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 presents possible mitigation measures that would reduce these impacts.

Proposed project elements with potential surface transportation impacts include new research, educational, office, and commercial development that would generate new trips to the San Pedro 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 prepared separately for the proposed Project by Fehr & Peers; this report is provided as Appendix C of this Draft EIR.

Proposed project activities with potential marine impacts would include the use of existing berthing space for research vessels, demolition of existing floating docks at Berth 260, construction of new floating docks in the East Channel, wharf improvements and maintenance at Berths 70–71, wharf retrofit/repairs for Berths 57–60, and the provision of berthing space for two or three NOAA research vessels at Berths 59–60.

As discussed in Section 3.11.4, mitigation is required to reduce construction-related traffic impacts to less than significant. All other impacts related to transportation and circulation would be less than significant.

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, marine transit and boats, and non-motorized 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 I-110 northwest of the proposed project site, and by the Vincent Thomas Bridge and Seaside Avenue (SR-47), located northeast of the proposed project site. Year 2009 data from Caltrans shows that the average daily traffic (ADT) volume on the Harbor Freeway to the north of Gaffey Street was approximately 66,000 vehicles per day (vpd) and 50,000 vpd on the Vincent Thomas Bridge (Caltrans 2009). Access to the site from SR-47 is provided via the ramps at Harbor Boulevard.

Local access to the proposed project site is provided by a well-defined grid of arterial and collector roads. The roadway designations within the proposed project study area include the following: Major Highway – Class I, Major Highway – Class II, Secondary Highway, Collector Street, and Local Street. The primary roadway facilities in the proposed project study area are as follows:

- **Gaffey Street** is classified as a Major Class II Highway that aligns north–south in the study area. This arterial provides a connection for local and regional travel from San Pedro to other parts of Los Angeles and the South Bay region. Gaffey Street is a major commercial corridor within San Pedro.
- **Harbor Boulevard/Miner Street** is classified as a Major Class II Highway and provides north–south access along the eastern edge of the San Pedro community. It continues as Front Street north of the site and as Miner Street south of Crescent Avenue.
- **Via Cabrillo Marina** is classified as a Local Street and provides north–south access along the eastern edge of San Pedro from the Cabrillo Marina. The four-lane divided roadway terminates at 22nd Street.
- **Signal Street** is a Local Street providing north–south access in San Pedro. It is a two-lane undivided roadway, which continues as Sampson Way north of its intersection with 22nd Street.
- **Summerland Avenue** is classified as a Secondary Highway and provides east–west access in San Pedro. It is a two-lane undivided roadway between its terminus to the west at Western Avenue and its terminus to the east with Gaffey Street/Gaffey Place.
- **O'Farrell Street** is classified as a Collector Street and provides east–west access in San Pedro. It is a predominantly residential corridor. The two-lane roadway terminates in the east at Harbor Boulevard and in the west at Gaffey Street.
- **1st Street** is classified as a Secondary Highway that provides east–west access in San Pedro. It is a predominantly residential corridor in San Pedro. The two-lane roadway terminates in the east at Harbor Boulevard and in the west at Miraleste Drive.
- **3rd Street** is classified as a Collector Street and provides east–west access in San Pedro. It is a predominantly residential corridor with one travel lane in each

direction. 3rd Street terminates to the east at Harbor Boulevard and to the west at South Harbor View Avenue.

- **5th Street** is classified as a Secondary Highway and provides east–west access in San Pedro. 5th Street has a mix of commercial and residential land uses. The two-lane undivided roadway terminates to the west at South Bandini Street and to the east at Harbor Boulevard. 5th Street provides access directly to the Port of Los Angeles and the Maritime Museum parking lot.
- **6th Street** is classified as a Local Street and provides east–west access in San Pedro. The two-lane undivided roadway extends from Weymouth Avenue eastbound to Sampson Way. Development along 6th Street is predominantly commercial east of Gaffey Street and residential west of Gaffey Street.
- **7th Street** is classified as a Secondary Highway between Weymouth Avenue and Harbor Boulevard and provides east–west access through the central portion of the community of San Pedro. This roadway starts just east of Western Avenue and terminates at Harbor Boulevard.
- **9th Street** is classified as a Major Class II Highway between Western Avenue and Pacific Avenue, providing east–west access through the central portion of the community of San Pedro. Between Pacific Avenue and Beacon Street, it is classified as a Local Street. This roadway starts west of Western Avenue and terminates at Beacon Street, one block west of Harbor Boulevard.
- **22nd Street** is classified as a Secondary Highway east of Gaffey Street and as a Local Street west of Gaffey Street. 22nd Street has a mix of residential and commercial land uses, and is a two-lane undivided roadway. 22nd Street extends from Elanita Drive eastbound to Signal Place.
- **25th Street** is classified as a Major Class II Highway providing east–west access through the southern portion of the community of San Pedro. This roadway starts west of Western Avenue and terminates at Pacific Avenue.

3.11.2.1.2 Roadway Levels of Service

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

Analysis Locations

Figure 3.11-1 shows the surface street system within the proposed project study area. Analysis locations were identified in consultation with the 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. Gaffey Street/Summerland Avenue
2. Gaffey Street/I-110 Ramps
3. Gaffey Street/1st Street

4. Gaffey Street/5th Street
5. Gaffey Street/7th Street
6. Gaffey Street/9th Street
7. Gaffey Street/22nd Street
8. Gaffey Street/25th Street
9. Via Cabrillo Marina/22nd Street
10. Harbor Boulevard/SR-47 Westbound Ramps (Unsignalized)
11. Harbor Boulevard/Swinford Street/SR-47 Eastbound Ramps
12. Harbor Boulevard/O'Farrell Street
13. Harbor Boulevard/1st Street
14. Harbor Boulevard/3rd Street (Unsignalized)
15. Harbor Boulevard/5th Street
16. Harbor Boulevard/6th Street
17. Harbor Boulevard/7th Street
18. Miner Street/22nd Street
19. Signal Street/22nd Street (Unsignalized)

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

New traffic counts were conducted for the weekday morning peak period (between 7 a.m. and 10 a.m.), the evening peak period (between 3 p.m. and 6 p.m.), and the Saturday midday peak period (between 11 a.m. and 2 p.m.) in April 2011 on days when the cruise ships were present at the World Cruise Center.

