3.11

TRANSPORTATION AND CIRCULATION—GROUND AND MARINE

3.11.1 Introduction

This section describes the environmental setting (existing conditions and regulatory setting) for surface and marine transportation relating to the proposed Project, discusses the impacts on transportation that would result from the proposed Project, and lists mitigation measures that would reduce these impacts.

Proposed project elements with potential surface transportation impacts include new retail, industrial and recreational development that would generate new trips to the Wilmington waterfront area, and new transportation improvements and linkages. A key source of data and information used in the preparation of the surface transportation element of this section is the Traffic Study that was prepared separately for the proposed Project by Fehr & Peers; this report is included as Appendix I of this draft EIR.

Proposed project activities with potential marine impacts include demolition of existing piers and construction of new viewing piers and two floating docks at the waterfront promenade. Proposed project operations with potential impacts include increased levels of visiting boat traffic associated with new development at the waterfront promenade.

3.11.2 Environmental Setting

This environmental setting discusses the existing conditions relating to transportation in the study area, as well as federal, state, and local regulations relating to transportation that would apply to the proposed Project. The assessment of conditions relevant to this study includes roadway, transit, rail, and nonmotorized infrastructure and operations.

3.11.2.1 Existing Surface Transportation Elements

3.11.2.1.1 Street System

Primary regional access to the proposed project area is provided by the Harbor Freeway (I-110) west of the proposed project site. Year 2006 data from Caltrans shows that the average daily traffic (ADT) volume on the Harbor Freeway to the north of C Street was approximately 91,000 vehicles per day (vpd) (Caltrans 2006). Access to the site from I-110 is provided via the ramps at C Street.

Local access to the proposed project site is provided by a well-defined grid of arterial and collector roads. The primary roadway facilities in the study area are as follows:

- **Anaheim Street** is classified as a Major Class II Highway that runs east–west in the study area. This arterial provides a connection for local and regional travel from Wilmington to other parts of Los Angeles and the South Bay region, and is a major commercial corridor within Wilmington.
- **Avalon Boulevard** is classified as a Major Class II Highway that runs north–south in the study area. This arterial provides a connection for local and regional travel from Wilmington to other parts of Los Angeles and the South Bay region, and is a major commercial corridor within Wilmington. Avalon Boulevard currently has its terminus at Water Street.
- **C Street** is classified as a local street and provides east–west access along the northern edge of the proposed project area as well as access for local traffic to southern Wilmington. C Street starts at the I-110 and continues east until its terminus at Eubank Avenue.
- **Figueroa Street** is classified as a Major Class II Highway that runs north–south in the study area. This arterial provides a connection for local and regional travel from Wilmington to other parts of Los Angeles and the South Bay region. Figueroa begins at John S. Gibson Boulevard/Harry Bridges Boulevard.
- **Harry Bridges Boulevard** is classified as a Major Class I Highway within the study area, providing east–west access through the southern portion of the Wilmington community and along the northern edge of the Port of Los Angeles. At the western edge of the study area Harry Bridges Boulevard becomes John S. Gibson Boulevard and on the eastern edge becomes Alameda Street.
- **John S. Gibson Boulevard** is classified as a Major Class I Highway providing north–south access through the southwestern portion of the study area. This roadway starts north of Pacific Avenue and turns into Harry Bridges Boulevard at Figueroa Street.
- **Wilmington Boulevard** is classified as a Secondary Highway providing north–south access through the western portion of the community of Wilmington. This roadway starts near the ocean at Harry Bridges Boulevard and continues northward through the Wilmington Waterfront area.

Table 3.11-1 provides a description of these streets, summarizing their physical characteristics in the study area. Diagrams of the existing lane configurations at the analyzed intersections are provided in the Traffic Study in Appendix I.

Table 3.11-1. Existing Roadway Characteristics

Segment	*From*	*To*	*Number of Lanes*		*Median Type*	*Parking Characteristics*		*Speed Limit*
			NB/EB	*SB/WB*		*NB/EB*	*SB/WB*	
Anaheim Street	SR 110	Figueroa Street	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	35
	Figueroa Street	Mar Vista Avenue	2	2	Double Yellow	Parking Allowed	No Stopping Anytime	35
	Mar Vista Avenue	Hawaiian Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed	35
	Hawaiian Avenue	King Avenue	2	2	Double Yellow	Parking Allowed	No Stopping Anytime	35
	King Avenue	Ronan Avenue	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	35
	Ronan Avenue	McDonald Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed	35
	McDonald Avenue	Bayview Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed 1 hour (8 a.m.–6 p.m.)	35
	Bayview Avenue	Neptune Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed	35
	Neptune Avenue	Lagoon Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed	35
	Lagoon Avenue	Island Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed 1 hour (8 a.m.–6 p.m.)	35
	Island Avenue	Fries Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed 1 hour (8 a.m.–6 p.m.)	35
	Fries Avenue	Marine Avenue	2	2	Double Yellow	Parking Allowed 1 hour (8 a.m.–6 p.m. metered)	Parking Allowed 2 hour (8 a.m.–6 p.m.)	35
	Marine Avenue	Avalon Boulevard	2	2	Double Yellow	Parking Allowed 1 hour (8 a.m.–6 p.m.)	Parking Allowed 1 hour (8 a.m.–6 p.m.)/Red Zone—No Parking Allowed	35
	Avalon Boulevard	Broad Avenue	2	2	Double Yellow	Parking Allowed 1 hour (8 a.m.–6 p.m.)/Red Zone—No Parking Allowed	Parking Allowed 1 hour (8 a.m.–6 p.m.)	35

Segment	*From*	*To*	*Number of Lanes*		*Median Type*	*Parking Characteristics*		*Speed Limit*
			NB/EB	*SB/WB*		*NB/EB*	*SB/WB*	
	Broad Avenue	Lakme Avenue	2	2	Double Yellow	Parking Allowed 1 hour (8 a.m.–6 p.m.)	Parking Allowed	35
	Lakme Avenue	Eubank Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed	35
	Eubank Avenue	Dominguez Avenue	2	2	Dual Left Turn/ Double Yellow	Parking Allowed	No Stopping Anytime/Parking Allowed	35
	Dominguez Avenue	Stanford Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed	35
	Stanford Avenue	Flint Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed 1 hour (8 a.m.–6 p.m.)	35
	Flint Avenue	Pioneer Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed	35
	Pioneer Avenue	Watson Avenue	2	2	Double Yellow	Parking Allowed/Red Zone—No Parking Allowed	Parking Allowed	35
	Watson Avenue	Alameda Street	2	2	Double Yellow	Red Zone—No Parking Allowed	Parking Allowed	35
C Street	Lakme Avenue	Broad Avenue	1	1	Single Dashed Yellow	No Parking Allowed (10 p.m.–6 a.m.)	No Parking Allowed (10 p.m.–6 a.m.)	25
	Broad Avenue	Lagoon Avenue	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25
	Lagoon Avenue	Bayview Avenue	1	1	Single Dashed Yellow	Parking Allowed 2 hour (8 a.m.–6 p.m.)	Parking Allowed 2 hour (8 a.m.–6 p.m.)	25
	Bayview Avenue	McDonald Avenue	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed/Red Zone—No Parking Allowed	25
	McDonald Avenue	Figueroa Street	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25

Segment	*From*	*To*	*Number of Lanes*		*Median Type*	*Parking Characteristics*		*Speed Limit*
			NB/EB	*SB/WB*		*NB/EB*	*SB/WB*	
John S. Gibson Boulevard	Figueroa Street	SR 110 northbound on-ramps	2	2	Dual Left Turn/Raised Median	No Stopping Anytime	No Stopping Anytime/Parking Allowed	35/40
Harry Bridges Boulevard	Figueroa Street	Lakme Avenue	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	35
	Lakme Avenue	Eubank Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed	35
	Eubank Avenue	Anaheim Street	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	40
Water Street	(end)	(end – Fries Avenue)	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	25
	(end – Fries Avenue)	Avalon Boulevard	1	1	Double Yellow	No Stopping Anytime	No Stopping Anytime	25
	Avalon Boulevard	Canal Avenue	1	1	Double Yellow	No Stopping Anytime/Parking Allowed	No Stopping Anytime/Parking Allowed	25
	Canal Avenue	Yacht Street	2	2	Raised Median	Parking Allowed	Parking Allowed	25
A Street	Avalon Boulevard	Fries Avenue	1	1	Undivided Lane	Parking Allowed	No Stopping Anytime	25
Figueroa Street	I Street/110 northbound on-ramp	Anaheim Street	2	2	Double Yellow	Parking Allowed	Parking Allowed 2 hour (8 a.m.–6 p.m.)	35
	Anaheim Street	Emden Street	2	2	Double Yellow	Parking Allowed 2 hour (8 a.m.–6 p.m.)	Parking Allowed	35
	Emden Street	E Street	2	2	Dual Left Turn	Parking Allowed 2 hour (8 a.m.–6 p.m.)	Parking Allowed 2 hour (8 a.m.–6 p.m.)	35
	E Street	Frigate Avenue	2	2	Dual Left Turn	Red Zone – No Parking Allowed	Parking Allowed	35
	Frigate Avenue	C Street	2	2	Dual Left Turn	Parking Allowed	Parking Allowed	35

Segment	*From*	*To*	*Number of Lanes*		*Median Type*	*Parking Characteristics*		*Speed Limit*
			NB/EB	*SB/WB*		*NB/EB*	*SB/WB*	
	C Street	John S Gibson Boulevard/Harry Bridges Boulevard	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	35
Mar Vista Avenue	E Street	Harry Bridges Boulevard	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25
Hawaiian Avenue	E Street	Harry Bridges Boulevard	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25
King Avenue	C Street	Harry Bridges Boulevard	1	1	Undivided Lane	Parking Allowed	Parking Allowed	25
Guff Avenue	E Street	Harry Bridges Boulevard	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25
Wilmington Boulevard	I Street	Anaheim Street	1	2	Dual Left Turn	Parking Allowed	Parking Allowed	30
	Anaheim Street	Harry Bridges Boulevard	2	2	Double Yellow	Parking Allowed	Parking Allowed	30
McDonald Avenue	E Street	Harry Bridges Boulevard	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25
Bayview Avenue	E Street	Harry Bridges Boulevard	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25
Neptune Avenue	E Street	Harry Bridges Boulevard	2	2	Double Yellow	Parking Allowed	Parking Allowed	25
Lagoon Avenue	E Street	Harry Bridges Boulevard	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25
Island Avenue	E Street	Harry Bridges Boulevard	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25
Fries Avenue	Anaheim Street	Harry Bridges Boulevard	1	1	Dual Left Turn	Parking Allowed	Parking Allowed	35

Segment	*From*	*To*	*Number of Lanes*		*Median Type*	*Parking Characteristics*		*Speed Limit*
			NB/EB	*SB/WB*		*NB/EB*	*SB/WB*	
	Harry Bridges Boulevard	A Street	1	1	Dual Left Turn	No Stopping Anytime	No Stopping Anytime	30
	A Street	Water Street	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	30
	Water Street	La Paloma Avenue	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	25
Marine Avenue	A Street	E Street	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25
Avalon Boulevard	Water Street	Harry Bridges Boulevard	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	30
	Harry Bridges Boulevard	C Street	2	2	Double Yellow	Parking Allowed	Parking Allowed	30
	C Street	F Street	2	2	Double Yellow	Parking Allowed 1 hour (8 a.m.–6 p.m.)	Parking Allowed 1 hour (8 a.m.–6 p.m.)	30
	F Street	I Street	2	2	Double Yellow	Parking Allowed 1 hour (8 a.m.–6 p.m. metered)	Parking Allowed 1 hour (8 a.m.–6 p.m. metered)	30
Broad Avenue	E Street	Avalon Boulevard	1	1	Dual Left Turn	Parking Allowed	Parking Allowed	25
Pier A	Fries Avenue	Pier A Place	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	25
La Paloma Avenue	Fries Avenue	San Clemente Avenue	1	1	Double Yellow	Parking Allowed	Parking Allowed	25
San Clemente Avenue	La Paloma Avenue	Fries Avenue	1	1	Double Yellow	Parking Allowed	Parking Allowed	25
Hermosa Street	La Paloma Avenue	San Clemente Avenue	1	1	Undivided Lane	Parking Allowed	Parking Allowed	25

3.11.2.1.2 Roadway Levels of Service

This section describes the methodology used to assess the traffic conditions at each analysis intersection and roadway segments, and presents the existing operating conditions at each location.

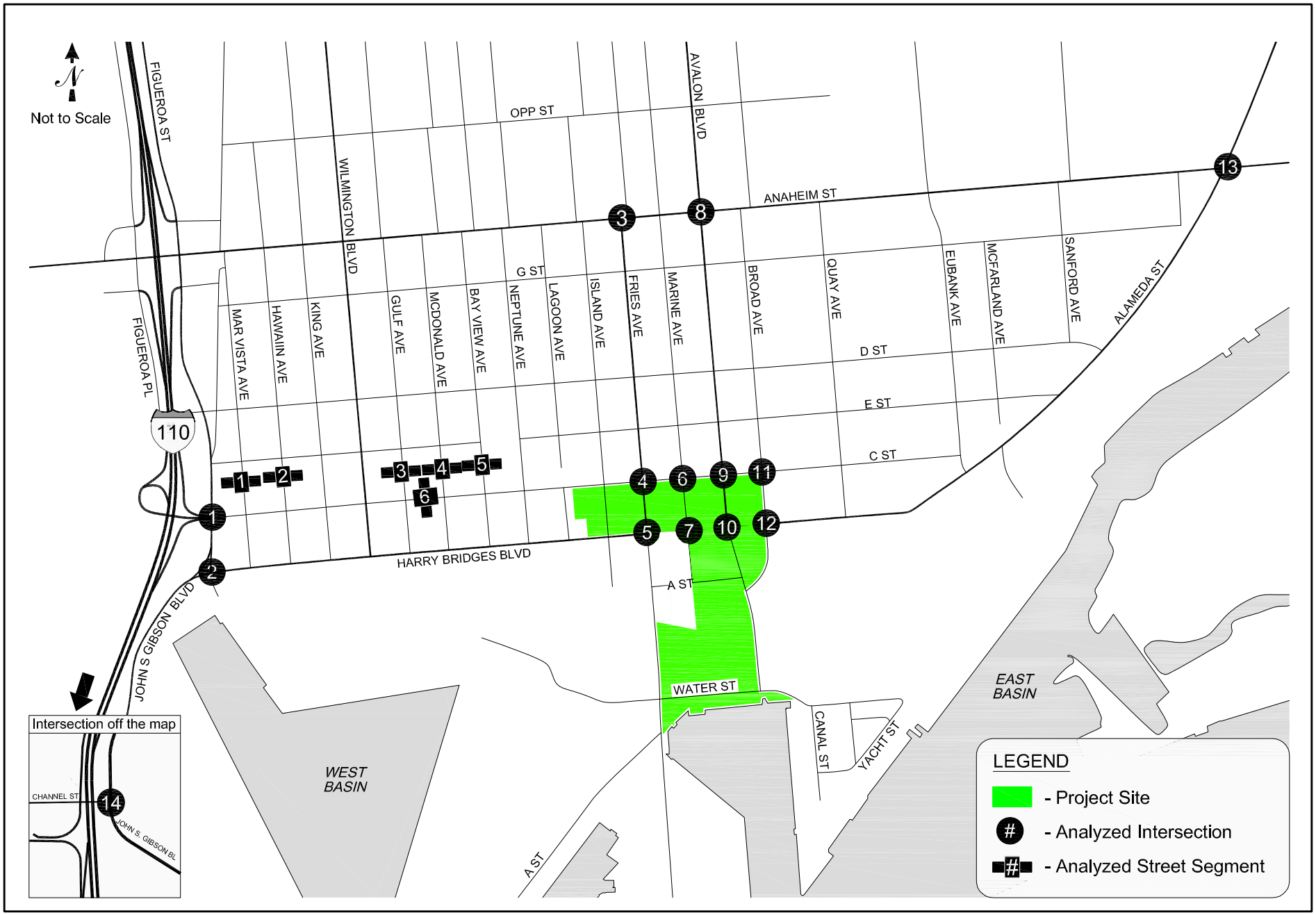
Analysis Locations

Figure 3.11-1 shows the surface street system in the Project study area. Analysis locations were identified in consultation with the Los Angeles Department of Transportation (LADOT), on the basis of their location in relation to the proposed project site and the potential for proposed project–related traffic to travel through them. The analysis area includes the following intersections.

1. Figueroa Street/I-110 Northbound Ramps/C Street
2. Figueroa Street/Harry Bridges Boulevard
3. Fries Avenue/Anaheim Street
4. Fries Avenue/C Street
5. Fries Avenue/Harry Bridges Boulevard
6. Marine Avenue/C Street
7. Marine Avenue/Harry Bridges Boulevard
8. Avalon Boulevard/Anaheim Street
9. Avalon Boulevard/C Street
10. Avalon Boulevard/Harry Bridges Boulevard
11. Broad Avenue/C Street
12. Broad Avenue/Harry Bridges Boulevard
13. Alameda Street/Anaheim Street
14. John S. Gibson Boulevard/Channel Street

The analysis area also includes the following neighborhood street segments.

