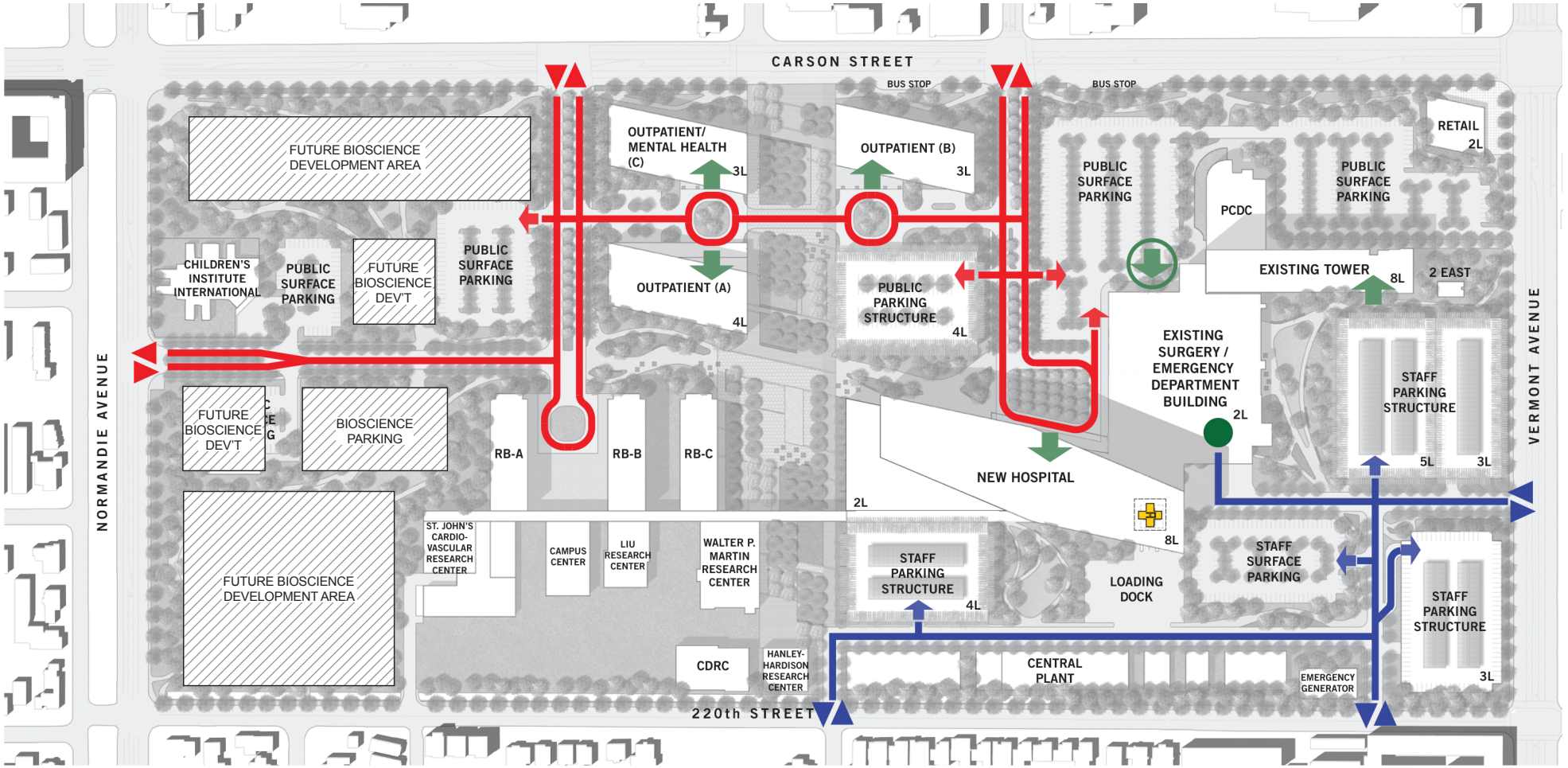
(3) Regional Transportation System

(a) Congestion Management Program Analysis

In accordance with the 2010 CMP, the impacts at all CMP arterial monitoring stations to which the Project would add 50 or more trips during either the morning or afternoon weekday peak hours, or 150 or more trips to a mainline freeway monitoring station, required to be examined. The CMP analysis evaluates six (6) arterial monitoring stations and six (6) freeway mainline monitoring stations in the study area.

(b) Caltrans Facilities Analysis

Impacts to Caltrans' State Highway facilities were evaluated according to the guidelines found in the *Guide for the Preparation of Traffic Impact Studies* (Caltrans, 2002) (Caltrans TIS Guide). The analysis of the Caltrans facilities was based on the Caltrans comment letters on the Project dated November 20, 2014 and July 20, 2015, submitted in response to the Notice of Preparation for the Draft EIR (see Appendix A of this Draft EIR for a copy of the comment letter), as well as subsequent conversations with Caltrans staff.



VEHICULAR CIRCULATION PLAN

LEGEND

- PUBLIC ENTRY/EXIT TO CAMPUS
- STAFF ENTRY/EXIT TO CAMPUS
- PUBLIC ENTRY/EXIT TO PARKING
- STAFF ENTRY/EXIT TO PARKING
- MAIN BUILDING ENTRANCE
- PUBLIC EMERGENCY ENTRANCE
- PRIMARY PUBLIC VEHICULAR CIRC.
- PRIMARY STAFF VEHICULAR CIRC.
- AMBULANCE EMERGENCY ENTRY

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Proposed Vehicular Access and Circulation

Harbor-UCLA Medical Center Master Plan

Source: Fehr & Peers, 2016.

FIGURE 4.L-5

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The following three types of analyses were conducted on Caltrans facilities: 1) freeway mainline segments, 2) Caltrans intersections, and 3) off-ramp queuing. Two freeway mainline segments on I-110, three segments on I-405 and one segment on SR-91 to determine density and LOS. Because PeMS data was not available for some nearby segments, existing traffic volume data was obtained from the 2013 Caltrans Traffic Census Program, the most recent year when data was available for all relevant segments (http://traffic-counts.dot.ca.gov/), and increased by 0.73%/year to represent future conditions. Project-generated trips were assigned to the regional freeway system as described above. The freeway level of service methodology described in the Highway Capacity Manual was used to determine the vehicle density on each analyzed segment (passenger cars per mile per lane) by direction and the corresponding level of service. The level of service definitions used for freeway mainline segments are shown in Table 4.L-1.

One intersection (Western Avenue [State Route 213] at Carson Street) was analyzed using HCM 2010 methodology to identify average vehicle delay and LOS. For this signalized intersection, the traffic signal timing plan provided by LADOT was also used in this analysis. Caltrans, LADOT and the City of Torrance have jointly agreed to modify the signal in the near term at this location by implementing protected left-turn phasing on the eastbound and westbound approaches. The Caltrans analysis uses the same intersection volumes that are used for the intersection analysis described above.

With regard to ramps, six freeway off-ramps were analyzed for ramp queue lengths. The Synchro traffic analysis software was used to implement the HCM methodology to calculate the 85th percentile queues at and compare them with the available vehicle storage on these ramps. Traffic signal-related information such as phasing and timing plans (minimum green, maximum green, gap, etc.) were obtained for each location and the morning and evening peak hour traffic volumes from this study were used. Additional detail such as turn pocket lengths and ramp lengths was coded based on scaled distances from on-line aerial photographs. Caltrans' primary concern of off-ramps is that queued vehicles do not extend past the back of the ramp onto the mainline. The queuing analysis looks at two separate components of ramp capacity: 1) the length of each approach lane to the intersection and 2) the remaining length of the ramp, behind any approach lane delineation lines, to the core point where the ramp diverges from the freeway mainline. The queue may exceed the striped length of a given approach lane, but as long as there is sufficient additional queuing capacity on the ramp, it will not spill over onto the mainline.

(4) Public Transit and Alternative Transportation

Section D.8.4 of the Los Angeles County CMP provides a methodology for estimating the number of transit trips expected to result from a proposed project based on the number of vehicle trips. This methodology assumes an average vehicle ridership (AVR) factor of 1.4 in order to estimate the number of person trips to and from the Project Site and then provides guidelines regarding the percentage of person trips assigned to public transit depending on the type of use (commercial versus residential) and the proximity to transit services. Since the Project Site is located within ¼ mile of a designated CMP transit corridor, the CMP guidelines provide that approximately 7% of total person trips generated might use public transit to travel to and from the site. With regard to non-motorized transportation, the Project is also evaluated in terms of whether its implementation would conflict with various plans, policies, or regulations supportive of alternative transportation including the provision of pedestrian- and bicycle-friendly facilities and improvements.

(5) Access and Circulation

Vehicular access to/from and within the Project Site is evaluated to ensure that conflicts would not arise and that on-site circulation would be adequate. Regarding vehicular access for the proposed new driveway on Carson Street, Synchro traffic analysis software was used to implement the HCM methodology to calculate the 95th percentile queues and compare them with the available vehicle storage for westbound left turns into the Medical Center Campus. Traffic signal-related information such as phasing and timing plans (minimum green, maximum green, etc.) were developed for each scenario in Synchro and informed by volumes for each scenario and existing signal timing information for other intersections on Carson Street in this area. In addition, access for pedestrians and bicyclists are evaluated. The Project's access and circulation scheme was evaluated to determine whether the Project would substantially increase the potential for conflicts between vehicles and pedestrians and cyclists.

(6) Parking Supply

Parking supply impacts are evaluated by comparing the projected parking demands of the various land uses to be developed under the Master Plan Project at buildout with the proposed parking supply on the Medical Center Campus. At a minimum, parking supply would meet parking requirements of the County Code; however, adverse parking-related impacts could still occur if demands exceed available supply. The provision of parking supply on the Medical Campus is evaluated in light of the anticipated maximum parking demands of the Project rather than the number of spaces required by the Code.

b. Thresholds of Significance

The potential for transportation and traffic impacts is based on thresholds derived from the County's Initial Study Checklist questions, which are based in part on Appendix G of the State *CEQA Guidelines*. These questions are as follows:

(XVI) Transportation and Traffic. Would the project:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

b) Conflict with an applicable congestion management program, 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?

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

e) Result in inadequate emergency access?

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

With respect to Threshold (c), result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks, please refer to Section 4.F, *Hazards and Hazardous Materials*, of this Draft EIR for further discussion of aircraft-related hazards associated with operation of the proposed helistop on the Project Site.

In consideration of the above CEQA Guidelines, the thresholds to determine if the Project would have a potentially significant impact on traffic, transportation, and parking are described below. A number of thresholds presented below address question a) above, regarding conflicting with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, but are tailored to reflect the specific numerical thresholds for level of service for a specific facility (e.g., intersection) in a given jurisdiction. Thus, the thresholds presented below may not reflect the specific language of the questions above, but are intended to establish specific limits by which to gauge the impact of the Project-related traffic at affected facilities, taking into account the location and agency responsible for each facility.

(1) Construction Traffic and Parking

Construction-related traffic is typically expected to cause adverse but not significant impacts because, while sometimes inconvenient, construction-related traffic effects are temporary. Nevertheless, the determination of significance is made on a case by case basis, considering the temporary traffic impacts, temporary loss of access, temporary loss of bus stops or rerouting of bus lines, and temporary loss of on-street parking. Based on these considerations, Project construction would have a significant impact on traffic and circulation if the following were to occur:

TRAF-1 Would construction of the Project (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 Service Levels

As discussed above, the study area intersections are located under the jurisdictions of the County of Los Angeles, City of Los Angeles, City of Torrance or City of Carson.

For intersections in the Los Angeles County and City of Los Angeles, in accordance with Los Angeles County criteria defined in their Traffic Impact Analysis Report Guidelines and per LADOT guidelines, an intersection would be significantly impacted if it experienced an increase in V/C ratio equal to or greater than 0.04 for intersections operating at LOS C, equal to or greater than 0.02 for intersections operating at LOS D, and equal to or greater than 0.01 for intersections operating at LOS E or F after the addition of Project traffic. Intersections operating at LOS A or B after the addition of the Project traffic are not considered significantly impacted regardless of the increase in V/C ratio. The following summarizes the impact criteria:

Intersection Conditions with Project Traffic		Relative Baseline Increase
LOS	Final V/C Ratio	in V/C Ratio
C	0.701 to 0.800	Equal to or greater than 0.04
D	0.801 to 0.900	Equal to or greater than 0.02
E, F	0.901 or more	Equal to or greater than 0.01

Source: Fehr & Peers, 2016.

The City of Carson has created threshold criteria to determine whether the addition of Project-generated trips results in a significant impact at a study intersection, and thus requires mitigation. The thresholds of significance have to satisfy the following two criteria:

- The addition of project-generated trips causes an intersection V/C ratio increase of 0.020 or more; and
- Under future plus project conditions, the intersection is projected to operate at LOS E or F (represented by a V/C ratio of 0.901 or greater).

The City of Torrance uses the following thresholds of significance to assess project impacts based on the ICU analysis methodology:

- The project causes a change from LOS D or better to LOS E or F; or
- The project causes a change from LOS E to LOS F; or
- The project increases traffic at the intersection by 2% of capacity (ICU increase ≥ 0.020), causing or worsening LOS E or F (ICU > 0.901).

Based on the above, the following is the threshold for signalized intersections:

TRAF-2 Would the Project increase V/C ratios or delay above LOS standards set forth under County, LADOT, City of Carson, or City of Torrance guidelines, as applicable?

(3) Regional Transportation System

Based on the CMP, a project would normally have a significant impact on CMP arterial monitoring stations or freeway mainline monitoring stations if:

TRAF-3 Would the Project result in a change at a CMP facility in V/C of 0.02 or greater and cause LOS F conditions, or if it would result in a change in V/C of 0.02 or greater at a CMP facility that is already at LOS F?

With regard to the Caltrans facilities, a project would result in a significant impact on Caltrans facilities if:

TRAF-4 Would the Project result in traffic where the analyzed freeway mainline segment or intersection were found to operate at LOS F with the addition of Project-related traffic and the increase is equal to or greater than 50 trips?

or

TRAF-5 Would the Project result in traffic where the off-ramp queue extends beyond the length of the ramp itself onto the mainline of the freeway during the peak arrival period?

(4) Public Transit and Alternative Transportation

The County and the CMP do not specify a threshold of significance for a project's impact on transit system capacity. The determination of significance for public transit is made on a case by case basis, considering the projected number of additional transit passengers expected with implementation of the Project and available transit capacity. For purposes of this analysis, the Project would have a significant impact if:

TRAF-6 Would the Project add substantial new ridership to the transit lines operating in excess of their capacity or if the Project would conflict with adopted policies, plans, or programs supporting alternative transportation?

(5) Access and Circulation

Impacts of a project regarding accessibility on evaluated on a case by case basis, based on the amount of pedestrian activity at project access points; design features/physical configurations that affect the visibility of pedestrians and bicyclists to drivers entering and exiting the site, and the visibility of cars to pedestrians and bicyclists; the type of facility the project driveway(s) crosses and the level of utilization; the physical conditions of the surrounding area, such as curves, slopes, walls, landscaping or other barriers, that could result in vehicle/pedestrian, vehicle/bicycle, or vehicle/vehicle impacts. Based on the above, a project would have a significant impact if:

TRAF-7 Would the Project increase roadway hazards resulting from a conflict of movement between vehicles and pedestrians or bicycles because of driveway design, the location of parking facilities, or other Project characteristics affecting visibility and turning movements?

(6) Parking Supply

The County does not specify a threshold of significance for a project's impact parking supply. The determination of significance for parking supply is made on a case by case basis, considering the projected number of additional parking spaces required by the County Code and the proposed parking supply on the Medical Campus. It should be noted that, as noted above under Regulatory Framework Summary, pursuant to Senate Bill 743, parking-related effects of infill projects like the Master Plan Project are not considered significant environmental impacts on the environment. However, for purposes of this analysis, which is provided for informational and disclosure purposes, the Project would have a significant impact on parking if it would result in the following:

TRAF-8 Would the Project provide less parking than the projected demand?

c. Project Characteristics and Design Features

(1) Project Characteristics

(a) Construction Traffic Generation

The construction of the Master Plan Project would occur in several phases through the year 2030, though in order to present a conservative analysis, some phases of construction are assumed to overlap. Based on the current estimated construction schedule, the Project would require a total of 122,602 laborers during the approximately 14-year implementation of the Master Plan Project. It is anticipated, based on current estimates, that the various phases would have the following average daily construction labor requirements: Phase M (190 workers); Phase C (220 workers); Phase 1 (92 workers); Phase 2 (295 workers); Phase 3 (59 workers); Phase 4 (1,360 workers); Phase 5 (253 workers); and Phase 6 (141 workers). Furthermore, based on the various phases of work, the Project would average the following laborers per day during each month of Project implementation:

- 212 laborers per day for the first 54 months
- 664 laborers per day for the following 27 months
- 1,646 laborers per day for the following 54 months
- 253 laborers per day for the final 32 months

As discussed in Chapter 2.0, Project Description, of this Draft EIR, it is anticipated that all worker vehicle parking, materials and equipment storage, and other construction staging would occur entirely within the 72-acre Medical Center Campus. As such, at its peak phase of construction (Phase 4) anticipated between 2023 and 2027, which is conservatively assumed to overlap with Phase 6 improvements related to construction of Bioscience Tech Park uses, the Project could generate up to an additional 7,006 daily construction worker vehicle trips to and from the Project Site under worst-case conditions. In addition, the import and export of soil materials and material and equipment deliveries would add an additional 427 truck trips per day during the same peak construction period on-site (i.e., during the Phase 4 and Phase 6 construction overlap), for a total of up to 7,433 daily construction-related vehicle trips under worst-case conditions.

(b) Operational Trip Generation

Table 4.L-7a, *Project Trip Generation – Interim Development (2023)*, estimates the trip generation for the Interim Development (2023) scenario and **Table 4.L-7b**, *Project Trip Generation – Full Buildout (2030)*, estimates the trip generation for Full Buildout (2030). In the Interim Development (2023) scenario, the Project is estimated to generate a net increase of 1,640 daily trips, including 200 trips (166 inbound/34 outbound) during the AM peak hour and 197 trips (33 inbound/164 outbound) during the PM peak hour. At Full Buildout (2030), the Project is estimated to generate a net increase of 6,598 daily trips, including 637 trips (523 inbound/114 outbound) during the AM peak hour and 732 trips (169 inbound/563 outbound) during the PM peak hour.

