Chapter 4
Cumulative Analysis

4.1 Introduction

This chapter presents the requirements for cumulative impact analysis, as well as the actual analysis of the potential for the proposed Project, together with other past, present, and reasonably foreseeable future projects in the cumulative geographic scope of each resource area, to have significant cumulative effects. Following the presentation of the requirements related to cumulative impact analyses and a description of the related projects (Sections 4.1.1 and 4.1.2, respectively), the analysis in Section 4.2 addresses each of the resource areas for which the proposed Project may make a cumulatively considerable contribution to cumulative impacts, when combined with other reasonable and foreseeable projects in the area.

4.1.1 Requirements for Cumulative Impact Analysis

The state CEQA Guidelines (14 CCR 15130) require a reasonable analysis of the significant cumulative impacts of a proposed Project. Cumulative impacts are defined by CEQA as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines, Section 15355). CEQA further states that "The individual effects may be changes resulting from a single project or a number of separate projects".

The cumulative impacts from several projects are the changes in the environment that result from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (CEQA Guidelines, Section 15355[b]).

CEQA Guidelines Section 15130(a)(1) state:

> As defined in Section 15355, a "cumulative impact" consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR.

In addition, as stated in the CEQA Guidelines, Section 15064(h)(4):

> The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable.

Therefore, the following cumulative impact analysis focuses on whether the impacts of the proposed Project are cumulatively considerable within the context of impacts caused

by other past, present, or future projects in combination with the proposed Project. The cumulative impact scenario considers other projects proposed within the area defined for each resource that would have the potential to contribute to cumulatively considerable impacts. For each resource, issue areas in which the proposed Project was determined to have no impact are not included in this cumulative analysis, as by definition the proposed Project could not represent a considerable contribution to a significant cumulative impact.

For this EIR, related area projects with a potential to contribute to cumulative impacts were identified using one of two approaches: the "list" methodology or the "projection" methodology. Most of the resource areas were analyzed using a list of closely related projects that would be constructed in the cumulative geographic scope, which differs by resource and sometimes for impacts within a resource; cumulative regions of influence are documented in Section 4.2 below. The list of related projects is provided in Section 4.1.2 below.

The Traffic/Circulation cumulative analysis uses annual regional growth and development rates from the Southern California Association of Governments (SCAG) Regional Travel Demand Forecasting Model, which is described in Section 3.10. These rates were developed by SCAG for the Regional Transportation Plan, which was adopted in April 2012 and is the most recent version (SCAG, 2012). Transportation/Circulation is the only resource area for which a quantitative cumulative analysis is conducted, the remaining CEQA resource areas do not.

4.1.2 Projects Considered in the Cumulative Analysis

4.1.2.1 Past Projects

Currently, the Project area includes a mixture of industrial, commercial, transportation, and residential/institutional uses. The Project site itself is located in an industrial area that stretches from Wilmington to west Long Beach and from I-405 south to the ports of Los Angeles and Long Beach. The area is zoned and has been devoted to industrial uses for nearly a century, and includes refineries, petrochemical storage facilities, railroads, major roads, and goods-movement-related facilities. Residential areas in Long Beach, Wilmington, and Carson are adjacent to this industrial area on the north, east, and west.

Development of the Project area has occurred steadily over the past century, but by the early 1960s the current mix of uses, and most of the actual structures such as rail lines, freeways, warehouses, refineries, and tank farms, were in place. Further development has consisted of the intensification of uses in response to the growth of population and trade. The major new developments in the area since the 1960s are the ICTF, which opened in the late 1980s, and the Alameda Corridor, which opened in 2002, but minor developments such as smaller businesses, cargo warehouses, schools, and terminal and roadway improvements have occurred more or less continually to the present.

Historical development of the Project area and general vicinity has had various environmental effects, which are described in greater detail in the individual resource analysis sections below (Section 4.2).

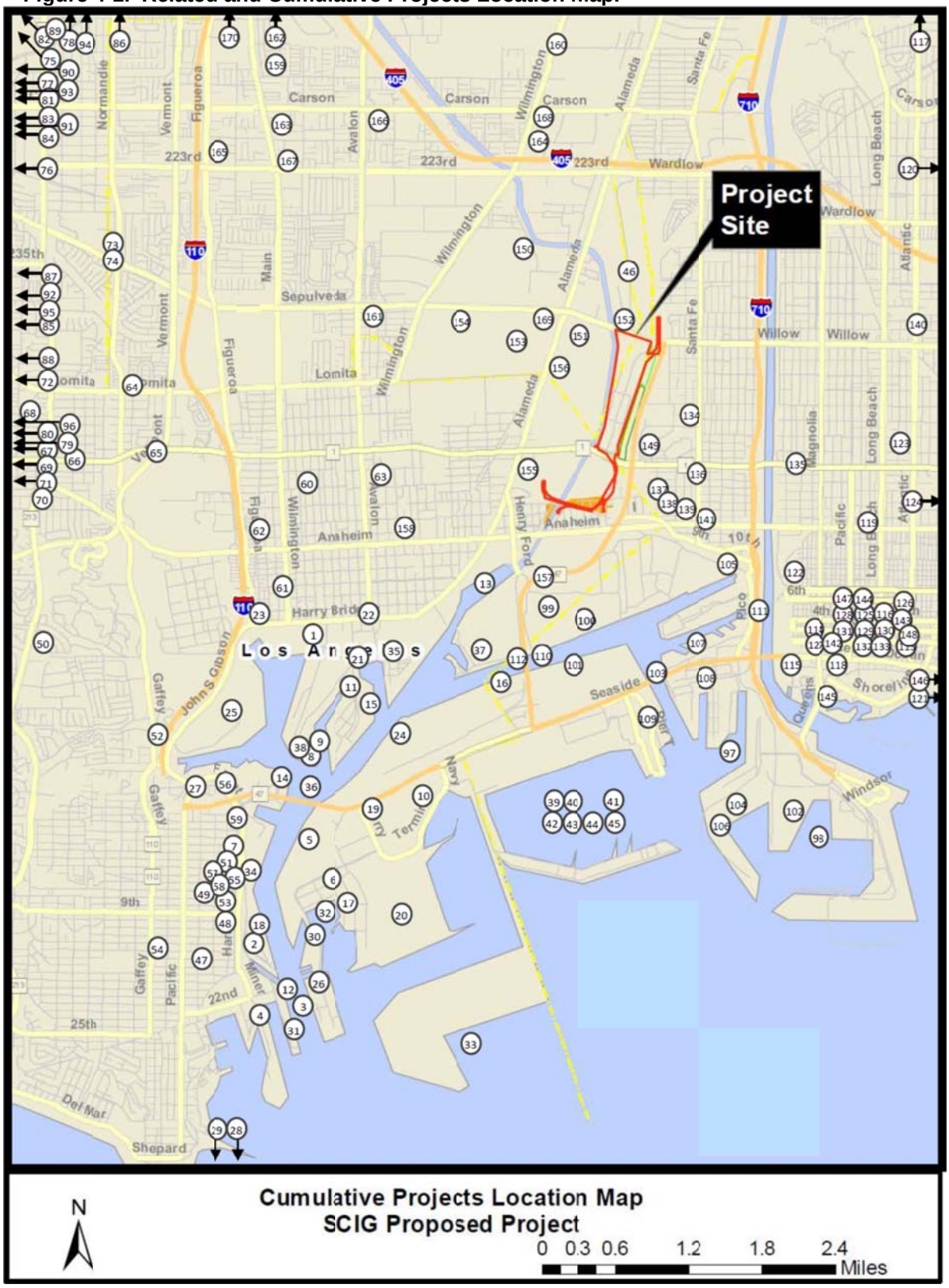
4.1.2.2 Current and Future Projects

A total of 170 present or reasonably foreseeable future projects (approved or proposed) were identified within the general vicinity of the Project that could contribute to cumulative impacts (Table 4-1, Figure 4-1). The list of the cumulative projects was compiled from information provided by LAHD, the City of Los Angeles, the Port of Long Beach, the City of Long Beach, the City of Torrance, City of Lomita, City of Carson, and the Los Angeles Department of Transportation (LADOT). The related projects include only those that are large enough to contribute individually to cumulative impacts or are otherwise potentially noteworthy. Numerous small residential and light commercial projects that have been recently completed or are under construction are not listed in Table 4-1, but their effects on traffic and air quality are included as part of the regional background growth.

As discussed in Section 4.1.1 and further in the resource-specific sections below, some resource analyses use a projection approach encompassing a larger cumulative geographic scope, and for those resources a larger set of past, present, and reasonably foreseeable future projects was included for analysis of cumulative impacts.

For the purposes of this EIR, the geographic scope is defined as the area over which effects of the proposed Project could contribute to cumulative effects. The cumulative regions of influence for individual resources are documented further in each of the resource-specific subsections in Section 4.2.

Figure 4-1. Related and Cumulative Projects Location Map.



1 **Table 4-1. Related and Cumulative Projects.**

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
Port of Los Angeles Projects			
1	Berth 136-147 Marine Terminal, West Basin, Port of Los Angeles	Element of the West Basin Transportation Improvement Projects. Expansion and redevelopment of the TraPac Container Terminal to 243 acres, including improvement of Harry Bridges Boulevard and a 30-acre landscaped area, relocation of an existing rail yard and construction of a new on-dock rail yard, and reconfiguration of wharves and backlands (includes filling of the Northwest Slip, dredging, and construction of new wharves.	The Harbor Board of Commissioners certified the EIR and approved the project on December 6, 2007. Construction started in 2009 and ongoing through 2012.
2	San Pedro Waterfront Project, Port of Los Angeles	The "San Pedro Waterfront" Project is a 5- to 7-year plan to develop along the west side of the Main Channel, from the Vincent Thomas Bridge to the 22nd Street Landing Area Parcel up to and including Crescent Avenue. Key components of the project include construction of a North Harbor Promenade, construction of a Downtown Harbor Promenade, construction of a Downtown Water Feature, enhancements to the existing John S. Gibson Park, construction of a Town Square at the foot of 6th Street, construction of a 7th Street Pier, construction of a Ports O' Call Promenade, development of California Coastal Trail along the waterfront, construction of additional cruise terminal facilities, construction of a Ralph J. Scott Historic Fireboat Display, relocation of the SS Lane Victory, extension of the Red Car line, and related parking improvements.	The Harbor Board of Commissioners certified the EIR and approved the project on September 29, 2009. Construction expected 2010-2015.
3	Channel Deepening Project, Port of Los Angeles	Dredging and sediment disposal. This project deepened the Port of Los Angeles Main Channel to a maximum depth of -53 feet mean lower low water (MLLW; lesser depths are considered as project alternatives) by removing between approximately 3.94 million and 8.5 million cubic yards of sediments. The sediments were disposed at several sites for up to 151 acres (61 hectares) of landfill. The EIR/ EIS certified for the project identified significant biology, air, and noise impacts. A Supplemental EIS/EIR is being prepared for new fill locations. The Additional Disposal Capacity Project would provide approximately 4 million cubic yards of disposal capacity needed to complete the Channel Deepening Project and maximize beneficial use of dredged material by constructing lands for eventual terminal development and provide environmental enhancements at various locations in the Port of Los Angeles.	The Harbor Board of Commissioners certified the EIR and approved the project on April 29, 2009. Construction expected 2010-2012.

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
4	Cabrillo Way Marina, Phase II, Port of Los Angeles	Redevelopment of the old marinas in the Watchorn Basin and development of the backland areas for a variety of commercial and recreational uses.	EIR certified December 2, 2003. Construction started in 2009 and ongoing through 2012.
5	Berth 226-236 (Evergreen) Container Terminal Improvements Project	Proposed redevelopment of existing container terminal, including improvements to wharves, adjacent backland, crane rails, lighting, utilities, new gate complex, grade crossings and modification of adjacent roadways and railroad tracks.	On hold.
6	Canners Steam Demolition.	Project includes demolition of two unused buildings and other small accessory structures at the former Canner's Steam Plant in the Fish Harbor area of the POLA.	On hold.
7	Port of Los Angeles Charter School and Port Police Headquarters, San Pedro, Port of Los Angeles	Proposal to lease property for the Port of Los Angeles Charter School and to construct a Port Police Headquarters and office at 330 S. Centre Street, San Pedro.	Construction completed.
8	SSA Outer Harbor Fruit Facility Relocation, Port of Los Angeles	Proposal to relocate the existing fruit import facility at 22nd and Miner to Berth 153.	On hold.
9	Crescent Warehouse Company Relocation, Port of Los Angeles	Relocate the operations of Crescent Warehouse Company from Port Warehouses 1, 6, 9, and 10 to an alternate site in POLB. Relocate Catalina Freight operations from Berth 184 to same building at Berth 153.	Completed.
10	Plains All American (formerly Pacific Energy) Oil Marine Terminal, Pier 400, Port of Los Angeles	Proposal to construct a Crude Oil Receiving Facility on Pier 400 with tanks on Terminal Island and other locations on Port property, with the preferred location being the former LAXT terminal, as well as construct new pipelines between Berth 408, storage tanks, and existing pipeline systems.	The Harbor Board of Commissioners certified the EIR and approved the project on November 20, 2008. Construction expected 2013-2015.
11	Ultramar Lease Renewal Project, Port of Los Angeles	Proposal to renew the lease between the Port of Los Angeles and Ultramar Inc., for continued operation of the marine terminal facilities at Berths 163-164, as well as associated tank farms and pipelines. Project includes upgrades to existing facilities to increase the proposed minimum throughput to 10 million barrels per year (mby), compared to the existing 7.5 mby minimum.	On hold.
12	Westway Decommissioning	Decommissioning of the Westway Terminal along the Main Channel (Berths 70-71). Work includes decommissioning and removing 136 storage tanks with total capacity of 593,000 barrels.	Remedial planning underway. Decommissioning ongoing through 2012.
13	Consolidated Slip Restoration Project	Remediation of contaminated sediment at Consolidated Slip at Port of Los Angeles.	Remedial actions are being evaluated in conjunction

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
		Remediation may include capping sediment or removal/disposal to an appropriate facility. Work includes capping and/or treatment of approximately 30,000 cubic yards of contaminated sediments.	with Los Angeles Regional Water Quality Control Board (RWQCB) and U.S. Environmental Protection Agency.
14	Berths 97-109, China Shipping Development Project	Development of the China Shipping Terminal Phase I, II, and III including wharf construction, landfill and terminal construction and backland development.	The Harbor Board of Commissioners certified the EIR and approved the project on December 8, 2009. Construction started in 2009 and ongoing through 2013.
15	Berths 171-181, Pasha Marine Terminal Improvements Project, Port of Los Angeles	Redevelopment of existing facilities at Berths 171-181 as an omni (multi-use) facility.	Project EIR on hold.
16	Berth 206-209 Interim Container Terminal Reuse Project, Port of Los Angeles	Proposal to allow interim reuse of former Matson Terminal while implementing green terminal measures.	New EIR on hold.
17	Pan-Pacific Fisheries Cannery Buildings Demolition Project, Port of Los Angeles	Demolition of two unused buildings and other small accessory structures at the former Pan-Pacific Cannery in the Fish Harbor area of the POLA.	NOP released October 2005. Draft EIR released July 2006. Final EIR on hold.
18	San Pedro Waterfront Enhancements Project, Port of Los Angeles	Project includes improving existing and development of new pedestrian corridors along the waterfront (4 acres), landscaping, parking, increased waterfront access from upland areas, and creating 16 acres of public open space.	MND approved in April 2006. Construction 2007 to 2012.
19	Joint Container Inspection Facility, Port of Los Angeles and Port of Long Beach	Construction and operation of a facility to be used to search and inspect random and suspicious containers arriving at the Ports of Los Angeles and Long Beach.	Project on hold.
20	Berth 302-305 (APL) Container Terminal Improvements Project	Container terminal and wharf improvements project including a terminal expansion area and new berth on the east side of Pier 300. Currently includes 40 acres of fill that was completed as part of the Channel Deepening Project (number 4 above).	Project EIR/EIS under preparation. NOP released July 2009. EIR/EIS certified 6/2012. Construction expected to start in 2013.
21	South Wilmington Grade Separation	An elevated grade separation would be constructed along a portion of Fries Avenue or Marine Avenue, over the existing rail line tracks, to eliminate vehicular traffic delays that would otherwise be caused by trains using the existing rail line and the new ICTF rail yard. The elevated grade would include a connection onto Water Street. There would be a	Construction expected to start in 2012.

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
		minimum 24.5-foot clearance for rail cars traveling under the grade separation.	
22	Wilmington Waterfront Master Plan (Avalon Boulevard Corridor Project)	Planned development intended to provide waterfront access and promoting development specifically along Avalon Boulevard.	The Board of Harbor Commissioners certified the EIR and approved the project in 2009. Construction expected 2012-2014.
23	C Street/Figueroa Street Interchange	The C Street/Figueroa Street interchange would be redesigned to include an elevated ramp from Harry Bridges Boulevard to the I-110 Freeway, over John S. Gibson Boulevard. There would be a minimum 15-foot clearance for vehicles traveling on John S. Gibson Boulevard. An additional extension would connect from Figueroa Street to the new elevated ramp, over Harry Bridges Boulevard.	MND adopted 6/2012. Construction expected 2013-2016.
24	Berth 212-224 (YTI) Container Terminal Improvements Project	Wharf modifications at the YTI Marine Terminal Project involves wharf upgrades and backland reconfiguration, including new buildings.	EIR/EIS on hold.
25	Berth 121-131 (Yang Ming) Container Terminal Improvements Project	Reconfiguration of wharves and backlands. Expansion and redevelopment of the Yang Ming Terminal.	EIR/EIS on hold.
26	Southwest Marine Demolition Project	Demolition of buildings and other small accessory structures at the Southwest Marine Shipyard.	Draft EIR released September 2006. Final EIR on hold.
27	John S. Gibson Boulevard /I-110 Access Ramps and SR-47/I-110 Connector Improvement Program	Program includes C Street/I-110 access ramp intersection improvements, I-110 NB Ramp/John S. Gibson Boulevard intersection improvements, and SR-47 On-and Off-Ramp at Front Street.	MND approved 4/2012 Construction expected 2013-2016.
28	Inner Cabrillo Beach Water Quality Improvement Program	Phased improvements at Cabrillo Beach to reduce the wet and dry weather high concentrations of bacteria. Includes sewer and storm drain work, sand replacement, and bird excluders.	Sand replacement phase under construction.
29	Cabrillo Beach Pump Project	Phased improvements at Cabrillo Beach to reduce the wet and dry weather high concentrations of bacteria circulation improvements.	On hold.
30	Al Larson Redevelopment Project	Redevelopment and expansion of the Al Larson Marina.	The Board of Harbor Commissioners certified the EIR and approved the project in July 2012. . Construction anticipated 2012-2014.

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
31	City Dock Marine Research Institute	Up to 28-acre site for potential marine research center at City Dock No. 1.	EIR under preparation. Construction anticipated 2013-2018.
32	Fish Harbor Redevelopment	Redevelopment of Fish Harbor, including a new contaminated disposal facility (CDF).	Conceptual planning.
33	Terminal Island Rail Redevelopment	Redevelopment and expansion of on-dock rail on Terminal Island.	Conceptual planning.
34	USS Iowa Battleship	Permanent mooring of USS Iowa Navy Battleship at Berth 87 and construction of landside museum and surface parking to support 371,000 annual visitors.	EIR certified 5/2012. Completed project.
35	WWL Vehicle Services Cargo Terminal	Expansion of vehicle offloading processing and operations, including cargo increase up to 220,000 vehicles per year and construction of two additional rail loading tracks.	MND released 5/2012. Board consideration expected in August 2012.
36	Port of Los Angeles Master Plan Update	Comprehensive update to the current Port Master Plan to consolidate previously certified amendments and update land uses within the coastal zone boundary.	NOP released 7/2012. EIR under preparation.
37	Wilmington Youth Sailing and Aquatic Center Project	Construction of a new sailing center and boat dock and launch ramp at Berth 204 in Wilmington.	MND released 8/2012.
38	Pier 500 Container Terminal Development	Creation of up to 200-acre fill to support backland and new wharfs for the operation of a new container terminal.	Conceptual planning.
Various	Maintenance dredging	Maintenance dredging is the routine removal of accumulated sediment from channel beds to maintain the design depths of navigation channels, harbors, marinas, boat launches, and port facilities. This is conducted regularly for navigational purposes (at least once every five years).	Continuous, but intermittent (on average every 3 to 5 years).
Various	Alternative Maritime Power (AMP)	APM systems (also known as cold-ironing) at the Port include a shore side power source, a conversion process to transform the shore side power voltage to match the vessel power systems, and a container vessel that is fitted with the appropriate technology to utilize electrical power while at dock. Current locations include eight cargo terminals and World Cruise Center.	Construction anticipated from 2012-2014.
Port of Los Angeles and/or Port of Long Beach Potential Port-Wide Operational Projects			
39	Terminal Free Time	POLA and POLB program to reduce container storage time and use gates at off-peak travel times.	Program in progress.
40	Extended Terminal Gates (Pier Pass)	POLA and POLB program to use economic incentives to encourage cargo owners to use terminal gates during off-peak hours.	Program in Progress.
41	Origin/Destination and Toll Study	POLA/POLB study to identify the origin and destination of international containers in the Los Angeles area, to determine the location of warehouses and identify the routes truck	Study in progress.

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		drivers use to move containers to and from the Ports. The bridges serving Terminal Island (Vincent Thomas, Gerald Desmond and Heim Bridge) are not currently designed to handle the trade volumes projected at POLA and POLB. In order to identify funding mechanisms to replace/enhance these bridges, the Ports are conducting a toll study to explore potential funding sources for bridge replacement and truck driver behavior if tolls were assessed on the bridges.	
42	Virtual Container Yard	ACTA, POLA and POLB program to explore implementing a system that would match an empty container from an import move to one from an empty export move.	Conceptual planning.
43	Increased On-Dock Rail Usage	ACTA, POLA and POLB program with shipping lines and terminal operators to consolidate intermodal volume of the neighboring terminals to create larger trains to interior points, thereby reducing need for truck transportation.	Conceptual planning.
44	Optical Character Recognition	Ports terminals have implemented OCR technology, which eliminates the need to type container numbers in the computer system. This expedites the truck driver through terminal gates.	Conceptual planning.
45	Truck Driver Appointment System	Appointment system that provides a pre-notification to terminals regarding which containers are planned to be picked up.	Conceptual planning.
ICTF Joint Powers Authority			
46	Union Pacific Railroad ICTF Modernization and Expansion Project	UP proposal to modernize existing intermodal yard four miles from the Port.	Project EIR under preparation. DEIR expected end of 2012. Construction anticipated 2013-2015.
Community of San Pedro Projects			
47	15th Street Elementary School, San Pedro	Los Angeles Unified School District construction of additional classrooms at 15th Street Elementary School.	Construction completed and school operating. Completed in 2006.
48	Pacific Corridors Redevelopment Project, San Pedro	Development of commercial/retail, manufacturing, and residential components. Construction underway of four housing developments and Welcome Park.	Project underway. Estimated 2032 completion year according to Community Redevelopment Agency of Los Angeles.
49	Mixed use development, 407 Seventh Street	Construct 5,000 sq ft retail and 87-unit apartment complex. 407 W. Seventh Street (at Mesa Street), San Pedro.	Construction completed according to Community Redevelopment Agency of Los Angeles.
50	Condominiums, 28000 Western Avenue	Construct 136 condominium units. 28000 S. Western Avenue, San Pedro.	Construction completed in 2008.
51	Pacific Trade	Construct 220 housing unit apartments.	Construction completed in

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	Center	255 5th Street, San Pedro (near Centre Street).	2009; inhabited.
Community of San Pedro Projects (continued)			
52	Single Family Homes (Gaffey Street)	Construct 135 single-family homes. About 2 acres. 1427 N. Gaffey Street (at Basin Street), San Pedro.	Under construction. Estimated 2009 completion year according to LADOT Planning Department.
53	Mixed-use development, 281 W 8th Street	Construct 72 condominiums and 7,000 sq ft retail. 281 West 8th Street (near Centre Street), San Pedro.	Under construction according to City of Los Angeles Zoning Information and Map Access System (ZIMAS).
54	Target (Gaffey Street)	Construct 136,000 sq ft discount superstore. 1605 North Gaffey Street, San Pedro (at W. Capitol Drive).	Under construction according to ZIMAS. No estimated completion year.
55	Palos Verdes Urban Village	Construct 251 condominiums and 4,000 sq ft retail space. 550 South Palos Verdes Street, San Pedro.	Construction pending.
56	Temporary Little League Park	Construction of temporary baseball fields for the Eastview Little League. Baseball fields will be at current location of Knoll Hill Dog Park in San Pedro.	Construction pending.
57	Centre Street Lofts	Construct 116 units of 20,000 sq ft ground floor commercial at 285 W. 6th Street, San Pedro	Construction completed according to Community Redevelopment Agency of Los Angeles.
58	La Salle Lofts	Construct 26 units of 8,000 sq ft ground floor commercial at 255 W. 7th St., San Pedro	Construction completed according to Community Redevelopment Agency of Los Angeles.
59	319 N. Harbor Blvd	Construction of 94 unit residential condominiums.	Construction has not started according to LADOT Planning Department.
Community of Wilmington Projects			
60	Distribution center and warehouse	135,000 sq ft distribution center and warehouse on 240,000 sq ft lot w/47 parking spaces at 755 East L Street, (at McFarland Avenue) in Wilmington.	No construction has started; lot is vacant and bare. LADOT Planning Department has no estimated completion year.
61	Dana Strand Public Housing Redevelopment Project	413 units of mixed-income affordable housing to be constructed in four phases: Phase I - 120 rental units; Phase II - 116 rental units; Phase III - 100 senior units; Phase IV - 77 single family homes. The plans also include a day care center, lifelong learning center, parks and landscaped open space.	Phases I and II have been completed and are being leased Phases III and IV are currently under development.
62	931 N. Frigate	Private school expansion for 72 students increase for a total of 350 students.	Construction has not started according to LADOT Planning Department.
63	LASUD SR Span K-8 School.	Construction of 1278-student elementary school	Construction has not started according to

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	1234 N. Avalon Blvd		LADOT Planning Department.
Projects in Harbor City, Lomita, and Torrance			
64	Harbor City Child Development Center	Conditional use permit to open 50-student preschool at existing church building (25000 South Normandie Avenue, Harbor City, at Lomita Boulevard).	Construction has not started according to LADOT Planning Department.
65	Kaiser Permanente South Bay Master Plan	Construct 303,000 sq ft medical office building, 42,500 sq ft records center/office/ warehouse, 260 hospital beds. 25825 Vermont Street, Harbor City (at Pacific Coast Highway (PCH)).	Under construction
66	Drive-through restaurant, Harbor City	Construct 2,448 sq ft fast food restaurant with drive-through. 1608 Pacific Coast Highway, Harbor City (at President Avenue).	Construction completed.
67	2244 Pacific Coast Highway (new address: 25820 Lucille)	A request for a Site Plan Review to construct a new retail commercial building.	In plan check as of 11/19/09.
68	25316 Ebony Lane	A request to construct 16 detached senior housing units.	In plan check.
69	25819-25 Eshelman Avenue	Proposed 20-unit senior housing development.	In plan check.
70	262nd/Western	Construct an 11,100 sq ft office building on the southeast corner of Western Avenue and 262nd Street.	Construction pending.
71	25829-25837 Eshelman Avenue	Construct 16 new condominium units.	In plan check.
72	25042 Narbonne Avenue	A request for a 40 student preschool and a variance to allow reduced parking, modification to the perimeter wall requirement and required driveway width.	Project was completed in 2/2009.
73	Warehouses, 1351 West Sepulveda Boulevard	Construct warehouses with total capacity 400,000 sq ft 1351 West Sepulveda Boulevard (at Western Avenue), Torrance.	Project building permit cleared 2/07.
74	Sepulveda Industrial Park	Construct 154,105 sq ft industrial park (6 lots). Sepulveda Industrial Park (TT65665) 1309 Sepulveda Boulevard, Torrance (near Normandie Avenue).	No construction started. LADOT Planning Department has no estimated completion year.
75	Marks Architects 16414 Crenshaw Blvd., Torrance	Construction of new 2,080 sq ft restaurant	Project was completed in 2009.
76	Prince Property Investments, LLC 3915 226th Street, Torrance	Construction of 16 residential condominium units (8 duplex structures)	Project was completed in 2009.
77	South Coast Soccer City, LLC 540 Maple Avenue, Torrance	Construction of indoor sports facility to include offices, meeting & training rooms	Project was completed in 2009.
78	Hasan Ud-Din Hashmi	Remodel/demolition of certain existing structures and the construction of	Construction underway (soil contamination

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	1918 Artesia Blvd.,Torrance	a new 23,914 sq ft worship building, covered patio & outdoor covered lobby	issues).
79	Dan Withee 24510 Hawthorne Blvd., Torrance	Construction of mixed-use development consisting of two-story commercial office, restaurant building, and 14 attached residential condominium units	Under construction.
80	Sunrise Senior Living 25535 Hawthorne Blvd., Torrance	Operation of an assisted living facility	Building permit issued on 3/26/08.
81	Capellino & Associates 1104 Sartori Ave., Torrance	Construction of professional office condominium development	Project was completed in 2011.
82	Linda Francis 18900 Hawthorne Blvd., Torrance	Operation of new automobile sales & repair facility (MINI Cooper)	Under construction.
83	Dean & Jan Thomas 3525 Maricopa St, Torrance	Construction of 12 attached condominium Units	Construction pending.
84	Dave O. Roberts 435 Maple Ave., Torrance	Construction of two, one-story industrial buildings exceeding 15,000 sq ft	Construction pending.
85	Imperial Investment & Development 2433 Moreton St., Torrance	Construction and operation of 27,000 sq ft full-service spa	Construction pending.
86	Torrance RF, L.L.C. 18203 Western Avenue, Torrance	Construction of new restaurant/retail/commercial building	Construction pending.
87	Continental Development Corp. 23248 Hawthorne Blvd.	Construction of a new retail store	Construction pending.
88	Charles Belak-Berger 3720 Pacific Coast Highway, Torrance	Construction of new 20,300 sq ft commercial center with 18,688 sq ft subterranean parking structure	Construction pending.
89	BP West Coast Products, LLC 18180 Prairie Avenue, Torrance	Construction of new service station and 2,300 sq ft convenience store with off-sale beer & wine	Construction pending.
90	Graceway Church 431 Madrid Avenue, Torrance	Conversion of an industrial building for the operation of a church with shared parking	Construction pending.
91	Providence Health System 5215 Torrance Blvd. Torrance	Construction of 2, 3-story medical office buildings & 2, 3-story parking structures	Construction pending.
92	Torrance Memorial	Construction of a new 7-story hospital tower	Under construction.

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
	Medical Center, 3330 Lomita Blvd, Torrance	& the removal of an existing medical office condominium building	
93	Chuck Stringfield 19701 Mariner Ave.	Conversion of two industrial buildings to industrial condominiums	Construction pending.
94	Gospel Venture International Church 17811 Western Avenue, Torrance	Conversion of existing industrial building for operation as a church	Construction pending.
95	Continental Development 2843 Lomita Boulevard, Torrance	Construction of 25,000 sq ft medical office building to replace existing manufacturing building	Construction pending.
96	Mark Sachs 2909 Pacific Coast Hwy. Torrance	Construction of a new 16,978 sq ft automobile dealership showroom facility	Application received on 10-2-09; approved on 11/4/09.
Port of Long Beach Projects			
97	Middle Harbor Terminal Redevelopment, Port of Long Beach	Consolidation of two existing container terminals into one 345-acre (138-hectare) terminal. Construction includes approximately 54.6 acres of landfill, dredging, and wharf construction; construction of an intermodal rail yard; and reconstruction of terminal buildings.	Approved project. Construction underway 2010-2019.
98	Piers G & J Terminal Redevelopment Project, Port of Long Beach	Redevelopment of two existing marine container terminals into one terminal. The Piers G and J redevelopment project is in the Southeast Harbor Planning District area of the Port of Long Beach. The project will develop a marine terminal of up to 315 acres by consolidating two existing terminals on Piers G and J and several surrounding parcels. Construction will occur in four phases and will include approximately 53 acres of landfills, dredging, concrete wharves, rock dikes, and road and railway improvements.	Approved project. Construction underway (2005-2015).
99	Pier A West Remediation Project, Port of Long Beach	Remediation of approximately 90 acres of oil production land, including remediation of soil and groundwater contamination, relocation of oil wells, filling, and paving.	Cleanup complete (2008-2009).
100	Pier A East, Port of Long Beach	Redevelopment of 32 acres of existing auto storage area into container terminal.	Conceptual planning.
101	Pier S Marine Terminal, Port of Long Beach	Development of a 150-acre container terminal and construction of navigational safety improvements to the Back Channel.	DEIS/DEIR released 9/2011. Construction expected 2013 – 2015.
102	Administration Building Replacement Project, Port of Long Beach	Replacement of the existing Port Administration Building with a new facility on an adjacent site.	Approved project. Construction on hold.
103	Gerald Desmond	Replacement of the existing 4-lane Gerald	FEIR/EA certified.

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
	Bridge Replacement Project, Port of Long Beach and Caltrans/FHWA	Desmond highway bridge over the Port of Long Beach Back Channel with a new 6- to 8-lane bridge.	Approved project, construction pending.
104	Chemoil Marine Terminal, Tank Installation, Port of Long Beach	Construction of two petroleum storage tanks and associated relocation of utilities and reconfiguration of adjoining marine terminal uses between Berths F210 and F211 on Pier F.	EIR on hold.
105	Pier B Rail Yard Expansion (On-Dock Rail Support Facility)	Expansion of the existing Pier B Rail Yard in two phases, including realignment of the adjacent Pier B Street and utility relocation.	DEIR being prepared.
106	Mitsubishi Cement Corporation Facility Modifications	Facility modification, including the addition of a catalytic control system, construction of four additional cement storage silos, and upgrading existing cement unloading equipment on Pier F.	EIR on hold.
107	Eagle Rock Construction Aggregate Terminal Development	Construct a new marine terminal for importing aggregate on Pier D.	DEIR/EIS being prepared.
108	Cemera Long Beach Aggregate Terminal	Construction and operation of a sand, gravel, and aggregate receiving, storage, and distribution terminal on Pier D.	EIR on hold.
109	TTI Grain Export Terminal	Construction of grain transloading facility on Pier T	DEIR released 12/2011; FEIR being prepared.
Alameda Corridor Transportation Authority and Caltrans Projects			
110	Schuyler Heim Bridge Replacement and State Route (SR) 47 Terminal Island Expressway	ACTA/Caltrans project to replace the Schuyler Heim Bridge with a fixed structure and improve the SR-47/Henry Ford Avenue/ Alameda Street transportation corridor by constructing an elevated expressway from the Heim Bridge to SR 1 (Pacific Coast Highway).	Project approved, construction pending.
111	I-710 (Long Beach Freeway) Major Corridor Study	Develop multi-modal, timely, cost-effective transportation solutions to traffic congestion and other mobility problems along approximately 18 miles of the I-710, between the San Pedro Bay ports and State Route 60. Early Action Projects include: a) Port Terminus: Reconfiguration of SR 1 (Pacific Coast Highway) and Anaheim Interchange, and expansion of the open/green space at Cesar Chavez Park. b) Mid Corridor Interchange: Reconfigurations Project for Firestone Boulevard Interchange and Atlantic/Bandini Interchange.	NOP/NOI released August 2008. DEIR/EIS under preparation.
112	Badger Avenue Bridge Expansion	Redevelopment of the existing Badger Avenue Rail Bridge	Project on hold.

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
City of Long Beach Projects			
113	Shoreline Gateway Project	Mixed-use development of a 22-story residential tower with retail, commercial, and office uses located north of Ocean Boulevard, between Atlantic Avenue and Alamitos Avenue.	EIR certified in 2006. Entitlements granted. City Planning Department has no estimated construction start and completion year.
114	West Gateway Redevelopment Project	Redevelop nine existing parcels, including apartments, condominiums, and retail, on Broadway between Chestnut and Maine.	Completed.
115	Golden Shore Master Plan	The proposed project would provide new residential, office, retail, and potential hotel uses, along with associated parking and open space.	Final EIR was released on January 2010. In process for entitlement. City Planning Department has no estimated construction start and completion year. Approved by the California Coastal Commission as of March 2012.
116	Art Exchange	Project components include artist studios, multipurpose/classroom space, hot shop for glass and ceramics production, a centrally located open courtyard, gallery space, office, and service areas.	Draft EIR was released in December 2009. City Planning Department has no estimated construction start and completion year.
117	North Village Center	The proposed project involves the redevelopment of an approximately 6.3-acre site in the City of Long Beach with a mixed-use "village center" project.	Final EIR was released in November 2009. In process for entitlement. City Planning Department has no estimated construction start and completion year.
118	Hotel Sierra, 290 Bay St	This project consists of a new 5-story 125-room hotel with approximately 15,000 sq ft of ground floor retail space.	EIR Addendum was released in May 2009. City Planning Department has no estimated construction start and completion year.
119	1235 Long Beach Blvd. Mixed-Use Project	The proposed project would include demolition of existing on-site uses and construction of a mixed-use (transit oriented) development that includes the construction of 3 buildings consisting of 170 residential condominium units, 186 senior (age-restricted) apartment units, and 42,000 sq ft of retail/restaurant floor area.	EIR Addendum was released in January 2008. Entitlements granted. City Planning Department has no estimated construction start and completion year.
120	Douglas Park Rezone Project	The project consists of development of 1,400 residential units along with 3.3 million sq ft of mixed commercial and light industrial development (which included a maximum of 200,000 sq ft of retail uses), 400 hotel rooms, and 10.5 acres of park space, with an additional 2.5 acres for view corridors/pedestrian easements and bicycle paths.	Construction is underway. Entitlements granted.

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
121	Ocean Blvd. Project	The proposed project would include the demolition of existing structures, the development of 51 condominium units and the remodel of an existing building to maintain 11 motel units. The residential development would be four stories in height above street level and would have two levels of subterranean parking.	Notice of Intent to Adopt was released in August 2009. Entitlements granted. City Planning Department has no estimated construction start and completion year.
122	Drake/Chavez Park Expansion	Developing new and expanding existing open space opportunities in the Drake/Chavez Park.	Project in progress.
123	Poly Gateway Project, Pacific Coast Highway and Martin Luther King Jr. Avenue	Development of passive open space that will serve as a gateway to Poly High School, located directly behind the site.	Construction was expected to begin in 3rd Quarter 2008. Construction status unknown.
124	15th Street and Alamitos Avenue Open Space Development and Intersection Improvements	Passive park to include pedestrian hardscape, landscape lighting, light poles and planting areas.	Construction underway.
125	WPA Mosaic Open Space Development	Relocation of historic mural to an open space development at the south end of CityPlace.	Construction expected to start in 2010.
126	CityPlace Lofts, 4th Street and Elm Avenue	72-unit condominium/loft project.	Construction completed.
127	Lyon West Gateway Residential Development, Broadway at Magnolia Avenue and 3rd Street	Mixed-use project consisting of 291 rental apartments (265 market rate and 26 affordable) and 15,000 sq ft of commercial space.	Construction underway.
128	Pine – Pacific, bounded by Pine and Pacific Avenues, and 3rd and 4th Streets	Phase 1 will consist of a 5-story residential project with 175 living units and 7,280 sq ft of retail space. Phase 2 is slated as a 12-story mid-rise residential development with 186 units and 18,670 sq ft of retail.	Approved project. Construction pending.
129	Lofts at 3rd and Promenade	This is a mixed-use development project that consists of 104 rental homes and 13,550 sq ft of first-floor retail space.	Construction underway.
130	Broadway Block Development, Broadway, Long Beach Boulevard, 3rd street, and Elm Avenue	Mixed-use project consisting of an art center, residential units and commercial space.	Conceptual project.
131	Long Beach Transit/Visitor Information Center, downtown Long Beach	1,900 sq ft transit customer service and visitor information center.	Construction underway.