Level of Service Methodology

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 LOS in urban areas.

According to Traffic Study Policies and Procedures (LADOT 2012), this study is required to use the Critical Movement Analysis (CMA) method of intersection capacity calculation (Transportation Research Circular No. 212, Transportation Research Board 1980) to analyze the LOS at signalized intersections. The CMA methodology determines the V/C ratio of an intersection based on the number of approach lanes, the traffic signal phasing, and the traffic volumes. The CMA worksheet developed by LADOT was used to implement the CMA methodology in this study. The V/C ratio was then used to find the corresponding LOS based on the definitions in Table 3.11-1.

Of the 19 analyzed intersections, 16 are currently controlled by traffic signals. All but 2 are currently controlled by the City's Automated Traffic Surveillance and Control (ATSAC) and Adaptive Traffic Control System (ATCS) system. The intersections of I-110 Eastbound Ramps/Swinford Street and Harbor Boulevard/Front Street and Miner Street and 22nd Street currently do not have ATSAC and ATCS installed. In accordance with LADOT procedures, a capacity increase of 10% was applied to reflect the benefits of ATSAC (7% credit) and ATCS (3% credit) in locations where these signals are installed.

Three study intersections, Harbor Boulevard/SR-47 Westbound On-Ramp, Harbor Boulevard/3rd Street, and Signal Street/22nd Street are unsignalized and were analyzed for information purposes using the stop-controlled methodologies from Highway Capacity Manual (Transportation Research Board 2000), which determines the average vehicle delay and the LOS using the relationship. The results of the analysis of these two unsignalized intersections are provided as an appendix to the Traffic Study.

Table 3.11-1. 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.		

Existing Peak Hour Levels of Service

The LOS methodologies described in the previous section were applied to existing weekday AM peak hour (between 7 a.m. and 10 a.m.) and PM peak hour (between 3 p.m. and 6 p.m.) and weekend midday peak hour (between 11 a.m. and 2 p.m.) turning volumes to determine existing operating conditions at each of the study area

intersections. The weekday morning and evening peak hour and weekend midday peak hour traffic counts and the LOS calculation worksheets are provided in the Traffic Study prepared for this proposed Project (included as Appendix C of this Draft EIR).

Table 3.11-2 summarizes the existing weekday morning and evening and weekend midday LOS at each of the study area intersections. The table shows that all of the 16 signalized study intersections are currently operating at an acceptable LOS during the weekday morning and evening and weekend midday peak hours.

Table 3.11-2. Existing Intersection LOS (Year 2011)

No.	*Intersection*	*Peak Hour*	*V/C*	*LOS*
1	Gaffey Street/Summerland Avenue	AM PM WK	0.704 0.813 0.584	C D A
2	Gaffey Street/I-110 Ramps	AM PM WK	0.377 0.514 0.429	A A A
3	Gaffey Street/1st Street	AM PM WK	0.860 0.825 0.778	D D C
4	Gaffey Street/5th Street	AM PM WK	0.715 0.634 0.674	C B B
5	Gaffey Street/7th Street	AM PM WK	0.627 0.593 0.622	B A B
6	Gaffey Street/9th Street	AM PM WK	0.650 0.611 0.633	B B B
7	Gaffey Street/22nd Street	AM PM WK	0.330 0.333 0.427	A A A
8	Gaffey Street/25th Street	AM PM WK	0.358 0.325 0.466	A A A
9	Via Cabrillo Marina/22nd Street	AM PM WK	0.136 0.080 0.122	A A A
11	Harbor Boulevard/Swinford Street/ SR-47 Eastbound Ramps	AM PM WK	0.505 0.485 0.583	A A A
12	Harbor Boulevard/O'Farrell Street	AM PM	0.431 0.493	A A

No.	Intersection	Peak Hour	V/C	LOS
		WK	0.391	A
13	Harbor Boulevard/1st Street	AM PM WK	0.333 0.351 0.245	A A A
15	Harbor Boulevard/5th Street	AM PM WK	0.258 0.498 0.282	A A A
16	Harbor Boulevard/6th Street	AM PM WK	0.252 0.282 0.406	A A A
17A	Harbor Boulevard/7th Street	AM PM WK	0.189 0.203 0.135	A A A
18	Miner Street/22nd Street	AM PM WK	0.258 0.301 0.249	A A A

WK = weekend
Source: Appendix C.

3.11.2.1.3 Congestion Management Plan Facilities

The CMP arterial monitoring stations nearest to the study area include:

- Gaffey Street/9th Street (study intersection #6)
- Western Avenue/9th Street

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

3.11.2.1.4 Existing Public Transit

The project study area is served by bus transit lines operated by the Los Angeles County Metropolitan Transportation Authority (Metro), LADOT, and the Municipal Area Express (MAX) lines. To complement the traditional transit service in the area, LAHD operates the Waterfront Red Car Line, a historic streetcar line. The following transit routes provide service in the proposed project vicinity:

- **Metro Line 205** – This transit line travels along 1st Street, Harbor Boulevard, 7th Street, Pacific Avenue, and 13th Street in the vicinity of the project site. Line 205 provides service between San Pedro and the Metro Green Line Imperial/Wilmington Station with stops in Compton, Carson, and the Willowbrook and Harbor Gateway communities. Line 205 provides service from approximately 5 a.m. to midnight on weekdays, and from 5 a.m. to 11:15 a.m. on weekends and holidays. Bus headways are 30 to 60 minutes on weekdays and 60 minutes on weekends.