1. Mar Vista Avenue, north of C Street
2. Hawaiian Avenue, north of C Street
3. Gulf Avenue, north of C Street
4. McDonald Avenue, north of C Street
5. Bay View Avenue, north of C Street
6. C Street, east of Gulf Avenue



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SOURCE: Fehr & Peers (2008)

ICF Jones & Stokes
an ICF International Company

Figure 3.11-1
Study Area and Analyzed Intersections
Wilmington Waterfront Development Project

Existing traffic turning movements and traffic counts are presented in the Traffic Study prepared for this project (included in this EIR as Appendix I).

New classified traffic counts were conducted for the weekday morning peak period (between 7:00 a.m. and 10:00 a.m.) and the weekday afternoon peak period (between 4:00 p.m. and 7:00 p.m.) in January 2008 (Intersections 1 through 13) and in July 2008 (Intersection 14, which was added after consulting with LADOT in early summer). Weekend traffic counts were not conducted due to much lower background traffic on non-business days and reduced operations at Port terminals. Vehicle counts for the study intersections include the classification of passenger cars and large trucks. A Passenger Car Equivalent (PCE) factor of 2.0 was applied to the truck traffic to convert the traffic counts to PCEs.

Level of Service Methodology

Level of service (LOS) is a qualitative measure used to describe the condition of traffic flow, ranging from excellent "free flow" conditions at LOS A to overloaded "stop and go" conditions at LOS F. LOS D is typically considered to be the minimum acceptable level of service in urban areas.

LADOT requires that the Critical Movement Analysis (CMA) method (Transportation Research Board 1980) be used to analyze the LOS of signalized intersections (LADOT 2002). The CMA methodology determines the volume-to-capacity ratio (V/C) of an intersection based on the number of approach lanes, the traffic signal phasing and the traffic volumes. The CalcaDB software package developed by LADOT was used to implement the CMA methodology in this study. The V/C ratio is then used to find the corresponding LOS based on the definitions in Table 3.11-2.

Eight of the fourteen analyzed intersections are currently controlled by traffic signals. Of those eight, all but the intersection of Figueroa Street and Harry Bridges Boulevard are currently controlled by the City's Automated Traffic Surveillance and Control (ATSAC) system. Of the seven signalize intersections installed with the ATSAC system, only the intersection of John S. Gibson Boulevard and Channel Street is installed with LADOT's Adaptive Traffic Control System (ATCS). In accordance with LADOT procedures, a capacity increase of 7% (0.07 V/C adjustment) was applied to reflect the benefits of ATSAC and 10% (0.10 V/C adjustment) was applied to reflect the combined benefits of ATSAC and ATCS control at the applicable intersections.

Table 3.11-2. Level of Service Definitions for Signalized Intersections (Critical Movement Analysis Methodology)

LOS	*V/C*	*Definition*
A	0.000–0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	0.610–0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.710–0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.810–0.900	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	0.910–1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.
Source: Transportation Research Board (1980).		

Six study intersections are unsignalized and were analyzed using the stop-controlled methodologies from the Highway Capacity Manual (Transportation Research Board, 2000). Two intersections were analyzed using the "Two-Way Stop" methodology, while four intersections were analyzed using the "Four-Way Stop" methodology to determine V/C ratio and corresponding LOS. For stop-controlled intersections, LOS depends on the amount of delay experienced by drivers on the stop-controlled approaches. Thus, for two-way and one-way stop-controlled T-intersections, LOS is based upon the average delay experienced by vehicles entering the intersection on the minor (stop-controlled) approaches. For all-way stop-controlled intersections, LOS is determined by the average delay for all movements through the intersection. Table 3.11-3 presents the average delay criteria for the different LOS designations for stop-controlled intersections.

Existing Peak Hour LOS

The LOS methodologies described in the previous section were applied to existing weekday AM and PM peak hour turning volumes to determine existing operating conditions at each of the study intersections. The weekday morning and evening peak hour traffic counts and the LOS calculation worksheets are provided in the Traffic Study prepared for this project (included as Appendix I of this EIR).

Table 3.11-3. Level of Service Criteria for Unsignalized Intersections

Level of Service	*Average Total Delay (seconds/vehicle)*
A	< 10
B	> 10 and < 15
C	> 15 and < 25
D	> 25 and < 35
E	> 35 and < 50
F	> 50
Source: Transportation Research Board (2000).	

Table 3.11-4 summarizes the existing AM and PM peak hour LOS at each of the study intersections. The table shows that all of the study intersections are currently operating at acceptable LOS (LOS D or better) during the weekday morning and evening peak hours.

3.11.2.1.3 Neighborhood Streets

The following residential street segments located within the study area, listed along with their existing ADT, were analyzed to address potential residential street impacts:

1. Mar Vista Avenue, north of C Street (existing ADT = 322)
2. Hawaiian Avenue, north of C Street (existing ADT = 512)
3. Gulf Avenue, north of C Street (existing ADT = 299)
4. McDonald Avenue, north of C Street (existing ADT = 227)
5. Bay View Avenue, north of C Street (existing ADT = 487)
6. C Street, east of Gulf Avenue (existing ADT = 1,103)

For a discussion on relevant impact methodology, see section 3.11.4.1.

Table 3.11-4. Existing Intersection LOS (Year 2008)

ID Number	*Intersection*	*Peak Hour*	*Traffic Control*	*V/C*	*Average Delay*[1]	*LOS*
1	Figueroa Street/C Street	AM	All-Way	—	12.4	B
		PM	Stop	—	11.7	B
2	Figueroa Street/Harry Bridges Boulevard	AM	Signal	0.419	—	A
		PM		0.429	—	A
3	N Fries Avenue/Anaheim Street	AM	Signal[2]	0.475	—	A
		PM		0.473	—	A
4	Fries Avenue/C Street	AM	All-Way	—	8.0	A
		PM	Stop	—	7.6	A
5	Fries Avenue/Harry Bridges Boulevard	AM	Signal[2]	0.311	—	A
		PM		0.283	—	A
6	Marine Avenue/C Street	AM	Two-Way	—	10.6	B
		PM	Stop	—	10.0	A
7	Marine Avenue/Harry Bridges Boulevard	AM	Two-Way	—	15.1	C
		PM	Stop	—	18.2	C
8	Avalon Boulevard/Anaheim Street	AM	Signal[2]	0.577	—	A
		PM		0.752	—	C
9	Avalon Boulevard/C Street	AM	All-Way	—	8.1	A
		PM	Stop	—	9.0	A
10	Avalon Boulevard/Harry Bridges Boulevard	AM	Signal[2]	0.252	—	A
		PM		0.392	—	A
11	Broad Avenue/C Street	AM	All-Way	—	7.8	A
		PM	Stop	—	8.9	A
12	Broad Avenue/Harry Bridges Boulevard	AM	Signal[2]	0.227	—	A
		PM		0.295	—	A
13	Alameda Street/Anaheim Street	AM	Signal[2]	0.426	—	A
		PM		0.502	—	A
14	John S Gibson Boulevard/Channel Street	AM	Signal[3]	0.504	—	A
		PM		0.582	—	A

Notes:
[1]Average delay = average seconds of delay per vehicle, for all vehicles on stop-controlled movement
[2]Intersection is currently operating under ATSAC system
[3]Intersection is currently operating under ATSAC and ATCS systems

3.11.2.1.4 Congestion Management Program Facilities

LADOT was consulted in the selection of the CMP monitoring locations considered for the proposed Project. There are two CMP arterial monitoring stations near the proposed Project that have the potential to be affected by the proposed Project. Both of these monitoring stations are approximately 2miles north of the proposed Project site:

- Figueroa Street and Pacific Coast Highway
- Alameda Street and Pacific Coast Highway

The CMP mainline freeway monitoring location nearest to the proposed project site is I-110 south of C Street.

3.11.2.1.5 Existing Public Transit

The Wilmington Waterfront Development area is served by two transit agencies, the Los Angeles County Metropolitan Transportation Authority (Metro) and LADOT. The following bus routes provide service in the vicinity:

- **Metro 446/447**—These transit lines provide service between Point Fermin Park on Paseo del Mar in the Los Angeles Harbor area and the Patsaouras Transit Plaza at Union Station in downtown Los Angeles. In the study area, these lines travel on Harry Bridges and Avalon Boulevards.
- **Metro 202**—This transit line provides service between C Street in Wilmington and the Rosa Parks Station where the Metro Blue Line connects with the Metro Green Line near Imperial Highway in Willowbrook. In the study area, this line travels on C Street, D Street, Avalon Boulevard, and Anaheim Street.
- **Metro 232**—This transit line provides service between 1st Street in downtown Long Beach and the Mariposa/Nash Metro station via the LAX CityBus Center. In the study area, the line travels on Anaheim Boulevard.
- **DASH Wilmington**—This transit line, operated by LADOT, circulates within the Wilmington area of Los Angeles, providing local and connector service to the regional Metro transit line at the Harbor Freeway Transit Station at Pacific Coast Highway. In the study area, the line circulates along Figueroa Street (north of Anaheim Street), Hawaiian Avenue, Wilmington Avenue, Avalon Boulevard (north of Anaheim Street), C Street, and Anaheim Street. It operates every 15 minutes on weekdays between 7:00 a.m. and 8:27 p.m.

3.11.2.1.6 Existing Commercial Rail Facilities

The Port is served by an extensive commercial rail network, linking Port operations to both the region and the rest of the country. The Pacific Harbor freight rail line runs through the proposed project site and would travel under the proposed land bridge.

3.11.2.1.7 Existing Parking

Parking is allowed within the immediate vicinity of the Wilmington Waterfront, the waterfront promenade, and the land bridge, except for Harry Bridges Boulevard, where on-street parking is prohibited, and Water Street, where parking is provided on the south side only. Table 3.11-1 above summarizes the parking characteristics of the roadways within the study area.

3.11.2.1.8 Existing Non-Motorized Facilities

Pedestrian and bicycle facilities comprise the existing nonmotorized traffic features. Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals. Sidewalks are provided along existing major roadway facilities in the study area. Minor roads typically do not include sidewalks. Pedestrian crossings and signals are located at most major roadway intersections.

Bicycle facilities include the following:

- bicycle paths (Class I): paved trails that are separated from roadways;
- bicycle lanes (Class II): lanes on roadways designated for use by bicycles through striping, pavement legends, and signs; and
- bicycle routes (Class III): designated roadways for bicycle use by signs only, which may or may not include additional pavement width for cyclists.

Class II bicycle lanes are present on Anaheim Street and Avalon Boulevard. The City of Los Angeles Bicycle Plan has also designated a Class I bicycle path on Alameda Street, a Class II bicycle lane on John S. Gibson Boulevard south of B Street, and a Class III bicycle route north of B Street. (City of Los Angeles 1996)

3.11.2.2 Existing Marine Elements

The Los Angeles Harbor is located in San Pedro Bay. In addition to the Port of Los Angeles, San Pedro Bay is also home to the Port of Long Beach, which is located directly to the east. The bay is protected from the open Pacific Ocean by the San Pedro, Middle, and Long Beach breakwaters. The openings between these breakwaters, known as Angels Gate and Queens Gate, provide entry to the Ports of

Los Angeles and Long Beach, respectively. Vessel traffic channels have been established in the harbor, and numerous aids to navigation have been developed.

Numerous vessels, including fishing boats, pleasure vessels, passenger-carrying vessels, tankers, auto carriers, container vessels, dry bulk carriers, cruise ships, and barges call or reside in the harbor. Commercial vessels follow vessel traffic lanes established by the U.S. Coast Guard (USCG) when approaching and leaving the harbor (as depicted on Figure 3.11-2). Designated traffic lanes converge at the precautionary areas shown in the figure. Once inside the harbor, vessel traffic is managed as described in the following section.

3.11.2.2.1 Vessel Transportation Safety

Vessel traffic within and approaching the harbor is managed by two entities:

1. Vessel Traffic Service (VTS)—for the harbor approach (25 nautical miles from Point Fermin to the federal breakwater)
2. Los Angeles Pilot Service—within the Port of Los Angeles

Vessel traffic levels are highly regulated by the USCG Captain of the Port (COTP) and the Marine Exchange of Southern California via the VTS. Mariners are required to report their position prior to transiting through the harbor to the COTP and the VTS; the VTS monitors the positions of all inbound/outbound vessels within the precautionary area and the approach corridor traffic lanes (Figure 3.11-2). Smaller craft, such as yachts and fishing vessels, are not required to participate in VTS. If there are scheduling conflicts and/or if vessel occupancy within the harbor reaches operating capacity, vessels are required to anchor at the anchorages outside the breakwater until mariners receive COTP authorization to initiate transit into the harbor.

Several measures are in place to ensure the safety of vessel navigation in the harbor area. USCG provides a weekly Local Notice to Mariners, which describes regional navigational issues and construction activities. Restricted navigation areas and routes have been designated to ensure safe vessel navigation, and are regulated by various agencies and organizations to ensure navigational safety; these are described below.

Marine Exchange of Southern California

The Marine Exchange is a voluntary, non-profit organization affiliated with the Los Angeles Chamber of Commerce. This voluntary service is designated to enhance navigation safety in the precautionary and harbor areas of the Ports of Los Angeles and Long Beach. The service consists of a coordinating office, specific reporting points, and very high frequency-frequency modulation (VHF-FM) radio communications used with participating vessels. Vessel traffic channels and numerous aids to navigation (i.e., operating rules and regulations) have been established in the harbor. The Marine Exchange also operates the Physical Oceanographic Real Time System (PORTS) as a service to organizations making

operational decisions based on oceanographic and meteorological conditions in the vicinity of the harbor. PORTS collects and disseminates accurate real-time information on tides, visibility, winds, currents, and sea swell to maritime users to assist in the safe and efficient transit of vessels in the harbor area.

Vessel Traffic Service

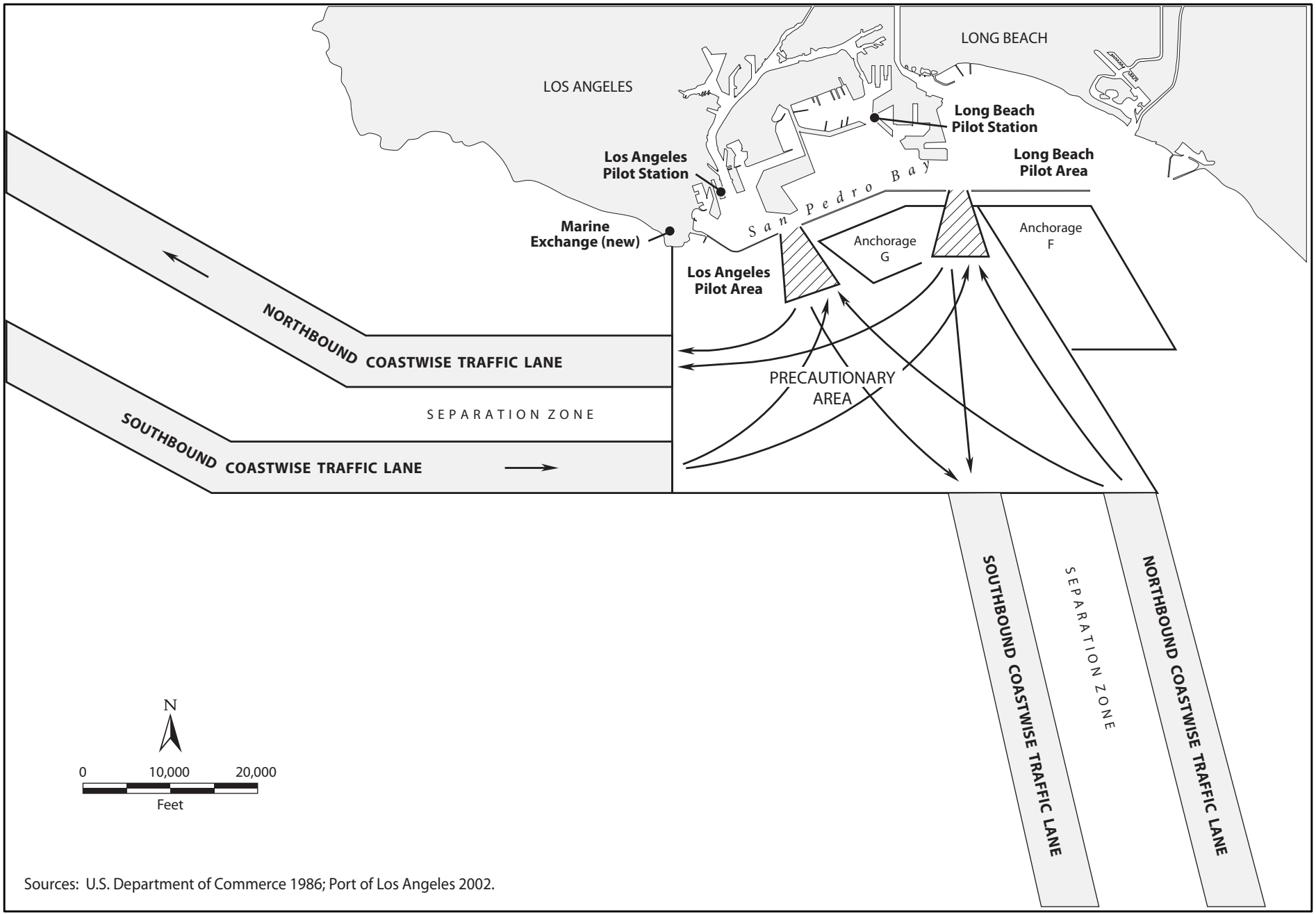
VTS is operated by the Marine Exchange and the USCG to monitor traffic with shore-based radar within both the main approach and departure lanes, including the precautionary area, as well as internal movement within harbor areas. The VTS uses radar, radio, and visual inputs to collect real-time vessel traffic information and broadcast traffic advisories to assist mariners. In addition, vessels are required to report their positions and destinations to the VTS at certain times and locations, and they may also request information about traffic they could encounter in the precautionary area. Furthermore, the VTS implements the COTP's uniform procedures, including advanced notification to vessel operators, vessel traffic managers, and Port pilots identifying the location of dredges, derrick barges, and any associated operational procedures and/or restrictions (i.e., one-way traffic), to ensure safe transit of vessels operating within and to and from the proposed project area. In addition, a communication system links the following key operational centers: USCG COTP, VTS, Los Angeles Pilot Station, Long Beach Pilot Station, and Port of Long Beach Security. This system is used to exchange vessel movement information and safety notices between the various organizations.