Table 4.L-7a

Project Trip Generation – Interim Development (2023)

	Land Use	ITE Land Use Code	Size [a]		Trip Generation Rates [b] Daily Rate	AM Peak Hour Rate	AM Peak Hour % In	AM Peak Hour % Out	PM Peak Hour Rate	PM Peak Hour % In	PM Peak Hour % Out	Estimated Trip Generation Daily Trips	AM Peak Hour Trips In	AM Peak Hour Trips Out	AM Peak Hour Trips Total	PM Peak Hour Trips In	PM Peak Hour Trips Out	PM Peak Hour Trips Total
Existing	**EXISTING USE**																	
	Administrative Office	710	23.435	ksf	[c]	[c]	88%	12%	[c]	17%	83%	436	53	7	60	18	87	105
	Central Utilities/Industrial [d]	120	112.719	ksf	*1.5*	0.51	88%	12%	0.68	12%	88%	169	50	7	57	9	68	77
	Hospital/Inpatient	610	373	Beds	*12.94*	1.32	72%	28%	1.42	33%	67%	4,827	354	138	492	175	355	530
	Library	590	22.500	ksf	*56.24*	1.04	71%	29%	7.3	48%	52%	1,265	16	7	23	79	85	164
	Medical Office/Outpatient	720	327.304	ksf	36.13	2.39	79%	21%	3.57	28%	72%	11,825	618	164	782	327	841	1,168
	Warehouse/Storage	150	45.402	ksf	*3.56*	0.3	79%	21%	0.32	25%	75%	162	11	3	14	4	11	15
	LA BioMed	760	94.754	ksf	[e]	[e]	83%	17%	[e]	15%	85%	961	103	21	124	19	107	126
	Project Site Subtotal											**19,644**	**1,206**	**347**	**1,553**	**630**	**1,554**	**2,184**
	Internal Capture [f]											*-3,737*	*-221*	*-65*	*-286*	*-122*	*-290*	*-412*
	Transit Credit [g]											*-1,375*	*-84*	*-25*	*-109*	*-44*	*-109*	*-153*
	Walk/Bike Credit [h]											*-393*	*-24*	*-7*	*-31*	*-13*	*-31*	*-44*
	Total Existing Trips											**14,139**	**877**	**250**	**1,127**	**451**	**1,124**	**1,575**
Proposed	**PROPOSED PROJECT**																	
	Administrative Office	710	52.635	ksf	[c]	[c]	88%	12%	[c]	17%	83%	806	101	14	115	23	114	137
	Central Utilities/Industrial [d]	120	129.205	ksf	*1.5*	0.51	88%	12%	0.68	12%	88%	194	58	8	66	10	78	88
	Hospital/Inpatient	610	379	Beds	*12.94*	1.32	72%	28%	1.42	33%	67%	4,904	360	140	500	177	361	538
	Library	590	22.500	ksf	*56.24*	1.04	71%	29%	7.3	48%	52%	1,265	16	7	23	79	85	164
	Medical Office/Outpatient	720	338.700	ksf	36.13	2.39	79%	21%	3.57	28%	72%	12,237	639	170	809	338	871	1,209
	Warehouse/Storage	150	45.402	ksf	*3.56*	0.3	79%	21%	0.32	25%	75%	162	11	3	14	4	11	15
	BioSciences	760	125.000	ksf	[e]	[e]	83%	17%	[e]	15%	85%	1,209	131	27	158	24	135	159
	LA BioMed	760	112.500	ksf	[e]	[e]	83%	17%	[e]	15%	85%	1,108	120	24	144	21	124	145
	Project Site Subtotal											21,885	1,436	393	1,829	677	1,779	2,456
	Internal Capture [f]											-4,155	-263	*-74*	-337	-131	*-331*	-462
	Transit Credit [g]											*-1,532*	*-101*	*-27*	*-128*	*-47*	*-125*	*-172*
	Walk/Bike Credit [h]											*-438*	*-29*	*-8*	-37	*-14*	*-35*	-49
	Total Proposed Trips											**15,760**	**1,043**	**284**	**1,327**	**485**	**1,288**	**1,773**

Table 4.L-7a (Continued)

Project Trip Generation – Interim Development (2023)

	Land Use	ITE Land Use Code	Size [a]	Trip Generation Rates [b]							Estimated Trip Generation						
				Daily	AM Peak Hour			PM Peak Hour			Daily	AM Peak Hour Trips			PM Peak Hour Trips		
				Rate	Rate	% In	% Out	Rate	% In	% Out	Trips	In	Out	Total	In	Out	Total
Net Change	**Total Net Trips**										**1,620**	**166**	**34**	**200**	**33**	**164**	**197**

a Size in thousand square feet (ksf) unless otherwise noted.
b Source: Institute of Transportation Engineers (ITE), Trip Generation, 9th Edition, 2012.
c ITE administrative office trip generation equations used rather than linear trip generation rate:
*Daily: Ln(T) = 0.76 * Ln(A) + 3.68, where T = trips, A = area in ksf*
*AM Peak Hour: Ln(T) = 0.8 * Ln(A) + 1.57, where T = trips, A = area in ksf*
*PM Peak Hour: T = 1.12 * Ln(A) + 78.45, where T = trips, A = area in ksf*
d Peak hour direction distribution not provided by ITE for code 120. Directional distribution taken from ITE code 110, General Light Industrial.
e ITE research and development trip generation equations used rather than linear trip generation rate:
*Daily: Ln(T) = 0.83 * Ln(A) + 3.09, where T = trips, A = area in ksf*
*AM Peak Hour: Ln(T) = 0.87 * Ln(A) + 0.86, where T = trips, A = area in ksf*
*PM Peak Hour: Ln(T) = 0.83 * Ln(A) + 1.06, where T = trips, A = area in ksf*
f Internal capture represents the percentage of trips between land uses that occur within the site. Internal capture was used for all land uses within the site with the exception of LA BioMed. This percentage (20%) is informed by MXD 2.0 Mixed Use Trip Generation Methodology, which incorporated the findings of NCHRP Project 8-51 as described in "Improved Estimation for Internal Trip Capture for Mixed-use Developments," ITE Journal, August 2010. Internal capture is taken for all land uses except LA Biomed.
g Transit credit of 7% informed by MXD 2.0 Mixed Use Trip Generation Methodology
h Walk/Bike credit of 2% informed by MXD 2.0 Mixed Use Trip Generation Methodology.

Source: Fehr & Peers, 2016

Table 4.L-7b

Project Trip Generation – Full Buildout (2030)

	Land Use	ITE Land Use Code	Size [a]		Trip Generation Rates [b] Daily Rate	AM Peak Hour Rate	AM Peak Hour % In	AM Peak Hour % Out	PM Peak Hour Rate	PM Peak Hour % In	PM Peak Hour % Out	Estimated Trip Generation Daily Trips	AM Peak Hour Trips In	AM Peak Hour Trips Out	AM Peak Hour Trips Total	PM Peak Hour Trips In	PM Peak Hour Trips Out	PM Peak Hour Trips Total
Existing	**EXISTING USE**																	
	Administrative Office	710	23.435	ksf	[c]	[c]	88%	12%	[c]	17%	83%	436	53	7	60	18	87	105
	Central Utilities/Industrial [d]	120	112.719	ksf	*1.5*	0.51	88%	12%	0.68	12%	88%	169	50	7	57	9	68	77
	Hospital/Inpatient	610	373	Beds	*12.94*	1.32	72%	28%	1.42	33%	67%	4,827	354	138	492	175	355	530
	Library	590	22.500	ksf	*56.24*	1.04	71%	29%	7.3	48%	52%	1,265	16	7	23	79	85	164
	Medical Office/Outpatient	720	327.304	ksf	36.13	2.39	79%	21%	3.57	28%	72%	11,825	618	164	782	327	841	1,168
	Warehouse/Storage	150	45.402	ksf	*3.56*	0.3	79%	21%	0.32	25%	75%	162	11	3	14	4	11	15
	LA BioMed	760	94.754	ksf	[e]	[e]	83%	17%	[e]	15%	85%	961	103	21	124	19	107	126
	Project Site Subtotal											**19,644**	**1,206**	**347**	**1,553**	**630**	**1,554**	**2,184**
	Internal Capture [f]											*-3,737*	*-221*	*-65*	*-286*	*-122*	*-290*	*-412*
	Transit Credit [g]											*-1,375*	*-84*	*-25*	*-109*	*-44*	*-109*	*-153*
	Walk/Bike Credit [h]											*-393*	*-24*	*-7*	*-31*	*-13*	*-31*	*-44*
	Total Existing Trips											**14,139**	**877**	**250**	**1,127**	**451**	**1,124**	**1,575**
Proposed	**PROPOSED PROJECT**																	
	Administrative Office	710	52.635	ksf	[c]	[c]	88%	12%	[c]	17%	83%	1,608	209	28	237	38	187	225
	Central Utilities/Industrial [d]	120	129.205	ksf	*1.5*	0.51	88%	12%	0.68	12%	88%	194	58	8	66	10	78	88
	Hospital/Inpatient	610	379	Beds	*12.94*	1.32	72%	28%	1.42	33%	67%	4,904	360	140	500	177	361	538
	Library	590	22.500	ksf	*56.24*	1.04	71%	29%	7.3	48%	52%	1,265	16	7	23	79	85	164
	Medical Office/Outpatient	720	338.700	ksf	36.13	2.39	79%	21%	3.57	28%	72%	14,907	779	207	986	412	1,061	1,473
	Warehouse/Storage	150	45.402	ksf	*3.56*	0.3	79%	21%	0.32	25%	75%	162	11	3	14	4	11	15
	Retail	820	35.000	ksf	42.7	0.96	62%	38%	3.71	48%	52%	1,495	21	13	34	62	68	130
	BioSciences	760	125.000	ksf	[e]	[e]	83%	17%	[e]	15%	85%	2,149	239	49	288	42	240	282
	LA BioMed	760	112.500	ksf	[e]	[e]	83%	17%	[e]	15%	85%	1,969	218	45	263	39	220	259
	Project Site Subtotal											**28,654**	**1,911**	**500**	**2,411**	**862**	**2,311**	**3,173**
	Internal Capture [f]											-5,337	-339	*-91*	-430	-165	*-418*	-583
	Transit Credit [g]											*-2,006*	*-134*	*-35*	*-169*	*-60*	*-161*	*-221*
	Walk/Bike Credit [h]											*-573*	*-38*	*-10*	-48	*-17*	*-45*	-62
	Total Proposed Trips											**20,738**	**1,400**	**364**	**1,764**	**620**	**1,687**	**2,307**

Table 4.L-7b (Continued)

Project Trip Generation – Full Buildout (2030)

	Land Use	ITE Land Use Code	Size [a]	Trip Generation Rates [b] Daily Rate	AM Peak Hour Rate	AM Peak Hour % In	AM Peak Hour % Out	PM Peak Hour Rate	PM Peak Hour % In	PM Peak Hour % Out	Estimated Trip Generation Daily Trips	AM Peak Hour Trips In	AM Peak Hour Trips Out	AM Peak Hour Trips Total	PM Peak Hour Trips In	PM Peak Hour Trips Out	PM Peak Hour Trips Total
Net Change	**Total Net Trips**										**6,598**	**523**	**114**	**637**	**169**	**563**	**732**

[a] *Size in thousand square feet (ksf) unless otherwise noted.*
[b] *Source: Institute of Transportation Engineers (ITE), Trip Generation, 9th Edition, 2012.*
[c] *ITE administrative office trip generation equations used rather than linear trip generation rate:*
*Daily: Ln(T) = 0.76 * Ln(A) + 3.68, where T = trips, A = area in ksf*
*AM Peak Hour: Ln(T) = 0.8 * Ln(A) + 1.57, where T = trips, A = area in ksf*
*PM Peak Hour: T = 1.12 * Ln(A) + 78.45, where T = trips, A = area in ksf*
[d] *Peak hour direction distribution not provided by ITE for code 120. Directional distribution taken from ITE code 110, General Light Industrial.*
[e] *ITE research and development trip generation equations used rather than linear trip generation rate:*
*Daily: Ln(T) = 0.83 * Ln(A) + 3.09, where T = trips, A = area in ksf*
*AM Peak Hour: Ln(T) = 0.87 * Ln(A) + 0.86, where T = trips, A = area in ksf*
*PM Peak Hour: Ln(T) = 0.83 * Ln(A) + 1.06, where T = trips, A = area in ksf*
[f] *Internal capture represents the percentage of trips between land uses that occur within the site. Internal capture was used for all land uses within the site with the exception of LA BioMed. This percentage (20%) is informed by MXD 2.0 Mixed Use Trip Generation Methodology, which incorporated the findings of NCHRP Project 8-51 as described in "Improved Estimation for Internal Trip Capture for Mixed-use Developments," ITE Journal, August 2010. Internal capture is taken for all land uses except LA Biomed.*
[g] *Transit credit of 7% informed by MXD 2.0 Mixed Use Trip Generation Methodology*
[h] *Walk/Bike credit of 2% informed by MXD 2.0 Mixed Use Trip Generation Methodology.*

Source: Fehr & Peers, 2016

(2) Project Design Features

(a) Construction Traffic Management

The following Project Design Features are proposed to reduce temporary construction-related traffic and parking impacts:

PDF-TRAF-1: Construction Traffic Management Plan: A detailed Construction Traffic Management Plan including street closure information, detour plans, haul routes, and staging plans would be prepared by the construction contractor for each development phase or individual improvement, as appropriate, and submitted to the County for review and approval. This requirement would be included in the construction bid documents for each future development phase or individual improvement as part of the Master Plan Project. The Construction Traffic Management Plan would formalize how construction would be carried out and identify specific actions that would be required to reduce effects on the surrounding community. The Construction Traffic Management Plan shall be based on the nature and timing of the specific construction activities and other projects in the vicinity of the Project Site, and shall include, but not be limited to, the following elements as appropriate:

- Prohibition of construction worker parking on nearby residential streets.
- Prohibition of construction-related vehicles parking or staging on surrounding public streets.
- Temporary pedestrian and vehicular traffic controls (i.e., flag persons) during all construction activities adjacent to public rights-of-way to improve traffic flow on public roadways.
- Safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers shall be implemented as appropriate.
- Scheduling of construction-related deliveries, haul trips, etc., so as to occur outside the commuter peak hours to the extent feasible.

PDF-TRAF-2: Pedestrian Safety: The construction contractor(s), as required by construction bid documents for each development phase or individual improvement, would plan construction and construction staging as to maintain pedestrian access on adjacent sidewalks throughout all construction phases. The contractor(s) would maintain adequate and safe pedestrian protection, including physical separation (including utilization of barriers such as K-Rails or scaffolding, etc.) from work space and vehicular traffic and overhead protection, due to sidewalk closure or blockage, at all times. Temporary pedestrian facilities would be adjacent to the Project Site and provide safe, accessible routes that replicate as nearly as practical the most desirable characteristics of the existing facility. Covered walkways would be provided where pedestrians are exposed to potential injury from falling objects. The contractor would keep sidewalks open during construction except when it is absolutely required to close or block the sidewalks for construction staging. Sidewalks shall be reopened as soon as reasonably feasible taking construction and construction staging into account.

(b) Travel Demand Management

Also, the existing Harbor-UCLA Medical Center, like other large employment sites, maintains a program of employee travel behavior monitoring and incentives to reduce single-occupant vehicle commute trips. Collectively known as Travel Demand Management (TDM), these programs aim to reduce traffic congestion and the impacts associated with heavy traffic by providing incentives and other measures to encourage alternative travel arrangements between work and home. Among the measures now in place at the Medical Center Campus are:

- Transit information center
- Rideshare matching services
- Guaranteed ride home/Guaranteed return trip
- Commuter choice program
- Bi-monthly newsletters, flyers or announcements to employees
- New hire orientation and periodic events
- Compressed work week and flex time schedules
- Off-peak rideshare program
- Bicycle racks, lockers and showers
- Telecommuting
- Vanpool program
- Preferential parking for those who rideshare

Expanding the current menu of incentives and disincentives could reduce vehicle trips during the peak hours and thus reduce the severity of the impacts identified. The County-owned medical facility is somewhat different from many other land uses in that it operates on a 24-hour schedule and employees have shifts that begin and end throughout the day, including many that are outside of the typical peak periods when transit service is most extensive. Because the effectiveness of these measures cannot be guaranteed, however, TDM cannot ensure impacts would be below applicable thresholds. Among the additional TDM measures that could be considered for implementation as development of the Master Plan Project proceeds are:

- Parking pricing
- Transit pass subsidy
- On-site sales of transit passes and tokens
- Direct financial awards for ridesharing

d. Project Impacts

(1) Construction Impacts

Threshold TRAF-1: Would construction of the Project (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, Construction Traffic Management Plan, and PDF TRAF-2, Pedestrian Safety, potential construction impacts associated with hauling, deliveries and worker vehicles would be reduced. Scheduling of construction-related traffic to avoid peak hours, prohibited on-street parking, temporary traffic controls, and the use of safety precautions, such as alternate routing and protection barriers in accordance with the two Project Design Features would minimize the potential for the Project to result in substantial disruption of traffic flow, intersection operational impacts, conflicts with pedestrians and/or bicyclists, or loss of on-street parking in the Project area's commercial zones and residential neighborhoods. However, given the potential addition of construction-related vehicle trips during peak construction periods, transportation and parking impacts related to construction would be considered significant and unavoidable, though such impacts would only occur on a temporary basis while construction activities are occurring on-site.*

Construction of the Project is anticipated to occur intermittently in phases over an approximately 14-year time period. Construction activities would be governed by Chapter 12.12 of the County Code including Section 12.12.30 which generally limits construction to the hours of 6:30 A.M. to 8:00 P.M. on weekdays and Saturdays. Phases of construction would include grading, excavation, concrete pouring, building construction, architectural coating, and paving. Project construction would add haul trucks, equipment and delivery trucks and trips generated by the construction workers to the local roadway network.