- **Metro Line 246** – Metro Line 246 operates on Pacific Avenue in the vicinity of the project site. Line 246 provides service between San Pedro and Gardena, where it terminates at the Artesia Transit Center. Line 246 provides service from approximately 4 a.m. to 2 a.m. the following day on weekdays and weekends. Bus headways are 30 to 60 minutes on weekdays and Saturdays, and hourly on Sundays and holidays.
- **Metro Line 450** – Metro Line 450 travels along 22nd Street, Gaffey Street, 19th Street, Pacific Avenue, 1st Street, and Harbor Boulevard in the vicinity of the proposed project site. Line 450 provides service between San Pedro and Downtown Los Angeles, with stops in Gardena and Carson. Line 450 provides service from approximately 5 a.m. to 9 p.m. on weekdays and Saturdays and 7 a.m. to 9 p.m. on Sundays and holidays. Line 450 operates at 30- to 60-minute headways on weekdays, 40-minute headways on Saturdays, and 60-minute headways on Sundays and holidays. From San Pedro, this line provides freeway express service via the Harbor Transitway (on I-110) to the 7th Street/Metro Center station in downtown Los Angeles.
- **Metro Line 550** – Line 550 travels along Gaffey Street, 7th Street and 13th Street in the study area. It operates from 5 a.m. to 11:45 p.m. on weekdays, and from 6 a.m. to 11:45 p.m. on weekends and holidays, with headways of approximately 30 to 60 minutes on weekdays and 60 minutes on weekends. This line provides express connection from San Pedro to West Hollywood.
- **LADOT Commuter Express Line 142** – Line 142 travels along 7th Street in the vicinity of the proposed project site. This line provides service between Ports O' Call in east San Pedro, downtown San Pedro, and the Long Beach Transit Center via the Vincent Thomas Bridge. The line runs from approximately 5:30 a.m. to 11:30 p.m., seven days a week, with frequencies of 25 to 60 minutes.
- **DASH San Pedro** – This line travels along Gaffey Street, 7th Street, and 19th Street near the proposed project site. This route provides local service in the community of San Pedro. The line operates from 6:30 a.m. to 7:30 p.m. on Monday through Friday, and from 9 a.m. to 6:30 p.m. on weekends and holidays. Service frequencies are 20 to 30 minutes.
- **Waterfront Red Car Line** – This local line is a 1.5-mile historic streetcar line connecting the World Cruise Center with attractions along the San Pedro waterfront in the vicinity of the proposed project site. Hours of operation are from noon to 9:30 p.m. Friday through Sunday, with service every 20 minutes. Red Cars also operate on mid-week days when cruise ships are in Port.
- **MAX Line 3** – This line travels along 9th Street and Pacific Avenue in San Pedro. It is a directional express line that brings passengers from the South Bay to the El Segundo and Los Angeles International Airport (LAX) area. The weekday morning northbound route has four buses with frequencies of 20 to 30 minutes starting at 5:20 a.m. The afternoon southbound route also has four buses with frequencies of 20 to 30 minutes starting at 5:03 p.m.
- **MAX Line 3X** – This line travels along Pacific Avenue and Gaffey Street near the proposed project site. It is a directional express line that brings passengers from the South Bay to the El Segundo and LAX area. The weekday morning northbound route has four buses with frequencies of approximately 20 minutes

starting at 6 a.m. The afternoon southbound route also has four buses with frequencies of approximately 30 minutes starting at 4:36 p.m.

3.11.2.1.5 Existing 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. No freight rail activity occurs in the immediate vicinity of the proposed project site, but to the northwest limited freight rail activity occurs on the line that operates along the east side of Harbor Boulevard. This track is shared with the Waterfront Red Car Line, which operates from noon to 5:30 p.m., Friday through Sunday. The Waterfront Red Car also runs when cruise ships are in port.

3.11.2.1.6 Existing Parking

Parking is allowed within the immediate vicinity of the City Dock No. 1 project, including a surface parking lot at Sampson Way and 22nd Street, a small parking lot at the CDFG office facilities (Berth 56), a parking lot at the entrance of the Transit Shed at Berth 57, parking along the east side of Signal Street, and a small parking lot at Berth 260.

3.11.2.1.7 Existing Non-Motorized Facilities

The proposed project area is industrial in character and is bisected by Signal Street, a minor road that does not include sidewalks. 22nd Street aligns along the northern boundary of the proposed project area and does include sidewalks for pedestrians. There are no pedestrian crossings or signals in the proposed project area.

Although there are no bicycle facilities in the proposed project area, nearby bicycle facilities include the following:

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

There are Class I bike paths provided along Cabrillo Beach and parallel to Crescent Avenue between Harbor Boulevard and 22nd Street and on the east side of Harbor Boulevard between Swinford Street and 5th Street. Class II bike lanes are provided on Harbor Boulevard from Front Street to 22nd Street, on Front Street from Harbor Boulevard to Pacific Avenue, on Pacific Avenue south of 22nd Street, and on 9th Street west of Gaffey Street.

3.11.2.2 Existing Marine Transportation

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 several aids to navigation have been developed.

Numerous vessels, including fishing boats, water taxis, 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 USCG when approaching and leaving the harbor. Designated traffic lanes converge at the precautionary areas shown in Figure 3.11-2. 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, but larger research vessels such as the NOAA vessels anticipated to dock at the proposed project site are required to participate. 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 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 are thus designated as safety fairways.

Precautionary and Regulated Navigation Areas

A precautionary area is designated in congested areas near the Los Angeles/Long Beach Harbors (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 a 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.

