Chapter 4
Cumulative Analysis

CHAPTER SUMMARY

This chapter evaluates the potential for the Revised Project, together with other past, present, and reasonably foreseeable future projects in the geographic scope of each resource area, to make a cumulatively considerable contribution to a new or substantially more severe significant cumulative impact. Note that no alternatives are evaluated in this Draft SEIR.

Chapter 4, Cumulative Analysis, provides the following:

- A description of existing environmental setting in the Port area;
- A description of applicable local, state, and federal regulations and policies that apply to the cumulative impact analysis;
- A description of the past, present, and foreseeable future projects in the surrounding area;
- A discussion of the methodology used to determine whether the Revised Project would make a cumulatively considerable contribution to a new, or substantially more severe significant cumulative impact;
- An impact analysis of both the cumulative impacts related to the Revised Project; and
- A description of any mitigation measures proposed to reduce any potential impacts and residual cumulative impacts, as applicable.

Key Points of Chapter 4:

The Revised Project would make a cumulatively considerable contribution to a significant cumulative impact in the following resource areas:

- Air Quality and Meteorology.
- Greenhouse Gas Emissions.
- Ground Transportation.

No feasible mitigation is available to mitigate the significant cumulative impacts with respect to Air Quality and GHG. Mitigation is required for the significant cumulative impacts at Alameda and Anaheim Street (Location #3) and at John S. Gibson Boulevard and I-110 N/B Ramps (Location #7), for which MM TRANS-2 and MM TRANS-3 are applied, respectively.

> **MM TRANS-2 Alameda & Anaheim Streets:** Provide an additional eastbound through-lane on Anaheim Street. This mitigation measure shall be implemented at the same time as the City's planned improvement project at this location, with design/construction commencing in the first quarter of 2019, subject to LADOT approval.

MM TRANS-3 John S. Gibson Boulevard and I-110 N/B Ramps: Provide an additional westbound right-turn lane with westbound right-turn overlap phasing and an additional southbound left-turn lane. LAHD shall monitor the intersection LOS annually beginning in 2018 and LAHD shall implement the mitigation within three years after the intersection level of service (LOS) is measured as D or worse, as a result of cumulative traffic to which the China Shipping terminal would contribute, with the concurrence of LADOT.

4.1 Introduction

This chapter presents CEQA's requirements for a cumulative impact analysis and analyzes the potential for the Revised Project to make a considerable contribution to a new or substantially more severe significant cumulative impact when combined with other past, present, and reasonably foreseeable future projects, compared to the cumulative impacts disclosed in the 2008 EIS/EIR. Following the presentation of the requirements related to the 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 analyzed in this Draft SEIR.

4.1.1 Requirements for Cumulative Impact Analysis

The State CEQA Guidelines (14 California Code of Regulations [CCR] 15130) require a reasonable analysis of the cumulatively considerable 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" (State CEQA Guidelines Section 15355).

Cumulative impacts are further described as follows:

(a) The individual effects may be changes resulting from a single project or a number of separate projects.

(b) The cumulative impacts from several projects are the changes in the environment, which results 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 (40 CFR Section 1508.7 and State CEQA Guidelines, Section 15355(b)).

Furthermore, according to State CEQA Guidelines Section 15130(a)(1):

> *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 which do not result in part from the project evaluated in the EIR.*

In addition, as stated in the State CEQA Guidelines, Section 15064(i)(5):

> *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 Revised Project make a cumulatively considerable contribution to a significant cumulative impact within the context of impacts caused by other past, present, or future projects. 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 this Draft SEIR, 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.

Air Quality and Meteorology, Greenhouse Gas Emissions, and Ground Transportation analyses use a projection or a combined list and projection approach as described below. Cumulative analysis of air quality impacts uses projections from the South Coast Air Basin 2016 Air Quality Management Plan (SCAQMD, 2016) and the SCAQMD 2015 *Multiple Air Toxics Exposure Study* (MATES-IV) (SCAQMD, 2015). The Ground Transportation cumulative analysis uses future traffic growth forecasts for the area from the SCAG Regional Travel Demand Forecasting Model and the Port Area Travel Demand Model, which are described in Section 3.3 and Appendix C.

4.1.2 Projects Considered in the Cumulative Analysis

4.1.2.1 Past Projects

The below discussions describe the past projects that have contributed to potential cumulative impacts related to the proposed Project.

History of the Project Area

The CS Terminal site was formerly used by Chevron USA for a marine oil terminal and tank farm with 20 large tanks, and by Todd Pacific Shipyard for a shipbuilding and maintenance facility. The oil terminal was decommissioned and demolished in the early 1990s. Todd Pacific Shipyards occupied Berths 103-109 from 1917 to 1998. Since decommissioning and demolition of the shipyard and oil terminal, the property has undergone a series of remediation and reclamation activities.

Following its use by Chevron and Todd Shipyard, the site was used temporarily for construction staging and for the storage of automobiles, containers (including supplemental container storage by the adjacent Yang Ming Container Terminal), and truck chassis.

In 1997 the Port approved construction and operation of a container terminal at the site, and in 2001 executed a lease with China Shipping to operate that terminal; operation of the terminal began in 2004. The 142-acre CS Terminal consists of two vessel berths and a backlands area for cargo handling. The terminal uses an on-dock railyard located on the adjacent YM Terminal to ship cargo containers by rail, and its maintenance and administration facilities are on the YM Terminal.

4.1.2.2 Current and Future Projects

A total of 68 recent, current, or reasonably foreseeable future projects (approved or proposed) were identified within the general vicinity of the Revised Project that could contribute to cumulative impacts. The projects are listed in Table 4-1, which is compiled from sources that include LAHD, the Port of Long Beach, LADOT, the City of Los Angeles, and other local jurisdictions.

For the purposes of this Draft SEIR, the timeframe of current or reasonably anticipated projects extends from 2012–2045 and the vicinity is defined as the area over which effects of the Revised Project could contribute to cumulative effects, which differs for each resource area.

Table 4-1: Related and Cumulative Projects

No. in Figure	Project Title and Location	Project Description	Project Status
Port of Los Angeles Projects			
1	Berth 164 [Valero] Marine Oil Terminal Wharf Improvements Project	The proposed Project involves demolishing the existing 19,000-square-foot timber wharf and constructing a new, steel and concrete loading platform, access trestles, mooring and berthing structures, and necessary utilities to comply with the Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS). The project also consists of a 30 year lease for the facility.	NOP released July 21, 2016 and Public Review Period closed August 19, 2016. Draft EIR is in preparation.
2	Berths 226-236 [Everport] Container Terminal Improvements Project	Proposed redevelopment of existing container terminal, including improvements to wharves, adjacent backland, crane rails, lighting, utilities, new gate complex, and modification of adjacent roadways and railroad tracks. Project also would include demolition of two unused buildings and other small accessory structures at the former Canner's Steam Plant in the Fish Harbor Area of the Port.	Draft EIR/EIS under preparation.
3	Berth 136–147 [TraPac] Container Terminal Project, 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 Board of Harbor Commissioners (BHC) certified the EIR and approved the project in 2007. Construction started in 2009 and is ongoing through 2017.
4	Berths 191-194 Dry Bulk Terminal	Construction and operation of a dry bulk terminal for vessel unloading, milling, storage and trucking of ground, granulated blast furnace slag.	Conceptual planning underway.
5	Berths 212-224 (YTI) Container Terminal Improvements Project	Phase 1 consists of deepening Berths 217-220 and expanding the Terminal Island Container Transfer Facility (TICTF) on-dock rail by adding a single rail loading track. Phase II involves deepening Berths 214-216 and replacing four existing cranes, for a total of 14 operational cranes at full build out. Backland improvements would occur during both phases.	FEIR certified on November 7, 2014. Expansion approved and construction expected to be completed in 2020.
6	Maritime Support Yard	Construction and operation of a maritime support yard to provide cargo sorting and congestion relief for all container terminals in Port of LA and Port of Long Beach. Located at 801 Reeves Avenue on Terminal Island.	IS/MND under preparation.
7	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 and remediation of the site.	Decommissioning completed 2013. Remediation is in conceptual planning phase.
8	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.	Development completed in 2013. SEIR for Revised Project under preparation.
9	LAXT Loop Container Staging Yard	Construction and operation of a peel-off yard (secondary cargo staging area) to provide cargo sorting and congestion relief for all container terminals in Port of LA and Port of Long Beach. Located at the LAXT loop on Terminal Island.	Environmental assessment expected to start mid-2017.

Table 4-1: Related and Cumulative Projects

No. in Figure	Project Title and Location	Project Description	Project Status
10	Wilmington Waterfront Master Plan (Avalon Boulevard Corridor Project)	Planned development intended to provide waterfront access and promoting development specifically along Avalon Boulevard.	EIR certified and project approved in 2009. Design to be completed mid-2018.
11	I-110/C Street Interchange Project	Realignment of Harry Bridges and John S. Gibson Blvd. and combining of C Street/Figueroa intersection and Gibson/Bridges/Figueroa intersections into one intersection with connection to I-110 freeway.	Construction completed in January 2017.
12	Adaptive Reuse of Warehouses 9 and 10	Adaptive reuse of Warehouses 9 and 10 for visitor-serving uses to complement recreational activity at adjacent 22nd Street Park. Property leased to Crafted at the Port of Los Angeles. Also includes a brewery operation added in 2015.	Addendum to San Pedro Waterfront EIR completed. Operations began in 2012.
13	Alternative Maritime Power (AMP™)	AMP™ 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. AMP facilities are being constructed at container terminals throughout the Port to support ARB regulations and CAAP policy.	Construction completed at various terminal locations; still ongoing.
14	Southern California International Gateway Project (SCIG)	Construction and operation of a 157-acre dock railyard intermodal container transfer facility (ICTF) and various associated components, including the relocation of an existing rail operation.	Final EIR certified May 2013. Construction on hold due to litigation.
15	Berths 121–131 (Yang Ming) Container Terminal Improvements Project	Wharf modifications at the Yang Ming Marine Terminal Project involves wharf upgrades and backland reconfiguration, including new buildings.	NOI/NOP released in 2014. EIR/EIS under preparation.
16	Port of Los Angeles Master Plan Update	Redevelopment of Fish Harbor, redevelopment of Terminal Island and consideration of on-dock rail expansion, and consolidation of San Pedro and Wilmington Waterfront districts.	BHC certified EIR in August 2013. Coastal Commission certification March 2014.
17	WWL Vehicle Services Cargo Terminal	Expansion of vehicle offloading processing and operations, including cargo increase up to 220,000 vehicles per year.	MND approved August 2012. Construction expected to be completed in 2019.
18	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 3–5 years.

Table 4-1: Related and Cumulative Projects

No. in Figure	Project Title and Location	Project Description	Project Status
19	Outer Harbor Cruise Terminal and Outer Harbor Park	Construction of two new, cruise terminals that would total up to 200,000 square feet (approximately 100,000 square feet each) and parking at Berths 45–47 and 49–50 in the Outer Harbor. The terminals would be designed to accommodate the berthing of a Freedom Class or equivalent cruise vessel (1,150 feet in length). A proposed Outer Harbor Park would encompass approximately 6 acres at the Outer Harbor. This project was evaluated in the San Pedro Waterfront Project EIS/EIR.	BHC certified the Final EIS/EIR and approved project September 2009. Construction is on hold.
20	City Dock No. 1 Marine Research Project (AltaSea	This project includes development of a marine research center within a 28-acre area located between Berths 57–72. This project would change the break bulk areas east of East Channel (Berths 57–72) to institutional uses.	Design ongoing, EIR being prepared.
21	San Pedro Public Market	This project includes redevelopment of the 30-acres, formerly known as the Ports O' Call Village, with up to 300,000 square feet of visitor-serving commercial uses and up to a 75,000 square feet conference center. This project would involve changing the industrial uses along Harbor Boulevard to commercial. This project also includes a waterfront promenade and 3 acres of open space. This project was evaluated in the San Pedro Waterfront Project EIS/EIR.	BHC certified the Final EIS/EIR and approved the project in 2009 and the Addendum in May 2016. Conceptual planning by private developer ongoing. Construction is anticipated to be completed in 2021.
22	Anchorage Road Soil Storage Site (ARSSS) Open Space	This project would create approximately 30 acres of passive open space at the ARSSS. The project may also include undergrounding utilities and roadway improvements at the Anchorage and Shore Road intersection.	On hold.
23	SR-47/Vincent Thomas Bridge & Front St./Harbor Blvd. Interchange Reconfiguration	Reconfigure the existing interchange at State Route 47/Vincent Thomas Bridge and Harbor Boulevard/Front Street to improve safety and operation for vehicles exiting the highway. Improvements also include modifications of the eastbound entrance ramps and modification of Harbor Boulevard and Front Street approaching and between the ramp termini.	Conceptual planning stage.
24	SA Recycling Crane Replacement and Electrification Project	This project, located in Terminal Island, would involve the assembly of a Tier 4 diesel/electric hybrid replacement crane, the installation of conduit and wiring to electrify the wharf and the disposal of the existing diesel crane. There are no operational alternations or expansions proposed.	BHC adopted Negative Declaration in April 2016. Crane has been in operation since 2016.
25	Relocation of Jankovich Marine Fueling Station	This project would develop a new fueling station at Berth 73. The proposed improvements would include new storage tanks.	Addendum to the Final EIR for the San Pedro Waterfront Project is in progress. Conceptual planning ongoing.
26	Al Larson Boat Shop Improvement Project	Modernization of existing boat yard and 30-year lease extension.	BHC certified the Final EIR and approved the project in 2009. Currently on hold.