As noted above under Project Characteristics, the construction of the Master Plan Project would occur in several phases through the year 2030, though in order to present a conservative analysis, some phases of construction are assumed to overlap. Based on the current estimated construction schedule, the Project would require a total of 122,602 laborers during the approximately 14-year implementation of the Master Plan Project. The Project, at its peak phase of construction (Phase 4) anticipated between 2023 and 2027, which is conservatively assumed to overlap with Phase 6 improvements related to construction of Bioscience Tech Park uses, could generate up to an additional 7,006 daily construction worker vehicle trips to and from the Project Site on a worst-case basis. In addition, the import and export of soil materials and material and equipment deliveries would add an additional 427 truck trips per day during the same peak construction period on-site (i.e., during the Phase 4 and Phase 6 construction overlap), for a total of up to 7,433 daily construction-related vehicle trips under worst-case conditions. It is likely, however, that many of the construction workers would arrive and depart the Project Site outside of the peak traffic periods given typical construction work hours. More specifically, the hours of construction typically require workers to be on-site before the weekday A.M. commuter peak period and allow them to leave before or after the P.M. commuter peak period (i.e., arrive at the site prior to 6:30 AM and depart before 4:00 PM or after 6:00 PM). Therefore, many, if not most, construction worker trips would occur outside of the typical weekday commuter peak periods. With the implementation of the Construction Management Plan, required by PDF TRAF-1, it is anticipated that a substantial portion of haul truck activity to and from the Project Site would occur outside of the peak traffic hours. However, haul truck activity was assumed to occur during the morning and afternoon peak periods for the purposes of providing a conservative analysis of potential construction traffic impacts. Haul trucks would travel on approved truck routes designated within the Project area, and would access the I-110 Harbor Freeway for regional access. Although it is possible that many of the Project-related worker vehicle and haul truck trips would occur outside of peak traffic periods

throughout construction phases, given the number of potential vehicle trips generated during peak construction periods, it is possible that construction-related traffic could result in significant impacts to both local intersections and Caltrans facilities in the Project area. While the construction-related traffic impacts of the Project have not been quantified in terms of LOS, it is conservatively concluded that construction activities would result in unavoidable significant traffic impacts, though such impacts would be temporary.

With regard to construction-related impacts to localized and on-site circulation, construction activities would be generally contained within the Project Site boundaries and therefore access points from surrounding roadways would not vary substantially from existing conditions. However, construction fences or temporary off-site utility work may encroach into the public right-of-way (e.g., sidewalk and roadways) adjacent to or near the Project Site. In such cases, temporary traffic controls would be provided to direct traffic around any closures as required in the Project's Construction Traffic Management Plan. Travel lanes would be maintained in each direction on both streets throughout the construction period, and emergency access would not be impeded. Similarly, as required by the Construction Traffic Management Plan, prohibition of construction-related vehicles on surrounding residential streets, as well as the provision of temporary pedestrian and vehicular traffic controls (i.e., flag persons) during all construction activities adjacent to public rights-of-way, would improve traffic flow on public roadways and maximize pedestrian and bicycle safety. Safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers would also be implemented as appropriate. In addition, as required by PDF-TRAF-2, pedestrian access near construction activities would be maintained in such a manner as to preclude safety hazards or access limitations to non-vehicular circulation on the Medical Center Campus. Therefore, impacts related to vehicular, pedestrian, and bicycle access and circulation in the Project vicinity during construction activities would be less than significant.

With regard to construction-related impacts on transit facilities and the existing parking supply, the curbside lanes on Carson Street, Vermont Avenue, 220th Street, and Normandie Avenue, all of which provide on-street parking in some areas, would not be used for activities such as equipment staging and concrete pumping. Given that the Project would not require the sustained closure of travel lanes or sidewalks along any of the surrounding roadways, and the Project also does not propose or otherwise require relocation of any existing public transit stops or other facilities, it is expected that construction of the various Project phases would not substantially affect public transit service. Likewise, as all construction worker vehicle parking and truck deliveries would occur within the Medical Center Campus, and since PDF TRAF-1 would prohibit parking by construction workers on surrounding residential streets, impacts related to construction parking would be considered less than significant.

In summary, the Project would implement a Construction Traffic Management Plan and Pedestrian Safety plan as described in PDF TRAF-1 and PDF TRAF-2, which would ensure the scheduling of construction-related traffic to avoid peak hours, require the use of temporary traffic controls, prohibit construction vehicle activities and parking in surrounding off-site areas, as well as require various safety precautions such as alternate routing and protection barriers. With the implementation of the Project Design Features, impacts to traffic flow, vehicular access, pedestrian and bicycle access and safety, public transit, and construction parking would be less than significant. However, construction impacts on study area intersections are conservatively concluded to be potentially significant and unavoidable.

(2) Intersection Service Levels

Threshold TRAF-2: Would the Project increase V/C ratios or delay above LOS standards set forth under County, LADOT, City of Carson, or City of Torrance guidelines, as applicable?

Impact Statement TRAF-2: *Implementation of the Master Plan Project would result in a net increase in traffic generation on the Project Site of 1,640 daily trips under Interim Year (2023) conditions and 6,598 daily trips at Full Buildout (2030). Project-related operational traffic impacts on study area intersections would be considered potentially significant under Existing With Project Conditions, Future Interim Year (2023) conditions, and Full Buildout (2030) conditions.*

(a) Existing With Project Conditions

Existing plus Project traffic volumes (using Interim Development Project volumes), presented in Figure 10 of the Traffic Study, were analyzed to determine the projected V/C ratios and LOS for each intersection. **Table 4.L-8**, *Existing (2014) Plus Interim Development Project Intersection Level of Service,* summarizes the Existing plus Project LOS using Interim Development Project trips. The following ten (10) intersections are projected to operate at LOS E or F during one or both peak hours:

1. Normandie Avenue & Torrance Boulevard
2. Vermont Avenue & Torrance Boulevard
3. Western Avenue & Carson Street
4. Normandie Avenue & Carson Street
8. Vermont Avenue & Carson Street
9. I-110 Southbound Ramps & Carson Street
15. Figueroa Street & 220th Street/I-110 Northbound Ramps
16. Western Avenue & 223rd Street
19. Vermont Avenue & 223rd Street
22. Western Avenue & Sepulveda Boulevard

Additionally, Existing plus Project traffic volumes (using Full Buildout Project trips), presented in Figure 11 of the Traffic Study, were analyzed to determine the projected V/C ratios and LOS for each intersection. **Table 4.L-9**, *Existing (2014) Plus Full Buildout Project Intersection Level of Service,* summarizes the Existing plus Project LOS using the Full Buildout Project trips. The following 10 intersections are projected to operate at LOS E or F during one or both peak hours:

Table 4.L-8

Existing (2014) Plus Interim Development Project Intersection Level of Service

ID	N/S Street Name	E/W Street Name [a]	Jurisdiction	Analysis Methodology	Analyzed Period	Existing		Existing+Project		Project Increase	Significant Impacts
						V/C or Delay	LOS	V/C or Delay	LOS	In V/C	
1	Normandie Avenue	Torrance Boulevard	City of Los Angeles	CMA	AM	0.902	E	0.904	E	0.002	NO
					PM	0.904	E	0.906	E	0.002	NO
			Los Angeles County	ICU	AM	0.935	E	0.936	E	0.001	NO
					PM	0.936	E	0.938	E	0.002	NO
2	Vermont Avenue	Torrance Boulevard	Los Angeles County	ICU	AM	0.927	E	0.928	E	0.001	NO
					PM	0.880	D	0.881	D	0.001	NO
3	Western Avenue	Carson Street	City of Los Angeles	CMA	AM	0.877	D	0.878	D	0.001	NO
					PM	0.948	E	0.949	E	0.001	NO
			City of Torrance	ICU	AM	0.943	E	0.944	E	0.001	NO
					PM	1.006	F	1.008	F	0.002	NO
4	Normandie Avenue	Carson Street	City of Los Angeles	CMA	AM	0.763	C	0.769	C	0.006	NO
					PM	0.837	D	0.846	D	0.009	NO
			Los Angeles County	ICU	AM	0.904	E	0.910	E	0.006	NO
					PM	0.930	E	0.938	F	0.008	NO
5	Budlong Avenue	Carson Street	Los Angeles County	ICU	AM	0.570	A	0.624	B	0.054	NO
					PM	0.539	A	0.572	B	0.033	NO
6	Berendo Avenue	Carson Street	Los Angeles County	ICU	AM	0.575	A	0.629	B	0.054	NO
					PM	0.569	A	0.629	B	0.060	NO
7	Medical Center Drive	Carson Street	Los Angeles County	ICU	AM	0.628	B	0.682	B	0.054	NO
					PM	0.611	B	0.576	B	-0.035	NO
8	Vermont Avenue	Carson Street	Los Angeles County	ICU	AM	0.905	E	0.917	E	0.012	YES
					PM	0.917	E	0.945	F	0.028	YES
9	I-110 SB Ramps	Carson Street	Los Angeles County	ICU	AM	0.814	D	0.844	D	0.030	YES
					PM	0.849	D	0.867	E	0.018	NO

Table 4.L-8 (Continued)

Existing (2014) Plus Interim Development Project Intersection Level of Service

ID	N/S Street Name	E/W Street Name [a]	Jurisdiction	Analysis Methodology	Analyzed Period	Existing		Existing+Project		Project Increase	Significant Impacts
						V/C or Delay	LOS	V/C or Delay	LOS	In V/C	
10	Figueroa Street	Carson Street	City of Carson	ICU	AM	0.661	B	0.670	B	0.009	NO
					PM	0.762	C	0.767	D	0.005	NO
11	Western Avenue	220th Street	City of Los Angeles	CMA	AM	0.554	A	0.559	A	0.005	NO
					PM	0.698	B	0.698	B	0.000	NO
			City of Torrance	ICU	AM	0.685	B	0.689	B	0.004	NO
					PM	0.819	D	0.819	D	0.000	NO
12	Normandie Avenue	220th Street	City of Los Angeles	CMA	AM	0.409	A	0.425	A	0.016	NO
					PM	0.293	A	0.297	A	0.004	NO
			Los Angeles County	ICU	AM	0.549	A	0.564	A	0.015	NO
					PM	0.441	A	0.444	A	0.003	NO
13	Meyler Street	220th Street	Los Angeles County	ICU	AM	0.460	A	0.483	A	0.023	NO
					PM	0.446	A	0.455	A	0.009	NO
14	Vermont Avenue	220th Street	Los Angeles County	ICU	AM	0.645	B	0.660	B	0.015	NO
					PM	0.696	B	0.726	C	0.030	NO
15	Figueroa Street	220th Street/I-110 NB Ramps	City of Carson	ICU	AM	0.913	E	0.922	E	0.009	NO
					PM	0.886	D	0.919	E	0.033	YES
16	Western Avenue	223rd Street	City of Los Angeles	CMA	AM	0.822	D	0.822	D	0.000	NO
					PM	0.851	D	0.853	D	0.002	NO
			City of Torrance	ICU	AM	0.893	D	0.893	D	0.000	NO
					PM	0.919	E	0.921	E	0.002	NO
17	Normandie Avenue	223rd Street	City of Los Angeles	CMA	AM	0.623	B	0.627	B	0.004	NO
					PM	0.701	C	0.705	C	0.004	NO
			Los Angeles County	ICU	AM	0.807	D	0.813	D	0.006	NO

Table 4.L-8 (Continued)

Existing (2014) Plus Interim Development Project Intersection Level of Service

ID	N/S Street Name	E/W Street Name [a]	Jurisdiction	Analysis Methodology	Analyzed Period	Existing		Existing+Project		Project Increase	Significant Impacts
						V/C or Delay	LOS	V/C or Delay	LOS	In V/C	
					PM	0.822	D	0.826	D	0.004	NO
18	Meyler Street	223rd Street	Los Angeles County	ICU	AM	0.649	B	0.658	B	0.009	NO
					PM	0.578	A	0.585	A	0.007	NO
19	Vermont Avenue	223rd Street	Los Angeles County	ICU	AM	0.917	E	0.936	E	0.019	YES
					PM	0.880	D	0.886	E	0.006	NO
20	I-110 SB Ramps	223rd Street	Los Angeles County	ICU	AM	0.755	C	0.768	C	0.013	NO
					PM	0.843	D	0.852	D	0.009	NO
21	Figueroa Street	223rd Street	City of Carson	ICU	AM	0.827	D	0.833	D	0.006	NO
					PM	0.718	C	0.722	C	0.004	NO
22	Western Avenue	Sepulveda Blvd	City of Los Angeles	CMA	AM	0.927	E	0.927	E	0.000	NO
					PM	0.990	E	0.991	E	0.001	NO
			City of Torrance	ICU	AM	0.957	E	0.957	E	0.000	NO
					PM	1.011	F	1.012	F	0.001	NO

[a] *All Intersections are signalized except for #13, Meyler Street and 220th Street, which is all way-stop controlled.*

Source: Fehr & Peers, 2016

Table 4.L-9

Existing (2014) Plus Full Buildout Project Intersection Level of Service

ID	N/S Street Name	E/W Street Name [a]	Jurisdiction	Analysis Methodology	Analyzed Period	Existing		Existing+Project		Project Increase	Significant Impacts
						V/C or Delay	LOS	V/C or Delay	LOS	In V/C	
1	Normandie Avenue	Torrance Boulevard	City of Los Angeles	CMA	AM	0.902	E	0.907	E	0.005	NO
					PM	0.904	E	0.913	E	0.009	NO
			Los Angeles County	ICU	AM	0.935	E	0.939	E	0.004	NO
					PM	0.936	E	0.944	E	0.008	NO
2	Vermont Avenue	Torrance Boulevard	Los Angeles County	ICU	AM	0.927	E	0.930	E	0.003	NO
					PM	0.880	D	0.886	D	0.006	NO
3	Western Avenue	Carson Street	City of Los Angeles	CMA	AM	0.877	D	0.882	D	0.005	NO
					PM	0.948	E	0.955	E	0.007	NO
			City of Torrance	ICU	AM	0.943	E	0.948	E	0.005	NO
					PM	1.006	F	1.012	F	0.006	NO
4	Normandie Avenue	Carson Street	City of Los Angeles	CMA	AM	0.763	C	0.785	C	0.022	NO
					PM	0.837	D	0.872	D	0.035	YES
			Los Angeles County	ICU	AM	0.904	E	0.925	E	0.021	YES
					PM	0.930	E	0.962	E	0.032	YES
5	Budlong Avenue	Carson Street	Los Angeles County	ICU	AM	0.570	A	0.636	B	0.066	NO
					PM	0.539	A	0.591	A	0.052	NO
6	Berendo Avenue	Carson Street	Los Angeles County	ICU	AM	0.575	A	0.642	B	0.067	NO
					PM	0.569	A	0.708	C	0.139	YES
7	Medical Center Drive	Carson Street	Los Angeles County	ICU	AM	0.628	B	0.717	C	0.089	YES
					PM	0.611	B	0.620	B	0.009	NO
8	Vermont Avenue	Carson Street	Los Angeles County	ICU	AM	0.905	E	0.946	E	0.041	YES
					PM	0.917	E	1.010	F	0.093	YES
9	I-110 SB Ramps	Carson Street	Los Angeles County	ICU	AM	0.814	D	0.907	E	0.093	YES
					PM	0.849	D	0.916	E	0.067	YES

Table 4.L-9 (Continued)

Existing (2014) Plus Full Buildout Project Intersection Level of Service

ID	N/S Street Name	E/W Street Name [a]	Jurisdiction	Analysis Methodology	Analyzed Period	Existing V/C or Delay	Existing LOS	Existing+Project V/C or Delay	Existing+Project LOS	Project Increase In V/C	Significant Impacts
10	Figueroa Street	Carson Street	City of Carson	ICU	AM	0.661	B	0.685	B	0.024	NO
					PM	0.762	C	0.779	C	0.017	NO
11	Western Avenue	220th Street	City of Los Angeles	CMA	AM	0.554	A	0.570	A	0.016	NO
					PM	0.698	B	0.699	B	0.001	NO
			City of Torrance	ICU	AM	0.685	B	0.699	B	0.014	NO
					PM	0.819	D	0.820	D	0.001	NO
12	Normandie Avenue	220th Street	City of Los Angeles	CMA	AM	0.409	A	0.458	A	0.049	NO
					PM	0.293	A	0.308	A	0.015	NO
			Los Angeles County	ICU	AM	0.549	A	0.596	A	0.047	NO
					PM	0.441	A	0.454	A	0.013	NO
13	Meyler Street	220th Street	Los Angeles County	ICU	AM	0.460	A	0.533	A	0.073	NO
					PM	0.446	A	0.486	A	0.040	NO
14	Vermont Avenue	220th Street	Los Angeles County	ICU	AM	0.645	B	0.708	C	0.063	YES
					PM	0.696	B	0.806	D	0.110	YES
15	Figueroa Street	220th Street/I-110 NB Ramps	City of Carson	ICU	AM	0.913	E	0.942	E	0.029	YES
					PM	0.886	D	1.000	E	0.114	YES
16	Western Avenue	223rd Street	City of Los Angeles	CMA	AM	0.822	D	0.823	D	0.001	NO
					PM	0.851	D	0.856	D	0.005	NO
			City of Torrance	ICU	AM	0.893	D	0.894	D	0.001	NO
					PM	0.919	E	0.923	E	0.004	NO
17	Normandie Avenue	223rd Street	City of Los Angeles	CMA	AM	0.623	B	0.634	B	0.011	NO
					PM	0.701	C	0.715	C	0.014	NO
			Los Angeles County	ICU	AM	0.807	D	0.828	D	0.021	YES
					PM	0.822	D	0.834	D	0.012	NO

Table 4.L-9 (Continued)

Existing (2014) Plus Full Buildout Project Intersection Level of Service

ID	N/S Street Name	E/W Street Name [a]	Jurisdiction	Analysis Methodology	Analyzed Period	Existing V/C or Delay	Existing LOS	Existing+Project V/C or Delay	Existing+Project LOS	Project Increase In V/C	Significant Impacts
18	Meyler Street	223rd Street	Los Angeles County	ICU	AM	0.649	B	0.675	B	0.026	NO
					PM	0.578	A	0.604	B	0.026	NO
19	Vermont Avenue	223rd Street	Los Angeles County	ICU	AM	0.917	E	0.975	E	0.058	YES
					PM	0.880	D	0.933	E	0.053	YES
20	I-110 SB Ramps	223rd Street	Los Angeles County	ICU	AM	0.755	C	0.796	C	0.041	YES
					PM	0.843	D	0.873	D	0.030	YES
21	Figueroa Street	223rd Street	City of Carson	ICU	AM	0.827	D	0.844	D	0.017	NO
					PM	0.718	C	0.729	C	0.011	NO
22	Western Avenue	Sepulveda Blvd	City of Los Angeles	CMA	AM	0.927	E	0.928	E	0.001	NO
					PM	0.990	E	0.993	E	0.003	NO
			City of Torrance	ICU	AM	0.957	E	0.957	E	0.000	NO
					PM	1.011	F	1.013	F	0.002	NO

[a] *All Intersections are signalized except for #13, Meyler Street and 220th Street, which is all way-stop controlled.*

Source: Fehr & Peers, 2016

1. Normandie Avenue & Torrance Boulevard
2. Vermont Avenue & Torrance Boulevard
3. Western Avenue & Carson Street
4. Normandie Avenue & Carson Street
8. Vermont Avenue & Carson Street
9. I-110 Southbound Ramps & Carson Street
15. Figueroa Street & 220th Street/I-110 Northbound Ramps
16. Western Avenue & 223rd Street
19. Vermont Avenue & 223rd Street
22. Western Avenue & Sepulveda Boulevard

As shown in Table 4.L-8, after applying the aforementioned significant impact criteria, it was determined that the proposed Project would result in potentially significant impacts to the following four (4) study intersections under Existing (2014) plus Interim Development Project conditions:

8. Vermont Avenue & Carson Street
9. I-110 Southbound Ramps & Carson Street
15. Figueroa Street & 220th Street/I-110 Northbound Ramps
19. Vermont Avenue & 223rd Street

As shown in Table 4.L-9, when examining Existing (2014) plus Full Buildout Project conditions using the significant impact criteria, potentially significant impacts would result at the following nine (9) intersections:

4. Normandie Avenue & Carson Street
7. Medical Center Drive & Carson Street
8. Vermont Avenue & Carson Street
9. I-110 Southbound Ramps & Carson Street
14. Vermont Avenue & 220th Street
15. Figueroa Street & 220th Street/I-110 Northbound Ramps
17. Normandie Avenue & 223rd Street
19. Vermont Avenue & 223rd Street
20. I-110 Southbound Ramps & 223rd Street

(b) Interim Year (2023) Without and With Project Conditions

Cumulative Project volumes were added to the existing traffic volumes to create the Interim Year (2023) volumes for Los Angeles County, illustrated in Figure 14 of the Traffic Study. For the incorporated cities of

Los Angeles, Torrance and Carson, existing traffic volumes were increased, based on the previously discussed rates, to 2023 and then added to cumulative projects volumes to create the Interim Year (2023) volumes, shown in Figure 15 of the Traffic Study.