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
132	Hotel Esterel, Promenade at Broadway	Seven-story, 165-room hotel with 8,875 sq ft of retail space and 3,000 sq ft of meeting space.	Construction underway.
133	Promenade Master Plan, between Shoreline Drive and 5th Street	Improvement, expansion and redesign of The Promenade. The Master Plan encompasses the gateways, hardscape, landscape, furniture, lighting and public art plazas along the three blocks between Ocean Boulevard and 3rd Street, as well as renovation of the amphitheater.	Construction underway.
134	Admiral Kidd Park Expansion Site, Santa Fe at Willard	The Admiral Kidd Park Expansion Site consists of the acquisition and development of industrial property for a 120,000 sq ft park expansion.	The site has been acquired and cleared. Construction underway.
135	Pacific Coast Highway Streetscape Improvement Project	This project involves the design and construction of new street medians, sidewalk landscaping, public art and refurbishment of existing bus shelters.	Approved project. Construction pending.
136	Marinus Scientific	The development project consists of a plan to develop Agency-owned property into a one-story, 4,000 sq ft office space and warehouse facility.	Completed project.
137	Everbright Paper Recycling Center	This is a development of a bulk paper recycling and processing center.	Construction start date was expected to be in 3rd Quarter 2008, and completion date was expected to be in 2nd Quarter 2009. Construction status unknown.
138	Redbarn Pet Products	Upgrade with the development of an office and warehouse for use in the manufacturing and distribution of their pet food products.	Approved project. Construction pending.
139	Smith-Co Construction	The Smith-Co Construction project consists of a plan to develop Agency-owned property into a two-story, 6,100 sq ft office and warehouse facility for Smith-Co Construction.	Construction start date was expected to be in 3rd Quarter 2005, and completion date was expected to be in 4th Quarter 2008. Construction status unknown.
140	J.C.D.S Properties – Sudduth Tire	J.C.D.S Properties – Sudduth Tire is a new development consisting of a two-story office building and shop area as well as a storage facility for local businesses.	Construction start date was expected to be in 3rd Quarter 2005, and completion date was expected to be in 4th Quarter 2007. Construction status unknown.

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
141	Westside Storm Drain Improvement Project	The Agency, along with developer DMJM Harris/ AECOM plans to improve and update existing storm drains in an effort to remedy street flooding.	Construction start date was expected to be in 1st Quarter 2006, and completion date is to be determined. Construction status unknown.
142	250 Pacific Avenue	Conversion of AMC Pine Square movie theaters to 74 residential units.	In process for entitlement. City Planning Department has no estimated construction start and completion year.
143	Acres of Books	Construction of 11,000 sq ft collaborative art center including the partial reuse of an historic structure (240 Long Beach Blvd.)	In process for entitlement. City Planning Department has no estimated construction start and completion year.
144	495 The Promenade North	Construction of 35,000 sq ft, 5-story mixed-use development including 6,000 sq ft of ground floor commercial area and 21 residential units.	In process for entitlement. City Planning Department has no estimated construction start and completion year.
145	100 Aquarium Way	23,300 sq ft expansion to the Aquarium of the Pacific.	In process for entitlement. City Planning Department has no estimated construction start and completion year.
146	2010 Ocean Blvd.	Construction of 56 residential condominium units with 40 hotel rooms.	Entitlements granted. City Planning Department has no estimated construction start and completion year.
147	433 Pine Ave.	Mixed use development of 28 residential units with 15,000 sq ft of commercial (Newberry's Department Store)	Under construction.
148	600 E. Broadway	48,000 sq ft Vons Market w/128 rooftop parking spaces development	Under construction.
149	Century Villages at Cabrillo Expansion, 2001 River Avenue Long Beach, CA 90810	The Villages at Cabrillo campus is being developed pursuant to a Planned Development Plan which is a component part of the City of Long Beach General Plan Land Use Element. A newly constructed Family Shelter opened in 2011 and houses about 56 homeless persons at a time, with average turnover from this emergency shelter facility to transitional or permanent housing resulting in an annual capacity of about 450. The Family Shelter facility is located on the southeast corner of San Gabriel Avenue and Williams Street. In addition, Century Villages at Cabrillo has engaged an architect to assist in developing plans for the Phase IV development of the campus, encompassing approximately two of the remaining six developable acres on the campus.	Family Shelter construction has been completed and opened in March 2011. Phase IV concept development ongoing.

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
Wilmington/Carson			
150	BP Carson Refinery Safety, Compliance and Optimization Project	The proposed project will involve physical changes and additions to multiple process units and operations as well as operational and functional improvements within the confines of the existing Refinery.	Completed.
151	Kinder Morgan Terminal Expansion	The project involves the construction of 18 new, 80,000-barrel product storage tanks and one new, 30,000-barrel transmix storage tank with related piping, pumps, and control systems on the southwestern portion of the existing Carson Terminal facility.	Construction activities for the KMEP project are expected to occur over a 10-year period.
152	Chemoil Terminals Corporation	The proposed project includes constructing five 50,000-barrel tanks and two 20,000-barrel tanks for the storage of organic liquids such as ethanol, crude oil, gasoline, naphtha, cycle oils, marine and non-marine diesel oils, and residual fuel oils.	The project is currently under construction, nearly complete.
153	ConocoPhillips Refinery Tank Replacement Project	ConocoPhillips operators are in the process of removing seven existing petroleum storage tanks and replacing them with six new tanks, four at the Carson Plant, and two new tanks at the Wilmington Plant.	A Negative Declaration has been prepared for this project.
154	BP Logistics Project	The project involves the construction and operation of two 260-foot diameter covered external floating roof crude oil storage tanks. The two crude oil storage tanks have a capacity of 500,000 barrels each, and will require related piping and process control systems.	Final EIR has been prepared and certified by City of Carson. Project on-hold.
155	Ultramar Inc., Olympic Tank Farm	The project will relocate the entire operations from the Ultramar Marine Tank Farm in the Port of Los Angeles to the Olympic Tank Farm.	As of November 2011, SCAQMD was reviewing a Notice of Preparation/Initial Study for the facility.
156	WesPac Smart Energy Transport System Project	WesPac is proposing to construct a jet fuel pipeline system to support airport operations at Los International Airport (LAX) and other airports in the western United States.	Phase 1 is proposed to begin upon resolution of court case.
157	Tesoro Reliability Improvement and Regulatory Compliance Project	The project involves physical changes and additions to multiple process units and operations as well as operational and functional improvements within the confines of the existing Refinery, including replacing an existing cogeneration system with a new cogeneration system and replacing multiple, existing steam boilers with new equipment.	EIR certified April 10, 2009. Construction activities scheduled 2010 through 2012.
158	Warren Oil WTU Central Facility and New Equipment Project 625 E. Anaheim St., Wilmington	Proposed project would make modifications to an existing oil production facility to remove and replace an existing flare, add a heater-treater, and add microturbines to generate electricity on-site.	Neg Dec release April 15, 2009. Final Neg Dec under preparation. Construction expected 3rd quarter 2010 through 2013.

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
City of Carson Projects			
159	21130 S Main St DOR 1357-10 CUP 800-10 CUP 801-10	Proposed to install a new wireless facility - monopine - located within the ML-D Zone.CUP for height and for within 100 ft of residential.	In Progress.
160	20945 S Wilmington Ave CUP 430-95	Modification to existing CUP for chemical distribution plant. Proposal to increase the daily truck usage at the Carson terminal of the Shell Oil Company. [Please also refer to 20915 S. Wilmington Ave]	Approved.
161	24007 Broad St VAR 507-09 DOR 1339-09	Demolish the existing improvements and construct 7 new homes on seven individual RS lots (all <50 feet in width) also includes 628-640 Lincoln Avenue.	Approved.
162	19130 S Figueroa St DOR 1332-09	New recreational Vehicle (RV), Boats & POD storage yard and an 884 sq ft office building.	Continued indefinitely.
163	21900 S Main St COC 240-09 DOR 1329-09 RR 3040-09 CUP 742-09 VAR 504-09	Also 206 E. 219th St. Church/Residential 1) Relocated rectory to adjacent lot - enter garage on west side - open emergency ingress/egress to 219th St. @ SE corner of property. 2) Repave & stripe for parking footprint of existing rectory. 3) Interior improvements @ parish hall.	In progress.
164	1950 E 220th St DOR 1324-09	Modernization of 59,000 sq ft concrete tilt-up industrial bldg. on 3.8 acres. Facade and Site Improvements only.	Under construction.
165	418 W 223rd St DOR 893-05	Modification to convert a 6-unit condominium project into apartment units. The development includes 3 detached buildings with 2 units in each building. The modification will modify or delete any condition of approval that specifically addresses condominium units.	File closed.
166	708-724 E Carson St DOR 1256-07	Modification to development plan to add 4,385 sq ft grocery storage and remove 19 parking spaces on ground level. No exterior changes made.	Approved.
167	22309 S Main St DOR 1305-09	Phase II EVR program - Install new clean air separator tank with (n) enclosure; provide additional landscape to interior lot lines and around enclosure for add'l screening; add 2 new parking spaces to westerly parking area.	Approved.
168	2000 E Carson St DOR 1300-08	Modernization of an approximately 294,590 sq ft concrete tilt up industrial building on an approximately 13 acres. The project will entail building facade and site upgrades, and new offices. Project is described in further detail in the submittal binder in which is application has been included.	In Progress.

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
169	2000 E Sepulveda Blvd CUP 529-02	One 60,000-barrel, petroleum storage tank to meet E10 requirement.	In Progress.
170	20331 S Main St GPA 86-08 ZCC 160-08 DOR 1294-08	A residential apartment community proposed to be built in three phases, in 3 bldgs. of 61, 62 & 64 units for a total of 197 units. Parking will be in an on grade podium. Community & pool amenities provided.	In Progress.

4.2 Cumulative Impact Analysis

The following sections analyze the cumulative impacts identified for each resource area. Except where noted, the significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3, but the geographic scope may be larger than in Section 3, depending upon the issue under consideration.

Criteria for which the proposed Project was found to have No Impact (see Chapter 3) are not considered in this cumulative analysis because they could not contribute to a cumulative impact. These are: AES-3, BIO-2, BIO-3, GEO-5, GEO-7, RISK-6, NOI-5, NOI-13, TRANS-6, TRANS-7, and TRANS-8. Although the proposed Project would have no significant impact with respect to AQ-3 and no impact with respect to AQ-8, a cumulative analysis was performed in the interests of providing information on potential future conditions.

4.2.1 Aesthetics

4.2.1.1 Scope of Analysis

The significance criteria used for the cumulative analysis are described in detail in Section 3.1.4. The geographic scope of analysis for cumulative impacts on aesthetics and visual resources to which the proposed Project may contribute is the locations from which the proposed Project has the potential to be seen, either as part of a single view or a series of related views (e.g., a scenic route). Outside of these locations, the proposed Project would not be within public views and therefore would not have the potential to contribute to cumulative visual impacts.

Past, present, planned, and foreseeable future development that could contribute to cumulative impacts on Aesthetics are those that have involved, or would involve, grading, paving, landscaping, construction of roads, buildings and other working port facilities, as well as the presence and operation of industrial features such as power line towers, rail and trucking facilities, highway overpasses, and storage areas.

4.2.1.2 Cumulative Impact AES-1: Would the proposal cause a cumulatively substantial degradation of the existing visual character or quality of the site and its surroundings?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Project

The visual changes that would be brought about by the proposed Project would take place in a landscape dominated by heavy and light industrial uses and transportation features. Past projects, both public and private, have largely eliminated natural features in the general area and have resulted in a viewshed dominated by man-made industrial features. The flat topography of the area limits views, but in general views are dominated by industrial and infrastructure features such as warehouses (including the large California Cartage structures), refineries and storage tanks, stacks of containers, electrical transmission lines, and roads, including the TI Freeway. Existing views in the Project area are considered to be of low sensitivity (Section 3.1.2.3), the surrounding area is not considered a scenic vista for residents in the vicinity, and there are no official scenic vistas or scenic resources in the vicinity (Section 3.1.4.3). The nighttime viewshed is characterized by numerous lights from industrial and transportation facilities, especially the refinery to the west of the Project site, the Praxair facility to the south, and the ICTF to the north.

As Table 4-1 shows, present and future projects in the area consist mostly of projects that seek to improve infrastructure (several rail and highway projects), improve cargo operations, intensify industrial development, or add housing stock and commercial facilities. As examples, the South Wilmington Grade Separation (#21), the I-110/SR-47 project (#27), and ICTF Modernization and Expansion Project (#44) are current or proposed infrastructure projects; the Berths 97-109 China Shipping Development (#14), Middle Harbor Redevelopment (#95), and Warehouses at 1351 W. Sepulveda Boulevard (#71) are current or proposed industrial development projects; and the Dana Strand Public Housing (#59), Kaiser Permanente Hospital (#63), and Lyon West Gateway (#125) are examples of housing and commercial projects in the area.

The projects in Table 4-1 are consistent with the existing visual character, and although some likely have localized impacts, such as nighttime glare or minor view blockages, the overall visual character of the Project area remains, and will remain, essentially the same. Other projects, such as the Wilmington Waterfront Development (#22), would incorporate new development intended to provide waterfront access and a 30-acre park, improving visual quality and/or public open space. However, the ICTF Modernization and Expansion Project (#44) would add newer, taller cranes and intensify container stacking operations. Accordingly, the effect of the cumulative projects will continue to be an intensification of the view, resulting in more buildings and development, including some new open space. This change represents a significant cumulative impact.

Contribution of the Proposed Project

As described in section 3.1.4.3, the proposed Project would not cause any adverse changes in the existing visual character or quality of the site, with the exception of the Sepulveda Boulevard railroad bridge. The proposed Project would be consistent with the character of the surrounding existing features of the landscape. The tallest elements of the proposed Project, the stacking cranes, would be largely blocked from the view of nearby non-industrial uses by existing structures and by the intensive landscaping and sound walls that would be added as project elements and mitigation (Sections 3.1 and 3.9). The cranes would, in any case, be generally consistent with other features of the area such as power line towers, refinery facilities, and the nearby ICTF.

Demolition of the existing Sepulveda Bridge, an historical resource, would result in a substantial change in a local view, and is a significant impact of the proposed Project.

The collective effect of the past and future projects, combined with the proposed Project, would be to alter views of the general area as a result of the overall increase in the number of structures and the demolition of an historical resource. The proposed Project's contribution to that intensification would result in a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation Measures **MM CR-2 and MM CR-3** would ensure that historic elements of the existing railroad bridge would be maintained to the greatest extent feasible. However, the proposed Project's contribution to the significant cumulative impact would remain cumulatively considerable.

4.2.1.3 Cumulative Impact AES-2: Would the proposal contribute to cumulative light or glare that would adversely affect day or nighttime views in the area.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Past projects in the area have created sources of unshielded or poorly shielded and directed light that have had the effect of causing light spill and a change in ambient illumination levels in nearby areas. Because of new standards, including those the Port is now implementing in projects under its jurisdiction, the contributions of present and future projects to cumulative lighting impacts in the area will be limited. Nighttime glare from existing facilities, including refineries, the ICTF, and major roadways, represents a significant cumulative impact.

Contribution of the Proposed Project

As documented in the analysis in Section 3.1.4.3, the proposed Project's lighting has been designed in a way to minimize off-site light spill, and because of the distance of the planned light fixtures from areas of potential sensitivity, the Project's lighting would not create a substantial change in existing levels of ambient light in sensitive areas in the Project vicinity. The nearest sensitive receptor is located approximately 300 feet northeast of the Project site. The lighting would include automation and efficient directional and shielding features in accordance with Port lighting policy/practice to minimize light spillover into adjacent facilities and residences and minimize energy use (**MM AES-1**). Any lighting from the headlights of trains and trucks entering and leaving the proposed Project would be only temporarily visible and would be consistent with the heavy industrial uses currently existing in the Project area.

In addition, the sound walls proposed as mitigation (**MM NOI-1** and **MM NOI-3**) for the east side of the Terminal Island Freeway would block these sources of lighting from adversely affecting the residential area on the east side of the Terminal Island Freeway. Also, the residential neighborhood located east of the Terminal Island Freeway currently receives spillover light from the soccer field lighting in the adjacent Hudson Park. Lighting at the alternate business location sites would be similar to the existing lighting at the proposed Project site and alternate business location sites: local security and safety lighting rather than large-area flood lighting. To the extent that demolition and new construction result in the removal of old light fixtures and the installation of modern efficient lighting, the proposed Project could reduce the amount of light and glare associated with new facilities at the alternate business locations.

Overall, the lighting to be installed for the proposed Project and at the alternate business location sites is not anticipated to have significant adverse effects on light-sensitive land uses and viewers (i.e., residential and drivers) in the Project area. In addition, the proposed lighting would be in compliance with POLA's Terminal Lighting Design Guidelines, which apply to both terminal and non-terminal Port properties. Given this finding, the Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Because the proposed Project would not make a considerable contribution to a significant cumulative impact, no mitigation is required.

4.2.2 Air Quality and Meteorology

4.2.2.1 Scope of Analysis

The region of analysis for cumulative effects on air quality is the South Coast Air Basin (SCAB), but the analysis is focused on the communities adjacent to the proposed Project, including Wilmington, Carson, and Long Beach because that is the area of maximum effect.

4.2.2.2 Cumulative Impact AQ-1: Would construction produce a cumulatively considerable increase of a criteria pollutant for which the region is in nonattainment under a national or state ambient air quality standard?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

As described in Section 3.2.2.2, air quality within the SCAB has generally improved since the inception of air pollutant monitoring in 1976. This improvement is mainly due to lower-polluting on-road motor vehicles, more stringent regulation of industrial sources, and the implementation of emission reduction strategies by the SCAQMD. This trend towards cleaner air has occurred in spite of continued population growth.

As discussed in the 2007 Air Quality Management Plan (AQMP; SCAQMD, 2007) for the SCAB as a whole, "Rules development in the 1970s through 1990s resulted in dramatic improvement in Basin air quality…the number of days where the Basin exceeds the federal 1-hour ozone standard has continually declined over the years…The 8-hour ozone levels have been reduced by half over the past 30 years, nitrogen dioxide, sulfur dioxide, and lead standards have been met, and other criteria pollutants concentrations have significantly declined."

The SCAB is a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$, and a maintenance area for CO in regard to the National Ambient Air Quality Standards (NAAQS). The SCAB is in attainment of the NAAQS for SO_2, NO_2, and lead. The Basin is also in nonattainment of the California Ambient Air Quality Standards (CAAQS) for O_3, PM_{10}, and $PM_{2.5}$. The South Coast Air Basin is in attainment of the CAAQS for SO_2, NO_2, CO, sulfates, and lead, and is unclassified for hydrogen sulfide and visibility-reducing particles. The 2007 AQMP predicts attainment of all NAAQS within the SCAB, including $PM_{2.5}$ by 2014 and O_3 by 2020, although the predictions for $PM_{2.5}$ and O_3 attainment are speculative at this

time. Two of the pollutants for which the region is in non-attainment, PM_{10} and $PM_{2.5}$, are considered criteria pollutants; for those two pollutants, these nonattainment conditions are cumulatively significant.

In the time period between 2013 and 2015, several large construction projects will occur at the two ports and in the surrounding areas (see Table 4-1), including several container terminal redevelopments and a major highway and bridge project, that will overlap in time, and a number of smaller commercial and residential projects are or will be under construction as well. The construction impacts of the related projects would be cumulatively significant if their combined emissions would exceed the SCAQMD daily emission thresholds for construction. Because this would certainly be the case for all analyzed criteria pollutants and precursors (VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$), the related projects, including the proposed Project, would result in a significant cumulative air quality criteria pollutant impact.

Contribution of the Proposed Project

Emissions from proposed Project construction would exceed SCAQMD significance criteria for VOCs, CO, NO_X, PM_{10}, and $PM_{2.5}$; accordingly, there would be increases in criteria pollutants for which the region is in non-attainment (PM_{10} and $PM_{2.5}$). These emissions, when combined with emissions from the other concurrent construction projects, would make a cumulatively considerable contribution to a significant cumulative impact for PM_{10} and $PM_{2.5}$ emissions.

Mitigation Measures and Residual Cumulative Impacts

Mitigation measures **MM AQ-1** through **MM AQ-6**, which would apply controls to construction equipment and practices (see Section 3.2.4.3), would be implemented during construction of the proposed Project. After mitigation, construction emissions would remain above SCAQMD thresholds for at least one of the construction years (Tables 3.2-15 and 3.2-16). Therefore, the proposed Project after mitigation would make a cumulatively considerable and unavoidable contribution to a significant cumulative impact.

4.2.2.3 Cumulative Impact AQ-2: Would Project construction result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

The past, present, and reasonably foreseeable future projects would result in significant cumulative impacts if their combined effects, during construction, would cause ambient pollutant concentrations to exceed the SCAQMD thresholds. Although there is no way to be certain if a cumulative exceedance of the thresholds would happen for any pollutant without performing dispersion modeling of the other projects, previous experience with large projects in the SCAB indicates that cumulative air quality impacts would be likely to exceed the thresholds for NO_X, could exceed the thresholds for PM_{10} and $PM_{2.5}$, and would be unlikely to exceed the thresholds for CO. Consequently, construction of the past, present, and reasonably foreseeable future projects, including the proposed Project, would result in significant cumulative air quality impacts related to exceedances of the significance thresholds for NO_X, PM_{10}, and $PM_{2.5}$.

Contribution of the Proposed Project

As described in Section 3.2.4.3, construction of the proposed Project would exceed the SCAQMD thresholds for 1-hour and annual NO_2, 24-hour and annual PM_{10}, and 24-hour $PM_{2.5}$. These exceedances would constitute a cumulatively considerable contribution to a cumulative air quality impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation measures **MM AQ-1** through **MM AQ-3**, which would apply controls to construction equipment and practices (see Section 3.2.4.3), would be implemented during construction of the proposed Project. After mitigation, the 1-hour and annual NO_2 and 24-hour and annual PM_{10} increments would still exceed the SCAQMD ambient thresholds (Tables 3.2-21 and 3.2-22). Therefore, the proposed Project after mitigation would make a cumulatively considerable and unavoidable contribution to a significant cumulative impact.

4.2.2.4 Cumulative Impact AQ-3: Would operation of the proposed Project result in operational emissions that would exceed 10 tons per year of VOCs and SCAQMD thresholds of significance?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

The past, present, and reasonably foreseeable future projects would have a significant cumulative impact if their combined operational emissions would exceed the SCAQMD daily emission thresholds for operations. Because this almost certainly would be the case for all analyzed criteria pollutants (except, as described in Section 3.2.4.3, for the proposed Project), the past, present, and reasonably foreseeable future projects would result in a significant cumulative air quality impact.

Contribution of the Proposed Project (Prior to Mitigation)

As described in Section 3.2.4.3, peak daily operational emissions from the proposed Project would decrease relative to baseline emissions for VOCs, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ during all project analysis years. Therefore, emissions from operation of the proposed Project would not make a cumulatively considerable contribution to an existing significant cumulative impact for VOCs, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ emissions. CO emissions from the Project would increase relative to baseline emissions, although these emissions are less than the CEQA significance thresholds. Therefore emissions from operation of the proposed Project would make a cumulatively considerable contribution to an existing significant cumulative impact for CO.

Mitigation Measures and Residual Cumulative Impacts

All feasible mitigation measures for operational emissions associated with the proposed Project have been applied as described in Table 3.2-36. No reasonable mitigation measures could be considered for operational emissions associated with displaced businesses as it is not known where these businesses would relocate in the South Coast Air Basin and what discretionary actions would be required under CEQA for the relocation of the displaced businesses.

4.2.2.5 Cumulative Impact AQ-4: Would operation of the proposed Project produce emissions that, with related projects, would result in offsite ambient air pollutant concentrations that would exceed a SCAQMD threshold of significance?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

The past, present, and reasonably foreseeable future projects would result in significant cumulative impacts if their combined ambient concentration levels during operations would exceed the SCAQMD ambient concentration thresholds for operations. Although there is no way to be certain if a cumulative exceedance of the thresholds would happen for any pollutant without performing dispersion modeling of the other projects, previous experience indicates that cumulative air quality impacts would be likely to exceed the thresholds for NO_X, could exceed the thresholds for PM_{10} and $PM_{2.5}$, and would be unlikely to exceed the thresholds for CO. Consequently, operation of the past, present, and reasonably foreseeable future projects, including the proposed Project, would result in a significant cumulative air quality impact related to exceedances of the significance thresholds for NO_X, PM_{10}, and $PM_{2.5}$.

Contribution of the Proposed Project (Prior to Mitigation)

As described in Section 3.2.4.3, operation of the proposed Project would cause exceedances of the SCAQMD thresholds for 1-hour and annual NO_2, 24-hour and annual PM_{10}, and 24-hour $PM_{2.5}$. It would also cause exceedances of the NAAQS for 1-hour NO_2. Therefore, the Project would result in a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation measure **MM AQ-7** (on-site sweeping; see Section 3.2.4.3) would be implemented during operation of the proposed Project. Even with this mitigation, 1-hour and annual NO2, 24-hour and annual PM10, and 24-hour PM2.5 would remain above the SCAQMD thresholds (Tables 3.2-30 and 3.2-31). Therefore, the proposed Project after mitigation would make a cumulatively considerable and unavoidable contribution to a significant cumulative impact.

4.2.2.6 Cumulative Impact AQ-5: Would operation of the proposed Project generate on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

The past, present, and reasonably foreseeable future projects would result in significant cumulative impacts to air quality if they would generate traffic levels that cause exceedances of the ambient air quality standards for CO near roadways and intersections. The modeling results for the proposed Project showing a declining trend in future CO concentrations despite increasing traffic volumes can be assumed for the related projects. This declining trend is due to the phasing in of cleaner fuels and more stringent vehicle emission standards, and to the gradual replacement of older vehicles with newer, cleaner vehicles. Although it is possible that localized CO concentrations could exceed standards,

on a regional basis the air basin is in attainment of CO standards, and that condition is likely to continue in the future for the reasons just mentioned. Accordingly, the cumulative impacts of the related projects including the proposed Project are considered less than significant.

Contribution of the Proposed Project

CO hot spot modeling analysis for the proposed Project, which included cumulative growth in traffic, did not reveal significant hot spot impacts for the project operation because CO standards would not be exceeded. In fact, because truck traffic on area freeways and arterials would be decreased relative to baseline conditions, CO concentrations at regional intersections, except those close to the Project site, would decrease as a result of Project operations. As a result, Project operations would not result in cumulatively considerable contributions to CO hot spot impacts within the region.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project would not result in cumulatively considerable contributions to significant cumulative CO hot spot impacts.

4.2.2.7 Cumulative Impact AQ-6: Would operation of the proposed Project contribute to objectionable odors at nearby sensitive receptors?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

There is a variety of sources of odors within the Port region, including mobile sources powered by diesel and residual fuels and stationary industrial sources, such as waste conveyance and treatment facilities, petroleum storage tanks, and sulfur storage facilities. Diesel combustion emissions are undoubtedly objectionable in nature to some individuals, although quantifying the odorous impacts of these emissions to the public is difficult. Increasing emissions controls and decreasing reliance on diesel fuel are expected to reduce the generation of objectionable odors in the future. Nevertheless, due to the large number of sources within and near the Project site that emit diesel emissions, and the proximity of residents to industrial operations, odorous emissions in the Project region are considered a significant cumulative impact.

Contribution of the Proposed Project

Operation of the proposed Project would increase diesel emissions locally (in the vicinity of the Project site) due to increased truck traffic to the site, although emissions would be decreased on a regional basis as a result of decreased length of truck trips. Concurrent emissions-generating activities that occur near the Project site would add cumulative emissions. Given the size of the proposed Project relative to other major odor sources in the vicinity and its reduction in the use of diesel through mitigation measures, it is unlikely that the Project operations would result in cumulatively considerable contributions to a significant cumulative odor impact within the Project region.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project would not result in cumulatively considerable contributions to significant cumulative impacts from odors.

4.2.2.8 Cumulative Impact AQ-7: Would Project operation contribute to exposing receptors to significant levels of toxic air contaminants?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

The Multiple Air Toxics Exposure Study (MATES-II) conducted by the SCAQMD in 2000 estimated the existing cancer risk from toxic air contaminants in the South Coast Air Basin to be 1,400 in a million (SCAQMD, 2000). In MATES III, completed by SCAQMD (SCAQMD, 2008), the existing cancer risk from toxic air contaminants was estimated at 1,000 to 2,000 in a million in the San Pedro and Wilmington areas. In the Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach, the CARB estimated that elevated levels of cancer risks due to operational emissions from port-area sources occur within and near the Ports (CARB, 2006). Based on this information, cancer risk from TAC emissions within the project region, including the past, present, and reasonably foreseeable future projects and the proposed Project, is considered a significant cumulative impact. Non-cancer risks in the Project area were modeled to have a chronic HI between 0.16 and 0.69 and an acute HI of 0.27 to 0.79. Since the significance threshold is 1.0, the past, present, and reasonably foreseeable future projects and the proposed Project do not have a significant cumulative impact on non-cancer risk.

The Ports have approved port-wide air pollution control measures through the CAAP. Implementation of these measures will reduce the health risk impacts from the proposed Project and past, present, and reasonably foreseeable future projects at the Ports. Currently adopted regulations and future rules proposed by CARB and USEPA will further reduce air emissions and associated cumulative health impacts from area industrial facilities heavy-duty trucks traveling along local streets, and past, present, and reasonably foreseeable future projects not subject to the CAAP. However, because future proposed measures have not yet implemented CAAP measures, mitigation imposed through CEQA, or upcoming rules and regulations, they have not yet contributed to reductions in health risk. Therefore, it is unknown at this time how and when these future related projects would reduce cumulative health risk impacts within the Port area, and the cancer risk due to TAC emissions within the region must be considered a significant cumulative impact.

Contribution of the Proposed Project

The main sources of TACs from proposed Project operations are DPM emissions (considered by CARB and OEHHA as representative of diesel exhaust) from SCIG offsite and onsite trucks, locomotives, and CHE and onsite trucks associated with the businesses on the alternate locations. As described in Section 3.2.4.3 (Table 3.2-33), emissions of TACs from operation of the proposed Project would increase cancer risks from baseline levels by between 2 and 27 in a million, depending on the receptor (residential, occupational, sensitive, student, and recreational) and the receptor location. The significance threshold is an increase of 10 in a million, meaning that the proposed Project's impacts would be significant. Emissions of TACs would increase chronic and acute noncancer effects compared to baseline levels (Table 3.2-33), but the increases would all be well below the 1.0 hazard index significance criterion at all receptors near the Project site.

The San Pedro Bay Ports Baywide Health Risk Assessment (BWHRA) projects reductions in residential cancer health risk from port-related DPM emissions as a result of the implementation of the CAAP and the various DPM emission reduction measures within the CAAP. As noted in Table 3.2-27 in Section 3.2, the proposed Project incorporates a number of environmental features that are consistent with the CAAP and BWHRA goals, including HDV-1 and HDV-2, CHE-1, and RL-2. Given these environmental features and the projected reductions in cancer and noncancer health risk, TAC emissions from the proposed Project would still result in a cumulatively considerable contribution to a significant cumulative health impact. Furthermore, it is expected that the Project would incorporate, as conditions of approval at the discretion of the Board of Harbor Commissioners, a zero-emission technology demonstration program (PC AQ-11, see Section 3.2.5) and CAAP measure RL-3 (PC AQ-12, see sections 3.2.5 and 4.2.2.10). These discretionary measures would provide additional public health benefits.

Mitigation Measures and Residual Cumulative Impacts

Mitigation measures **MM AQ-1** and **MM AQ-2** applied in Impact AQ-1 would reduce the impacts from the Project by reducing emissions from construction equipment operating at the Port. In addition to the construction mitigation measures, **MM AQ-8** (use of low-emission drayage trucks; see Section 3.2.4.3), **MM AQ-9** (periodic review of new technologies and regulations), and **MM AQ-10** (substitution of new technologies) would be implemented during operation of the proposed Project. With these mitigation measures, cancer risks from operation TACs emissions would be below the significance threshold. Although all feasible mitigation measures are applied as described above, the proposed Project after mitigation would make a cumulatively considerable contribution to a significant cumulative impact.

4.2.2.9 Cumulative Impact AQ-8: Would the Project, considered with related projects, conflict with or obstruct implementation of an applicable air quality plan?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The past, present, and reasonably foreseeable future projects, including the proposed Project, produce, and will continue to produce, non-attainment pollutants in the form of combustion exhaust, construction dust, and process losses and emissions. These projects would result in significant cumulative air quality impact if their resultant population growth or operational emissions exceed the assumptions in the AQMP. The related projects are subject to regional planning efforts and applicable land use plans (such as the General Plan, Community Plans, or Port Master Plan), transportation plans (such as the Regional Transportation Plan and the Regional Transportation Improvement Program), and the CAAP's San Pedro Bay Standards for Port projects.

The 2007 AQMP proposes mobile source control measures and clean fuel programs that are designed to bring the South Coast Air Basin into attainment of the state and national ambient air quality standards. Many of these measures are adopted as SCAQMD rules and regulations, which are then used to regulate sources of air pollution in the region. New sources would have to comply with all applicable SCAQMD rules and regulations, and in that manner would not conflict with or obstruct implementation of the AQMP. Because the AQMP accounts for population projections that are developed by the

Southern California Association of Governments and accounts for planned land use and transportation infrastructure growth, the related projects would be consistent with the AQMP.

The CAAP's San Pedro Bay Standards establish bay-wide goals for health risk and mass emissions reductions (Section 3.2.3.4). The related projects under the jurisdiction of the two Ports would be consistent with those standards because they would incorporate the emissions reduction measures, including measures targeting DPM, included in the CAAP. No one project would achieve the bay-wide goals, but all would contribute to their attainment. Related projects outside the Ports' jurisdiction would not be covered by the CAAP or the SPB Standards, and thus their implementation would not obstruct attainment of the standards. Accordingly, the past, present, and reasonably foreseeable future projects, including the proposed Project, would not result in a significant cumulative impact related to obstruction of the AQMP or other air quality plan.

Contribution of the Proposed Project

The proposed Project would produce emissions of nonattainment pollutants, primarily in the form of diesel exhaust. As described in Section 2.3, however, the proposed Project is accounted for in regional plans, including the SCAG 2012 Regional Transportation Plan (SCAG, 2012) (which SCAQMD uses to prepare the AQMP) and California EPA's 2007 Goods Movement Action Plan. In addition, the Ports regularly provide the SCAG with cargo forecasts for development of the AQMPs. Therefore, the attainment demonstrations included in the 2003 and 2007 AQMPs account for the emissions generated by projected future growth. Because one objective of the proposed Project is to accommodate growth in cargo throughput at the Ports, the AQMP accounts for the Project development. The proposed Project includes emission reduction features consistent with the CAAP and the San Pedro Bay Standards (e.g., electric cranes, low-emission drayage trucks), and would have additional measures imposed as mitigation (**MM AQ-1** through **MM AQ-10**). As a result, the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact related to conflicting with or obstructing implementation of an applicable air quality plan. Project conditions **PC AQ-11** and **PC AQ-12** (section 3.2.5 and below) may, at the discretion of the Board of Harbor Commissioners, be imposed on the Project as conditions of approval. These measures would increase the Project's consistency with respect to the CAAP and other regional air quality plans.

As described in Section 3.2.5, **PC AQ-11**: Zero Emission Technologies Demonstration Program and **PC AQ-12**: CAAP Measure RL-3 (Line-haul locomotive) may, at the discretion of the Board of Harbor Commissioners, be imposed on the Project as a condition of approval. **PC AQ-11** and **PC AQ-12** would likely provide a variety of air quality benefits, although those benefits cannot be quantified and are therefore not included as mitigation measures.

Without **PC AQ-11** and **PC AQ-12**, the proposed Project's contribution to the cumulative impacts of past, present, and reasonably foreseeable future projects would be greater. Furthermore, in the event **PC AQ-11** and **PC AQ-12** are not approved as project conditions, the proposed Project would not contribute to achievement of the 85 percent risk reduction goal of the Health Risk Reduction Standard and would be inconsistent with the San Pedro Bay Standards.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

4.2.3 Biological Resources

4.2.3.1 Scope of Analysis

The geographic region for the analysis of cumulative impacts on biological resources includes the terrestrial, freshwater, and estuarine habitats in southern Los Angeles County. Marine environments are not considered because the proposed Project, being well inland, would have no cumulative impact on marine resources. As described in Section 3.3.2, the resources present are common species that are abundant throughout the region and are adapted to industrial areas. The special status species have differing population sizes and dynamics, distributional ranges, breeding locations, and life history characteristics. Because the special-status species are not year-long residents but migrate to other areas where stresses unrelated to the proposed Project and the related projects can occur, the area for the cumulative analysis of special-status species is limited to the Project site and its immediate environs (the Biological Study Area [BSA]).

Past, present, and reasonably foreseeable future development, including the proposed Project, that could contribute to cumulative impacts on terrestrial resources are those projects that involve land disturbance such as grading, paving, landscaping, construction of roads and buildings, and related noise and traffic impacts. Noise, traffic and other operational impacts can also be expected to have cumulative impacts on terrestrial species. Runoff of pollutants from construction and operations activities on land into local watercourses via storm drains or sheet runoff also has the potential to affect aquatic biota, at least near the points of input.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.3.4.2.

4.2.3.2 Cumulative Impact BIO-1: Would construction and operation of the Project potentially result in the loss of individuals of, or have a substantial adverse effect, either directly or through habitat modifications, on federally listed critical habitat or species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Three sensitive bird species are known to occur on or near the Project site, and three sensitive bat species have a low potential to occur. Native birds are protected during their nesting season under the Migratory Bird Treaty Act (MBTA). No other sensitive species are expected to occur on or near the Project site. The past, present, and reasonably foreseeable future projects, including the proposed Project, have the potential to have adverse effects on these sensitive species. Construction of many of the port projects (e.g., San Pedro Waterfront (#18); Gerald Desmond Bridge (#101); and Schuyler Heim Bridge

(#108)), including the proposed Project, would have temporary, minor impacts on foraging by the three sensitive bird species, which are marine birds; on nesting native birds; and on roosting and foraging by some or all of the three bat species. However, environmental analyses have concluded that the impacts would be temporary and less than significant (e.g., LAHD & USACE, 2009; USACE & LAHD, 2007, 2009; USACE & POLB, 2009; Caltrans, 2009; POLB & Caltrans, 2010). Construction of the inland projects would not affect the three sensitive bird species, but could disturb or remove nesting habitat for native birds and roosting and foraging habitat for bats by removal of trees and modification of bridges. These adverse effects on sensitive species constitute significant cumulative impacts.