Table 4-1: Related and Cumulative Projects

No. in Figure	Project Title and Location	Project Description	Project Status
27	Berths 302–306 [APL] Container Terminal Project	Improvements and expansion of the existing terminal, including the addition of cranes, modifications to the main gate, converting an existing dry container storage unit to a refrigerated unit, and the expansion of the terminal onto 41 acres adjacent to the existing terminal. Revised project includes continued operations with minor modifications to the terminal and a 15-year lease extension through 2043.	BHC certified the Final EIR in 2012 and approved an addendum in 2016. Expansion project on hold, revised project ongoing.
28	International Longshore and Warehouse Union Local 13 Dispatch Hall Project	The project will accommodate current and anticipated needs of the International Longshore and Warehouse Union by providing a meeting space and administrative offices for dispatching longshore workers to cargo terminals within the Port and Port of Long Beach.	Construction completed 2015.
29	Wilmington Youth Sailing and Aquatic Center	Construction of a facility that includes a sailing center and adjacent boat dock and launch ramp at Berth 204 in Wilmington.	Mitigated Negative Declaration (MND) approved in 2012. Project on hold.
30	Solar Panel Installation Program	Installation of 10 MW of solar power within the Port.	Construction at some sites began 2009. Construction ongoing through at least 2017.
31	Fish Processing in Fish Harbor	Upgrades of existing facilities and construction of new facilities for fish processing operations	Conceptual planning stage.
32	Berths 167-169 [Shell] Marine Oil Terminal Wharf Improvements Project	Various wharf and seismic ground improvements that are required in order to comply with MOTEMS, as well as other elements not required by MOTEMs. Capacity of the terminal would not be increased; however, the project includes a new 30 year lease. In general, this project would demolish the existing timber wharf (with two berths) and replace it with two new loading platforms, access trestles (to the platforms), mooring dolphins and catwalks, and provide seismic ground improvements along the northwest portion of the terminal grounds.	NOP released June 2015. Draft EIR being prepared.
33	Avalon and Fries Street Segments Closure Project	Physical closure of segments of Avalon Boulevard and Fries Avenue by installing street modifications that include cul-de-sacs, curbs and gutters, and fencing and signage.	On hold.
34	Avalon Freight Services Relocation Project	Shifting existing Catalina Island freight operations from Berth 184 in Wilmington to Berth 95 in San Pedro.	BHC adopted Negative Declaration in January 2015. Project completed in 2016
35	Fisherman's Pride Fish Processing Facility Project	Redevelop a vacant and under-utilized industrial space into a state-of-the-art commercial seafood processing facility.	BHC adopted Mitigated Negative Declaration in 2014. Project is underway.

Table 4-1: Related and Cumulative Projects

No. in Figure	Project Title and Location	Project Description	Project Status
Port of Los Angeles and/or Port of Long Beach Potential Port-Wide Operational Projects			
36	Navy Way/Seaside Avenue Interchange	Construction of a new flyover connector from northbound Navy Way to westbound Seaside Avenue and eliminate the traffic signal.	Conceptual planning stage. Included in 2016 SCAG RTP/SCS as RTP ID 1M0430, implemented by 2026.
ICTF Joint Powers Authority			
37	Union Pacific Railroad ICTF Modernization and Expansion Project	Union Pacific proposal to modernize existing intermodal yard 4 miles from the Port.	Draft EIR on hold.
Community of San Pedro Projects			
38	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.
39	319 N. Harbor Blvd	Construction of 94 unit residential condominiums.	Construction has not started according to City of Los Angeles Planning Department.
40	Ponte Vista/Naval Site	Construct 1,135 residential units, including single family homes, apartments, and condominiums, and open space.	NOP released in October 2010. Construction through 2018.
41	Single Family Homes 1427 N. Gaffey St, San Pedro (at Basin St)	Construction of 135 single-family homes—about 2 acres.	Project approved; construction ongoing.
42	Palos Verdes Urban Village 550 S. Palos Verdes St	Construction of 251 condominiums and 4,000 square feet of retail space. 550 South Palos Verdes Street, San Pedro.	No construction has started.
43	Mixed-use development, 281 W 8th Street, San Pedro	Project to construct 72 condominiums and 7,000 square feet 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).
Community of Wilmington Projects			
44	Distribution Center and Warehouse 755 E. L St, Wilmington (at McFarland Avenue)	Construction of a 135,000-square-foot distribution center and warehouse on a 240,000-square-foot lot with 47 parking spaces.	No construction has started; lot is vacant and bare. LADOT Planning Department has no estimated completion year.

Table 4-1: Related and Cumulative Projects

No. in Figure	Project Title and Location	Project Description	Project Status
45	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.	Initial three phase completed by 2012, and are being leased; construction of last phase is not yet underway.
46	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.
47	Wilmington Redevelopment Plan Amendment/ Expansion Project, Wilmington	The existing Wilmington Industrial Park would be expanded by an additional 2,487 acres, for a total of approximately 2,719 acres. Under the probable maximum level of development, the overall project area could support up approximately 7,326 residential units (primarily multi-family; zone changes under the Plan would permit multi-use and higher density residential development). In addition to the residential development, the Project could accommodate up to approximately 207 acres (9 million square feet) of commercial development and up to 333 acres (14.5 million square feet) of industrial development.	NOP for Program EIR released for public review in August 2010. Currently on hold.
Port of Long Beach Projects			
48	Middle Harbor Terminal Redevelopment, Port of Long Beach	Consolidation of two existing container terminals into one 345-acre (138-hectare) terminal. Construction includes landfill, dredging, and wharf construction; construction of an intermodal rail yard; and reconstruction of terminal buildings.	Approved project. Construction is expected to be completed by the end of 2019.
49	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
50	Inner Harbor Turning Basin Project	Dredging of approximately 50,000 cubic yards (cy) of material to widen the Turning Basin to 1.190 feet and deepen it to -52 feet mean lower low water.	Approved project. Construction pending (2016-2017).
51	Gerald Desmond Bridge Replacement Project, Port of Long Beach and Caltrans/FHWA	Replacement of the existing 4-lane Gerald Desmond highway bridge over the Port of Long Beach Back Channel with a new 6- to 8-lane bridge.	FEIR/EA certified. Approved project, construction ongoing, expected to be completed late 2017 to mid-2018.
52	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 released for public review.

Table 4-1: Related and Cumulative Projects

No. in Figure	Project Title and Location	Project Description	Project Status
53	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.	Project approved in April 2015. Project on hold.
54	Baker Cold Storage, Inc. Cold Storage Facility	Construction of a 250,000 square-foot cold storage facility for the import/export of food products.	Approved project. Construction underway (2014-2016).
Alameda Corridor Transportation Authority and Caltrans Projects			
55	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 [PCH]).	Project approved, construction underway; fixed structure anticipated to be completed in 2018. Elevated expressway deferred indefinitely.
56	Vincent Thomas Bridge Seismic Restoration	Construction includes replacing bridge dampers and installing buckling restrained braces.	Construction is ongoing and is anticipated to be complete in 2019.
Wilmington/Carson			
57	Kinder Morgan Terminal Expansion	The project involves the construction of 18 new, 80,000-barrel product storage tanks and one new, 30,000-barrel storage tank with related piping, pumps, and control systems on the southwestern portion of the existing Carson Terminal facility.	Construction of the Kinder Morgan Terminal Expansion project is expected to occur over a 10-year period.
58	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.
59	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.
60	Ultramar Inc. Wilmington Refinery Cogeneration Project	The proposed Project consists of the addition of a 35 MW Cogeneration Unit including a gas turbine, heat recovery steam generator, a selective catalytic reduction unit, an evaporative cooler, and connections to an existing aqueous ammonia tank at the Refinery	Final EIR certified in 2014.
61	WesPac Smart Energy Transport System Project	WesPac is proposing to construct a jet fuel pipeline system to support airport operations at Los Angeles International Airport (LAX) and other airports in the western United States.	Revised EIR certified in 2011. Not yet constructed.

Table 4-1: Related and Cumulative Projects

No. in Figure	Project Title and Location	Project Description	Project Status
62	Tesoro Refining and Marketing Company Los Angeles Refinery Integration and Compliance Project	Integration of the newly purchased Carson facility with the current Wilmington facility. Modifications to various units at the Carson and Wilmington Operations will be made to ensure compliance and increase operation efficiency. Pipelines will also be installed to improve efficiency within and between the two sites.	Draft EIR released March 2016. Comment period closed June 2016. Construction anticipated to begin late 2016 to 2021.
63	Warren Oil WTU Central Facility and New Equipment Project, 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.	ND release April 15, 2009. Final ND under preparation. Construction expected 3rd quarter 2010 through 2013.
64	Warren E&P, Inc. WTU Central Facility, New Equipment Project	Implement gas sales without interim gas reinjection and to modify the gas handling component of the 2011 Project to facilitate gas sales.	Final ND published August 2014.
65	Shell Oil Products Carson Revitalization Project – Specific Plan	Redevelopment of the Carson Terminal facility over a 15 to 25 year time period. The initial phases will include an 8.8-acre retail center at Del Amo and Wilmington Avenue, a 12.3-acre business park on Chico Street, and the addition of product storage tanks within the center of the property.	FEIR in preparation.
66	Wilmington/I-405 Interchange Project	The proposed project includes modification of the ramps, construction of a new I-405 northbound onramp, widening of Wilmington Avenue from 223rd Street, south of I-405, to I-405 northbound onramp north of the Interchange, and construction of a right turn lane from Wilmington Avenue northbound to 223rd Street eastbound. Additionally, this project includes synchronizing all traffic signals at this location, extending from 220th Street to the north, to 223rd Street to the south.	MDD approved in January 2009. Currently, under construction and expected to be complete in early 2017.
67	Phillips 66 Los Angeles Carson Plant – Crude Oil Storage Capacity Project	Increase crude oil storage capacity at the Los Angeles Refinery Carson Plant by installing one new 615,000 barrel crude oil storage tank with a geodesic dome, increasing the annual permit throughput limit of two existing 320,000 barrel crude oil storage tanks, and installing geodesic domes on the same two existing 320,000 barrel crude oil storage tanks. Tie-ins to the Pier "T" crude oil delivery pipeline from Berth 121 would be installed.	Final ND approved December 2014. Currently under construction.
68	Shell Carson Facility Ethanol (E10) Project	Conversion of existing 69,000 bbl gasoline storage tanks to ethanol service. The EIR for this project included the following project objectives: 1. Increase the Carson Facility's ethanol storage capacity by approximately 75 percent; 2. Increase ethanol tanker-truck loading capacity by at least 75 percent; 3. Include modifications that would minimize impacts to its existing capacity to receive, store and deliver other petroleum products at current levels; and 4. Maintain operational efficiency, safety and flexibility.	FEIR published December 2012.

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4.2 Cumulative Impact Analysis

The following sections analyze the cumulative impacts identified for each resource area relative to the Revised Project and the list of related projects identified in Table 4-1. The discussion of the impacts of past, present, and reasonably foreseeable future projects refers to the list of projects and reference numbers as shown in Table 4-1.

4.2.1 Air Quality and Meteorology

4.2.1.1 Scope of Analysis

The region of analysis for cumulative effects on regional air quality (AQ-3) is the SCAB. For localized effects of air quality (AQ-4), the SCAQMD typically assesses cumulative projects within one mile of a project site. For health effects (AQ-7), the area of influence includes the cumulative projects within the Port complex and their effects on the surrounding communities of San Pedro, Wilmington, and Long Beach.

As described in Section 3.1, Port of Los Angeles CEQA significance thresholds AQ-1 and AQ-2 are not included in this analysis because the Revised Project does not include any construction. Threshold AQ-5 (CO hotspot) has not been included because the Revised Project is not likely to make a significant contribution to a CO hotspot as described in Section 3.1. Thresholds AQ-6 (odor) and AQ-8 (conflict with regional plans) are not included because the screening analysis (see Appendix E1) concluded that the Revised Project could not have increased impacts above those identified in the 2008 EIS/EIR.

As described in Section 2.5.2.1 and Section 3.1.4.4, the Revised Project includes four air quality mitigation measures (MM AQ-9 Alternative Marine Power; MM AQ-10 Vessel Speed Reduction Program; MM AQ-15 Clean-Diesel Yard Tractors; and MM AQ-17 Container Yard Cargo Handling Equipment).