(i) Unincorporated Los Angeles County Interim Year (2023) Traffic Conditions

Table 4.L-10, *Interim Year (2023) Plus Interim Development Project for Unincorporated Los Angeles County Intersection Level of Service Analysis*, summarizes the levels of service during the Interim Year (2023) conditions. Poor operating conditions (LOS E or F) are projected at six (6) of the 15 study intersections within Los Angeles County's jurisdiction under the With and Without Project scenarios during at least one of the analyzed peak hours, including:

1. Normandie Avenue & Torrance Boulevard
2. Vermont Avenue & Torrance Boulevard
4. Normandie Avenue & Carson Street
8. Vermont Avenue & Carson Street
9. I-110 Southbound Ramps & Carson Street
19. Vermont Avenue & 223rd Street

The results of the Interim Year (2023) (without an area-wide growth factor) plus Interim Development Project peak hour traffic volumes are also presented in Table 4.L-10 for intersections within unincorporated Los Angeles County. Table 4.L-10 indicates that poor operating conditions (LOS E or F) are projected at eight (8) of the 15 study intersections within Los Angeles County's jurisdiction. The intersections projected to operate at poor levels of service (LOS E or F) in one or both peak hours include:

1. Normandie Avenue & Torrance Boulevard
2. Vermont Avenue & Torrance Boulevard
4. Normandie Avenue & Carson Street
7. Medical Center Drive & Carson Street
8. Vermont Avenue & Carson Street
9. I-110 Southbound Ramps & Carson Street
19. Vermont Avenue & 223rd Street20. I-110 Southbound Ramps & 223rd Street

Table 4.L-10

Interim Year (2023) Plus Interim Development Project for Unincorporated Los Angeles County Intersection Level of Service Analysis

ID	N/S St. Name	E/W St. Name [a]	Jurisdiction	Analysis Methodology	Analyzed Period	Interim (2023) Base		Interim (2023) Base+Project		Project Increase	Significant Impacts
						V/C or Delay	LOS	V/C or Delay	LOS	In V/C	
1	Normandie Ave.	Torrance Blvd.	Los Angeles County	ICU	AM	0.962	E	0.963	E	0.028	YES
					PM	0.993	E	0.994	E	0.058	YES
2	Vermont Ave.	Torrance Blvd.	Los Angeles County	ICU	AM	0.968	E	0.969	E	0.042	YES
					PM	0.895	D	0.896	D	0.016	NO
4	Normandie Ave.	Carson St.	Los Angeles County	ICU	AM	0.946	E	0.952	E	0.048	YES
					PM	1.007	F	1.016	F	0.086	YES
5	Budlong Ave.	Carson St.	Los Angeles County	ICU	AM	0.603	B	0.657	B	0.087	NO
					PM	0.608	B	0.639	B	0.100	NO
6	Berendo Ave.	Carson St.	Los Angeles County	ICU	AM	0.609	B	0.663	B	0.088	NO
					PM	0.636	B	0.696	B	0.127	NO
7	Medical Center Dr.	Carson St.	Los Angeles County	ICU	AM	0.661	B	0.715	C	0.087	YES
					PM	0.678	B	0.643	B	0.032	NO
8	Vermont Ave.	Carson St.	Los Angeles County	ICU	AM	0.939	E	0.953	E	0.048	YES
					PM	0.982	E	1.010	F	0.093	YES
9	I-110 SB Ramps	Carson St.	Los Angeles County	ICU	AM	0.848	D	0.878	D	0.064	YES
					PM	0.906	E	0.925	E	0.076	YES
12	Normandie Ave.	220th St.	Los Angeles County	ICU	AM	0.550	A	0.565	A	0.016	NO
					PM	0.448	A	0.451	A	0.010	NO
13	Meyler St.	220th St.	Los Angeles County	ICU	AM	0.460	A	0.483	A	0.023	NO
					PM	0.446	A	0.455	A	0.009	NO
14	Vermont Ave.	220th St.	Los Angeles County	ICU	AM	0.647	B	0.668	B	0.023	NO
					PM	0.703	C	0.733	C	0.037	NO
17	Normandie Ave.	223rd St.	Los Angeles County	ICU	AM	0.811	D	0.820	D	0.013	NO
					PM	0.830	D	0.834	D	0.012	NO
18	Meyler St.	223rd St.	Los Angeles County	ICU	AM	0.653	B	0.662	B	0.013	NO
					PM	0.582	A	0.589	A	0.011	NO

Table 4.L-10 (Continued)

Interim Year (2023) Plus Interim Development Project for Unincorporated Los Angeles County Intersection Level of Service Analysis

ID	N/S St. Name	E/W St. Name [a]	Jurisdiction	Analysis Methodology	Analyzed Period	Interim (2023) Base V/C or Delay	Interim (2023) Base LOS	Interim (2023) Base+Project V/C or Delay	Interim (2023) Base+Project LOS	Project Increase In V/C	Significant Impacts
19	Vermont Ave.	223rd St.	Los Angeles County	ICU	AM	0.927	E	0.945	E	0.028	YES
					PM	0.899	D	0.905	E	0.025	YES
20	I-110 SB Ramps	223rd St.	Los Angeles County	ICU	AM	0.765	C	0.779	C	0.024	NO
					PM	0.864	D	0.873	D	0.030	YES

[a] *All Intersections are signalized except for #13, Meyler St. and 220th St., which is all way-stop controlled.*

Source: Fehr & Peers, 2016

(ii) Incorporated Cities Interim Year (2023) Traffic Conditions

Table 4.L-11, *Interim Year (2023) Plus Interim Development Project for Incorporated Cities Intersection Level of Service Analysis*, summarizes the levels of service during the Interim Year (2023) conditions within the cities of Los Angeles, Carson and Torrance. Poor operating conditions (LOS E or F) are projected in one or both of the peak hours at eight (8) of the 11 study intersections including:

1. Normandie Avenue & Torrance Boulevard
3. Western Avenue & Carson Street
4. Normandie Avenue & Carson Street
10. Figueroa Street & Carson Street
15. Figueroa Street and 220th Street/I-110 Northbound Ramps
16. Western Avenue & 223rd Street
21. Figueroa Street & 223rd Street
22. Western Avenue & Sepulveda Boulevard

The Interim peak hour traffic volumes were analyzed to determine the projected V/C ratio and LOS for each of the analyzed intersections during the projected operating conditions with the addition of Project traffic. Table 4.L-11 summarizes the Interim and Interim plus 2023 Project LOS using the appropriate methodology as prescribed by the local city. As shown in Table 4.L-11, using the criteria for determination of significant impacts, the Project would create a significant traffic impacts at the following analyzed intersection under Interim plus 2023 Project conditions:

15. Figueroa Street and 220th Street/I-110 Northbound Ramps

(c) Full Buildout (2030) Without and With Project Conditions

Cumulative project volumes were added to the existing traffic volumes to create the cumulative (2030) volumes for Los Angeles County, illustrated in Figure 17 of the Traffic Study. Note that Interim Development Base volumes and Cumulative (2030) base volumes are the same under Los Angeles County's methodology because no areawide growth rate is used. For the incorporated Cities of Los Angeles, Torrance and Carson, which require an areawide growth rate, existing traffic volumes were grown based on the previously discussed rates for the Cumulative (2030) base scenario and then added to cumulative project volumes, shown in Figure 18 of the Traffic Study.

Table 4.L-11

Interim Year (2023) Plus Interim Development Project for Incorporated Cities Intersection Level of Service Analysis

ID	N/S St. Name	E/W St. Name [a]	Jurisdiction	Analysis Methodology	Analyzed Period	Interim (2023) Base		Interim (2023) Base+Project		Project Increase	Significant Impacts
						V/C or Delay	LOS	V/C or Delay	LOS	In V/C	
1	Normandie Ave.	Torrance Blvd.	City of Los Angeles	CMA	AM	0.999	E	1.001	F	0.002	NO
					PM	1.036	F	1.038	F	0.002	NO
3	Western Ave.	Carson St.	City of Los Angeles	CMA	AM	1.022	F	1.022	F	0.000	NO
					PM	1.137	F	1.139	F	0.002	NO
			City of Torrance	ICU	AM	1.038	F	1.039	F	0.001	NO
					PM	1.138	F	1.139	F	0.001	NO
4	Normandie Ave.	Carson St.	City of Los Angeles	CMA	AM	0.863	D	0.870	D	0.007	NO
					PM	0.987	E	0.996	E	0.009	NO
10	Figueroa St.	Carson St.	City of Carson	ICU	AM	0.730	C	0.737	C	0.007	NO
					PM	0.919	E	0.924	E	0.005	NO
11	Western Ave.	220th St.	City of Los Angeles	CMA	AM	0.598	A	0.603	B	0.005	NO
					PM	0.751	C	0.751	C	0.000	NO
			City of Torrance	ICU	AM	0.727	C	0.732	C	0.005	NO
					PM	0.870	D	0.870	D	0.000	NO
12	Normandie Ave.	220th St.	City of Los Angeles	CMA	AM	0.443	A	0.459	A	0.016	NO
					PM	0.325	A	0.328	A	0.003	NO
15	Figueroa St.	220th St./I-110 NB Ramps	City of Carson	ICU	AM	0.979	E	0.987	E	0.008	NO
					PM	0.960	E	0.994	E	0.034	YES
16	Western Ave.	223rd St.	City of Los Angeles	CMA	AM	0.886	D	0.886	D	0.000	NO
					PM	0.922	E	0.924	E	0.002	NO
			City of Torrance	ICU	AM	0.950	E	0.950	E	0.000	NO
					PM	0.984	E	0.985	E	0.001	NO
17	Normandie Ave.	223rd St.	City of Los Angeles	CMA	AM	0.675	B	0.679	B	0.004	NO
					PM	0.761	C	0.765	C	0.004	NO
21	Figueroa St.	223rd St.	City of Carson	ICU	AM	0.900	D	0.904	E	0.004	NO
					PM	0.786	C	0.788	C	0.002	NO

Table 4.L-11 (Continued)

Interim Year (2023) Plus Interim Development Project for Incorporated Cities Intersection Level of Service Analysis

ID	N/S St. Name	E/W St. Name [a]	Jurisdiction	Analysis Methodology	Analyzed Period	Interim (2023) Base		Interim (2023) Base+Project		Project Increase	Significant Impacts
						V/C or Delay	LOS	V/C or Delay	LOS	In V/C	
22	Western Ave.	Sepulveda Blvd	City of Los Angeles	CMA	AM	0.998	E	0.998	E	0.000	NO
					PM	1.063	F	1.064	F	0.001	NO
			City of Torrance	ICU	AM	1.017	F	1.017	F	0.000	NO
					PM	1.074	F	1.074	F	0.000	NO

[a] *All Intersections are signalized except for #13, Meyler St. and 220th St., which is all way-stop controlled.*

Source: Fehr & Peers, 2016

(i) Unincorporated Los Angeles County Cumulative Buildout (2030) Traffic Conditions

Table 4.L-12, *Cumulative (2030) Plus Project for Unincorporated Los Angeles County Intersection Level of Service Analysis*, summarize the levels of service during the Cumulative Buildout (2030) conditions. Poor operating conditions (LOS E or F) are projected at six (6) of the 15 study intersections wholly or partly within Los Angeles County's jurisdiction under the With and Without Project scenarios during at least one of the analyzed peak hours, including:

1. Normandie Avenue & Torrance Boulevard
2. Vermont Avenue & Torrance Boulevard
4. Normandie Avenue & Carson Street
8. Vermont Avenue & Carson Street
9. I-110 Southbound Ramps & Carson Street
19. Vermont Avenue & 223rd Street

As shown in Table 4.L-12, when examining Cumulative Buildout (2030) Plus Project conditions (without an area-wide growth factor) using the significant impact criteria, potentially significant impacts would result at the following eleven (11) intersections in unincorporated Los Angeles County:

1. Normandie Avenue & Torrance Boulevard
2. Vermont Avenue & Torrance Boulevard
4. Normandie Avenue & Carson Street
6. Berendo Avenue & Carson Street
7. Medical Center Drive & Carson Street
8. Vermont Avenue & Carson Street
9. I-110 Southbound Ramps & Carson Street
14. Vermont Avenue & 220th Street
17. Normandie Avenue & 223rd Street
19. Vermont Avenue & 223rd Street
20. I-110 Southbound Ramps & 223rd Street

Mitigation Measures are prescribed below for potentially significant impacted intersections, where feasible, in unincorporated Los Angeles County, which address both Interim (2023) and Buildout (2030) traffic conditions.

Table 4.L-12

Cumulative (2030) Plus Project for Unincorporated Los Angeles County Intersection Level of Service Analysis

ID	N/S St. Name	E/W St. Name [a]	Jurisdiction	Analysis Methodology	Analyzed Period	Cumulative 2030		Cumulative 2030+Project		Project Increase	Significant Impacts
						V/C or Delay	LOS	V/C or Delay	LOS	In V/C	
1	Normandie Ave.	Torrance Blvd.	Los Angeles County	ICU	AM	0.962	E	0.966	E	0.031	YES
					PM	0.993	E	1.000	E	0.064	YES
2	Vermont Ave.	Torrance Blvd.	Los Angeles County	ICU	AM	0.968	E	0.972	E	0.045	YES
					PM	0.895	D	0.900	D	0.020	YES
4	Normandie Ave.	Carson St.	Los Angeles County	ICU	AM	0.946	E	0.967	E	0.063	YES
					PM	1.007	F	1.038	F	0.108	YES
5	Budlong Ave.	Carson St.	Los Angeles County	ICU	AM	0.603	B	0.669	B	0.099	NO
					PM	0.608	B	0.634	B	0.095	NO
6	Berendo Ave.	Carson St.	Los Angeles County	ICU	AM	0.609	B	0.675	B	0.100	NO
					PM	0.636	B	0.747	C	0.178	YES
7	Medical Center Dr.	Carson St.	Los Angeles County	ICU	AM	0.661	B	0.751	C	0.123	YES
					PM	0.678	B	0.722	C	0.111	YES
8	Vermont Ave.	Carson St.	Los Angeles County	ICU	AM	0.939	E	0.982	E	0.077	YES
					PM	0.982	E	1.075	F	0.158	YES
9	I-110 SB Ramps	Carson St.	Los Angeles County	ICU	AM	0.848	D	0.941	E	0.127	YES
					PM	0.906	E	0.974	E	0.125	YES
12	Normandie Ave.	220th St.	Los Angeles County	ICU	AM	0.550	A	0.596	A	0.047	NO
					PM	0.448	A	0.461	A	0.020	NO
13	Meyler St.	220th St.	Los Angeles County	ICU	AM	0.460	A	0.533	A	0.073	NO
					PM	0.446	A	0.486	A	0.040	NO
14	Vermont Ave.	220th St.	Los Angeles County	ICU	AM	0.647	B	0.717	C	0.072	YES
					PM	0.703	C	0.813	D	0.117	YES
17	Normandie Ave.	223rd St.	Los Angeles County	ICU	AM	0.811	D	0.833	D	0.026	YES
					PM	0.830	D	0.844	D	0.022	YES
18	Meyler St.	223rd St.	Los Angeles County	ICU	AM	0.653	B	0.679	B	0.030	NO
					PM	0.582	A	0.608	B	0.030	NO

Table 4.L-12 (Continued)

Cumulative (2030) Plus Project for Unincorporated Los Angeles County Intersection Level of Service Analysis

ID	N/S St. Name	E/W St. Name [a]	Jurisdiction	Analysis Methodology	Analyzed Period	Cumulative 2030		Cumulative 2030+Project		Project Increase	Significant Impacts
						V/C or Delay	LOS	V/C or Delay	LOS	In V/C	
19	Vermont Ave.	223rd St.	Los Angeles County	ICU	AM	0.927	E	0.983	E	0.066	YES
					PM	0.899	D	0.956	E	0.076	YES
20	I-110 SB Ramps	223rd St.	Los Angeles County	ICU	AM	0.765	C	0.806	D	0.051	YES
					PM	0.864	D	0.895	D	0.052	YES

[a] *All Intersections are signalized except for #13, Meyler St. and 220th St., which is all way-stop controlled.*

Source: Fehr & Peers, 2016

(ii) Incorporated Cities Cumulative Buildout Year (2030) Traffic Conditions

Table 4.L-13, *Cumulative (2030) Plus Project for Incorporated Cities Intersection Level of Service Analysis*, summarize the levels of service during the Cumulative Buildout (2030) conditions. Poor operating conditions (LOS E or F) are projected at ten (10) of the 11 study intersections under the With and Without Project scenarios during at least one of the analyzed peak hours, including:

1. Normandie Avenue & Torrance Boulevard
3. Western Avenue & Carson Street
4. Normandie Avenue & Carson Street
10. Figueroa Street & Carson Street
11. Western Avenue & Carson Street
15. Figueroa Street & 220th Street/I-110 Northbound Ramps
16. Western Avenue & 223rd Street
17. Normandie Avenue & 223rd Street
21. Figueroa Street & 223rd Street
22. Western Avenue & Sepulveda Boulevard

As shown in Table 4.L-13, when examining Cumulative Buildout (2030) Plus Project conditions (with an area-wide growth factor) using the significant impact criteria, potentially significant impacts would result at the following intersections:

4. Normandie Avenue & Carson Street
15. Figueroa Street and 220th Street/I-110 Northbound Ramps

Mitigation measures are prescribed below for potentially significant impacted intersections in the incorporated cities, which address both Interim (2023) and Buildout (2030) traffic conditions.