Traffic Separation Schemes

A traffic separation scheme (TSS) is an internationally recognized vessel routing designation, which separates opposing flows of vessel traffic into lanes, including a zone between lanes where traffic is to be avoided. TSSs have been designated to help direct offshore vessel traffic along portions of the California coastline, such as the Santa Barbara Channel. Vessels are not required to use any designated TSS, but failure to use one, if available, would be a major factor for determining liability in the event of a collision. TSS designations are proposed by the USCG but must be approved by the International Maritime Organization (IMO), which is part of the United Nations. The traffic lanes utilized for TSS at the Port are shown in Figure 3.11-2.

Safety Fairways

Offshore waters in high traffic areas are designated as safety fairways, which mean that placement of surface structures, such as oil platforms, is prohibited to ensure safer navigation. The USACE is prohibited from issuing permits for surface structures within safety fairways, which are frequently located between a port and the entry into a TSS. The offshore areas shown in Figure 3.11-2 are high traffic areas at the Port, and thus designated as safety fairways.



Sources: U.S. Department of Commerce 1986; Port of Los Angeles 2002.

K:\ GIS \ PROJECTS \ POLA_WILMINGTON \ 00859_07 \ MAPDOC \ FIG3.11-2.AI NB (09-16-08)

SOURCE: Fehr & Peers (2008)

ICF Jones & Stokes
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Figure 3.11-2
Designated Vessel Traffic Lanes
Wilmington Waterfront Development Project

Precautionary and Regulated Navigation Areas

A precautionary area is designated in congested areas near the Los Angeles/Long Beach Harbor (LALB) entrances to set speed limits or to establish other safety precautions for ships entering or departing the harbor. A regulated navigation area (RNA) is defined as a water area within a defined boundary for which federal regulations for vessels navigating within this area have been established under CFR 33 Part 165, Subsection 165.1109. In the case of the LALB, RNA boundaries match the designated precautionary area. CFR 33, Part 165, Subsection 165.1152, identifies portions of the precautionary area as an RNA.

The precautionary area for LALB is defined by a line that extends south from Point Fermin approximately 7 nautical miles, then due east approximately 7 nautical miles, then northeast for approximately 3 nautical miles, and then back northwest (see Figure 3.11-2). Ships are required to cruise at speeds of 12 knots or less upon entering the precautionary area. A minimum vessel separation of 0.25 nautical mile is also required in the precautionary area. Vessel traffic within the precautionary area is monitored by the Marine Exchange of Southern California.

Pilotage

Use of a Port pilot for transit in and out of the San Pedro Bay area and adjacent waterways is required for all vessels of foreign registry and for U.S. vessels that do not have a federally licensed pilot on board (some U.S. flag vessels have a trained and licensed pilot onboard; those vessels are not required to use a Port pilot while navigating through the harbor). Port pilots provide pilotage to the Ports of Los Angeles and Long Beach, and receive special training that is regulated by the Harbor Safety Committee (see discussion in Section 3.11.3.2.2). Pilots typically board the vessels at the Angel's Gate entrance and then direct the vessels to their destinations. Pilots normally leave the vessels after docking and reboard the vessels to pilot them back to sea or to other destinations within the harbor. In addition, Port pilots operate radar systems to monitor vessel traffic within the harbor area. This information is available to all vessels upon request. The pilot service also manages the use of anchorages under an agreement with the USCG. It should be noted that cruise vessels do not typically require use of a Port pilot for transit in and out of the bay.

LAHD also enforces numerous federal navigation regulations (i.e., Port tariffs) within Los Angeles Harbor. Specifically, larger commercial vessels (i.e., greater than 300 gross tons) are required to use a federally licensed pilot when navigating inside the breakwater. In most circumstances, vessels employ the services of a federally licensed local pilot from the Port pilots. In instances where a local pilot is not used, pilots must have a local federal pilot license and receive approval by the USCG COTP prior to entering or departing the harbor. The Port tariffs also require vessels to notify the affected pilot station(s) in situations when a pilot is not needed before entering, leaving, shifting, or moving between the Ports of Los Angeles and Long Beach.

Tug Escort/Assist

Tug escort refers to the stationing of tugs in proximity of a vessel as it transits into the harbor to provide immediate assistance should a steering or propulsion failure develop. *Tug assist* refers to the positioning of tugs alongside a vessel and applying force to assist in making turns, reducing speed, providing propulsion, and docking. Commercial container vessels, as well as most of the ocean-going vessels, are required to have tug assistance within the LALB (Harbor Safety Committee 2004). However, some vessels have internal "tugs" (typically bow and stern thrusters) that allow the vessel to propel without engaging the main engines, and they can accomplish maneuvers with the same precision as a tug-assisted vessel. These ships are not required to have external tug assistance with the exception of loaded tankers, which are required to have a tug escort.

Physical Oceanographic Real Time System (PORTS)

In partnership with NOAA, National Ocean Service (NOS), California Office of Spill Prevention and Response (OSPR), USGS, and some businesses operating in the Ports of Los Angeles and Long Beach, the Marine Exchange operates PORTS as a service to those making operational decisions based on oceanographic and meteorological conditions in the Ports' vicinity. PORTS is a system of environmental sensors and supporting telemetry equipment that gathers and disseminates accurate real-time information on tides, visibility, winds, currents, and sea swell to maritime users to assist in the safe and efficient transit of vessels in the harbor area. Locally, PORTS is designed to provide crucial information in real time to mariners, oil spill response teams, managers of coastal resources, and others about water levels, currents, salinity, and winds in LALB.

The instruments that collect the information are deployed at strategic locations within LALB to provide data at critical locations and to allow "now-casting" and forecasting using a mathematical model of the harbor's oceanographic processes. Data from the sensors are fed into a central collection point; raw data from the sensors are integrated and synthesized into information and analysis products, including graphical displays of PORTS data.

3.11.2.2.2 Navigational Hazards

Port pilots can easily identify fixed navigational hazards in LALB, including breakwaters protecting the outer harbor, anchorage areas, and various wharfs and landmasses that comprise the harbor complex. These hazards are easily visible by radar and are currently illuminated. Four bridges cross the navigation channels of both harbors. All bridges have restricted vertical clearances, and two have restricted horizontal clearances as well.

Vessels that are waiting to enter the harbor and moor at a berth can anchor at the anchorages outside (Ports of Los Angeles and Long Beach) and inside (Long Beach

only) the breakwaters. Vessels do not require tug assistance to anchor outside the breakwater. LAHD currently does not have any available anchorages inside the breakwater. For safety reasons, VTS will not assign an anchorage in the first row of sites closest to the breakwater to vessels exceeding 656 feet in length.

Vessel Accidents

Although marine safety is thoroughly regulated and managed, accidents do occasionally occur, including allisions (between a moving vessel and a stationary object, including another vessel), collisions (between two moving vessels), and vessel groundings. The number of vessel allisions, collisions, and groundings (ACGs) in the Ports of Los Angeles and Long Beach ranged between 2 and 12 annually in the 10-year period from 1996 through 2006, with the lowest numbers occurring in the last two years. Based on the data shown in Table 3.11-5, between 1996 and 2006 there were, on average, 6.9 ACG incidents per year. Each of these was subject to USCG marine casualty investigation, and the subsequent actions taken were targeted at preventing future occurrences.

Table 3.11-5. Allisions, Collisions, and Groundings—Ports of Los Angeles and Long Beach (1996–2006)

	ACG Incidents			
Year	*Allisions*	*Collisions*	*Groundings*	*Total*
1996	2	4	1	7
1997	1	3	2	6
1998	1	2	3	6
1999	3	4	2	9
2000	3	2	1	6
2001	4	1	0	5
2002	6	5	0	11
2003	4	2	2	8
2004	6	4	2	12
2005	3	1	0	4
2006	2	0	0	2

Source: Harbor Safety Committee 2004; U.S. Naval Academy 1999; Harbor Safety Committee 2007.

Note: These commercial vessel accidents meet a reportable level defined in 46 CFR 4.05, but do not include commercial fishing vessel or recreational boating incidents.

According to the USCG vessels accidents database, the LALB area has one of the lowest accident rates among all U.S. ports, with a 0.0038% probability of a vessel experiencing an ACG during a single transit, as compared to the average 0.025% vessel ACG probability for all U.S. ports (U.S. Naval Academy 1999).

Vessels are required by law to report failures of navigational equipment, propulsion, steering, or other vital systems that occur during marine navigation. Marine vessel accidents in San Pedro Bay are reported to USCG via the COTP office or the COTP representative at VTS as soon as possible. According to the VTS, approximately 1 in 100 vessels calling at the Ports of Los Angeles and Long Beach experiences a mechanical failure during their inbound or outbound transit.

Close Quarters

To avoid vessels passing too close together, the VTS documents, reports, and takes action on close quarters situations. *VTS close quarters situations* are described as vessels passing an object or another vessel closer than 0.25 nautical miles or 500 yards. These incidents usually occur within the precautionary area. No reliable data are available for close quarter incidents outside the VTS area. Normal actions taken in response to close quarters situations include initiating informal USCG investigation; sending letters of concern to owners and/or operators; having the involved vessel master(s) visit VTS and review the incident; and USCG enforcement boardings. A 9-year history of the number of "close quarters" situations is presented in Table 3.11-6. Given a relatively steady amount of commercial transits over that time, the table shows a decreasing trend in close quarters incidents.

Table 3.11-6. Number of VTS-recorded "Close Quarters" Incidents, 1998–2006

Year	*No. of Close Quarters*
1998	9
1999	5
2000	1
2001	2
2002	6
2003	4
2004	1
2005	0
2006	0
Sources: Harbor Safety Committee 2004; 2005; Harbor Safety Committee 2006; 2007	

Near Misses

The Ports of Los Angeles and Long Beach Harbor Safety Committee defines a reportable "near miss" as:

- an incident in which a pilot, master or other person in charge of navigating a vessel, successfully takes action of a 'non-routine nature' to avoid a collision

with another vessel, structure, or aid to navigation, or grounding of the vessel, or damage to the environment.

The most practical and readily available near miss data can be obtained from VTS reports, which are available from the LAHD. The number of "near miss" incidents is the same as the number of "close quarter" incidents listed in Table 3.11-6.

3.11.2.2.3 Factors Affecting Vessel Traffic Safety

This section summarizes environmental conditions that could impact vessel safety in the Port of Los Angeles area.

Fog

Fog is a well-known weather condition in southern California. Harbor-area fog occurs most frequently in April and from September through January, when visibility over the bay is below 0.5 mile for 7 to 10 days per month. Fog at the Port is mostly a land (radiation) type that drifts offshore and worsens in the late night and early morning. Smoke from nearby industrial areas often adds to its thickness and persistence. Along the shore, fog drops visibility to less than 0.5 mile on 3 to 8 days per month from August through April, and is generally at its worst in December (Harbor Safety Committee 2004).

Winds

Wind conditions vary widely, particularly in fall and winter. Winds can be strongest during the period when the Santa Ana winds (prevailing winds from the northeast occurring from October through March) blow. The Santa Ana winds, though infrequent, may be violent. A Santa Ana condition occurs when a strong high-pressure system resides over the plateau region of Nevada and Utah and generates a northeasterly to easterly flow over southern California. Aside from weather forecasts, there is little warning of a Santa Ana's onset: good visibility and unusually low humidity often prevail for some hours before it arrives. Shortly before arriving on the coast, the Santa Ana may appear as an approaching dark-brown dust cloud. This positive indication often provides a 10 to 30 minute warning. The Santa Ana wind may come at any time of day and can be reinforced by an early morning land breeze or weakened by an afternoon sea breeze (Harbor Safety Committee 2004).

Winter storms produce strong winds over San Pedro Bay, particularly southwesterly to northwesterly winds. Winds of 17 knots or greater occur about 1 to 2% of the time from November through May. Southwesterly to westerly winds begin to prevail in the spring and last into early fall (Harbor Safety Committee 2004).

Tides

The mean range of tide is 3.8 feet for the Los Angeles Harbor. The diurnal range is about 5.4 feet, and a range of 9 feet may occur at maximum tide.

Currents

The tidal currents follow the axis of the channels and rarely exceed 1 knot. The LALB area is subject to seiche (i.e., seismically induced water waves that surge back and forth in an enclosed basin as a result of earthquakes) and surge, with the most persistent and conspicuous oscillation having about a 1-hour period. Near Reservation Point, the prominent hourly surge causes velocity variations as great as 1 knot. These variations often overcome the lesser tidal current, so that the current ebbs and flows at half-hour intervals. The more-restricted channel usually causes the surge through the Back Channel to reach a greater velocity at the east end of Terminal Island, rather than west of Reservation Point. In the Back Channel, hourly variation may be 1.5 knots or more. At times, the hourly surge, together with shorter, irregular oscillations, causes a very rapid change in water height and current direction/velocity, which may endanger vessels moored at the piers (Harbor Safety Committee 2004).

USACE ship navigation studies indicate that within the harbor channels, current magnitudes are essentially a negligible ⅓ knot or less. Maximum current velocity in the Angel's Gate area is less than 1 knot. These current magnitudes, determined during a simulation study, indicate depth-averaged values over three layers.

According to Jacobsen Pilot Service, the Long Beach Queen's Gate has deeper water than Angel's Gate and has more open waterways just inside the breakwater. The pilots have never experienced a current greater than 1 knot in Queen's Gate (Harbor Safety Committee 2004).

Water Depths

The USACE maintains the federal channels in LALB. Table 3.11-7 lists water depths in the Los Angeles Harbor.

Table 3.11-7. Water Depths within the Los Angeles Harbor

Channel/Basin	*Depth—MLLW feet*
Main Channel	-45
Turning Basin	-45
West Basin	-45
East Basin	-45
North Channel (Piers 300–400)	-53
North Turning Basin	-81
Approach and Entrance Channels	-81
Source: Harbor Safety Committee 2004.	

3.11.2.2.4 Vessel Traffic

Vessel traffic calls to the Port have ranged generally between 2,300 and 3,000 per year over the past 10 years, with a total of 2,820 vessels in 2006 (Table 3.11-8). The increase in cargo volumes in recent years has been accommodated primarily by larger vessels rather than additional vessels.

Table 3.11-8. Vessel Calls at the Port of Los Angeles

Year	*Vessel Calls*
2006	2,820
2005	2,341
2004	2,302
2003	2,660
2002	2,526
2001	2,899
2000	3,060
1999	2,630
1998	2,569
1997	2,786
Sources: LAHD 2004; SCC 2007; MESC 2007; MELALBH 2004	

3.11.3 Applicable Regulations

3.11.3.1 Surface Transportation

Traffic analysis in the state of California is guided by policies and standards set by Caltrans at the state level and by local jurisdictions. Since the proposed Project is located in the City of Los Angeles, the proposed Project or alternatives should adhere to the adopted City transportation policies.