4.2.1.2 Methodology and Baseline for Cumulative Air Quality Impacts

Criteria Pollutant Impact Methodology

As described in Section 3.1, 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 SCAQMD. This trend towards cleaner air has occurred despite continued population growth. However, stationary industrial and mobile emission sources and topographical/meteorological conditions that inhibit atmospheric dispersion combine to create adverse pollution effects in the SCAB. As discussed in Section 3.1.2.4 and shown in Table 3.1-2, the SCAB is an "extreme" nonattainment area for ozone (8-hour standard) and a nonattainment area for fine particulate matter ($PM_{2.5}$) (annual and 24-hour standard) in regard to the National Ambient Air Quality Standards (NAAQS). The SCAB is in attainment of the NAAQS for PM_{10}, carbon monoxide (CO), sulfur dioxide (SO_2), and nitrogen dioxide (NO_2). In regard to the California Ambient Air Quality Standards (CAAQS), the SCAB is presently in nonattainment for ozone, PM_{10}, $PM_{2.5}$, NO_2, and lead; is in attainment of the CAAQS

for SO_2, CO, and sulfates; and is unclassified for hydrogen sulfide and visibility-reducing particles (CARB, 2013). In addition, the 2016 AQMP predicts attainment of all NAAQS within the SCAB, including $PM_{2.5}$ by 2025 and ozone by 2031 (SCAQMD, 2016), but those predictions are speculative at this time.

The contribution of the Revised Project to cumulative impacts was assessed using SCAQMD's guidance (SCAQMD, 2003), which states that projects that exceed SCAQMD's project-level significance thresholds are considered by SCAQMD to have cumulatively considerable impacts. Conversely, projects that do not exceed the project-level thresholds are generally not considered to have cumulatively considerable impacts. Significance thresholds are presented in Section 3.1.4.3. SCAQMD guidance does not distinguish between attainment and nonattainment pollutants, and this analysis assumes that exceedance of any project-level threshold would also constitute a cumulatively considerable impact.

Toxic Air Contaminant Impact Methodology

SCAQMD's MATES IV study (SCAQMD, 2015) showed that the estimated cancer risk in 2012 from toxic air contaminants in the San Pedro and Wilmington areas was approximately 480 in a million on a population-weighted average basis. In the Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach, CARB also identified elevated cancer risk due to operational emissions within and near the ports due to port-area sources (CARB, 2006). To reduce port-related cancer risks in nearby communities, the Ports of Los Angeles and Long Beach approved port-wide air pollution control measures through implementation of the CAAP, which had the goal of reducing diesel particulate matter (DPM) emissions by 85% (POLA and POLB, 2010). In developing the San Pedro Bay Standards, the Port recognized the importance of ensuring that new projects are designed to be consistent with the CAAP and with other applicable regulations in order to allow the Port to meet long-term health risk and emission reduction goals. In addition the Ports of Los Angeles and Long Beach are now developing the next iteration of the CAAP, known as CAAP 3.0, to examine the potential for additional emissions reductions associated with the five major port-related source categories: ocean-going vessels, harborcraft, cargo-handling equipment, locomotives, and trucks.

The contribution of the Revised Project to cumulative health risk impacts was, for the most part, assessed using SCAQMD's guidance (SCAQMD, 2003), which states that exceedances of project-specific significance thresholds represent cumulatively considerable impacts. However, given the existing elevated cancer risk in communities proximate to the Port, this analysis conservatively assumes that (for Cumulative Impact AQ-7) any risk above the CEQA baseline would be a cumulatively considerable impact.

Baseline for Cumulative Air Quality Impacts

As described in Sections 2.6 and 3.1.4.2, the baseline that is used for assessing the air quality and related impacts of the Revised Project in this Draft SEIR consists of throughput and activity levels during 2014, considering timely application of all mitigation measures which were required to have been completed by that year in the 2008 EIS/EIR. This is referred to as the "2014 Mitigated Baseline." This Draft SEIR uses the 2014 Mitigated Baseline in determining the significance of incremental changes to the impacts disclosed in the 2008 EIS/EIR, due to changes to the project (i.e., proposed modifications to 2008 EIS/EIR Mitigation measures under the Revised Project) and

changed circumstances/new information (i.e., incremental increase in Terminal throughput as shown in Table 2-3, due to a revised assessment of Terminal capacity.

4.2.1.3 Cumulative Impact AQ-3: Would operation of the Revised Project produce a cumulatively considerable increase of a criteria pollutant that exceeds the SCAQMD threshold of significance in Table 3.16?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Concurrent related projects at the Port and surrounding areas (see Table 4-1) would contribute to cumulatively significant impacts. The operational impacts of related projects would be cumulatively significant 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 and precursors, the related projects would result in a significant cumulative air quality criteria pollutant impact.

Contribution of the Revised Project (Prior to Mitigation)

Revised Project operational emissions would exceed SCAQMD significance thresholds for CO in all analysis years; emissions of the remaining criteria pollutants would be below SCAQMD significance thresholds (Table 3.1-8). These impacts, combined with impacts from concurrent related projects, would be cumulatively significant. As a result, operational emissions would make a cumulatively considerable contribution to an existing significant cumulative impact for CO.

Mitigation Measures and Residual Cumulative Impacts

As described in Section 3.1.4.4, no feasible mitigation beyond the measures included in the Revised Project is available to reduce operational emissions. Accordingly, operational emissions of CO would continue to exceed SCAQMD significance thresholds in 2023, 2030, 2036, and 2045. These impacts, when combined with impacts from concurrent related projects, would be cumulatively significant. Therefore, the Revised Project would make a cumulatively considerable and unavoidable contribution to an existing significant cumulative impact.

4.2.1.4 Cumulative Impact AQ-4: Would operation of the Revised Project produce emissions that cumulatively exceed an ambient air quality standard or substantially contribute to an existing or projected air quality standard violation?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Concurrent related projects at the Port and surrounding areas (see Table 4-1) would contribute to cumulatively considerable impacts. The operational impacts of related projects would be cumulatively significant if their combined operations ambient pollutant concentrations would exceed the 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, it is reasonable to assume that cumulative air emissions are likely to exceed the thresholds for PM_{10}, $PM_{2.5}$, and NO_2, and are unlikely to exceed the thresholds for CO and SO_2. Consequently, operation of the related projects would result in a significant cumulative air quality impact for PM_{10}, $PM_{2.5}$, and NO_2.

Contribution of the Revised Project (Prior to Mitigation)

Operation of the Revised Project would exceed the federal annual PM_{10} ambient air threshold. These impacts, when combined with impacts from concurrent related projects, would be cumulatively significant. As a result, without mitigation, impacts from project operations would make a cumulatively considerable contribution to an existing significant cumulative impact related to ambient PM_{10} levels.

Mitigation Measures and Residual Cumulative Impacts

As described in Section 3.1.4.4., no feasible mitigation beyond the measures included in the Revised Project is available to reduce operational emissions. Accordingly, operational emissions of the Revised Project would continue to exceed significance thresholds for the federal annual PM_{10} ambient air threshold. These impacts would combine with impacts from concurrent related projects, which would already be cumulatively significant. Therefore the Revised Project would make a cumulatively considerable and unavoidable contribution to an existing significant cumulative impact for PM_{10}.

4.2.1.5 Cumulative Impact AQ-7: Would the Revised Project make a cumulatively considerable contribution to exposure of receptors to significant levels of toxic air contaminants?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The Multiple Air Toxics Exposure Study (MATES-IV) conducted by SCAQMD in 2015 (SCAQMD, 2015) estimated the existing cancer risk from toxic air contaminants (TACs) in the San Pedro and Wilmington areas to be approximately 480 in a million on a population-weighted average basis. In the Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach, 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 Revised Project, is considered a significant cumulative impact. Non-cancer impacts associated with past, present, and reasonably foreseeable projects in the project area are also assumed to have significant cumulative impacts.

The Port has approved port-wide air pollution control measures through their CAAP (POLA and POLB, 2010). Implementation of these measures would reduce the health risk impacts from the Revised Project and future projects at the Port. Currently adopted regulations and future rules proposed by CARB and EPA would also further reduce air emissions and associated cumulative health impacts from Port operations. In 2016, the Ports began the process of updating the CAAP to produce the third version. The scope and framework of this CAAP 3.0 Update will continue to examine the five major mobile sources of air pollution in and around the ports, while placing new Bay-wide Standards for the future. In addition, the CAAP will be expanded to address zero emission

technologies, greenhouse gases, energy strategies, and supply chain optimization. However, because future proposed measures (other than CAAP measures) and rules have not been adopted, they have not been accounted for in the emission calculations or health risk assessment for the Revised Project. Therefore, it is unknown at this time how these future measures would reduce cumulative health risk impacts within the project area. Accordingly, emissions-related cancer and non-cancer impacts within the project region must be considered to be cumulatively significant.

Contribution of the Revised Project (Prior to Mitigation)

Operational emissions of TACs would increase incremental individual cancer risks above the significance threshold of 10 in a million for residential and sensitive receptors in comparison to both the 2014 fixed and the future floating mitigated baselines. The individual cancer risk for occupational receptors would exceed the threshold relative to the future floating mitigated baseline. As a result, without mitigation, the Revised Project would make a cumulatively considerable contribution to an existing significant cumulative impact for cancer risk.

As shown in Section 3.1.4.4, the Revised Project would not increase non-cancer chronic or acute impacts, or the cancer burden, above significance thresholds. As a result, without mitigation, the Revised Project would not make a considerable contribution to significant cumulative non-cancer chronic or acute health impacts or the cancer burden.

Mitigation Measures and Residual Cumulative Impacts

As described in Section 3.1.4.4, no feasible mitigation beyond the measures included in the Revised Project is available to reduce operational emissions of TACs. Therefore, the Revised Project would make a cumulatively considerable and unavoidable contribution to an existing significant cumulative impact for cancer risk after mitigation.

4.2.2 Greenhouse Gas Emissions

Scientific evidence indicates a trend of warming global surface temperatures over the past century due at least partly to the generation of greenhouse gas (GHG) emissions from human activities, as further discussed in Section 3.6, Greenhouse Gas Emissions. Some observed changes include shrinking glaciers, thawing permafrost, and shifts in plant and animal ranges. Credible predictions of long-term impacts from increasing GHG levels in the atmosphere include sea level rise, changes to weather patterns, changes to local and regional ecosystems including the potential loss of species, and significant reductions in winter snow packs. These and other effects could have environmental, economic, and social consequences on a global scale. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. According to the IPCC's Climate Change 2007 Synthesis Report (IPCC 2007), global anthropogenic emissions of GHGs in 2004 were 49.0 gigatonnes of carbon dioxide equivalent (CO_2e). In California alone, CO_2e emissions totaled approximately 448.11 million metric tons or 0.5 gigatonnes in 2011 (CARB, 2016).

The 2008 EIS/EIR considered GHG under the air quality resource, as threshold AQ-9, Potential Contribution to Global Climate Change, and found that the Approved Project would make a cumulatively considerable and unavoidable contribution to global climate

change. The 2008 EIS/EIR did not propose any mitigation measures for that impact. The GHG threshold considered below represents the current wording that incorporates recent SCAQMD guidance.

4.2.2.1 Methodology and Baseline for Cumulative GHG Impacts

Section 3.2.4.1 describes how GHG emissions were calculated for operation of the Revised Project. The major sources contributing to GHG emissions during Revised Project operation consist of:

- container ships (transit, anchoring, and hoteling);
- tugboats assisting ships during harbor transit, turning, and docking;
- cargo-handling equipment (CHE) used for loading/unloading, stacking and moving containers in the terminal;
- switching and linehaul locomotives used to move containers to and from the on-dock and near-dock railyards; and
- drayage trucks used to pick up and drop off containers at various destinations throughout the South Coast region.
- indirect GHG emissions from electricity consumption during operation of the Revised Project.

In addition to evaluating the CO_2e emissions from the Revised Project, the potential impact of SLR resulting from global climate change on the Revised Project was also considered.

As described in Sections 2.6 and 3.2.4.3, the baseline that is used for assessing the GHG impacts of the Revised Project in this Draft SEIR consists of throughput and activity levels during 2014, considering timely application of all mitigation measures which were required to have been completed by that year in the 2008 EIS/EIR. This is referred to as the "2014 Mitigated Baseline." This Draft SEIR uses the 2014 Mitigated Baseline in determining the significance of incremental changes to the impacts disclosed in the 2008 EIS/EIR, due to changes to the project (i.e., proposed modifications to 2008 EIS/EIR Mitigation measures under the Revised Project) and changed circumstances/new information (i.e., incremental increase in Terminal throughput as shown in Table 2-3, due to a revised assessment of Terminal capacity.

Section 3.2.4.5 presents an informational discussion of GHG-reducing statewide, regional, and local plans and policies.