Contribution of the Proposed Project (Prior to Mitigation)

As discussed in Section 3.3.4.3.1 (Impact BIO-1), the proposed Project would not have significant impacts on sensitive bird species, but it would have significant impacts on native birds and on three sensitive species of bats because replacement or reconstruction of railroad and highway bridges, as well as removal of palm trees on site. These impacts would represent a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation measure **MM BIO-1a** would be implemented to minimize adverse effects of Project construction on native birds protected by the MBTA. **MM BIO-1b** would be implemented to minimize the potential for loss of bat roosting habitat. This mitigation would reduce impacts of the proposed Project to less than significant. Given the small likelihood of substantial impacts attributable to the proposed Project, the Project's contribution to cumulative impacts on sensitive species is not cumulatively considerable after mitigation.

4.2.3.3 Cumulative Impact BIO-4: Would the Project substantially contribute to interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

The southern portion of Los Angeles County contains few wildlife migration corridors. Migratory waterfowl (ducks, geese, and shorebirds) utilize the region's waterways, specifically the Los Angeles River and, to a lesser extent, the Dominguez Channel, as stopovers during spring and fall migrations, migratory terrestrial birds fly over the region, and wildlife such as coyotes, raccoons, and similar mammals use open spaces and waterways as corridors. In general, such corridors are afforded regulatory protection through the state and federal programs and initiatives described in Section 3.3.3. The exception is the effects of bright lights on migratory birds, which can become disoriented, with consequent adverse effects (e.g., Malakoff, 2001). The past, present, and reasonably foreseeable future projects, including the proposed Project, would add to the bright light and glare that characterizes urban Los Angeles, but the additions would be relatively small. Accordingly, the related projects would not result in significant cumulative impacts related to wildlife migration corridors.

Contribution of the Proposed Project (Prior to Mitigation)

As the Project site does not contain any wildlife migration corridors or nursery sites, the proposed Project would not make considerable contributions to cumulative impacts on wildlife migration corridors or nursery sites. As the proposed Project would operate 24 hours per day, night lighting at the facility would represent a new source of glare that could affect the migration of some bird species. However, as described in Section 3.3.4.3, the inclusion of modern lighting compliant with the Port's terminal lighting guidelines and the fact that night light is already prevalent throughput the BSA means that the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required and there would be no residual cumulative impacts.

4.2.4 Cultural Resources

4.2.4.1 Scope of Analysis

The geographic region of analysis for cumulative impacts on archaeological, ethnographic, architectural, and paleontological resources consists of general area in the vicinity of the Project site (i.e., Wilmington, Carson, Harbor City, Lomita, Dominguez, and Long Beach) within natural landforms (i.e., excluding modern port in-fill development). Thus, past, present, planned and foreseeable future development that would contribute to cumulative impacts on archaeological and ethnographic resources includes projects that would have the potential for ground disturbance in this region of analysis. Those projects on land that have the potential to modify and/or demolish structures over 50 years of age have the potential to contribute to cumulative impacts on historical architectural resources. Projects that involve grading of intact, natural landforms (i.e., not modern landfill areas) have the potential to contribute to cumulative impacts on paleontological resources.

4.2.4.2 Cumulative Impact CR-1: Would the Project substantially contribute to disturbance, damage, or degradation of unknown archaeological or ethnographic resources, and thus cause a substantial adverse change in the significance of such resources?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects including the Proposed Project

Archaeologists estimate that past and present projects within urban areas including the project vicinity have destroyed over 80 percent of all prehistoric sites without proper assessment and systematic collection of information beforehand. Such projects have eliminated our ability to study sites that may have been likely to yield information important in prehistory.

Construction activities (i.e., excavation, dredging, and land filling) associated with most present and future Port projects would be in areas of historical estuary habitats and recent landfills, and therefore would not affect prehistoric or historical archaeological or ethnographic resources. Although much of the uplands in the Project area, including the

site of the proposed Project, have been previously disturbed, there is the potential for many of the related projects, including some Port projects on the periphery of the Harbor District (e.g., the South Wilmington Grade Separation (#21), Avalon Boulevard Corridor Development (#22), and C Street/Figueroa Street Interchange (#23)) to disturb unknown, intact subsurface prehistoric or historical archaeological resources. The likelihood that the related projects would encounter archaeological and ethnographic resources is remote, as most of the area has already been developed, but because prehistoric sites are non-renewable resources, the cumulative impacts of these actions are considered significant.

Contribution of the Proposed Project

As documented in Section 3.4.4.3 (Impact CR-1), there are no recorded listed, eligible, or otherwise unique or important archaeological or ethnographic resources within the proposed Project site. However, other projects and excavations in the vicinity of the proposed Project have uncovered archeological artifacts and intact prehistoric human burials. Accordingly, the Project area has the potential to contain unknown archaeological or ethnographic resources, including human remains, and the potential for disturbing, damaging, or degrading unknown prehistoric or historic remains or ethnographic resources is considered a cumulatively considerable contribution to a significant cumulative impact on archaeological or ethnographic resources.

Mitigation Measures and Residual Cumulative Impacts

MM CR-1, as described in Section 3.4, provides for monitoring and requires that work shall be immediately stopped and relocated from the area in the unlikely event that potentially significant, intact archaeological or ethnographic resources are encountered during construction. With implementation of **MM CR-1**, therefore, the proposed Project would not constitute a cumulatively considerable contribution to a significant cumulative impact on archaeological and ethnographic resources.

4.2.4.3 Cumulative Impact CR-2: Would the Project have cumulatively substantial adverse effects on the significance of historic resources?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Redevelopment of the intensively developed Wilmington – Long Beach region in the course of past, present, and reasonably foreseeable future projects, including the proposed Project, have required and are anticipated to require the demolition of structures over 45 years of age. While each project mitigates the loss of historic structures through such means as archival documentation, interpretive displays, and salvage or adaptive re-use of key elements, the net effect is a continued decrease in the number and variety of older structures in the region. Accordingly, the effects of the related projects on historic resources are a significant cumulative impact.

Contribution of the Proposed Project

The proposed Project would result in a cumulatively considerable contribution to a significant cumulative impact on a historical resource because it would materially alter, in an adverse manner, the physical characteristics of the Sepulveda Boulevard railroad bridge that convey its historical significance and justify its eligibility for inclusion in the CRHR.

Mitigation Measures and Residual Cumulative Impacts

Two mitigation measures, **MM CR-2** and **MM CR-3**, would be implemented to reduce the impacts to the bridge. Through these measures, archival documentation would be conducted and a plan for salvaging noteworthy elements, if possible, would be prepared. Despite these measures, the bridge would be demolished, and the proposed Project's contribution to a significant cumulative impact would remain considerable and unavoidable. No further mitigation is available to reduce this impact to less than significant.

4.2.4.4 Cumulative Impact CR-3: Would the Project contribute substantially to the disturbance, destruction, or elimination of access to unknown unique paleontological resources?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Redevelopment of the intensively developed Wilmington – Long Beach region in the course of past, present, and future Port projects have and are anticipated to require excavation. When excavation occurs in native formations (as opposed to previously disturbed or created land) there is the possibility that intact paleontological resources will be encountered; several fossils of paleontological value have been discovered in the general area (Section 3.4.2). Most of the related past, present, and reasonably foreseeable future projects, including the proposed Project, have or would take place in upland areas where native formations may be encountered. As is the case with archeological and ethnographic resources, projects in the Ports are unlikely to encounter paleontological resources because of the disturbed or created nature of the lands. Related projects in upland areas have a higher potential to encounter paleontological resources because they have a higher potential to take place on previously undisturbed land. The controls placed on construction projects in upland areas reduce, but do not eliminate, the possibility that paleontological resources may be destroyed. Accordingly, the related projects have a significant cumulative impact.

Contribution of the Proposed Project

The proposed Project and alternatives would result in little or no ground disturbance within areas of high paleontological sensitivity; rather, excavations would occur in areas extensively and previously disturbed. Nevertheless, Project construction could expose subsurface paleontological resources, and if that occurred without appropriate professional oversight, systematic recovery would be impossible and the ability to preserve specimens for future study would be lost. The proposed Project would, therefore, cause a cumulatively considerable contribution to a significant cumulative impact on paleontological resources unless mitigation is provided.

Mitigation Measures and Residual Cumulative Impacts

MM CR-4, monitoring and recovery, would be implemented to reduce potential impacts in the event that paleontological resources are encountered during construction. With mitigation, the Project would not constitute a considerable contribution to a significant cumulative impact.

4.2.5 Geology

4.2.5.1 Scope of Analysis

The geographic scope for cumulative impacts varies for geological resources, depending on the geologic issue. The geographic scope with respect to seismicity is the San Pedro Bay area, because an earthquake capable of creating substantial damage or injury at the proposed Project site could similarly cause substantial damage or injury throughout this area, which has extensive areas prone to liquefaction and differential settlement. The geographic scope with respect to tsunamis is the area of potential inundation due to a large tsunami, which could extend into some low-lying coastal areas of Los Angeles County. The geographic scope with respect to subsidence/settlement, expansive soils, and unstable soil conditions would be confined to the proposed Project area because these impacts are site-specific and relate primarily to construction techniques. Landslides, mudflows, and modification of topography or unique geologic features are not considered because the Project area is flat, not subject to slope instability, and contains no unique geologic features. Soil erosion is a regional issue.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.5.4.2.

4.2.5.2 Cumulative Impact GEO-1: Would the Project substantially contribute to a significant cumulative impact arising from fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure?

Southern California is recognized as one of the most seismically active areas in the United States. The region has been subjected to at least 52 major earthquakes (i.e., of magnitude 6 or greater) since 1796. Ground motion in the region is generally the result of sudden movements of large blocks of the earth's crust along faults. Numerous active faults in the Los Angeles region are capable of generating earthquake-related hazards, especially the Palos Verdes and Newport-Inglewood faults. Earthquakes of magnitude 7.8 or greater occur at the rate of about two or three per 1,000 years, corresponding to a 6 to 9 percent probability in 30 years. As described in Section 3.5.4.3, many of the cumulative projects lie in LA Municipal Code Seismic Zone 4, denoting an area in which seismic activity can have severe consequences. Therefore, it is reasonable to expect a strong ground motion seismic event during the lifetime of any proposed project in the region and for such motion to damage many of the cumulative projects to some degree.

Seismic ground shaking is capable of providing the mechanism for liquefaction, usually in fine-grained, loose to medium dense, saturated sands and silts. The effects of liquefaction may result in structural collapse if total and/or differential settlement of structures occurs on liquefiable soils.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Past, present, and reasonably foreseeable future projects, and the proposed Project, would not change the risk of seismic ground shaking: all of the related projects are subject to severe seismically induced ground shaking, and many to soil liquefaction, during an earthquake. Recent experience has shown that in a large earthquake, buildings and other structures will sustain damage and there is a likelihood of injury and death. New projects,

such as those listed in Table 4-1, would typically replace older structures which were not designed to withstand seismic activity as well as modern buildings. The modern construction of these buildings and other structures would reduce the risk of injury in such an event. Emergency planning and coordination would contribute to reducing injuries to on-site personnel. Modern site preparation and construction techniques would reduce the risk of liquefaction following seismic ground shaking. Accordingly, although damage and/or injury may occur, cumulative impacts due to seismically induced ground failure would be less than significant.

Contribution of the Proposed Project

As discussed in Section 3.5.4.3, incorporation of modern construction engineering and safety standards and compliance with building codes adopted by the local regulatory bodies would minimize impacts due to seismically induced ground failure. The probability of an earthquake large enough to damage structures occurring during the construction phase is considered to be low. Emergency planning and coordination would also contribute to reducing injuries to on-site personnel during a seismic activity. With incorporation of emergency planning and compliance with current building regulations, damage and/or injury may occur, and impacts due to seismically induced ground failure would be less than significant. Accordingly, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact related to seismic activity.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required and there would be no residual cumulative impacts.

4.2.5.3 Cumulative Impact GEO-2: Would the Project substantially contribute to impacts arising from damage to structures or infrastructure, or expose people to substantial risk of injury, from tsunamis and seiches?

Tsunamis are a relatively common natural hazard, although most of the events are small in amplitude and not particularly damaging. As recent events have shown, however, the potential loss of human life and damage to property can be great if a large submarine earthquake or landslide occurs that causes a tsunami or seiche that affect a populated area. Tsunamis and seiches have reportedly caused damage, including releases of fuel, to moored vessels in the outer Los Angeles – Long Beach Harbor, but very little damage to onshore structures, and no loss of life.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Past, present, and reasonably foreseeable future projects have not and would not change the risk of tsunamis or seiches. Some of the past projects in the harbor districts and elsewhere along the coastline have resulted in the creation of new low-lying land areas and development on existing low-lying land, which are subject to inundation by tsunamis or seiches. These developments have increased the amount of infrastructure, structural improvements, and population living and working near the shoreline, thereby placing commercial and industrial structures and their occupants in areas that are susceptible to tsunamis and seiches. Thus, these developments have had the effect of increasing the potential for tsunamis and seiches to result in damage to people and property.

Several of past, present, and reasonably foreseeable future projects listed in Table 4-1 would result in increased infrastructure, more structures, and more people in areas potentially vulnerable to tsunamis and seiches. Port projects, in particular, are located in areas that could be affected by tsunamis and seiches, but studies (e.g., Moffatt & Nichol, 2007) have shown that the potential for major flooding and damage to the industrial structures characteristic of the Ports is low. In addition, as described in Section 3.5.2.5, there is a low probability that tsunamis or seiches large enough to cause substantial damage to structures or injuries to persons will occur in the study area, given that the frequency of tsunamigenic earthquake events has been estimated at every few hundred to a few thousand years. As a consequence, the related projects are not considered to have a significant cumulative impact with respect to tsunamis and seiches.

Contribution of the Proposed Project

As discussed in Section 3.5.4, tsunamis and seiches are typical for the entire California coastline and the risks of such events occurring would not be increased by construction or operation of the proposed Project. The probability of a tsunami causing damage or flooding at the Project site is very remote, given the site's distance inland. The additional infrastructure, structural improvements, and onsite personnel associated with the proposed Project would not contribute substantially to the potential for damage to infrastructure and harm to people. Accordingly, the proposed Project would not result in a considerable contribution to a cumulatively considerable impact related to a tsunami or seiche.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required and there would be no residual cumulative impacts.

4.2.5.4 Cumulative Impact GEO-3: Would the Project have cumulatively substantial adverse effects related to substantial damage to structures or infrastructure, or exposure of people to substantial risk of injury from subsidence/soil settlement?

In the absence of proper engineering, new structures could be cracked and warped as a result of saturated, unconsolidated/compressible sediments.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Most of the past, present, and reasonably foreseeable future projects listed in Table 4-1 have required, and will require, excavation and fill, and many involve soils prone to settlement. Some projects along the coast are located on land that has settled as a result of oil extraction. However, all of the related projects in recent years and those in the reasonably foreseeable future include engineering controls during the design and construction processes that minimize the risks and impacts associated with soil settlement and land subsidence. Oil-related land subsidence has been controlled for the past several decades and is no longer a potential source of risk to development. As a consequence, past, present, and reasonably foreseeable future projects would not result in a significant cumulative impact related to subsidence or settlement.

Contribution of the Proposed Project

As described in Section 3.5.4, soil settlement during construction and operation of the proposed Project would be minimized because the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD and Caltrans. Because the proposed Project would result in less than significant (individual) impacts for Impact GEO-3**,** and no other past, present, or reasonably foreseeable future projects would result in a significant cumulative impact related to subsidence or settlement, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required and there would be no residual cumulative impacts.

4.2.5.5 Cumulative Impact GEO-4: Would the Project have cumulatively substantial adverse effects related to expansive soils?

Expansive soil may be present in imported soils used for grading, and beneath a structure could result in cracking, warping, and distress of the foundation.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

The cumulative geographic scope is the same as the proposed Project site, because the effects of expansive soils are site-specific and related primarily to construction techniques. Past, present, and reasonably foreseeable future projects in Table 4-1 are likely to use or have used imported fill, and therefore have a potential risk from expansive soils. However, projects constructed recently, present projects, and reasonably foreseeable future projects incorporate engineering controls, including geotechnical measures and compliance with Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, that minimize the effects of expansive soils either on site or in imported fill. Accordingly, the related projects would not result in a significant cumulative impact related to expansive soils.

Contribution of the Proposed Project

Expansive soil impacts in the proposed Project would be less than significant because the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with implementation of Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD. Accordingly, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required and there would be no residual cumulative impacts.

4.2.5.6 Cumulative Impact GEO-6: Would the Project substantially contribute to cumulative impacts related to unstable soil conditions caused by human activities from excavation, grading or fill that would expose people or structures to substantial risk of injury or damage?

The cumulative geographic scope is the same as the proposed Project site, because the effects of unstable soil conditions are site-specific and related primarily to construction techniques. Excavations that occur in natural alluvial and estuarine deposits, as well as artificial fill consisting of dredged deposits or imported soils, may encounter relatively fluid materials near and below the shallow groundwater table. Groundwater is locally present at depths ranging from 7 to 20 feet below the ground surface. In the absence of proper engineering, new structures could be cracked and warped as a result of saturated, unstable or collapsible soils.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Some of the past, present, and reasonably foreseeable future projects in Table 4-1, including the proposed Project, especially those in the types of conditions described above, may face engineering challenges from saturated soils, shallow groundwater, or other unstable soil conditions. However, projects constructed recently, present projects, and reasonably foreseeable future projects incorporate engineering controls, including geotechnical measures and compliance with Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, that minimize the effects of unstable soils. As a consequence, past, present, and reasonably foreseeable future projects would not result in a significant cumulative impact related to unstable soil conditions.

Contribution of the Proposed Project

Due to implementation of standard engineering practices regarding saturated, collapsible soils, people and structures on the proposed Project site would not be exposed to substantial adverse effects from the proposed Project, and impacts associated with shallow groundwater and unstable soils would be less than significant. Accordingly, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required and there would be no residual cumulative impacts.

4.2.5.7 Cumulative Impact GEO-8: Would the proposed Project substantially contribute to cumulatively significant adverse effects related to the erosion or loss of topsoil?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Some of the past, present, and reasonably foreseeable future projects in Table 4-1, especially those in areas with a degree of physical relief, such as the Palos Verdes peninsula, could enhance erosion of topsoil during construction by removing vegetative cover and providing inadequate erosion controls. In general, however, the relatively flat and intensively developed nature of the region means that loss of topsoil is not a

substantial problem in the region. Furthermore, the implementation of stormwater best management practices during construction, which is required by NPDES permits and the SUSMPs of local jurisdictions (see Section 3.12) reduce the severity of topsoil erosion even in hilly areas. Accordingly, the past, present, and reasonably foreseeable future projects, including the proposed Project, would not result in a significant cumulative impact related to erosion or loss of topsoil.

Contribution of the Proposed Project

Because the Project site is flat, erosion controls would be in place during construction, and the Project site would be largely paved once construction was complete, impacts related to erosion and the loss of topsoil would be less than significant. Accordingly, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required and there would be no residual cumulative impacts.

4.2.6 Greenhouse Gases

4.2.6.1 Scope of Analysis

While the cumulative impact of greenhouse gases (GHG) is global, the geographic scope for this cumulative impact analysis is the State of California, as described in Section 3.6. By 2007, California was the fourteenth largest emitter of greenhouse gases on the planet, representing about two percent of the worldwide emissions. In 2009 (the latest year for which a complete inventory is available), that number was approximately 457 $MMTCO_2e$. In addition, the transportation section represented approximately 38 percent of the state's 2009 GHG emissions and is expected to grow by 25 percent by 2020 (CARB, 2011a).

The composition and sources of greenhouse gases are described in Section 3.6.2.2. The methodology for evaluating GHG cumulative impacts on a project level is qualitative. Thresholds of significance are the same as those used for the Project analysis (Section 3.6.4).

4.2.6.2 Cumulative Impact GHG-1: Would the proposed Project result in a cumulatively substantial increase in construction-related and operation-related GHG emissions?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Past, present, and reasonably foreseeable future projects in the area (Table 4-1) have generated, and will continue to generate, GHGs from the combustion of fossil fuels and the use of coatings, solvents, refrigerants, and other products. Current and future projects will incorporate a variety of GHG reduction measures in response to federal, state, and local mandates and initiatives (CARB, 2011b), and these measures are expected to reduce GHG emissions from future projects. However, because of the long-lived nature of GHGs in the atmosphere, and the global nature of GHG emissions impacts, no specific quantitative level of GHG emissions from related projects in the region, or state-wide has

been identified below which no impacts would occur. Therefore these emissions are considered to represent a significant cumulative impact.

Contribution of the Proposed Project

As described in Section 3.6.4.5, the proposed Project would generate GHGs during both construction and operation. Since the POLA has established a threshold of zero as its significance criterion for GHG-1 for this project only, those emissions represent a considerable contribution to an existing significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

A number of project features would reduce GHG emissions, including the use of electric RMG cranes, idle reduction devices for locomotives, and a site administration building that is LEED certified. Seven mitigation measures would be implemented for the proposed Project that are expected to reduce GHG emissions (**MM GHG-1** through **MM GHG-9**; Section 3.6.4.5). They include increased energy efficiency, recycling, and solar energy use; tree planting; and water conservation. However, since the reductions from those measures cannot be quantified, the proposed Project would make a cumulatively considerable contribution to a significant cumulative impact.

4.2.6.3 Cumulative Impact GHG-2: Would the proposed Project conflict with State and local plans and policies?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Past, present, and reasonably foreseeable future projects in the area (Table 4-1) have generated, and will continue to generate, GHGs from the combustion of fossil fuels and the use of coatings, solvents, refrigerants, and other products. Current and future projects will incorporate a variety of GHG reduction measures in response to federal, state, and local mandates and initiatives, and these measures are expected to reduce GHG emissions from future projects. However it cannot be reasonably expected that all past, present and reasonably foreseeable future projects will be consistent with all State and local plans and policies regarding climate change, and therefore cumulatively these projects are considered to represent a significant cumulative impact. In addition, although GHG emissions reductions from federal state and local initiatives may be achieved, GHG emissions are still projected to increase globally and sea level-rise (SLR) is expected to occur in the Project vicinity. SLR is reasonably expected to have an impact on past, present and reasonably foreseeable future projects.

Contribution of the Proposed Project

The proposed Project, by utilizing a more fuel-efficient mode of moving freight and goods is not in conflict with federal, state and local plans and policies, and in fact is cited as a key part of the regional goods movement plan (SCAG, 2012) and the State's Goods Movement Action Plan. Thus the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact related to GHG plans and policies. The proposed Project is not located in an area projected to be subject to extreme inundation, and therefore the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact related to SLR.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required and there would be no residual cumulative impacts.

4.2.7 Hazards and Hazardous Materials

4.2.7.1 Scope of Analysis

The geographic scope for cumulative impacts associated with spills of hazardous materials encompasses two main areas: the proposed Project area and areas within the regional cargo distribution network. The importance of regional projects diminishes with distance from the Port as potential adverse impacts diminish in magnitude with distance. Thus, past, present, and reasonably foreseeable future projects that could contribute to these cumulative impacts include those projects that transport hazardous materials near the Port. The thresholds of significance have been adapted from those used for the Project-specific analysis to address the regional nature of the cumulative analysis.

4.2.7.2 Cumulative Impact RISK-1: Would the proposed Project contribute substantially to the frequency or severity of consequences of accidental release or explosion of hazardous substances?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

During the period 2006-2009 there were 39 "hazardous material" spills directly associated with container terminals in the Ports of Los Angeles and Long Beach. This equates to approximately five spills per year for the entire port complex, for a probability of a spill at a container terminal of 5.2×10^{-7} per TEU (0.52 in a million). The present and reasonably foreseeable future projects outside the ports (Table 4-1) would have less risk of spills and upsets because they are less likely to involve the transport or use of substantial quantities of hazardous materials. As Table 3.7-1, Risk Matrix (in Section 3.7.4.1), shows, the port-related spill probability qualifies as "Frequent," but with no injuries, fatalities, or evacuations that affected the public, and with only minor injuries to workers, the consequences of the spills would be categorized as "Slight." The other related projects would not materially increase either the frequency or the consequences of incidents involving hazardous materials. Accordingly, the past, present, and reasonably foreseeable future projects, including the proposed Project, represent a less than significant cumulative impact.

Contribution of the Proposed Project

The proposed Project, including operations at the alternate business locations, would be subject to applicable federal, state, and local laws and regulations governing the spill prevention, storage, use, and transport of hazardous materials, as well as emergency response to hazardous material spills, thus minimizing the potential for adverse health and safety impacts. Potential health and environmental impacts associated with container hazardous material spills are also very localized due to the relatively small sizes of individual storage containers compared to bulk facilities and would not overlap. Furthermore, construction, demolition, and operation of the proposed Project would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance, as

analyzed in Section 3.7.4.3. Therefore, construction and operation of the proposed Project would not make a cumulative considerable contribution to a significant cumulative impact related to hazardous substances.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required and there would be no residual cumulative impacts.

4.2.7.3 Cumulative Impact RISK-2: Would the proposed Project contribute substantially to the probable frequency and severity of consequences to people from exposure to health hazards?

In the case of the proposed Project, the biggest public safety hazard is associated with potential injuries and fatalities that could result from traffic accidents with project-related trucks.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

All past, present, and reasonably foreseeable projects in Table 4-1, as well as the proposed Project, involving the handling of hazardous materials would be subject to the same BMPs as the proposed Project (see Section 2.4.3) and would be constructed in accordance with the Los Angeles Municipal Code (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4). Quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to a Release Response Plan (RRP) and a Hazardous Materials Inventory (HMI). Implementation of the RRP and HMI, such as limiting the types of materials stored and size of packages containing hazardous materials, would limit both the frequency and severity of potential releases of hazardous materials, thus minimizing potential health hazards and/or contamination of soil or water during construction/demolition activities. These measures would reduce the frequency and consequences of spills by requiring proper packaging for the material being shipped, limits on package size, and thus potential spill size, as well as proper response measures for the materials being handled. As a consequence, construction and operation of the related projects would not result in substantial increases in the frequency or severity of hazardous materials spills, and would therefore not result in significant cumulative impacts.

Construction of some of the past, present, and reasonably foreseeable future projects in Table 4-1 have encountered and would encounter hazardous wastes in the form of contaminated soil and ground water, lead-based paint, and asbestos-containing materials. While these substances would pose little risk to the general public because of the regulatory controls placed on construction activities and the disposal of hazardous wastes, it is possible that construction workers would be exposed. Standard procedures exist for protecting workers from exposure to chemicals of potential concern. For example, OSHA and local regulatory agencies (e.g., SCAQMD and fire departments) mandate controls to limit exposure to workers and the public, including use of warning signs and containment areas, worker training, implementation of work plans and health and safety plans, and use of personal protective equipment by workers.

Past, present, and the reasonably foreseeable future projects listed in Table 4-1 have generated and would continue to generate truck trips throughout southern California. As described in Section 3.7.4.3, the estimated hazardous materials truck accident rate is 0.32

accidents per million vehicle miles traveled. Although some of the related projects would result in increases in truck trips, beyond baseline conditions, those increases are not expected to result in increases in the probable frequency and/or severity of consequences because all vehicles are subject to traffic laws and restrictions, weight and speed limits, designated truck routes, and cargo packaging and labeling requirements. In addition, transportation improvements, including the ones in Table 4-1 (e.g., I-110/SR-47/Harbor Boulevard (#27)), would reduce the frequency of truck accidents.

The Ports are currently phasing out older trucks in the drayage fleet as part of the Port's Clean Truck Program. The TWIC program will also help identify and exclude truck drivers that lack the proper licensing and training. The phasing out of older trucks would reduce the probability of accidents that occur as a result of mechanical failure by approximately 10 percent (ADL, 1990). In addition, the reduction in the number of drivers that do not meet minimum training specifications, would further reduce potential accidents.

Furthermore, as part of the CAAP, the Ports are implementing measures and requirements that will result in truck fleet improvements (i.e., requiring newer trucks that meet certain EPA standards), which would have the effect of phasing out older trucks and replacing them with newer trucks. Consequently, as the truck fleet composition changes or improves over time, improvements to the accident frequencies and severity rates should also improve.

Based on these considerations, the cumulative impact of the related projects related to an increase in the probable frequency and severity of harm from truck accidents would be less than significant.

Contribution of the Proposed Project

As Section 3.7 concluded, construction and operation of the proposed Project would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards. The controls on construction and on hazardous materials transport, the safety of truck and train transport, and the improvements in trucking practices and the planned and approved highway network would limit truck accidents, both hazardous and non-hazardous. In the event contaminated soil is encountered during construction of the proposed Project, it would be handled, transported, remediated, and/or disposed of in accordance with all applicable federal, state, and local laws and regulations and in accordance with the LAHD leasing requirements related to Site Remediation and Contamination Contingency Plan. These factors mean that construction and operation of the proposed Project would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards. Accordingly, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required and there would be no residual cumulative impacts.

4.2.7.4 Cumulative Impact RISK-3: Would the proposed Project contribute substantially to hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

All of the past, present, and reasonably foreseeable projects would involve at least some use, transport, and disposal of hazardous materials, but the major ones would be the projects in Table 4-1 that would be approved by the two ports, and the warehouse projects in Wilmington and Torrance (#58 and #71). Projects that would have any impact related to hazardous materials would be subject to approval by local governmental agencies, including the Port of Los Angeles, City of Los Angeles, City of Long Beach, Port of Long Beach, and the City of Carson, and would comply with the regulatory requirements described in greater detail in Section 3.7. It is not anticipated that any project with the potential to have significant hazardous materials impacts would be approved. Consequently, the related projects would not result in a significant cumulative impact related to hazardous materials use, transport, and disposal.

Contribution of the Proposed Project

With regard to use and disposal, operation of the proposed Project would be conducted using BMPs and in accordance with the Los Angeles Municipal Code (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4). There would be no fuel storage on site, and no maintenance of locomotives would occur on the SCIG facility. Small amounts of hazardous substances (e.g., lubricants, paint, batteries) would be used on site in minor crane and hostler maintenance, similar in nature to activities that occur in the baseline. Quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to a RRP and HMI. Disposal of the small quantities of hazardous materials that would be generated would be conducted in accordance with federal, state and local regulations (see Section 3.7.3). Measures taken to manage methane gas that may be on the site (Section 3.7.2.2.2) would prevent the proposed Project from contributing to risks associated with methane gas. The transportation risks were considered in Cumulative Impact RISK-1, and would be slight. In addition, spill contingency and emergency response plans for the proposed Project site would be implemented in accordance with regulatory requirements. Operations would be subject to emergency response and evacuation systems implemented by the Los Angeles Fire Department (LAFD). Accordingly, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact related to the routine transport, use, or disposal of hazardous materials.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required and there would be no residual cumulative impacts.

4.2.7.5 Cumulative Impact RISK-4: Would the proposed Project contribute substantially to hazards to the public or the environment as a result of the proposed Project being located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Some of the related past, present, and reasonably foreseeable future projects in Table 4-1, particularly those involving industrial development, can be assumed to be located on or near sites listed pursuant to Government Code Section 65962.5, known as the Cortese List. In general, development of such sites includes remediation of hazardous wastes that lie in the path of construction or that could pose a risk to the operation of the new facility. That remediation is conducted in order to ensure that risks to the public are minimized. Accordingly, implementation of the related projects would not result in a significant cumulative impact related to sites on the Cortese List.

Contribution of the Proposed Project

As discussed in Section 3.7.4.3.1, several properties within the proposed Project site are on the Cortese List, meaning that near-surface soils that would be disturbed during construction could be contaminated with petroleum products, metals, solvents, PCBs and other contaminants of concern. However, contaminated soil encountered during construction would be remediated, and operations would not expose the public to any such contaminants. Accordingly, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required and there would be no residual cumulative impacts.

4.2.7.6 Cumulative Impact RISK-5: Would the proposed Project contribute substantially to hazardous emissions or handling of hazardous substances or wastes within one-quarter of a mile of existing or proposed schools?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Some of the related past, present, and reasonably foreseeable projects in Table 4-1 can be assumed to be within one-quarter mile of existing schools, and several projects are actually new or reconstructed schools (e.g., Port of Los Angeles Charter School (#7), SR Span K-8 in Wilmington (#61)). Most of the projects would not, however, handle or emit hazardous substances except in the small quantities used for maintenance purposes. Exceptions would include industrial and large commercial projects such as the ICTF Modernization and Expansion Project (#44), the distribution center at 755 E. L Street in Wilmington (#58), and the warehouses at 1351 W Sepulveda Boulevard in Torrance (#71), which would be sources of diesel emissions that could be near schools. Those projects would be required to implement standard policies that regulate the transport, use, and disposal of hazardous materials and wastes, including regulating the types of materials, size of packages containing hazardous materials, and the separation of containers containing hazardous materials (see Section 3.7), which would reduce the magnitude and severity of emissions.

With the controls on hazardous materials handling and transport described above and in Section 3.7, emissions of hazardous substances or wastes other than exhaust fumes near schools is judged not to be a significant cumulative impact. The Health Risk Assessment in Section 3.2 describes the risks associated with diesel exhaust in detail, and the cumulative impacts of diesel exhaust emissions are addressed in Section 4.2.2.

Contribution of the Proposed Project

The effects of diesel exhaust emissions associated with the proposed Project on local schools are described in Section 3.2. As described in Section 3.7.4, the proposed Project would not bring hazardous substances closer to schools. Accordingly, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required and there would be no residual cumulative impacts.

4.2.7.7 Cumulative Impact RISK-7: Would the proposed Project contribute to a considerable increase in the probability of a terrorist attack that could result in adverse consequences?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Potential impacts due to terrorism are characteristic of the entire Los Angeles and Long Beach (LA/LB) metropolitan area. Terrorism risk can be based on simple population-based metrics (i.e., population density) or event-based models (i.e., specific attack scenarios). Willis et al. (2005) evaluated the relative merits and deficiencies of these two approaches to estimating terrorism risk, and outlined hybrid approaches of these methods. Overall, the results of the terrorism risk analysis characterized the LA/LBmetropolitan area as one of the highest-risk regions in the country. Using population metrics, the LA/LB region was ranked either first or second in the country, while the event-based model dropped the LA/LB region to the fifth ranked metropolitan area, mainly due to the relative lack of attractive, high profile targets (i.e., national landmarks or high profile, densely populated buildings). Depending on the approaches and metrics used in the analysis, the LA/LB region represents between 4 and 11 percent of the U.S. terrorism risk.

Historical experience provides little guidance in estimating the probability of a terrorist attack on a terminal facility. At the national level, potential terrorist targets are plentiful, including those having national significance, those with a large concentration of the public (e.g., major sporting events, mass transit, skyscrapers, etc.), or critical infrastructure facilities. Currently, the United States has over 500 chemical facilities operating near large populations. U.S. waterways also transport over 100,000 annual shipments of hazardous marine cargo, including LPG, ammonia, and other volatile chemicals. All of these substances pose hazards that far exceed those associated with a container cargo facility such as an intermodal railyard.

Under current growth projections, San Pedro Bay would be expected to handle 63 percent of the national cargo throughput volume by 2020 and then decline to 56 percent of the national total by 2030. While cumulative container throughput would continue to grow in importance on a national level, the San Pedro Bay Ports already represent a substantial fraction of national container terminal throughput, and by default, an attractive economic terrorist target. Given the relative importance of the San Pedro Bay Ports as a potential terrorist target under baseline conditions, cumulative growth would not be expected to materially change that importance.

Intermodal cargo containers could be used to transport a harmful device into the country to cause harm to the Ports. The likelihood of such an attack would be based on the desire to cause harm to the port, with potential increases in cumulative San Pedro Bay Port

infrastructure or throughput having no measurable effect on the probability of an attack. Cargo containers could also be used to smuggle weapons of mass destruction through the San Pedro Bay Ports with the intent to harm another location such as a highly populated and/or economically important region. The consequences associated with the smuggling of a terrorist weapon would depend, in part, on the nature of the device or material, but could be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by cumulative growth at the San Pedro Bay Ports or by any of the related projects; rather, the consequences would depend on the composition and type of device or material, how and why a terrorist intends to use the device, the time of day, the surrounding population or property density, or any number of factors unrelated to the existence of any particular project.

Because there are no measurable and/or definitive links between container throughput and the probability of a terrorist attack, because there are no measurable and/or definitive links between container throughput and the consequences of a terrorist attack, and because many factors other than container throughput would be the likely or primary motivations that would dictate the probability and consequences of a terrorist attack, the throughput increases at the Port associated with the related projects would not result in a significant cumulative impact related an increased probability of a terrorist attack.

Contribution of the Proposed Project

As described in Section 3.7.4.3, the proposed Project would not result in a significant project-level impact related to an increase in the probability of a terrorist attack because the likelihood of such an event would not be based on Project-related throughput, but rather would be based on the intent of the terrorist and his/her desired outcome. Based on these factors, the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required and there would be no residual cumulative impacts.

4.2.8 Land Use

4.2.8.1 Scope of Analysis

Since the proposed Project has the capacity to affect land use in surrounding communities, the region of analysis for cumulative land use impacts includes the community of Wilmington and the cities of Long Beach and Carson.

4.2.8.2 Cumulative Impact LU-1: Would the proposed Project contribute to an inconsistency with an adopted land use/density designation in the Community Plan, redevelopment plan, or specific plan?

Land uses and land use designations and plans in the region are described in Section 3.8.2. This section evaluates consistency with City of Los Angeles, City of Carson, and City of Long Beach General Plan designations, Municipal Code zoning designations, and other land use plans or policies adopted by agencies with jurisdiction over land uses within the proposed Project area.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Past, present, and reasonably foreseeable future projects in the region have been or will be subject to the land use/density designations stipulated in the applicable General Plans, Community Plans, and zoning codes. These are the governing documents that regulate the continued development of the region. Parcel zoning designations control the land use types and densities that can be constructed on a given parcel. In general, the region has developed consistent with these plans, thereby ensuring consistency with land use/density designations to minimize impacts on surrounding areas. Similarly, existing facilities within with the project vicinity have been modified as necessary to ensure proposed land use/density designations are consistent with their respective land use plan and site zoning designations.

Construction and operation of the past, present, and future projects in Table 4-1 have been, and would continue to be, modified during the project review process to ensure consistency with the governing land use/density and site zoning designations. Accordingly, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts related to land use designation inconsistencies.