Tug Escort/Assist

Tug escort refers to the stationing of tugs in proximity to 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

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 3 and 12 annually in the 14-year period from 1996 through 2009, with the lowest numbers occurring in the last two years. Based on the data shown in Table 3.11-3, between 1996 and 2009 there were, on average, 7.1 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 3.11-3. Allisions, Collisions, and Groundings—Ports of Los Angeles and Long Beach (1996–2006)

Year	ACG Incidents			Total
	Allisions	Collisions	Groundings	
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	2	4	6	12
2005	0	1	3	4
2006	4	0	5	9
2007	3	1	6	10
2008	1	1	1	3
2009	3	0	0	3

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.

Source: Harbor Safety Committee 2004; U.S. Naval Academy 1999; Harbor Safety Committee 2007, 2011.

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 is 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 12-year history of the number of "close quarters" situations is presented in Table 3.11-4. Given a relatively steady amount of commercial transits over that time, the table shows a decreasing trend in close quarters incidents. This is noticeable in the low number of near-miss situations from 2006 to 2008.

Table 3.11-4. Number of VTS-recorded "Close Quarters" Incidents, 1998–2009

Year	*No. of Close Quarters*
1998	9
1999	5
2000	1
2001	2
2002	6
2003	4
2004	0
2005	0
2006	0
2007	1
2008	1
2009	5
Sources: Harbor Safety Committee 2004, 2005; Harbor Safety Committee 2006, 2007, 2011.	

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 3.11-4.

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 (e.g., about 20 miles per hour) 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 daytime range is about 5.4 feet, and a range of 9 feet may occur at maximum tide at night under new or full moon conditions.

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 3.11-5 lists water depths in the Los Angeles Harbor.

Table 3.11-5. Water Depths within the Los Angeles Harbor

Channel/Basin	*Depth—MLLW feet*
Main Channel	-53
Turning Basin	-53
West Basin	-53
East Basin	-45
North Channel (Piers 300–400)	-55
North Turning Basin	-81
Approach and Entrance Channels	-81
Source: Harbor Safety Committee 2011.	

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. Because the proposed Project is located in the City of Los Angeles, the proposed Project would need to adhere to the adopted LAHD and LADOT 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 2012), an intersection would be significantly impacted if a project results in an increase in V/C ratio equal to or greater than the following: (1) 0.04 for intersections operating at LOS C; (2) 0.02 for intersections operating at LOS D; and (3) 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 any increase in V/C ratio. Table 3.11-6 summarizes the LADOT intersection impact criteria.

Table 3.11-6. Intersection Impact Criteria

LOS	*Final V/C Ratio*	*Proposed Project-Related Increase in V/C*
C	> 0.700 – 0.800	Equal or greater than 0.04
D	> 0.800 – 0.900	Equal or greater than 0.02
E or F	> 0.0900	Equal or greater than 0.01

3.11.3.1.2 Congestion Management Plan Guidelines

The CMP arterial and freeway mainline facilities are analyzed if they meet the following thresholds (Metro 2010):

- 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;
- all CMP mainline freeway monitoring locations where the proposed project will add 150 or more trips, 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.

3.11.3.1.3 Parking Code

The LAMC Chapter 1, Article 2, Section 12.21A.4 identifies off-street parking requirements for new development. According to the LAMC parking requirements for the land use types proposed within the proposed project site, commercial, business office, and other business or commercial land uses require one parking space for every 500 square feet of development. Trade school land uses require one parking space for every five seats, and warehouse or storage land uses require one parking space for every 500 square feet of development for the first 10,000 square feet and one parking space for every 5,000 square feet of development thereafter.

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 CFR Titles 33 (Navigation and Navigable Waters), 40 (Protection of Environment), and 46 (Shipping).

Since 1789, the federal government has authorized navigation channel improvement projects; the General Survey Act of 1824 established the USACE 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

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 OSPR to create a harbor safety committee for the LALB area. The committee issued the original Harbor Safety Plan (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 HSP contains additional operating procedures for vessels operating in 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 also 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 Traffic 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 traffic conditions both with and without the proposed Project were provided to evaluate the potential impact of the proposed Project on surface transportation. The baseline, or Without Project, condition represents existing traffic conditions at the time the NOP was published in 2011. The Existing + Proposed Project condition is an analysis of traffic expected from the proposed Project added to the existing traffic volumes under stabilized project attendance conditions.

Baseline (Without Project) Traffic Volumes

The baseline (Without Project) condition is described above under Section 3.11.2.1.2, and includes the traffic counts collected during weekday morning and evening peak periods and Saturday midday peak period in April 2011. Baseline traffic volumes are shown at the 16 study area signalized intersections in Table 3.11-2. As shown, all intersections currently operate at an acceptable LOS, except for the intersection of Gaffey Street and 1st Street, which operates at LOS E during the weekday morning and evening peak hours.

Proposed Project Traffic Volumes

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

Trip Generation for Proposed Project

Trip generation and equations from *Trip Generation* (8th edition) and other sources were used to develop trip generation estimates for the proposed Project. The trip generation estimates for the proposed Project are summarized in Table 3.11-7 for the proposed Project's two phases: the interim year 2016 and the full buildout year 2024. Trip generation rates for the boat slips on the East Channel and docks at Berths 58–60 and 70–71 were developed based on the following assumptions:

- two external crew members making two round-trip commute trips would be necessary to serve the vessel;
- one daily round trip truck trip would be necessary to serve the vessel;
- all researchers and students on the vessel would be accounted for in trip generation for office/lab/classroom uses;
- all weekday vehicle trips would be made outside AM and PM peak hours;
- outbound trips for crew would occur during the weekend midday peak hour; and
- six vessel sailings per day on weekdays and three on weekend days.