4.2.2.2 Cumulative Impact GHG-1: Would the Revised Project make a cumulatively considerable contribution to a significant cumulative impact due to GHG emissions?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

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, 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. It is therefore conservatively assumed that related projects represent a significant cumulative impact.

Contribution of the Revised Project (Prior to Mitigation)

The challenge in assessing the significance of an individual project's contribution to global GHG emissions and associated global climate change impacts is to determine whether a project's GHG emissions, which are at a micro-scale relative to global emissions, make a cumulatively considerable incremental contribution to a macro-scale impact. SCAQMD developed a project-level significance threshold for GHGs. For the purposes of this cumulative discussion, it is assumed that an exceedance of the project-level threshold would result in a cumulatively considerable contribution to the overall GHG burden.

Operational emissions of the Revised Project would exceed SCAQMD's threshold in all analysis years. Impacts of the Revised Project would combine with impacts from related projects, which would already be cumulatively significant. As a result, without mitigation, impacts from Revised Project operation would make a cumulatively considerable contribution to an existing significant cumulative impact related to GHG and global climate change.

Mitigation Measures and Residual Cumulative Impacts

As described in Sections 2.5.2.2 and 3.1.4.4, no feasible mitigation beyond the measures included in the Revised Project is available to reduce operational emissions and whose effects can be quantified.

In addition, MM GHG-1 (Terminal LED Lighting) and LM GHG-1 (GHG Credit Fund) have been added (see Section 3.2.4.5). MM GHG-1 would reduce emissions of GHGs, but that reduction would not reduce the impact to less than significant. LM GHG-1 could reduce GHG emissions but its effects are not quantifiable as it is not known at present what activities would occur as a result of the contribution to the GHG credit fund. As a result, GHG emissions from the Revised Project would make a cumulatively considerable contribution to an existing significant cumulative impact related to GHG and global climate change.

4.2.3 Ground Transportation

4.2.3.1 Scope of Analysis

The transportation environmental setting for the cumulative ground transportation analysis includes those streets and intersections that would be used by both automobile and truck traffic to gain access to and from the CS Terminal. The transportation analysis includes 24 intersections and 12 freeway/roadway segments that would likely be used by truck and automobile traffic to gain access to and from the project site. The analysis intersections and freeway segments are presented in Section 3.3.2.3.

Threshold TRANS-1 was not included in this analysis because the Revised Project does not include construction. Threshold TRANS-3 was not included because, as described in Section 3.3.1 and Appendix E, the Revised Project would have no potential for affecting

public transit, and in any case, the 2008 EIS/EIR found that the Approved Project would not make a cumulatively considerable contribution to a significant impact.

4.2.3.2 Methodology and Baselines for Cumulative Ground Transportation Impact Analysis

Vehicular Traffic Methodology

The cumulative transportation impact analysis includes future background growth and changes to the transportation network when determining potential cumulatively considerable impacts.

Cumulative, regional traffic volumes in the study area were determined using data from the SCAG socioeconomic projections in the SCAG Regional Travel Demand Forecasting Model and the PortTAM Model. Vehicular trip generation from the Port Complex was forecasted from the 2016 San Pedro Bay Cargo Forecast and the LAHD's 'QuickTrip/TrainBuilder' Model (hereafter referred to as just 'QuickTrip') as inputs into the PortTAM Model. QuickTrip is a spreadsheet truck trip generation model developed as part of the *Ports of Long Beach and Los Angeles Transportation Study* (POLA and POLB, 2001). QuickTrip estimates terminal truck flows by hour of the day based on TEU throughput and using assumed terminal operating parameters (e.g., work shift configurations, weekend operations, on-dock operations, vehicle types, and throughput growth).

Finally, a number of reasonably foreseeable local transportation improvement projects were included in the future baseline but not in the CEQA baseline. These include the Gerald Desmond Bridge Replacement and Schuyler Heim Bridge Replacement projects, the Navy Way/Seaside Interchange, and the SR-47/Vincent Thomas Bridge & Front St./Harbor Blvd. Interchange Reconfiguration. The key operating parameters used in the trip generation estimate are presented in Section 3.4.4.3. Appendix C contains the input data, including additional vehicle trips generated by the Revised Project in future years.

Caltrans' target freeway LOS is between 'C' and 'D', and for facilities that do not meet that target, the existing operating LOS should be maintained. However, Caltrans does not explicitly define thresholds that determine whether that goal is met. Therefore, this Draft SEIR utilizes Metro's CMP guidelines to determine significant impacts on freeways. For segments where baseline LOS is 'E' or 'F', D/C was used to determine impact significance. Per CMP guidelines, an increase of 0.02 or more in the D/C ratio with a resulting LOS 'F' is deemed a significant impact. This SEIR recognizes a cumulatively considerable contribution of the Revised Project to a significant freeway impact where the contribution of the Revised Project would result in an increase of 0.02 or more in the D/C ratio with a resulting LOS 'F'. The cumulative analysis considered the same 12 freeway segments analyzed for the CEQA impact determination (Table 3.3-4)

The cumulative analysis described does not assume the proposed expansion of the Intermodal Container Transfer Facility (ICTF) and the Southern California International Gateway (SCIG) intermodal railyard projects, since neither of those projects can be considered a certainty as of the time of preparation of this SEIR. However, given the potential of two cumulative projects to alter traffic patterns in the port area, a second cumulative analysis with the presence of the two cumulative intermodal railyard projects was performed for the Revised Project.

Rail Traffic Methodology

Two analyses were performed to assess the cumulative impacts of the Revised Project related to rail traffic. The first analysis, for determination of impact significance under CEQA, was performed for the only at-grade rail crossing in the vicinity of the China Shipping Terminal, the Henry Ford Avenue rail crossing. As noted in Section 3.3, the rail crossing at Avalon Boulevard, which was projected in the 2008 EIS/EIR to experience a significant impact, was eliminated by the Wilmington Grade Separation Project. Accordingly, that crossing is not included in this analysis. For the analysis of rail impacts at the Henry Ford Avenue crossing, P.M. peak-hour blockage time was estimated based on a simulation of the 2045 rail network function and an average train length assumption of about 4,400 feet. Details of assumptions and methodology are contained in Appendix C. Only one future year, 2045, was evaluated because that year would represent worst-case conditions. The same methodology that was used in the project-specific analysis for generating trains, assigning them to the various rail lines, and calculating vehicular delay (Section 3.3.4.1 and Appendix C) was used for the cumulative analysis.

A second analysis, for informational purposes only, evaluated potential impacts of future rail traffic associated with the Revised Project, when combined with future regional growth, on vehicular traffic at at-grade rail crossings in the Inland Empire. This analysis evaluates the effects of the increased throughput associated with the Revised Project compared to the Approved Project. Impacts were assessed by quantifying differences in vehicular delays due to at-grade crossings between future baseline conditions and future baseline conditions plus the Revised Project. As in the case of the CEQA analysis in Section 3.3, this cumulative analysis is not required by CEQA because the affected area is outside the vicinity of the Revised Project; accordingly, the results are presented for informational purposes only.

Baselines

As discussed in Section 2.6, in the typical case a supplemental EIR would adopt as its baseline the full build-out of the approved project analyzed under the prior EIR, regardless of whether that project has been fully constructed. It would be proper, therefore, to use the Approved Project, as mitigated, as the baseline conditions for evaluating the impacts of the Revised Project and to disclose the incremental change in environmental impacts between the Approved Project and the Revised Project. LAHD has determined that this approach is both appropriate and feasible for analysis of cumulative Ground Transportation impacts to street intersections and at-grade rail crossings.

The baselines for this Draft SEIR's analysis of cumulative impacts to street intersections and rail crossings are referred to in this Draft SEIR as "Future Mitigated Baselines," and they consist of the forecasted 2015, 2030, and 2045 cumulative conditions under the Approved Project, with mitigation, which were disclosed in the 2008 EIS/EIR. The cumulative analysis includes years 2015, 2030, and 2045 conditions, which are the same years analyzed for cumulative impacts in the 2008 EIS/EIR. The Future Mitigated Baselines represent anticipated traffic conditions (including background traffic growth) at the study intersections and grade crossings during the study years, with the added assumption of timely implementation of all mitigation identified in the 2008 EIS/EIR. Background traffic grows as a result of regional growth in employment, population, schools, and other activities. Most of the past, present, and reasonably foreseeable future cumulative projects are covered by the growth forecasts of the Port Area Travel Demand

Model. Other local projects are not specifically included in the SCAG Regional Model and were thus separately accounted for in the Port Area Travel Demand Model (e.g., the San Pedro Waterfront Project). All Port and Port of Long Beach projected container and non-container terminal traffic growth are included in the Port Area Travel Demand Model.

The use of a future baseline is the methodology typically used by experts in identifying cumulative traffic impacts under CEQA (see also Neighbors for Smart Rail v. Exposition Metro Line Construction Authority (2013) 57 Cal.4th 439 [finding that in appropriate circumstances an EIR can base its impacts analysis on a projection of future conditions if supported by substantial evidence]; CEQA Guidelines, Sections 15125, 15126.2, subd. (a)).

However, due to several study area roadway changes that have occurred since the 2008 EIS/EIR, the cumulative conditions which were disclosed in the 2008 EIS/EIR are not directly comparable to the cumulative conditions under the Revised Project that are forecasted based on current conditions and forecasting models. Therefore, in order to both describe how the Revised Project affects the cumulative impact findings of the 2008 EIS/EIR and also to determine if the Revised Project would make a cumulatively considerable contribution to a new or substantially more severe significant cumulative impact, a multi-step analytical process was used.

First, the "Future Mitigated Baselines" for 2015, 2030, and 2045, drawn directly from the Approved Project with Mitigation results disclosed in the 2008 EIS/EIR, are compared to cumulative conditions under the Revised Project, which are estimated using forecasts based on 2014 observed traffic conditions. This comparison to the Future Mitigated Baselines is used to describe how cumulative conditions under the Revised Project will differ from cumulative conditions under the Approved Project that were forecasted in the 2008 EIS/EIR. If cumulative conditions under the Revised Project at any given analysis location are substantially worse compared to cumulative conditions under the Approved Project reported in the 2008 EIS/EIR, the Draft SEIR identifies a new or substantially more severe significant cumulative impact of the Revised Project.

Second, cumulative conditions under the Revised Project are compared to the Future Mitigated Baselines, for 2015, 2030, and 2045, that have been remodeled using forecasts based on 2014 observed traffic conditions and the most recent port cargo forecast and forecasted terminal operational parameters ("Remodeled Future Mitigated Baselines"). This step determines if the Revised Project would make a cumulatively considerable contribution to any significant cumulative impact identified in the first step of the cumulative analysis. If the Draft SEIR identifies a cumulatively considerable contribution to a significant cumulative impact, the Draft SEIR considers whether the contribution of the Revised Project can be feasibly mitigated to a less than cumulatively considerable level. In such instances, the Draft SEIR first examines whether a mitigation measure identified in the 2008 EIS/EIR would be feasible and adequate to mitigate the Revised Project's contribution. If the mitigation measure identified in the 2008 EIS/EIR would not mitigate the Revised Project's contribution to a level of less than cumulatively considerable, additional mitigation is investigated for feasibility and effectiveness.

The Remodeled Future Mitigated Baseline differs from the Future Mitigated Baseline because, as discussed in sections 2.5.2 and 3.3, substantial changes in the physical configuration of the road network and in traffic patterns and volumes have occurred since the 2008 EIS/EIR was prepared that were unforeseen in the 2008 EIS/EIR analysis. Thus, the cumulative forecasts of the 2008 EIS/EIR are not expected based on current

information and would be inappropriate to determine whether the Revised Project's contribution to a significant cumulative impact would be cumulatively considerable. To produce an analytical result that identifies the precise amount of the Revised Project's contribution to cumulative impacts, the Remodeled Future Mitigated Baseline conditions are based on updated information on forecasted activity and transportation network conditions.

In all future–year analyses, the Remodeled Future Mitigated Baselines assume background growth in traffic, continued operation of the CS Terminal at its 2014 throughput (1,089,000 TEUs), and the completion of all of the transportation mitigation measures imposed in the 2008 EIS/EIR. The Revised Project scenarios assume background traffic growth, do not include mitigation measures that were not completed by 2014, and use updated projections of CS Terminal activity, which differ from those of the 2008 EIS/EIR (see Table 2-3).

For analysis of cumulative freeway congestion impacts, it is not possible to use the "Future Mitigated Baselines," drawn from the Approved Project with Mitigation determinations in the 2008 EIS/EIR, because the freeway analysis in the 2008 EIS/EIR did not forecast future cumulative conditions; in addition the 2008 EIS/EIR examined fewer freeway segments than are required to be analyzed in this Draft SEIR. Therefore, the analysis of cumulative freeway congestion impacts in this Draft SEIR uses as baselines the Remodeled Future Mitigated Baselines.