Contribution of the Proposed Project

As stated in Section 3.8.4.3, land uses proposed for the Project site, including the alternate business locations, the South and North Lead Track areas, and the rail line bridge improvement sites, are consistent with the applicable city general plans, community plans, and zoning. The proposed Project uses would be consistent with existing zoning of the cities of Los Angeles, Carson, and Long Beach, although a Conditional Use Permit would be required from the City of Carson to construct and operate an intermodal facility. Construction of the 12-ft sound wall on the east side of the Terminal Island Freeway with landscaping (**MM NOI-1**) and the 24-ft sound wall north of Sepulveda Boulevard (**MM NOI-3**) as mitigation for noise impacts could require a height variance from the City of Long Beach. In addition, the intensive landscaping proposed west of the Terminal Island Freeway would represent a new use. These changes are not considered significant impacts, however, because they would not result in new environmental impacts not already addressed in the individual resource chapters of the EIR. Because the proposed Project would have no adverse effects on land use plans or zoning designation consistency, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative land use impact related to existing and future land use/density designations in community plans, redevelopment plans, or specific plans.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.8.3 Cumulative Impact LU-2: Would the proposed Project contribute to an inconsistency with the General Plan or adopted environmental goals and policies contained in other applicable plans?

The Project site is located within three jurisdictions with designated general industrial land uses: Heavy Industrial in the City of Los Angeles, Restricted Industry and Public Rights-of-Way in the City of Long Beach, and Heavy Manufacturing in the City of Carson.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Past, present, and reasonably foreseeable future projects in the region have been or will be subject to the land use/density designations stipulated in the applicable General Plans, Community Plans, and zoning codes. These are the governing documents that regulate the continued development of the region. A number of these plans have specific environmental goals and policies, as described in Section 3.8.3, including the Port of Los Angeles Plan, Port of Los Angeles Rail Policy, the Clean Air Action Plan, the Clean Truck Program, the Goods Movement Action Plan, and the SCAG Regional Transportation Plan (RTP) and Regional Comprehensive Plan (RCP). The related projects have, as appropriate, developed in accordance with these plans, thereby ensuring consistency with land use/density designations and minimizing impacts on surrounding areas. Similarly, existing facilities within with the project vicinity have been modified as necessary to ensure proposed land use/density designations are consistent with their respective land use plan and site zoning designations. Because of this, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts related to environmental goals and policies in applicable plans.

Contribution of the Proposed Project

As stated in Section 3.8.4.3, the proposed Project would implement the adopted environmental goals and policies of the Port of Los Angeles Plan, the SCAG RTP and RCP, and the Goods Movement Action Plan. For these plans and policies, the impact of the proposed Project would be less than significant. The proposed Project would not be inconsistent with the intent of CARB's land use planning guidance, which calls for agencies to balance numerous considerations when applying the guidance to specific situations and which does not specifically address siting industrial facilities. Furthermore, the pollution reduction features and mitigation measures that would be implemented would reduce impacts on existing sensitive uses. Accordingly, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.8.4 Cumulative Impact LU-3: Would the proposed Project contribute to cumulatively significant impacts related to isolating or dividing neighborhoods?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

At present, surface infrastructure features such as rail lines and major highways, and major industrial features, such as railyards and refineries, divide some communities to some extent. An example, Alameda Street, which is a major truck route and rail line, can be regarded as isolating the eastern portion of the Wilmington Community. Related projects in Table 4-1 do not, however, include features that would provide an additional degree of isolation. Accordingly, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts related to isolating or dividing communities.

Contribution of the Proposed Project

As stated in Section 3.8.4.3 (Impact LU-3), the 12-foot sound wall and associated landscaping installed as mitigation for noise impacts (**MM NOI-1**) would provide physical separation between the Project site and nearby land uses in Long Beach in addition to the separation already provided by the SCE corridor, the Terminal Island Freeway, and the San Pedro Branch line. The proposed Project does not include and would not result in the construction of new offsite roadways and rail lines that would divide or isolate existing communities. No other project features would be constructed or operated that would divide or isolate established communities or neighborhoods. Two of the alternate business industrial land uses, California Cartage and Fast Lane, would be physically divided as a result of the proposed Project (although Fast Lane is currently divided by an existing rail line). Neither use, however, would be isolated from the surrounding community. Accordingly, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative land use impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.8.5 Cumulative Impact LU-4: Would the proposed Project contribute to cumulatively significant secondary impacts to surrounding land uses?

Secondary effects are defined as "effects which are caused by the project and are later in time or farther removed in distance…[and] may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems" (CEQA Guidelines, §15358). Impacts on air and water quality and natural systems are evaluated in sections 3.2, 3.12, and 3.3. Additional secondary effects such as the potential to cause economic impacts or blighted conditions, are addressed in Chapter 7, Socioeconomics and Environmental Quality. Secondary impacts refer here to the possible nexus between activities at the proposed Project (resulting, for example, in air emissions, noise, traffic congestion) and land use changes in communities adjacent to the Project site.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

The general area of the proposed Project has a variety of land use and zoning designations ranging from heavy industrial to residential. Related projects would be consistent with those uses, and would be constructed on land appropriately zoned. Previous projects have resulted in present conflicts with public policy concerning facility siting. For example, several schools in west Long Beach are within one-quarter mile of a major freeway (the TI Freeway) and a major railyard (the ICTF). The related industrial projects could constrain future siting of sensitive uses in the area.

The area of the proposed Project has been heavily industrial, dominated by refineries, the Ports, and heavy transportation activities, for several decades. Those industries have caused secondary impacts relating to air quality, public health, traffic, and noise. The related projects in Table 4-1 would likely not induce appreciable immigration or emigration in the adjacent communities, since they do not represent major new employers. However, the related projects, particularly the industrial projects such as the Port projects

(e.g., the ICTF Modernization and Expansion Project (#44)), transportation projects, and the high-density residential projects, Shoreline Gateway (#111), and Douglas Park Rezone (#118)), can be expected to have secondary impacts related to air quality, traffic, and noise. Although most of those impacts would be reduced by mitigation measures and project controls, residual impacts would likely remain. As a consequence, past, present, and reasonably foreseeable future projects would result in significant cumulative secondary impacts to surrounding land uses.

Contribution of the Proposed Project

As stated in Section 3.8.4.3, the proposed Project would not cause changes in patterns of land use in adjacent communities or cause immigration or emigration in response to changing job opportunities. Future siting of sensitive uses in the portion of West Long Beach adjacent to the Terminal Island Freeway would be precluded by the presence of the proposed Project. However, because other industrial uses in the area (including the existing ICTF) and the presence of the Terminal Island Freeway would also discourage such siting, the proposed Project's contribution would be inconsiderable. Accordingly, the proposed Project's contribution to significant cumulative land use impacts would not be cumulatively considerable.

The proposed Project's impacts related to air quality and noise would result in secondary impacts on nearby sensitive uses. Accordingly, the proposed Project would contribute to a significant cumulative secondary impact on land use related to air quality and noise.

Mitigation Measures and Residual Cumulative Impacts

Mitigation measures for air quality and noise impacts have been imposed (Section 3.2, **MM AQ-1** through **MM AQ-10** and Section 3.9, **MM NOI-1** through **MM NOI-3**), but those mitigation measures are not expected to reduce all of the identified impacts to less than significant. Because the proposed Project would continue to have significant air quality and noise impacts, it would also have a cumulatively considerable contribution to a residual cumulative land use impact.

4.2.9 Noise

4.2.9.1 Scope of Analysis

The geographic scope for cumulative noise impacts includes the residential areas of the Wilmington District, Long Beach west of the Los Angeles River, and the City of Carson east of Wilmington Avenue and south of I-405. As described in Section 3.9.2, no other residential areas are close enough to the Project site, truck haul routes, or local rail lines to be affected by Project-related noise. This analysis considers the potential of the proposed Project, along with the related projects within the geographic scope, to cause a substantial increase in noise as a result of project construction activities and operational activities (including onsite operations, truck traffic on local streets, and rail activity). The analysis uses the same thresholds of significance as the Project analysis (Section 3.9.4.2). Sleep disturbance and speech interference are not evaluated for their cumulative impacts because the cumulative effects of past, present and reasonably foreseeable future projects including the proposed Project on these issues are too speculative.

4.2.9.2 Cumulative Impact NOI-1: Would the proposed Project cause noise levels from daytime construction lasting more than 1 day to exceed existing ambient exterior noise levels by 10 dBA or more at a noise sensitive use or for construction activities lasting more than 10 days in a 3-month period, would not exceed existing ambient exterior noise levels by 5 dBA or more at a noise sensitive use in the City of Los Angeles?

Construction noise would be experienced by workers at industrial and commercial facilities near the proposed Project site in the City of Los Angeles. However, no noise-sensitive uses were identified within the portion of the City of Los Angeles near the proposed Project site; noise-sensitive uses within Los Angeles occur along the designated truck routes, which would be used during operations and not for construction trips.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Construction noise is generally site-specific, and localized to the vicinity of each related project (Table 4-1). Accordingly, although a project's construction could affect the noise environment in its immediate vicinity, the related projects would not have a significant cumulative impact on ambient noise.

Contribution of the Proposed Project

Because no noise-sensitive uses in the City of Los Angeles are near the proposed construction areas, daytime construction activities of the proposed Project would have minor noise-related impacts. Because of the distance to the nearest construction areas, the barrier effects of intervening topography, and the high ambient background noise, construction noise is expected to be attenuated to ambient levels. Accordingly, the contribution of the proposed Project daytime construction to the cumulative noise environment would not be cumulatively considerable.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.9.3 Cumulative Impact NOI-2: Would construction activities exceed the ambient noise level by 5 dBA at a noise sensitive use in the City of Los Angeles between the hours of 9:00 PM and 7:00 AM Monday through Friday, before 8:00 AM or after 6:00 PM on Saturday, or at any time on Sunday?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Construction noise is generally site-specific, and localized to the vicinity of each related project (Table 4-1). Accordingly, although a project's construction could affect the noise environment in its immediate vicinity, the related projects would not have a significant cumulative impact on ambient noise.

Contribution of the Proposed Project

With the possible exception of the PCH Grade Separation, no nighttime construction activities are planned for the proposed Project. Nighttime construction noise from the PCH Grade Separation construction, if it occurred, would be attenuated by distance and topography. Accordingly the contribution of the proposed Project nighttime construction to the cumulative noise environment would not be cumulatively considerable.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.9.4 Cumulative Impact NOI-3: Would operation of the proposed Project contribute to a cumulative increase in noise levels by 3 dBA or more in CNEL to or within the 'normally unacceptable' or 'clearly unacceptable category,' or any 5 dBA or greater noise increase, in the City of Los Angeles?

There are no noise-sensitive receptors in the City of Los Angeles that are in the vicinity of the proposed Project, but sensitive receptors are located along rail lines and roadways that would be used by Project trains and trucks. Operation of the proposed Project and related projects could adversely affect these receptors.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

The analysis in Section 3.9.4.3 indicates that in the future, the operation of the past, present, and reasonably foreseeable future projects would likely increase ambient noise levels by more than 3 dBA over existing levels (Table 3.9-19). None of the roadways in Los Angeles that would experience those increases has sensitive uses. Accordingly, operation of the related projects would constitute a less than significant cumulative impact.

Contribution of the Proposed Project

As described in Section 3.9.4.3, Project-related increases in operational noise would exceed 3 dBA on a number of roadways in Los Angeles, but none of those roadways has sensitive uses. Rail operations would not result in increases that exceed noise guidelines. Accordingly, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative noise impact in the City of Los Angeles.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.9.5 Cumulative Impact NOI-6: Would construction and operation of the proposed Project contribute to a cumulative increase in ambient noise levels by three dBA or more, or to an exceedance of maximum noise levels allowed by the Long Beach Municipal Code?

There are ten noise-sensitive receptors in the City of Long Beach that are in the vicinity of the proposed Project: the back yard of a residence at 2789 Webster Street, the Buddhist

temple at Willow and Webster streets, the playground of the Hudson Elementary School, Hudson Park, the building setback of Cabrillo High School, the Cabrillo Child Development Center, Bethune School, the Villages of Cabrillo, the playground of Stephens Middle School, and Webster School. Operation of the proposed Project and related projects could adversely affect these receptors.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Of the past, present, and reasonably foreseeable future projects in Table 4-1, only the ICTF Modernization and Expansion (#44), the Schuyler Heim Bridge Replacement/State Route (SR) 47 Terminal Island Expressway (#108), and the Admiral Kidd Park Expansion (#132) projects are close enough to the sensitive receptors to have potential noise impacts. Construction and operation of those projects would likely increase ambient noise levels by more than 5 dB during the day (and 3 dB at night if nighttime construction were to occur) at some of those receptors. Accordingly, construction of related projects would result in a significant cumulative impact.

Operation of the related projects would contribute noise from traffic, trains, and recreational activities. In particular, ICTF operations would likely cause significant noise impacts at some receptors. The other two related projects would be perceived as distance background noise, and would likely not have significant impacts on the sensitive receptors considered in this analysis. Accordingly, operation of the related projects would result in a significant cumulative impact.

Contribution of the Proposed Project

As described in Section 3.9.4.3, Project-related increases in construction noise at sensitive receivers R1 through R8 and R30 would be more than 5 dB over existing ambient levels. The increase in construction noise would be temporary and during periods of reduced construction activity, noise levels would be lower. However, because the increase would exceed the threshold, the proposed Project would have a significant impact associated with construction noise.

Some roadways in Long Beach with noise-sensitive receptors would experience Project-related increases in operational noise exceeding the 3 dBA threshold, and operational noise levels would exceed existing measured ambient noise levels by 3 dBA or greater at sensitive receptors R1 (2789 Webster) and R5 (Cabrillo High School). Accordingly, the proposed Project would make a cumulatively considerable contribution to a significant cumulative noise impact.

Mitigation Measures and Residual Cumulative Impacts

Three mitigation measures would address the significant impacts from construction and operational-phase noise at nearby noise sensitive receptors (Section 3.9.4.3). **MM NOI-1**, which consists of construction of a 12-foot-high sound wall, and **MM NOI-2**, implementation of noise suppression techniques during construction, would be required for mitigation of cumulative construction impacts. **MM NOI-3**, construction of a 24-ft-high sound wall north of Sepulveda/Willow Boulevard, would mitigate operational noise from train horns on the San Pedro Branch rail line. Residual impacts would be significant because nighttime operational noise might not be fully mitigated. No further feasible mitigation was identified. Accordingly, the residual cumulative impact would be significant and unavoidable.

4.2.9.6 Cumulative Impact NOI-7: Would construction and operation of the proposed Project contribute to a cumulative increase in ground vibration levels in the City of Long Beach that exceed FTA acceptability criteria?

Construction operations involving heavy equipment such as pile drivers, crushers, and trucks, and operation of heavy equipment such as trucks and locomotives can generate high vibration levels that can affect sensitive receptors such as the nearby schools and residences.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Of the past, present, and reasonably foreseeable future projects in Table 4-1, only the ICTF Modernization and Expansion (#44), the Schuyler Heim Bridge Replacement/State Route (SR) 47 Terminal Island Expressway (#108), and the Admiral Kidd Park Expansion (#132) projects are close enough to the sensitive receptors to have potential vibration impacts. Construction of these projects would cause vibration, but analysis of the proposed Project (Section 3.9.4.3) suggests that the levels would be well below the FTA criteria. Likewise, operation of the related projects, including the ICTF, would likely not cause ambient vibration levels to exceed FTA criteria. Accordingly, related projects are not expected to have a significant cumulative impact.

Contribution of the Proposed Project

Predicted vibration levels from Project-related train movements would not exceed existing ambient vibration measurements or exceed the FTA criteria for ground-borne vibration (Section 3.9.4.3, Impact NOI-5). Accordingly, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.9.7 Cumulative Impact NOI-10: Would construction and operation of the proposed Project contribute to a cumulative increase in noise levels by 3 dBA or more in the City of Carson?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

The nearest residential receptor in the City of Carson (R33, at 21843 Salmon Avenue) is located over 7,000 ft from the SCIG site but only approximately 2,000 feet north of the ICTF site. This location, near Alameda Street, is exposed to substantial noise from train movements, automobile traffic, and heavy truck operations. None of the other past, present, or reasonably foreseeable future projects is likely to cause a significant impact by itself, but in view of the use of the Alameda Corridor as a truck corridor, it is likely that the cumulative operational impact of the related projects, many of which would increase truck traffic related to goods movement, would constitute a significant cumulative impact.

Contribution of the Proposed Project

Construction noise would have no impact on the Salmon Avenue sensitive receptor (Section 3.9.4.3). Train activity would increase ambient noise levels by less than 1 dB, and would therefore have a less than significant impact at the Salmon Avenue residence. Accordingly, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.9.8 Cumulative Impact NOI-11: Would construction and operation of the proposed Project contribute to a cumulative increase in ground vibration levels in the City of Carson that exceed acceptability criteria prescribed by the FTA?

Construction operations involving heavy equipment such as pile drivers, crushers, and trucks, and operation of heavy equipment such as trucks and locomotives can generate high vibration levels that can affect sensitive receptors such as the nearby schools and residences.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

The nearest residential receptor in the City of Carson (R33, at 21843 Salmon Avenue) is located over 7,000 ft from the Project site but only approximately 2,000 feet north of the ICTF site. This location, near Alameda Street, is exposed to existing vibration levels ranging from 53 to 68.8 VdB from train movements, automobile traffic, and heavy truck operations. Construction and operation of the ICTF Modernization and Expansion Project (#44) could cause a significant noise impact at that location from train activity. None of the other past, present, or reasonably foreseeable future project is likely to cause a significant impact by itself, but in view of the use of the Alameda Corridor as a truck corridor, it is likely that the cumulative operational impact of the related projects, many of which would increase truck traffic related to goods movement, would be considerable.

Contribution of the Proposed Project

Since construction of the proposed Project and operational truck and train-related vibration would not exceed ambient levels or the FTA criterion level at the Salmon Avenue residence, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.10 Transportation and Circulation

4.2.10.1 Scope of Analysis

This section is a summary of the cumulative transportation/circulation impact analysis for the proposed Project. This analysis includes streets and intersections that would be used

by truck and automobile traffic to gain access to and from the proposed Project site, and key freeway segments. Thresholds of significance used in the cumulative analysis are the same as those used for the Project analysis in Section 3.10.

4.2.10.2 Methodology

Cumulative impacts were assessed by quantifying differences between future Baseline conditions and future conditions with the proposed Project to determine the Project's contribution to the cumulative impact. This comparison differs from the analysis in Section 3.10 in that it considers the proposed Project in the context of the regional conditions that will pertain in the future, given normal growth and the traffic generated by the related projects in Table 4-1. Traffic conditions for the years 2016 (opening day), 2023, 2035, 2046, and 2066 were estimated by adding traffic due to regional traffic growth and traffic increases resulting from increases in Port throughput to CEQA baseline conditions in the project area and project site. Local traffic growth was forecast based on a computerized traffic analysis tool known as the Port Area Travel Demand Model (see Section 3.10), which includes regional traffic growth as well as growth for the port and the local area, and supplements the growth factors described below.

Background traffic growth occurs as a result of regional growth in employment, population, schools and other activities. It should be noted that most of the related projects are covered by the growth forecasts of the Port Travel Demand Model. Other local projects are not included in the SCAG Regional Model and were thus separately accounted for in the Port Travel Demand Model (for example, the San Pedro Waterfront and Promenade Project). All ports of Long Beach and Los Angeles projected container and non-container terminal traffic growth are included in the Port Travel Demand Model. The methodology for generating port-related trips and Project-related trips is described in Section 3.10.3.

The background future intersection traffic volumes (which account for cumulative non-project growth) were developed based on SCAG socioeconomic projections for the years 2008, 2014 (used for 2016), 2023, and 2035, with amendments as reflected in the Port Area Travel Demand Model. Regional background traffic growth for year 2046 and 2066 was estimated using socioeconomic estimates extrapolated to reflect growth between years 2030 and 2035, the two final years of demographic projections available from SCAG. The traffic volumes for 2046 represent the saturation of land use, socioeconomic factors, and roadway capacity, and are also used to represent 2066 conditions.

The background future freeway traffic volumes along I-110, I-405, and SR-91 were obtained from the Port Area Travel Demand Model. Future freeway traffic volumes along I-710 were obtained from the I-710 EIR/EIS travel demand modeling results. In order to use the best available information for this analysis and ensure consistency with contemporaneous studies, the Existing Baseline and 2035 Future Baseline traffic volumes along I-710 were taken directly from the I-710 EIR/EIS. For analysis years not included in the I-710 EIR/EIS, linear interpolation from 2008 to 2035 provided the 2016, 2023, 2046, and 2066 I-710 traffic volumes used in this study.

To analyze impacts accurately it is necessary to project future Project traffic and its distribution on the road network for each analysis year. That analysis includes accounting for cargo growth at the marine terminals in the two ports, since a portion of that cargo would be conveyed to and from the Project. As described in Section 1.1.5, at port build-out the total San Pedro Bay container capacity is estimated to be 39.4 million TEUs. The total estimated intermodal rail demand coming from the two San Pedro Bay ports at that

time is estimated to be 15.7 million TEUs, or 40 percent of the total port TEU throughput. These figures are consistent with the container volumes used as a basis for Port container terminal developments. Of the 15.7 million TEUs of intermodal rail demand, 11.7 million TEUs would be handled by on-dock rail and 4.0 million TEUs would be handled in off-dock rail yards.

The distribution of drayage trips related to off-dock intermodal cargo is based on the projected demand of each port terminal in each analysis year. The proposed Project would require that drayage trucks would use specified truck routes between the proposed Project and port terminals. Trucks would be equipped with GPS devices that would ensure driver compliance with the Project's specified truck routes. The designated truck routes are depicted in Figure 2-4 and described in more detail below. No new truck trips would be generated by the proposed Project. Instead, the proposed Project would eliminate drayage truck trips from the Ports to the BNSF Hobart yard by diverting them to the proposed SCIG facility. This relocation of existing traffic from the I-710 would reduce the total truck-miles traveled and the number of truck trips on I-710.

Project-related trip generation was developed using existing intermodal facility traffic counts, applicant-supplied information and the port's "QuickTrip" truck generation model. Traffic generated by the proposed Project was forecasted to determine potential impacts on study area roadways.

Designated Truck Route from Port of Los Angeles West Basin Terminals: Port terminal to Harry Bridges Boulevard to Alameda Street to Anaheim Street to East "I" Street to Terminal Island Freeway (SR-47) to Pacific Coast Highway to site driveway.

Designated Truck Route to Port of Los Angeles West Basin Terminals: Site driveway to Pacific Coast Highway to Terminal Island Freeway (SR-47) to East "I" Street to Anaheim Street to Alameda Street to Harry Bridges Boulevard to port terminal.

Designated Truck Route from Terminal Island: Port terminal to Ocean Boulevard to Terminal Island Freeway (SR-47) to Pacific Coast Highway to site driveway.

Designated Truck Route to Terminal Island: Site driveway to Pacific Coast Highway to Terminal Island Freeway (SR-47) to Ocean Boulevard to port terminal.

Designated Truck Route from Port of Long Beach: Port terminal to I-710 to Anaheim Street to East "I" Street to Terminal Island Freeway (SR-47) to Pacific Coast Highway to site driveway.

Designated Truck Route to Port of Long Beach: Site driveway to Pacific Coast Highway to Terminal Island Freeway (SR-47) to East "I" Street to Anaheim Street to I-710 southbound to port terminal, or East "I" Street to 9th Street to Pico Avenue to port terminal.

The assumed trip distribution percentages of proposed Project traffic in the various analysis years was calculated by the Port Travel Demand Model, and is shown in Figures 4-2, 4-3, and 4-4. Drayage trips between the port terminals and the ICTF and intermodal facilities near downtown Los Angeles were also distributed through the roadway network by the Port Travel Demand Model, which included local roadway truck prohibitions.

Figure 4-2. 2016 Proposed Project Trip Distribution.

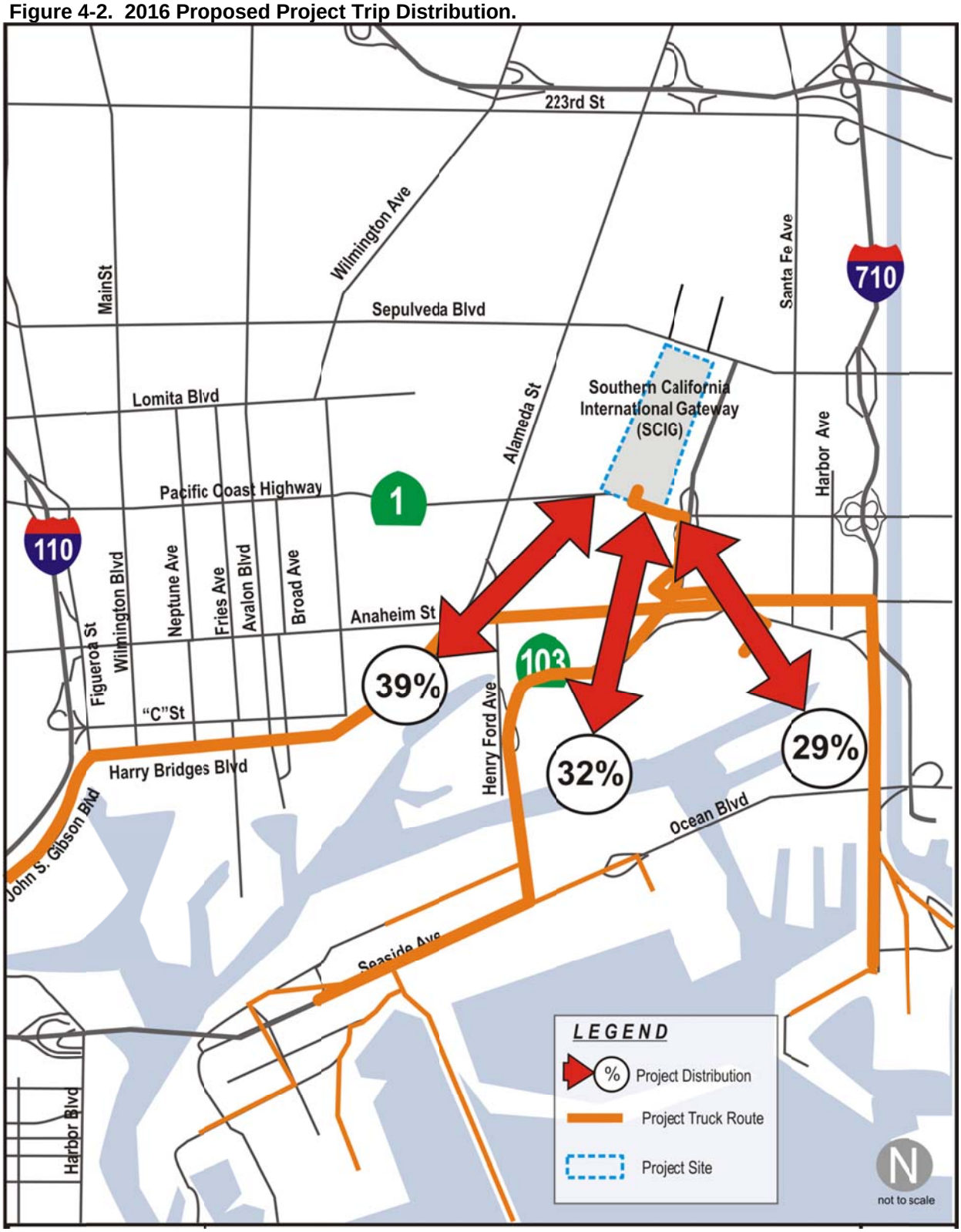


Figure 4-3. 2023 Proposed Project Trip Distribution.

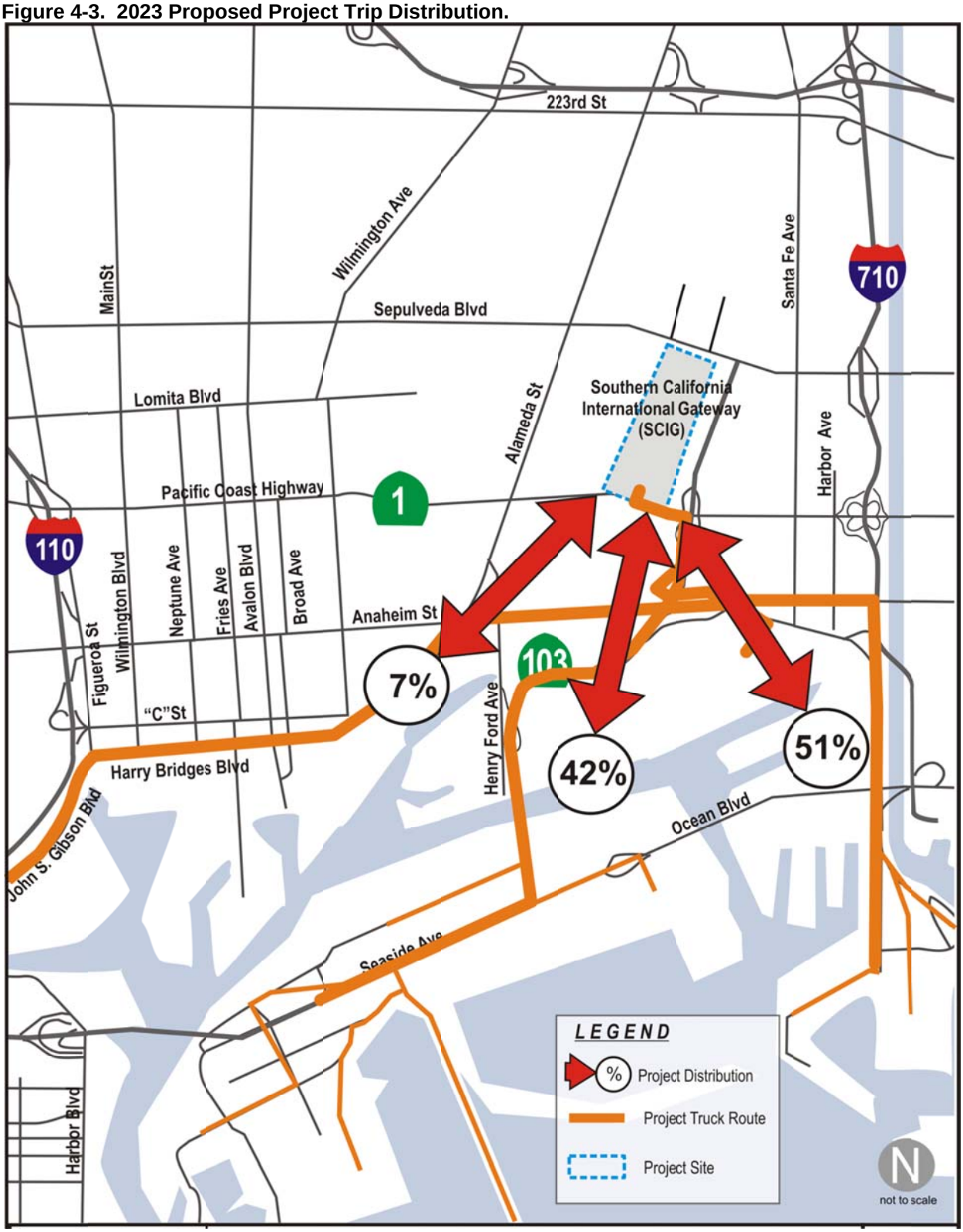
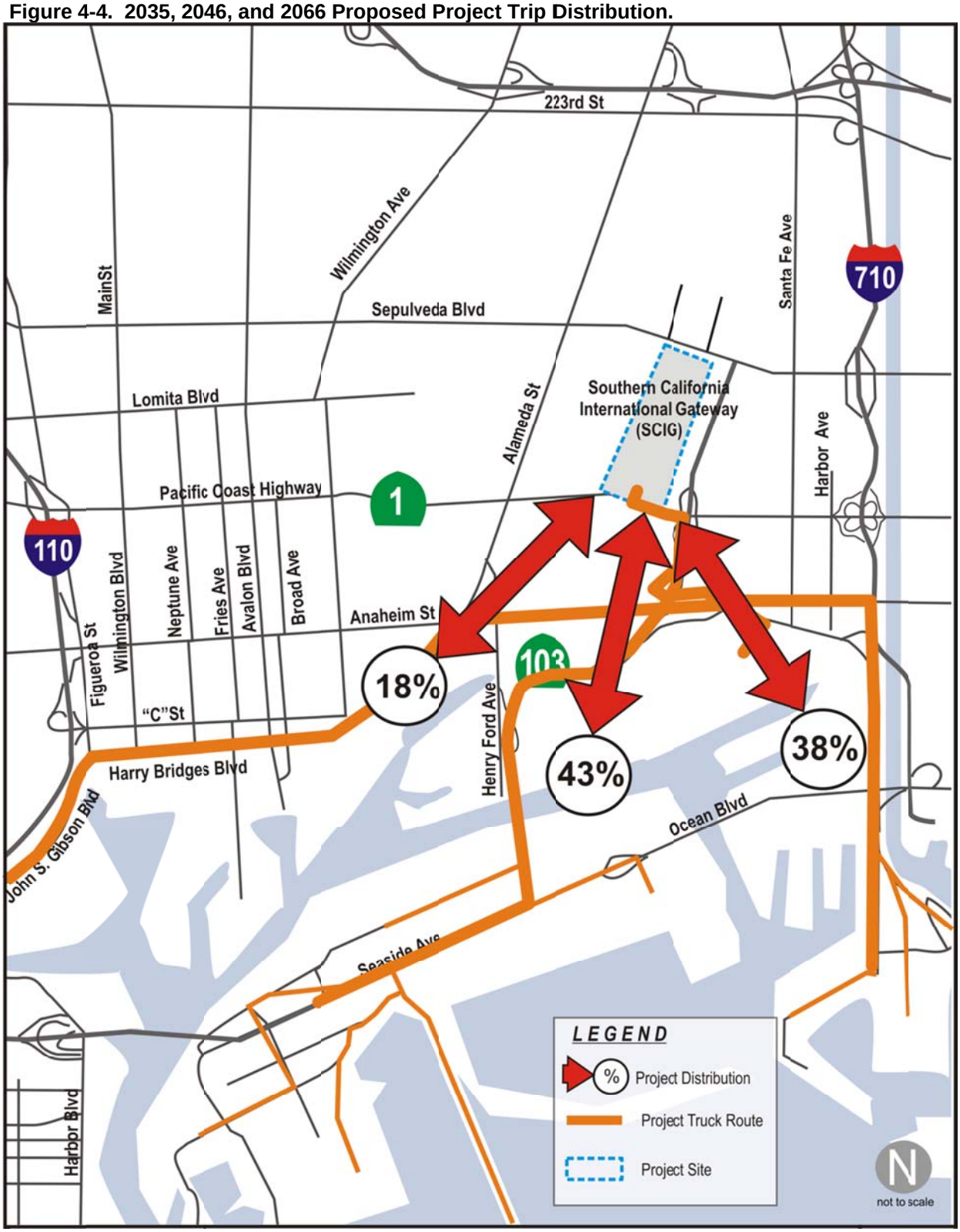


Figure 4-4. 2035, 2046, and 2066 Proposed Project Trip Distribution.



For the purposes of this analysis, it was assumed that the employees of the Proposed Project would have similar residential distribution as terminal employees surveyed as part of the Longshore Worker place of residence data used to distribute port-related employee auto trips in the Port Travel Demand Model.

Trip distribution for the proposed Project site existing businesses was based on data provided by those businesses that indicate approximately 50 percent of the trips serve the port terminals and the other 50 percent of trip are estimated to travel to downtown Los Angeles or outside of the region.

The proposed Project trip generation was determined by using the proposed Project lifts (container trips) from the average weekday of the peak month of port operation, the QuickTrip outputs, and adjustments for bobtail and container trips based on the rates shown in the memorandum titled Off-Dock Intermodal Facility Trip Generation and ICTF Driveway Counts in Appendix G. The resultant proposed Project trip generation is shown by year in Table 4-2.

Table 4-2. Proposed Project Daily Trip Generation.

Proposed Project	Annual Lifts	Average Weekday of Port Peak Month					
		Daily Lifts	Truck Trips			Auto Trips	Daily Trips
			Containers	Chassis	Bobtails		
2016	308,545	1,130	1,130	250	115	555	2,050
2023	436,540	1,600	1,600	350	160	680	2,790
2035, 2046, and 2066	1,500,000	5,495	5,495	1,210	550	900	8,155

Peak-hour trip generation (Table 4-3) was based on the proposed Project's share of intermodal demand in the peak hours. The proposed Project would operate with three eight-hour shifts beginning at 6 A.M., 2 P.M., and 10 P.M. A.M. and P.M. employee trips were not included in the peak hours because the employee shifts would end and begin at off-peak times, mid-day peak hour employee trips are included in the mid-day analysis.

Table 4-3. Proposed Project Pacific Coast Highway Entrance Peak Hour Trip Generation (in Passenger Car Equivalents).

Year	AM Peak Hour			MD Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
2016	40	65	110	125	125	250	85	75	160
2023	120	130	250	165	160	325	105	85	190
2035	410	450	860	570	550	1120	365	295	660
2046	410	450	860	570	550	1120	365	295	660
2066	410	450	860	570	550	1120	365	295	660

Table 4-4 shows the net change in trip generation from the project site with the construction of the proposed Project, which represents an incremental change over the baseline conditions at the project site—existing uses operating at existing activity levels.

Table 4-4. Net Change in Peak Hour Trips Proposed Project Pacific Coast Highway Entrance (in Passenger Car Equivalents).

Year	AM Peak Hour			MD Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
2016	(290)	(80)	(365)	(70)	(105)	(175)	(155)	(150)	(305)
2023	(210)	(15)	(225)	(30)	(70)	(100)	(135)	(140)	(275)
2035	85	305	385	375	320	695	125	70	195
2046	85	305	385	375	320	695	125	70	195
2066	85	305	385	375	320	695	125	70	195

Sepulveda Driveways and Alternate Business Sites

The proposed Project site is currently occupied by container and truck maintenance and servicing; grain terminal operations; storage; container fumigation; rail service; and auto salvage activities. For the proposed Project, none of the existing uses would remain on the footprint of the proposed railyard. Some uses would move to sites south of the proposed railyard, some would stay on the adjacent SCE property, and others would leave for unknown sites. Table 4-5 summarizes trip generation by existing businesses from the Sepulveda driveways and the alternate business locations under proposed Project conditions.

Table 4-5. Proposed Project Site (Sepulveda Driveways) and Alternate Business Site Peak Hour Trip Generation (in Passenger Car Equivalents).