NOAA/UNOLS vessels up to 250 feet are assumed to make up to six trips in and out of the port per year and be berthed at the Port for up to 60 days per year. Trip generation rates for the Public Plaza were developed using the San Diego Land Development Code Trip Generation Manual (City of San Diego 2003). In order to provide a conservative estimate of 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 with the exception of the small waterfront café, which would generally serve City Dock users.

As discussed in Chapter 2, "Project Description," Phase I would include the conversion of Berth 57 into a new SCMI facility and the development of a Learning Center for cooperative use (150-seat lecture hall/auditorium and classrooms on a portion of Berth 56). Construction would begin in 2012 and conclude in 2016. The remaining proposed Project elements would be constructed under Phase II, which would commence construction in 2013 and conclude around 2024. Table 3.11-7 summarizes the trip generation estimates for each proposed land use for the interim year 2016 and the full buildout year 2024, with the following total trip estimates:

- in 2016, as shown in Table 3.11-7, the proposed Project is estimated to generate a total of approximately 1,046 daily weekday trips, including approximately 102 (83 inbound/19 outbound) trips during the AM peak hour and 96 (22 inbound/ 74 outbound) trips during the PM peak hour. The proposed Project is projected

to generate approximately 518 daily weekend trips, including 53 (32 inbound/ 21 outbound) trips during the weekend peak hour; and

- in 2024, as shown in Table 3.11-7, using the same methodology as described above, the proposed Project is projected to generate approximately 2,935 daily weekday trips, including approximately 384 (318 inbound/66 outbound) trips during the AM peak hour and 343 (60 inbound/283 outbound) trips during the PM peak hour. The proposed Project is projected to generate approximately 997 daily weekend trips, including 112 (77 inbound/35 outbound) trips during the weekend peak hour.

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 location of employment and commercial centers to which residents near the proposed Project would be drawn, and the geographic distribution of population from which employees and potential patrons of the commercial elements of the proposed Project would be drawn. The general distribution pattern used in the Traffic Study was developed in consultation with LADOT and is shown in Figure 4 of the Traffic Study prepared for the proposed Project (Appendix C).

Proposed Project Traffic Assignment

The trip generation estimates summarized in Table 3.11-7 were used to assign the proposed project-generated traffic to the local and regional street system shown in Table 4 of the Traffic Study. Figures 3.11-3a, 3.11-3b, 3.11-4a, and 3.11-4b illustrate the estimated proposed project-generated peak hour traffic volumes at each of the analyzed intersections during a typical weekday morning and evening peak hour and weekend midday peak hour, for Phase I (opening year) and Phase 2 (stabilized year), respectively. Proposed project traffic assignment for the year 2024 accounts for the proposed reconfiguration of Harbor Boulevard south of 7th Street, which will include a junction with Sampson Way.

Table 3.11-7. Proposed Project Trip Generation

Phase/Facility	Weekday Daily	AM Peak Hour			PM Peak Hour			Weekend Daily	Weekend Peak Hour		
		Total	In (%)	Out (%)	Total	In (%)	Out (%)		Total	In (%)	Out (%)
Phase I – Interim Year 2016 Trip Generation Estimates											
Research & Development Facility	301	45	37	8	40	34	6	70	9	7	2
Support Facilities & Storage	46	4	3	1	4	1	3	16	2	1	1
Public Interpretive Center	6	*	*	*	*	*	*	8	*	*	*
Learning Center (Classrooms and Auditorium)	643	57	46	11	57	17	40	351	31	25	6
Boat Slips	72	*	*	*	*	*	*	72	12	12	*
Public Plaza	9	*	*	*	*	*	*	9	0	*	*
Crescent Warehouse (To Be Removed)	(31)	(4)	(3)	(1)	(5)	(2)	(3)	(8)	(1)	(1)	(0)
Phase I Net Subtotal	***1,046***	***102***	***83***	***19***	***96***	***22***	***74***	***518***	***53***	***32***	***21***
Phase II – Full Buildout Year 2016 Trip Generation Estimates											
Research & Development Facility and Wave Tank	1,460	220	183	37	193	29	164	342	43	34	9
Waterfront Café	36	3	2	1	3	2	1	44	4	2	2
Waterfront Café Internalization	(18)	(2)	(1)	(1)	(2)	(1)	(1)	(7)	0	0	0
Waterfront Promenade and Public Plaza	5	*	*	*	*	*	*	5	*	*	*
NOAA Administration/Research Facility	406	61	51	10	53	8	45	95	12	9	3
Phase II Net Subtotal	***1,889***	***282***	***235***	***47***	***247***	***38***	***209***	***479***	***59***	***45***	***14***
Proposed Project Trip Totals	**2,935**	**384**	**318**	**66**	**343**	**60**	**283**	**997**	**112**	**77**	**35**

Asterisk (*) represents negligible trips
( ) represents a negative value

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 2016 and the full buildout year 2024. The resulting forecasted traffic volumes provided the basis for the intersection impact analysis of the proposed Project.

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 and by determining the potential of the 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. Relevant 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 non-motorized 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 3.11-6).
- **TC-2b:** 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 non-motorized 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. The following criterion was developed in cooperation with LAHD for the proposed Project:

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-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 non-motorized 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. Proposed project construction is expected to occur between 2012 and 2024. During the construction period, Port operations would continue at usual levels. 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 volumes on roadways;
- temporary roadway lane closures (i.e., Signal Street) or narrowings in areas directly abutting construction activities (i.e., the eastbound lane of 22nd Street) would reduce capacity of roadways;

- 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 and lane closures (i.e., 22nd Street) could occur adjacent to proposed project elements that are under construction, which would interfere with bicycle or pedestrian circulation in these areas and
- heavy and slow-moving construction vehicles would mix with general-purpose vehicular and non-motorized 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 on Signal Street and possibly on 22nd Street. 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 pedestrian and bicycle travel. Impacts may include temporary sidewalk or roadway closures that would create gaps in pedestrian or bicycle routes and could interfere with safe travel; and
- construction activities would temporarily 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, mitigation is required.