4.2.3.3 Cumulative Impact TRANS-2: Would vehicular traffic associated with the Revised Project's operations result in a cumulatively considerable contribution to a significant cumulative impact in study intersection volume/ capacity ratios or level of service?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The intersection operation cumulative conditions under the Future Mitigated Baselines for the analysis years of 2015, 2030, and 2045 are shown in tables 4-2, 4-3, and 4-4, which include the data from tables 3.6-8, 3.6-9, and 3.6-10 from the 2008 EIS/EIR. Those tables also show the forecasted intersection operating conditions under the Remodeled Future Mitigated Baselines for 2015, 2030, and 2045. Year 2014 observed traffic operating conditions were compared against the Year 2015 Future Baseline, due to the close proximity of that forecast year to the time of data collection. Note that the SEIR analysis includes midday peak-hour and seven additional analysis locations that the 2008 EIS/EIR did not include.

Based on both the analysis of the 2008 EIS/EIR and the analysis of the Revised Project Baseline conditions, increases in traffic volumes on the surrounding roadways due to cumulative projects would result in a cumulative effect on the operating conditions of area intersections and roadways by causing a study intersection to operate at LOS D or worse during a peak hour.

The 2008 EIS/EIR forecasted that under cumulative conditions (with all required 2008 EIS/EIR mitigation) the following locations would operate at LOS D or worse in the A.M. or P.M. peak hour:

- #3 Alameda Street at Anaheim Street – 2030 A.M. and P.M., 2045 A.M. and P.M

- #4 Henry Ford Avenue at Anaheim Street – 2015 P.M., 2030 P.M., 2045 A.M. and P.M.
- #6 Harbor Boulevard at Swinford Street/SR-47 Ramps – 2015 P.M., 2030 A.M. and P.M., 2045 A.M. and P.M.
- #10 Fries Avenue and Harry Bridges Boulevard – 2030 A.M., 2045 P.M.
- #15 John S. Gibson Boulevard at Channel Street – 2045 P.M.
- #17 Navy Way at Seaside Avenue – 2030 P.M., 2045 A.M. and P.M.

This compares with the Cumulative Revised Project conditions (with only the mitigation that was in place by 2014) at locations that were analysed in the 2008 EIS/EIR:

- #3 Alameda Street at Anaheim Street – 2015 P.M.
- #4 Henry Ford Avenue at Anaheim Street –2030, P.M., 2045 A.M. and P.M.
- #6 Harbor Boulevard at Swinford Street/SR-47 Ramps – 2015 P.M., 2030 P.M., 2045 P.M.
- #7 John S. Gibson Boulevard at I-110 Northbound Ramps – 2030 P.M., 2045 A.M. and P.M.
- #12 ICTF Driveway No. 1 at Sepulveda Boulevard – 2045 A.M. and P.M.
- #13 ICTF Driveway No. 2 at Sepulveda Boulevard – 2045 A.M. and P.M.
- #14 Santa Fe Avenue and Anaheim Street – 2045 A.M. and P.M.

Cumulative impacts would cause the following locations operating at LOS D or worse to operate at lower LOS than was reported in the equivalent analysis year of the 2008 EIS/EIR:

- #3 Alameda Street at Anaheim Street – 2015 P.M.
- #4 Henry Ford Avenue at Anaheim Street – 2030 P.M. and 2045 P.M.
- #7 John S. Gibson Boulevard at I-110 Northbound Ramps – 2030 P.M., 2045 A.M. and P.M.
- #12 ICTF Driveway No. 1 at Sepulveda Boulevard – 2045 A.M. and P.M.
- #13 ICTF Driveway No. 2 at Sepulveda Boulevard – 2045 A.M. and P.M.
- #14 Santa Fe Avenue and Anaheim Street – 2045 A.M. and P.M.

Table 4-2: Intersection Level of Service—Year 2015 Future Mitigated Baseline Compared to Year 2014 Observed Project Cumulative Conditions

Study Intersection	Year 2015 Future Mitigated Baseline						Year 2014 Observed Project Cumulative Conditions						Difference in V/C			Worse LOS D, E, or F?
	A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak	M.D. Peak	P.M. Peak	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C				
1. No Longer Exists	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-
2. Harry Bridges Boulevard at Avalon Boulevard	A	0.509	—	—	A	0.527	A	0.237	A	0.175	A	0.306	-0.272	—	-0.221	-
3. Alameda Street at Anaheim Street	B	0.667	—	—	B	0.699	A	0.571	B	0.615	D	0.829	-0.096	—	0.130	P.M.
4. Henry Ford Avenue at Anaheim Street	A	0.583	—	—	D	0.825	A	0.360	A	0.409	A	0.367	-0.223	—	-0.458	-
5. Front Street/Harbor Boulevard at I-110 On-Ramps	A	0.337	—	—	A	0.457	A	0.446	A	0.289	A	0.349	0.109	—	-0.108	-
6. Harbor Boulevard at Swinford Street/I-110 Off-Ramps	B	0.690	—	—	D	0.870	A	0.411	A	0.294	A	0.310	-0.279	—	-0.560	-
7. John S. Gibson Boulevard at I-110 NB Ramps (WBCT gate)	A	0.585	—	—	A	0.587	A	0.415	A	0.384	A	0.379	-0.170	—	-0.208	-
8. Pacific Avenue at Front Street	A	0.523	—	—	A	0.517	A	0.341	A	0.295	A	0.338	-0.182	—	-0.179	-
9. Figueroa Street at I-110 Ramps (C Street)	A	0.544	—	—	A	0.477	A	0.328	A	0.331	A	0.476	-0.216	—	-0.001	-
10. Harry Bridges Boulevard at Fries Avenue	C	0.718	—	—	C	0.730	A	0.147	A	0.191	A	0.241	-0.571	—	-0.489	-
11. Harry Bridges Boulevard and Bayview Driveway	A	0.376	—	—	A	0.517	A	0.107	A	0.107	A	0.208	-0.269	—	-0.309	-
12. ICTF Driveway No. 1 / Sepulveda Boulevard	A	0.319	—	—	A	0.560	A	0.374	A	0.440	A	0.513	0.055	—	-0.047	-
13. ICTF Driveway No. 2/ Sepulveda Boulevard	A	0.360	—	—	A	0.418	A	0.499	A	0.545	B	0.672	0.139	—	0.254	-
14. Santa Fe Avenue and Anaheim Street	A	0.391	—	—	A	0.550	A	0.549	A	0.573	B	0.663	0.158	—	0.113	-
15. Pacific Avenue/John S Gibson at Channel Street	A	0.591	—	—	B	0.692	A	0.273	A	0.482	A	0.411	-0.318	—	-0.281	-
16. Harry Bridges Boulevard at Broad Avenue	A	0.353	—	—	A	0.438	A	0.147	A	0.137	A	0.249	-0.206	—	-0.189	-
17. Navy Way at Seaside Avenue	B	0.691	—	—	C	0.762	A	0.384	A	0.280	A	0.503	-0.307	—	-0.259	-
18. Harry Bridges Boulevard at North Access Road	—	—	—	—	—	—	A	0.208	A	0.209	A	0.309	—	—	—	-
19. Henry Ford Avenue at Denni Street	—	—	—	—	—	—	A	0.099	A	0.243	A	0.259	—	—	—	-
20. Alameda Street at O Street	—	—	—	—	—	—	A	0.353	A	0.468	B	0.624	—	—	—	-
21. O Street at Pacific Coast Highway	—	—	—	—	—	—	A	0.533	C	0.749	D	0.854	—	—	—	-
22. Alameda Street at Sepulveda Boulevard (on Alameda Street) [1]	—	—	—	—	—	—	A	0.494	A	0.546	B	0.602	—	—	—	-
23. Sepulveda Boulevard at Alameda Street (on Sepulveda Boulevard) [1]	—	—	—	—	—	—	D	0.838	B	0.689	C	0.773	—	—	—	-
24. Front Street at Knoll Dr. (Future I-110 WB Ramps)	—	—	—	—	—	—	A	0.105	A	0.190	A	0.181	—	—	—	-

Notes: [1] City of Carson or Long Beach intersection analyzed using ICU methodology according to City standards. All other locations in the City of Los Angeles and analyzed using CMA methodology according to City standards.

Table 4-3: Intersection Level of Service Analysis—Year 2030 Future Mitigated Baseline Compared to Year 2030 Remodeled Future Mitigated Baseline Cumulative Conditions

Study Intersection	Year 2030 Future Mitigated Baseline						Year 2030 Remodeled Future Baseline Cumulative Conditions						Difference in V/C			Worse LOS D, E, or F?
	A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak	M.D. Peak	P.M. Peak	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C				
1. No Longer Exists	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-
2. Harry Bridges Boulevard at Avalon Boulevard	B	0.651	—	—	D	0.833	A	0.453	A	0.340	A	0.557	-0.198	—	-0.276	-
3. Alameda Street at Anaheim Street	A	0.576	—	—	A	0.595	A	0.561	A	0.511	B	0.623	-0.015	—	0.028	-
4. Henry Ford Avenue at Anaheim Street	E	0.919	—	—	E	0.945	C	0.786	C	0.776	F	1.016	-0.133	—	0.071	P.M.
5. Front Street/Harbor Boulevard at I-110 On-Ramps	A	0.468	—	—	B	0.663	A	0.493	A	0.451	A	0.589	0.025	—	-0.074	-
6. Harbor Boulevard at Swinford Street/I-110 Off-Ramps	E	0.919	—	—	F	1.265	B	0.655	B	0.605	D	0.891	-0.264	—	-0.374	-
7. John S. Gibson Boulevard at I-110 NB Ramps (WBCT gate)	C	0.772	—	—	B	0.681	C	0.739	C	0.770	E	0.920	-0.033	—	0.239	P.M.
8. Pacific Avenue at Front Street	B	0.638	—	—	B	0.641	A	0.480	A	0.413	A	0.522	-0.158	—	-0.119	-
9. Figueroa Street at I-110 Ramps (C Street)	B	0.658	—	—	A	0.576	A	0.509	A	0.495	B	0.646	-0.149	—	0.070	-
10. Harry Bridges Boulevard at Fries Avenue	C	0.886	—	—	D	0.824	A	0.311	A	0.309	A	0.393	-0.575	—	-0.431	-
11. Harry Bridges Boulevard and Bayview Driveway	A	0.467	—	—	B	0.608	A	0.318	A	0.277	A	0.415	-0.149	—	-0.193	-
12. ICTF Driveway No. 1 / Sepulveda Boulevard	A	0.365	—	—	B	0.610	A	0.583	B	0.610	C	0.793	0.218	—	0.183	-
13. ICTF Driveway No. 2/ Sepulveda Boulevard	A	0.404	—	—	A	0.453	B	0.643	A	0.582	C	0.778	0.239	—	0.325	-
14. Santa Fe Avenue and Anaheim Street	A	0.479	—	—	B	0.667	B	0.677	C	0.778	C	0.766	0.198	—	0.099	-
15. Pacific Avenue/John S Gibson at Channel Street	C	0.749	—	—	D	0.869	B	0.626	A	0.579	B	0.619	-0.123	—	-0.250	-
16. Harry Bridges Boulevard at Broad Avenue	A	0.395	—	—	A	0.495	A	0.297	A	0.243	A	0.340	-0.098	—	-0.155	-
17. Navy Way at Seaside Avenue	D	0.873	—	—	F	1.001	Not an intersection due to cumulative Navy Way/Seaside Interchange Project									-
18. Harry Bridges Boulevard at North Access Road	—	—	—	—	—	—	A	0.535	A	0.453	A	0.517	—	—	—	-
19. Henry Ford Avenue at Denni Street	—	—	—	—	—	—	A	0.449	A	0.529	B	0.683	—	—	—	-
20. Alameda Street at O Street	—	—	—	—	—	—	C	0.755	C	0.767	D	0.880	—	—	—	-
21. O Street at Pacific Coast Highway	—	—	—	—	—	—	B	0.661	E	0.901	E	0.951	—	—	—	-
22. Alameda Street at Sepulveda Boulevard (on Alameda Street) [1]	—	—	—	—	—	—	D	0.871	D	0.886	F	1.031	—	—	—	-
23. Sepulveda Boulevard at Alameda Street (on Sepulveda Boulevard) [1]	—	—	—	—	—	—	F	1.103	F	1.047	F	1.264	—	—	—	-
24. Front Street at Knoll Dr. (Future I-110 WB Ramps)	—	—	—	—	—	—	C	0.741	B	0.689	D	0.877	—	—	—	-

Table 4-4: Intersection Level of Service—Year 2045 Future Mitigated Baselines Compared to Year 2045 Remodeled Future Baseline Cumulative Conditions