Table 4.L-13

Cumulative (2030) Plus Project for Incorporated Cities Intersection Level of Service Analysis

ID	N/S St. Name	E/W St. Name [a]	Jurisdiction	Analysis Methodology	Analyzed Period	Cumulative 2030 V/C or Delay	Cumulative 2030 LOS	Cumulative 2030+Project V/C or Delay	Cumulative 2030+Project LOS	Project Increase In V/C	Significant Impacts
1	Normandie Ave.	Torrance Blvd.	City of Los Angeles	CMA	AM	1.054	F	1.059	F	0.005	NO
					PM	1.090	F	1.098	F	0.008	NO
3	Western Ave.	Carson St.	City of Los Angeles	CMA	AM	1.076	F	1.081	F	0.005	NO
					PM	1.196	F	1.204	F	0.008	NO
			City of Torrance	ICU	AM	1.085	F	1.089	F	0.004	NO
					PM	1.188	F	1.194	F	0.006	NO
4	Normandie Ave.	Carson St.	City of Los Angeles	CMA	AM	0.910	E	0.933	E	0.023	YES
					PM	1.037	F	1.073	F	0.036	YES
10	Figueroa St.	Carson St.	City of Carson	ICU	AM	0.762	C	0.786	C	0.024	NO
					PM	0.957	E	0.974	E	0.017	NO
11	Western Ave.	220th St.	City of Los Angeles	CMA	AM	0.633	B	0.649	B	0.016	NO
					PM	0.793	C	0.794	C	0.001	NO
			City of Torrance	ICU	AM	0.760	C	0.775	C	0.015	NO
					PM	0.909	E	0.910	E	0.001	NO
12	Normandie Ave.	220th St.	City of Los Angeles	CMA	AM	0.470	A	0.519	A	0.049	NO
					PM	0.345	A	0.359	A	0.014	NO
15	Figueroa St.	220th St./I-110 NB Ramps	City of Carson	ICU	AM	1.024	F	1.054	F	0.030	YES
					PM	1.006	F	1.121	F	0.115	YES
16	Western Ave.	223rd St.	City of Los Angeles	CMA	AM	0.935	E	0.936	E	0.001	NO
					PM	0.974	E	0.978	E	0.004	NO
			City of Torrance	ICU	AM	0.994	E	0.996	E	0.002	NO
					PM	1.029	F	1.034	F	0.005	NO
17	Normandie Ave.	223rd St.	City of Los Angeles	CMA	AM	0.713	C	0.724	C	0.011	NO
					PM	0.805	D	0.817	D	0.012	NO
21	Figueroa St.	223rd St.	City of Carson	ICU	AM	0.939	E	0.956	E	0.017	NO
					PM	0.820	D	0.831	D	0.011	NO

Table 4.L-13 (Continued)

Cumulative (2030) Plus Project for Incorporated Cities Intersection Level of Service Analysis

ID	N/S St. Name	E/W St. Name [a]	Jurisdiction	Analysis Methodology	Analyzed Period	Cumulative 2030 V/C or Delay	Cumulative 2030 LOS	Cumulative 2030+Project V/C or Delay	Cumulative 2030+Project LOS	Project Increase In V/C	Significant Impacts
22	Western Ave.	Sepulveda Blvd	City of Los Angeles	CMA	AM	1.054	F	1.054	F	0.000	NO
					PM	1.122	F	1.124	F	0.002	NO
			City of Torrance	ICU	AM	1.067	F	1.067	F	0.000	NO
					PM	1.124	F	1.126	F	0.002	NO

[a] *All Intersections are signalized except for #13, Meyler St. and 220th St., which is all way-stop controlled.*

Source: Fehr & Peers, 2016

(d) Summary of Interim Year (2023) and Buildout (2030) Intersection Impacts

Table 4.L-14, *Potentially Significant Impacts at Unincorporated Los Angeles County Intersections*, depicts the impacts at all intersections within unincorporated Los Angeles County using the impact criteria from Los Angeles County. As shown therein, the Project would result in potentially significant impacts at eight (8) intersections under Interim (2023) Plus Project Conditions and ten (10) intersections under Cumulative (2030) Plus Project conditions. The Project would also result in potentially significant impacts at eight (8) of the same intersections plus one additional intersection under Existing Plus Project (Full Buildout) conditions, and three (3) of those same intersections under Existing Plus Project (Interim) conditions. In all, the Project would result in potentially significant impacts at eleven (11) unincorporated County intersections.

Table 4.L-15, *Potentially Significant Impacts at Incorporated City Intersections*, depicts the impacts at all intersections within the jurisdictions of incorporated cities (city of Los Angeles, city of Torrance, and city of Carson) using the impact criteria from the relevant city. As shown therein, the Project would result in impacts at only one (1) intersection in the City of Carson under Interim (2023) Plus Project conditions and impacts at two (2) intersections under Cumulative (2030) Plus Project conditions (including the intersection affected under Interim (2023) Plus Project conditions in the city of Carson and an additional intersection in the city of Los Angeles). The Project would also result in potentially significant impacts at the same two (2) intersections under Existing Plus Project (Full Buildout) conditions, and one (1) of those same intersections under Existing Plus Project (Interim) conditions. In all, the Project would result in potentially significant impacts at two (2) incorporated city intersections (one of which, Intersection No. 4 at Normandie Avenue and Carson Street, is also significantly impacted under Los Angeles County criteria as discussed above).

As such, the Project would result in potentially significant impacts to a total of twelve (12) intersections within both unincorporated Los Angeles County and incorporated cities.

Table 4.L-14

Potentially Significant Impacts at Unincorporated Los Angeles County Intersections

ID	Intersection	Period	Existing + Project (Interim)	Interim (2023) + Project	Existing + Project (Full Buildout)	Cumulative (2030) + Project
1	Normandie Avenue & Torrance Boulevard	AM	NO	**YES**	NO	**YES**
		PM	NO	**YES**	NO	**YES**
2	Vermont Avenue & Torrance Boulevard	AM	NO	**YES**	NO	**YES**
		PM	NO	NO	NO	**YES**
4	Normandie Avenue & Carson Street	AM	NO	**YES**	**YES**	**YES**
		PM	NO	**YES**	**YES**	**YES**
5	Budlong Avenue & Carson Street	AM	NO	NO	NO	NO
		PM	NO	NO	NO	NO
6	Berendo Avenue & Carson Street	AM	NO	NO	NO	NO
		PM	NO	NO	**YES**	**YES**
7	Medical Center Drive & Carson Street	AM	NO	**YES**	**YES**	**YES**
		PM	NO	NO	NO	**YES**
8	Vermont Avenue & Carson Street	AM	**YES**	**YES**	**YES**	**YES**
		PM	**YES**	**YES**	**YES**	**YES**
9	I-110 SB Ramps & Carson Street	AM	**YES**	**YES**	**YES**	**YES**
		PM	NO	**YES**	**YES**	**YES**
12	Normandie Avenue & 220th Street	AM	NO	NO	NO	NO
		PM	NO	NO	NO	NO
13	Meyler Street & 220th Street	AM	NO	NO	NO	NO
		PM	NO	NO	NO	NO
14	Vermont Avenue & 220th Street	AM	NO	NO	**YES**	**YES**
		PM	NO	NO	**YES**	**YES**
17	Normandie Avenue & 223rd Street	AM	NO	NO	**YES**	**NO**
		PM	NO	NO	NO	**NO**
18	Meyler Street & 223rd Street	AM	NO	NO	NO	NO
		PM	NO	NO	NO	NO
19	Vermont Avenue & 223rd Street	AM	**YES**	**YES**	**YES**	**YES**
		PM	NO	**YES**	**YES**	**YES**
20	I-110 SB Ramps & 223rd Street	AM	NO	NO	**YES**	**YES**
		PM	NO	**YES**	**YES**	**YES**

Source: Fehr &Peers, 2016

Table 4.L-15

Potentially Significant Impacts at Incorporated City Intersections

ID	Intersection	Jurisdiction	Period	Existing + Project (Interim)	Interim (2023) + Project	Existing + Project (Full Buildout)	Cumulative (2030) + Project
1	Normandie Avenue & Torrance Boulevard	City of Los Angeles	AM	NO	NO	NO	NO
			PM	NO	NO	NO	NO
3	Western Avenue & Carson Street	City of Los Angeles & City of Torrance	AM	NO	NO	NO	NO
			PM	NO	NO	NO	NO
4	Normandie Avenue & Carson Street	City of Los Angeles	AM	NO	NO	NO	**YES**
			PM	NO	NO	**YES**	**YES**
10	Figueroa Street & Carson Street	City of Carson	AM	NO	NO	NO	NO
			PM	NO	NO	NO	NO
11	Western Avenue & 220th Street	City of Los Angeles & City of Torrance	AM	NO	NO	NO	NO
			PM	NO	NO	NO	NO
12	Normandie Avenue & 220th Street	City of Los Angeles	AM	NO	NO	NO	NO
			PM	NO	NO	NO	NO
15	Figueroa Street & 220th Street/I-110 NB Ramps	City of Carson	AM	NO	NO	**YES**	**YES**
			PM	**YES**	**YES**	**YES**	**YES**
16	Western Avenue & 223rd Street	City of Los Angeles & City of Torrance	AM	NO	NO	NO	NO
			PM	NO	NO	NO	NO
17	Normandie Avenue & 223rd Street	City of Los Angeles	AM	NO	NO	NO	NO
			PM	NO	NO	NO	NO
21	Figueroa Street & 223rd Street	City of Carson	AM	NO	NO	NO	NO
			PM	NO	NO	NO	NO
22	Western Avenue & Sepulveda Blvd	City of Los Angeles & City of Torrance	AM	NO	NO	NO	NO
			PM	NO	NO	NO	NO

Source: Fehr &Peers, 2016

(3) CMP Transportation System

Threshold TRAF-3: Would the Project result in a change at a CMP facility in V/C of 0.02 or greater and cause LOS F conditions, or result in a change in V/C of 0.02 or greater at a CMP facility that is already at LOS F?

Impact Statement TRAF-3: *The Project would not meet the minimum peak hour trip numbers at CMP arterial stations or freeway monitoring stations to require further analysis and, therefore, would not result in a change in the V/C ratio of 0.02 or greater. Impacts to regional CMP transportation systems are considered to be less than significant.*

(a) CMP Arterial Monitoring Stations

The CMP arterial monitoring stations nearest to the Project study area are:

- Western Avenue & Carson Street (City of Torrance)
- Western Avenue & 190th Street (City of Torrance)
- Western Avenue & Sepulveda Boulevard (City of Torrance)
- Pacific Coast Highway & Western Avenue (City of Los Angeles)
- Pacific Coast Highway & Figueroa Street (City of Los Angeles)
- Artesia Boulevard & Vermont Avenue (City of Gardena)

Based on the Project trip generation estimates and a review of the net Project-generated AM and PM peak hour traffic volumes (shown in Figures 8 and 9 of the Traffic Study), the Project would add 50 or more vehicle trips through one of the CMP arterial monitoring stations, Western Avenue & Carson Street. Fewer than 50 trips would be added to all other arterial monitoring stations during the AM or PM analysis periods. Therefore, no further analysis of is required for the CMP arterial intersections with the exception of Western Avenue & Carson Street. Per CMP Impact Analysis guidelines, intersection LOS calculations can be completed using either ICU or CMA methodology. Table 4.L-13 depicts the results of both CMA and ICU methodologies for Western Avenue & Carson Street in the Full Buildout plus Project scenario. Because the incremental change in V/C at this location would not increase by 2%, CMP arterial intersection impacts are considered to be less than significant for the Project. Because no impact would occur under the longest-term Cumulative (2030) plus Project scenario, it is concluded that no impact would occur under the Interim Development (2023) plus Project scenario or Existing plus Project scenarios.

(b) CMP Freeway Monitoring Stations

The nearest CMP mainline freeway monitoring locations nearest to the Project Site are:

- I-110 at Wilmington, south of "C" Street (Station 1045)
- I-110 at Manchester Boulevard (Station 1046)
- I-405 at Santa Fe Avenue (Station 1066)
- I-405 south of I-110 (Station 1067)
- I-405 north of Inglewood Avenue (Station 1068)
- SR 91 east of Alameda Street/Santa Fe Avenue (Station 1033)

Results are depicted in **Table 4.L-16**, *CMP AM Peak Hour Existing (2014) and Cumulative (2030) Freeway Analysis*, and **Table 4.L-17**, *CMP AM Peak Hour Existing (2014) and Cumulative (2030) Freeway Analysis* for the AM and PM peak hours, respectively, under Existing, Cumulative (2030) and Cumulative (2030) plus Project conditions. The Project would not add more than 150 trips at any station location, and the V/C would not increase by 2% or more. Therefore, CMP freeway impacts are considered to be less than significant.

Table 4.L-16

CMP AM Peak Hour Existing (2014) and Cumulative (2030) Freeway Analysis

Freeway Segments	Direction	# of Lanes	Capacity [a]	Existing			Cumulative (2030) with Areawide Growth			Full Buildout Project Trips	Cumulative (2030) with Areawide Growth plus Project				
				Peak Hour Volume [b]	D/C Ratio	LOS [c]	Peak Hour Volume	D/C Ratio	LOS [c]		Peak Hour Volume	D/C Ratio	LOS [c]	Project-related D/C change	Significant Impact [d]
Harbor Freeway (I-110)															
Harbor Freeway (I-110)	NB	4	8,000	3,025	0.38	B	3,088	0.386	B	52	3,141	0.393	B	0.007	NO
at Wilmington, south of "C" Street - CMP Station 1045	SB	4	8,000	4,235	0.53	B	4,323	0.54	B	11	4,334	0.542	C	0.002	NO
Harbor Freeway (I-110)	NB	6	12,000	11,794	0.98	E	12,652	1.054	F(0)	12	12,664	1.055	F(0)	0.001	NO
at Manchester Bl - CMP Station 1046	SB	6	12,000	11,115	0.93	D	11,924	0.994	E	78	12,002	1	E	0.006	NO
San Diego Freeway (I-405)															
San Diego Freeway (I-405)	NB	5	10,000	12,549	1.26	F(1)	15,171	1.517	F(3)	52	15,223	1.522	F(3)	0.005	NO
Santa Fe Ave -CMP Station 1066	SB	5	10,000	9,384	0.94	E	11,345	1.135	F(0)	8	11,353	1.135	F(0)	0.000	NO
San Diego Freeway (I-405)	NB	5	10,000	11,227	1.12	F(0)	12,045	1.205	F(0)	0	12,045	1.205	F(0)	0.000	NO
s/o RTE 110; Carson Scales -CMP Station 1067	SB	5	10,000	9,682	0.97	E	10,387	1.039	F(0)	0	10,387	1.039	F(0)	0.000	NO
San Diego Freeway (I-405)	NB	5	10,000	11,476	1.15	F(0)	11,917	1.192	F(0)	15	11,932	1.193	F(0)	0.001	NO
n/o Inglewood Ave -CMP Station 1068	SB	5	10,000	8,551	0.86	D	8,880	0.888	D	78	8,958	0.896	D	0.008	NO
Artesia Freeway (SR 91)															
Artesia Freeway (SR 91)	EB	6	12,000	8,048	0.67	C	9,669	0.806	D	13	9,682	0.807	D	0.001	NO
e/o Alameda St/Santa Fe Ave -CMP Station 1033	WB	6	12,000	10,767	0.9	D	12,935	1.078	F(0)	80	13,014	1.085	F(0)	0.007	NO

[a] *Capacity assumes 2,000 vehicles/hour/lane based on analysis contained in 2010 Congestion Management Program, Metro, 2010.*
[b] *2015 Volume obtained from CMP 2009 Data, factored to 2015 conditions using CMP growth rate for the RSA that contains freeway census station.*
[c] *Freeway Segment LOS methodology taken from 2010 CMP, Metro, 2010.*
[d] *CMP defines significant freeway impact as change in D/C ratio of 0.02 or more when a freeway segment is at LOS F (D/C ratio > 1.00).*

Source: Fehr & Peers, 2016

Table 4.L-17

CMP PM Peak Hour Existing (2014) and Cumulative (2030) Freeway Analysis

Freeway Segments	Direction	# of Lanes	Capacity [a]	Existing			Cumulative (2030) with Areawide Growth			Full Buildout Project Trips	Cumulative (2030) with Areawide Growth plus Project				
				Peak Hour Volume [b]	D/C Ratio	LOS [c]	Peak Hour Volume	D/C Ratio	LOS [c]		Peak Hour Volume	D/C Ratio	LOS [c]	Project-related D/C change	Significant Impact [d]
Harbor Freeway (I-110)															
Harbor Freeway (I-110)	NB	4	8,000	3,090	0.39	B	3,587	0.448	B	17	3,604	0.451	B	0.003	NO
at Wilmington, south of "C" Street - CMP Station 1045	SB	4	8,000	4,223	0.53	B	4,799	0.600	C	56	4,855	0.607	C	0.007	NO
Harbor Freeway (I-110)	NB	6	12,000	11,781	0.98	E	12,827	1.069	F(0)	62	12,889	1.074	F(0)	0.005	NO
at Manchester Bl - CMP Station 1046	SB	6	12,000	11,954	1	E	13,036	1.086	F(0)	26	13,062	1.089	F(0)	0.003	NO
San Diego Freeway (I-405)															
San Diego Freeway (I-405)	NB	5	10,000	9,167	0.92	D	10,393	1.039	F(0)	16	10,409	1.041	F(0)	0.002	NO
Santa Fe Ave -CMP Station 1066	SB	5	10,000	11,021	1.1	F(0)	12,367	1.237	F(0)	41	12,408	1.241	F(0)	0.004	NO
San Diego Freeway (I-405)	NB	5	10,000	9,682	0.97	E	10,921	1.092	F(0)	0	10,921	1.092	F(0)	0.000	NO
s/o RTE 110; Carson Scales -CMP Station 1067	SB	5	10,000	11,639	1.16	F(0)	13,006	1.301	F(1)	0	13,006	1.301	F(1)	0.000	NO
San Diego Freeway (I-405)	NB	5	10,000	8,734	0.87	D	9,518	0.952	E	78	9,596	0.96	E	0.008	NO
n/o Inglewood Ave -CMP Station 1068	SB	5	10,000	10,562	1.06	F(0)	11,476	1.148	F(0)	24	11,500	1.15	F(0)	0.002	NO
Artesia Freeway (SR 91)															
Artesia Freeway (SR 91)	EB	6	12,000	16,532	1.38	F(2)	19,893	1.658	F(3)	65	19,958	1.663	F(3)	0.005	NO
e/o Alameda St/Santa Fe Ave -CMP Station 1033	WB	6	12,000	6,526	0.54	C	7,887	0.657	C	25	7,912	0.659	C	0.002	NO

[a] *Capacity assumes 2,000 vehicles/hour/lane based on analysis contained in 2010 Congestion Management Program, Metro, 2010.*
[b] *2015 Volume obtained from CMP 2009 Data, factored to 2015 conditions using CMP growth rate for the RSA that contains freeway census station.*
[c] *Freeway Segment LOS methodology taken from 2010 CMP, Metro, 2010.*
[d] *CMP defines significant freeway impact as change in D/C ratio of 0.02 or more when a freeway segment is at LOS F (D/C ratio > 1.00).*

Source: Fehr & Peers, 2016

(4) Caltrans Facilities

(a) Freeway Mainlines and Intersections

Threshold TRAF-4: Would the Project result in traffic that would extend onto the freeway mainline or intersection were found to operate at LOS F with the addition of Project-related traffic and the increase is equal to or greater than 50 trips?