Entrance	Scenario	Business	AM			MD			PM		
			In	Out	Total	In	Out	Total	In	Out	Total
Sepulveda Driveways	CEQA Baseline	Total	195	125	320	200	205	405	210	310	520
	Proposed Project	Cal Cartage	50	20	70	30	30	60	35	35	70
	Net Change		(145)	(105)	(250)	(170)	(175)	(345)	(175)	(275)	(470)
Alternate Sites	CEQA Baseline	Total	10	5	15	5	10	20	5	0	5
	Proposed Project	Cal Cartage	25	10	35	15	15	30	20	15	35
		Fast Lane	100	40	140	55	65	120	70	65	135
		Total	125	50	175	70	80	150	90	80	170
	Net Change		115	45	160	65	70	135	85	80	165

Other Intermodal Facilities

Table 4-6 shows the peak hour trip generation for other intermodal facilities in each analysis year represented as Passenger Car Equivalents (PCE). Note that little international intermodal cargo throughput is shown at each of the downtown yards (Hobart Railyard and East Los Angeles) due to some continued international intermodal throughput under proposed Project conditions.

Table 4-6. Other Intermodal Facility Peak Hour Trip Generation (in Passenger Car Equivalents).

Year	ICTF						Downtown Yards					
	AM Peak Hour		MD Peak Hour		PM Peak Hour		AM Peak Hour		MD Peak Hour		PM Peak Hour	
	In bound	Out bound	In bound	Out bound	In bound	Out bound	In bound	Out bound	In bound	Out bound	In bound	Out bound
2016	45	85	140	155	95	95	15	20	35	35	25	20
2023	135	165	185	200	120	110	35	40	50	45	30	25
2035	145	180	200	220	130	120	80	85	110	105	70	55
2046	145	180	200	220	130	120	80	85	110	105	70	55
2066	145	180	200	220	130	120	80	85	110	105	70	55

Project-Area Transportation Improvements

There are transportation improvement projects planned to be implemented in the Port area during the period of the cumulative analysis of the proposed Project and its alternatives. These projects are either included in the regional transportation planning and programming documents (the SCAG Regional Transportation Plan and Regional Transportation Improvement Program), or were developed as part of the Port of Los Angeles Roadway Transportation Study and other Port Planning and implementation efforts. These projects were incorporated into the future transportation infrastructure as reasonably foreseeable related projects, and their effects on trip distribution and levels of service in future years were modeled accordingly.

Several of the transportation projects contained in the study have been reviewed by Caltrans. Caltrans is the agency that owns, operates and controls many of these transportation facilities. Thus, implementation of any improvements at those locations must be approved by Caltrans before they can proceed. A major project development milestone is called the Project Study Report (PSR) which outlines the need for the project, describes the project components, analyzes the project and assesses project alternatives. After approval of the PSR, the project is considered to be approved by Caltrans for purposes of proceeding to the development of geometric plans, right-of-way maps, environmental studies and then construction. All of the noted projects have been taken through the Project Study Report (PSR) process and the PSR documents were approved by Caltrans. Additionally, funds have been designated for these Projects. The remaining steps to implementation of the projects include preparation of engineering plans, environmental documentation, funding and construction. Because these projects were approved by Caltrans through the PSR process, are planned to be environmentally cleared, and have committed funding, they are reasonably foreseeable projects and are therefore included in the EIR transportation analysis as related projects and assumed to be in place during the Proposed Project's future analysis years.

The related transportation projects include:

Sepulveda Boulevard Widening. The project will widen Sepulveda Boulevard near the current entrance/exit of the ICTF site and the exit of the proposed ICTF Modernization project. Horizon year for completion is 2014.

Anaheim Street Widening. This project will widen Anaheim Street between Farragut Street and the Dominguez Channel from four to six lanes.

Wilmington Avenue/223rd Street Interchange Improvements. This project will add traffic lanes and access ramps and improve existing I-405 access. Horizon year for completion is 2014.

Wilmington ATSAC/ATCS Project. Improvements to 70 signalized intersections within the Wilmington city limits are being undertaken through implementation of computer-based, real-time traffic signal monitoring and control systems in order to improve travel times, travel speeds, and traffic progression and to reduce delay time at intersections.

For the purposes of this analysis all study intersections located within the City of Los Angeles and Wilmington jurisdictions are assumed to be operating with the ATSAC/ATCS system by future year 2016 scenario and all subsequent future years. Horizon year for completion is 2014.

4.2.10.3 Cumulative Impact TRANS-1: Would short-term construction traffic significantly impact at least one study location volume/capacity ratio or level of service?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Past construction activities resulted in short-term, temporary impacts at selected roadway links, intersections and ramps. Construction period traffic control measures would be implemented to mitigate these impacts. Once construction was completed, no further construction traffic impacts occurred.

Contribution of the Proposed Project

Construction activities would generate vehicular traffic associated with construction workers' vehicles and trucks delivering equipment and fill material to the site. This site-generated traffic would potentially result in increased traffic volumes on the study area roadways during the three-year duration of construction (2013 – 2015). Sites for equipment laydown, material storage, construction management, and worker parking and staging would be located within the proposed Project site. Storage yards and staging areas would be on sites that have already been improved, with access to large commercial streets to allow easy movement of personnel and equipment. It is anticipated that the majority of materials would be brought in during off-peak traffic hours, with the primary exception being concrete, which must be mixed and delivered within a limited window of time.

Given the construction schedule, the construction worker trips would occur outside of the A.M. and P.M. peak hours while some construction-related truck trips would occur during peak hours. The number of construction truck trips during any single peak hour would be less than 30. That number of trips in an hour falls below the Los Angeles Department of Transportation threshold for conducting any type of traffic impact analysis. As a standard practice, POLA requires contractors to prepare a detailed traffic management plan for Port projects. A traffic management plan would be required as part of the proposed Project prior to initiating any construction related to the SCIG facility, the PCH grade separation, or at the alternate business sites (see Section 3.10 for details of the traffic management plan). Considering that all worker trips fall outside of the peak hours and the construction truck trips would be less than 30 during any peak hour and the standard construction practices required by POLA, construction traffic would not cause a

study intersection to exceed the thresholds for a significant impact. Accordingly, construction of the proposed Project would not contribute cumulatively to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.10.4 Cumulative Impact TRANS-2: Would long-term vehicular traffic have a significant adverse impact on at least one study intersection's volume/capacity ratios or level of service?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Cumulative impacts were analyzed using a two-step process. An initial comparison was made to compare the cumulative "With Project" LOS condition against CEQA baseline conditions to determine if a cumulative impact would occur relative to CEQA baseline conditions. A cumulative impact was deemed to occur if it exceeded the allowable threshold of significance. If a cumulative impact was determined, then a second comparison was conducted by calculating the difference in LOS for the future conditions "With Project" and the future conditions "Without Project" levels of service. If the difference in LOS was calculated to exceed the threshold guidelines, then it was determined that the proposed Project would result in a cumulatively considerable contribution to a significant cumulative traffic impact.

Tables 4-7, 4-8, 4-9, 4-10, and 4-11 summarize CEQA baseline conditions compared to future intersection operating conditions with the proposed Project and including the related projects in Table 4-1 at each study intersection in 2016, 2023, 2035, 2046, and 2066, respectively. A number of the study intersections, especially along Anaheim Street and PCH, will operate at LOS D in 2016 and worsen over the years to LOS E. Cumulative impacts are shown to occur at two intersections in 2016, at two locations in 2023, at three locations in 2035, and at eight locations in 2046 and 2066.

Tables 4-12, 4-13, 4-14, 4-15, and 4-16 compare the future conditions with and without the proposed Project at each study intersection in 2016, 2023, 2035, 2046, and 2066, respectively, to determine the Project's cumulatively considerable contribution.

Table 4-7. Cumulative Intersection Level of Service Analysis – Year 2016 Proposed Project.

#	Study Intersection	Baseline Conditions						Year 2016 With Proposed Project						Change in V/C			Cumulative Impact		
		AM Peak Hour		MD Peak Hour		PM Peak Hour		AM Peak Hour		MD Peak Hour		PM Peak Hour							
		LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	AM	MD	PM	AM	MD	PM
1	Ocean Blvd (WB) / Terminal Island Fwy [A]	A	0.335	A	0.398	A	0.375	A	0.454	A	0.369	A	0.468	0.119	-0.029	0.093	N	N	N
2	Ocean Blvd (EB) / Terminal Island Fwy [A]	A	0.215	A	0.379	A	0.348	A	0.217	A	0.278	A	0.370	0.002	-0.101	0.022	N	N	N
3	Ocean Blvd (WB) / Pier S Ave [A]	A	0.266	A	0.313	A	0.341	A	0.306	A	0.305	A	0.375	0.040	-0.008	0.034	N	N	N
4	Ocean Blvd (EB) / Pier S Ave [A]	A	0.209	A	0.364	A	0.340	A	0.209	A	0.311	A	0.456	0.000	-0.053	0.116	N	N	N
5	Seaside Ave / Navy Wy [A]	A	0.527	A	0.416	B	0.641	B	0.614	A	0.294	C	0.725	0.087	-0.122	0.084	N	N	N
6	Ferry St (Seaside Ave) / SR-47 Ramps [A]	A	0.212	A	0.344	A	0.242	A	0.193	A	0.288	A	0.347	-0.019	-0.056	0.105	N	N	N
7	Pico Ave / Pier B St / 9th St / I-710 Ramps [B]	A	0.435	A	0.519	A	0.499	A	0.497	A	0.488	B	0.683	0.062	-0.031	0.184	N	N	N
8	Anaheim St / Harbor Ave [B]	A	0.453	A	0.455	A	0.560	B	0.629	B	0.675	C	0.781	0.176	0.220	0.221	N	N	N
9	Anaheim St / Santa Fe Ave [B]	A	0.473	A	0.508	A	0.578	B	0.651	B	0.615	D	0.832	0.178	0.107	0.254	N	N	N
10	Anaheim St / E I St / W 9th St [B]	A	0.501	A	0.525	A	0.529	B	0.606	A	0.584	C	0.790	0.105	0.059	0.261	N	N	N
11	Anaheim St / Farragut Ave [A]	A	0.377	A	0.328	A	0.386	A	0.243	A	0.227	A	0.544	-0.134	-0.101	0.158	N	N	N
12	Anaheim St / Henry Ford Ave [A]	A	0.400	A	0.516	B	0.660	A	0.490	A	0.566	C	0.793	0.090	0.050	0.133	N	N	Yes
13	Anaheim St / Alameda St [A]	A	0.461	A	0.425	A	0.568	A	0.444	A	0.391	B	0.618	-0.017	-0.034	0.050	N	N	N
14	Henry Ford Ave / Pier A Wy / SR-47/103 [A]	A	0.178	A	0.225	A	0.267	A	0.265	A	0.169	A	0.231	0.087	-0.056	-0.036	N	N	N
15	Harry Bridges Blvd / Broad Ave [A]	A	0.243	A	0.215	A	0.318	A	0.245	A	0.165	A	0.340	0.002	-0.050	0.022	N	N	N
16	Harry Bridges Blvd / Avalon Blvd [A]	A	0.255	A	0.182	A	0.338	A	0.472	A	0.232	A	0.545	0.217	0.050	0.207	N	N	N
17	Harry Bridges Blvd / Fries Ave [A]	A	0.223	A	0.227	A	0.303	A	0.293	A	0.202	A	0.338	0.070	-0.025	0.035	N	N	N
18	Harry Bridges Blvd / Neptune Ave [A]	A	0.153	A	0.128	A	0.227	A	0.218	A	0.132	A	0.352	0.065	0.004	0.125	N	N	N
19	Harry Bridges Blvd / King Ave [A]	A	0.219	A	0.177	A	0.302	A	0.415	A	0.302	B	0.652	0.196	0.125	0.350	N	N	N
20	Harry Bridges Blvd / Figueroa St [A]	A	0.335	A	0.337	A	0.392	A	0.550	A	0.357	C	0.730	0.215	0.020	0.338	N	N	Yes
21	Pacific Coast Hwy / Alameda St Ramp [A]	B	0.605	A	0.511	B	0.661	A	0.452	A	0.387	A	0.570	-0.153	-0.124	-0.091	N	N	N
22	Pacific Coast Hwy / Site Entrance [A]	A	0.383	A	0.283	A	0.542	A	0.222	A	0.307	A	0.407	-0.161	0.024	-0.135	N	N	N
23	Pacific Coast Hwy / Santa Fe Ave [B]	C	0.773	B	0.699	D	0.821	C	0.731	B	0.635	D	0.885	-0.042	-0.064	0.064	N	N	N
24	Pacific Coast Hwy / Harbor Ave [B]	B	0.628	B	0.603	C	0.733	B	0.625	B	0.658	D	0.850	-0.003	0.055	0.117	N	N	N
25	Sepulveda Blvd / Alameda St Ramp [C]	B	0.679	A	0.484	B	0.612	A	0.500	A	0.528	A	0.537	-0.179	0.044	-0.075	N	N	N

A) A City of Los Angeles intersection, analyzed using CMA methodology according to City standards.
B) City of Long Beach intersection analyzed using ICU methodology according to City standards.
C) City of Carson intersection analyzed using CMA methodology according to City standards.

Table 4-8. Cumulative Intersection Level of Service Analysis – Year 2023 Proposed Project.

#	Study Intersection	Baseline Conditions						Year 2023 With Proposed Project						Change in V/C			Cumulative Impact		
		AM Peak Hour		MD Peak Hour		PM Peak Hour		AM Peak Hour		MD Peak Hour		PM Peak Hour							
		LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	AM	MD	PM	AM	MD	PM
1	Ocean Blvd (WB) / Terminal Island Fwy [A]	A	0.335	A	0.398	A	0.375	A	0.499	A	0.370	A	0.460	0.164	-0.028	0.085	N	N	N
2	Ocean Blvd (EB) / Terminal Island Fwy [A]	A	0.215	A	0.379	A	0.348	A	0.336	A	0.306	A	0.302	0.121	-0.073	-0.046	N	N	N
3	Ocean Blvd (WB) / Pier S Ave [A]	A	0.266	A	0.313	A	0.341	A	0.381	A	0.306	A	0.333	0.115	-0.007	-0.008	N	N	N
4	Ocean Blvd (EB) / Pier S Ave [A]	A	0.209	A	0.364	A	0.34	A	0.284	A	0.305	A	0.300	0.075	-0.059	-0.040	N	N	N
5	Seaside Ave / Navy Wy [A]	A	0.527	A	0.416	B	0.641	C	0.705	A	0.380	B	0.676	0.178	-0.036	0.035	N	N	N
6	Ferry St (Seaside Ave) / SR-47 Ramps [A]	A	0.212	A	0.344	A	0.242	A	0.225	A	0.305	A	0.198	0.013	-0.039	-0.044	N	N	N
7	Pico Ave / Pier B St / 9th St / I-710 Ramps [B]	A	0.435	A	0.519	A	0.499	B	0.632	A	0.543	A	0.547	0.197	0.024	0.048	N	N	N
8	Anaheim St / Harbor Ave [B]	A	0.453	A	0.455	A	0.56	B	0.650	B	0.689	B	0.693	0.197	0.234	0.133	N	N	N
9	Anaheim St / Santa Fe Ave [B]	A	0.473	A	0.508	A	0.578	C	0.708	B	0.633	C	0.777	0.235	0.125	0.199	N	N	N
10	Anaheim St / E I St / W 9th St [B]	A	0.501	A	0.525	A	0.529	B	0.676	A	0.567	C	0.775	0.175	0.042	0.246	N	N	N
11	Anaheim St / Farragut Ave [A]	A	0.377	A	0.328	A	0.386	A	0.354	A	0.260	A	0.530	-0.023	-0.068	0.144	N	N	N
12	Anaheim St / Henry Ford Ave [A]	A	0.4	A	0.516	B	0.66	A	0.555	A	0.573	C	0.792	0.155	0.057	0.132	N	N	Yes
13	Anaheim St / Alameda St [A]	A	0.461	A	0.425	A	0.568	A	0.454	A	0.396	B	0.691	-0.007	-0.029	0.123	N	N	N
14	Henry Ford Ave / Pier A Wy / SR-47/103 [A]	A	0.178	A	0.225	A	0.267	A	0.329	A	0.169	A	0.229	0.151	-0.056	-0.038	N	N	N
15	Harry Bridges Blvd / Broad Ave [A]	A	0.243	A	0.215	A	0.318	A	0.248	A	0.175	A	0.310	0.005	-0.040	-0.008	N	N	N
16	Harry Bridges Blvd / Avalon Blvd [A]	A	0.255	A	0.182	A	0.338	A	0.488	A	0.255	A	0.593	0.233	0.073	0.255	N	N	N
17	Harry Bridges Blvd / Fries Ave [A]	A	0.223	A	0.227	A	0.303	A	0.312	A	0.223	A	0.353	0.089	-0.004	0.050	N	N	N
18	Harry Bridges Blvd / Neptune Ave [A]	A	0.153	A	0.128	A	0.227	A	0.222	A	0.137	A	0.340	0.069	0.009	0.113	N	N	N
19	Harry Bridges Blvd / King Ave [A]	A	0.219	A	0.177	A	0.302	A	0.438	A	0.375	B	0.663	0.219	0.198	0.361	N	N	N
20	Harry Bridges Blvd / Figueroa St [A]	A	0.335	A	0.337	A	0.392	A	0.550	A	0.397	C	0.700	0.215	0.060	0.308	N	N	Yes
21	Pacific Coast Hwy / Alameda St Ramp [A]	B	0.605	A	0.511	B	0.661	A	0.482	A	0.438	A	0.596	-0.123	-0.073	-0.065	N	N	N
22	Pacific Coast Hwy / Site Entrance [A]	A	0.383	A	0.283	A	0.542	A	0.271	A	0.332	A	0.364	-0.112	0.049	-0.178	N	N	N
23	Pacific Coast Hwy / Santa Fe Ave [B]	C	0.773	B	0.699	D	0.821	C	0.756	B	0.638	D	0.826	-0.017	-0.061	0.005	N	N	N
24	Pacific Coast Hwy / Harbor Ave [B]	B	0.628	B	0.603	C	0.733	B	0.629	B	0.680	C	0.773	0.001	0.077	0.040	N	N	N
25	Sepulveda Blvd / Alameda St Ramp [C]	B	0.679	A	0.484	B	0.612	A	0.536	A	0.467	B	0.600	-0.143	-0.017	-0.012	N	N	N

A) City of Los Angeles intersection, analyzed using CMA methodology according to City standards.
B) City of Long Beach intersection analyzed using ICU methodology according to City standards.
C) City of Carson intersection analyzed using CMA methodology according to City standards.

Table 4-9. Cumulative Intersection Level of Service Analysis – Year 2035 Proposed Project.

#	Study Intersection	Baseline Conditions						Year 2035 With Proposed Project						Change in V/C			Cumulative Impact		
		AM Peak Hour		MD Peak Hour		PM Peak Hour		AM Peak Hour		MD Peak Hour		PM Peak Hour							
		LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	AM	MD	PM	AM	MD	PM
1	Ocean Blvd (WB) / Terminal Island Fwy [A]	A	0.335	A	0.398	A	0.375	A	0.519	A	0.557	A	0.405	0.184	0.159	0.030	N	N	N
2	Ocean Blvd (EB) / Terminal Island Fwy [A]	A	0.215	A	0.379	A	0.348	A	0.469	A	0.546	A	0.413	0.254	0.167	0.065	N	N	N
3	Ocean Blvd (WB) / Pier S Ave [A]	A	0.266	A	0.313	A	0.341	A	0.544	A	0.505	A	0.403	0.278	0.192	0.062	N	N	N
4	Ocean Blvd (EB) / Pier S Ave [A]	A	0.209	A	0.364	A	0.340	A	0.429	A	0.523	A	0.398	0.220	0.159	0.058	N	N	N
5	Seaside Ave / Navy Wy [A]	A	0.527	A	0.416	B	0.641	C	0.712	B	0.609	B	0.686	0.185	0.193	0.045	N	N	N
6	Ferry St (Seaside Ave) / SR-47 Ramps [A]	A	0.212	A	0.344	A	0.242	A	0.395	A	0.463	A	0.372	0.183	0.119	0.130	N	N	N
7	Pico Ave / Pier B St / 9th St / I-710 Ramps [B]	A	0.435	A	0.519	A	0.499	D	0.814	D	0.868	A	0.603	0.379	0.349	0.104	N	N	N
8	Anaheim St / Harbor Ave [B]	A	0.453	A	0.455	A	0.560	C	0.718	C	0.744	B	0.653	0.265	0.289	0.093	N	N	N
9	Anaheim St / Santa Fe Ave [B]	A	0.473	A	0.508	A	0.578	B	0.635	B	0.653	C	0.769	0.162	0.145	0.191	N	N	N
10	Anaheim St / E I St / W 9th St [B]	A	0.501	A	0.525	A	0.529	D	0.865	D	0.817	C	0.770	0.364	0.292	0.241	N	N	N
11	Anaheim St / Farragut Ave [A]	A	0.377	A	0.328	A	0.386	A	0.418	A	0.348	A	0.450	0.041	0.020	0.064	N	N	N
12	Anaheim St / Henry Ford Ave [A]	A	0.400	A	0.516	B	0.660	B	0.604	B	0.651	C	0.763	0.204	0.135	0.103	N	N	Yes
13	Anaheim St / Alameda St [A]	A	0.461	A	0.425	A	0.568	A	0.479	A	0.433	B	0.654	0.018	0.008	0.086	N	N	N
14	Henry Ford Ave / Pier A Wy / SR-47/103 [A]	A	0.178	A	0.225	A	0.267	A	0.251	A	0.127	A	0.178	0.073	-0.098	-0.089	N	N	N
15	Harry Bridges Blvd / Broad Ave [A]	A	0.243	A	0.215	A	0.318	A	0.247	A	0.172	A	0.333	0.004	-0.043	0.015	N	N	N
16	Harry Bridges Blvd / Avalon Blvd [A]	A	0.255	A	0.182	A	0.338	A	0.46	A	0.313	A	0.563	0.205	0.131	0.225	N	N	N
17	Harry Bridges Blvd / Fries Ave [A]	A	0.223	A	0.227	A	0.303	A	0.24	A	0.227	A	0.357	0.017	0.000	0.054	N	N	N
18	Harry Bridges Blvd / Neptune Ave [A]	A	0.153	A	0.128	A	0.227	A	0.127	A	0.067	A	0.258	-0.026	-0.061	0.031	N	N	N
19	Harry Bridges Blvd / King Ave [A]	A	0.219	A	0.177	A	0.302	A	0.371	A	0.233	A	0.342	0.152	0.056	0.040	N	N	N
20	Harry Bridges Blvd / Figueroa St [A]	A	0.335	A	0.337	A	0.392	B	0.613	A	0.47	C	0.768	0.278	0.133	0.376	N	N	Yes
21	Pacific Coast Hwy / Alameda St Ramp [A]	B	0.605	A	0.511	B	0.661	A	0.518	A	0.464	B	0.637	-0.087	-0.047	-0.024	N	N	N
22	Pacific Coast Hwy / Site Entrance [A]	A	0.383	A	0.283	A	0.542	A	0.368	A	0.304	A	0.439	-0.015	0.021	-0.103	N	N	N
23	Pacific Coast Hwy / Santa Fe Ave [B]	C	0.773	B	0.699	D	0.821	E	0.935	D	0.84	E	0.935	0.162	0.141	0.114	Yes	N	Yes
24	Pacific Coast Hwy / Harbor Ave [B]	B	0.628	B	0.603	C	0.733	C	0.742	C	0.733	D	0.893	0.114	0.130	0.160	N	N	N
25	Sepulveda Blvd / Alameda St Ramp [C]	B	0.679	A	0.484	B	0.612	A	0.539	A	0.373	B	0.600	-0.140	-0.111	-0.012	N	N	N

A) A City of Los Angeles intersection, analyzed using CMA methodology according to City standards.
B) City of Long Beach intersection analyzed using ICU methodology according to City standards.
C) City of Carson intersection analyzed using CMA methodology according to City standards.

Table 4-10. Cumulative Intersection Level of Service Analysis – Year 2046 Proposed Project.

#	Study Intersection	Baseline Conditions						Year 2046 With Proposed Project						Change in V/C			Cumulative Impact		
		AM Peak Hour		MD Peak Hour		PM Peak Hour		AM Peak Hour		MD Peak Hour		PM Peak Hour							
		LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	AM	MD	PM	AM	MD	PM
1	Ocean Blvd (WB) / Terminal Island Fwy [A]	A	0.335	A	0.398	A	0.375	B	0.629	A	0.535	A	0.490	0.294	0.137	0.115	N	N	N
2	Ocean Blvd (EB) / Terminal Island Fwy [A]	A	0.215	A	0.379	A	0.348	A	0.466	A	0.386	A	0.390	0.251	0.007	0.042	N	N	N
3	Ocean Blvd (WB) / Pier S Ave [A]	A	0.266	A	0.313	A	0.341	A	0.552	A	0.472	A	0.394	0.286	0.159	0.053	N	N	N
4	Ocean Blvd (EB) / Pier S Ave [A]	A	0.209	A	0.364	A	0.340	A	0.402	A	0.466	A	0.441	0.193	0.102	0.101	N	N	N
5	Seaside Ave / Navy Wy [A]	A	0.527	A	0.416	B	0.641	D	0.890	A	0.592	C	0.765	0.363	0.176	0.124	Yes	N	Yes
6	Ferry St (Seaside Ave) / SR-47 Ramps [A]	A	0.212	A	0.344	A	0.242	A	0.395	A	0.467	A	0.370	0.183	0.123	0.128	N	N	N
7	Pico Ave / Pier B St / 9th St / I-710 Ramps [B]	A	0.435	A	0.519	A	0.499	D	0.886	D	0.847	B	0.683	0.451	0.328	0.184	N	N	N
8	Anaheim St / Harbor Ave [B]	A	0.453	A	0.455	A	0.560	C	0.794	D	0.855	C	0.761	0.341	0.400	0.201	N	N	N
9	Anaheim St / Santa Fe Ave [B]	A	0.473	A	0.508	A	0.578	D	0.823	C	0.769	E	0.947	0.350	0.261	0.369	N	N	Yes
10	Anaheim St / E I St / W 9th St [B]	A	0.501	A	0.525	A	0.529	D	0.897	C	0.798	D	0.879	0.396	0.273	0.350	N	N	N
11	Anaheim St / Farragut Ave [A]	A	0.377	A	0.328	A	0.386	A	0.418	A	0.354	A	0.568	0.041	0.026	0.182	N	N	N
12	Anaheim St / Henry Ford Ave [A]	A	0.400	A	0.516	B	0.660	C	0.709	C	0.720	D	0.888	0.309	0.204	0.228	Yes	Yes	Yes
13	Anaheim St / Alameda St [A]	A	0.461	A	0.425	A	0.568	A	0.568	A	0.481	C	0.726	0.107	0.056	0.158	N	N	Yes
14	Henry Ford Ave / Pier A Wy / SR-47/103 [A]	A	0.178	A	0.225	A	0.267	A	0.440	A	0.169	A	0.227	0.262	-0.056	-0.040	N	N	N
15	Harry Bridges Blvd / Broad Ave [A]	A	0.243	A	0.215	A	0.318	A	0.293	A	0.218	A	0.430	0.050	0.003	0.112	N	N	N
16	Harry Bridges Blvd / Avalon Blvd [A]	A	0.255	A	0.182	A	0.338	A	0.537	A	0.387	B	0.692	0.282	0.205	0.354	N	N	N
17	Harry Bridges Blvd / Fries Ave [A]	A	0.223	A	0.227	A	0.303	A	0.320	A	0.295	A	0.378	0.097	0.068	0.075	N	N	N
18	Harry Bridges Blvd / Neptune Ave [A]	A	0.153	A	0.128	A	0.227	A	0.242	A	0.190	A	0.390	0.089	0.062	0.163	N	N	N
19	Harry Bridges Blvd / King Ave [A]	A	0.219	A	0.177	A	0.302	A	0.588	A	0.488	C	0.796	0.369	0.311	0.494	N	N	Yes
20	Harry Bridges Blvd / Figueroa St [A]	A	0.335	A	0.337	A	0.392	B	0.637	A	0.460	C	0.793	0.302	0.123	0.401	N	N	Yes
21	Pacific Coast Hwy / Alameda St Ramp [A]	B	0.605	A	0.511	B	0.661	A	0.499	A	0.525	B	0.623	-0.106	0.014	-0.038	N	N	N
22	Pacific Coast Hwy / Site Entrance [A]	A	0.383	A	0.283	A	0.542	A	0.332	A	0.411	A	0.436	-0.051	0.128	-0.106	N	N	N
23	Pacific Coast Hwy / Santa Fe Ave [B]	C	0.773	B	0.699	D	0.821	D	0.898	C	0.784	E	0.945	0.125	0.085	0.124	N	N	Yes
24	Pacific Coast Hwy / Harbor Ave [B]	B	0.628	B	0.603	C	0.733	B	0.694	C	0.781	E	0.907	0.066	0.178	0.174	N	N	Yes
25	Sepulveda Blvd / Alameda St Ramp [C]	B	0.679	A	0.484	B	0.612	A	0.533	A	0.497	B	0.623	-0.146	0.013	0.011	N	N	N

A) City of Los Angeles intersection, analyzed using CMA methodology according to City standards.
B) City of Long Beach intersection analyzed using ICU methodology according to City standards.
C) City of Carson intersection analyzed using CMA methodology according to City standards.

Table 4-11. Cumulative Intersection Level of Service Analysis – Year 2066 Proposed Project.

#	Study Intersection	Baseline Conditions						Year 2046 With Proposed Project						Change in V/C			Cumulative Impact		
		AM Peak Hour		MD Peak Hour		PM Peak Hour		AM Peak Hour		MD Peak Hour		PM Peak Hour							
		LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	AM	MD	PM	AM	MD	PM
1	Ocean Blvd (WB) / Terminal Island Fwy [A]	A	0.335	A	0.398	A	0.375	B	0.629	A	0.535	A	0.490	0.294	0.137	0.115	N	N	N
2	Ocean Blvd (EB) / Terminal Island Fwy [A]	A	0.215	A	0.379	A	0.348	A	0.466	A	0.386	A	0.390	0.251	0.007	0.042	N	N	N
3	Ocean Blvd (WB) / Pier S Ave [A]	A	0.266	A	0.313	A	0.341	A	0.552	A	0.472	A	0.394	0.286	0.159	0.053	N	N	N
4	Ocean Blvd (EB) / Pier S Ave [A]	A	0.209	A	0.364	A	0.340	A	0.402	A	0.466	A	0.441	0.193	0.102	0.101	N	N	N
5	Seaside Ave / Navy Wy [A]	A	0.527	A	0.416	B	0.641	D	0.890	A	0.592	C	0.765	0.363	0.176	0.124	Yes	N	Yes
6	Ferry St (Seaside Ave) / SR-47 Ramps [A]	A	0.212	A	0.344	A	0.242	A	0.395	A	0.467	A	0.370	0.183	0.123	0.128	N	N	N
7	Pico Ave / Pier B St / 9th St / I-710 Ramps [B]	A	0.435	A	0.519	A	0.499	D	0.886	D	0.847	B	0.683	0.451	0.328	0.184	N	N	N
8	Anaheim St / Harbor Ave [B]	A	0.453	A	0.455	A	0.560	C	0.794	D	0.855	C	0.761	0.341	0.400	0.201	N	N	N
9	Anaheim St / Santa Fe Ave [B]	A	0.473	A	0.508	A	0.578	D	0.823	C	0.769	E	0.947	0.350	0.261	0.369	N	N	Yes
10	Anaheim St / E I St / W 9th St [B]	A	0.501	A	0.525	A	0.529	D	0.897	C	0.798	D	0.879	0.396	0.273	0.350	N	N	N
11	Anaheim St / Farragut Ave [A]	A	0.377	A	0.328	A	0.386	A	0.418	A	0.354	A	0.568	0.041	0.026	0.182	N	N	N
12	Anaheim St / Henry Ford Ave [A]	A	0.400	A	0.516	B	0.660	C	0.709	C	0.720	D	0.888	0.309	0.204	0.228	Yes	Yes	Yes
13	Anaheim St / Alameda St [A]	A	0.461	A	0.425	A	0.568	A	0.568	A	0.481	C	0.726	0.107	0.056	0.158	N	N	Yes
14	Henry Ford Ave / Pier A Wy / SR-47/103 [A]	A	0.178	A	0.225	A	0.267	A	0.440	A	0.169	A	0.227	0.262	-0.056	-0.040	N	N	N
15	Harry Bridges Blvd / Broad Ave [A]	A	0.243	A	0.215	A	0.318	A	0.293	A	0.218	A	0.430	0.050	0.003	0.112	N	N	N
16	Harry Bridges Blvd / Avalon Blvd [A]	A	0.255	A	0.182	A	0.338	A	0.537	A	0.387	B	0.692	0.282	0.205	0.354	N	N	N
17	Harry Bridges Blvd / Fries Ave [A]	A	0.223	A	0.227	A	0.303	A	0.320	A	0.295	A	0.378	0.097	0.068	0.075	N	N	N
18	Harry Bridges Blvd / Neptune Ave [A]	A	0.153	A	0.128	A	0.227	A	0.242	A	0.190	A	0.390	0.089	0.062	0.163	N	N	N
19	Harry Bridges Blvd / King Ave [A]	A	0.219	A	0.177	A	0.302	A	0.588	A	0.488	C	0.796	0.369	0.311	0.494	N	N	Yes
20	Harry Bridges Blvd / Figueroa St [A]	A	0.335	A	0.337	A	0.392	B	0.637	A	0.460	C	0.793	0.302	0.123	0.401	N	N	Yes
21	Pacific Coast Hwy / Alameda St Ramp [A]	B	0.605	A	0.511	B	0.661	A	0.499	A	0.525	B	0.623	-0.106	0.014	-0.038	N	N	N
22	Pacific Coast Hwy / Site Entrance [A]	A	0.383	A	0.283	A	0.542	A	0.332	A	0.411	A	0.436	-0.051	0.128	-0.106	N	N	N
23	Pacific Coast Hwy / Santa Fe Ave [B]	C	0.773	B	0.699	D	0.821	D	0.898	C	0.784	E	0.945	0.125	0.085	0.124	N	N	Yes
24	Pacific Coast Hwy / Harbor Ave [B]	B	0.628	B	0.603	C	0.733	B	0.694	C	0.781	E	0.907	0.066	0.178	0.174	N	N	Yes
25	Sepulveda Blvd / Alameda St Ramp [C]	B	0.679	A	0.484	B	0.612	A	0.533	A	0.497	B	0.623	-0.146	0.013	0.011	N	N	N

A) City of Los Angeles intersection, analyzed using CMA methodology according to City standards.
B) City of Long Beach intersection analyzed using ICU methodology according to City standards.
C) City of Carson intersection analyzed using CMA methodology according to City standards.

Table 4-12. Cumulatively Considerable Intersection Level of Service Analysis – Year 2016 Proposed Project vs. Without Project.

#	Study Intersection	Year 2016 Without Project						Year 2016 With Proposed Project						Change in V/C			Cumulatively Considerable Impact		
		AM Peak Hour		MD Peak Hour		PM Peak Hour		AM Peak Hour		MD Peak Hour		PM Peak Hour							
		LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	AM	MD	PM	AM	MD	PM
1	Ocean Blvd (WB) / Terminal Island Fwy [A]	A	0.452	A	0.365	A	0.466	A	0.454	A	0.369	A	0.468	0.002	0.004	0.002	N	N	N
2	Ocean Blvd (EB) / Terminal Island Fwy [A]	A	0.217	A	0.277	A	0.366	A	0.217	A	0.278	A	0.370	0.000	0.001	0.004	N	N	N
3	Ocean Blvd (WB) / Pier S Ave [A]	A	0.305	A	0.300	A	0.373	A	0.306	A	0.305	A	0.375	0.001	0.005	0.002	N	N	N
4	Ocean Blvd (EB) / Pier S Ave [A]	A	0.207	A	0.306	A	0.456	A	0.209	A	0.311	A	0.456	0.002	0.005	0.000	N	N	N
5	Seaside Ave / Navy Wy [A]	B	0.614	A	0.294	C	0.725	B	0.613	A	0.294	C	0.724	-0.001	0.000	-0.001	N	N	N
6	Ferry St (Seaside Ave) / SR-47 Ramps [A]	A	0.193	A	0.288	A	0.347	A	0.193	A	0.288	A	0.347	0.000	0.000	0.000	N	N	N
7	Pico Ave / Pier B St / 9th St / I-710 Ramps [B]	A	0.510	A	0.510	C	0.700	A	0.497	A	0.488	B	0.683	-0.013	-0.022	-0.017	N	N	N
8	Anaheim St / Harbor Ave [B]	B	0.633	B	0.671	C	0.782	B	0.629	B	0.675	C	0.781	-0.004	0.004	-0.001	N	N	N
9	Anaheim St / Santa Fe Ave [B]	B	0.653	B	0.610	D	0.832	B	0.651	B	0.615	D	0.832	-0.002	0.005	0.000	N	N	N
10	Anaheim St / E I St / W 9th St [B]	A	0.592	A	0.542	C	0.770	B	0.606	A	0.584	C	0.790	0.014	0.042	0.020	N	N	N
11	Anaheim St / Farragut Ave [A]	A	0.237	A	0.216	A	0.536	A	0.243	A	0.227	A	0.544	0.006	0.011	0.008	N	N	N
12	Anaheim St / Henry Ford Ave [A]	A	0.499	A	0.549	C	0.794	A	0.490	A	0.566	C	0.793	-0.009	0.017	-0.001	N	N	N
13	Anaheim St / Alameda St [A]	A	0.489	A	0.416	B	0.681	A	0.444	A	0.391	B	0.618	-0.045	-0.025	-0.063	N	N	N
14	Henry Ford Ave / Pier A Wy / SR-47/103 [A]	A	0.267	A	0.171	A	0.233	A	0.265	A	0.169	A	0.231	-0.002	-0.002	-0.002	N	N	N
15	Harry Bridges Blvd / Broad Ave [A]	A	0.257	A	0.177	A	0.345	A	0.245	A	0.165	A	0.340	-0.012	-0.012	-0.005	N	N	N
16	Harry Bridges Blvd / Avalon Blvd [A]	A	0.483	A	0.247	A	0.550	A	0.472	A	0.232	A	0.545	-0.011	-0.015	-0.005	N	N	N
17	Harry Bridges Blvd / Fries Ave [A]	A	0.315	A	0.218	A	0.347	A	0.293	A	0.202	A	0.338	-0.022	-0.016	-0.009	N	N	N
18	Harry Bridges Blvd / Neptune Ave [A]	A	0.237	A	0.145	A	0.355	A	0.218	A	0.132	A	0.352	-0.019	-0.013	-0.003	N	N	N
19	Harry Bridges Blvd / King Ave [A]	A	0.427	A	0.319	B	0.654	A	0.415	A	0.302	B	0.652	-0.012	-0.017	-0.002	N	N	N
20	Harry Bridges Blvd / Figueroa St [A]	A	0.550	A	0.367	C	0.737	A	0.550	A	0.357	C	0.730	0.000	-0.010	-0.007	N	N	N
21	Pacific Coast Hwy / Alameda St Ramp [A]	A	0.464	A	0.432	B	0.621	A	0.452	A	0.387	A	0.570	-0.012	-0.045	-0.051	N	N	N
22	Pacific Coast Hwy / Site Entrance [A]	A	0.219	A	0.325	A	0.428	A	0.222	A	0.307	A	0.407	0.003	-0.018	-0.021	N	N	N
23	Pacific Coast Hwy / Santa Fe Ave [B]	C	0.754	B	0.640	E	0.917	C	0.731	B	0.635	D	0.885	-0.023	-0.005	-0.032	N	N	N
24	Pacific Coast Hwy / Harbor Ave [B]	B	0.641	B	0.661	D	0.869	B	0.625	B	0.658	D	0.850	-0.016	-0.003	-0.019	N	N	N
25	Sepulveda Blvd / Alameda St Ramp [C]	A	0.504	A	0.534	A	0.570	A	0.500	A	0.528	A	0.537	-0.004	-0.006	-0.033	N	N	N

A) City of Los Angeles intersection, analyzed using CMA methodology according to City standards.
B) City of Long Beach intersection analyzed using ICU methodology according to City standards.
C) City of Carson intersection analyzed using CMA methodology according to City standards.