Study Intersection	Year 2045 Future Mitigated Baseline						Year 2045 Remodeled Future Baseline Cumulative Conditions						Difference in V/C			Worse LOS D, E, or F?
	A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak	M.D. Peak	P.M. Peak	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C				
1. No Longer Exists	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-
2. Harry Bridges Boulevard at Avalon Boulevard	B	0.651	—	—	D	0.833	A	0.507	A	0.415	B	0.635	-0.144	—	-0.198	-
3. Alameda Street at Anaheim Street	A	0.576	—	—	A	0.595	B	0.652	A	0.591	C	0.779	0.076	—	0.184	-
4. Henry Ford Avenue at Anaheim Street	E	0.919	—	—	E	0.945	D	0.877	E	0.912	F	1.134	-0.042	—	0.189	P.M.
5. Front Street/Harbor Boulevard at I-110 On-Ramps	A	0.468	—	—	B	0.663	A	0.526	A	0.492	B	0.661	0.058	—	-0.002	-
6. Harbor Boulevard at Swinford Street/I-110 Off-Ramps	E	0.919	—	—	F	1.265	C	0.708	B	0.674	E	0.973	-0.211	—	-0.292	-
7. John S. Gibson Boulevard at I-110 NB Ramps (WBCT gate)	C	0.772	—	—	B	0.681	E	0.939	E	0.985	F	1.219	0.167	—	0.538	A.M. and P.M.
8. Pacific Avenue at Front Street	B	0.638	—	—	B	0.641	A	0.525	A	0.421	A	0.587	-0.113	—	-0.054	-
9. Figueroa Street at I-110 Ramps (C Street)	B	0.658	—	—	A	0.576	B	0.682	B	0.630	B	0.694	0.024	—	0.118	-
10. Harry Bridges Boulevard at Fries Avenue	C	0.886	—	—	D	0.824	A	0.414	A	0.364	A	0.446	-0.472	—	-0.378	-
11. Harry Bridges Boulevard and Bayview Driveway	A	0.467	—	—	B	0.608	A	0.371	A	0.291	A	0.463	-0.096	—	-0.145	-
12. ICTF Driveway No. 1 / Sepulveda Boulevard	A	0.365	—	—	B	0.610	D	0.856	D	0.889	E	0.992	0.491	—	0.382	A.M. and P.M.
13. ICTF Driveway No. 2/ Sepulveda Boulevard	A	0.404	—	—	A	0.453	E	0.932	D	0.892	F	1.005	0.528	—	0.552	A.M. and P.M.
14. Santa Fe Avenue and Anaheim Street	A	0.479	—	—	B	0.667	D	0.807	D	0.896	D	0.844	0.328	—	0.177	A.M. and P.M.
15. Pacific Avenue/John S Gibson at Channel Street	C	0.749	—	—	D	0.869	B	0.631	B	0.689	B	0.693	-0.118	—	-0.176	-
16. Harry Bridges Boulevard at Broad Avenue	A	0.395	—	—	A	0.495	A	0.355	A	0.331	A	0.435	-0.040	—	-0.060	-
17. Navy Way at Seaside Avenue	D	0.873	—	—	F	1.001	Not an intersection due to cumulative Navy Way/Seaside Interchange Project									-
18. Harry Bridges Boulevard at North Access Road	—	—	—	—	—	—	B	0.620	A	0.548	B	0.645	—	—	—	-
19. Henry Ford Avenue at Denni Street	—	—	—	—	—	—	A	0.537	B	0.635	D	0.807	—	—	—	-
20. Alameda Street at O Street	—	—	—	—	—	—	D	0.868	D	0.894	F	1.053	—	—	—	-
21. O Street at Pacific Coast Highway	—	—	—	—	—	—	D	0.849	E	0.901	E	0.942	—	—	—	-
22. Alameda Street at Sepulveda Boulevard (on Alameda Street) [1]	—	—	—	—	—	—	E	0.901	E	0.923	F	1.078	—	—	—	-
23. Sepulveda Boulevard at Alameda Street (on Sepulveda Boulevard) [1]	—	—	—	—	—	—	F	1.266	F	1.331	F	1.520	—	—	—	-
24. Front Street at Knoll Dr. (Future I-110 WB Ramps)	—	—	—	—	—	—	C	0.721	B	0.629	E	0.939	—	—	—	-

Notes: [1] City of Carson or Long Beach intersection analyzed using ICU methodology according to City standards. All other locations in the City of Los Angeles and analyzed using CMA methodology according to City standards.

Tables 4-5 and 4-6 compare the 2008 EIS/EIR forecasted cumulative conditions for 2030 and 2045 with the Revised Project conditions with the proposed ICTF Expansion and SCIG projects. Year 2015 was not included since neither cumulative project would be in operation by 2015 and Table 4-2 is applicable for both Revised Project scenarios—with and without the proposed ICTF Expansion and SCIG projects. These tables show the following locations operating at LOS D or worse:

- #3 Alameda Street at Anaheim Street – 2015 P.M. (from Table 4-2)
- #4 Henry Ford Avenue at Anaheim Street –2030, P.M., 2045 A.M. and P.M.
- #6 Harbor Boulevard at Swinford Street/SR-47 Ramps – 2015 P.M., 2030 P.M., 2045 P.M.
- #7 John S. Gibson Boulevard at I-110 Northbound Ramps – 2030 P.M., 2045 A.M. and P.M.
- #12 ICTF Driveway No. 1 at Sepulveda Boulevard – 2045 A.M. and P.M.
- #13 ICTF Driveway No. 2 at Sepulveda Boulevard – 2045 A.M. and P.M.
- #14 Santa Fe Avenue and Anaheim Street – 2045 P.M.

Cumulative impacts would cause the following locations operating at LOS D or worse to operate at lower LOS under Revised Project Cumulative conditions with the proposed ICTF Expansion and SCIG projects than was reported in the equivalent analysis year of the 2008 EIS/EIR:

- #3 Alameda Street at Anaheim Street – 2015 P.M. (from Table 4-2)
- #4 Henry Ford Avenue at Anaheim Street – 2030 P.M. and 2045 P.M.
- #7 John S. Gibson Boulevard at I-110 Northbound Ramps – 2030 P.M., 2045 A.M. and P.M.
- #12 ICTF Driveway No. 1 at Sepulveda Boulevard – 2045 A.M. and P.M.
- #13 ICTF Driveway No. 2 at Sepulveda Boulevard – 2045 A.M. and P.M.#14 Santa Fe Avenue and Anaheim Street – 2045 P.M.
- #14 Santa Fe Avenue and Anaheim Street – 2045 P.M.

Table 4-5: Intersection Level of Service—Year 2030 Future Mitigated Baseline Compared to Year 2030 Remodeled Future Baseline Cumulative Conditions With ICTF Expansion and SCIG Projects

Study Intersection	Year 2030 Future Mitigated Baseline						Year 2030 Remodeled Future Baseline Cumulative Conditions with SCIG/ICTF						Difference in V/C			Worse LOS D, E, or F?
	A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak	M.D. Peak	P.M. Peak	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C				
1. No Longer Exists	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-
2. Harry Bridges Boulevard at Avalon Boulevard	B	0.651	—	—	D	0.833	A	0.453	A	0.349	A	0.561	-0.198	—	-0.272	-
3. Alameda Street at Anaheim Street	A	0.576	—	—	A	0.595	A	0.561	A	0.496	C	0.728	-0.015	—	0.133	-
4. Henry Ford Avenue at Anaheim Street	E	0.919	—	—	E	0.945	C	0.781	C	0.787	F	1.023	-0.138	—	0.078	P.M.
5. Front Street/Harbor Boulevard at I-110 On-Ramps	A	0.468	—	—	B	0.663	A	0.492	A	0.451	B	0.600	0.024	—	-0.063	-
6. Harbor Boulevard at Swinford Street/I-110 Off-Ramps	E	0.919	—	—	F	1.265	B	0.673	B	0.608	E	0.911	-0.246	—	-0.354	-
7. John S. Gibson Boulevard at I-110 NB Ramps (WBCT gate)	C	0.772	—	—	B	0.681	B	0.679	C	0.710	D	0.843	-0.093	—	0.162	P.M.
8. Pacific Avenue at Front Street	B	0.638	—	—	B	0.641	A	0.488	A	0.412	A	0.515	-0.150	—	-0.126	-
9. Figueroa Street at I-110 Ramps (C Street)	B	0.658	—	—	A	0.576	A	0.520	A	0.487	B	0.653	-0.138	—	0.077	-
10. Harry Bridges Boulevard at Fries Avenue	C	0.886	—	—	D	0.824	A	0.317	A	0.297	A	0.385	-0.569	—	-0.439	-
11. Harry Bridges Boulevard and Bayview Driveway	A	0.467	—	—	B	0.608	A	0.328	A	0.280	A	0.424	-0.139	—	-0.184	-
12. ICTF Driveway No. 1 / Sepulveda Boulevard	A	0.365	—	—	B	0.610	B	0.602	B	0.636	C	0.744	0.237	—	0.134	-
13. ICTF Driveway No. 2/ Sepulveda Boulevard	A	0.404	—	—	A	0.453	B	0.612	A	0.540	B	0.659	0.208	—	0.206	-
14. Santa Fe Avenue and Anaheim Street	A	0.479	—	—	B	0.667	B	0.686	D	0.801	C	0.773	0.207	—	0.106	-
15. Pacific Avenue/John S Gibson at Channel Street	C	0.749	—	—	D	0.869	B	0.626	A	0.579	B	0.619	-0.123	—	-0.250	-
16. Harry Bridges Boulevard at Broad Avenue	A	0.395	—	—	A	0.495	A	0.297	A	0.237	A	0.336	-0.098	—	-0.159	-
17. Navy Way at Seaside Avenue	D	0.873	—	—	F	1.001	Not an intersection due to cumulative Navy Way/Seaside Interchange Project									-
18. Harry Bridges Boulevard at North Access Road	—	—	—	—	—	—	A	0.522	A	0.466	A	0.529	—	—	—	-
19. Henry Ford Avenue at Denni Street	—	—	—	—	—	—	A	0.454	A	0.529	B	0.679	—	—	—	-
20. Alameda Street at O Street	—	—	—	—	—	—	C	0.763	C	0.788	E	0.906	—	—	—	-
21. O Street at Pacific Coast Highway	—	—	—	—	—	—	B	0.681	E	0.922	E	0.971	—	—	—	-
22. Alameda Street at Sepulveda Boulevard (on Alameda Street) [1]	—	—	—	—	—	—	D	0.834	D	0.846	E	0.992	—	—	—	-
23. Sepulveda Boulevard at Alameda Street (on Sepulveda Boulevard) [1]	—	—	—	—	—	—	F	1.052	E	0.998	F	1.198	—	—	—	-
24. Front Street at Knoll Dr. (Future I-110 WB Ramps)	—	—	—	—	—	—	C	0.721	B	0.683	E	0.901	—	—	—	-

Notes: [1] City of Carson or Long Beach intersection analyzed using ICU methodology according to City standards. All other locations in the City of Los Angeles and analyzed using CMA methodology according to City standards.

Table 4-6: Intersection Level of Service—Year 2045 Future Mitigated Baseline Compared to Year 2045 Remodeled Future Baseline Cumulative Conditions With ICTF Expansion and SCIG Projects