Impact Statement TRAF-4: *The Project would increase traffic on the Caltrans facilities. With regard to freeway segments and intersections, while the County would make a fair-share contribution to offset increases in trips that would occur as a result of Project traffic, the Project could have a significant impact on Caltrans facilities. While the County would contribute a fair-share contribution for future improvements, this impact is considered potentially significant.*

(i) Freeway Mainlines

Morning and afternoon peak hour analysis of six selected freeway mainline segments in the Project vicinity was conducted in response to a request from Caltrans:

- I-110 at 228th Street
- I-110 at El Segundo Boulevard
- I-405 at I-710
- I-405 south of I-110
- I-405 north of Western Avenue
- SR-91 at Avalon Boulevard

As discussed above, the level of service definitions used for freeway mainline segments are shown above in Table 4.L-1. Caltrans' *Guide for the Preparation of Traffic Impact Studies* (December 2002) states that:

> "The level of service (LOS) for operating State highway facilities is based upon measures of effectiveness (MOEs). Caltrans endeavors to maintain a target LOS 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 appropriate target LOS, the existing MOE should be maintained."

The surrounding freeways (I-405, I-710, SR-91, and I-110) are operating at or near capacity during the peak period. When additional traffic trips are assigned to those freeways, existing LOS should be maintained.

Following consultation between County staff and Caltrans staff, it was agreed that for the purposes of this study for this Project, an impact would be considered adverse if the analyzed freeway segment were found to operate at LOS F with the addition of Project-related traffic and if the increase were equal to or greater than 50 trips.

Existing (2014) and Existing plus Project freeway segment analysis is presented in **Table 4.L-18**, *Existing (2014) Peak Hour Freeway Segment Analysis*, and Cumulative (2030) and Cumulative (2030) plus Project freeway segment analysis is presented in **Table 4.L-19**, *Cumulative (2030) Peak Hour Freeway Segment Analysis*. As shown, using this methodology, adverse impacts are identified on the following three freeway segments:

Existing (2014) plus Project at Full Buildout

- I-405 at I-710 – northbound in the AM peak hour (52 Project-added trips)

Cumulative (2030) plus Project at Full Buildout

- I-110 at 228th Street – northbound in the AM peak hour (52 Project-added trips)
- I-110 at El Segundo Boulevard – southbound in the AM peak hour (78 Project-added trips)
- I-405 at I-710 – northbound in the AM peak hour (52 Project-added trips)

To address these adverse impacts three potential measures were investigated:

- Reduce Project-generated traffic by reducing the building program or by implementing a more effective TDM program sufficient to reduce estimated trips by 1% to avoid two of the adverse impacts identified or 6% to avoid all three of the adverse impacts identified. The effectiveness of the ongoing programs varies from year to year, however, and it is not possible to guarantee that specific measures would be effective in perpetuity.

- Add mainline freeway capacity to address existing and cumulative conditions. This would be beyond the ability of any individual project to implement, due to the potential need to acquire right-of-way and the magnitude of the cost.

- Contribute to implementation of Caltrans' projects to address congestion in the study area, which would contribute to minimizing the impact associated with the proposed development. However, there are no specific improvements identified for implementation. Thus, no fair-share contribution can be calculated or made.

Because the potential measures described above were each found to be infeasible, the Project's incremental impacts on poor cumulative conditions on identified segments would be considered significant and unavoidable.

Table 4.L-18

Existing (2014) Peak Hour Freeway Segment Analysis

Name [a]	Peak Hour	Existing Northbound Density (pc/mi/ln)*	Existing Northbound LOS	Existing Southbound Density (pc/mi/ln)*	Existing Southbound LOS	Full Buildout Project Trips Northbound	Full Buildout Project Trips Southbound	Existing plus Project Northbound Density (pc/mi/ln)*	Existing plus Project Northbound LOS	Existing plus Project Southbound Density (pc/mi/ln)*	Existing plus Project Southbound LOS	Change in Density Northbound	Change in Density Southbound	Project Impact? [b] Northbound	Project Impact? [b] Southbound
I-110 at 228th Street	AM	37.0	E	22.9	C	52	11	37.5	E	22.9	C	0.5	0.0	NO	NO
	PM	23.1	C	33.7	D	17	56	23.2	C	34.1	D	0.1	0.4	NO	NO
I-110 at El Segundo Blvd	AM	27.0	D	36.9	E	12	78	27.0	D	37.5	E	0.0	0.6	NO	NO
	PM	26.1	D	37.4	E	62	26	26.4	D	37.6	E	0.3	0.2	NO	NO
I-405 JCT. RTE 710	AM	47.5	F	27.4	D	52	8	48.0	F	27.4	D	0.5	0.0	YES	NO
	PM	28.5	D	43.8	E	16	41	28.5	D	44.2	E	0.0	0.4	NO	NO
I-405 S/O JCT RTE 110, Carson Scales	AM	33.9	D	28.2	D	0	0	33.9	D	28.2	D	0.0	0.0	NO	NO
	PM	26.0	C	37.9	E	0	0	26.0	C	37.9	E	0.0	0.0	NO	NO
I-405 N/O Western Avenue; Van Ness Avenue	AM	30.8	D	29.0	D	15	78	30.8	D	29.3	D	0.0	0.3	NO	NO
	PM	27.5	D	31.8	D	78	24	27.9	D	31.9	D	0.4	0.1	NO	NO

Name [a]	Peak Hour	Existing Eastbound Density (pc/mi/ln)*	Existing Eastbound LOS	Existing Westbound Density (pc/mi/ln)*	Existing Westbound LOS	Full Buildout Project Trips Eastbound	Full Buildout Project Trips Westbound	Existing plus Project Eastbound Density (pc/mi/ln)*	Existing plus Project Eastbound LOS	Existing plus Project Westbound Density (pc/mi/ln)*	Existing plus Project Westbound LOS	Change in Density Eastbound	Change in Density Westbound	Project Impact? [b] Northbound	Project Impact? [b] Westbound
SR 91 at Avalon Boulevard Interchange	AM	21.9	C	28.7	D	13	80	21.9	C	29.1	D	0.0	0.4	NO	NO
	PM	26.1	D	19.9	C	65	25	26.4	D	20.0	C	0.3	0.1	NO	NO

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** pc/mi/ln denotes passenger cars per mile per lane*

[a] *Analyzed using Freeway methodology from Highway Capacity Manual, Transportation Research Board, 2010.*

[b] *After discussion with Caltrans staff, Impact Criteria was defined as mainline LOS F and more than 50 project trips.*

Source: Fehr & Peers, 2016

Table 4.L-19

Cumulative (2030) Peak Hour Freeway Segment Analysis,

Name [a]	Peak Hour	Cumulative with Areawide Growth: Northbound Density (pc/mi/ln)*	LOS	Cumulative with Areawide Growth: Southbound Density (pc/mi/ln)*	LOS	Full Buildout Project Trips: Northbound	Full Buildout Project Trips: Southbound	Cumulative with Areawide Growthplus Project: Northbound Density (pc/mi/ln)*	LOS	Cumulative with Areawide Growthplus Project: Southbound Density (pc/mi/ln)*	LOS	Change in Density: Northbound	Change in Density: Southbound	Project Impact? [b]: Northbound	Project Impact? [b]: Southbound
I-110 at 228th Street	AM	45.4	F	25.6	C	52	11	46.0	F	25.7	C	0.6	0.1	YES	NO
	PM	24.6	C	37.0	E	17	56	24.7	C	37.5	E	0.1	0.5	NO	NO
I-110 at El Segundo Blvd	AM	31.3	D	45.5	F	12	78	31.4	D	46.3	F	0.1	0.8	NO	YES
	PM	28.2	D	41.8	E	62	26	28.5	D	42.0	E	0.3	0.2	NO	NO
I-405 JCT. RTE 710	AM	63.0	F	31.8	D	52	8	63.9	F	31.9	D	0.9	0.1	YES	NO
	PM	30.9	D	50.0	F	16	41	31.0	D	50.4	F	0.1	0.4	NO	NO
I-405 S/O JCT RTE 110, Carson Scales	AM	40.9	E	32.6	D	0	0	40.9	E	32.6	D	0.0	0.0	NO	NO
	PM	26.0	C	42.2	E	0	0	26.0	C	42.2	E	0.0	0.0	NO	NO
I-405 N/O Western Avenue; Van Ness Avenue	AM	36.1	E	33.6	D	15	78	36.2	E	34.1	D	0.1	0.5	NO	NO
	PM	29.7	D	34.7	D	78	24	30.0	D	34.9	D	0.3	0.2	NO	NO

Name [a]	Peak Hour	Existing: Eastbound Density (pc/mi/ln)*	LOS	Existing: Westbound Density (pc/mi/ln)*	LOS	Full Buildout Project Trips: Eastbound	Full Buildout Project Trips: Westbound	Existing plus Project: Eastbound Density (pc/mi/ln)*	LOS	Existing plus Project: Westbound Density (pc/mi/ln)*	LOS	Change in Density: Eastbound	Change in Density: Westbound	Project Impact? [b]: Northbound	Project Impact? [b]: Westbound
SR 91 at Avalon Boulevard Interchange	AM	24.4	C	33.2	D	13	80	24.4	C	33.7	D	0.0	0.5	NO	NO
	PM	28.0	D	21.1	C	65	25	28.3	D	21.2	C	0.3	0.1	NO	NO

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** pc/mi/ln denotes passenger cars per mile per lane*

[a] *Analyzed using Freeway methodology from Highway Capacity Manual, Transportation Research Board, 2010.*

[b] *After discussion with Caltrans staff, Impact Criteria was defined as mainline LOS F and more than 50 project trips.*

Source: Fehr & Peers, 2016

(ii) Intersections

Analysis of the arterial intersection of Western Avenue (State Route 213) & Carson Street was conducted using the Highway Capacity Manual (HCM) methodology in response to a request from Caltrans. Caltrans, LADOT and the City of Torrance have jointly agreed to modify the signal in the near term at this location by implementing protected left-turn phasing on the eastbound and westbound approaches.

The discussion above regarding Caltrans' MOEs for freeway mainline segments also applies to arterial intersections. However, following consultation between county staff and Caltrans staff, it was agreed that for the purposes of this study of this Project, an impact would be considered adverse if the analyzed intersection were found to operate at LOS F with the addition of Project-related traffic and if the increase were equal to or greater than 50 trips. The results of this analysis under Existing conditions without and with the Project, Interim Year (2023) without and with the Project, and Cumulative Year (2030) without and with the Project are presented in **Table 4.L-20**, *Peak Hour Highway Capacity Manual Intersection Analysis – Western Avenue (State Route 213) & Carson Street*. Detailed level of service worksheets are provided in Appendix C of the Traffic Study. The intersection is operating at LOS E under Existing and Existing plus Project conditions. Under Interim Development (2023) and Cumulative (2030) conditions in both the AM and PM peak hours, the intersection is projected to decline to LOS F without or with the addition of Project traffic. Because the Project would add more than 50 trips in both the AM and PM peak hours during the Cumulative (2030) condition, the impact would be a potentially significant impact.

Table 4.L-20

Peak Hour Highway Capacity Manual Intersection Analysis – Western Avenue (State Route 213) & Carson Street

Scenario	Time Period	Without Project		Plus Project [b]		Project Trips	Project Delay	Adverse Impact [c]
		Delay	LOS	Delay	LOS			
Existing	AM	66.4	E	67.8	E	55	1.4	NO
	PM	65.8	E	69.9	E	73	4.1	NO
Interim (2023) with Areawide Growth [d]	AM	93.6	F	93.7	F	17	0.1	NO
	PM	116.4	F	117.5	F	20	1.1	NO
Cumulative (2030) with Areawide Growth [d]	AM	105.7	F	106.9	F	55	1.2	YES
	PM	133.6	F	138.2	F	73	4.6	YES

[a] *Analyzed using Freeway methodology from Highway Capacity Manual, Transportation Research Board, 2010.*
[b] *Project trips for Existing and Cumulative (2030) with areawide growth are for Full Buildout. Project Trips for Interim (2023) with areawide growth are for Interim Development.*
[c] *After discussion with Caltrans staff, Impact Criteria was defined as intersection operating at LOS F and more than 50 project trips.*
[d] *Includes protected left-turn phases for eastbound and westbound approaches.*

Source: Fehr & Peers, 2016

(b) Freeway Off-Ramps

Threshold TRAF-5: Would the Project result in traffic where the off-ramp queue extends beyond the length of the ramp itself onto the mainline of the freeway during the peak arrival period?

Impact Statement TRAF-5: *The Project would increase traffic on the Caltrans facilities. However, with regard to off-ramps, the Project would not contribute traffic such that off-ramp queues would extend beyond the length of the ramp itself onto the mainline of a freeway during peak arrival periods. Thus, impacts would be less than significant.*

A freeway ramp queuing analysis was conducted at six freeway ramp terminal intersections in the Project vicinity in response to a request from Caltrans:

- I-110 Northbound Off-Ramp at 220th Street/Figueroa Street (Exit 7)
- I-110 Southbound Off-Ramp at Carson Street (Exist 7B)
- I-110 Southbound Off-Ramp at 223rd Street (Exit 7B)
- I-405 Northbound Off-Ramp at Carson Street (Exit 34)
- I-405 Northbound Off-Ramp at Wilmington Avenue (Exit 33B)
- I-405 Southbound Off-Ramp at East Carson Street (Exit 34)

Following consultation between County staff and Caltrans staff, it was agreed that for the purposes of this study for this Project, an impact would be considered adverse if the off-ramp queue extends beyond the length of the ramp itself onto the mainline of the freeway during the peak arrival period. **Table 4.L-21**, *Peak Hour Off-Ramp Intersection 95th Percentile Queues***,** presents a summary of the ramp queuing analysis for Existing, Cumulative (2030) and Cumulative (2030) plus Project conditions. The queue does not exceed the ramp length in any of the scenarios; therefore, less than significant impacts would occur.

Table 4.L-21

Peak Hour Off-Ramp Intersection 95th Percentile Queues

Ramp	Cross Street	Ramp Length	Ramp Turn Lanes at Intersection			Existing (2014)				Cumulative (2030) with Areawide Growth				Cumulative (2030) with Areawide Growth plus Project				Queue Exceeds Storage?
						AM Queue		PM Queue		AM Queue		PM Queue		AM Queue		PM Queue		
			# of Lanes	Move	Length	Lane (ft)	Max (ft)	Lane (ft)	Max (ft)	Lane (ft)	Max (ft)	Lane (ft)	Max (ft)	Lane (ft)	Max (ft)	Lane (ft)	Max (ft)	
I-110 SB Ramps	Carson Street	980	2	Left	980	130	640 [a]	250	350	150	770 [a]	280	520 [a]	150	970 [a]	280	580 [a]	NO
				Right	380	640		350		770		520		970		580		
220th Street/ I-110 NB Ramps	Figueroa Street	1,150	2	Through/Left	1,150	570	570 [a]	710	710 [a]	640	640 [a]	790	790 [a]	680	680 [a]	810	810 [a]	NO
				Right	525	0		30		0		50		20		60		
I-110 SB Ramps	223rd Street	930	2	Through/Left	930	360	360	340	340	440	440 [a]	440	440	530	530 [a]	480	480 [a]	NO
				Through/Right	390	[b]		[b]		[b]		[b]		[b]		[b]		
I-405 SB Ramps	Carson Street	1,120	2	Left	1,120	40	50	40	40	50	60	40	50	50	60	40	50	NO
				Right	660	50		40		60		50		60		50		
I-405 NB Ramps	Carson Street	1,200	2	Through/Left	630	30	30	40	40	30	30	40	40	30	30	40	40	NO
				Right	1,200	0		0		0		0		0		0		
I-405 NB Ramps	Wilmington Avenue	1,350	3	Left	900	440	440	400	400	530	530	480	480	550	550	490	490	NO
				Left	1,350	[b]		[b]		[b]		[b]		[b]		[b]		
				Right	450	360		60		490		120		490		120		

[a]: *95th percentile volume exceeds capacity, queue may be longer.*
[b] *Queue same as in adjacent lane.*

Source: Fehr & Peers, 2016

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(5) Public Transit and Alternative Transportation

Threshold TRAF-6: Would the Project add substantial new ridership to the transit lines operating in excess of their capacity or conflict with adopted policies, plans, or programs supporting alternative transportation?