Table 4-13. Cumulatively Considerable Intersection Level of Service Analysis – Year 2023 Proposed Project vs. Without Project.

#	Study Intersection	Year 2023 Without Project						Year 2023 With Proposed Project						Change in V/C			Cumulatively Considerable Impact		
		AM Peak Hour		MD Peak Hour		PM Peak Hour		AM Peak Hour		MD Peak Hour		PM Peak Hour							
		LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	AM	MD	PM	AM	MD	PM
1	Ocean Blvd (WB) / Terminal Island Fwy [A]	A	0.495	A	0.367	A	0.458	A	0.499	A	0.370	A	0.460	0.004	0.003	0.002	N	N	N
2	Ocean Blvd (EB) / Terminal Island Fwy [A]	A	0.336	A	0.306	A	0.303	A	0.336	A	0.306	A	0.302	0.000	0.000	-0.001	N	N	N
3	Ocean Blvd (WB) / Pier S Ave [A]	A	0.377	A	0.302	A	0.331	A	0.381	A	0.306	A	0.333	0.004	0.004	0.002	N	N	N
4	Ocean Blvd (EB) / Pier S Ave [A]	A	0.284	A	0.301	A	0.297	A	0.284	A	0.305	A	0.300	0.000	0.004	0.003	N	N	N
5	Seaside Ave / Navy Wy [A]	C	0.706	A	0.38	B	0.677	C	0.705	A	0.380	B	0.676	-0.001	0.000	-0.001	N	N	N
6	Ferry St (Seaside Ave) / SR-47 Ramps [A]	A	0.225	A	0.305	A	0.198	A	0.225	A	0.305	A	0.198	0.000	0.000	0.000	N	N	N
7	Pico Ave / Pier B St / 9th St / I-710 Ramps [B]	B	0.650	A	0.571	A	0.574	B	0.632	A	0.543	A	0.547	-0.018	-0.028	-0.027	N	N	N
8	Anaheim St / Harbor Ave [B]	B	0.647	B	0.677	B	0.690	B	0.650	B	0.689	B	0.693	0.003	0.012	0.003	N	N	N
9	Anaheim St / Santa Fe Ave [B]	C	0.704	B	0.622	C	0.773	C	0.708	B	0.633	C	0.777	0.004	0.011	0.004	N	N	N
10	Anaheim St / E I St / W 9th St [B]	B	0.648	A	0.539	C	0.775	B	0.676	A	0.567	C	0.775	0.028	0.028	0.000	N	N	N
11	Anaheim St / Farragut Ave [A]	A	0.351	A	0.257	A	0.528	A	0.354	A	0.260	A	0.530	0.003	0.003	0.002	N	N	N
12	Anaheim St / Henry Ford Ave [A]	A	0.571	A	0.568	D	0.802	A	0.555	A	0.573	C	0.792	-0.016	0.005	-0.010	N	N	N
13	Anaheim St / Alameda St [A]	A	0.475	A	0.418	C	0.711	A	0.454	A	0.396	B	0.691	-0.021	-0.022	-0.020	N	N	N
14	Henry Ford Ave / Pier A Wy / SR-47/103 [A]	A	0.331	A	0.171	A	0.231	A	0.329	A	0.169	A	0.229	-0.002	-0.002	-0.002	N	N	N
15	Harry Bridges Blvd / Broad Ave [A]	A	0.252	A	0.178	A	0.315	A	0.248	A	0.175	A	0.310	-0.004	-0.003	-0.005	N	N	N
16	Harry Bridges Blvd / Avalon Blvd [A]	A	0.492	A	0.26	A	0.598	A	0.488	A	0.255	A	0.593	-0.004	-0.005	-0.005	N	N	N
17	Harry Bridges Blvd / Fries Ave [A]	A	0.322	A	0.232	A	0.362	A	0.312	A	0.223	A	0.353	-0.010	-0.009	-0.009	N	N	N
18	Harry Bridges Blvd / Neptune Ave [A]	A	0.223	A	0.14	A	0.343	A	0.222	A	0.137	A	0.340	-0.001	-0.003	-0.003	N	N	N
19	Harry Bridges Blvd / King Ave [A]	A	0.440	A	0.379	B	0.667	A	0.438	A	0.375	B	0.663	-0.002	-0.004	-0.004	N	N	N
20	Harry Bridges Blvd / Figueroa St [A]	A	0.557	A	0.403	C	0.707	A	0.550	A	0.397	C	0.700	-0.007	-0.006	-0.007	N	N	N
21	Pacific Coast Hwy / Alameda St Ramp [A]	A	0.485	A	0.447	B	0.602	A	0.482	A	0.438	A	0.596	-0.003	-0.009	-0.006	N	N	N
22	Pacific Coast Hwy / Site Entrance [A]	A	0.279	A	0.333	A	0.369	A	0.271	A	0.332	A	0.364	-0.008	-0.001	-0.005	N	N	N
23	Pacific Coast Hwy / Santa Fe Ave [B]	C	0.785	B	0.645	D	0.857	C	0.756	B	0.638	D	0.826	-0.029	-0.007	-0.031	N	N	N
24	Pacific Coast Hwy / Harbor Ave [B]	B	0.647	B	0.684	C	0.792	B	0.629	B	0.680	C	0.773	-0.018	-0.004	-0.019	N	N	N
25	Sepulveda Blvd / Alameda St Ramp [C]	A	0.539	A	0.523	B	0.614	A	0.536	A	0.467	B	0.600	-0.003	-0.056	-0.014	N	N	N

A) City of Los Angeles intersection, analyzed using CMA methodology according to City standards.
B) City of Long Beach intersection analyzed using ICU methodology according to City standards.
C) City of Carson intersection analyzed using CMA methodology according to City standards.

Table 4-14. Cumulatively Considerable Intersection Level of Service Analysis – Year 2035 Proposed Project vs. Without Project.

#	Study Intersection	Year 2035 Without Project						Year 2035 With Proposed Project						Change in V/C			Cumulatively Considerable Impact		
		AM Peak Hour		MD Peak Hour		PM Peak Hour		AM Peak Hour		MD Peak Hour		PM Peak Hour							
		LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	AM	MD	PM	AM	MD	PM
1	Ocean Blvd (WB) / Terminal Island Fwy [A]	A	0.497	A	0.531	A	0.391	A	0.519	A	0.557	A	0.405	0.022	0.026	0.014	N	N	N
2	Ocean Blvd (EB) / Terminal Island Fwy [A]	A	0.435	A	0.502	A	0.387	A	0.469	A	0.546	A	0.413	0.034	0.044	0.026	N	N	N
3	Ocean Blvd (WB) / Pier S Ave [A]	A	0.517	A	0.473	A	0.387	A	0.544	A	0.505	A	0.403	0.027	0.032	0.016	N	N	N
4	Ocean Blvd (EB) / Pier S Ave [A]	A	0.429	A	0.491	A	0.394	A	0.429	A	0.523	A	0.398	0.000	0.032	0.004	N	N	N
5	Seaside Ave / Navy Wy [A]	C	0.716	B	0.611	B	0.687	C	0.712	B	0.609	B	0.686	-0.004	-0.002	-0.001	N	N	N
6	Ferry St (Seaside Ave) / SR-47 Ramps [A]	A	0.395	A	0.463	A	0.372	A	0.395	A	0.463	A	0.372	0.000	0.000	0.000	N	N	N
7	Pico Ave / Pier B St / 9th St / I-710 Ramps [B]	D	0.819	D	0.883	B	0.622	D	0.814	D	0.868	A	0.603	-0.005	-0.015	-0.019	N	N	N
8	Anaheim St / Harbor Ave [B]	B	0.698	C	0.707	B	0.633	C	0.718	C	0.744	B	0.653	0.020	0.037	0.020	N	N	N
9	Anaheim St / Santa Fe Ave [B]	B	0.612	B	0.615	C	0.753	B	0.635	B	0.653	C	0.769	0.023	0.038	0.016	N	N	N
10	Anaheim St / E I St / W 9th St [B]	C	0.728	B	0.651	C	0.721	D	0.865	D	0.817	C	0.770	0.137	0.166	0.049	N	N	N
11	Anaheim St / Farragut Ave [A]	A	0.403	A	0.332	A	0.440	A	0.418	A	0.348	A	0.450	0.015	0.016	0.010	N	N	N
12	Anaheim St / Henry Ford Ave [A]	B	0.605	B	0.633	C	0.747	B	0.604	B	0.651	C	0.763	-0.001	0.018	0.016	N	N	N
13	Anaheim St / Alameda St [A]	A	0.481	A	0.437	B	0.679	A	0.479	A	0.433	B	0.654	-0.002	-0.004	-0.025	N	N	N
14	Henry Ford Ave / Pier A Wy / SR-47/103 [A]	A	0.253	A	0.129	A	0.182	A	0.251	A	0.127	A	0.178	-0.002	-0.002	-0.004	N	N	N
15	Harry Bridges Blvd / Broad Ave [A]	A	0.245	A	0.172	A	0.337	A	0.247	A	0.172	A	0.333	0.002	0.000	-0.004	N	N	N
16	Harry Bridges Blvd / Avalon Blvd [A]	A	0.458	A	0.313	A	0.565	A	0.460	A	0.313	A	0.563	0.002	0.000	-0.002	N	N	N
17	Harry Bridges Blvd / Fries Ave [A]	A	0.240	A	0.22	A	0.353	A	0.240	A	0.227	A	0.357	0.000	0.007	0.004	N	N	N
18	Harry Bridges Blvd / Neptune Ave [A]	A	0.127	A	0.065	A	0.258	A	0.127	A	0.067	A	0.258	0.000	0.002	0.000	N	N	N
19	Harry Bridges Blvd / King Ave [A]	A	0.371	A	0.235	A	0.342	A	0.371	A	0.233	A	0.342	0.000	-0.002	0.000	N	N	N
20	Harry Bridges Blvd / Figueroa St [A]	B	0.660	A	0.53	C	0.782	B	0.613	A	0.47	C	0.768	-0.047	-0.060	-0.014	N	N	N
21	Pacific Coast Hwy / Alameda St Ramp [A]	A	0.518	A	0.47	B	0.635	A	0.518	A	0.464	B	0.637	0.000	-0.006	0.002	N	N	N
22	Pacific Coast Hwy / Site Entrance [A]	A	0.383	A	0.311	A	0.450	A	0.368	A	0.304	A	0.439	-0.015	-0.007	-0.011	N	N	N
23	Pacific Coast Hwy / Santa Fe Ave [B]	E	0.962	D	0.845	E	0.976	E	0.935	D	0.84	E	0.935	-0.027	-0.005	-0.041	N	N	N
24	Pacific Coast Hwy / Harbor Ave [B]	C	0.759	C	0.746	E	0.918	C	0.742	C	0.733	D	0.893	-0.017	-0.013	-0.025	N	N	N
25	Sepulveda Blvd / Alameda St Ramp [C]	A	0.542	A	0.461	A	0.559	A	0.539	A	0.373	B	0.600	-0.003	-0.088	0.041	N	N	N

A) City of Los Angeles intersection, analyzed using CMA methodology according to City standards.
B) City of Long Beach intersection analyzed using ICU methodology according to City standards.
C) City of Carson intersection analyzed using CMA methodology according to City standards.

Table 4-15. Cumulatively Considerable Intersection Level of Service Analysis – Year 2046 Proposed Project vs. Without Project.

#	Study Intersection	Year 2046 Without Project						Year 2046 With Proposed Project						Change in V/C			Cumulatively Considerable Impact		
		AM Peak Hour		MD Peak Hour		PM Peak Hour		AM Peak Hour		MD Peak Hour		PM Peak Hour							
		LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	AM	MD	PM	AM	MD	PM
1	Ocean Blvd (WB) / Terminal Island Fwy [A]	B	0.607	A	0.509	A	0.478	B	0.629	A	0.535	A	0.490	0.022	0.026	0.012	N	N	N
2	Ocean Blvd (EB) / Terminal Island Fwy [A]	A	0.433	A	0.377	A	0.364	A	0.466	A	0.386	A	0.390	0.033	0.009	0.026	N	N	N
3	Ocean Blvd (WB) / Pier S Ave [A]	A	0.525	A	0.441	A	0.378	A	0.552	A	0.472	A	0.394	0.027	0.031	0.016	N	N	N
4	Ocean Blvd (EB) / Pier S Ave [A]	A	0.402	A	0.435	A	0.441	A	0.402	A	0.466	A	0.441	0.000	0.031	0.000	N	N	N
5	Seaside Ave / Navy Wy [A]	D	0.894	A	0.594	C	0.767	D	0.890	A	0.592	C	0.765	-0.004	-0.002	-0.002	N	N	N
6	Ferry St (Seaside Ave) / SR-47 Ramps [A]	A	0.395	A	0.467	A	0.370	A	0.395	A	0.467	A	0.370	0.000	0.000	0.000	N	N	N
7	Pico Ave / Pier B St / 9th St / I-710 Ramps [B]	D	0.891	D	0.863	C	0.702	D	0.886	D	0.847	B	0.683	-0.005	-0.016	-0.019	N	N	N
8	Anaheim St / Harbor Ave [B]	C	0.774	D	0.819	C	0.745	C	0.794	D	0.855	C	0.761	0.020	0.036	0.016	N	N	N
9	Anaheim St / Santa Fe Ave [B]	D	0.811	C	0.73	E	0.931	D	0.823	C	0.769	E	0.947	0.012	0.039	0.016	N	N	N
10	Anaheim St / E I St / W 9th St [B]	C	0.759	B	0.631	D	0.840	D	0.897	C	0.798	D	0.879	0.138	0.167	0.039	N	N	N
11	Anaheim St / Farragut Ave [A]	A	0.403	A	0.465	A	0.558	A	0.418	A	0.354	A	0.568	0.015	-0.111	0.010	N	N	N
12	Anaheim St / Henry Ford Ave [A]	C	0.709	C	0.701	D	0.873	C	0.709	C	0.72	D	0.888	0.000	0.019	0.015	N	N	N
13	Anaheim St / Alameda St [A]	B	0.618	A	0.484	C	0.768	A	0.568	A	0.481	C	0.726	-0.050	-0.003	-0.042	N	N	N
14	Henry Ford Ave / Pier A Wy / SR-47/103 [A]	A	0.442	A	0.171	A	0.229	A	0.440	A	0.169	A	0.227	-0.002	-0.002	-0.002	N	N	N
15	Harry Bridges Blvd / Broad Ave [A]	A	0.292	A	0.218	A	0.433	A	0.293	A	0.218	A	0.430	0.001	0.000	-0.003	N	N	N
16	Harry Bridges Blvd / Avalon Blvd [A]	A	0.535	A	0.387	B	0.693	A	0.537	A	0.387	B	0.692	0.002	0.000	-0.001	N	N	N
17	Harry Bridges Blvd / Fries Ave [A]	A	0.343	A	0.28	A	0.392	A	0.320	A	0.295	A	0.378	-0.023	0.015	-0.014	N	N	N
18	Harry Bridges Blvd / Neptune Ave [A]	A	0.242	A	0.192	A	0.392	A	0.242	A	0.19	A	0.390	0.000	-0.002	-0.002	N	N	N
19	Harry Bridges Blvd / King Ave [A]	A	0.585	A	0.49	C	0.798	A	0.588	A	0.488	C	0.796	0.003	-0.002	-0.002	N	N	N
20	Harry Bridges Blvd / Figueroa St [A]	B	0.683	A	0.52	D	0.807	B	0.637	A	0.46	C	0.793	-0.046	-0.060	-0.014	N	N	N
21	Pacific Coast Hwy / Alameda St Ramp [A]	A	0.526	A	0.551	B	0.649	A	0.499	A	0.525	B	0.623	-0.027	-0.026	-0.026	N	N	N
22	Pacific Coast Hwy / Site Entrance [A]	A	0.347	A	0.418	A	0.447	A	0.332	A	0.411	A	0.436	-0.015	-0.007	-0.011	N	N	N
23	Pacific Coast Hwy / Santa Fe Ave [B]	E	0.924	C	0.792	E	0.985	D	0.898	C	0.784	E	0.945	-0.026	-0.008	-0.040	N	N	N
24	Pacific Coast Hwy / Harbor Ave [B]	C	0.711	C	0.794	E	0.932	B	0.694	C	0.781	E	0.907	-0.017	-0.013	-0.025	N	N	N
25	Sepulveda Blvd / Alameda St Ramp [C]	A	0.547	C	0.756	B	0.637	A	0.533	A	0.497	B	0.623	-0.014	-0.259	-0.014	N	N	N

A) City of Los Angeles intersection, analyzed using CMA methodology according to City standards.
B) City of Long Beach intersection analyzed using ICU methodology according to City standards.
C) City of Carson intersection analyzed using CMA methodology according to City standard.

Table 4-16. Cumulatively Considerable Intersection Level of Service Analysis – Year 2066 Proposed Project vs. Without Project.

#	Study Intersection	Year 2046 Without Project						Year 2046 With Proposed Project						Change in V/C			Cumulatively Considerable Impact		
		AM Peak Hour		MD Peak Hour		PM Peak Hour		AM Peak Hour		MD Peak Hour		PM Peak Hour							
		LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	AM	MD	PM	AM	MD	PM
1	Ocean Blvd (WB) / Terminal Island Fwy [A]	B	0.607	A	0.509	A	0.478	B	0.629	A	0.535	A	0.490	0.022	0.026	0.012	N	N	N
2	Ocean Blvd (EB) / Terminal Island Fwy [A]	A	0.433	A	0.377	A	0.364	A	0.466	A	0.386	A	0.390	0.033	0.009	0.026	N	N	N
3	Ocean Blvd (WB) / Pier S Ave [A]	A	0.525	A	0.441	A	0.378	A	0.552	A	0.472	A	0.394	0.027	0.031	0.016	N	N	N
4	Ocean Blvd (EB) / Pier S Ave [A]	A	0.402	A	0.435	A	0.441	A	0.402	A	0.466	A	0.441	0.000	0.031	0.000	N	N	N
5	Seaside Ave / Navy Wy [A]	D	0.894	A	0.594	C	0.767	D	0.890	A	0.592	C	0.765	-0.004	-0.002	-0.002	N	N	N
6	Ferry St (Seaside Ave) / SR-47 Ramps [A]	A	0.395	A	0.467	A	0.370	A	0.395	A	0.467	A	0.370	0.000	0.000	0.000	N	N	N
7	Pico Ave / Pier B St / 9th St / I-710 Ramps [B]	D	0.891	D	0.863	C	0.702	D	0.886	D	0.847	B	0.683	-0.005	-0.016	-0.019	N	N	N
8	Anaheim St / Harbor Ave [B]	C	0.774	D	0.819	C	0.745	C	0.794	D	0.855	C	0.761	0.020	0.036	0.016	N	N	N
9	Anaheim St / Santa Fe Ave [B]	D	0.811	C	0.73	E	0.931	D	0.823	C	0.769	E	0.947	0.012	0.039	0.016	N	N	N
10	Anaheim St / E I St / W 9th St [B]	C	0.759	B	0.631	D	0.840	D	0.897	C	0.798	D	0.879	0.138	0.167	0.039	N	N	N
11	Anaheim St / Farragut Ave [A]	A	0.403	A	0.465	A	0.558	A	0.418	A	0.354	A	0.568	0.015	-0.111	0.010	N	N	N
12	Anaheim St / Henry Ford Ave [A]	C	0.709	C	0.701	D	0.873	C	0.709	C	0.72	D	0.888	0.000	0.019	0.015	N	N	N
13	Anaheim St / Alameda St [A]	B	0.618	A	0.484	C	0.768	A	0.568	A	0.481	C	0.726	-0.050	-0.003	-0.042	N	N	N
14	Henry Ford Ave / Pier A Wy / SR-47/103 [A]	A	0.442	A	0.171	A	0.229	A	0.440	A	0.169	A	0.227	-0.002	-0.002	-0.002	N	N	N
15	Harry Bridges Blvd / Broad Ave [A]	A	0.292	A	0.218	A	0.433	A	0.293	A	0.218	A	0.430	0.001	0.000	-0.003	N	N	N
16	Harry Bridges Blvd / Avalon Blvd [A]	A	0.535	A	0.387	B	0.693	A	0.537	A	0.387	B	0.692	0.002	0.000	-0.001	N	N	N
17	Harry Bridges Blvd / Fries Ave [A]	A	0.343	A	0.28	A	0.392	A	0.320	A	0.295	A	0.378	-0.023	0.015	-0.014	N	N	N
18	Harry Bridges Blvd / Neptune Ave [A]	A	0.242	A	0.192	A	0.392	A	0.242	A	0.19	A	0.390	0.000	-0.002	-0.002	N	N	N
19	Harry Bridges Blvd / King Ave [A]	A	0.585	A	0.49	C	0.798	A	0.588	A	0.488	C	0.796	0.003	-0.002	-0.002	N	N	N
20	Harry Bridges Blvd / Figueroa St [A]	B	0.683	A	0.52	D	0.807	B	0.637	A	0.46	C	0.793	-0.046	-0.060	-0.014	N	N	N
21	Pacific Coast Hwy / Alameda St Ramp [A]	A	0.526	A	0.551	B	0.649	A	0.499	A	0.525	B	0.623	-0.027	-0.026	-0.026	N	N	N
22	Pacific Coast Hwy / Site Entrance [A]	A	0.347	A	0.418	A	0.447	A	0.332	A	0.411	A	0.436	-0.015	-0.007	-0.011	N	N	N
23	Pacific Coast Hwy / Santa Fe Ave [B]	E	0.924	C	0.792	E	0.985	D	0.898	C	0.784	E	0.945	-0.026	-0.008	-0.040	N	N	N
24	Pacific Coast Hwy / Harbor Ave [B]	C	0.711	C	0.794	E	0.932	B	0.694	C	0.781	E	0.907	-0.017	-0.013	-0.025	N	N	N
25	Sepulveda Blvd / Alameda St Ramp [C]	A	0.547	C	0.756	B	0.637	A	0.533	A	0.497	B	0.623	-0.014	-0.259	-0.014	N	N	N

A) City of Los Angeles intersection, analyzed using CMA methodology according to City standards.
B) City of Long Beach intersection analyzed using ICU methodology according to City standards.
C) City of Carson intersection analyzed using CMA methodology according to City standard.

Contribution of the Proposed Project

The tables also show future operating conditions with the proposed Project. The proposed Project was compared to the CEQA baseline and future conditions were compared with and without the Project for each year to determine cumulative and cumulatively considerable impacts, and then the impacts were assessed using the significant impact criteria. Appendix G1 contains all of the traffic forecasts and LOS calculation worksheets for each analysis scenario.

The analysis indicates that the proposed Project would result in a reduction in the volume/capacity ratio (an improvement in intersection performance) at a number of study locations. This is due to several factors:

- The proposed SCIG project would operate more efficiently than the existing intermodal facilities, thus producing fewer total truck trips than would have been generated without the project.
- Movement of existing businesses to the alternate locations would shift the majority of trips generated by those businesses to Anaheim Street from Pacific Coast Highway and Sepulveda Boulevard.
- Proposed Project truck trip routing would limit trucks to designated truck routes.
- New ramps providing access between the Project site and PCH would improve local traffic conditions.

The amount of Project-related traffic that would be added at all other study locations would not be of sufficient magnitude to meet or exceed any of the thresholds of significance. This includes some intersections that would operate at LOS E or F where the amount of Project-related traffic would be too small to trigger a significant traffic impact. Accordingly, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact at other locations.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.10.5 Cumulative Impact TRANS-3: Would an increase in on-site employees during operations result in a substantial increase in public transit use?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

As described in Section 3.10.3, existing public transit in the general area of the proposed Project operates well under capacity. For example, observations of transit usage in the area for bus routes that serve the project area (Metro routes 220 and Long Beach Transit Route 191, 192 and 193) revealed that the buses are currently not operating anywhere near capacity and would be able to accommodate the estimated increase in demand. As with the proposed Project, other cumulative port growth would result in negligible increases in demand for transit usage because port terminal workers drive to the union terminals and work sites. Accordingly, the related projects in Table 4-1 are not expected to have a significant cumulative impact on public transit.

Contribution of the Proposed Project

Although the Project would result in additional on-site employees, the increase in work-related trips using public transit would be negligible. Intermodal facilities generate extremely low transit demand for several reasons. The primary reason that proposed Project workers generally would not use public transit is their work shift schedule. Most workers prefer to use a personal automobile to facilitate timely commuting, and in any case would live throughout the Southern California region and not have access to the few bus routes that serve the Port. Finally, parking at proposed Project would be readily available and free for employees. Therefore, it is expected that fewer than ten work trips per day would be made on public transit, which could easily be accommodated by existing transit services and would not result in a demand for transit services which would exceed the supply of such services. Accordingly, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.10.6 Cumulative Impact TRANS-4: Would proposed Project operations result in a less than significant increase in highway congestion?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Freeways in the region are affected by new projects that add traffic or change the distribution of traffic. Most of the related projects in Table 4-1 can be expected to add traffic to the freeway system. The effects were evaluated at the freeway monitoring stations expected to be affected by the proposed Project:

- I-110 south of C Street (CMP Station 1045)
- SR-91 east of Alameda Street and Santa Fe Avenue (CMP Station 1033)
- I-405 at Santa Fe Avenue (CMP Station 1066)
- I-710 between Pacific Coast Highway and Willow Street (CMP Station 1078)
- I-710 between I-405 and Del Amo Boulevard (CMP Station 1079)
- I-710 between I-105 and Firestone Boulevard (CMP Station 1080).

Tables 4-17 through 4-21show the expected volumes of traffic on those segments in the Future Without Project (i.e., with the related projects and other background growth). The past, present, and reasonably foreseeable future projects would add traffic to the freeway system and at the CMP monitoring stations, resulting in significant cumulative impacts to monitoring stations operating at LOS F or worse.

Contribution of the Proposed Project

The proposed Project would result in fewer truck trips on the surrounding freeway system, as drayage operations currently serving the intermodal yards near downtown Los Angeles would be switched to the proposed Project site. Thus, the existing longer-distance freeway trips from the ports to downtown railyards would be replaced by shorter-distance trips to/from the proposed Project. However, much of the capacity freed up by shifting off-dock intermodal volume to the proposed Project would be replaced by regional traffic

not caused by the proposed Project that would otherwise use parallel routes to the freeway system. The cumulative analysis, as shown in Tables 4-22 through 4-26, shows cumulative impacts projected to occur at many locations. However, the analysis of the cumulatively considerable conditions, shown in Tables 4-27 through 4-31, show that no cumulatively considerable impact would occur with implementation of the proposed Project. The effect of the proposed Project on actual freeway traffic volumes would be minor, as shown in Tables 4-22 through 4-26, and would not exceed the minimum CMP threshold for analysis of 150 trips on a freeway segment. Accordingly, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

Table 4-17. Year 2016 Proposed Project Freeway Analysis.

Fwy.	Location	Year 2016 Future Without Project				Year 2016 With Proposed Project				Project's Contribution			
		NB/EB		SB/WB		NB/EB		SB/WB		NB/EB		SB/WB	
		AM PH	PM PH	AM PH	PM PH	AM PH	PM PH	AM PH	PM PH	AM PH	PM PH	AM PH	PM PH
I-110	Wilmington, s/o "C"St.	4,400	3,200	3,200	4,200	4,300	3,100	3,100	4,100	(100)	(100)	(100)	(100)
SR-91	e/o Alameda Street/Santa Fe Ave	7,500	15,300	9,900	6,100	7,400	15,300	9,900	6,100	(100)	-	-	-
I-405	Santa Fe Ave.	11,700	9,000	8,700	10,800	11,700	8,900	8,600	10,800	-	(100)	(100)	-
I-710	n/o Jct Rte 1 (PCH), Willow St.	6,500	7,100	6,900	6,800	6,400	7,000	6,800	6,700	(100)	(100)	(100)	(100)
I-710	n/o Jct Rte 405, s/o Del Amo	8,300	9,300	8,400	8,400	8,200	9,300	8,300	8,300	(100)	-	(100)	(100)
I-710	n/o Rte 105, n/o Firestone	8,700	9,600	8,500	9,300	8,600	9,500	8,300	9,200	(100)	(100)	(200)	(100)

Note: ( ) denotes negative value

Table 4-18. Year 2023 Proposed Project Freeway Analysis.

Fwy.	Location	Year 2023 Future Without Project				Year 2023 With Proposed Project				Project's Contribution			
		NB/EB		SB/WB		NB/EB		SB/WB		NB/EB		SB/WB	
		AM PH	PM PH	AM PH	PM PH	AM PH	PM PH	AM PH	PM PH	AM PH	PM PH	AM PH	PM PH
I-110	Wilmington, s/o "C"St.	4,600	3,400	3,400	4,300	4,500	3,400	3,400	4,200	(100)	-	-	(100)
SR-91	e/o Alameda Street/Santa Fe Ave	7,700	15,400	10,000	6,200	7,600	15,400	10,000	6,200	(100)	-	-	-
I-405	Santa Fe Ave.	11,900	9,000	8,800	11,000	11,900	8,900	8,700	11,000	-	(100)	(100)	-
I-710	n/o Jct Rte 1 (PCH), Willow St.	7,200	7,200	7,500	6,900	7,100	7,100	7,400	6,800	(100)	(100)	(100)	(100)
I-710	n/o Jct Rte 405, s/o Del Amo	8,400	9,200	8,900	8,200	8,300	9,200	8,800	8,100	(100)	-	(100)	(100)
I-710	n/o Rte 105, n/o Firestone	8,800	9,500	9,000	9,300	8,700	9,400	8,800	9,200	(100)	(100)	(200)	(100)

Note: ( ) denotes negative value

Table 4-19. Year 2035 Proposed Project Freeway Analysis.

Fwy.	Location	Year 2035 Future Baseline Without Project				Year 2035 With Proposed Project				Project's Contribution			
		NB/EB		SB/WB		NB/EB		SB/WB		NB/EB		SB/WB	
		AM PH	PM PH	AM PH	PM PH	AM PH	PM PH	AM PH	PM PH	AM PH	PM PH	AM PH	PM PH
I-110	Wilmington, s/o "C" St.	5,100	3,700	3,800	4,600	5,000	3,600	3,800	4,600	(100)	(100)	-	-
SR-91	e/o Alameda Street/Santa Fe Ave	8,000	15,500	10,100	6,300	8,000	15,500	10,100	6,300	-	-	-	-
I-405	Santa Fe Ave.	12,300	9,200	9,100	11,200	12,300	9,200	9,100	11,200	-	-	-	-
I-710	n/o Jct Rte 1 (PCH), Willow St.	8,300	7,300	8,700	7,000	8,100	7,000	8,500	6,900	(200)	(300)	(200)	(100)
I-710	n/o Jct Rte 405, s/o Del Amo	8,700	9,000	9,700	7,800	8,600	8,900	9,700	7,800	(100)	(100)	-	-
I-710	n/o Rte 105, n/o Firestone	8,900	9,500	9,800	9,400	8,900	9,500	9,700	9,400	-	-	(100)	-

Note: ( ) denotes negative value

Table 4-20. Year 2046 Proposed Project Freeway Analysis.

Fwy.	Location	Year 2046 Future Without Project				Year 2046 With Proposed Project				Project's Contribution			
		NB/EB		SB/WB		NB/EB		SB/WB		NB/EB		SB/WB	
		AM PH	PM PH	AM PH	PM PH	AM PH	PM PH	AM PH	PM PH	AM PH	PM PH	AM PH	PM PH
I-110	Wilmington, s/o "C" St.	5,500	4,100	4,200	4,800	5,400	4,000	4,200	4,800	(100)	(100)	-	-
SR-91	e/o Alameda Street/Santa Fe Ave	8,300	15,700	10,200	6,500	8,300	15,700	10,200	6,500	-	-	-	-
I-405	Santa Fe Ave.	12,700	9,300	9,300	11,500	12,700	9,300	9,300	11,500	-	-	-	-
I-710	n/o Jct Rte 1 (PCH), Willow St.	9,300	7,800	9,500	7,500	9,100	7,500	9,300	7,400	(200)	(300)	(200)	(100)
I-710	n/o Jct Rte 405, s/o Del Amo	9,600	9,500	10,500	8,200	9,500	9,400	10,500	8,200	(100)	(100)	-	-
I-710	n/o Rte 105, n/o Firestone	9,200	9,700	10,000	9,600	9,200	9,700	9,900	9,600	-	-	(100)	-

Note: ( ) denotes negative value

Table 4-21. Year 2066 Proposed Project Freeway Analysis.

Fwy.	Location	Year 2046 Future Without Project				Year 2046 With Proposed Project				Project's Contribution			
		NB/EB		SB/WB		NB/EB		SB/WB		NB/EB		SB/WB	
		AM PH	PM PH	AM PH	PM PH	AM PH	PM PH	AM PH	PM PH	AM PH	PM PH	AM PH	PM PH
I-110	Wilmington, s/o "C" St.	5,500	4,100	4,200	4,800	5,400	4,000	4,200	4,800	(100)	(100)	-	-
SR-91	e/o Alameda Street/Santa Fe Ave	8,300	15,700	10,200	6,500	8,300	15,700	10,200	6,500	-	-	-	-
I-405	Santa Fe Ave.	12,700	9,300	9,300	11,500	12,700	9,300	9,300	11,500	-	-	-	-
I-710	n/o Jct Rte 1 (PCH), Willow St.	9,300	7,800	9,500	7,500	9,100	7,500	9,300	7,400	(200)	(300)	(200)	(100)
I-710	n/o Jct Rte 405, s/o Del Amo	9,600	9,500	10,500	8,200	9,500	9,400	10,500	8,200	(100)	(100)	-	-
I-710	n/o Rte 105, n/o Firestone	9,200	9,700	10,000	9,600	9,200	9,700	9,900	9,600	-	-	(100)	-

Note: ( ) denotes negative value

Table 4-22. Year 2016 Proposed Project Cumulative Freeway Analysis.

AM Peak Hour																			
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound						Δ D/C	Cum Imp	Southbound/Westbound						Δ D/C	Cum Imp
				Baseline			Year 2016 Future With Project					Baseline			Year 2016 Future With Project				
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	4,200	0.53	B	4,400	0.55	C	0.03	No	3,000	0.38	B	3,200	0.40	B	0.03	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	7,400	0.62	C	7,500	0.63	C	0.01	No	9,900	0.83	D	9,900	0.83	D	0.00	No
I-405	8.02	Santa Fe Ave.	10,000	11,500	1.15	F(0)	11,700	1.17	F(0)	0.02	Yes	8,600	0.86	D	8,700	0.87	D	0.01	No
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	5,500	0.92	D	6,500	1.08	F(0)	0.17	Yes	5,400	0.90	D	6,900	1.15	F(0)	0.25	Yes
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	7,900	0.99	E	8,300	1.04	F(0)	0.05	Yes	8,400	1.05	F(0)	8,400	1.05	F(0)	0.00	No
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	10,200	1.28	F(1)	8,700	1.09	F(0)	-0.19	No	7,500	0.94	E	8,500	1.06	F(0)	0.13	Yes
PM Peak Hour																			
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound						Δ D/C	Cum Imp	Southbound/Westbound						Δ D/C	Cum Imp
				Baseline			Year 2016 Future With Project					Baseline			Year 2016 Future With Project				
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	3,000	0.38	B	3,200	0.40	B	0.03	No	4,100	0.51	B	4,200	0.53	B	0.01	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	15,200	1.27	F(1)	15,300	1.28	F(1)	0.01	No	6,000	0.50	B	6,100	0.51	B	0.01	No
I-405	8.02	Santa Fe Ave.	10,000	8,900	0.89	D	9,000	0.90	D	0.01	No	10,700	1.07	F(0)	10,800	1.08	F(0)	0.01	No
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	5,100	0.85	D	7,100	1.18	F(0)	0.33	Yes	5,100	0.85	D	6,800	1.13	F(0)	0.28	Yes
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	7,800	0.98	E	9,300	1.16	F(0)	0.19	Yes	7,600	0.95	E	8,400	1.05	F(0)	0.10	Yes
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	10,800	1.35	F(1)	9,600	1.20	F(0)	-0.15	No	7,800	0.98	E	9,300	1.16	F(0)	0.19	Yes

Table 4-23. Year 2023 Proposed Project Cumulative Freeway Analysis.

AM Peak Hour																			
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound						Δ D/C	Cum Imp	Southbound/Westbound						Δ D/C	Cum Imp
				Baseline			Year 2023 Future With Project					Baseline			Year 2023 Future With Project				
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	4,200	0.53	B	4,600	0.58	C	0.05	No	3,000	0.38	B	3,400	0.43	B	0.05	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	7,400	0.62	C	7,700	0.64	C	0.03	No	9,900	0.83	D	10,000	0.83	D	0.01	No
I-405	8.02	Santa Fe Ave.	10,000	11,500	1.15	F(0)	11,900	1.19	F(0)	0.04	Yes	8,600	0.86	D	8,800	0.88	D	0.02	No
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	5,500	0.92	D	7,200	1.20	F(0)	0.28	Yes	5,400	0.90	D	7,500	1.25	F(0)	0.35	Yes
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	7,900	0.99	E	8,400	1.05	F(0)	0.06	Yes	8,400	1.05	F(0)	8,900	1.11	F(0)	0.06	Yes
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	10,200	1.28	F(1)	8,800	1.10	F(0)	-0.18	No	7,500	0.94	E	9,000	1.13	F(0)	0.19	Yes
PM Peak Hour																			
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound						Δ D/C	Cum Imp	Southbound/Westbound						Δ D/C	Cum Imp
				Baseline			Year 2023 Future With Project					Baseline			Year 2023 Future With Project				
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	3,000	0.38	B	3,400	0.43	B	0.05	No	4,100	0.51	B	4,300	0.54	B	0.03	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	15,200	1.27	F(1)	15,400	1.28	F(1)	0.02	No	6,000	0.50	B	6,200	0.52	B	0.02	No
I-405	8.02	Santa Fe Ave.	10,000	8,900	0.89	D	9,000	0.90	D	0.01	No	10,700	1.07	F(0)	11,000	1.10	F(0)	0.03	Yes
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	5,100	0.85	D	7,200	1.20	F(0)	0.35	Yes	5,100	0.85	D	6,900	1.15	F(0)	0.30	Yes
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	7,800	0.98	E	9,200	1.15	F(0)	0.18	Yes	7,600	0.95	E	8,200	1.03	F(0)	0.08	Yes
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	10,800	1.35	F(1)	9,500	1.19	F(0)	-0.16	No	7,800	0.98	E	9,300	1.16	F(0)	0.19	Yes

Table 4-24. Year 2035 Proposed Project Cumulative Freeway Analysis.