3.11.3.1.1 Intersection Operations

The City of Los Angeles has established threshold criteria to determine significant traffic impacts of a proposed project in its jurisdiction. Under the LADOT guidelines (LADOT 2002), an intersection would be significantly impacted if a project results in 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. Intersections operating at LOS A or B after the addition of project traffic are not considered significantly impacted regardless of the increase in V/C ratio. Table 3.11-9 summarizes intersection impact criteria.

Table 3.11-9. Intersection Impact Criteria

LOS	*Final V/C Ratio*	*Project-related Increase in V/C*
C	>0.700–0.800	equal to or greater than 0.040
D	> 0.800–0.900	equal to or greater than 0.020
E or F	> 0.900	equal to or greater than 0.010

3.11.3.1.2 Neighborhood Streets

Under the City of Los Angeles guidelines (LADOT 2002), potential project impacts are also considered on local residential streets. Table 3.11-10 summarizes neighborhood street impact criteria.

Table 3.11-10. Neighborhood Street Impact Criteria

Projected ADT with Project	*Project-related Increase in V/C*
0 to 999	16% or more of final ADT
1,000 to 1,999	12% or more of final ADT
2,000 to 2,999	10% or more of final ADT
3,000 or more	8% or more of final ADT

3.11.3.1.3 CMP Guidelines

CMP arterial and freeway mainline facilities are analyzed if they meet the following thresholds (Metro 2004):

- all CMP arterial monitoring intersections where the proposed Project will add 50 or more trips during either the AM or PM peak hours of adjacent street traffic; or
- all CMP mainline freeway monitoring locations where the proposed Project will add 150 or more trips per hour, in either direction, during either the AM or PM peak hours.

For locations that meet these trip guidelines, the CMP traffic impact analysis guidelines establish that a significant project impact occurs when the following thresholds are exceeded:

- a CMP facility would be significantly impacted if the Project increases V/C by 0.02 or greater and would cause the facility to operate at LOS F (V/C > 1.00); or
- if the facility is already at LOS F, a significant impact occurs when the proposed project increases V/C by 0.02 or greater.

3.11.3.1.4 Parking Code

The proposed Project is located in the Harbor Enterprise Zone. Enterprise Zones help businesses located therein lower their operating costs by providing state hiring credits, sales and use tax credits, and expense and interest deductions. The City of Los Angeles offers local incentives such as DWP rate discounts, site fee waivers, sewer facility hookup payment plans, Work Opportunity Tax Credits, and reduced parking rates. The Harbor Enterprise Zone is valid through March 3, 2009.

According to the parking code requirements per the Harbor Enterprise Zone, commercial office, business, retail, restaurant, bar and related uses, trade schools, or research and development buildings need to provide two parking spaces for every 1000 square feet of floor area.

3.11.3.2 Marine Transportation

Many laws and regulations are in place to regulate marine structures, vessels calling at marine terminals, and emergency response/contingency planning. Responsibilities for enforcing or executing these laws and regulations are governed by various federal and local agencies, as described below.

3.11.3.2.1 Federal Agencies

A number of federal laws regulate marine structures and movement of vessels. In general, these laws address design and construction standards, operational standards, and spill prevention and cleanup. Regulations to implement these laws are contained primarily in Titles 33 (Navigation and Navigable Waters), 40 (Protection of Environment), and 46 (Shipping) of the Code of Federal Regulations (CFR).

Since 1789, the federal government has authorized navigation channel improvement projects; the General Survey Act of 1824 established the USACE's role as the agency responsible for the navigation system. Since then, ports have worked in partnership with the USACE to maintain waterside access to port facilities.

U.S. Coast Guard

The USCG, through Title 33 (Navigation and Navigable Waters) and Title 46 (Shipping) of the CFR, is the federal agency responsible for vessel inspection, marine terminal operations safety, coordination of federal responses to marine emergencies, enforcement of marine pollution statutes, marine safety (navigation aids), and operation of the National Response Center (NRC) for spill response. Current USCG regulations require a federally licensed pilot aboard every tanker vessel mooring and unmooring at offshore marine terminals. At the request of the USCG, the Los Angeles pilots and Jacobsen pilots have agreed to ensure continual service of a licensed pilot for vessels moving between the Ports of Los Angeles and Long Beach outside the breakwater.

Department of Defense (DoD)

The Department of Defense (DoD), through the USACE, is responsible for reviewing all aspects of a project and/or spill response activities that could affect navigation. The USACE has specialized equipment and personnel for maintaining navigation channels, removing navigation obstructions, and accomplishing structural repairs. The USACE has jurisdiction under Section 10 of the Rivers and Harbors Act of 1899.

3.11.3.2.2 Other Organizations

Marine Exchange of Southern California

As described in Section 3.11.2.2.1, "Vessel Transportation Safety," the Marine Exchange is a nonprofit organization affiliated with the L.A. Chamber of Commerce. The organization is supported by subscriptions from Port-related organizations that recognize the need for such an organization and use its services. This voluntary service is designated to enhance navigation safety in the precautionary and harbor areas of the Ports of Los Angeles and Long Beach. The Marine Exchange monitors vessel traffic within the precautionary area and operates PORTS as a service to those making operational decisions based on oceanographic and meteorological conditions in the vicinity of the Ports of Los Angeles and Long Beach.

Harbor Safety Committee

The Ports of Los Angeles and Long Beach have a Harbor Safety Committee (committee) that is responsible for planning the safe navigation and operation of tankers, barges, and other vessels within San Pedro Bay and approach areas. This committee has been created under the authority of Government Code Section 8670.23(a), which requires the Administrator of the Office of Oil Spill Prevention and Response to create a harbor safety committee for the LALB area. The committee issued the original HSP in 1991 and has issued annual updates since. Major issues facing the committee include questions regarding the need for escort tugs, required capabilities of escort tugs, and the need for new or enhanced vessel traffic information systems to monitor and advise vessel traffic.

The committee developed a regulatory scheme to institutionalize good marine practices and guide those involved in moving tanker vessels, which include the minimum standards that are applicable under favorable circumstances and conditions. The master or pilot will arrange for additional tug assistance if bad weather, unusual harbor congestion, or other circumstances so require.

Harbor Safety Plan

The Ports of Los Angeles and Long Beach Harbor Safety Plan (HSP) contains additional operating procedures for vessels operating in the port vicinities. The vessel operating procedures stipulated in the HSP are considered good marine practice; some procedures are federal, state, or local regulations, while other guidelines are nonregulatory standards of care.

The HSP provides specific rules for navigation of vessels in reduced visibility conditions and does not recommend transit for vessels greater than 150,000 deadweight tonnage (DWT) if visibility is less than 1 nautical mile, and for all other vessels if visibility is less than 0.5 nautical mile.

The HSP establishes vessel speed limits. In general, speeds should not exceed 12 knots within the precautionary area or 6 knots within the harbor. These speed restrictions do not preclude the master or pilot from adjusting speeds to avoid or mitigate unsafe conditions. Weather, vessel maneuvering characteristics, traffic density, construction/dredging activities, and other possible issues are taken into account.

Vessel Transportation Service

As described previously, VTS is a shipping service operated by USCG or public/private sector consortiums (see Section 3.11.2.2.1). These services monitor traffic in both approach and departure lanes, as well as internal movement within harbor areas, using radar, radio, and visual inputs to gather real-time vessel traffic information and broadcast traffic advisories and summaries to assist mariners. The VTS that services the Ports of Los Angeles and Long Beach is located at the entrance of the LALB. The system is owned by the Marine Exchange and operated jointly by the Marine Exchange and the USCG under the oversight of the OSPR and the Ports' Harbor Safety Committee.

This system provides information on vessel traffic and ship locations so that vessels can avoid allisions, collisions, and groundings in the approaches to LALB. The VTS assists in the safe navigation of vessels approaching LALB in the precautionary area. The partnership is a unique and effective approach that has gained acceptance from the maritime community.

3.11.4 Impact Analysis

3.11.4.1 Methodology

3.11.4.1.1 Surface Transportation

Estimates of future traffic conditions both with and without the proposed Project were necessary to evaluate the potential impact of the proposed Project on surface transportation. The baseline, or Without Project, condition represents future traffic conditions without the addition of the proposed Project; while the baseline plus proposed Project represents future traffic conditions with the proposed Project in place. The evaluation of significance is defined by comparing proposed project conditions at the interim and buildout to areawide baseline conditions for the same years. The traffic study focuses on weekday peak hour traffic because it represents the worst overall traffic conditions with the greatest potential for impact. Although the proposed project may generate a slightly higher number of trips on the weekend or during special events, the background traffic conditions are substantially lower due to reduced business activities on weekend days. While some terminals remain open and in operation, the intensity of activities including freight and transportation operations at these terminals is significantly less.

Baseline (Without Project) Traffic Volumes

This section describes methods used to project traffic conditions under the Without Project conditions. The baseline traffic conditions are a conservative estimate of future conditions without development of the proposed Project in 2015 and 2020. These projections normally reflect the changes to existing traffic conditions that can be expected from three primary sources:

- future baseline street improvements,
- areawide background traffic growth, and
- traffic generated by other planned development.

These elements are described below.

Future Baseline Street Improvements

Several key roadway improvements in or near the study area are expected to be completed by 2015. These improvements, which are the result of local or regional capital improvement programs or mitigation for ongoing or entitled related projects, would result in capacity changes at the specified locations throughout the study area. The following roadway improvements were assumed to be in place for the baseline (Without Project) analysis:

- **I-110 and C Street Interchange Improvements:** This project would improve the flow of traffic from the I-110 ramps at C Street by consolidating two closely spaced intersections and facilitating heavy right-turn volumes with free-flowing turn lanes. As part of the improvement, C Street would be terminated in a cul-de-sac east of Figueroa Street and would no longer intersect with Figueroa Street. Harry Bridges Boulevard would be realigned to intersect with Figueroa Street across from the existing I-110 ramps. Another element of the improvement would be the construction of a northbound I-110 off-ramp to Harry Bridges Boulevard that would be grade-separated over Figueroa Street/John S. Gibson Boulevard with eastbound Harry Bridges Boulevard east of the consolidated intersection. The existing TraPac Terminal gate aligned with Figueroa Street will be relocated and accessed from the Lagoon Avenue Overpass. Appendix D of the traffic report (included in this EIR as Appendix I) shows that traffic shifts were estimated based on the future configuration of this intersection.
- **Lagoon Avenue Grade Separation:** Also known as the South Wilmington Grade Separation, this grade separation would provide access to all the facilities south of Harry Bridges Boulevard, in addition to providing access to the relocated Trapac Terminal Gate. The purpose of this grade separation is to provide vehicular traffic with an alternative route that avoids existing at-grade railroad crossings on Fries and Broad Avenues. It would consist of an elevated road extending from Lagoon Avenue, passing over the existing railroad tracks, and connecting to Pier A Street and Fries Avenue. Appendix D of the traffic report provides a conceptual drawing for this grade separation. Traffic shifts

were made to vehicular traffic to/from Fries Avenue south of Harry Bridges Boulevard. 80% of this traffic was estimated to shift to Lagoon Avenue.

- **Harry Bridges Buffer Area:** This project involves the construction of a buffer area along the north side of Harry Bridges Boulevard from Figueroa Street in the west to Lagoon Avenue in the east. The buffer would provide open recreational space between the Wilmington community and the Port. This project would involve the closure of all north–south streets between Figueroa Street and Avalon Boulevard except for King Avenue between Harry Bridges Boulevard and C Street. Existing and projected traffic volumes on these streets are low enough that they can be accommodated by the parallel routes that will remain open (Figueroa Street, King Avenue, Fries Avenue, Marine Avenue, Avalon Boulevard, and Broad Avenue).

  Projected traffic shifts as a result of the buffer area are as follows: 40% of the north–south traffic on the streets from Mar Vista Avenue in the west to Gulf Avenue in the east was assumed to shift to Figueroa Street, and 60% of the traffic on those streets was shifted to King Avenue; 30% of the north–south traffic on the streets from McDonald Avenue in the west to Island Avenue in the east was assumed to shift to Avalon Boulevard; 50% of this traffic was assumed to shift to Fries Avenue and 20% to Marine Avenue.

- **Equipping all signalized study intersections with the ATSAC/ATCS system:** The current improvement plan would equip all remaining intersections with ATSAC and install the state-of-the-art ATCS as an additional feature of the ATSAC system. ATCS is the latest enhancement to the ATSAC. It uses a personal computer–based traffic signal control software program that provides fully traffic-adaptive signal control based on real-time traffic conditions. ATCS allows for an automatic-adjustment–to-traffic signal timing strategy and control pattern in response to current traffic demands by controlling all three critical components of traffic signal timing simultaneously: cycle length, phase split, and offset. In the analysis of future operating conditions, a capacity increase of 10% (0.10 V/C adjustment) was applied to reflect the benefits of ATSAC/ATCS control at all signalized study intersections.

Areawide Background Traffic Growth

Based on the CMP for Los Angeles County (Metro 2004) and discussions with LADOT, it was determined that an ambient growth factor of 0.65% per year should be applied to adjust the existing base year traffic volumes to reflect the effects of regional growth and development for the 2015 interim and 2020 buildout years. This adjustment was applied to the base year 2008 traffic volume data to reflect the effect of ambient growth of 4.55% by the year 2015 and 7.8% by the year 2020.

Traffic Generated by Other Planned Development

Future traffic forecasts under Without Project conditions include the cumulative effects of specific development projects, also called related projects, expected to be built in the vicinity of the proposed project site prior to the interim year 2015 and full buildout year 2020. The list of related projects was based on data from LADOT and

from the Community Redevelopment Agency of the City of Los Angeles (CRA/LA), as well as a review of other recent traffic studies conducted for projects in the vicinity. A total of 14 cumulative projects were identified in the study area. They are summarized in Figure 4 and Table 5 of the Traffic Study in Appendix I.

The traffic resulting from related projects was estimated as follows.

- **Trip Generation.** Trip generation estimates for the related projects were calculated using either data in previous traffic studies or the trip generation rates contained in *Trip Generation* (ITE 2003). These projections are conservative in that they may not in every case account for either the existing uses to be removed or the possible use of nonmotorized travel modes (transit, walking, etc.)
- **Trip Distribution.** The geographic distribution of the traffic generated by related projects is dependent on several factors including the type and density of the proposed land uses, the geographic distribution of population from which employees and potential patrons of proposed commercial developments are drawn, the locations of 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.
- **Traffic Assignment.** Using the estimated trip generation and trip distribution patterns described above, traffic generated by the related projects was assigned to the street network.

Figures 3.11-3 and 3.11-4 summarize the projected peak hour Without Project traffic volumes for the years 2015 and 2020, respectively.

Proposed Project Traffic Volumes

Development of the traffic generation estimates for the proposed Project involved a three-step process including traffic generation, trip distribution, and traffic assignment.

Trip Generation for Proposed Project

Trip generation rates and equations from *Trip Generation* (ITE 2003) and other sources were used to develop trip generation estimates for the proposed Project. Trip generation rates for the proposed Project's park area were obtained from *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (SANDAG 2002) because they were more conservative than the ITE rates. In order to provide a conservative estimate of the potential traffic impacts of the proposed Project, no adjustments were made to account for possible reductions due to either pass-by trips or internal capture. Table 3.11-11 summarizes the trip generation estimates for each proposed land use for the interim year 2015 and the full buildout year 2020, with the following total trip estimates:

- In 2015, the proposed Project is projected to generate a total of approximately 3,063 daily weekday trips, including 131 trips during the AM peak hour and 296 trips during the PM peak hour.
- In 2020, the proposed Project is projected to generate approximately 5,140 daily weekday trips, including 339 trips during the AM peak hour and 502 trips during the PM peak hour.

Additionally, it is anticipated that approximately six times a year a special event could be held at the proposed Project with approximately 1,500 people in attendance. These events would occur at non-peak hours generally on certain holidays and would resemble events such as Lobster Fest in Ports O'Call in San Pedro. Traffic generated from these rare events would be temporary and at non-peak traffic hours and, therefore, are not included in the daily peak hour trips or in the average daily trip totals.