Mitigation Measures

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 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 if necessary;
- 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* (FHWA 2009) 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

Impacts would be less than significant after mitigation.

Impact TC-2a: Operation of the Proposed project 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 San Pedro Waterfront area. The resulting increase in traffic volumes on the surrounding roadways would in turn degrade intersection operations.

Impact Determination

Tables 3.11-8 and 3.11-9 summarize the projected LOS and V/C at intersections within the vicinity for Without Project and With Project conditions, for the years 2016 and 2024, respectively. To determine whether significant impacts would occur at the study intersections, the proposed project operating conditions for each phase were compared to the baseline, or Without Project, operating conditions documented in 2011.

Table 3.11-8 shows that projected increases in intersection V/Cs resulting from proposed project–generated traffic during Phase I of the proposed Project are not expected to exceed the adopted thresholds. Thus, impacts through 2016 would be less than significant.

Table 3.11-9 shows that projected increases in intersection V/Cs resulting from proposed project–generated traffic during Phase II of the proposed Project are not expected to exceed the adopted thresholds. Thus, impacts through 2024 would be less than significant.

Table 3.11-8. Intersection LOS – Existing Plus Project Phase I (2016) Conditions

Intersection	*Peak Hour*	*Existing Baseline*		*Existing + Project (Phase I)*			
		V/C	*LOS*	*V/C*	*LOS*	*Change*	*Impact*
Gaffey Street/ Summerland Avenue	AM	0.704	C	0.705	C	0.001	NO
	PM	0.813	D	0.814	D	0.001	NO
	WK	0.584	A	0.585	A	0.001	NO
Gaffey Street/ I-110 Ramps	AM	0.377	A	0.378	A	0.001	NO
	PM	0.514	A	0.515	A	0.001	NO
	WK	0.429	A	0.431	A	0.002	NO
Gaffey Street/ 1st Street	AM	0.860	D	0.860	D	0.000	NO
	PM	0.825	D	0.826	D	0.001	NO
	WK	0.778	C	0.779	C	0.001	NO
Gaffey Street/ 5th Street	AM	0.715	C	0.715	C	0.000	NO
	PM	0.634	B	0.636	B	0.002	NO
	WK	0.674	B	0.675	B	0.001	NO

Intersection	Peak Hour	Existing Baseline		Existing + Project (Phase I)			
		V/C	LOS	V/C	LOS	Change	Impact
Gaffey Street/ 7th Street	AM	0.627	B	0.627	B	0.000	NO
	PM	0.593	A	0.595	A	0.002	NO
	WK	0.622	B	0.623	B	0.001	NO
Gaffey Street/ 9th Street	AM	0.650	B	0.650	B	0.000	NO
	PM	0.611	B	0.613	B	0.002	NO
	WK	0.633	B	0.634	B	0.001	NO
Gaffey Street/ 22nd Street	AM	0.330	A	0.338	A	0.008	NO
	PM	0.333	A	0.342	A	0.009	NO
	WK	0.427	A	0.433	A	0.006	NO
Gaffey Street/ 25th Street	AM	0.358	A	0.362	A	0.004	NO
	PM	0.325	A	0.327	A	0.002	NO
	WK	0.466	A	0.468	A	0.002	NO
Via Cabrillo Marina/ 22nd Street	AM	0.136	A	0.142	A	0.006	NO
	PM	0.080	A	0.082	A	0.002	NO
	WK	0.122	A	0.124	A	0.002	NO
Harbor Boulevard/ Swinford Street/ SR-47 Eastbound Ramps	AM	0.505	A	0.519	A	0.014	NO
	PM	0.485	A	0.503	A	0.018	NO
	WK	0.583	A	0.588	A	0.005	NO
Harbor Boulevard/ O'Farrell Street	AM	0.431	A	0.435	A	0.004	NO
	PM	0.493	A	0.498	A	0.005	NO
	WK	0.391	A	0.398	A	0.007	NO
Harbor Boulevard/ 1st Street	AM	0.333	A	0.337	A	0.004	NO
	PM	0.351	A	0.355	A	0.004	NO
	WK	0.245	A	0.253	A	0.008	NO
Harbor Boulevard/ 5th Street	AM	0.258	A	0.269	A	0.011	NO
	PM	0.498	A	0.503	A	0.005	NO
	WK	0.282	A	0.289	A	0.007	NO
Harbor Boulevard/ 6th Street	AM	0.252	A	0.270	A	0.018	NO
	PM	0.282	A	0.289	A	0.007	NO
	WK	0.406	A	0.416	A	0.010	NO
Harbor Boulevard/ 7th Street	AM	0.189	A	0.192	A	0.003	NO
	PM	0.203	A	0.206	A	0.003	NO
	WK	0.135	A	0.139	A	0.004	NO
Harbor Boulevard/ Sampson Way	AM	Intersection Does Not Exist					
	PM						
	WK						
Miner Street/	AM	0.258	A	0.291	A	0.033	NO

Intersection	Peak Hour	Existing Baseline		Existing + Project (Phase I)			
		V/C	LOS	V/C	LOS	Change	Impact
22nd Street	PM	0.301	A	0.317	A	0.016	NO
	WK	0.249	A	0.254	A	0.005	NO

Table 3.11-9. Intersection LOS – Existing Plus Project Buildout (2024) Conditions