AM Peak Hour																			
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound						Δ D/C	Cum Imp	Southbound/Westbound						Δ D/C	Cum Imp
				Baseline			Year 2035 Future With Project					Baseline			Year 2035 Future With Project				
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	4,200	0.53	B	5,100	0.64	C	0.11	No	3,000	0.38	B	3,800	0.48	B	0.10	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	7,400	0.62	C	8,000	0.67	C	0.05	No	9,900	0.83	D	10,100	0.84	D	0.02	No
I-405	8.02	Santa Fe Ave.	10,000	11,500	1.15	F(0)	12,300	1.23	F(0)	0.08	Yes	8,600	0.86	D	9,100	0.91	D	0.05	No
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	5,500	0.92	D	8,300	1.38	F(2)	0.47	Yes	5,400	0.90	D	8,700	1.45	F(2)	0.55	Yes
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	7,900	0.99	E	8,700	1.09	F(0)	0.10	Yes	8,400	1.05	F(0)	9,700	1.21	F(0)	0.16	Yes
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	10,200	1.28	F(1)	8,900	1.11	F(0)	-0.16	No	7,500	0.94	E	9,800	1.23	F(0)	0.29	Yes
PM Peak Hour																			
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound						Δ D/C	Cum Imp	Southbound/Westbound						Δ D/C	Cum Imp
				Baseline			Year 2035 Future With Project					Baseline			Year 2035 Future With Project				
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	3,000	0.38	B	3,700	0.46	B	0.09	No	4,100	0.51	B	4,600	0.58	C	0.06	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	15,200	1.27	F(1)	15,500	1.29	F(1)	0.03	Yes	6,000	0.50	B	6,300	0.53	B	0.03	No
I-405	8.02	Santa Fe Ave.	10,000	8,900	0.89	D	9,200	0.92	D	0.03	No	10,700	1.07	F(0)	11,200	1.12	F(0)	0.05	Yes
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	5,100	0.85	D	7,300	1.22	F(0)	0.37	Yes	5,100	0.85	D	7,000	1.17	F(0)	0.32	Yes
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	7,800	0.98	E	9,000	1.13	F(0)	0.15	Yes	7,600	0.95	E	7,800	0.98	E	0.03	No
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	10,800	1.35	F(1)	9,500	1.19	F(0)	-0.16	No	7,800	0.98	E	9,400	1.18	F(0)	0.20	Yes

Table 4-25. Year 2046 Proposed Project Cumulative Freeway Analysis.

AM Peak Hour																			
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound						Δ D/C	Cum Imp	Southbound/Westbound						Δ D/C	Cum Imp
				Baseline			Year 2046 Future With Project					Baseline			Year 2046 Future With Project				
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	4,200	0.53	B	5,500	0.69	C	0.16	No	3,000	0.38	B	4,200	0.53	B	0.15	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	7,400	0.62	C	8,300	0.69	C	0.08	No	9,900	0.83	D	10,200	0.85	D	0.03	No
I-405	8.02	Santa Fe Ave.	10,000	11,500	1.15	F(0)	12,700	1.27	F(1)	0.12	Yes	8,600	0.86	D	9,300	0.93	D	0.07	No
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	5,500	0.92	D	9,300	1.55	F(3)	0.63	Yes	5,400	0.90	D	9,500	1.58	F(3)	0.68	Yes
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	7,900	0.99	E	9,600	1.20	F(0)	0.21	Yes	8,400	1.05	F(0)	10,500	1.31	F(1)	0.26	Yes
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	10,200	1.28	F(1)	9,200	1.15	F(0)	-0.13	No	7,500	0.94	E	10,000	1.25	F(0)	0.31	Yes
PM Peak Hour																			
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound						Δ D/C	Cum Imp	Southbound/Westbound						Δ D/C	Cum Imp
				Baseline			Year 2046 Future With Project					Baseline			Year 2046 Future With Project				
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	3,000	0.38	B	4,100	0.51	B	0.14	No	4,100	0.51	B	4,800	0.60	C	0.09	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	15,200	1.27	F(1)	15,700	1.31	F(1)	0.04	Yes	6,000	0.50	B	6,500	0.54	C	0.04	No
I-405	8.02	Santa Fe Ave.	10,000	8,900	0.89	D	9,300	0.93	D	0.04	No	10,700	1.07	F(0)	11,500	1.15	F(0)	0.08	Yes
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	5,100	0.85	D	7,800	1.30	F(1)	0.45	Yes	5,100	0.85	D	7,500	1.25	F(0)	0.40	Yes
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	7,800	0.98	E	9,500	1.19	F(0)	0.21	Yes	7,600	0.95	E	8,200	1.03	F(0)	0.08	Yes
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	10,800	1.35	F(1)	9,700	1.21	F(0)	-0.14	No	7,800	0.98	E	9,600	1.20	F(0)	0.23	Yes

Table 4-26. Year 2066 Proposed Project Cumulative Freeway Analysis.

AM Peak Hour																			
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound						Δ D/C	Cum Imp	Southbound/Westbound						Δ D/C	Cum Imp
				Baseline			Year 2046 Future With Project					Baseline			Year 2046 Future With Project				
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	4,200	0.53	B	5,500	0.69	C	0.16	No	3,000	0.38	B	4,200	0.53	B	0.15	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	7,400	0.62	C	8,300	0.69	C	0.08	No	9,900	0.83	D	10,200	0.85	D	0.03	No
I-405	8.02	Santa Fe Ave.	10,000	11,500	1.15	F(0)	12,700	1.27	F(1)	0.12	Yes	8,600	0.86	D	9,300	0.93	D	0.07	No
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	5,500	0.92	D	9,300	1.55	F(3)	0.63	Yes	5,400	0.90	D	9,500	1.58	F(3)	0.68	Yes
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	7,900	0.99	E	9,600	1.20	F(0)	0.21	Yes	8,400	1.05	F(0)	10,500	1.31	F(1)	0.26	Yes
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	10,200	1.28	F(1)	9,200	1.15	F(0)	-0.13	No	7,500	0.94	E	10,000	1.25	F(0)	0.31	Yes
PM Peak Hour																			
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound						Δ D/C	Cum Imp	Southbound/Westbound						Δ D/C	Cum Imp
				Baseline			Year 2046 Future With Project					Baseline			Year 2046 Future With Project				
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	3,000	0.38	B	4,100	0.51	B	0.14	No	4,100	0.51	B	4,800	0.60	C	0.09	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	15,200	1.27	F(1)	15,700	1.31	F(1)	0.04	Yes	6,000	0.50	B	6,500	0.54	C	0.04	No
I-405	8.02	Santa Fe Ave.	10,000	8,900	0.89	D	9,300	0.93	D	0.04	No	10,700	1.07	F(0)	11,500	1.15	F(0)	0.08	Yes
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	5,100	0.85	D	7,800	1.30	F(1)	0.45	Yes	5,100	0.85	D	7,500	1.25	F(0)	0.40	Yes
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	7,800	0.98	E	9,500	1.19	F(0)	0.21	Yes	7,600	0.95	E	8,200	1.03	F(0)	0.08	Yes
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	10,800	1.35	F(1)	9,700	1.21	F(0)	-0.14	No	7,800	0.98	E	9,600	1.20	F(0)	0.23	Yes

Table 4-27. Year 2016 Proposed Project Cumulatively Considerable Freeway Analysis.

AM Peak Hour																		
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound								Southbound/Westbound							
				Year 2016 Future Without Project			Year 2016 Future With Project			Δ D/C	Cum Con Imp	Year 2016 Future Without Project			Year 2016 Future With Project			Δ D/C	Cum Con Imp
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	4,400	0.55	C	4,300	0.54	B	-0.01	No	3,200	0.40	B	3,100	0.39	B	-0.01	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	7,500	0.63	C	7,400	0.62	C	-0.01	No	9,900	0.83	D	9,900	0.83	D	0.00	No
I-405	8.02	Santa Fe Ave.	10,000	11,700	1.17	F(0)	11,700	1.17	F(0)	0.00	No	8,700	0.87	D	8,600	0.86	D	-0.01	No
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	6,500	1.08	F(0)	6,400	1.07	F(0)	-0.02	No	6,900	1.15	F(0)	6,800	1.13	F(0)	-0.02	No
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	8,300	1.04	F(0)	8,200	1.03	F(0)	-0.01	No	8,400	1.05	F(0)	8,300	1.04	F(0)	-0.01	No
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	8,700	1.09	F(0)	8,600	1.08	F(0)	-0.01	No	8,500	1.06	F(0)	8,300	1.04	F(0)	-0.03	No
PM Peak Hour																			
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound								Southbound/Westbound							
				Year 2016 Future Without Project			Year 2016 Future With Project			Δ D/C	Cum Con Imp	Year 2016 Future Without Project			Year 2016 Future With Project			Δ D/C	Cum Con Imp
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	3,200	0.40	B	3,100	0.39	B	-0.01	No	4,200	0.53	B	4,100	0.51	B	-0.01	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	15,300	1.28	F(1)	15,300	1.28	F(1)	0.00	No	6,100	0.51	B	6,100	0.51	B	0.00	No
I-405	8.02	Santa Fe Ave.	10,000	9,000	0.90	D	8,900	0.89	D	-0.01	No	10,800	1.08	F(0)	10,800	1.08	F(0)	0.00	No
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	7,100	1.18	F(0)	7,000	1.17	F(0)	-0.02	No	6,800	1.13	F(0)	6,700	1.12	F(0)	-0.02	No
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	9,300	1.16	F(0)	9,300	1.16	F(0)	0.00	No	8,400	1.05	F(0)	8,300	1.04	F(0)	-0.01	No
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	9,600	1.20	F(0)	9,500	1.19	F(0)	-0.01	No	9,300	1.16	F(0)	9,200	1.15	F(0)	-0.01	No

Table 4-28. Year 2023 Proposed Project Cumulatively Considerable Freeway Analysis.

AM Peak Hour																			
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound								Southbound/Westbound							
				Year 2023 Future Without Project			Year 2023 Future With Project			Δ D/C	Cum Con Imp	Year 2023 Future Without Project			Year 2023 Future With Project			Δ D/C	Cum Con Imp
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	4,600	0.58	C	4,500	0.56	C	-0.01	No	3,400	0.43	B	3,400	0.43	B	0.00	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	7,700	0.64	C	7,600	0.63	C	-0.01	No	10,000	0.83	D	10,000	0.83	D	0.00	No
I-405	8.02	Santa Fe Ave.	10,000	11,900	1.19	F(0)	11,900	1.19	F(0)	0.00	No	8,800	0.88	D	8,700	0.87	D	-0.01	No
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	7,200	1.20	F(0)	7,100	1.18	F(0)	-0.02	No	7,500	1.25	F(0)	7,400	1.23	F(0)	-0.02	No
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	8,400	1.05	F(0)	8,300	1.04	F(0)	-0.01	No	8,900	1.11	F(0)	8,800	1.10	F(0)	-0.01	No
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	8,800	1.10	F(0)	8,700	1.09	F(0)	-0.01	No	9,000	1.13	F(0)	8,800	1.10	F(0)	-0.03	No
PM Peak Hour																			
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound								Southbound/Westbound							
				Year 2023 Future Without Project			Year 2023 Future With Project			Δ D/C	Cum Con Imp	Year 2023 Future Without Project			Year 2023 Future With Project			Δ D/C	Cum Con Imp
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	3,400	0.43	B	3,400	0.43	B	0.00	No	4,300	0.54	B	4,200	0.53	B	-0.01	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	15,400	1.28	F(1)	15,400	1.28	F(1)	0.00	No	6,200	0.52	B	6,200	0.52	B	0.00	No
I-405	8.02	Santa Fe Ave.	10,000	9,000	0.90	D	8,900	0.89	D	-0.01	No	11,000	1.10	F(0)	11,000	1.10	F(0)	0.00	No
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	7,200	1.20	F(0)	7,100	1.18	F(0)	-0.02	No	6,900	1.15	F(0)	6,800	1.13	F(0)	-0.02	No
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	9,200	1.15	F(0)	9,200	1.15	F(0)	0.00	No	8,200	1.03	F(0)	8,100	1.01	F(0)	-0.01	No
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	9,500	1.19	F(0)	9,400	1.18	F(0)	-0.01	No	9,300	1.16	F(0)	9,200	1.15	F(0)	-0.01	No

Table 4-29. Year 2035 Proposed Project Cumulatively Considerable Freeway Analysis.

AM Peak Hour																		
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound								Southbound/Westbound							
				Year 2035 Future Without Project			Year 2035 Future With Project			Δ D/C	Cum Con Imp	Year 2035 Future Without Project			Year 2035 Future With Project			Δ D/C	Cum Con Imp
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	5,100	0.64	C	5,000	0.63	C	-0.01	No	3,800	0.48	B	3,800	0.48	B	0.00	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	8,000	0.67	C	8,000	0.67	C	0.00	No	10,100	0.84	D	10,100	0.84	D	0.00	No
I-405	8.02	Santa Fe Ave.	10,000	12,300	1.23	F(0)	12,300	1.23	F(0)	0.00	No	9,100	0.91	D	9,100	0.91	D	0.00	No
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	8,300	1.38	F(2)	8,100	1.35	F(1)	-0.03	No	8,700	1.45	F(2)	8,500	1.42	F(2)	-0.03	No
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	8,700	1.09	F(0)	8,600	1.08	F(0)	-0.01	No	9,700	1.21	F(0)	9,700	1.21	F(0)	0.00	No
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	8,900	1.11	F(0)	8,900	1.11	F(0)	0.00	No	9,800	1.23	F(0)	9,700	1.21	F(0)	-0.01	No
PM Peak Hour																			
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound								Southbound/Westbound							
				Year 2035 Future Without Project			Year 2035 Future With Project			Δ D/C	Cum Con Imp	Year 2035 Future Without Project			Year 2035 Future With Project			Δ D/C	Cum Con Imp
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	3,700	0.46	B	3,600	0.45	B	-0.01	No	4,600	0.58	C	4,600	0.58	C	0.00	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	15,500	1.29	F(1)	15,500	1.29	F(1)	0.00	No	6,300	0.53	B	6,300	0.53	B	0.00	No
I-405	8.02	Santa Fe Ave.	10,000	9,200	0.92	D	9,200	0.92	D	0.00	No	11,200	1.12	F(0)	11,200	1.12	F(0)	0.00	No
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	7,300	1.22	F(0)	7,000	1.17	F(0)	-0.05	No	7,000	1.17	F(0)	6,900	1.15	F(0)	-0.02	No
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	9,000	1.13	F(0)	8,900	1.11	F(0)	-0.01	No	7,800	0.98	E	7,800	0.98	E	0.00	No
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	9,500	1.19	F(0)	9,500	1.19	F(0)	0.00	No	9,400	1.18	F(0)	9,400	1.18	F(0)	0.00	No

Table 4-30. Year 2046 Proposed Project Cumulatively Considerable Freeway Analysis.

AM Peak Hour																			
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound						Δ D/C	Cum Con Imp	Southbound/Westbound						Δ D/C	Cum Con Imp
				Year 2046 Future Without Project			Year 2046 Future With Project					Year 2046 Future Without Project			Year 2046 Future With Project				
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	5,500	0.69	C	5,400	0.68	C	-0.01	No	4,200	0.53	B	4,200	0.53	B	0.00	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	8,300	0.69	C	8,300	0.69	C	0.00	No	10,200	0.85	D	10,200	0.85	D	0.00	No
I-405	8.02	Santa Fe Ave.	10,000	12,700	1.27	F(1)	12,700	1.27	F(1)	0.00	No	9,300	0.93	D	9,300	0.93	D	0.00	No
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	9,300	1.55	F(3)	9,100	1.52	F(3)	-0.03	No	9,500	1.58	F(3)	9,300	1.55	F(3)	-0.03	No
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	9,600	1.20	F(0)	9,500	1.19	F(0)	-0.01	No	10,500	1.31	F(1)	10,500	1.31	F(1)	0.00	No
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	9,200	1.15	F(0)	9,200	1.15	F(0)	0.00	No	10,000	1.25	F(0)	9,900	1.24	F(0)	-0.01	No
PM Peak Hour																			
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound						Δ D/C	Cum Con Imp	Southbound/Westbound						Δ D/C	Cum Con Imp
				Year 2046 Future Without Project			Year 2046 Future With Project					Year 2046 Future Without Project			Year 2046 Future With Project				
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	4,100	0.51	B	4,000	0.50	B	-0.01	No	4,800	0.60	C	4,800	0.60	C	0.00	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	15,700	1.31	F(1)	15,700	1.31	F(1)	0.00	No	6,500	0.54	C	6,500	0.54	C	0.00	No
I-405	8.02	Santa Fe Ave.	10,000	9,300	0.93	D	9,300	0.93	D	0.00	No	11,500	1.15	F(0)	11,500	1.15	F(0)	0.00	No
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	7,800	1.30	F(1)	7,500	1.25	F(0)	-0.05	No	7,500	1.25	F(0)	7,400	1.23	F(0)	-0.02	No
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	9,500	1.19	F(0)	9,400	1.18	F(0)	-0.01	No	8,200	1.03	F(0)	8,200	1.03	F(0)	0.00	No
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	9,700	1.21	F(0)	9,700	1.21	F(0)	0.00	No	9,600	1.20	F(0)	9,600	1.20	F(0)	0.00	No

Table 4-31. Year 2066 Proposed Project Cumulatively Considerable Freeway Analysis.

AM Peak Hour																		
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound								Southbound/Westbound							
				Year 2046 Future Without Project			Year 2046 Future With Project			Δ D/C	Cum Con Imp	Year 2046 Future Without Project			Year 2046 Future With Project			Δ D/C	Cum Con Imp
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	5,500	0.69	C	5,400	0.68	C	-0.01	No	4,200	0.53	B	4,200	0.53	B	0.00	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	8,300	0.69	C	8,300	0.69	C	0.00	No	10,200	0.85	D	10,200	0.85	D	0.00	No
I-405	8.02	Santa Fe Ave.	10,000	12,700	1.27	F(1)	12,700	1.27	F(1)	0.00	No	9,300	0.93	D	9,300	0.93	D	0.00	No
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	9,300	1.55	F(3)	9,100	1.52	F(3)	-0.03	No	9,500	1.58	F(3)	9,300	1.55	F(3)	-0.03	No
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	9,600	1.20	F(0)	9,500	1.19	F(0)	-0.01	No	10,500	1.31	F(1)	10,500	1.31	F(1)	0.00	No
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	9,200	1.15	F(0)	9,200	1.15	F(0)	0.00	No	10,000	1.25	F(0)	9,900	1.24	F(0)	-0.01	No
PM Peak Hour																			
Fwy.	Post Mile	Location	Capacity	Northbound/Eastbound								Southbound/Westbound							
				Year 2046 Future Without Project			Year 2046 Future With Project			Δ D/C	Cum Con Imp	Year 2046 Future Without Project			Year 2046 Future With Project			Δ D/C	Cum Con Imp
				Demand	D/C	LOS	Demand	D/C	LOS			Demand	D/C	LOS	Demand	D/C	LOS		
I-110	2.77	Wilmington, s/o "C" St.	8,000	4,100	0.51	B	4,000	0.50	B	-0.01	No	4,800	0.60	C	4,800	0.60	C	0.00	No
SR-91	10.62	e/o Alameda Street/ Santa Fe Ave	12,000	15,700	1.31	F(1)	15,700	1.31	F(1)	0.00	No	6,500	0.54	C	6,500	0.54	C	0.00	No
I-405	8.02	Santa Fe Ave.	10,000	9,300	0.93	D	9,300	0.93	D	0.00	No	11,500	1.15	F(0)	11,500	1.15	F(0)	0.00	No
I-710	7.6	n/o Jct Rte 1 (PCH), Willow St.	6,000	7,800	1.30	F(1)	7,500	1.25	F(0)	-0.05	No	7,500	1.25	F(0)	7,400	1.23	F(0)	-0.02	No
I-710	10.31	n/o Jct Rte 405, s/o Del Amo	8,000	9,500	1.19	F(0)	9,400	1.18	F(0)	-0.01	No	8,200	1.03	F(0)	8,200	1.03	F(0)	0.00	No
I-710	19.1	n/o Rte 105, n/o Firestone	8,000	9,700	1.21	F(0)	9,700	1.21	F(0)	0.00	No	9,600	1.20	F(0)	9,600	1.20	F(0)	0.00	No

4.2.10.7 Cumulative Impact TRANS-5: Would proposed Project operations cause an increase in rail activity and delays in regional traffic?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Year 2035 project and cumulative train volumes moving through the region were developed using the same technical approach described in Section 3.10. Specifically, year 2035 rail volumes were developed using projections for direct intermodal containers from the ports (intact containers that are not transloaded); projections for non-intermodal port rail shipments (bulk, automobiles, and carload traffic); transloaded cargo containers (estimated, on the basis of historical data and recent SCAG studies, at 25 percent of all import containers; the I-170 EIR/EIS and the SCAG 2012 RTP use this same assumption); non-port rail data and projections being developed for the 2012 RTP; historical lift data, by railyard, of marine and non-marine containers at off-dock railyards; off-dock railyard capacities (see Section 1.1.5.3); and volumes of domestic cargo in 53-foot containers or trailers that has not passed through the ports. Consistent with the ongoing I-710 EIR/EIS technical studies, a reasonable growth factor of two percent per year was assumed.

The most recent traffic counts for all grade crossings in the study area were acquired from multiple jurisdictions. The SCAG RTP model was used to develop traffic volumes for the Year 2035. Separate compound annual growth rates (CAGR) were estimated for each county for all streets crossing the main lines in those counties. The peak-hour volumes were then derived as described in Section 3.10. Rail and traffic volumes for 2066 were assumed to be the same as 2046 for the reasons summarized in 4.2.10.6.

As can be seen in Tables 4-32 through 4-37, vehicular delay at at-grade crossings is projected to increase in 2035, 2046, and 2066 as a result of cumulative increases in rail and vehicular traffic volumes. However, none of the analyzed locations is projected to experience a significant impact.

1 **Table 4-32. BNSF San Bernardino Subdivision, from Hobart Yard to San Bernardino, 2035.**

Boundary/Junction – Street	# of Lanes	Average Daily Traffic (Vehicles /Day)	Average Daily Train Volume (Trains/Day)	Total Gate Down Time (Minutes/Day)	Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)	PM Peak Average Delay per Vehicle (Seconds/Vehicle)	Cumulative Impacts SIGNIFICANT?
			W/Proj	W/Proj	W/Proj	W/Proj	
San Bernardino MP 0.0							
Laurel St	2	3,380	128.6	277.0	14.7	16.4	**NO**
Olive St	2	4,020	128.6	277.0	17.8	16.8	**NO**
E St	2	1,060	128.6	277.0	4.3	14.9	**NO**
H St	2	2,110	128.6	277.0	8.8	15.5	**NO**
Valley Bl	2	15,860	128.6	277.0	116.3	34.4	**NO**
Colton Crossing MP 3.2							
Highgrove Junction MP 6.1 (Connection to Perris via MetroLink)							
Main St	2	3,860	184.5	383.7	23.9	23.4	**NO**
Riverside-San Bernardino County Line MP 6.41							
Center St	4	8,470	184.5	384.8	52.7	23.5	**NO**
Iowa Av	4	31,230	184.5	384.8	292.6	41.2	**NO**
Palmyrita Av	2	5,120	184.5	383.7	32.5	24.2	**NO**
Chicago Av	4	18,490	184.5	384.8	134.1	29.0	**NO**
Spruce St	4	9,880	184.5	384.8	62.7	24.1	**NO**
3rd St	4	14,860	184.5	384.8	101.5	26.7	**NO**
Mission Inn (7th St)	4	7,270	184.5	384.8	44.5	23.0	**NO**
Riverside Yard and Amtrak Station MP 10.02-10.16							
Cridge St	2	5,130	196.5	392.5	33.3	25.0	**NO**
West Riverside Junction MP 10.6 (Connection to UP Los Angeles Sub)							
Jane St	2	2,950	137.3	266.3	11.7	14.9	**NO**
Mary St	4	16,280	137.3	267.1	75.0	18.3	**NO**

Boundary/Junction – Street	# of Lanes	Average Daily Traffic (Vehicles /Day)	Average Daily Train Volume (Trains/Day) W/Proj	Total Gate Down Time (Minutes/Day) W/Proj	Daily Total Vehicle Hours of Delay (Veh-Hrs/Day) W/Proj	PM Peak Average Delay per Vehicle (Seconds/Vehicle) W/Proj	Cumulative Impacts SIGNIFICANT?
Washington St	2	11,310	137.3	266.3	57.4	21.0	**NO**
Madison St	4	21,430	137.3	267.1	107.2	20.5	**NO**
Jefferson St	2	11,180	137.3	266.3	56.5	20.9	**NO**
Adams St	4	23,870	137.3	267.1	124.5	21.8	**NO**
Jackson St	4	10,660	137.3	267.1	45.3	16.4	**NO**
Gibson St	2	1,160	137.3	266.3	4.4	14.1	**NO**
Harrison St	2	9,080	137.3	266.3	42.8	19.0	**NO**
Tyler St	4	21,300	137.3	267.1	106.3	20.5	**NO**
Pierce St	2	15,240	137.3	266.3	90.0	26.0	**NO**
Buchanan St	2	13,040	137.3	266.3	70.5	23.0	**NO**
Magnolia Av Eb	2	11,990	137.3	266.3	62.4	21.8	**NO**
Magnolia Av Wb	2	11,990	137.3	266.3	62.4	21.8	**NO**
Mckinley St	4	48,430	137.3	267.1	484.2	54.1	**NO**
Radio Rd	2	5,870	137.3	266.3	25.2	16.6	**NO**
Joy St	2	9,920	137.3	266.3	48.1	19.7	**NO**
Sheridan St	2	3,220	137.3	266.3	12.9	15.1	**NO**
Cota St	4	8,230	137.3	267.1	33.9	15.7	**NO**
Railroad St	4	13,190	137.3	267.1	58.0	17.2	**NO**
Smith St	4	18,670	137.3	267.1	89.2	19.3	**NO**
Auto Center Dr	2	15,780	137.3	266.3	95.4	26.8	**NO**
Riverside-Orange County Line							
Kellogg Dr	4	7,510	137.3	267.1	30.8	15.6	**NO**
Lakeview Av	3	20,620	137.3	266.7	118.3	25.0	**NO**
Richfield Rd	4	10,360	137.3	267.1	44.2	16.5	**NO**
Atwood Junction MP 40.6 (Connection to Old Olive Sub)							
Van Buren St	2	7,400	108.3	234.1	30.6	16.3	**NO**

Boundary/Junction – Street	# of Lanes	Average Daily Traffic (Vehicles /Day)	Average Daily Train Volume (Trains/Day) W/Proj	Total Gate Down Time (Minutes/Day) W/Proj	Daily Total Vehicle Hours of Delay (Veh-Hrs/Day) W/Proj	PM Peak Average Delay per Vehicle (Seconds/Vehicle) W/Proj	Cumulative Impacts SIGNIFICANT?
Jefferson St	3	6,940	108.3	234.4	26.5	14.6	**NO**
Tustin Av (Rose Dr)	4	31,900	108.3	234.7	182.4	25.8	**NO**
Orangethorpe Av	4	30,970	108.3	234.7	173.3	25.0	**NO**
Kraemer Bl	4	21,630	108.3	234.7	100.4	19.2	**NO**
Placentia Av	4	15,850	108.3	234.7	66.8	16.7	**NO**
State College Bl	4	25,780	108.3	234.7	129.2	21.4	**NO**
Acacia Av	4	7,370	108.3	234.7	27.6	14.1	**NO**
Raymond Av	4	22,990	108.3	234.7	109.3	19.9	**NO**
Fullerton Junction MP 45.5 = MP 165.5							
Orange-LA County Line							
Valley View Av	4	25,900	163.3	278.1	148.3	24.8	**NO**
Rosecrans/Marquardt Av	4	24,460	163.3	278.1	135.8	23.8	**NO**
Lakeland Rd	2	6,890	163.3	277.2	31.3	18.0	**NO**
Los Nietos Rd	4	21,580	163.3	278.1	113.0	21.9	**NO**
Norwalk Bl	4	27,660	163.3	278.1	164.8	26.2	**NO**
Pioneer Bl	4	16,140	163.3	278.1	76.6	19.1	**NO**
Passons Bl	4	13,380	163.3	278.1	60.6	17.9	**NO**
Serapis Av	2	6,610	163.3	277.2	29.7	17.8	**NO**
Commerce Yard MP 148.5							
Hobart Yard MP 146.0							
OVERALL							**NONE SIGNIFICANT**
Total Daily Vehicle Hours of Delay (Veh-Hrs/Day)					**4,502.9**		
PM Peak Average Delay per Vehicle (Seconds/Vehicle)						**24.6**	

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Table 4-33. BNSF Cajon Subdivision, from San Bernardino to Barstow, 2035.

Boundary/Junction – Street	# of Lanes	Average Daily Traffic (Vehicles/Day)	Average Daily Train Volume (Trains/Day)	Total Gate Down Time (Minutes/Day)	Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)	PM Peak Average Delay per Vehicle (Seconds/Vehicle)	Cumulative Impacts SIGNIFICANT?
			W/Proj	W/Proj	W/Proj	W/Proj	
Barstow MP 0							
Lenwood Rd	2	6,010	139.6	263.4	20.9	13.2	NO
Hinkley Rd	2	640	139.6	263.4	2.0	11.1	NO
Indian Trail Rd	2	730	139.6	263.4	2.2	11.1	NO
Vista Rd	2	3,710	139.6	263.4	12.2	12.2	NO
Turner Rd	2	40	139.6	263.4	0.1	10.9	NO
North Bryman Rd	2	210	139.6	263.4	0.6	11.0	NO
South Bryman Rd	2	2,590	139.6	263.4	8.3	11.8	NO
Robinson Ranch Rd	2	160	139.6	263.4	0.5	10.9	NO
1st St	2	920	139.6	312.3	4.0	15.8	NO
6th St	4	4,830	139.6	363.9	29.6	22.5	NO
Silverwood Junction MP 56.6							
Keenbrook Junction MP 69.4							
Swarthout Canyon Rd	2	240	145.6	459.1	2.2	32.4	NO
Devore Rd / Glen Helen Pkwy	4	8,420	145.6	460.2	83.1	36.8	NO
Dike Junction							
Palm Av	2	15,910	121.3	390.2	189.5	50.7	NO
San Bernardino MP 81.4							
OVERALL							**NONE SIGNIFICANT**
Total Daily Vehicle Hours of Delay (Veh-Hrs/Day)					**355.2**		
PM Peak Average Delay per Vehicle (Seconds/Vehicle)						**32.0**	

Table 4-34. BNSF San Bernardino Subdivision, from Hobart Yard to San Bernardino, 2046.

Boundary/Junction – Street	# of Lanes	Average Daily Traffic (Vehicles /Day)	Average Daily Train Volume (Trains/Day)	Total Gate Down Time (Minutes/Day)	Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)	PM Peak Average Delay per Vehicle (Seconds/Vehicle)	Cumulative Impacts SIGNIFICANT?
			W/Proj	W/Proj	W/Proj	W/Proj	
San Bernardino MP 0.0							
Laurel St	2	3,770	130.1	281.1	16.9	16.9	**NO**
Olive St	2	4,480	130.1	281.1	20.5	17.5	**NO**
E St	2	1,180	130.1	281.1	4.9	15.2	**NO**
H St	2	2,360	130.1	281.1	10.1	16.0	**NO**
Valley Bl	2	17,690	130.1	281.1	149.1	41.5	**NO**
Colton Crossing MP 3.2							
Highgrove Junction MP 6.1 (Connection to Perris via MetroLink)							
Main St	2	4,300	186.7	389.3	27.4	24.3	**NO**
Riverside-San Bernardino County Line MP 6.41							
Center St	4	9,450	186.7	390.4	60.6	24.3	**NO**
Iowa Av	4	34,850	186.7	390.4	364.3	47.5	**NO**
Palmyrita Av	2	5,710	186.7	389.3	37.5	25.2	**NO**
Chicago Av	4	20,630	186.7	390.4	158.1	31.1	**NO**
Spruce St	4	11,020	186.7	390.4	72.3	25.1	**NO**
3rd St	4	16,580	186.7	390.4	118.5	28.2	**NO**
Mission Inn (7th St)	4	8,110	186.7	390.4	51.0	23.7	**NO**
Riverside Yard and Amtrak Station MP 10.02-10.16							
Cridge St	2	5,730	198.7	398.1	38.5	26.0	**NO**
West Riverside Junction MP 10.6 (Connection to UP Los Angeles Sub)							
Jane St	2	3,290	138.7	270.0	13.4	15.4	**NO**
Mary St	4	18,170	138.7	270.8	87.5	19.4	**NO**
Washington St	2	12,620	138.7	270.0	68.3	22.8	**NO**
Madison St	4	23,910	138.7	270.8	126.9	22.2	**NO**
Jefferson St	2	12,470	138.7	270.0	67.1	22.7	**NO**

Boundary/Junction – Street	# of Lanes	Average Daily Traffic (Vehicles /Day)	Average Daily Train Volume (Trains/Day)	Total Gate Down Time (Minutes/Day)	Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)	PM Peak Average Delay per Vehicle (Seconds/Vehicle)	Cumulative Impacts SIGNIFICANT?
			W/Proj	W/Proj	W/Proj	W/Proj	
Adams St	4	26,630	138.7	270.8	148.7	23.8	**NO**
Jackson St	4	11,890	138.7	270.8	52.2	17.0	**NO**
Gibson St	2	1,290	138.7	270.0	5.0	14.4	**NO**
Harrison St	2	10,130	138.7	270.0	50.2	20.2	**NO**
Tyler St	4	23,760	138.7	270.8	125.8	22.1	**NO**
Pierce St	2	17,000	138.7	270.0	110.5	29.5	**NO**
Buchanan St	2	14,550	138.7	270.0	84.9	25.4	**NO**
Magnolia Av Eb	2	13,370	138.7	270.0	74.4	23.8	**NO***
Magnolia Av Wb	2	13,370	138.7	270.0	74.4	23.8	**NO***
Mckinley St	4	54,030	138.7	270.8	717.8	79.6	**NO**
Radio Rd	2	6,550	138.7	270.0	29.1	17.3	**NO**
Joy St	2	11,070	138.7	270.0	56.7	21.1	**NO**
Sheridan St	2	3,600	138.7	270.0	14.8	15.5	**NO**
Cota St	4	9,180	138.7	270.8	38.9	16.2	**NO**
Railroad St	4	14,710	138.7	270.8	67.2	18.0	**NO**
Smith St	4	20,830	138.7	270.8	104.8	20.6	**NO**
Auto Center Dr	2	17,600	138.7	270.0	117.8	30.7	**NO**
Riverside-Orange County Line							
Kellogg Dr	4	8,380	138.7	270.8	35.3	16.1	**NO**
Lakeview Av	3	23,010	138.7	270.4	144.2	28.1	**NO**
Richfield Rd	4	11,550	138.7	270.8	51.0	17.1	**NO**
Atwood Junction MP 40.6 (Connection to Old Olive Sub)							
Van Buren St	2	8,250	109.7	237.9	35.6	17.2	**NO**
Jefferson St	3	7,740	109.7	238.2	30.6	15.1	**NO**
Tustin Av (Rose Dr)	4	35,580	109.7	238.5	227.2	30.0	**NO**
Orangethorpe Av	4	34,550	109.7	238.5	214.7	28.8	**NO**
Kraemer Bl	4	24,130	109.7	238.5	119.2	20.8	**NO**
Placentia Av	4	17,680	109.7	238.5	78.1	17.7	**NO**
State College Bl	4	28,760	109.7	238.5	156.0	23.8	**NO**

Boundary/Junction – Street	# of Lanes	Average Daily Traffic (Vehicles /Day)	Average Daily Train Volume (Trains/Day)	Total Gate Down Time (Minutes/Day)	Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)	PM Peak Average Delay per Vehicle (Seconds/Vehicle)	Cumulative Impacts SIGNIFICANT?
			W/Proj	W/Proj	W/Proj	W/Proj	
Acacia Av	4	8,220	109.7	238.5	31.6	14.6	**NO**
Raymond Av	4	25,650	109.7	238.5	130.5	21.7	**NO**
Fullerton Junction **MP 45.5 = MP 165.5**							
Orange-LA County Line							
Valley View Av	4	28,890	164.7	281.8	180.2	27.8	**NO**
Rosecrans/Marquardt Av	4	27,290	164.7	281.8	164.0	26.4	**NO**
Lakeland Rd	2	7,690	164.7	280.9	36.4	19.0	**NO**
Los Nietos Rd	4	24,080	164.7	281.8	134.9	23.9	**NO**
Norwalk Bl	4	30,860	164.7	281.8	202.1	29.7	**NO**
Pioneer Bl	4	18,010	164.7	281.8	89.7	20.3	**NO**
Passons Bl	4	14,930	164.7	281.8	70.5	18.9	**NO**
Serapis Av	2	7,370	164.7	280.9	34.5	18.7	**NO**
Commerce Yard MP 148.5							
Hobart Yard MP 146.0							
OVERALL							**NONE SIGNIFICANT**
Total Daily Vehicle Hours of Delay **(Veh-Hrs/Day)**					**5,532.5**		
PM Peak Average Delay per Vehicle (Seconds/Vehicle)						**28.3**	

*As of the analysis year of 2011, a grade separation project for this street is already planned.

Table 4-35. BNSF Cajon Subdivision, from San Bernardino to Barstow, 2046.

Boundary/Junction – Street	# of Lanes	Average Daily Traffic (Vehicles/Day)	Average Daily Train Volume (Trains/Day)	Total Gate Down Time (Minutes/Day)	Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)	PM Peak Average Delay per Vehicle (Seconds/Vehicle)	Cumulative Impacts SIGNIFICANT?
			W/ Proj	W/ Proj	W/ Proj	W/ Proj	
Barstow MP 0							
Lenwood Rd	2	6,710	141.2	266.8	24.1	13.7	NO
Hinkley Rd	2	710	141.2	266.8	2.2	11.3	NO
Indian Trail Rd	2	810	141.2	266.8	2.5	11.3	NO
Vista Rd	2	4,140	141.2	266.8	13.9	12.5	NO
Turner Rd	2	50	141.2	266.8	0.2	11.1	NO
North Bryman Rd	2	240	141.2	266.8	0.7	11.1	NO
South Bryman Rd	2	2,890	141.2	266.8	9.5	12.0	NO
Robinson Ranch Rd	2	170	141.2	266.8	0.5	11.1	NO
1st St	2	1,030	141.2	316.3	4.6	16.1	NO
6th St	4	5,390	141.2	368.5	33.7	23.0	NO
Silverwood Junction MP 56.6							
Keenbrook Junction MP 69.4							
Swarthout Canyon Rd	2	270	147.2	464.8	2.5	32.8	NO
Devore Rd / Glen Helen Pkwy	4	9,390	147.2	466.0	95.0	37.9	NO
Dike Junction							
Palm Av	2	17,750	122.8	395.5	231.0	57.0	NO*
San Bernardino MP 81.4							
OVERALL							**NONE SIGNIFICANT**
Total Daily Vehicle Hours of Delay (Veh-Hrs/Day)					**420.4**		
PM Peak Average Delay per Vehicle (Seconds/Vehicle)						**34.7**	

*As of the analysis year of 2011, a grade separation project for this street is already.