Proposed Project Traffic Distribution

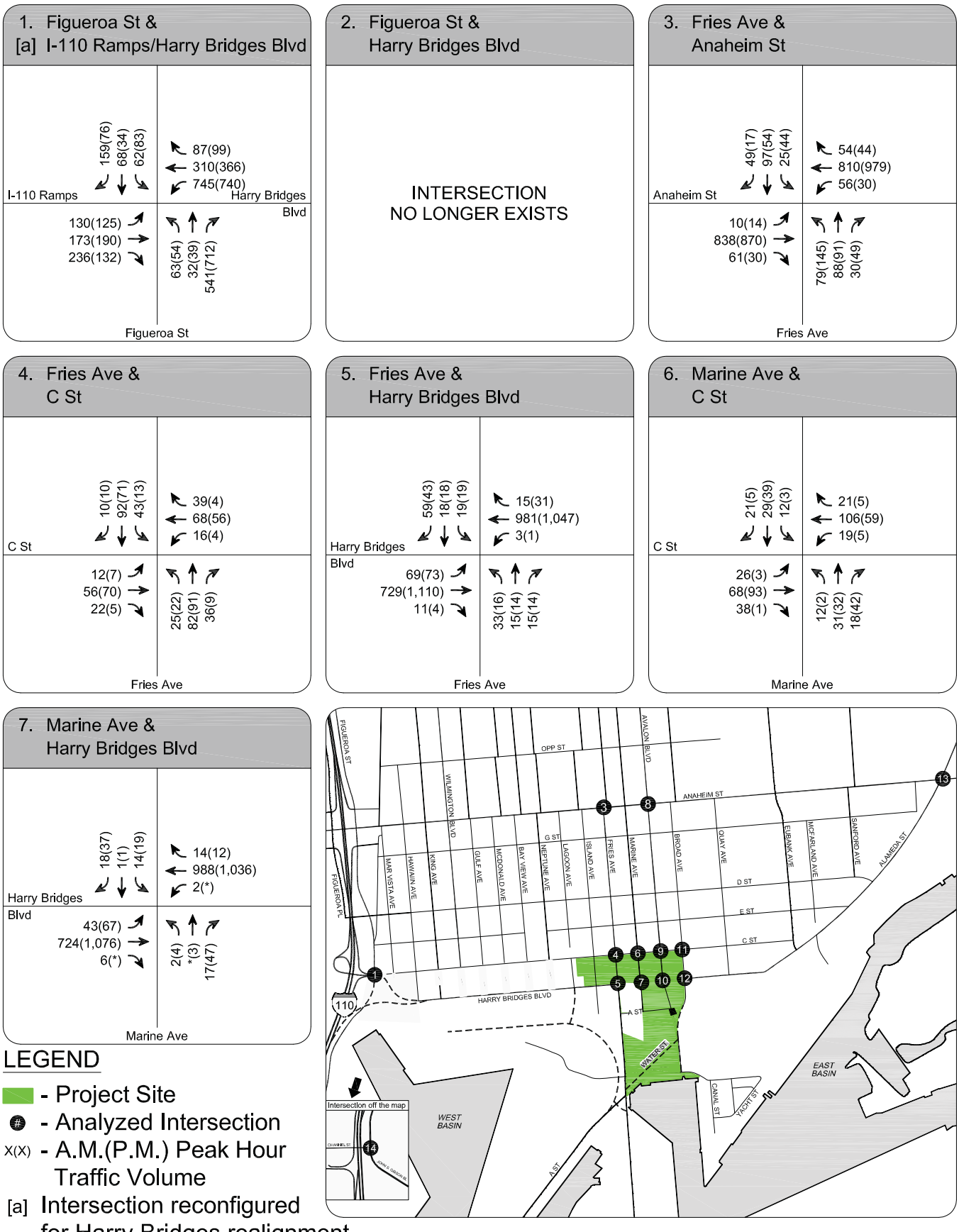
The geographic distribution of trips generated by the proposed Project is dependent on characteristics of the street system serving the site, the level of accessibility of routes to and from the proposed project site, the locations of employment and commercial centers to which residents of the proposed project would be drawn, and the geographic distribution of population from which employees and potential patrons of the proposed commercial elements of the proposed project would be drawn. The general distribution pattern used in this study was developed in consultation with LADOT and is illustrated in Figure 8 of the Traffic Study prepared for the proposed Project (Appendix I).

Proposed Project Traffic Assignment

The trip generation estimates were used to assign the proposed project–generated traffic to the local and regional street system. Figures 3.11-5 and 3.11-6 summarize the projected peak hour baseline traffic volumes for the years 2015 and 2020, respectively.

Projections of Total Traffic under the Proposed Project

The proposed project–generated traffic volumes were added to the Without Project traffic projections to develop the proposed project contribution forecasts for the interim year 2015 and buildout year 2020. The resulting forecasted traffic volumes listed in Table 3.11-11 provide the basis for roadway impact analysis of the proposed Project.

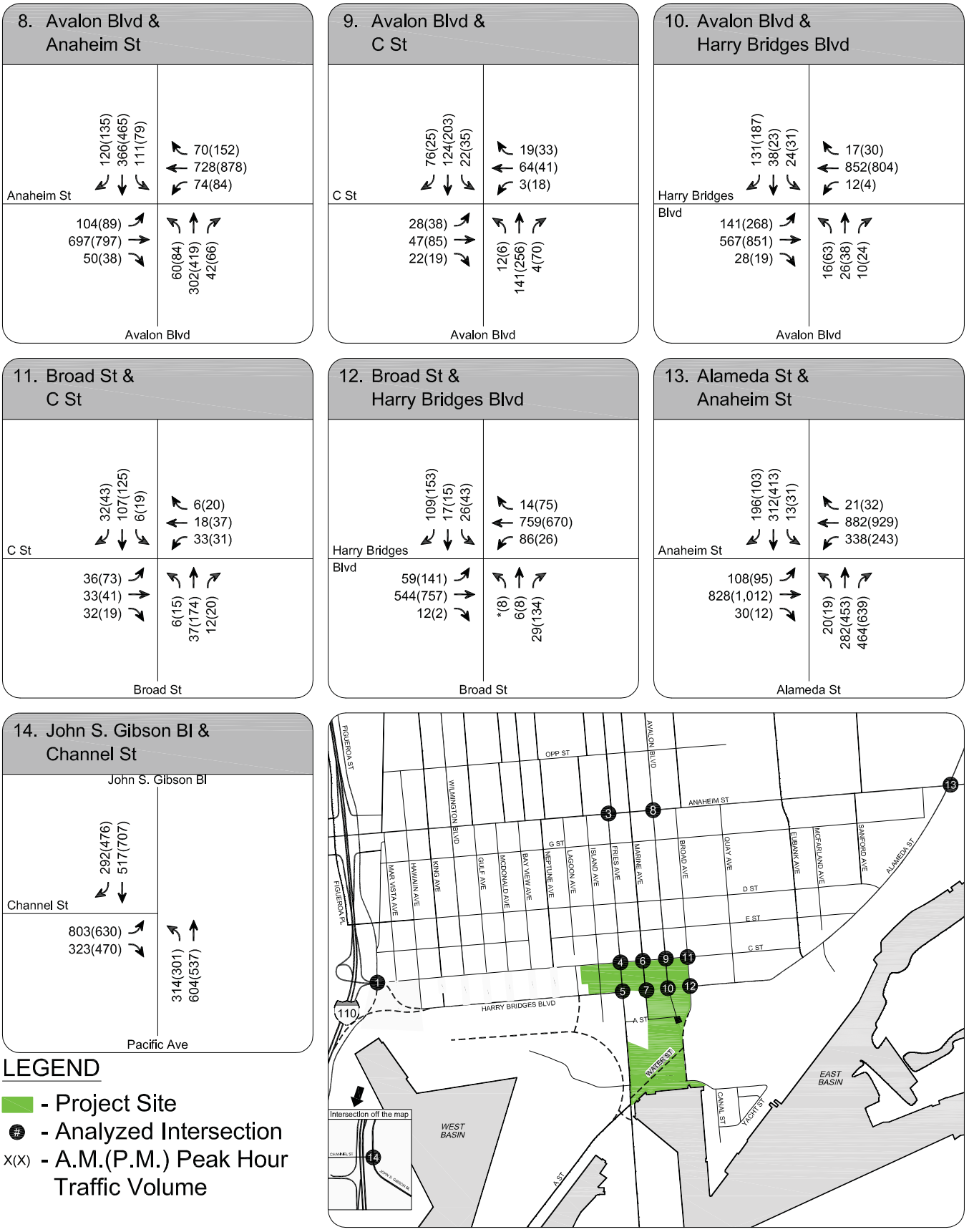


K:\GIS\PROJECTS\POLA_WILMINGTON\00859_07\MAPDOC\FIG3.11-3a.AI NB (09-16-08)

SOURCE: Fehr & Peers (2008)

ICF Jones & Stokes
an ICF International Company

Figure 3.11-3a
Cumulative Base Year 2015 Peak Hour Traffic Volumes
Wilmington Waterfront Development Project

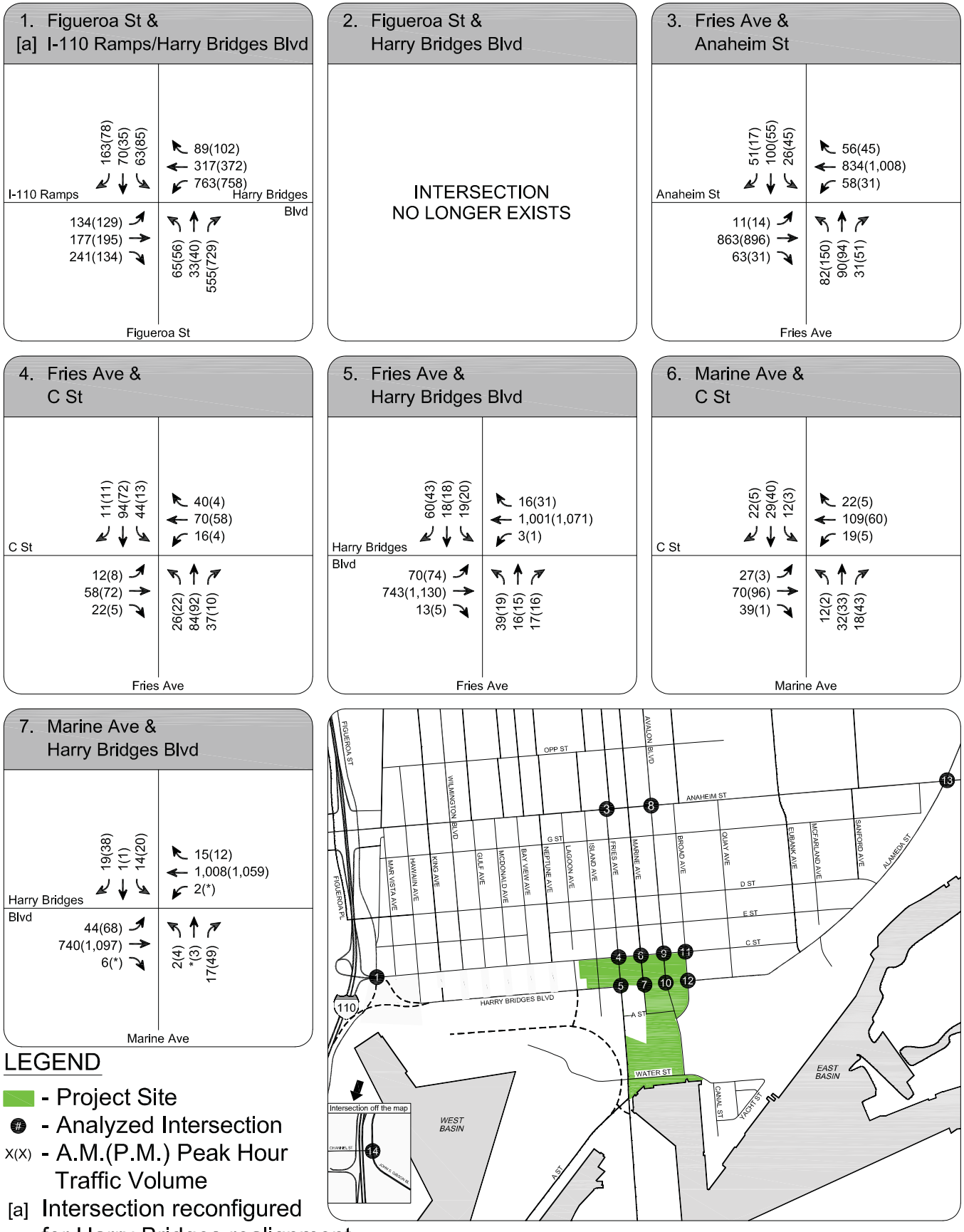


K:\GIS\PROJECTS\POLA_WILMINGTON\00859_07\MAPDOC\FIG3.11-3b.AI NB (09-16-08)

SOURCE: Fehr & Peers (2008)

ICF Jones & Stokes
an ICF International Company

Figure 3.11-3b
Cumulative Base Year 2015 Peak Hour Traffic Volumes
Wilmington Waterfront Development Project



K:\GIS\PROJECTS\POLA_WILMINGTON\00859_07\MAPDOC\FIG3.11-4a.AI NB (09-16-08)

SOURCE: Fehr & Peers (2008)

ICF Jones & Stokes
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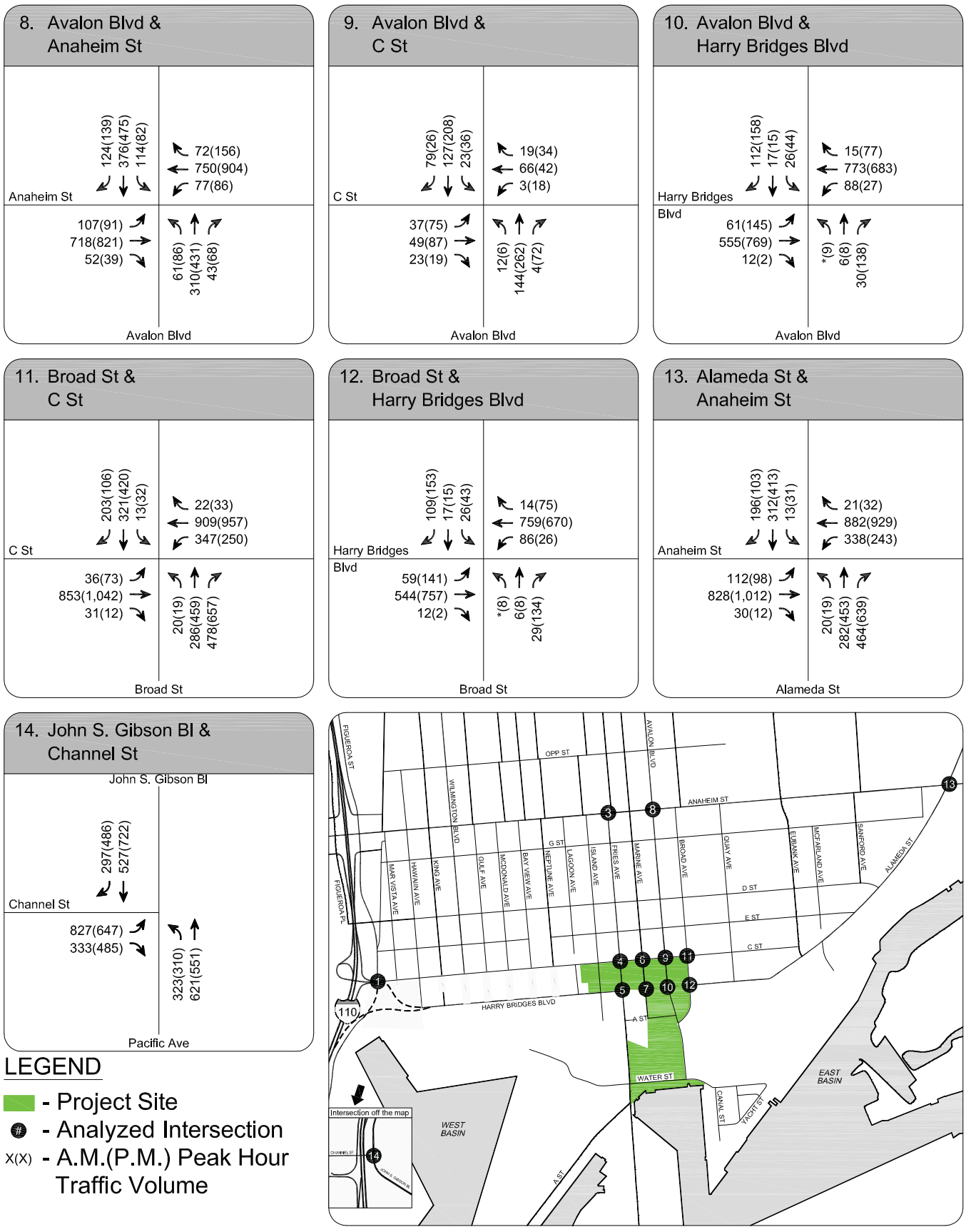
Figure 3.11-4a
Cumulative Base Year 2020 Peak Hour Traffic Volumes
Wilmington Waterfront Development Project