Intersection	Peak Hour	Existing Baseline		Existing + Project (Phase I and II)			
		V/C	LOS	V/C	LOS	Change	Impact
Gaffey Street/ Summerland Avenue	AM	0.704	C	0.706	C	0.002	NO
	PM	0.813	D	0.814	D	0.001	NO
	WK	0.584	A	0.585	A	0.001	NO
Gaffey Street/ I-110 Ramps	AM	0.377	A	0.381	A	0.004	NO
	PM	0.514	A	0.517	A	0.003	NO
	WK	0.429	A	0.431	A	0.001	NO
Gaffey Street/ 1st Street	AM	0.860	D	0.861	D	0.001	NO
	PM	0.825	D	0.827	D	0.002	NO
	WK	0.778	C	0.779	C	0.001	NO
Gaffey Street/ 5th Street	AM	0.715	C	0.716	C	0.001	NO
	PM	0.634	B	0.642	B	0.008	NO
	WK	0.674	B	0.675	B	0.001	NO
Gaffey Street/ 7th Street	AM	0.627	B	0.629	B	0.002	NO
	PM	0.593	A	0.601	B	0.008	NO
	WK	0.622	B	0.623	B	0.001	NO
Gaffey Street/ 9th Street	AM	0.650	B	0.652	B	0.002	NO
	PM	0.611	B	0.617	B	0.006	NO
	WK	0.633	B	0.635	B	0.002	NO
Gaffey Street/ 22nd Street	AM	0.330	A	0.359	A	0.029	NO
	PM	0.333	A	0.365	A	0.032	NO
	WK	0.427	A	0.438	A	0.011	NO
Gaffey Street/ 25th Street	AM	0.358	A	0.372	A	0.014	NO
	PM	0.325	A	0.329	A	0.004	NO
	WK	0.466	A	0.469	A	0.003	NO
Via Cabrillo Marina/ 22nd Street	AM	0.136	A	0.159	A	0.023	NO
	PM	0.080	A	0.085	A	0.005	NO
	WK	0.122	A	0.127	A	0.005	NO
Harbor Boulevard/ Swinford Street/ SR-47 Eastbound Ramps	AM	0.505	A	0.559	A	0.054	NO
	PM	0.485	A	0.548	A	0.063	NO
	WK	0.583	A	0.592	A	0.009	NO

Intersection	Peak Hour	Existing Baseline		Existing + Project (Phase I and II)			
		V/C	LOS	V/C	LOS	Change	Impact
Harbor Boulevard/ O'Farrell Street	AM	0.431	A	0.451	A	0.020	NO
	PM	0.493	A	0.507	A	0.014	NO
	WK	0.391	A	0.408	A	0.017	NO
Harbor Boulevard/ 1st Street	AM	0.333	A	0.347	A	0.014	NO
	PM	0.351	A	0.365	A	0.014	NO
	WK	0.245	A	0.263	A	0.018	NO
Harbor Boulevard/ 5th Street	AM	0.258	A	0.323	A	0.065	NO
	PM	0.498	A	0.511	A	0.013	NO
	WK	0.282	A	0.300	A	0.018	NO
Harbor Boulevard/ 6th Street	AM	0.252	A	0.326	A	0.074	NO
	PM	0.282	A	0.304	A	0.022	NO
	WK	0.406	A	0.428	A	0.022	NO
Harbor Boulevard/ 7th Street	AM	0.189	A	0.199	A	0.010	NO
	PM	0.203	A	0.211	A	0.008	NO
	WK	0.135	A	0.146	A	0.011	NO
Harbor Boulevard/ Sampson Way	AM	Intersection Does Not Exist					
	PM						
	WK						
Miner Street/ 22nd Street	AM	0.258	A	0.378	A	0.120	NO
	PM	0.301	A	0.372	A	0.071	NO
	WK	0.249	A	0.258	A	0.009	NO

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact TC-2b: Operation of the Proposed project 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 San Pedro Waterfront area. The following trips were estimated to occur at the two CMP arterial monitoring stations as a result of the proposed Project:

- Gaffey Street and 9th Street—The proposed Project is expected to add less than 50 vehicle weekday peak hour trips in 2016 and 2024 at this intersection (see page 50 of the Traffic Study, included in this Draft EIR as Appendix C); and
- Western Avenue and 9th Street—The proposed Project is expected to add less than 50 weekday peak hour trips in 2016 and 2024 at this intersection (see page 50 of the Traffic Study, included in this Draft EIR as Appendix C).

Impact Determination

Trip thresholds for arterial and freeway monitoring stations are defined in the CMP (Metro 2010) and described in Section 3.11.3.1.3 above. Because 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. The Traffic Study analysis indicates that the proposed Project would add fewer than the CMP freeway threshold of 150 trips through this station (see page 50 of the Traffic Study, included in this Draft EIR as Appendix C). Since incremental proposed project–related traffic at this location is projected to be less than the minimum criteria of 150 vehicles per hour, 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: Operation of the Proposed project 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 San Pedro 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 2010) 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 does not qualify as a CMP transit center, a CMP multi-modal transportation center, or a CMP transit corridor under existing conditions, a factor of 3.5% was applied to person trips generated to estimate transit trips (based on CMP guidelines).

As shown in Table 3.11-7, the proposed Project is projected to generate a net increase of approximately 102 vehicle trips during the AM peak hour, 96 vehicle trips during the PM peak hour, and 53 vehicle trips during the weekend peak hour in the Phase I interim year 2016; and it is projected to generate a net increase of approximately 384 trips during the AM peak hour and 343 trips during the PM peak hour at full buildout in year 2024. An AVR of 1.4 was applied to these vehicle estimates for the AM peak hour only because the proposed Project would generate the highest number of trips during the weekday AM peak hour. As such, the following person trip estimates would result during the AM peak hour, which has the greater increase of the two peak periods:

- 143 person trips are projected for the AM peak hour, during the Phase I interim year 2016. Application of the 3.5% transit mode split results in an estimate of proposed project–generated transit trips of approximately 5 persons during the AM peak hour.
- 538 person trips are projected for the AM peak hour during the buildout year 2024. Application of the 3.5% transit mode split results in an estimate of proposed project–generated transit trips of approximately 19 persons during the AM peak hour.