Table 4-36. BNSF San Bernardino Subdivision, from Hobart Yard to San Bernardino, 2066.

Boundary/Junction – Street	# of Lanes	Average Daily Traffic (Vehicles /Day)	Average Daily Train Volume (Trains/Day)	Total Gate Down Time (Minutes/Day)	Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)	PM Peak Average Delay per Vehicle (Seconds/Vehicle)	Cumulative Impacts SIGNIFICANT?
			W/Proj	W/Proj	W/Proj	W/Proj	
San Bernardino MP 0.0							
Laurel St	2	3,770	130.1	281.1	16.9	16.9	**NO**
Olive St	2	4,480	130.1	281.1	20.5	17.5	**NO**
E St	2	1,180	130.1	281.1	4.9	15.2	**NO**
H St	2	2,360	130.1	281.1	10.1	16.0	**NO**
Valley Bl	2	17,690	130.1	281.1	149.1	41.5	**NO**
Colton Crossing MP 3.2							
Highgrove Junction MP 6.1 (Connection to Perris via MetroLink)							
Main St	2	4,300	186.7	389.3	27.4	24.3	**NO**
Riverside-San Bernardino County Line MP 6.41							
Center St	4	9,450	186.7	390.4	60.6	24.3	**NO**
Iowa Av	4	34,850	186.7	390.4	364.3	47.5	**NO**
Palmyrita Av	2	5,710	186.7	389.3	37.5	25.2	**NO**
Chicago Av	4	20,630	186.7	390.4	158.1	31.1	**NO**
Spruce St	4	11,020	186.7	390.4	72.3	25.1	**NO**
3rd St	4	16,580	186.7	390.4	118.5	28.2	**NO**
Mission Inn (7th St)	4	8,110	186.7	390.4	51.0	23.7	**NO**
Riverside Yard and Amtrak Station MP 10.02-10.16							
Cridge St	2	5,730	198.7	398.1	38.5	26.0	**NO**
West Riverside Junction MP 10.6 (Connection to UP Los Angeles Sub)							
Jane St	2	3,290	138.7	270.0	13.4	15.4	**NO**
Mary St	4	18,170	138.7	270.8	87.5	19.4	**NO**
Washington St	2	12,620	138.7	270.0	68.3	22.8	**NO**
Madison St	4	23,910	138.7	270.8	126.9	22.2	**NO**
Jefferson St	2	12,470	138.7	270.0	67.1	22.7	**NO**
Adams St	4	26,630	138.7	270.8	148.7	23.8	**NO**

Boundary/Junction – Street	# of Lanes	Average Daily Traffic (Vehicles /Day)	Average Daily Train Volume (Trains/Day)	Total Gate Down Time (Minutes/Day)	Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)	PM Peak Average Delay per Vehicle (Seconds/Vehicle)	Cumulative Impacts SIGNIFICANT?
			W/Proj	W/Proj	W/Proj	W/Proj	
Jackson St	4	11,890	138.7	270.8	52.2	17.0	**NO**
Gibson St	2	1,290	138.7	270.0	5.0	14.4	**NO**
Harrison St	2	10,130	138.7	270.0	50.2	20.2	**NO**
Tyler St	4	23,760	138.7	270.8	125.8	22.1	**NO**
Pierce St	2	17,000	138.7	270.0	110.5	29.5	**NO**
Buchanan St	2	14,550	138.7	270.0	84.9	25.4	**NO**
Magnolia Av Eb	2	13,370	138.7	270.0	74.4	23.8	**NO***
Magnolia Av Wb	2	13,370	138.7	270.0	74.4	23.8	**NO***
Mckinley St	4	54,030	138.7	270.8	717.8	79.6	**NO**
Radio Rd	2	6,550	138.7	270.0	29.1	17.3	**NO**
Joy St	2	11,070	138.7	270.0	56.7	21.1	**NO**
Sheridan St	2	3,600	138.7	270.0	14.8	15.5	**NO**
Cota St	4	9,180	138.7	270.8	38.9	16.2	**NO**
Railroad St	4	14,710	138.7	270.8	67.2	18.0	**NO**
Smith St	4	20,830	138.7	270.8	104.8	20.6	**NO**
Auto Center Dr	2	17,600	138.7	270.0	117.8	30.7	**NO**
Riverside-Orange County Line							
Kellogg Dr	4	8,380	138.7	270.8	35.3	16.1	**NO**
Lakeview Av	3	23,010	138.7	270.4	144.2	28.1	**NO**
Richfield Rd	4	11,550	138.7	270.8	51.0	17.1	**NO**
Atwood Junction MP 40.6 (Connection to Old Olive Sub)							
Van Buren St	2	8,250	109.7	237.9	35.6	17.2	**NO**
Jefferson St	3	7,740	109.7	238.2	30.6	15.1	**NO**
Tustin Av (Rose Dr)	4	35,580	109.7	238.5	227.2	30.0	**NO**
Orangethorpe Av	4	34,550	109.7	238.5	214.7	28.8	**NO**
Kraemer Bl	4	24,130	109.7	238.5	119.2	20.8	**NO**
Placentia Av	4	17,680	109.7	238.5	78.1	17.7	**NO**
State College Bl	4	28,760	109.7	238.5	156.0	23.8	**NO**
Acacia Av	4	8,220	109.7	238.5	31.6	14.6	**NO**
Raymond Av	4	25,650	109.7	238.5	130.5	21.7	**NO**

Boundary/Junction – Street	# of Lanes	Average Daily Traffic (Vehicles /Day)	Average Daily Train Volume (Trains/Day)	Total Gate Down Time (Minutes/Day)	Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)	PM Peak Average Delay per Vehicle (Seconds/Vehicle)	Cumulative Impacts SIGNIFICANT?
			W/Proj	W/Proj	W/Proj	W/Proj	
Fullerton Junction **MP 45.5 = MP 165.5**							
Orange-LA County Line							
Valley View Av	4	28,890	164.7	281.8	180.2	27.8	**NO**
Rosecrans/Marquardt Av	4	27,290	164.7	281.8	164.0	26.4	**NO**
Lakeland Rd	2	7,690	164.7	280.9	36.4	19.0	**NO**
Los Nietos Rd	4	24,080	164.7	281.8	134.9	23.9	**NO**
Norwalk Bl	4	30,860	164.7	281.8	202.1	29.7	**NO**
Pioneer Bl	4	18,010	164.7	281.8	89.7	20.3	**NO**
Passons Bl	4	14,930	164.7	281.8	70.5	18.9	**NO**
Serapis Av	2	7,370	164.7	280.9	34.5	18.7	**NO**
Commerce Yard MP 148.5							
Hobart Yard MP 146.0							
OVERALL							**NONE SIGNIFICANT**
Total Daily Vehicle Hours of Delay (Veh-Hrs/Day)					**5,532.5**		
PM Peak Average Delay per Vehicle (Seconds/Vehicle)						**28.3**	

*As of the analysis year of 2011, a grade separation project for this street is already planned.

Table 4-37. BNSF Cajon Subdivision, from San Bernardino to Barstow, 2066.

Boundary/Junction – Street	# of Lanes	Average Daily Traffic (Vehicles/Day)	Average Daily Train Volume (Trains/Day)	Total Gate Down Time (Minutes/Day)	Daily Total Vehicle Hours of Delay (Veh-Hrs/Day)	PM Peak Average Delay per Vehicle (Seconds/Vehicle)	Cumulative Impacts SIGNIFICANT?
			W/ Proj	W/ Proj	W/ Proj	W/ Proj	
Barstow MP 0							
Lenwood Rd	2	6,710	141.2	266.8	24.1	13.7	NO
Hinkley Rd	2	710	141.2	266.8	2.2	11.3	NO
Indian Trail Rd	2	810	141.2	266.8	2.5	11.3	NO
Vista Rd	2	4,140	141.2	266.8	13.9	12.5	NO
Turner Rd	2	50	141.2	266.8	0.2	11.1	NO
North Bryman Rd	2	240	141.2	266.8	0.7	11.1	NO
South Bryman Rd	2	2,890	141.2	266.8	9.5	12.0	NO
Robinson Ranch Rd	2	170	141.2	266.8	0.5	11.1	NO
1st St	2	1,030	141.2	316.3	4.6	16.1	NO
6th St	4	5,390	141.2	368.5	33.7	23.0	NO
Silverwood Junction MP 56.6							
Keenbrook Junction MP 69.4							
Swarthout Canyon Rd	2	270	147.2	464.8	2.5	32.8	NO
Devore Rd / Glen Helen Pkwy	4	9,390	147.2	466.0	95.0	37.9	NO
Dike Junction							
Palm Av	2	17,750	122.8	395.5	231.0	57.0	NO*
San Bernardino MP 81.4							
OVERALL							**NONE SIGNIFICANT**
Total Daily Vehicle Hours of Delay (Veh-Hrs/Day)					**420.4**		
PM Peak Average Delay per Vehicle (Seconds/Vehicle)						**34.7**	

*As of the analysis year of 2011, a grade separation project for this street is already.

Contribution of the Proposed Project

The proposed Project would shift port-related intermodal activity from Hobart Yard, approximately twenty miles north of the Ports, to the Project site approximately four miles north of the Ports. The proposed Project would not affect vehicular delays along the Alameda Corridor, as it is fully grade separated.

As described previously, for all of the alternatives (including the No Project Alternative), the estimated demand for off-dock/near-dock port and non-port lifts can be accommodated throughout the entire region via the existing UP and BNSF railyards (whether modified or not to provide additional lift capacity) and/or via the proposed SCIG railyard. Hence, the proposed Project would not shift containers from other port complexes in North America, and would not have any growth-inducing impacts. Furthermore, a detailed geographic-based demand/capacity analysis was conducted for all of the railyards to determine if any railyard loading patterns would shift in the region, and thus alter train volumes on some of the rail lines in the region. This specific analysis was conducted using the following information: UP and BNSF business practices and operating procedures information; data/analyses contained in past port studies (e.g., truck trip origin destination studies); data/analyses form the on-going Southern California Association of Governments' Comprehensive Regional Goods Movement Plan and Implementation Strategy, which is critical input for the 2012 Regional Transportation Plan (RTP) and the next SCAQMD Air Quality Management Plan. Such data/analyses entail: detailed port container terminal truck origin-destination studies conducted in 2004 and 2010; existing and forecasted future locations and occupancy levels of logistic/cargo handling facilities (transload, warehouse, and distribution facilities) throughout the region, industrial employment contained in SCAG's RTP model; and heavy duty truck trips contained in the RTP model.

The analysis concluded that the same number of trains would move to/from the BNSF Hobart Yard and all other facilities in the region without or with the project. This conclusion was based on the fact that increased lift capacity of the Hobart railyard, as is being undertaken by BNSF (see Section 5.4) could readily accommodate both port cargo (including transloaded import cargo) and the share of domestic cargo that would use this facility based upon the geographic analysis mentioned above, without displacing or altering the movement of containers from the other BNSF (in San Bernardino) or UP facilities in the region. Therefore, the proposed Project would not change rail volumes on any of lines inland from the UPRR East Los Angeles Railyard or BNSF Railway Hobart railyard. It should also be noted that this conclusion is consistent with the results of technical analyses contained in the I-710 Corridor project EIR/EIS prepared by Caltrans and METRO (METRO, 2012).

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

4.2.11 Utilities and Public Services

4.2.11.1 Scope of Analysis

Cumulative impacts on utilities and public services can result from the combined demand of the proposed Project along with past, present, and future related projects on any of the

utilities and public services on which the proposed Project may have impacts (i.e., police and fire protection, water supply, landfill and wastewater treatment capacities, energy, and recreational resources). The geographic scope depends on the service area of the individual public service or utility provider and the jurisdiction over which increased demand for services from the proposed Project could reduce the availability of such services. For police services, this area is the Ports of Los Angeles and Long Beach, neighboring Harbor Area communities, such as Wilmington, and west long Beach. For stormwater, the geographic scope is the proposed Project site and immediately adjacent lands within the Dominguez Watershed because this represents the drainage area that would be influenced by the proposed Project. The service areas of the wastewater, solid waste, water, gas, and electricity utilities encompass much of Los Angeles County, and in some cases much of southern California. However, the analysis region for cumulative utilities impacts focuses on the harbor area because the infrastructure immediately serving the Project is located within this service area and service subareas of utility providers are sufficiently separated such that increased service demands in one sector would not threaten such provisions in other areas.

4.2.11.2 Cumulative Impact PS-1: Would the proposed Project contribute substantially to burdening existing police staff levels and facilities such that the police would not be able to maintain an adequate level of service without additional facilities, the construction of which could cause significant environmental effects?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Construction and operation of past projects has created an existing demand for police protection that is adequately accommodated by the Port Police, LAPD, and the LBPD. Many of the present and reasonably foreseeable future cumulative projects described in Table 4-1 involve the relocation of existing facilities or do not otherwise involve expansion of facilities; therefore, these would not result in an increase in public resources. However, several of the projects, particularly the larger residential and commercial projects, would increase the demand for local police services by increasing the work force and population of the area. These increases in demand could, in turn, result in increased staffing and facilities. The industrial projects would have less demand for law enforcement personnel because they would employ advanced security methods and private security forces. As described in Section 3.11.2.1.3, response times and facilities are considered adequate for all of the police forces with jurisdiction in the area. Accordingly, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts related to police protection.

Contribution of the Proposed Project

Although Project operations could result in a minimal increase in calls to local law enforcement, provisions for security features at the SCIG facility and facilities at the alternate business locations would reduce the demand for law enforcement, and existing police forces are adequate to meet that demand. Therefore, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact to law enforcement services.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.11.3 Cumulative Impact PS-2: Would the proposed Project contribute substantially to a need for a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Construction and operation of past projects has created an existing demand for fire protection that can be accommodated by the LAFD, LBFD, and LACFD since emergency response times are considered adequate (Section 3.11.2.1.2). Many of the present and reasonably foreseeable future cumulative projects described in Table 4-1 involve the relocation of existing facilities or do not otherwise involve expansion of facilities; therefore, these would not result in an increased demand on fire protection. Moreover, these projects would be designed and constructed to meet all applicable state and local codes and ordinances to ensure adequate fire protection, which would be subject to fire department review and approval. These codes and ordinances would include measures such as requiring fire protection infrastructure (i.e., fire hydrants and sprinklers) and ensuring that the fire department is given the opportunity to review and approve any changes in site access. Furthermore, fire stations in the area are generally distributed to facilitate quick emergency response throughout the project area. As a consequence, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts to fire protection services.

Contribution of the Proposed Project

As described in Section 3.11.4.3, construction of the proposed Project would not require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility. According to the fire departments, operation of the proposed Project would not adversely affect the levels of service they presently provide to the area Accordingly, the proposed Project would have no adverse effects on fire protection services and would not make a cumulatively considerable contribution to a significant cumulative impact on fire protection services.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.11.4 Cumulative Impact PS-3: Would the proposed Project contribute to cumulatively considerable impacts on water supply?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

The LADWP has installed numerous water lines to supply water throughout the general area of the proposed Project, and these water lines have sufficient capacity to accommodate the demand by past, present, and reasonably foreseeable future projects. The LADWP Water Services Organization implements a Capital Improvement Program

(CIP) (LADWP, 2003) on a 10-year planning basis that focuses on installing or replacing existing components of the water system to ensure the provision of a reliable and high-quality water supply to all the citizens of Los Angeles.

The LADWP Urban Water Management Plan (UWMP) projects overall water supply reliability within the DWP service area through 2030; the LADWP forecast specifically includes anticipated demand from related projects, including all past, present and reasonably foreseeable future projects (LADWP, 2005). LADWP, in Exhibit C (Service Reliability Assessment of Average Year) in Chapter 6 of the UWMP, expects it will be able meet the demand through 2030 with a combination of existing supplies, planned supplies and MWD purchases (existing and planned). Although the planning horizon for the current UWMP is 2030, future UWMPs will cover the 2045 project horizon, which will include water supply planning for the City in 2045 and beyond.

Because LADWP will continue to update the CIP and provide water services for its customers, the past, present, and reasonably foreseeable future projects would not result in a significant cumulative impacts on the water distribution lines. In addition, the related projects can be assumed to have lower per capita water demands than the facilities they replace because they would be constructed in accordance with municipal codes and regulations that mandate water conservation features. Accordingly, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts to utilities.

Contribution of the Proposed Project

As described in Section 3.11.4.3, the proposed Project would result in minimal increased water demands that would not exceed the capacity of existing facilities. Construction and expansion of onsite water lines would be required to support new terminal development, but no modifications to offsite lines would be necessary. All infrastructure improvements and connections within City streets would comply with the City municipal code and would be performed under permit by the City Bureau of Engineering and LADWP. Additionally, BNSF would prepare a Public Services Relocation Plan as part of the proposed Project to address the public utilities that would be affected by proposed Project construction. Accordingly, the proposed Project's impact on water utility lines, conveyance capacity, and water supply capacity would be less than significant and would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.11.5 Cumulative Impact PS-4: Would the proposed Project contribute to cumulatively considerable impacts on wastewater conveyance and treatment facilities?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

The area has adequate sewage conveyance and treatment infrastructure. The TITP is currently operating at 54 percent of its capacity of 30 million gallons per day; therefore, it is able to adequately accommodate current wastewater generations that are a result of past projects. Wastewater in the TITP service area is conveyed to TITP through the conveyance system that is designed and sized to accommodate TITP capacity. Wastewater flows in the TITP service area are substantially below the plant's capacity

and the capacity of the conveyance system. The City projects that by 2020, wastewater flows in the TITP service area will grow to 19.9 mgd (City of Los Angeles, 2006); therefore, approximately 10 mgd in daily capacity at TITP would remain unused and available for the years beyond 2020 to accommodate the related projects. Similarly, conveyance system capacity would accommodate wastewater flows from the related projects. Consequently, the past, present, and reasonably foreseeable future projects would not result in a significant cumulative impacts to wastewater conveyance capacity.

Contribution of the Proposed Project

The proposed Project area would continue to be served by existing sewer systems located within public streets and rights-of-way. No new improvements to the infrastructure collecting wastewater from the Project site would be required. The proposed Project would result in decreased generation of wastewater compared to baseline conditions, would thus not exceed the capacity of existing facilities. Accordingly, the proposed Project's impact on wastewater utility lines, conveyance capacity, and treatment capacity would be less than significant and would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.11.6 Cumulative Impact PS-5: Would the proposed Project contribute to cumulatively considerable impacts related to surface runoff that would exceed the capacity of existing municipal storm drain systems?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

The storm drain system in the Project area is maintained by the LAHD, the City of Los Angeles, and Los Angeles County Department of Public Works. As described in Section 3.11.2.2.3, a flow analysis indicates that the drainage system has adequate capacity to accommodate current demands of past and present related projects and baseline uses. Reasonably foreseeable future projects would be required to implement stormwater flow reduction measures of the type incorporated into the proposed Project (Section 2.4, Section 3.11.4.3, Impact PS-5) and required by the SUSMP and the City of Los Angeles Municipal Code Section 64 (see Section 3.12.3 for details of these requirements), such as permeable surfaces, recycling, and bioswales. Accordingly, the related projects would not result in significant cumulative impacts to storm water conveyance capacity.

Contribution of the Proposed Project

The proposed Project area would incorporate a number of storm water runoff reduction measures, such as permeable surfaces, landscaping, and recycling, that would reduce its storm water runoff compared to baseline conditions. Accordingly, the proposed Project would not generate substantial surface runoff that would exceed the capacity of existing municipal storm drain systems, and would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.11.7 Cumulative Impact PS-6: Would the proposed Project contribute to cumulatively considerable impacts on existing solid waste handling and disposal facilities?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Existing commercial and industrial facilities in the Project area generate solid waste consisting of non-hazardous materials, such as food and beverage containers, paper products, and other miscellaneous municipal solid waste disposed by on-site staff. As described in more detail in Section 3.11.2.2.4, non-hazardous solid waste is disposed of either at Bradley Landfill or Sunshine Canyon, depending on daily capacities and hours of operation. Bradley Landfill had, as of 2002, a remaining capacity of approximately 4.7 million cubic yards, which equates to 12 percent available capacity. As of 2004, Sunshine Canyon landfill had a remaining lifespan of approximately 7.2 years (Sunshine Landfill, 2006).

Past, present, and reasonably foreseeable future projects in Table 4-1 all generate, or will generate, solid waste that must be disposed of in landfills for the foreseeable future. Given that no additional landfill capacity has been brought on line and Los Angeles has not achieved its zero-waste solution, continued solid waste generation by the related projects represents a significant cumulative impact.

Contribution of the Proposed Project

During operation the proposed Project would generate 1.340 tons/day of non-hazardous waste that would require transportation to the Sunshine County Landfill. Once Sunshine Canyon is closed, this amount of solid waste would represent a significant impact to landfill capacity. If additional adequate landfill capacity becomes available and/or if the achievement of Zero-Waste solutions in the City occurs, then the solid waste generated by the Project likely would not represent a significant impact to landfill capacity. However, this analysis assumes those events will not occur and that the solid waste generated by the Project beyond 2030 would represent a cumulatively considerable contribution to a significant cumulative solid waste impact.

Mitigation Measures and Residual Cumulative Impacts

MM PS-1 through **MM PS-3,** as described in Section 3.11.4.3, respectively provide that: a) demolition and/or excess construction materials shall be separated onsite for reuse/recycling or proper disposal and separate bins for recycling of construction materials shall be provided onsite, b) materials with recycled content shall be used in project construction and chippers on site shall be used to further reduce excess wood for landscaping cover, and c) the proposed Project complies with policies and standards set forth in the City's Solid Waste Integrated Resources Plan (SWIRP) following 2025, which has the goal of zero waste. Nevertheless, given the uncertainty regarding the future of landfill capacity and waste reduction in the region, the proposed project's residual impact would result in a cumulatively considerable contribution to a significant cumulative impact.

4.2.11.8 Impact PS-7: Would the proposed Project contribute to cumulatively considerable impacts on energy demands, supply facilities, and distribution infrastructure?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Construction and operation of past and present projects has resulted in existing demands for water and generations of wastewater and solid waste. These demands and generations are currently accommodated by existing facilities as provided by the LADWP, Southern California Edison (SCE), and Southern California Gas (SCG). Many of the projects identified in Table 4-1 involve relocation of existing facilities within the vicinity, rather than being new or expanded facilities. For those projects, it is expected that electricity and natural gas consumption would remain similar to current levels. However, many other related projects involve new or expanded facilities and operations that may result in additional demand on electricity and natural gas. These projects include most of the large industrial and residential projects in Table 4-1.

Under the Los Angeles City Charter (Sections 220 and 673), LADWP is charged with maintaining sufficient capability to provide its customers with a reliable supply of power. The LADWP prepared an Integrated Resources Plan (IRP) in 2000 and 2006 to provide a framework to assure that future energy needs of LADWP customers are reliably met at the least cost and are consistent with the City commitment to environmental excellence (City of Los Angeles, 2006). In 2002, SB 1078 implemented a Renewable Portfolio Standard, which established a goal that 20 percent of the energy sold to customers be generated by renewable resources by 2017. The IRP provides objectives and recommendations to reliably supply LADWP customers with power and to meet the 20 percent renewable energy goal by 2010. The LADWP's Load Forecast predicts that LADWP customers' electricity consumption will increase at an average rate of 1.1 percent per year, and that peak demand will increase an average of 70 megawatts per year for the foreseeable future. For 2025, LADWP predicts that peak demand will reach 7,370 megawatts and that total resources will amount to 8,516 megawatts (including a reserve margin).

Based on the LADWP IRP, electricity resources and reserves at LADWP will adequately provide electricity for the past, present, and reasonably foreseeable future projects. The IRP does not provide load demand forecasts or supply resources beyond 2025 because its planning horizon extends only to 2025. However, because LADWP is required by the Charter to provide a reliable supply of electricity for its customers and because LADWP is moving toward increasing renewable energy supplies in its resource portfolio, the electricity demand of the past, present, and reasonably foreseeable future projects would not result in the need to construct a new unplanned offsite power station or facility. As a result, past, present, and reasonably foreseeable future projects would not result in a significant cumulative impact related to the provision of energy.

Contribution of the Proposed Project

The proposed Project would result in minimal increased demands for electricity and natural gas. Operational electricity demands at the proposed project site would be related to industrial uses including crane operations, rail track signals and lighting, site and security lighting, administrative offices and maintenance and repair building operations. BNSF estimates that annual electric power consumption for the proposed SCIG facility would be 5,500,000 kilowatt hours (kWh) for the first year of operation and 8,700,000

kWh annually at full build. This would equate to an approximate capacity demand of 1000-2000 kilovolt amps (kVA), from first year to build out. Facilities at the alternate business locations would add a relatively small amount to that total, as their electrical demands are largely attributable to security and office uses, and the scale of alternate business operations would be less than under baseline conditions.

The proposed Project would provide new energy distribution infrastructure on site to support proposed Project operations, and would incorporate energy conservation measures in compliance with California's Building Code CCR Title 24 and LEED building energy efficient standards for new construction (including requirements for new buildings at the SCIG site and the alternate business sites). The natural gas demands would be accommodated by Southern California Gas Company via the existing distribution infrastructure located adjacent to and within the proposed Project site. Therefore, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact related to electricity and natural gas demand.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.12 Water Resources

4.2.12.1 Scope of Analysis

The geographic scope for cumulative impacts on surface water and groundwater resources is the Dominguez Channel and the area south of I-405 and north of Anaheim Street. The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.12.

4.2.12.2 Cumulative Impact WR-1: Would the proposed Project contribute to cumulatively considerable discharges that would cause pollution, contamination, or a nuisance or cause regulatory water quality standards to be violated?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Surface water quality in the study area, specifically in the Dominguez Channel, is affected primarily by a variety of inputs from the watershed, including industrial discharges and surface runoff. As discussed in Section 3.12.2.2, the Dominguez Channel is identified on the current Section 303(d) list as impaired for a variety of chemical and bacteriological stressors and effects to biological communities. For those stressors causing water quality impairments, TMDLs will be developed that will specify load allocations from the individual input sources, such that the cumulative loadings to the channel would be below levels expected to adversely affect water quality and beneficial uses of the water body.

Construction of past, present, and reasonably foreseeable future projects with in-water components, such as dredging, dike placement, fill, pile driving, and pier upgrades, would result in temporary and localized effects to water quality in the Dominguez Channel that would be individually comparable to those associated with proposed Project. Those effects would be temporary and would be subject to controls imposed by the

construction permits and the WDRs issued as part of the NPDES permits. Therefore, cumulative impacts would occur only if the spatial influences of concurrent projects overlapped, which is not the case for the related projects. As a result, in-water construction of the present and reasonably foreseeable future projects would not result in significant cumulative impacts to water quality.

Wastewater discharges associated with related project operations would be conveyed to publicly-owned treatment works and would not affect water quality. Stormwater runoff would be discharged to the Dominguez Channel in accordance with NPDES permits. Runoff from project sites would be regulated by NPDES or stormwater permits that would specify constituent limits and/or mass emission rates formulated to protect water quality and beneficial uses of receiving waters. Industrial related projects would be operated in accordance with industrial SWPPPs that require monitoring and compliance with permit conditions. SUSMP requirements would also be implemented via the planning, design, and building permit processes. Although standard regulatory compliance measures would apply to the related projects, which would minimize their pollutant contributions, the Dominguez Channel is still listed on the Section 303(d) list as being impaired, and would likely remain so until TMDLs can be fully implemented throughout the entire watershed. In addition, spills, leaks, and unauthorized discharges from the related projects would likely continue to affect water quality. Consequently, operation of the related projects would have a cumulatively considerable impact on water quality.

Groundwater in the area is characterized by saltwater intrusion, currently stabilized by the Dominguez Gap Barrier project approximately 0.5 mile west of the Project site, and is not used for potable water. Localized contamination of shallow perched aquifers has been documented, major contaminants including petroleum hydrocarbons, metals (including lead-containing paint), solvents, volatile organic compounds (VOCs, including perchloroethylene [PCE], 1,1-Dichloroethane [1,1-DCA] and 1,1-dichloroethylene [1,1-DCE]), and polychlorinated biphenyls (PCBs). The contamination is likely from historical activities that took place before controls and discharge standards. The related projects would not deplete groundwater sources, as withdrawal for industrial purposes appears to be uncommon, but spills and leaks could add contaminants. In view of the poor quality of the groundwater resources beneath the area, related projects are considered not to have significant cumulative impacts on groundwater quality.

Contribution of the Proposed Project

Construction of the proposed Project, including work in the Dominguez Channel, could result in discharges into storm drains and the Dominguez Channel. Controls imposed pursuant to the Los Angeles County NPDES permit (see Section 3.12.4.3.1) would minimize such impacts, but the potential for construction-related discharges to the Dominguez Channel represents a significant impact. Mitigation Measure **MM WR-1** (Section 3.12.4.3.1), which would impose controls and restrictions on construction activities, would reduce the risk of discharges and spills of silt, debris, and contaminants reaching the waters of the Dominguez Channel. With that mitigation, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Operation of the proposed Project would not result in any direct discharges of water or wastewater to the Dominguez Channel, and is too far from the channel for minor leaks and spills to have direct impacts on the channel. However, stormwater runoff from the site would flow into the Dominguez Channel. That runoff would be governed by a permit,

similar to those required for the related projects, that would specify constituent limits and/or mass emission rates intended to protect water quality and beneficial uses of receiving waters. The design and operation of the proposed Project would include measures to minimize runoff, such as bioswales, landscaping, and permeable surfaces, and to minimize the input of pollutants to that runoff, through BMPs included in the SWPPP. Furthermore, the inputs from the proposed Project would be negligible compared with those from the entire watershed. SUSMP requirements would also be implemented via the planning, design, and building permit processes. The proposed Project would also not involve any impacts to groundwater quality (Section 3.12.4.3.1). Accordingly, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative water quality impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation Measure **MM WR-1** (Section 3.12.4.3.1) would reduce the risk of discharges and spills of silt, debris, and contaminants reaching the waters of the Dominguez Channel by imposing controls and restrictions on construction activities. With implementation of this measure, the Project would not make a cumulatively considerable contribution to a significant cumulative water quality impact.

4.2.12.3 Cumulative Impact WR-2: Would the proposed Project contribute to cumulatively considerable acceleration of rates of wind and water erosion and sedimentation resulting in sediment runoff or deposition that would not be contained or controlled onsite?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Although past projects have disturbed soils within upland areas of the watershed, the erosive effects of these disturbances have passed. Much of the area is paved, little exposed topsoil remains, and NPDES permits control erosion at construction sites. Construction of past, present, and reasonably foreseeable future projects has disturbed or will disturb soils that would be subject to erosion, transport via runoff or wind, and potential deposition as sediment in watercourses and the Harbor. However, construction SWPPPs incorporate BMPs for minimizing erosion and offsite transport of soils and solids from construction and project sites. In addition, the related projects would result in additional impervious coverings over much of their respective sites, which would limit site erosion and sedimentation. Because of this, the related projects would not result in significant cumulative impacts related to erosion or sedimentation.

Contribution of the Proposed Project

As discussed in Section 3.12.4 Impact WR-2a, construction of the proposed Project would be subject to the GCASP, and as such required to implement a Project SWPPP during construction. Operation of the proposed Project would not affect soil erosion or sedimentation. The Project's impacts on rates of erosion and sedimentation would not be cumulatively considerable, and the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative erosion and sedimentation impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.12.4 Cumulative Impact WR-3: Would the proposed Project contribute to substantial alterations of existing drainage patterns or substantial increases in the rate or amount of surface runoff in a manner which would produce a substantial change in the current or direction of water flow cumulatively considerable adverse changes in surface water movement?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Most of the past, present, and reasonably foreseeable future projects in Table 4-1 are located within a largely industrial environment that has been highly modified by past development. These developments have altered surface water movement, largely by channelizing natural streams (e.g., the Dominguez Channel) and altering topography. The related projects in Table 4-1 will continue to manage surface water flows to prevent damage and ensure drainage. However, this management of water flow has occurred for so long that the current condition of surface water movement can be considered the baseline. That movement consists largely of storm drainage, baseline flows down the Dominguez Channel, and tidal action in the channel. The related projects would not materially change that pattern, and thus would not result in a significant cumulative impact related to surface water movement.

Contribution of the Proposed Project

The proposed Project would make a minor modification to the railroad bridge over the Dominguez Channel, but would not otherwise alter water flow in the area. The construction would not be expected to alter the flow of the Dominguez Channel because the pilings and abutments would be placed parallel to the shoreline, which is straight and is hardened with riprap, and aligned with the existing abutments (Section 3.12.4.3). Accordingly, impacts from construction and operation on surface water movement would be less than significant, and the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.12.5 Cumulative Impact WR-4: Would the proposed Project contribute to cumulatively considerable runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

The storm drain system in the Project area is maintained by the LAHD, the City of Los Angeles, and the Los Angeles County Department of Public Works. As described in Section 3.11.2.2.3, a flow analysis indicates that the drainage system has adequate capacity to accommodate current demands of past and present related projects and

baseline uses. Reasonably foreseeable future projects would be required to implement stormwater flow reduction measures of the type incorporated into the proposed Project and required by SUSMP and the LAMC Section 64 (Section 2.4; Section 3.11.4.4, Impact PS-5; Section 3.12.3), such as permeable surfaces, recycling, and bioswales. Accordingly, the related projects would not result in a significant cumulative impact to storm water conveyance capacity.

Contribution of the Proposed Project

The proposed Project area would incorporate a number of storm water runoff reduction measures, such as permeable surfaces, landscaping, and recycling, that would reduce its storm water runoff compared to baseline conditions. The on-site system would be designed for a 10-year storm event, which is consistent with the capacity of the existing facilities. The proposed Project is subject to the requirements and operational procedures outlined in the Industrial Storm Water Permit (SWRCB Water Quality Order 97-03-DWQ/NPDES General Permit CAS000001) including pollutant handling and stormwater monitoring and sampling. Additionally, the proposed Project is subject to both GCASP and Municipal Stormwater and related SUSMP and municipal code requirements. These measures would limit the potential for polluted runoff to enter the Dominguez Channel. Accordingly, the proposed Project would not generate substantial surface runoff that would exceed the capacity of existing municipal storm drain systems, and would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.12.6 Cumulative Impact WR-5: Would the proposed Project contribute to cumulatively considerable impacts related to placing within a 100-year floodplain structures which would impede or redirect flood flows or have the potential to harm people or damage property?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

With the exception of those projects within the harbor districts and along the Dominguez Channel and the Los Angeles River, the past, present, and reasonably foreseeable future projects in Table 4-1 are outside the 100-year floodplain and not normally susceptible to flooding. This is largely because of the flood control structures and developments that have arisen over the past century. Local flooding due to overwhelmed storm drains occurs during especially heavy storms, but widespread flooding is extremely rare. Accordingly, the related projects would not result in a significant cumulative impact related to flooding.

Contribution of the Proposed Project

The Project site and the alternate business locations, with the exception of the Dominguez Channel railroad bridge, are located outside the 100-year floodplain. Accordingly, Project-related structures on the railyard, alternate business locations, and lead track areas of the Project site would not be placed within the 100-year floodplain. Accordingly, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact related to flooding.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.12.7 Cumulative Impact WR-6: Would the proposed Project contribute to cumulatively considerable impacts related to exposing soils containing toxic substances and petroleum hydrocarbons, associated with prior operations, which would be deleterious to humans?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Soils in the general vicinity of the proposed Project have numerous areas contaminated with hazardous substances and petroleum products by past operations and activities. Past, present, and reasonably foreseeable future projects have encountered, and will encounter, this contamination in the course of construction. In general, contamination encountered during construction is managed and remediated in accordance with regulatory requirements, with oversight from the local lead agency. These control procedures minimize the potential for humans to be exposed to toxic substances and petroleum hydrocarbons. Operation of the related projects would not be expected to expose contaminated soils. Accordingly, the related projects would not result in a significant cumulative impact related to contaminated soils.

Contribution of the Proposed Project

Soils at the Project site and alternate business sites have been affected by hazardous substances and petroleum products as a result of past industrial uses (see Section 3.7 for more detail). The implementation of construction controls (BMPs) and POLA lease requirements for soil remediation and groundwater contamination contingency activities at the Project site (Section 2.4.3.2, Section 3.7, and Section 3.12.4.3.1) would minimize exposure of contaminated soils to the extent of being deleterious to human health and the environment. Furthermore, the placement of an impermeable layer (paving) over the Project site would prevent exposure of contaminated soils during operation of the proposed Project. Implementation of these preventive measures would minimize the potential for contaminated soils leading to worker exposure and contamination of surface runoff, thereby resulting in a less than significant impact. Therefore, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.

4.2.12.8 Cumulative Impact WR-7: Would the proposed Project contribute to cumulatively considerable impacts related to changes in the rate or direction of movement of existing groundwater contaminants, expansion of the area affected by contaminants, or increased levels of groundwater contamination, which would increase risk of harm to humans?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects Including the Proposed Project

Groundwater in the general Project area has been affected by hazardous substances and petroleum products as a result of past industrial uses. Construction of the past, present, and reasonably foreseeable future projects could involve dewatering to lower groundwater around locations in which subsurface features such as foundations, footings, and underground utilities are being installed. Any such dewatering would be temporary and localized, and therefore would not cause substantial alterations of groundwater movement in the area as a whole. Consequently, construction of the related projects is not expected to change the rate, direction, or extent of existing soil and/or groundwater contamination. Operation of the related projects would not affect groundwater direction or flow, as those operations are all on the ground surface. Accordingly, the related projects would not result in cumulatively considerable impacts related to groundwater flow.

Contribution of the Proposed Project

Groundwater at the Project site and alternate business sites has been affected by hazardous substances and petroleum products as a result of past industrial uses. The implementation of construction controls (BMPs) at the Project site would ensure that contaminated groundwater is recognized and appropriately remediated, and would minimize the possibility that construction would exacerbate groundwater contamination (see Section 3.12.4.3.1 for details). Dewatering, if necessary, would be localized and would not result in large-scale changes in groundwater direction or rate of flow. Project operations could result in spills and leaks, but spill response procedures would minimize the possibility of contaminants reaching the groundwater. Accordingly, construction and operation of the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required and there would be no residual cumulative impacts.