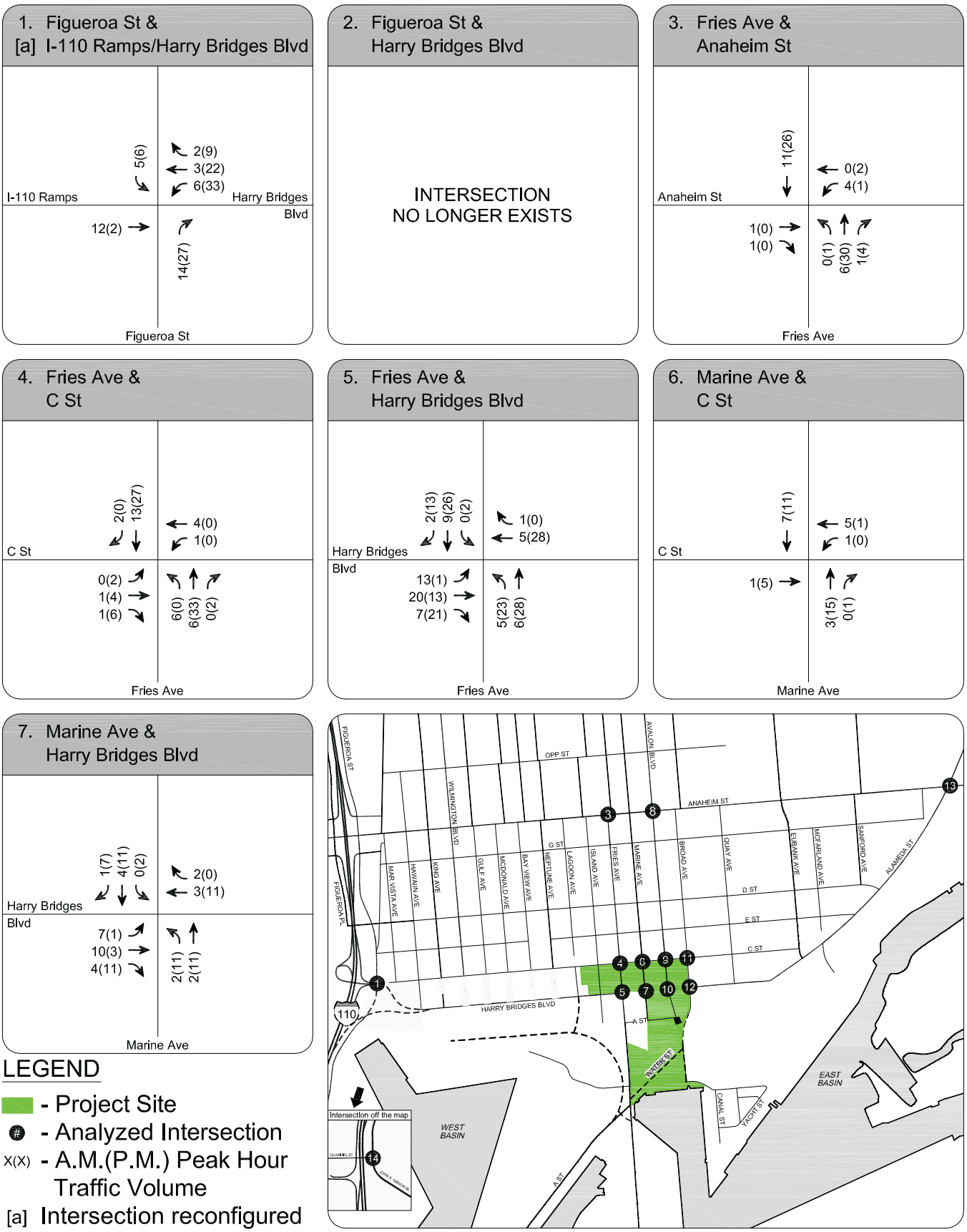


K:\GIS\PROJECTS\POLA_WILMINGTON\00859_07\MAPDOC\FIG3.11-4b.AI NB (09-16-08)

SOURCE: Fehr & Peers (2008)

ICF Jones & Stokes
an ICF International Company

Figure 3.11-4b
Cumulative Base Year 2020 Peak Hour Traffic Volumes
Wilmington Waterfront Development Project



SOURCE: Fehr & Peers (2008)

Figure 3.11-5a
Year 2015 Project Only Peak Hour Traffic Volumes
Wilmington Waterfront Development Project

K:\GIS\PROJECTS\POLA_WILMINGTON\00859_07\MAPDOC\FIG3.11-5a.AI NB (09-16-08)

SOURCE: Fehr & Peers (2008)

Figure 3.11-5b
Year 2015 Project Only Peak Hour Traffic Volumes
Wilmington Waterfront Development Project

K:\GIS\PROJECTS\POLA_WILMINGTON\00859_07\MAPDOC\FIG3.11-5b.AI NB (09-16-08)

K:\GIS\PROJECTS\POLA_WILMINGTON\00859_07\MAPDOC\FIG3.11-6a.AI NB (09-16-08)

SOURCE: Fehr & Peers (2008)

ICF Jones & Stokes
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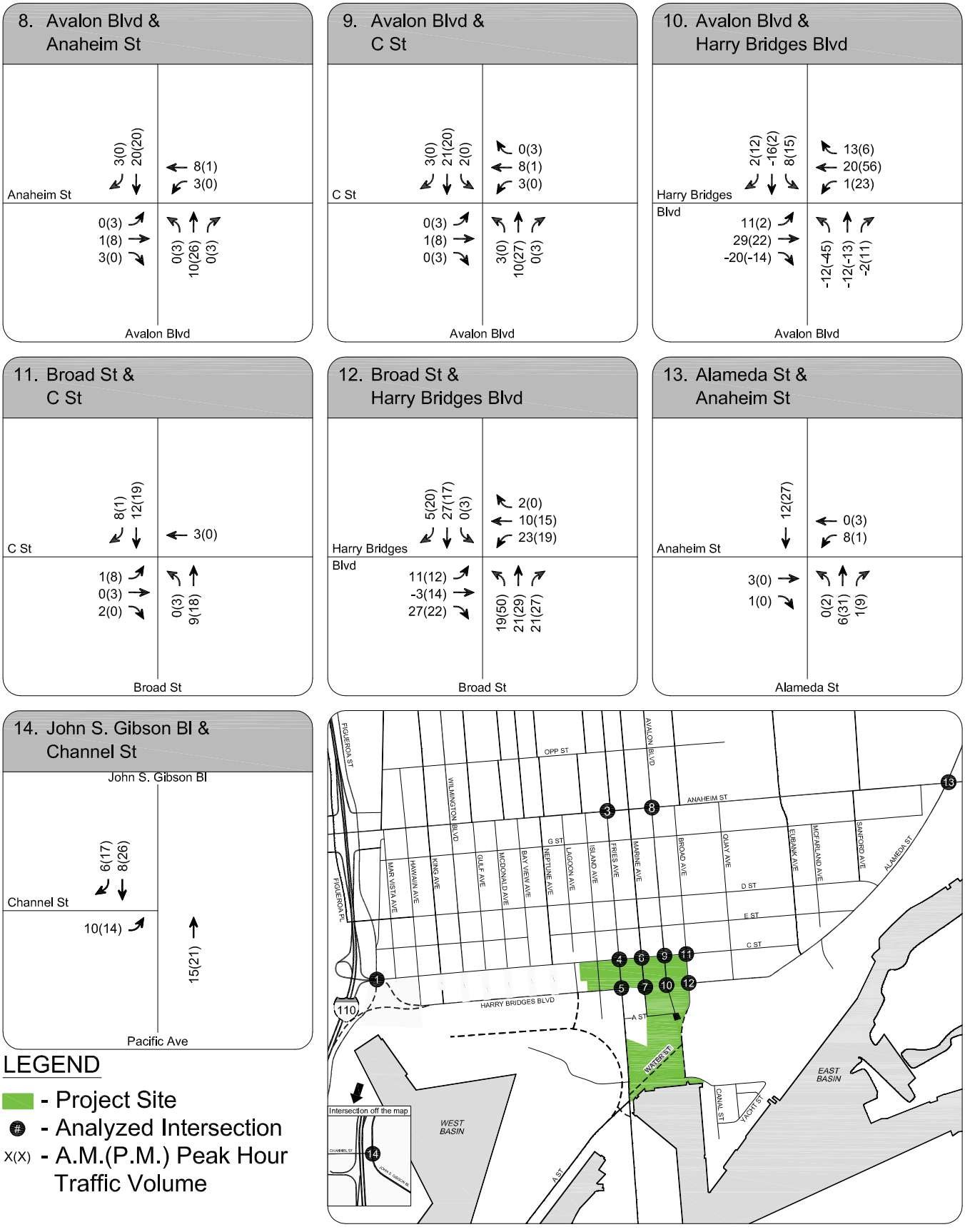
Figure 3.11-6a
Year 2020 Project Only Peak Hour Traffic Volumes
Wilmington Waterfront Development Project



K:\GIS\PROJECTS\POLA_WILMINGTON\00859_07\MAPDOC\FIG3.11-6b.AI NB (09-16-08)

SOURCE: Fehr & Peers (2008)

ICF Jones & Stokes
an ICF International Company

Figure 3.11-6b
Year 2020 Project Only Peak Hour Traffic Volumes
Wilmington Waterfront Development Project

Table 3.11-11. Trip Generation Summary for the Proposed Project

Land Use	*ITE Code*	*Unit*[2]	*Trip Generation Rates*[1]						
				AM Peak Hour			*PM Peak Hour*		
			Daily	*Total*	*In (%)*	*Out (%)*	*Total*	*In (%)*	*Out (%)*
1. Sit-Down Restaurant	932	KSF	127.15	11.52	52	48	10.92	61	39
2. Light Industrial	110	KSF	6.97	0.92	88	12	0.98	12	88
3. Retail	820	KSF	42.94	1.03	61	39	3.75	48	52
4. Open Space	(3)	Acres	5.00	0.2	50	50	0.4	50	50
2015 Trip Generation Estimates									
				AM Peak Hour			*PM Peak Hour*		
Land Use	*Size*	*Unit*	*Daily*	*Total*	*In*	*Out*	*Total*	*In*	*Out*
2. Light Industrial	75	KSF	2,491	60	37	23	218	105	113
3. Retail	58	KSF	523	69	61	8	74	9	65
4. Open Space	9.75	Acres	49	2	1	1	4	2	2
TOTAL			3,063	131	99	32	296	116	180
2020 Trip Generation Estimates									
				AM Peak Hour			*PM Peak Hour*		
Land Use	*Size*	*Unit*	*Daily*	*Total*	*In*	*Out*	*Total*	*In*	*Out*
1. Sit-Down Restaurant	12	KSF	1,526	138	72	66	131	80	51
2. Light Industrial	150	KSF	1,046	138	121	17	147	18	129
3. Retail	58	KSF	2,491	60	37	23	218	105	113
4. Open Space	15.45	Acres	77	3	2	1	6	3	3
TOTAL			5,140	339	232	107	502	206	296

[1]Trip rates obtained from *Trip Generation* (ITE 2003) except where noted.

[2]KSF = 1,000 square feet

[3]Trip rates for open space were not obtained from ITE; they were obtained from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (SANDAG 2002).

Waterfront Red Car Line

As discussed in Chapter 2, "Project Description," the Waterfront Red Car Line is being assessed at the program level because of the following reasons:

- The alignment of the rail line is unknown and may vary within the existing APE.
- The operating details are unknown and therefore information such as frequency of trips, number of cars, hours of operation, trolley stops, and intersection crossings are not available at this time.

For the above reasons, impacts on transportation and circulation from the Waterfront Red Car Line are not analyzed at this time. Once critical information is available, a subsequent environmental review will be conducted, impacts assessed, and mitigation measures, if applicable, will be proposed.

3.11.4.1.2 Marine

Impacts on marine transportation were assessed by determining how increased vessel traffic resulting from the proposed Project would affect the ability of the harbor to safely handle vessel traffic; as well as the potential of proposed project–related construction or operational activities to increase risks to vessel traffic. Existing regulations regarding vessel safety are designed to avoid potential impacts and are considered standard practice.

3.11.4.2 Thresholds of Significance

3.11.4.2.1 Surface Transportation

A project or action is considered to have a significant transportation/circulation impact if the project or action would result in one or more of the following occurrences. These criteria were taken from the *L.A.CEQA Thresholds Guide* (City of Los Angeles 2006) and other criteria applied to Port projects.

TC-1: A project would have a significant impact if construction of the project would result in a short-term, temporary increase in construction-related truck and auto traffic that could result in decreases in roadway capacity, potential safety hazards, and disruption of travel for vehicular and nonmotorized travelers.

TC-2: A project would have a significant impact if it would degrade the LOS of an intersection, neighborhood street, or CMP facility (described earlier in this section) beyond adopted guidelines, namely:

- **TC-2a:** A project would have a significant impact if an intersection would result in 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 (summarized in Table 3.11-9).

- **TC-2b**: A project would have a significant impact if a neighborhood street would have an ADT increase greater than 16% on roadways with current ADT under 1,000, an ADT increase greater than 12% on roadways with current ADT between 1,000 and 1,999, an ADT increase greater than 10% on roadways with current ADT between 2,000 and 2,999, or an ADT increase greater than 8% on roadways with current ADT at or above 3,000 (summarized in Table 3.11-10).
- **TC-2c:** A project would have a significant impact if a CMP facility would have an increase in V/C by 0.02 or greater and would cause the facility to operate at LOS F (V/C > 1.00) or, if the facility is already at LOS F, a significant impact would occur when the project increases V/C by 0.02 or greater (described in Section 3.11.3.1.3).

TC-3: A project would have a significant impact on local transit services if it would increase demand beyond the supply of such services anticipated at project buildout.

TC-4: A project would have a significant impact if it results in violation of the City's adopted parking policies, or if project parking demand would exceed supply.

TC-5: A project would have a significant impact if design elements of the project, or project construction, would result in conditions that would increase the risk of accidents, either for vehicular or nonmotorized traffic. Elements that could result in safety impacts include poor sight distance, sharp curves, or substantial differences in speed between project-related and general-purpose traffic.

3.11.4.2.2 Marine

Under CEQA, potential impacts are identified by comparing conditions under the proposed Project to baseline conditions. According to the *L.A. CEQA Thresholds Guide*, the determination of significance for marine transportation impacts has to be made on a case-by-case basis. While this document does not include specific provisions regarding marine transportation, the following criterion was developed in cooperation with LAHD for previous projects:

VT-1: A project would have a significant impact on marine transportation if it would interfere with the operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, East Basin Area, or precautionary areas.

3.11.4.3 Impacts and Mitigation

3.11.4.3.1 Proposed Project

Impact TC-1a: Construction of the proposed Project would result in a short-term, temporary increase in construction-related truck and auto traffic, decreases in roadway capacity, and disruption of vehicular and nonmotorized travel.

Demolition and landside construction associated with various elements of the proposed Project would generate truck and other vehicular traffic associated with construction worker commutes, transport and staging of construction equipment, transport of construction materials to the construction site, and hauling excavated and demolished materials away from the site. Most proposed project construction is expected to occur between 2009 and 2020. During the construction period, Port operations would continue at usual levels. The exact locations and extents of construction impacts will not be known until detailed construction timing and phasing plans are developed. However, potential construction effects on roadway operations include the following:

- A temporary increase in traffic associated with construction worker commutes, delivery of construction materials, hauling of demolished and/or excavated materials, and general deliveries would increase travel demand on roadways.
- Temporary roadway lane closures or narrowings in areas directly abutting construction activities would reduce capacity of roadways.
- Temporary roadway closures associated with the construction of transportation infrastructure would reduce the capacity of the roadway system and/or require detours that increase travel times.
- Temporary lane or road closures would require route detours or reduced service for transit routes that run adjacent to proposed project elements that are under construction—namely, Metro lines 202 and 446/447.
- During proposed project construction, parking demand would increase from construction workers and construction equipment that is not in use. In addition, parking spaces located adjacent to construction activities would be temporarily closed.
- Temporary sidewalk, lane, or road closures would occur adjacent to proposed project elements that are under construction, which would interfere with bicycle or pedestrian circulation within the proposed project vicinity.
- Travel disruptions would occur along the Class II bicycle lane along Avalon Boulevard.
- Heavy and slow-moving construction vehicles would mix with general-purpose vehicular and nonmotorized traffic in the area.

See Chapter 2, "Project Description," for detailed descriptions of the construction activities and planned phasing of the elements associated with the proposed Project.

Impact Determination

Proposed project construction would result in a temporary increase in traffic volumes and a decrease in roadway capacity due to temporary lane closures. The following impacts would result from the proposed Project.

- Reduced roadway capacity and an increase in construction-related congestion would result in temporary localized increases in traffic congestion that exceed applicable LOS standards.
- Construction activities would disrupt existing transit service in the proposed project vicinity. Impacts may include temporary route detours, reduced or no service to certain destinations, or service delays.
- Construction activities would increase parking demand in the proposed project vicinity and may result in parking demand exceeding the available supply.
- Construction activities would disrupt pedestrian and bicycle travel. Impacts include temporary sidewalk or roadway closures that would create gaps in pedestrian or bicycle routes and interfere with safe travel.
- Construction activities would increase the mix of heavy construction vehicles with general purpose traffic. Impacts include an increase in safety hazards due to a higher proportion of heavy trucks.