Study Intersection	Year 2045 Mitigated Future Baseline						Year 2045 Remodeled Future Baseline Cumulative Conditions with SCIG/ICTF						Difference in V/C			Worse LOS D, E, or F?
	A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak	M.D. Peak	P.M. Peak	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C				
1. No Longer Exists	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-
2. Harry Bridges Boulevard at Avalon Boulevard	B	0.651	—	—	D	0.833	A	0.510	A	0.411	B	0.624	-0.141	—	-0.209	-
3. Alameda Street at Anaheim Street	A	0.576	—	—	A	0.595	B	0.669	B	0.601	C	0.773	0.093	—	0.178	-
4. Henry Ford Avenue at Anaheim Street	E	0.919	—	—	E	0.945	D	0.853	D	0.892	F	1.153	-0.066	—	0.208	P.M.
5. Front Street/Harbor Boulevard at I-110 On-Ramps	A	0.468	—	—	B	0.663	A	0.528	A	0.491	B	0.663	0.060	—	0.000	-
6. Harbor Boulevard at Swinford Street/I-110 Off-Ramps	E	0.919	—	—	F	1.265	B	0.697	B	0.656	E	0.968	-0.222	—	-0.297	-
7. John S. Gibson Boulevard at I-110 NB Ramps (WBCT gate)	C	0.772	—	—	B	0.681	E	0.950	E	0.977	F	1.181	0.178	—	0.500	A.M. and P.M.
8. Pacific Avenue at Front Street	B	0.638	—	—	B	0.641	A	0.530	A	0.428	A	0.583	-0.108	—	-0.058	-
9. Figueroa Street at I-110 Ramps (C Street)	B	0.658	—	—	A	0.576	B	0.688	B	0.620	C	0.720	0.030	—	0.144	-
10. Harry Bridges Boulevard at Fries Avenue	C	0.886	—	—	D	0.824	A	0.407	A	0.365	A	0.428	-0.479	—	-0.396	-
11. Harry Bridges Boulevard and Bayview Driveway	A	0.467	—	—	B	0.608	A	0.515	A	0.411	A	0.519	0.048	—	-0.089	-
12. ICTF Driveway No. 1 / Sepulveda Boulevard	A	0.365	—	—	B	0.610	D	0.880	D	0.874	E	0.962	0.515	—	0.352	A.M. and P.M.
13. ICTF Driveway No. 2/ Sepulveda Boulevard	A	0.404	—	—	A	0.453	D	0.878	C	0.774	D	0.880	0.474	—	0.427	A.M. and P.M.
14. Santa Fe Avenue and Anaheim Street	A	0.479	—	—	B	0.667	C	0.795	E	0.920	D	0.842	0.316	—	0.175	A.M. and P.M.
15. Pacific Avenue/John S Gibson at Channel Street	C	0.749	—	—	D	0.869	B	0.634	B	0.657	C	0.717	-0.115	—	-0.152	-
16. Harry Bridges Boulevard at Broad Avenue	A	0.395	—	—	A	0.495	A	0.356	A	0.331	A	0.419	-0.039	—	-0.076	-
17. Navy Way at Seaside Avenue	D	0.873	—	—	F	1.001	Not an intersection due to cumulative Navy Way/Seaside Interchange Project									-
18. Harry Bridges Boulevard at North Access Road	—	—	—	—	—	—	B	0.616	A	0.550	B	0.623	—	—	—	-
19. Henry Ford Avenue at Denni Street	—	—	—	—	—	—	A	0.532	B	0.608	C	0.790	—	—	—	-
20. Alameda Street at O Street	—	—	—	—	—	—	D	0.864	D	0.887	F	1.078	—	—	—	-
21. O Street at Pacific Coast Highway	—	—	—	—	—	—	D	0.849	E	0.987	E	0.995	—	—	—	-
22. Alameda Street at Sepulveda Boulevard (on Alameda Street) [1]	—	—	—	—	—	—	D	0.848	D	0.859	F	1.021	—	—	—	-
23. Sepulveda Boulevard at Alameda Street (on Sepulveda Boulevard) [1]	—	—	—	—	—	—	F	1.19	F	1.204	F	1.423	—	—	—	-
24. Front Street at Knoll Dr. (Future I-110 WB Ramps)	—	—	—	—	—	—	B	0.676	B	0.619	E	0.940	—	—	—	-

Notes: [1] City of Carson or Long Beach intersection analyzed using ICU methodology according to City standards. All other locations in the City of Los Angeles and analyzed using CMA methodology according to City standards.

Contribution of the Revised Project (Prior to Mitigation)

As stated in section 4.2.3.2, due to substantial changes in the physical configuration of the road network and traffic patterns since the preparation of the 2008 EIS/EIR, the contribution of the Revised Project to a cumulative impact is analysed by comparing the Remodeled Future Mitigated Baseline to Revised Project cumulative conditions for 2015, 2030 and 2045. This analysis includes updated information on forecasted activity and transportation network conditions while isolating the contribution of the Revised Project.

Tables 4-7, 4-8, and 4-9 show the contribution of the Revised Project for cumulative analysis years 2015, 2030 and 2045 respectively. Tables 4-10 and 4-11 show the contribution of the Revised Project for cumulative analysis years 2030 and 2045 with the cumulative proposed ICTF Expansion and SCIG projects. As shown in the tables, for both cumulative scenarios (with and without ICTF Expansion and SCIG), the Revised project contributes to significant cumulative impacts at the following locations and peak hours:

- #3 Alameda Street at Anaheim Street – 2015 P.M., 2030 and 2045 A.M. and P.M.
- #7 John S. Gibson Boulevard at I-110 Northbound Ramps – 2030 and 2045 A.M., M.D., and P.M.

No other intersection would experience a significant cumulative impact to which the Revised Project would contribute in any future year. Accordingly, the Revised Project would make a cumulatively considerable contribution to a significant cumulative impact at study intersection locations #3 and #7.

Mitigation Measures and Cumulative Residual Impacts

Mitigation Measures

Because the Revised Project would make cumulatively considerable contributions to significant cumulative impacts at study intersection locations #3 and #7, mitigation is required. The cumulatively considerable contribution of the Revised Project can be fully mitigated by the implementation of mitigation measure MM TRANS-2 from the 2008 EIS/EIR for Location #3 and the completion of MM-TRANS-3 from the 2008 EIS/EIR for Location #7 (see Table 2-1 and Section 3.3.2.2 for descriptions of the two measures). Both measures were proposed for modification or elimination in the Revised Project on the basis of available traffic data and expectations about future projects at the time the Revised Project was initially proposed. However, the cumulative analysis for the Draft SEIR shows that the measures are, in fact necessary, and the Draft SEIR re-imposes both measures, with revised implementation schedules, on the Revised Project.

Changed circumstances such as cumulative infrastructure and operational improvements and changed traffic patterns since the certification of the 2008 EIS/EIR have made mitigation measures TRANS-4 (for Location #10, Fries Avenue and Harry Bridges Boulevard) and TRANS-6 (for Location #17, Navy Way at Seaside Avenue) of the 2008 EIS/EIR unnecessary to mitigate a cumulatively considerable contribution of the Revised Project to a significant cumulative impact at those intersections. The cumulative analysis in this SEIR shows that operating conditions Location #10 under the Revised Project, without implementation of Mitigation Measures TRANS-4, would be better at all study hours in all future years compared to the operating conditions under the Approved Project, with mitigation, that were disclosed in the 2008 EIS/EIR for the Approved Project. (See Tables 4-2 through 4-6) The cumulative analysis in this Draft SEIR also

shows that Mitigation Measure TRANS-6 will not be needed for implementation by 2030 (as was required under the 2008 EIS/EIR), since Location #17 will be converted from an intersection to a free-flow interchange by 2030 by Cumulative Project #36 (construction of a new connector from northbound Navy Way to westbound Seaside Avenue).

> **MM TRANS-2 Alameda and Anaheim Streets:** Provide an additional eastbound through-lane on Anaheim Street. This mitigation measure shall be implemented at the same time as the City's planned improvement project at the location, with design/construction commencing in the first quarter of 2019, subject to LADOT approval.

As shown in Table 4-12, the application of MM TRANS-2 would result in intersection conditions improving to LOS C or better in all analysis years, mitigating the cumulatively considerable contribution of the Revised Project. It should be noted that the 2008 EIS/EIR forecasted this location operating at LOS A for both A.M. and P.M. peak hours indicating acceptable operations, whereas the Revised Project cumulative conditions with implementation of MM TRANS-2 has operations of LOS B for the A.M. and LOS C for the P.M. peak hours. Although LOS is worse in the Revised Project with Mitigation than was reported in the 2008 EIS/EIR, in both cases levels of service are acceptable. Although implementation of MM TRANS-2 would mitigate the cumulatively considerable contribution of the Revised Project, because LADOT approval is not guaranteed, the impact is considered cumulatively significant and unavoidable. If LADOT approves the implementation of this mitigation measure then the cumulative impact would be reduced to less than significant.

> **MM TRANS-3 John S. Gibson Boulevard and I-110 N/B Ramps:** Provide an additional westbound right-turn lane with westbound right-turn overlap phasing and an additional southbound left-turn lane. LAHD shall monitor the intersection LOS annually beginning in 2018 and LAHD shall implement the mitigation within three years after the intersection level of service (LOS) is measured as D or worse, as a result of cumulative traffic to which the China Shipping terminal would contribute, with the concurrence of LADOT.

Implementation of the westbound right-turn lane with overlap phasing required by the 2008 EIS/EIR's MM TRANS-3 would only partially mitigate the cumulatively considerable contribution of the Revised Project to a significant cumulative impact at Location #7: by 2045 the intersection is forecasted to operate at LOS E for A.M. and Midday peak hours and LOS F for the P.M. peak hour, whereas the 2008 EIS/EIR forecasted LOS B for the A.M. peak hour and LOS C for the P.M. peak hour (the Midday peak hour was not analyzed in the 2008 study) with the addition of a southbound left-turn lane to MM TRANS-3, implementation of MM TRANS-3 under the Revised Project would fully mitigate the cumulatively considerable contribution of the Revised Project (Table 4-13).

Residual Impacts

With the implementation of MM TRANS-3, the Revised Project would not make a cumulatively considerable contribution to a significant cumulative impact at Location #7, and residual impacts would be less than significant. Because LADOT approval of MM TRANS-2 is not guaranteed, LAHD finds that the Revised Project would have a cumulatively significant and unavoidable impact at Location #3. LAHD further finds that if LADOT approves the implementation of MM TRANS-2, then the contribution of the Revised Project will be reduced to less than cumulatively considerable.

Table 4-7: Intersection Level of Service—Year 2015 Remodeled Future Mitigated Baseline Compared to Year 2015 Revised Project Cumulative Conditions

Study Intersection	Year 2015 Remodeled Future Mitigated Baseline						Year 2015 Revised Project Cumulative Conditions						Difference in V/C			Cumulatively Considerable Contribution?
	A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak	M.D. Peak	P.M. Peak	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C				
1. No Longer Exists	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-
2. Harry Bridges Boulevard at Avalon Boulevard	A	0.237	A	0.175	A	0.306	A	0.242	A	0.182	A	0.313	0.004	0.007	0.007	-
3. Alameda Street at Anaheim Street	A	0.502	A	0.539	C	0.734	A	0.571	B	0.615	D	0.830	0.069	0.076	0.096	P.M.
4. Henry Ford Avenue at Anaheim Street	A	0.360	A	0.409	A	0.367	A	0.360	A	0.409	A	0.367	0.000	0.000	0.000	-
5. Front Street/Harbor Boulevard at I-110 On-Ramps	A	0.446	A	0.289	A	0.349	A	0.451	A	0.293	A	0.355	0.005	0.004	0.006	-
6. Harbor Boulevard at Swinford Street/I-110 Off-Ramps	A	0.411	A	0.294	A	0.310	A	0.488	A	0.325	A	0.313	0.076	0.031	0.003	-
7. John S. Gibson Boulevard at I-110 NB Ramps (WBCT gate)	A	0.411	A	0.381	A	0.369	A	0.469	A	0.389	A	0.384	0.057	0.008	0.015	-
8. Pacific Avenue at Front Street	A	0.341	A	0.295	A	0.338	A	0.341	A	0.297	A	0.343	0.001	0.002	0.005	-
9. Figueroa Street at I-110 Ramps (C Street)	A	0.328	A	0.331	A	0.476	A	0.328	A	0.331	A	0.523	0.000	0.000	0.047	-
10. Harry Bridges Boulevard at Fries Avenue	A	0.090	A	0.191	A	0.241	A	0.151	A	0.197	A	0.248	0.062	0.007	0.007	-
11. Harry Bridges Boulevard and Bayview Driveway	A	0.107	A	0.107	A	0.208	A	0.127	A	0.113	A	0.211	0.021	0.007	0.003	-
12. ICTF Driveway No. 1 / Sepulveda Boulevard	A	0.374	A	0.440	A	0.513	A	0.378	A	0.445	A	0.513	0.004	0.005	0.001	-
13. ICTF Driveway No. 2/ Sepulveda Boulevard	A	0.499	A	0.545	B	0.672	A	0.502	A	0.547	B	0.673	0.004	0.002	0.001	-
14. Santa Fe Avenue and Anaheim Street	A	0.549	A	0.573	B	0.663	A	0.549	A	0.573	B	0.663	0.000	0.000	0.000	-
15. Pacific Avenue/John S Gibson at Channel Street	A	0.273	A	0.482	A	0.411	A	0.277	A	0.482	A	0.416	0.004	0.001	0.006	-
16. Harry Bridges Boulevard at Broad Avenue	A	0.147	A	0.137	A	0.249	A	0.151	A	0.139	A	0.249	0.004	0.003	0.000	-
17. Navy Way at Seaside Avenue	A	0.384	A	0.280	A	0.503	A	0.411	A	0.283	A	0.507	0.027	0.003	0.005	-
18. Harry Bridges Boulevard at North Access Road	A	0.208	A	0.209	A	0.309	A	0.230	A	0.216	A	0.317	0.022	0.007	0.008	-
19. Henry Ford Avenue at Denni Street	A	0.099	A	0.243	A	0.259	A	0.111	A	0.249	A	0.261	0.012	0.006	0.003	-
20. Alameda Street at O Street	A	0.353	A	0.468	B	0.624	A	0.365	A	0.473	B	0.624	0.012	0.005	0.001	-
21. O Street at Pacific Coast Highway	A	0.533	C	0.749	D	0.854	A	0.533	C	0.749	D	0.854	0.000	0.000	0.000	-
22. Alameda Street at Sepulveda Boulevard (on Alameda Street) [1]	A	0.494	A	0.546	B	0.602	A	0.499	A	0.550	B	0.603	0.005	0.004	0.001	-
23. Sepulveda Boulevard at Alameda Street (on Sepulveda Boulevard) [1]	D	0.838	B	0.689	C	0.773	D	0.842	B	0.692	C	0.773	0.004	0.003	0.000	-
24. Front Street at Knoll Dr. (Future I-110 WB Ramps)	A	0.105	A	0.190	A	0.181	A	0.163	A	0.223	A	0.198	0.058	0.033	0.017	-

Notes: [1] City of Carson or Long Beach intersection analyzed using ICU methodology according to City standards. All other locations in the City of Los Angeles and analyzed using CMA methodology according to City standards.