Impact Statement TRAF-6: *Transit ridership generated by the Project would not exceed the residual capacity of the public transit system under Future Interim (2023) and Buildout (2030) conditions. Therefore, impacts with respect to transit would be less than significant. With regard to other alternative transportation modes, the Project would be supportive of and would not conflict with applicable alternative transportation policies, plans, and programs. Thus, impacts would be less than significant.*

(a) Public Transit

Based on the trip generation for the Interim Development (2023) scenario shown in Table 4.L-7a, the Project is estimated to generate 1,822 daily net trips, 225 net AM peak hour tips, and 221 net PM peak hour trips before transit credits and bike/walk credits are applied. Applying the CMP guidelines by converting the vehicle trips to person trips by multiplying by a 1.4 AVR (225 net AM peak hour trips x 1.4 = 315 and 221 net PM peak hour trips x 1.4 = 310) and applying a 7% transit use (315 net AM peak hour person trips x 7% = 22 and 310 net PM peak hour person trips x 7% = 22), would result in approximately 22 new transit person trips during the weekday AM peak hour and 22 new transit person trips during the weekday PM peak hour in the Interim Development (2023) scenario.

Based on the trip generation for the Full Buildout (2030) scenario shown in Table 4.L-7b, the Project is expected to generate 7,409 daily net trips, 714 net AM peak hour tips, and 818 net PM peak hour trips before internal capture, transit credits and bike/walk credits are applied. Applying the CMP guidelines by converting the vehicle trips to person trips by multiplying by a 1.4 AVR (714 net AM peak hour trips x 1.4 = 1,000 and 818 net PM peak hour trips x 1.4 = 1,145) and applying a 7% transit use (1,000 net AM peak hour person trips x 7% = 70 and 1,145 net PM peak hour person trips x 7% = 80), would result in approximately 70 new transit person trips during the weekday AM peak hour and 80 new transit person trips during the weekday PM peak hour in the Full Buildout scenario.

Within ¼-mile of the Project Site, Metro operates one local line and two express lines; Carson Circuit operates two local lines; Torrance Transit operates two local lines and one rapid line; and Gardena Municipal Bus operates one local line. The Project location is also served by numerous established local and regional transit routes with peak period headways of between 10 and 40 minutes. The bus services have an approximate capacity of approximately 1,840 persons during the peak hours based on a seating capacity of 40 persons for a standard bus and 30 persons for a shuttle bus and a policy load factor of 1.0. The Project would utilize less than 5% of available transit capacity during the peak hours. As such, impacts to public transit service would be less than significant.

(b) Alternative Transportation

With regard to alternative transportation, more specifically non-motorized transportation, the Project would implement a wide range of pedestrian- and bicycle-oriented improvements throughout the Medical Center Campus intended to foster non-vehicular access and circulation within the Project Site, as well as provide access to off-site facilities. On-site pedestrian and bicycle-related facilities would include a central

garden/open space system connecting the Medical Center Campus in a north-south and east-west orientation, which also ties into the proposed "fitness trail" which weaves through the property in a circuitous pattern and links the various Project components. The Project would also provide bicycle parking on the Medical Center Campus in accordance with County Code requirements, and may also provide lockers and showers for employees in accordance with existing TDM measures in place at the facility, and may also implement further bicycle-friendly improvements to meet LEED certification requirements as part of future development. Nonetheless, the Project would continue to implement TDM measures on the Project Site as under current conditions, and may ultimately expand the range of strategies to reduce vehicle trips. As such, the Project would not conflict with plans, policies, or programs supportive of alternative transportation such as the SCAG RTP/SCS, Los Angeles County CMP, or Los Angeles County General Plan 2035, and impacts would be less than significant.

(6) Access and Circulation

Threshold TRAF-7: Would the Project substantially increase conflict of movement between vehicles and pedestrians or bicycles because of driveway design, the location of parking facilities, or other Project characteristics affecting visibility and turning movements?

Impact Statement TRAF-7: *Site access would be provided via seven driveways designed to County standards that would accommodate left and right ingress/egress turning movements. The existing network of traffic lanes, public sidewalks and pedestrian crosswalks would be maintained or improved and the Project would not mix pedestrian and automobile traffic in such a manner that a safety hazard for vehicles or pedestrians would occur or that access would be limited. In addition, no safety or operational impact relative to bicycle traffic is anticipated. Impacts with respect to vehicular, pedestrian, and bicycle access would be less than significant.*

The Master Plan Project design is intended to separate the access and the on-site circulation and parking for staff and the public, with Medical Center Campus entries and staff parking near the southeast area of the campus, and access and parking for the public from Carson Street, on the north (please see Figure 2-8 in Chapter 2.0, *Project Description*, of this Draft EIR). Access to the Medical Center Campus would be augmented with the addition of a signalized public entrance on Carson Street, near the northern portion of the proposed Bioscience Tech Park area, and one additional unsignalized staff entrance on Vermont Avenue. The new signalized public entrance on Carson Street may ultimately be located to the west of the location depicted in Figure 2-8, in order to allow adequate queue lengths and vehicles turning left into the Medical Center Campus from westbound Carson Street. A queueing analysis was conducted in the Traffic Study in order to assess the adequacy of the available storage space for westbound left-turns approaching the proposed new driveway on Carson Street west of Budlong Avenue. Figures 2 and 7 in the Traffic Study illustrate the location of the relocated driveway, which is currently proposed to be located approximately 300 feet west of the intersection of Carson Street and Budlong Avenue, directly opposite an existing retail driveway. Existing eastbound left-turn volumes from Carson Street onto Budlong Avenue are approximately 25 vehicles in the AM peak hour and 15 vehicles in the PM peak hour. The proposed westbound left-turn lane would occupy space now occupied by a center two-way left-turn lane and by the transitional taper to the existing eastbound left-turn lane onto Budlong Street, which would be shortened to accommodate projected westbound left vehicles at the Project driveway. For the analysis, a protected/permitted phase was assumed for westbound left vehicles at the driveway.

Table 17 in the Traffic Study presents a summary of the queuing analysis for Existing plus Project and Cumulative (2030) plus Project conditions at build-out for the AM and PM peak hours. The longest westbound queue is estimated to be six vehicles, requiring approximately 150 feet of storage. Providing a westbound left-turn lane of sufficient length would require shortening the eastbound left-turn lane onto Budlong Avenue, which appears feasible due to the modest left-turn volumes that it serves. As such, access to and from this driveway would be considered adequate and thus access impacts at this location would be less than significant. Detailed queue calculations are provided in Appendix D of the Project Traffic Study.

Sidewalk connections to the public transit system would continue to be provided, and on-site sidewalks would be added along the primary routes between the main parking areas and the New Hospital Tower and Outpatient buildings. Circular pick-up and drop-off loading zones would also be provided at the main entrances to each of the New Hospital Tower and Outpatient buildings. Loading and trash collection activities would continue to occur within the existing location on the south side of the Surgery and Emergency building, accessed via either Vermont Avenue or 220th Street.

The proposed circulation improvements at the Medical Center Campus, both vehicular and non-vehicular, would be designed, as noted above, to provide separation between pedestrians/bicyclist and motor vehicles in order to minimize potential conflicts and associated hazards. Given implementation of Master Plan design principles and proposed circulation plan components, it is anticipated that vehicular circulation, bicycle and pedestrian safety, and both vehicular and non-vehicular access and circulation on-site would not only maintained but substantially improved relative to existing conditions as no unified, comprehensive circulation system currently exists on the Medical Center Campus. Furthermore, all access points and on-site circulation improvements would be designed in accordance with County standards under the review of County staff. Therefore, impacts regarding access and circulation would be less than significant.

(7) Parking Supply

Threshold TRAF-8: Would the Project provide less parking than the projected demand?

Impact Statement TRAF-8: *The Project would provide vehicle parking sufficient to meet projected demand. Therefore, impacts related to parking would be less than significant.*

As noted above, the Medical Center Campus currently provides 2,905 total parking spaces, which exceeds the County's parking code requirement of 2,709 spaces. Parking for proposed future uses would be provided as needed throughout Master Plan Project implementation phases, which is planned to provide sufficient parking in excess of both County Code requirements and projected demands. Based on parking ratios for the various land uses proposed under the Medical Center Campus, including the proposed Bioscience Tech Park, the County Code requirement for on-site parking at Project buildout in year 2030 would be 2,772 spaces, while the projected demand for parking is estimated to be 3,424 parking spaces based on application of adjusted ITE parking generation rates shown on page 59 of the Harbor-UCLA Master Plan. According to information provided by County staff, the Project would provide a total of 3,240 parking spaces on the Medical Center Campus, not inclusive of parking to be provided for the Bioscience Tech Park uses, which would add another 1,000 spaces to on-site parking capacity. As such, total on-site parking to serve future land uses at the Medical Center Campus at buildout would be 4,240 spaces, which would be 816 spaces more than the total projected demand and 1,468 spaces more than required by the County Code.

With regard to bicycle parking, the County Code requires short-term bicycle parking at a rate of 1 space for every 10,000 gross square feet of building space and long-term bicycle parking at a rate of one space for every 20,000 gross square feet, which results in a requirement of 246 short-term spaces and 123 long-term spaces. It is anticipated that the Project, in accordance with existing and proposed TDM measures or potential LEED requirements for future buildings, would provide additional bicycle parking facilities on the Medical Center Campus beyond what is required by the County Code.

As discussed previously, the Project would meet the criteria set forth in SB 743 because it (1) is located within a transit priority area less than one-half mile from the Harbor Freeway/Carson Station TOD (connection to Metro Silver Line) and (2) comprises an employment center within an established urban area. Under SB 743, the Project would be exempt from findings of significance related to parking effects. However, for the purpose of this EIR, parking effects have been evaluated herein for informational and disclosure purposes. Overall, as the Project would provide parking for proposed uses in an amount greater than both County Code requirements and the projected parking demand, impacts related to parking supply would be less than significant.

e. Cumulative Impacts

(1) Construction

Impacts on traffic associated with construction (e.g., an intermittent reduction in street and intersection operating capacity) are typically considered short-term adverse impacts. As discussed above, the Project is conservatively concluded to result in a significant traffic impact during construction associated with construction worker vehicle and truck trips during peak construction periods, although implementation of both a Construction Traffic Management Plan and Pedestrian Safety Plan (PDF TRAF-1 and PDF TRAF-2) that would incorporate notification and safety procedures and controls would reduce impacts in this regard to a certain extent. Although details regarding the timing and location of future development projects in the Project area are currently unknown, it is possible that other construction activities in the Project vicinity could occur concurrently with Project-related construction activities given the approximately 14-year implementation schedule for the Master Plan Project, and thus the Project could contribute to cumulative traffic impacts. Nonetheless, each related Project would be required to comply with County or respective City requirements regarding haul routes and would implement mitigation measures and/or include Project Design Features, such as traffic controls and safety procedures, to reduce potential traffic impacts during construction. However, even though the Project Site is located within close proximity to the freeway and would implement Project Design Features, due to the Project's assumed significant construction traffic impact, the number of related projects in the vicinity and the uncertainty in terms of timing for each related Project and the potential overlap of development, it is determined that the Project could contribute to a cumulatively significant construction impact.

(2) Operation

The Traffic Study was developed to address Project impacts in the context of existing baseline conditions and future Interim Year (2023) and Full Buildout (2030) conditions. The latter two scenarios take into account traffic caused by the 26 related projects identified in Chapter 3.0, *General Description of Environmental Setting*, of this Draft EIR as well as a growth factor to account for other ambient growth occurring in the region. Therefore, the analysis of future traffic conditions in 2023 and 2030 provides the cumulative

analysis in that it considers traffic generated by future planned land uses. The above analyses of Project impacts have taken into account the cumulative impacts associated with future growth.

The Traffic Study analyzed seven scenarios: Existing (2014), Existing (2014) plus Interim Development Project, Existing (2014) plus Full Buildout Project, Interim (2023) without Project, Cumulative (2030) without Project, Interim (2023) plus Project, Cumulative (2030) plus Project. The LOS analysis for the Cumulative (2030) plus Project scenario determined that the proposed Project would significantly impact traffic at eight intersections. After the proposed mitigation, the proposed Project would create significant traffic impacts at one of the analyzed intersections. Thus, the Project would contribute to a significant cumulative impact at this location.

The regional transportation analysis, including public transit, is based on CMP procedures that have been developed to address countywide cumulative growth impacts on regional transportation facilities. The CMP Guidelines contain procedures for monitoring land use development levels and transit system performance by local jurisdictions and Metro and are used to inform planning of infrastructure improvements to meet future needs, including development of the CMP CIP, Metro's LRTP, and SCAG's RTP. As indicated in the discussion of Project impacts above, the Project would not have a significant impact on public transit and the incremental impacts on the regional public transit system would not be cumulatively considerable. Analyses of potential impacts on the regional transportation system conducted in accordance with CMP requirements determined that the Project would not have a significant impact on CMP monitoring intersections. Analyses of potential impacts on the regional transportation in accordance with Caltrans found a Project impact on Interstate 405 northbound in the AM peak hour, and cumulative impacts on Interstate 110 northbound and southbound in the AM peak hour. Options for addressing the impacts were identified that can fully mitigate Project-related impacts; however, given uncertainties regarding the timing of implementation of such improvements, impacts are conservatively concluded to be significant and unavoidable. Therefore, the Project would contribute to a significant cumulative impact in this regard.

No impacts were found at freeway off-ramps. Thus, given that the analysis of Project-related traffic impacts under future development scenarios accounts for ambient growth and growth associated with the 26 related projects, and Project-related impacts would be less than significant, the Project's contribution to cumulative effects would not be considerable.

With regard to pedestrian and bicycle access and facilities, vehicular access and circulation, and parking, the Project would not result in a significant impact. Each related project would be reviewed by the County or respective City to ensure compliance with that jurisdiction's requirements relative to the provision of safe access for vehicles, pedestrian and cyclists. Access to each site would be assessed during the County's or respective City's review process to ensure compliance with applicable requirements, which are established to minimize potential impacts. With regard to parking, the related projects would be subject to the applicable County or City parking requirements for vehicle and bicycle parking. Therefore, cumulative impacts on parking would be less than significant. Therefore, the Project would not contribute to a significant cumulative impact with regard to these issues.

4. MITIGATION MEASURES

a. Construction

(1) Temporary Construction Traffic and Parking (Threshold TRAF-1)

With the incorporation of Project Design Features PDF-TRAF-1, Construction Traffic Management Plan, and PDF TRAF-2, Pedestrian Safety, construction traffic impacts would be less than significant. However, given the amount of development in the Project area, the uncertainty in terms of timing for each related Project and the potential for overlap of development, the Project could contribute to a cumulatively significant construction impact. Beyond compliance with County requirements regarding haul routes and implementation of traffic controls and safety procedures, no other feasible mitigation measures have been identified.

b. Operation

(1) Intersection Service Levels (Threshold TRAF-2)

The traffic impact analysis determined that the proposed development would generate significant traffic impacts at twelve (12) of the 22 analyzed intersections under future plus Project conditions. The following mitigation measures are prescribed to address a number of these impacts, where improvements to address such impacts are considered feasible.

I-110 Southbound Ramps & Carson Street (Intersection #9) – The Project would result in a potentially significant impact at the intersection of Interstate 110 Southbound Ramps & Carson Street (Intersection #9) in the AM and PM peak hours in the Full Buildout scenario using its current lane configuration.

> **Mitigation Measure TRAF-1: I-110 Southbound Ramps & Carson Street (Intersection #9)** - The existing southbound approach on the Interstate I-110 off-ramp shall be restriped to convert the existing left-turn lane to a left-/right-turn lane.

This improvement would require coordination with and approval by Caltrans.

220th Street/I-110 Northbound Ramps & Figueroa Street (Intersection #15) - The Project would result in a potentially significant impact at the intersection of 220th Street/I-110 Northbound Ramps & Figueroa Street (Intersection #15) in the AM and PM peak hours in the Full Buildout scenario using its current lane configuration.

> **Mitigation Measure TRAF-2: 220th Street/I-110 Northbound Ramps & Figueroa Street (Intersection #15)** - An additional northbound through lane shall be striped and the existing through lane shall be restriped as a through/right-turn lane. The eastbound approach shall be restriped from the existing through/left-turn lane and right to a left-turn lane and through/right-turn lane.

As stated in the Transportation and Infrastructure Element of the Carson General Plan, Figueroa Street between 223rd Street and Carson Street is planned to be widened to three lanes in each direction. The proposed mitigation/improvement would require coordination with and approval by Caltrans and the City of Carson.

A mitigation involving modifying the existing raised median and restriping the northbound approach to accommodate a second left-turn lane was also considered. However, this mitigation was deemed to be inconsistent with the existing on-ramp configuration, which provides one general lane and one HOV lane.

I-110 Southbound Ramps & 223rd Street (Intersection #20) - The Project would result in a potentially significant impact at the intersection of Interstate 110 Southbound Ramps & 223rd Street (Intersection #20) in the AM and PM peak hours in the Full Buildout scenario using its current lane configuration.

Mitigation Measure TRAF-3: I-110 Southbound Ramps & 223rd Street (Intersection #20) - The southbound approach would be restriped from the existing left-turn/through and right-turn/through lanes to a right-turn lane and left-turn/through/right-turn lane. The eastbound approach shall be restriped to change the existing right-turn lane to a through/right-turn lane. Under this mitigation, parking shall be removed on 223rd between the Interstate I-110 bridge and Figueroa Street and converted to a dedicated right-turn lane.

This improvement would require coordination with and approval by Caltrans.

(2) CMP Transportation System (Threshold TRAF-3)

Impacts to regional CMP transportation systems would be less than significant. Thus, no mitigation measures are necessary.