The impact of construction-generated traffic on transportation operations without mitigation is considered significant. Therefore, the following mitigation measure is proposed:

Mitigation Measure

MM TC-1: Develop and implement a Traffic Control Plan throughout proposed project construction. In accordance with the City's policy on street closures and traffic diversion for arterial and collector roadways, the construction contractor will prepare a traffic control plan (to be approved by City and County engineers) before construction. The traffic control plan will include:

- a street layout showing the location of construction activity and surrounding streets to be used as detour routes, including special signage;
- a tentative start date and construction duration period for each phase of construction;
- the name, address, and emergency contact number for those responsible for maintaining the traffic control devices during the course of construction; and
- written approval to implement traffic control from other agencies, as needed.

Additionally, the traffic control plan will include the following stipulations:

- provide access for emergency vehicles at all times;
- avoid creating additional delay at intersections currently operating at congested conditions, either by choosing routes that avoid these locations, or constructing during nonpeak times of day;
- maintain access for driveways and private roads, except for brief periods of construction, in which case property owners will be notified;
- provide adequate off-street parking areas at designated staging areas for construction-related vehicles;
- maintain pedestrian and bicycle access and circulation during proposed project construction where safe to do so; if construction encroaches on a sidewalk, a safe detour will be provided for pedestrians at the nearest crosswalk; if construction encroaches on a bike lane, warning signs will be posted that indicate bicycles and vehicles are sharing the roadway;
- utilize flag persons wearing OSHA–approved vests and using a "Stop/Slow" paddle to warn motorists of construction activity;
- maintain access to Metro and LADOT transit services and ensure that public transit vehicles are detoured;
- post standard construction warning signs in advance of the construction area and at any intersection that provides access to the construction area;
- post construction warning signs in accordance with local standards or those set forth in the *Manual on Uniform Traffic Control Devices* (Federal Highway Administration 2001) in advance of the construction area and at any intersection that provides access to the construction area;
- during lane closures, have contractor and/or LAHD notify LAFD and LAPD, as well as the Los Angeles County Sheriff's and Fire Departments, of construction locations to ensure that alternative evacuation and emergency routes are designed to maintain response times during construction periods, if necessary;
- provide written notification to contractors regarding appropriate routes to and from construction sites, and weight and speed limits for local roads used to access construction sites; submit a copy of all such written notifications to the City of Los Angeles Planning Department; and
- repair or restore the road right-of-way to its original condition or better upon completion of the work.

Residual Impacts

With implementation of the mitigation measure described above, impacts would be less than significant.

Impact TC-2a: Proposed project operations would increase traffic volumes and degrade LOS at intersections within the proposed project vicinity.

The proposed Project would increase demand for expanded commercial, recreational, and other proposed waterfront facilities and would therefore increase the number of people traveling to and from the Wilmington Waterfront area. The resulting increase in traffic volumes on the surrounding roadways would in turn degrade intersection operations.

It is anticipated that approximately six times a year a special event could be held at the proposed Project with approximately 1,500 people in attendance. These events would occur at non-peak hours generally on certain holidays and would resemble events such as Lobster Fest in Ports O'Call in San Pedro. Traffic generated from these rare events would be temporary and at non-peak traffic hours. Furthermore, all special events planned at the proposed project site would have to comply with existing City of Los Angeles and LAHD Special Event regulations and obtain a special event permit which would require a traffic control plan, the identification of detour routes for non-attendees, provide emergency access routes to avoid emergency response disruption, and provide temporary parking locations with possible shuttle service to ensure compliance with local and state fire and emergency access and evacuation regulations.

Impact Determination

Tables 3.11-12 and 3.11-13 summarize the projected LOS at intersections within the vicinity for Without Project and With Project conditions, for the years 2015 and 2020, respectively. To determine whether significant impacts would occur at the study intersections, the proposed project operating conditions were compared to the baseline, or Without Project, operating conditions.

Table 3.11-12 shows that projected increases in intersection V/Cs resulting from proposed project–generated traffic are not expected to exceed the adopted thresholds. Thus, impacts through 2015 are less than significant.

Table 3.11-13 shows that projected increases in intersection V/Cs resulting from proposed project–generated traffic are expected to exceed the adopted threshold at one intersection. At the intersection of Avalon Boulevard and Anaheim Street, the projected V/C increase due to the proposed Project is 0.024 in the PM peak hour. This exceeds the threshold of 0.01 that is defined when an intersection is operating at LOS E or worse. This impact is identified as significant.

On rare occasions such as certain holidays, special events may be planned. All special events planned at the proposed project site would have to obtain a special event permit from the City of Los Angeles and LAHD, which would include a traffic control plan and off-site parking plan. These special events would be short in duration and would be limited to non-peak traffic hours (i.e. the special event traffic would not contribute to traffic at peak times). Any impacts would be temporary and

at times when the circulation system is operating at high LOS. The traffic control plan would ensure emergency access is maintained and detour routes are well planned minimizing impacts on the local community. Traffic impacts related to special events would be less than significant. Section 3.13, "Public Services," describes the existing regulations and permits required for special events.

Mitigation Measure

The following mitigation measure would be implemented to address the intersection impact identified in 2020.

MM TC-2: Reconfigure the southbound approach of Avalon Boulevard at the intersection of Avalon Boulevard and Anaheim Street. Prior to the initiation of Phase II construction, LAHD will add a right-turn lane in the southbound direction. Currently the southbound approach consists of one through/left-turn lane and one through/right-turn lane. The mitigation will result in one right-turn lane, one through lane, and one through/left-turn lane. This proposed mitigation will require the removal of two metered parking spaces along Avalon Boulevard to allow for the right-turn lane and the restriping of the northbound approach to properly align with the reconfigured southbound approach. A conceptual drawing illustrating the feasibility of this mitigation is provided in Figure 12 of the traffic report prepared for this project (Appendix I).

Table 3.11-14 shows the projected LOS at this location with the proposed mitigation in place. The table shows that this improvement would fully mitigate the identified impact at Avalon Boulevard and Anaheim Street, reducing the projected LOS to less than Without Project levels. With mitigation in place, the intersection is projected to operate at LOS B (V/C = 0.656) during the AM peak hour, and at LOS D (V/C = 0.880) during the PM peak hour.

Residual Impacts

The reconfiguration of the southbound approach of Avalon Boulevard and Anaheim Street under MM TC-2 would remove a maximum of two metered parking spaces. As part of the traffic study, parking utilization counts were collected one block in each direction from this intersection on a weekday and Saturday during the period of 11am and 1pm. Additionally, a survey of the existing land-use types around the intersection that generated parking utilization within the immediate vicinity of the intersection was performed. The results of the count and survey indicated there is a surplus of metered parking spaces and the removal of a maximum of two metered parking spaces would not significantly impact the parking supply in this location. Therefore, the residual impacts of MM TC-2 would be less than significant. After implementation of MM TC-2, the significant impact at the intersection of Avalon Boulevard and Anaheim Street would be reduced to less than significant.

Table 3.11-12. Intersection LOS—Future (2015) Conditions

ID	*Intersection*	*Peak Hour*	*Traffic Control*[1]	*2015 Without Project*		*2015 With Project*		*Project Increase in V/C*	*Significant Project Impact*
				V/C	*LOS*	*V/C*	*LOS*		
1	Figueroa Street/C Street	AM	Signal	0.403	A	0.409	A	0.006	No
		PM		0.342	A	0.358	A	0.016	No
2	Figueroa Street/Harry Bridges Boulevard	AM	Intersection will not exist in the future.[2]						
		PM							
3	N Fries Avenue/Anaheim Street	AM	Signal	0.492	A	0.510	A	0.018	No
		PM		0.494	A	0.534	A	0.040	No
4	Fries Avenue/C Street	AM	All-Way	0.268	A	0.282	A	0.014	No
		PM	Stop	0.184	A	0.223	A	0.039	No
5	Fries Avenue/Harry Bridges Boulevard	AM	Signal	0.355	A	0.406	A	0.051	No
		PM		0.469	A	0.524	A	0.055	No
6	Marine Avenue/C Street	AM	Two-Way	0.205	A	0.216	A	0.011	No
		PM	Stop	0.151	A	0.168	A	0.017	No
7	Marine Avenue/Harry Bridges Boulevard	AM	Two-Way	0.486	A	0.500	A	0.014	No
		PM	Stop	0.677	B	0.705	C	0.028	No
8	Avalon Boulevard/Anaheim Street	AM	Signal	0.664	B	0.671	B	0.007	No
		PM		0.878	D	0.894	D	0.016	No
9	Avalon Boulevard/C Street	AM	All-Way	0.198	A	0.208	A	0.010	No
		PM	Stop	0.301	A	0.314	A	0.013	No
10	Avalon Boulevard/Harry Bridges Boulevard	AM	Signal	0.393	A	0.395	A	0.002	No
		PM		0.649	B	0.643	B	-0.006	No

ID	*Intersection*	*Peak Hour*	*Traffic Control*[1]	*2015 Without Project*		*2015 With Project*		*Project Increase in V/C*	*Significant Project Impact*
				V/C	*LOS*	*V/C*	*LOS*		
11	Broad Avenue/C Street	AM	All-Way	0.238	A	0.246	A	0.008	No
		PM	Stop	0.327	A	0.343	A	0.016	No
12	Broad Avenue/Harry Bridges Boulevard	AM	Signal	0.339	A	0.374	A	0.035	No
		PM		0.482	A	0.545	A	0.063	No
13	Alameda Street/Anaheim Street	AM	Signal	0.515	A	0.518	A	0.003	No
		PM		0.631	B	0.643	B	0.012	No
14	John S Gibson Boulevard/Channel Street	AM	Signal	0.612	B	0.616	B	0.004	No
		PM		0.689	B	0.696	B	0.007	No

[1]All signalized intersections assumed to be operating under ATSAC and ATSC systems in the future.
[2]Intersection to be reconfigured and combined as per the proposed conceptual plan for the Harry Bridges Boulevard realignment.

1

2

Table 3.11-13. Intersection LOS—Future (2020) Conditions

ID	*Intersection*	*Peak Hour*	*Traffic Control*[1]	*2020 Without Project*		*2020 With Project*		*Project Increase in V/C*	*Significant Project Impact*
				V/C	*LOS*	*V/C*	*LOS*		
1	Figueroa Street/C Street	AM	Signal	0.415	A	0.434	A	0.019	No
		PM		0.354	A	0.382	A	0.028	No
2	Figueroa Street/Harry Bridges Boulevard	AM	Intersection will not exist in the future.[2]						
		PM							
3	N Fries Avenue/Anaheim Street	AM	Signal	0.511	A	0.535	A	0.024	No
		PM		0.511	A	0.556	A	0.045	No
4	Fries Avenue/C Street	AM	All-Way	0.274	A	0.304	A	0.030	No
		PM	Stop	0.188	A	0.247	A	0.059	No
5	Fries Avenue/Harry Bridges Boulevard	AM	Signal	0.372	A	0.483	A	0.111	No
		PM		0.481	A	0.582	A	0.101	No
6	Marine Avenue/C Street	AM	Two-Way	0.210	A	0.233	A	0.023	No
		PM	Stop	0.155	A	0.183	A	0/028	No
7	Marine Avenue/Harry Bridges Boulevard	AM	Two-Way	0.497	A	0.521	A	0.024	No
		PM	Stop	0.691	B	0.728	C	0.037	No
8	Avalon Boulevard/Anaheim Street	AM	Signal	0.686	B	0.701	C	0.015	No
		PM		**0.905**	**E**	**0.929**	**E**	**0.024**	**Yes**
9	Avalon Boulevard/C Street	AM	All-Way	0.203	A	0.226	A	0.023	No
		PM	Stop	0.308	A	0.332	A	0.024	No
10	Avalon Boulevard/Harry Bridges Boulevard	AM	Signal	0.407	A	0.421	A	0.014	No
		PM		0.664	B	0.663	B	-0.001	No

ID	*Intersection*	*Peak Hour*	*Traffic Control*[1]	*2020 Without Project*		*2020 With Project*		*Project Increase in V/C*	*Significant Project Impact*
				V/C	*LOS*	*V/C*	*LOS*		
11	Broad Avenue/C Street	AM	All-Way	0.244	A	0.263	A	0.019	No
		PM	Stop	0.334	A	0.361	A	0.027	No
12	Broad Avenue/Harry Bridges Boulevard	AM	Signal	0.348	A	0.409	A	0.061	No
		PM		0.495	A	0.589	A	0.094	No
13	Alameda Street/Anaheim Street	AM	Signal	0.532	A	0.541	A	0.009	No
		PM		0.650	B	0.673	B	0.023	No
14	John S Gibson Boulevard/Channel Street	AM	Signal	0.631	B	0.638	B	0.007	No
		PM		0.711	C	0.720	C	0.009	No

[1]All signalized intersections assumed to be operating under ATSAC and ATSC systems in the future.
[2]Intersection to be reconfigured and combined as per the proposed conceptual plan for the Harry Bridges Boulevard realignment.

Table 3.11-14. Intersection LOS—Future (2020) Conditions with Mitigation

ID	*Intersection*	*Peak Hour*	*Traffic Control*	*Unmitigated*				*Mitigated*			
				2020 Without Project		*2020 With Project*		*2020 With Project*		*Project Increase in V/C*	*Significant Project Impact*
				V/C	*LOS*	*V/C*	*LOS*	*V/C*	*LOS*		
8	Avalon Boulevard/Anaheim Street	AM	Signal	0.686	B	0.701	C	0.656	B	-0.045	No
		PM		**0.905**	**E**	**0.929**	**E**	0.880	D	-0.049	No

Impact TC-2b: Proposed project operations would not significantly increase traffic volumes or degrade operations on neighborhood streets within the proposed project vicinity beyond adopted thresholds.

The proposed Project would increase the number of people traveling to and from the Wilmington Waterfront area. The resulting increase in traffic volumes would increase traffic volumes and slightly degrade LOS on the surrounding neighborhood roadways. Table 3.11-15 summarizes the LOS expected to result from the proposed Project along the six analysis roadways in the future analysis years 2015 and 2020.

Impact Determination

To determine whether significant impacts would occur on neighborhood streets, the proposed project operating conditions were compared to the Without Project operating conditions. Table 3.11-15 shows that under both 2015 and 2020 conditions, projected increases on neighborhood streets due to the proposed Project would not exceed the identified significance thresholds. Thus, impacts from the proposed Project on neighborhood streets are considered less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Table 3.11-15. Neighborhood Street LOS—Future (2015 and 2020) Conditions

	Street Segment	Existing ADT (2008)	Projections of Daily Traffic (ADT)				Impact Assessment		
			Ambient Growth (%)	Total ADT - Without Project	Project Only Daily Traffic	Total ADT - Proposed Project	Project % of Total ADT	% Threshold	Significant Project Impact
2015 Conditions									
1	Mar Vista Avenue, north of C Street	322	4.6	215	13	228	5.7	16.0	No
2	Hawaiian Avenue, north of C Street	512	4.6	323	13	336	3.9	16.0	No
3	Gulf Avenue, north of C Street	299	4.6	255	13	268	4.9	16.0	No
4	McDonald Avenue, north of C Street	227	4.6	180	13	193	6.7	16.0	No
5	Bay View Avenue, north of C Street	487	4.6	392	13	405	3.2	16.0	No
6	C Street, east of Gulf Avenue	1,103	4.6	1,365	50	1,415	3.5	12.0	No
2020 Conditions									
1	Mar Vista Avenue, north of C Street	322	7.8	225	21	246	8.5	16.0	No
2	Hawaiian Avenue, north of C Street	512	7.8	340	21	361	5.8	16.0	No
3	Gulf Avenue, north of C Street	299	7.8	264	21	285	7.4	16.0	No
4	McDonald Avenue, north of C Street	227	7.8	188	21	209	10.0	16.0	No
5	Bay View Avenue, north of C Street	487	7.8	408	12	420	2.9	16.0	No
6	C Street, east of Gulf Avenue	1,103	7.8	1,401	81	1,482	5.5	12.0	No

Impact TC-2c: Proposed project operations would not significantly increase traffic volumes or degrade operations on CMP facilities within the proposed project vicinity beyond adopted thresholds.

The proposed Project would increase the number of people traveling to and from the Wilmington Waterfront area. The resulting demand would increase traffic volumes and degrade operations on the regional CMP arterials or freeways (see Section 3.11.2.1.4).

The following trips were estimated to occur at the two CMP arterial monitoring stations as a result of the proposed Project:

- Figueroa Street and Pacific Coast Highway—The proposed Project is expected to add approximately 15 or fewer weekday peak hour trips in 2015 and 2020 at this intersection (see page 55 of the Traffic Study, included in this EIR as Appendix I).
- Alameda Street and Pacific Coast Highway—The proposed Project is expected to add approximately 30 or fewer weekday peak hour trips in 2015 and 2020 at this intersection (see page 55 of the Traffic Study, included in this EIR as Appendix I).