As discussed in Section 3.11.2.1.4, four bus lines provide service in the vicinity of the proposed project site. Based on the existing operating schedules for these transit lines, approximately eight buses serve the vicinity during both the AM and PM peak hours. Using the AM period because it is the greater of the two peak periods, this results in the following conclusions:

- the proposed Project would add less than one person trip per bus during the AM peak hour in the Phase 1 interim year 2016; and
- the proposed Project would add less than two person trips per bus during the AM peak hour in the buildout year 2024.

Impact Determination

Fewer than two people on average per bus amounts to 5% 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 2016 and the buildout year 2024. Impacts from rare and temporary special events would be considered 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: Operation of the Proposed project 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 San Pedro Waterfront area. Table 3.11-10 presents the parking requirements for the proposed Project at full buildout (year 2024). Parking requirements for the proposed Project were calculated using the City of Los Angeles Zoning Code. As can be seen in the table, a total of 613 off-street parking spaces would be required per Section 12.21 of the Los Angeles Zoning Code.

Table 3.11-10. Parking Assessment

	City of Los Angeles Municipal Code			
Land Use	*Size*	*Required Rate*	*Parking Spaces Required*	*Supply Proposed by Project*
Phase I – Interim Year (2016)				
Research & Development	37.083 KSF	1 space/0.5 KSF	74	619
Warehousing	13.02 KSF	1 space/0.5 KSF (first 10 KSF)	20	
		1 space/5 KSF (after first 10 KSF)	1	
Auditorium	150 seats	1 space/5 seats	30	
Classroom	120 seats	1 space/5 seats	24	
Public Interpretive Center	1.574 KSF	1 space/0.5 KSF	3	
Phase I Subtotal			***152***	
Phase II – Buildout Year (2024)				
Research & Development	230 KSF	1 space/0.5 KSF	460	
Café	0.280 KSF	1 space/0.2 KSF	1	
Phase II Subtotal			***461***	
TOTAL REQUIRED SPACES			**613**	

KSF = 1,000 square feet
Source: Los Angeles Municipal Code Chapter 1, Article 2, Section 12.21.A.4

Impact Determination

The 619 proposed parking spaces would meet the parking requirements per the Los Angeles Zoning Code. As such, this impact is less than significant.

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 non-motorized traffic.

The proposed Project does not include elements that would result in poor sight distance, sharp curves, or other factors that would increase safety hazards for vehicular or non-motorized 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 proposed 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.

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 construction equipment, transport construction materials to the construction sites, and haul 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 3.11-11 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 3.11-11. Marine-Side Construction Associated with the Proposed Project

Proposed Project Element	*Construction Activities*	*Duration of Activities*
Phase I Improvements	■ Construct Floating Docks Adjacent to Berth 57 (12 vessel slips) ■ Install Saltwater Intake/Discharge Infrastructure to Serve City Dock #1 Research Laboratory Buildout ■ Rehabilitate/Repair Berth 57 Wharf ■ Create Berthing for Research Vessels and Loading Space on the Wharf for Crane	2012–2016
Phase II Improvements	■ Provide Berthing Space for Research Vessels at Berths 59–60 ■ Rehabilitate/Repair Berths 58–60 Wharf and Associated Ground Improvements ■ Implement Wharf Maintenance (remove catwalks) at Berths 70–71	2013–2024

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.

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, including the use of existing berthing space for research vessels, demolition of existing floating docks at Berth 260, construction of new floating docks (12 slips) in the East Channel, and the provision of berthing space for research vessels at Berths 59–60 and 70–71. Relocation of some facilities associated with the proposed Project would not be expected to generate additional vessel demand but would change the travel patterns of vessels that utilize them. A summary of facilities that would generate marine traffic and/or change marine vessel travel patterns is presented in Table 3.11-12.

Table 3.11-12. Facilities That Could Change Vessel Traffic under the Proposed Project

Proposed Project Element	*Facilities*
Berth 260	■ Move vessels currently docking at Berth 260 floating docks to Berth 57
Berth 57	■ Construction of 12 floating docks would accommodate relocation of vessels from Berth 260 as well as additional vessels
Berths 59–60 and Berths 70–71	■ Provision of berthing space for research vessels would accommodate additional vessels

Impact Determination

Proposed project operations would result in an increase of vessel traffic compared to current conditions. However, vessel trips in the harbor would be shorter than at Berth 260, and all vessels, and more specifically, large research vessels (up to 250 feet), would comply with all mandatory regulations as listed in Section 3.11.3.2, ensuring coordination with other vessel traffic. 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 3.11-13 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 3.11-13. 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 non-motorized 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 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	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		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 if necessary; ■ 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* (FHWA 2009) 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	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		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: Operation of the Proposed project would increase traffic volumes and degrade LOS at intersections within the proposed project vicinity.	Less than significant	No mitigation is required.	Less than significant
TC-2b: Operation of the Proposed project 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
TC-3: Operation of the Proposed project 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: Operation of the Proposed project 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	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
for vehicular or non-motorized traffic.			
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
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

3.11.4.4 Mitigation Monitoring

Table 3.11-14. 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 non-motorized travel.	
Mitigation Measure	**MM TC-1: Develop and Implement a Traffic Control Plan throughout Proposed Project Construction.**
Timing	Prior to construction and issuance of the construction permits
Methodology	Implement a traffic control plan that addresses temporary impacts at 22nd Street and Signal Street by providing detours and other temporary solutions
Responsible Parties	LAHD and Construction Manager
Residual Impacts	Less than significant

3.11.4.5 Significant Unavoidable Impacts

There would be no significant unavoidable impacts.