(3) Caltrans Facilities

(a) Freeway Mainlines and Intersections (Threshold TRAF-4)

Significant impacts have been identified with regard to freeway segments and intersections under Caltrans jurisdiction. As such, mitigation measures are recommended. Although the Project would increase traffic on the freeway mainline segments, in light of the nature of regional nature of the freeway system, improvements to Caltrans freeway facilities tend to be beyond the feasibility of any individual Project to implement. Thus, Caltrans allows development projects to pay a fair share or an equitable percentage contribution toward the estimated cost of an improvement.

The following mitigation measure is recommended to address the potentially significant impacts that were identified on the freeway mainline segments and the intersections that are under Caltrans' jurisdiction:

Mitigation Measure TRAF-4: The developer shall contribute a fair share contribution to Caltrans toward an analysis or improvements on I-110 (Harbor Freeway) in the Project vicinity to offset the additional Project-generated trips that would result on the freeway mainline segments and that would pass through the affected Caltrans intersections.

The fair share is calculated as the Project's percentage of the total projected traffic growth on a freeway mainline segment over a 25-year period. The fair share is a contribution toward the improvement and maintenance of a shared facility that benefits the Project and the region.

(b) Freeway Off-Ramps (Threshold TRAF-5)

Impacts to freeway off-ramps would be less than significant. Thus, no mitigation measures are necessary.

(4) Public Transit and Alternative Transportation (Threshold TRAF-6)

Impacts to public transit and alternative transportation would be less than significant. Thus, no mitigation measures are necessary.

(5) Access and Circulation (Threshold TRAF-7)

Impacts regarding vehicular access and circulation would be less than significant. Thus, no mitigation measures are necessary.

(6) Parking Supply (Threshold TRAF-8)

Impacts regarding parking supply would be less than significant. Thus, no mitigation measures are necessary.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

a. Construction

(1) Construction Traffic, Access, Transit and Parking (Threshold TRAF-1)

Despite the incorporation of Project Design Features PDF-TRAF-1, Construction Traffic Management Plan, construction traffic impacts from construction worker vehicles and truck trips, for both Project-level and cumulative conditions, are conservatively concluded to be significant and unavoidable.

With implementation of PDF-TRAF-1 and PDF-TRAF-2, impacts related to construction-related vehicle access, pedestrian and bicycle access and safety, public transit service, and construction parking would be less than significant.

b. Operation

(1) Intersections Levels of Service (Threshold TRAF-2)

Table 4.L-22, *Existing Plus Project with Mitigation for Unincorporated Los Angeles County Intersection Level of Service Analysis*, and **Table 4.L-23**, *Cumulative (2030) Plus Project with Mitigation for Unincorporated Los Angeles County Intersection Level of Service Analysis*, summarize mitigation measures at intersections with potentially significant impacts using Los Angeles County's impact criteria at intersections located within unincorporated Los Angeles County. **Table 4.L-24**, *Existing Plus Project with Mitigation for Incorporated Cities Intersection Level of Service Analysis*, and **Table 4.L-25**, *Existing Plus Project with Mitigation for Incorporated Cities Intersection Level of Service Analysis*, summarize mitigation measures at intersections with potentially significant impacts located in incorporated cities using the impact criteria from the respective city. Below is a summary of the intersection impacts after implementation of the mitigation measures.

Normandie Avenue & Torrance Boulevard (Intersection #1) - The Project would result in a significant impact at this intersection in the Interim Existing plus 2023 Project plus Cumulative (2023) and Existing plus 2030 Project plus Cumulative (2030) scenarios using its current lane configuration. Intersection improvements to increase the capacity of the roadway system and to reduce impacts at this intersection to a level below significance were investigated, such as the addition of separate right- turn lanes at the eastbound or westbound approaches, but were deemed infeasible due to insufficient street right-of-way. Thus, this impact would remain significant and unavoidable.

Vermont Avenue & Torrance Boulevard (Intersection #2) - The Project would result in a significant impact at this intersection in the Existing plus 2023 Project plus Cumulative and Existing plus 2030 Project plus Cumulative Interim (2023) and Cumulative (2030) scenarios using its current lane configuration. Intersection improvements to increase the capacity of the roadway system and to reduce impacts at this intersection to a level below significance were investigated, such as additional northbound or southbound through lanes, but were deemed infeasible due to insufficient street right-of-way. Thus, this impact would remain significant and unavoidable.

Normandie Avenue & Carson Street (Intersection #4) - The Project would result in a significant impact at this intersection under the Existing, Interim (2023) and Cumulative (2030) scenarios using its current lane configuration. Intersection improvements to increase the capacity and/or efficiency of the roadway system and to reduce impacts at this intersection to a level below significance were investigated, such as reconfiguring the eastbound and westbound approaches to provide an additional through lane, but were determined to conflict with preliminary concepts from the West Carson Transit Oriented Development Specific Plan. Preliminary concepts call for the addition of bike lanes in each direction. The street does not have sufficient right-of-way to accommodate both new bike lanes and an additional through lanes. Thus, this impact would remain significant and unavoidable.

Berendo Avenue & Carson Street (Intersection #6) – The Project would result in a significant impact at this intersection under the Existing and Cumulative (2030) scenarios using its current lane configuration. Intersection improvements to increase the capacity and/or efficiency of the roadway system and to reduce impacts at this intersection to a level below significance were investigated, such as reconfiguring the eastbound and westbound approaches to provide an additional through lane, but were determined to conflict with preliminary concepts from the West Carson Transit Oriented Development Specific Plan. Preliminary concepts call for the addition of bike lanes in each direction. The street does not have sufficient right-of-way to accommodate both new bike lanes and an additional through lanes. Thus, this impact would remain significant and unavoidable.

Medical Center Drive & Carson Street (Intersection #7) - The Project would result in a significant impact at this intersection in the Existing plus 2030 Project, Existing plus 2023 Project plus Cumulative, and Existing plus 2030 Project plus Cumulative scenarios using its current lane configuration. Intersection improvements to increase the capacity and/or efficiency of the roadway system and to reduce impacts at this intersection to a level below significance were investigated, such as reconfiguring the eastbound and westbound approaches to provide an additional through lane, but were deemed to conflict with preliminary concepts from the West Carson Transit Oriented Development Specific Plan. Preliminary concepts call for the addition of bike lanes in each direction. The street does not have sufficient right-of-way to accommodate both new bike lanes and an additional through lanes. Thus, this impact would remain significant and unavoidable.

Vermont Avenue & Carson Street (Intersection #8) – The Project would result in a significant impact at this intersection under the Existing, Interim (2023) and Cumulative (2030) scenarios using its current lane configuration. Intersection improvements to increase the capacity and/or efficiency of the roadway system and to reduce impacts at this intersection to a level below significance were investigated, such as reconfiguring the eastbound and westbound approaches to provide an additional through lane, but were determined to conflict with preliminary concepts from the West Carson Transit Oriented Development Specific Plan. Preliminary concepts call for the addition of bike lanes in each direction. The street does not have sufficient right-of-way to accommodate both new bike lanes and an additional through lanes. Thus, this impact would remain significant and unavoidable.

I-110 Southbound Ramps & Carson Street (Intersection #9) – The Project would result in a significant impact at this intersection under the Existing, Interim (2023) and Cumulative (2030) scenarios. The implementation of this mitigation measure would reduce the Project-related impact to a less than significant level and would reduce the cumulative impact to a less than significant level in the AM peak hour. The impact during the PM peak hour would also be reduced, but not below a significant level. This improvement would require coordination with and approval by Caltrans. Because implementation of this improvement is not entirely within the control of the lead agency, and because the improvement would not fully mitigate the identified impacts in all scenarios, this impact would be considered significant and unavoidable.

Vermont Avenue & 220th Street (Intersection #14) – The Project would result in a significant impact at this intersection under the Existing and Cumulative (2030) scenarios using its current lane configuration. Intersection improvements to increase the capacity and/or efficiency of the roadway system and to reduce impacts at this intersection to a level below significance were investigated, such as reconfiguring the eastbound approaches to provide a dedicated left turn-lane but were determined to conflict with the Los Angeles County Transit Oriented Districts Access Study. The Study calls for curb extensions at all four crossings to shorten the pedestrian crossing distance. The intersection approaches do not have sufficient space to accommodate both curb extensions and additional lanes. Thus, this impact would remain significant and unavoidable.

220th Street/I-110 Northbound Ramps & Figueroa Street (Intersection #15) - As shown in Tables 4.L-24 and 4.L-25, the implementation of Mitigation Measure TRAF-2 would reduce the Project-related impact at this intersection to a less than significant level. However, this improvement would require coordination with and approval by Caltrans. Because implementation of this improvement is not entirely within the control of the lead agency, this impact is considered significant and unavoidable.

Normandie Avenue & 223rd Street (Intersection #17) - The Project would result in a significant impact at this intersection in the Cumulative (2030) Existing plus 2030 Project and Existing plus 2030 Project plus Cumulative scenarios using its current lane configuration. Intersection improvements to increase the capacity and/or efficiency of the roadway system and to reduce impacts at this intersection to a level below significance were investigated, such as reconfiguring the eastbound and westbound approaches to provide an additional through lane, but were deemed to conflict with preliminary concepts from the West Carson Transit Oriented Development Specific Plan. Preliminary concepts call for the addition of bike lanes in each direction. The street does not have sufficient right-of-way to accommodate both new bike lanes and an additional through lanes. Thus, this impact would remain significant and unavoidable.

Vermont Avenue & 223rd Street (Intersection #19) - The Project would result in a significant impact at this intersection under the Existing, Interim (2023) and Cumulative (2030) scenarios using its current lane configuration. Intersection improvements to increase the capacity and/or efficiency of the roadway system and to reduce impacts at this intersection to a level below significance were investigated, such as reconfiguring the eastbound and westbound approaches to provide an additional through lane, but were determined to conflict with preliminary concepts from the West Carson Transit Oriented Development Specific Plan. Thus, this impact would remain significant and unavoidable.

I-110 Southbound Ramps & 223rd Street (Intersection #20) - As shown in Tables 4.L-22 and 4.L-23, the implementation of Mitigation Measure TRAF-3 would reduce the Project-related impact at this intersection to a less than significant level. However, this improvement would require coordination with and approval by Caltrans. Because implementation of this improvement is not entirely within the control of the lead agency, this impact is considered significant and unavoidable.

Overall, the Project would result in twelve (12) significant and unavoidable impacts to study area intersections, even though Tables 4.L-22 through 4.L-25 show that proposed improvements, if implemented, would reduce impacts at these intersections, because implementation of the proposed improvements is not entirely within the control of the lead agency.

(2) CMP Transportation System (Threshold TRAF-3)

Not applicable. Impacts to regional CMP transportation systems would be less than significant.

(3) Caltrans Facilities

(a) Freeway Mainlines and Intersections (Threshold TRAF-4)

Mitigation Measure TRAF-4 requires that the developer make a fair-share contribution to address potentially significant impacts on freeway mainline segments, intersections under Caltrans jurisdiction, and off-ramps. Caltrans generally considers fair share contributions to constitute full mitigation of a significant impact. In addition, under CEQA Guidelines Section 15130(a)(3) fair share contribution could be considered adequate mitigation for cumulative traffic impacts. Options for addressing the impacts were identified, but because there are no existing projects that identified by Caltrans that would lower the impact below the significance threshold, the significant impacts identified above to Caltrans facilities are conservatively determined to be significant and unavoidable.

(b) Freeway Off-Ramps (Threshold TRAF-5)

Not applicable. Impacts to freeway off-ramps would be less than significant.

(4) Public Transit and Alternative Transportation (Threshold TRAF-6)

Not applicable. Impacts to public transit would be less than significant.

(5) Access and Circulation (Threshold TRAF-7)

Not applicable. Impacts regarding vehicular access and circulation would be less than significant.

(6) Parking Supply (Threshold TRAF-8)

Not applicable. Impacts regarding parking supply would be less than significant.

Table 4.L-22

Existing Plus Project with Mitigation for Unincorporated Los Angeles County Intersection Level of Service Analysis

ID	N/S Street Name	E/W Street Name [a]	Jurisdiction	Analysis Methodology	Analyzed Period	Existing V/C or Delay	LOS	Existing+Project V/C or Delay	LOS	Total Increase In V/C	Significant Impacts	C+P plus Mitigation V/C or Delay	LOS	Project Increase In V/C	Significant Impacts
4	Normandie Avenue	Carson Street	Los Angeles County	ICU	AM	0.904	E	0.925	E	0.021	YES				
					PM	0.93	E	0.962	E	0.032	YES	**No Feasible Mitigation**			
6	Berendo Avenue	Carson Street	Los Angeles County	ICU	AM	0.575	A	0.642	B	0.067	NO				
					PM	0.569	A	0.708	C	0.139	YES	**No Feasible Mitigation**			
8	Vermont Avenue	Carson Street	Los Angeles County	ICU	AM	0.628	B	0.717	C	0.089	YES				
					PM	0.611	B	0.620	B	0.009	NO	**No Feasible Mitigation**			
9	I-110 SB Ramps	Carson Street	Los Angeles County	ICU	AM	0.905	E	0.946	E	0.041	YES	0.745	C	-0.069	NO
					PM	0.917	E	1.010	F	0.093	YES	0.862	F	0.013	NO
14	Vermont Avenue	220th Street	Los Angeles County	ICU	AM	0.814	D	0.907	E	0.093	YES				
					PM	0.849	D	0.916	E	0.067	YES	**No Feasible Mitigation**			
19	Vermont Avenue	223rd Street	Los Angeles County	ICU	AM	0.645	B	0.708	C	0.063	YES				
					PM	0.696	B	0.806	D	0.11	YES	**No Feasible Mitigation**			
20	I-110 SB Ramps	223rd Street	Los Angeles County	ICU	AM	0.807	D	0.828	D	0.021	YES	0.713	C	-0.042	NO
					PM	0.822	D	0.834	D	0.012	NO	0.779	E	-0.064	NO

Source: Fehr & Peers, 2016

Table 4.L-23

Cumulative (2030) Plus Project with Mitigation for Unincorporated Los Angeles County Intersection Level of Service Analysis

ID	N/S Street Name	E/W Street Name [a]	Jurisdiction	Analysis Methodology	Analyzed Period	Cumulative (2030) V/C or Delay	LOS	Cumulative (2030)+Project V/C or Delay	LOS	Project Increase In V/C	Significant Impacts	C+P plus Mitigation V/C or Delay	LOS	Project Increase In V/C	Significant Impacts
1	Normandie Avenue	Torrance Boulevard	Los Angeles County	ICU	AM	0.962	E	0.966	E	0.031	YES				
					PM	0.993	E	1.000	E	0.064	YES	**No Feasible Mitigation**			
2	Vermont Avenue	Torrance Boulevard	Los Angeles County	ICU	AM	0.968	E	0.972	E	0.045	YES				
					PM	0.895	D	0.900	D	0.020	YES	**No Feasible Mitigation**			
4	Normandie Avenue	Carson Street	Los Angeles County	ICU	AM	0.946	E	0.967	E	0.063	YES				
					PM	1.007	F	1.038	F	0.108	YES	**No Feasible Mitigation**			
6	Berendo Avenue	Carson Street	Los Angeles County	ICU	AM	0.609	B	0.675	B	0.100	NO				
					PM	0.636	B	0.747	C	0.178	YES	**No Feasible Mitigation**			
8	Vermont Avenue	Carson Street	Los Angeles County	ICU	AM	0.661	B	0.751	C	0.123	YES				
					PM	0.678	B	0.722	C	0.111	YES	**No Feasible Mitigation**			
9	I-110 SB Ramps	Carson Street	Los Angeles County	ICU	AM	0.939	E	0.982	E	0.077	YES	0.780	C	-0.034	NO
					PM	0.982	E	1.075	F	0.158	YES	0.915	E	0.066	YES
14	Vermont Avenue	220th Street	Los Angeles County	ICU	AM	0.848	D	0.941	E	0.127	YES				
					PM	0.906	E	0.974	E	0.125	YES	**No Feasible Mitigation**			
19	Vermont Avenue	223rd Street	Los Angeles County	ICU	AM	0.647	B	0.717	C	0.072	YES				
					PM	0.703	C	0.813	D	0.117	YES	**No Feasible Mitigation**			
20	I-110 SB Ramps	223rd Street	Los Angeles County	ICU	AM	0.811	D	0.833	D	0.026	YES	0.719	C	-0.036	NO
					PM	0.830	D	0.844	D	0.022	YES	0.797	C	-0.046	NO

Source: Fehr & Peers, 2016

Table 4.L-24

Existing Plus Project with Mitigation for Incorporated Cities Intersection Level of Service Analysis

ID	N/S Street Name	E/W Street Name	Jurisdiction	Analysis Methodology	Analyzed Period	Existing V/C or Delay	LOS	Existing+Project V/C or Delay	LOS	Project Increase In V/C	Significant Impacts	C+P plus Mitigation V/C or Delay	LOS	Project Increase In V/C	Significant Impacts
4	Normandie Avenue	Carson Street	City of Los Angeles	CMA	AM	0.763	C	0.785	C	0.022	NO				
					PM	0.837	D	0.872	D	0.035	YES	**No Feasible Mitigation**			
15	Figueroa Street	220th Street/I-110 NB Ramps	City of Carson	ICU	AM	0.913	E	0.942	E	0.029	YES	0.907	E	-0.006	NO
					PM	0.886	D	1.000	E	0.114	YES	0.881	D	-0.005	NO

Source: Fehr & Peers, 2016

Table 4.L-25

Cumulative (2030) Plus Project with Mitigation for Incorporated Cities Intersection Level of Service Analysis

ID	N/S Street Name	E/W Street Name	Jurisdiction	Analysis Methodology	Analyzed Period	Cumulative (2030)		Cumulative (2030)+Project		Project Increase	Significant Impacts	C+P plus Mitigation		Project Increase	Significant Impacts
						V/C or Delay	LOS	V/C or Delay	LOS	In V/C		V/C or Delay	LOS	In V/C	
4	Normandie Avenue	Carson Street	City of Los Angeles	CMA	AM	0.910	E	0.933	E	0.023	YES	**No Feasible Mitigation**			
					PM	1.037	F	1.073	F	0.036	YES				
15	Figueroa Street	220th Street/I-110 NB Ramps	City of Carson	ICU	AM	1.024	F	1.054	F	0.030	YES	1.017	F	-0.007	NO
					PM	1.006	F	1.121	F	0.115	YES	0.998	E	-0.008	NO

Source: Fehr & Peers, 2016