Impact Determination

Trip thresholds for arterial and freeway monitoring stations are defined in the CMP (Metro 2004) and described in Section 3.11.3.1.3 above. Since the proposed Project would add fewer than the arterial threshold of 50 vehicle trips through these arterial monitoring stations, the CMP thresholds are not exceeded and no further analysis of CMP arterial intersections is required. Thus, CMP arterial intersection impacts are considered to be less than significant.

The CMP mainline freeway monitoring station nearest to the proposed project site is I-110, south of C Street. According to the Traffic Study, the proposed Project would add fewer than the CMP freeway threshold of 150 trips through this station (see page 55 of the Traffic Study, included in this EIR as Appendix I). Since incremental proposed project–related traffic is projected to be less than the minimum criteria of 150 VPH, no further CMP freeway analysis is required, and CMP freeway impacts are considered to be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact TC-3: Proposed project operations would not cause increases in demand for transit service beyond the supply of such services.

The proposed Project would increase transit demand due to an increase in the number of people traveling to and from the Wilmington Waterfront area, as described below.

Potential increases in transit person trips generated by the proposed Project were estimated according to a methodology provided in the CMP (Metro 2004) for estimating the number of transit trips expected to result from a project based on the projected number of vehicle trips.

The CMP methodology assumes an average vehicle ridership (AVR) of 1.4 persons per car, in order to estimate the number of person trips to and from a project. The nearest designated CMP transit corridor is the Harbor Freeway Corridor. Since the proposed project site is outside a ¼-mile boundary from this corridor, the CMP guidelines estimate that approximately 3.5% of the proposed project-generated person trips may use public transit to travel to and from the site.

As shown in Table 3.11-11, the proposed Project is projected to generate a net increase of approximately 131 vehicle trips during the AM peak hour and 296 vehicle trips during the PM peak hour in the interim year 2015; and it is projected to generate a net increase of approximately 339 trips during the AM peak hour and 502 trips during the PM peak hour in full buildout in year 2020. Applying the AVR of 1.4 to these vehicle estimates results in the following person trip estimates:

- 184 and 415 person trips are projected for the AM and PM peak hours, respectively, during the interim year 2015. Application of the 3.5% transit mode split results in an estimate of proposed project–generated transit trips of approximately 7 persons during the AM peak hour and 15 persons during the PM peak hour.
- 475 and 703 person trips are projected for the AM and PM peak hours, respectively, during the buildout year 2020. Application of the 3.5% transit mode split results in an estimate of proposed project–generated transit trips of approximately 17 persons during the AM peak hour and 25 persons during the PM peak hour.

As discussed in Section 3.11.2.1.5, four bus lines provide service in the vicinity of the proposed project site. Based on the existing operating schedules for these transit lines, approximately 11 buses serve the area during both the AM and PM peak hours. This results in the following conclusions:

- The proposed Project would add on average approximately 1 person trip per bus during the AM peak hour and 2 person trips per bus during the PM peak hour in the interim year 2015.

- The proposed Project would add on average approximately 2 person trips per bus during the AM peak hour and 3 person trips per bus during the PM peak hour in the buildout year 2020.

Finally, it is anticipated that approximately six times a year a special event could be held at the proposed Project with approximately 1,500 people in attendance. These events would occur at non-peak hours generally on certain holidays and would resemble events such as Lobster Fest in Ports O'Call in San Pedro. Transit use for these rare events would be temporary and at non-peak traffic hours. Furthermore, all special events planned at the proposed project site would have to comply with existing City of Los Angeles and LAHD Special Event regulations and obtain a special event permit that would provide temporary parking locations with possible shuttle service. Because events such as that those described herein would be rare and temporary, stress on the existing transit system would be negligible.

Impact Determination

Three people per bus amount to slightly less than 8% of the capacity of a typical 40-passenger bus. It is expected that the transit system could accommodate this small increase in demand; thus, proposed project-related impacts on the regional transit system would be considered less than significant in both the interim year 2015 and the buildout year 2020. Impacts from rare and temporary special events would be less than significant.

Therefore, operational impacts on transit ridership would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact TC-4: Proposed project operations would not result in a violation of the City's adopted parking policies and parking demand would not exceed supply.

The proposed Project would increase parking demand in the Wilmington Waterfront area. Table 3.11-16 presents the parking requirements for the proposed Project at full buildout (year 2020). Parking requirements for the proposed Project were calculated using both the City of Los Angeles Zoning Code and the Harbor Enterprise Zone parking code. As can be seen in the table, a total of 440 parking spaces would be required per the Harbor Enterprise Zone parking requirement rates, and a total of 652 off-street parking spaces would be required per Section 12.21 of the Los Angeles Zoning Code. Special events would have to obtain a special event permit and be required to show adequate parking. Additionally, such events would be rare, temporary, and occur at off-peak hours and on weekends or holidays.

Impact Determination

The 506 proposed parking spaces would meet the off-street parking requirements per the Harbor Enterprise Zone code. If the Harbor Enterprise Zone were not renewed, the proposed Project's parking supply would be subject to the provisions of the Los Angeles Zoning Code and an additional 146 off-street parking spaces (beyond the 506 currently proposed) would be required. However, the Harbor Enterprise Zone code is the current adopted applicable code. Under the requirements of the Harbor Enterprise Zone, this impact is less than significant.

Table 3.11-16. Parking Assessment

		City of Los Angeles		*Harbor Enterprise Zone*		
Land Use	*Size*	*Required Rate*	*Parking Spaces Required*	*Required Rate*	*Parking Spaces Required*	*Supply Proposed by Project*
Retail	58,000 square feet	4 spaces/1,000 square feet	232	2 spaces/1,000 square feet	116	506
Restaurant	12,000 square feet	1 space/12,000 square feet	120	2 spaces/1,000 square feet	24	
Light Industrial	150,000 square feet	1space/ 500 square feet	300	2 spaces/1,000 square feet	300	
Park	15 acres	--	--	--	--	
TOTAL			652		440	

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact TC-5: The proposed Project does not include design elements that would result in conditions that would increase the risk of accidents, either for vehicular or nonmotorized traffic.

The proposed Project does not include elements that result in poor sight distance, sharp curves, or other factors that would increase safety hazards for vehicular or nonmotorized travelers. Elements have been designed to comply with site access and roadway engineering requirements that avoid poor sight distance, sharp curves, or substantial differences in speed between project-related and general-purpose traffic.

Impact Determination

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact VT-1a: Construction of the proposed Project would not interfere with operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, East Basin area, or precautionary areas.

Dredging, waterside demolition, and waterside construction associated with various elements under the proposed Project would generate trips by barges and other boats used to transport and stage pile-driving and other construction equipment; to transport construction materials to the construction sites; and to haul dredged and demolished materials away from the sites. This would result in temporary increases in marine traffic. The exact number of vessels generated by proposed project construction will not be known until detailed construction timing and phasing plans are developed. However, Table 3.11-17 summarizes construction activities that would be expected to generate some level of marine traffic (see Chapter 2, "Project Description," for more detailed descriptions of construction activities).

Table 3.11-17. Marine-Side Construction Associated with the Proposed Project

Proposed Project Element	*Construction Activities*	*Duration of Activities*
Waterfront Promenade	Marine-side construction of the promenade: ■ construction of 43,220 square feet of new viewing piers (750 concrete pilings, 24 inches in diameter); ■ replacement of approximately 17,880 square feet of existing piers (478 concrete pilings, 24 inches in diameter); and ■ construction of two floating docks measuring 5,870 square feet for transient boats.	2009–2015

Impact Determination

In-water construction activities would require use of marine-based construction equipment. Thus, construction activities would create temporary increases in marine

vessels, which in turn would increase the potential for conflict between vessels. This could create in-water hazards related to construction vessel activity and increase the potential for accidents between vessel traffic within the harbor, Main Channel, West Basin, East Basin, and precautionary areas. However, these activities are routinely conducted in the harbor, and contractors performing in-water construction activities are subject to all applicable rules and regulations stipulated in all LAHD contracts (see Sections 3.11.3.2 and 3.11.2.2.1 for descriptions of standard safety precautions). Because the standard safety precautions would be utilized in piloting these vessels, the short-term presence of barges or boats would not reduce the existing level of safety for vessel navigation in the harbor. Therefore, construction impacts on vessel traffic would be less than significant.

Mitigation Measures

No mitigation is required beyond adherence to navigation regulations and implementation of the safety measures stipulated in all LAHD contracts.

Residual Impacts

Impacts would be less than significant.

Impact VT-1b: Operation of the proposed Project would not interfere with the operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, or precautionary areas.

The proposed Project would provide new facilities to accommodate vessel traffic at the waterfront promenade. Construction of two floating docks for small vessels at the proposed new waterfront promenade would generate recreational vessel demand in the proposed project vicinity.

Proposed project operations would result in an estimated increase in vessel calls of up to 36 vessels per day. Small boat traffic in and out of the Wilmington Waterfront Development Program docks along the northern edge of Slip 5 would be from two sources: small pleasure craft using the public docks, and the possible future development of a water taxi linking the area with the San Pedro Waterfront. For the first source, 4 dock faces are available, with lengths of 166, 90, 90, and 30 feet. Assuming an average berthing length of 40 feet (based on a 30-foot boat and leaving sufficient mooring and maneuvering room), there are 9 berth spaces available. Assuming 12 hours of operation, and 3 hours of occupancy per visit (including arrival, departure, and tie up, as well as some period of vacancy), this works out to an average of 36 small pleasure craft visits per day (Brown pers. comm.).

Impact Determination

Adherence to HSP speed-limit regulations, traffic separation schemes, limited visibility guidelines, VTS monitoring requirements, and Port tariffs requiring vessels of foreign registry and U.S. vessels that do not have a federally licensed pilot on

board to use a Port pilot for transit in and out of the harbor and adjacent waterways would continue to be standard practice. Therefore, the expected increase in vessel traffic and changes in vessel traffic patterns would not significantly decrease the margin of safety for marine vessels in the harbor, Main Channel, or precautionary areas.

Operational impacts on vessel traffic would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.11.4.3.2 Summary of Impact Determinations

Table 3.11-18 summarizes the impact determinations of the proposed Project related to transportation and circulation, as described in the detailed discussion in Section 3.11.4.3.1. Identified potential impacts may be based on federal, state, and City of Los Angeles significance criteria; LAHD criteria; and the scientific judgment of the report preparers based on substantial evidence gathered from relevant studies.

For each type of potential impact, the table describes the impact, notes the impact determinations, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). All impacts, whether significant or not, are included in this table.

Table 3.11-18. Summary Matrix of Potential Impacts and Mitigation Measures for Transportation and Circulation (Ground and Marine) Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.11 Transportation and Circulation—Ground and Marine			
TC-1: Construction of the proposed Project would result in a short-term, temporary increase in construction-related truck and auto traffic, decreases in roadway capacity, and disruption of vehicular and nonmotorized travel.	Significant	**MM TC-1: Develop and implement a Traffic Control Plan throughout proposed project construction.** In accordance with the City's policy on street closures and traffic diversion for arterial and collector roadways, the construction contractor will prepare a traffic control plan (to be approved by City and County engineers) before construction. The traffic control plan will include: ■ a street layout showing the location	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		of construction activity and surrounding streets to be used as detour routes, including special signage; ■ a tentative start date and construction duration period for each phase of construction; ■ the name, address, and emergency contact number for those responsible for maintaining the traffic control devices during the course of construction; and ■ written approval to implement traffic control from other agencies, as needed. Additionally, the traffic control plan will include the following stipulations: ■ provide access for emergency vehicles at all times; ■ avoid creating additional delay at intersections currently operating at congested conditions, either by choosing routes that avoid these locations, or constructing during nonpeak times of day; ■ maintain access for driveways and private roads, except for brief periods of construction, in which case property owners will be notified; ■ provide adequate off-street parking areas at designated staging areas for construction-related vehicles; ■ maintain pedestrian and bicycle access and circulation during proposed project construction where safe to do so; if construction encroaches on a sidewalk, a safe detour will be provided for pedestrians at the nearest crosswalk; if construction encroaches on a bike lane, warning signs will be posted that indicate bicycles and vehicles are sharing the roadway; ■ utilize flag persons wearing	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		OSHA–approved vests and using a "Stop/Slow" paddle to warn motorists of construction activity; ■ maintain access to Metro and LADOT transit services and ensure that public transit vehicles are detoured; ■ post standard construction warning signs in advance of the construction area and at any intersection that provides access to the construction area; ■ post construction warning signs in accordance with local standards or those set forth in the *Manual on Uniform Traffic Control Devices* (Federal Highway Administration 2001) in advance of the construction area and at any intersection that provides access to the construction area; ■ during lane closures, have contractor and/or LAHD notify LAFD and LAPD, as well as the Los Angeles County Sheriff's and Fire Departments, of construction locations to ensure that alternative evacuation and emergency routes are designed to maintain response times during construction periods, if necessary; ■ provide written notification to contractors regarding appropriate routes to and from construction sites, and weight and speed limits for local roads used to access construction sites; submit a copy of all such written notifications to the City of Los Angeles Planning Department; and ■ repair or restore the road right-of-way to its original condition or better upon completion of the work.	
TC-2a: Proposed project operations would increase traffic volumes and degrade LOS at	Significant	**MM TC-2: Reconfigure the southbound approach of Avalon Boulevard at the intersection of Avalon Boulevard and Anaheim**	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
intersections within the proposed project vicinity.		**Street.** Prior to the initiation of Phase II construction, LAHD will add a right-turn lane in the southbound direction. Currently the southbound approach consists of one through/left-turn lane and one through/right-turn lane. The mitigation will result in one right-turn lane, one through lane, and one through/left-turn lane. This proposed mitigation will require the removal of two metered parking spaces along Avalon Boulevard to allow for the right-turn lane and the restriping of the northbound approach to properly align with the reconfigured southbound approach. A conceptual drawing illustrating the feasibility of this mitigation is provided in Figure 12 of the traffic report prepared for this project (Appendix I). Table 3.11-14 shows the projected LOS at this location with the proposed mitigation in place. The table shows that this improvement would fully mitigate the identified impact at Avalon Boulevard and Anaheim Street, reducing the projected LOS to less than Without Project levels. With mitigation in place, the intersection is projected to operate at LOS B (V/C = 0.656) during the AM peak hour, and at LOS D (V/C = 0.880) during the PM peak hour.	
TC-2b: Proposed project operations would not significantly increase traffic volumes or degrade operations on neighborhood streets within the proposed project vicinity beyond adopted thresholds.	Less than significant	No mitigation is required	Less than significant
TC-2c: Proposed project operations would not significantly increase traffic volumes or degrade operations on CMP facilities within the proposed project vicinity beyond adopted thresholds.	Less than significant	No mitigation is required	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
TC-3: Proposed Project operations would not cause increases in demand for transit service beyond the supply of such services.	Less than significant	No mitigation is required	Less than significant
TC-4: Proposed project operations would not result in a violation of the City's adopted parking policies and parking demand would not exceed supply.	Less than significant	No mitigation is required	Less than significant
TC-5: The proposed Project does not include design elements that would result in conditions that would increase the risk of accidents, either for vehicular or nonmotorized traffic.	Less than significant	No mitigation is required	Less than significant
VT-1a: Construction of the proposed Project would not interfere with operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, East Basin area, or precautionary areas.	Less than significant	No mitigation is required	Less than significant
Impact VT-1b: Operation of the proposed Project would not interfere with the operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, or precautionary areas.	Less than significant	No mitigation is required	Less than significant

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3.11.4.4 Mitigation Monitoring

Table 3.11-19. Mitigation Monitoring for Transportation and Circulation

Impact TC-1: Construction of the proposed Project would result in a short-term, temporary increase in construction-related truck and auto traffic, decreases in roadway capacity, and disruption of vehicular and nonmotorized travel.	
Mitigation Measure	**MM TC-1: Develop and implement a Traffic Control Plan throughout proposed project construction**.
Timing	Prior to construction activities, to be implemented during construction
Methodology	The construction contractor(s) will prepare a construction traffic control plan to be approved by LAHD Engineering and LADOT, detailing methods to minimize traffic congestion and access restrictions during construction.
Responsible Parties	LAHD Engineering Division, construction contractor(s)
Residual Impacts	Less than significant
Impact TC-2a: Proposed Project operations would increase traffic volumes and degrade LOS at intersections within the proposed project vicinity.	
Mitigation Measure	**MM TC-2: Reconfigure the southbound approach of Avalon Boulevard at the intersection of Avalon Boulevard and Anaheim Street**.
Timing	Before buildout of proposed project, prior to 2020
Methodology	The LAHD will design the Avalon Boulevard/Anaheim Street intersection to add a right-turn lane in the southbound direction. This measure will be implemented prior to buildout of the proposed project, and will be a required condition of approval of the proposed project.
Responsible Parties	LAHD Engineering Division
Residual Impacts	Less than significant

3.11.5 Significant Unavoidable Impacts

No significant unavoidable transportation and circulation impacts were identified for the proposed Project.