Table 4-8: Intersection Level of Service— Year 2030 Remodeled Future Mitigated Baseline Compared to Year 2030 Revised Project Cumulative Conditions

Study Intersection	Year 2030 Remodeled Future Mitigated Baseline						Year 2030 Revised Project Cumulative Conditions						Difference in V/C			Cumulatively Considerable Contribution?
	A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak	M.D. Peak	P.M. Peak	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C				
1. No Longer Exists	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-
2. Harry Bridges Boulevard at Avalon Boulevard	A	0.453	A	0.340	A	0.557	A	0.457	A	0.340	A	0.557	0.004	0.000	0.000	-
3. Alameda Street at Anaheim Street	A	0.561	A	0.511	B	0.623	B	0.641	A	0.589	D	0.867	0.080	0.078	0.244	A.M. and P.M.
4. Henry Ford Avenue at Anaheim Street	C	0.786	C	0.776	F	1.016	C	0.791	C	0.778	F	1.018	0.005	0.002	0.001	-
5. Front Street/Harbor Boulevard at I-110 On-Ramps	A	0.493	A	0.451	A	0.589	A	0.515	A	0.461	A	0.594	0.022	0.009	0.004	-
6. Harbor Boulevard at Swinford Street/I-110 Off-Ramps	B	0.655	B	0.605	D	0.891	B	0.656	B	0.611	D	0.893	0.001	0.005	0.003	-
7. John S. Gibson Boulevard at I-110 NB Ramps (WBCT gate)	C	0.739	C	0.770	E	0.920	D	0.846	D	0.807	F	1.108	0.108	0.037	0.188	A.M., M.D. and P.M.
8. Pacific Avenue at Front Street	A	0.480	A	0.413	A	0.522	A	0.481	A	0.414	A	0.527	0.001	0.001	0.005	-
9. Figueroa Street at I-110 Ramps (C Street)	A	0.509	A	0.495	B	0.646	A	0.509	A	0.495	B	0.646	0.000	0.000	0.000	-
10. Harry Bridges Boulevard at Fries Avenue	A	0.311	A	0.309	A	0.393	A	0.393	A	0.381	A	0.545	0.083	0.072	0.152	-
11. Harry Bridges Boulevard and Bayview Driveway	A	0.318	A	0.277	A	0.415	A	0.338	A	0.277	A	0.415	0.020	0.000	0.000	-
12. ICTF Driveway No. 1 / Sepulveda Boulevard	A	0.583	B	0.610	C	0.793	A	0.591	B	0.614	C	0.794	0.008	0.004	0.001	-
13. ICTF Driveway No. 2/ Sepulveda Boulevard	B	0.643	A	0.582	C	0.778	B	0.647	A	0.585	C	0.779	0.004	0.003	0.001	-
14. Santa Fe Avenue and Anaheim Street	B	0.677	C	0.778	C	0.766	B	0.677	C	0.778	C	0.766	0.000	0.000	0.000	-
15. Pacific Avenue/John S Gibson at Channel Street	B	0.626	A	0.579	B	0.619	B	0.630	A	0.580	B	0.636	0.004	0.001	0.017	-
16. Harry Bridges Boulevard at Broad Avenue	A	0.297	A	0.243	A	0.340	A	0.301	A	0.250	A	0.347	0.004	0.007	0.007	-
17. Navy Way at Seaside Avenue	Not an intersection due to cumulative Navy Way/Seaside Interchange Project															-
18. Harry Bridges Boulevard at North Access Road	A	0.535	A	0.453	A	0.517	A	0.556	A	0.460	A	0.524	0.021	0.007	0.007	-
19. Henry Ford Avenue at Denni Street	A	0.449	A	0.529	B	0.683	A	0.462	A	0.535	B	0.685	0.013	0.006	0.002	-
20. Alameda Street at O Street	C	0.755	C	0.767	D	0.880	C	0.767	C	0.772	D	0.881	0.012	0.005	0.001	-
21. O Street at Pacific Coast Highway	B	0.661	E	0.901	E	0.951	B	0.661	E	0.901	E	0.951	0.000	0.000	0.000	-
22. Alameda Street at Sepulveda Boulevard (on Alameda Street) [1]	D	0.871	D	0.886	F	1.031	D	0.876	D	0.889	F	1.032	0.005	0.003	0.001	-
23. Sepulveda Boulevard at Alameda Street (on Sepulveda Boulevard) [1]	F	1.103	F	1.047	F	1.264	F	1.107	F	1.05	F	1.265	0.004	0.003	0.001	-
24. Front Street at Knoll Dr. (Future I-110 WB Ramps)	C	0.741	B	0.689	D	0.877	C	0.767	C	0.703	D	0.881	0.026	0.014	0.005	-

Notes: [1] City of Carson or Long Beach intersection analyzed using ICU methodology according to City standards. All other locations in the City of Los Angeles and analyzed using CMA methodology according to City standards.

Table 4-9: Intersection Level of Service— Year 2045 Remodeled Future Mitigated Baseline Compared to Year 2045 Revised Project Cumulative Conditions

Study Intersection	Year 2045 Remodeled Future Mitigated Baseline						Year 2045 Revised Project Cumulative Conditions						Difference in V/C			Cumulatively Considerable Contribution?
	A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak	M.D. Peak	P.M. Peak	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C				
1. No Longer Exists	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-
2. Harry Bridges Boulevard at Avalon Boulevard	A	0.507	A	0.415	B	0.635	A	0.512	A	0.416	B	0.635	0.004	0.001	0.000	-
3. Alameda Street at Anaheim Street	B	0.652	A	0.591	C	0.779	C	0.736	B	0.685	D	0.875	0.084	0.094	0.096	A.M. and P.M.
4. Henry Ford Avenue at Anaheim Street	D	0.877	E	0.912	F	1.134	D	0.877	E	0.913	F	1.136	0.000	0.001	0.001	-
5. Front Street/Harbor Boulevard at I-110 On-Ramps	A	0.526	A	0.492	B	0.661	A	0.549	A	0.501	B	0.665	0.023	0.009	0.004	-
6. Harbor Boulevard at Swinford Street/I-110 Off-Ramps	C	0.708	B	0.674	E	0.973	C	0.709	B	0.691	E	0.976	0.001	0.017	0.003	-
7. John S. Gibson Boulevard at I-110 NB Ramps (WBCT gate)	E	0.939	E	0.985	F	1.219	F	1.040	F	1.022	F	1.413	0.102	0.037	0.193	A.M., M.D. and P.M.
8. Pacific Avenue at Front Street	A	0.525	A	0.421	A	0.587	A	0.526	A	0.423	A	0.592	0.001	0.001	0.005	-
9. Figueroa Street at I-110 Ramps (C Street)	B	0.682	B	0.630	B	0.694	B	0.682	B	0.630	B	0.694	0.000	0.000	0.000	-
10. Harry Bridges Boulevard at Fries Avenue	A	0.414	A	0.364	A	0.446	A	0.441	A	0.427	B	0.603	0.027	0.063	0.157	-
11. Harry Bridges Boulevard and Bayview Driveway	A	0.371	A	0.291	A	0.463	A	0.391	A	0.291	A	0.463	0.021	0.000	0.000	-
12. ICTF Driveway No. 1 / Sepulveda Boulevard	D	0.856	D	0.889	E	0.992	D	0.864	D	0.895	E	0.993	0.008	0.006	0.001	-
13. ICTF Driveway No. 2/ Sepulveda Boulevard	E	0.932	D	0.892	F	1.005	E	0.936	D	0.887	F	1.001	0.004	-0.006	-0.004	-
14. Santa Fe Avenue and Anaheim Street	D	0.807	D	0.896	D	0.844	D	0.807	D	0.896	D	0.844	0.000	0.000	0.000	-
15. Pacific Avenue/John S Gibson at Channel Street	B	0.631	B	0.689	B	0.693	B	0.635	B	0.690	C	0.710	0.004	0.001	0.017	-
16. Harry Bridges Boulevard at Broad Avenue	A	0.355	A	0.331	A	0.435	A	0.359	A	0.337	A	0.442	0.004	0.007	0.007	-
17. Navy Way at Seaside Avenue	Not an intersection due to cumulative Navy Way/Seaside Interchange Project															-
18. Harry Bridges Boulevard at North Access Road	B	0.620	A	0.548	B	0.645	B	0.642	A	0.555	B	0.652	0.022	0.007	0.007	-
19. Henry Ford Avenue at Denni Street	A	0.537	B	0.635	D	0.807	A	0.550	B	0.642	D	0.809	0.013	0.006	0.002	-
20. Alameda Street at O Street	D	0.868	D	0.894	F	1.053	D	0.880	D	0.898	F	1.055	0.012	0.004	0.002	-
21. O Street at Pacific Coast Highway	D	0.849	E	0.901	E	0.942	D	0.849	E	0.901	E	0.942	0.000	0.000	0.000	-
22. Alameda Street at Sepulveda Boulevard (on Alameda Street) [1]	E	0.901	E	0.923	F	1.078	E	0.906	E	0.926	F	1.08	0.005	0.003	0.002	-
23. Sepulveda Boulevard at Alameda Street (on Sepulveda Boulevard) [1]	F	1.266	F	1.331	F	1.520	F	1.27	F	1.333	F	1.52	0.004	0.002	0.000	-
24. Front Street at Knoll Dr. (Future I-110 WB Ramps)	C	0.721	B	0.629	E	0.939	C	0.747	B	0.646	E	0.944	0.026	0.017	0.005	-

Notes: [1] City of Carson or Long Beach intersection analyzed using ICU methodology according to City standards. All other locations in the City of Los Angeles and analyzed using CMA methodology according to City standards.

Table 4-10: Intersection Level of Service— Year 2030 Remodeled Future Mitigated Baseline With Proposed ICTF and SCIG Compared to Year 2030 Revised Project Cumulative Conditions With Proposed ICTF and SCIG

Study Intersection	Year 2030 Remodeled Future Mitigated Baseline With ICTF and SCIG						Year 2030 Revised Project Cumulative Conditions With ICTF and SCIG						Difference in V/C			Cumulatively Considerable Contribution?
	A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak	M.D. Peak	P.M. Peak	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C				
1. No Longer Exists	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-
2. Harry Bridges Boulevard at Avalon Boulevard	A	0.453	A	0.349	A	0.561	A	0.453	A	0.349	A	0.561	0.000	0.000	0.000	-
3. Alameda Street at Anaheim Street	A	0.561	A	0.496	C	0.728	B	0.637	A	0.573	D	0.860	0.076	0.077	0.132	A.M. and P.M.
4. Henry Ford Avenue at Anaheim Street	C	0.781	C	0.787	F	1.023	C	0.786	C	0.788	F	1.024	0.005	0.001	0.001	-
5. Front Street/Harbor Boulevard at I-110 On-Ramps	A	0.492	A	0.451	B	0.600	A	0.513	A	0.459	B	0.604	0.021	0.008	0.004	-
6. Harbor Boulevard at Swinford Street/I-110 Off-Ramps	B	0.673	B	0.608	E	0.911	B	0.674	B	0.609	E	0.913	0.001	0.001	0.002	-
7. John S. Gibson Boulevard at I-110 NB Ramps (WBCT gate)	B	0.679	C	0.710	D	0.843	C	0.746	C	0.734	F	1.001	0.067	0.024	0.159	A.M., M.D. and P.M.
8. Pacific Avenue at Front Street	A	0.488	A	0.412	A	0.515	A	0.489	A	0.414	A	0.518	0.001	0.001	0.004	-
9. Figueroa Street at I-110 Ramps (C Street)	A	0.520	A	0.487	B	0.653	A	0.520	A	0.487	B	0.653	0.000	0.000	0.000	-
10. Harry Bridges Boulevard at Fries Avenue	A	0.317	A	0.297	A	0.385	A	0.384	A	0.394	A	0.538	0.067	0.097	0.153	-
11. Harry Bridges Boulevard and Bayview Driveway	A	0.328	A	0.280	A	0.424	A	0.347	A	0.280	A	0.424	0.019	0.000	0.000	-
12. ICTF Driveway No. 1 / Sepulveda Boulevard	B	0.602	B	0.636	C	0.744	B	0.606	B	0.638	C	0.744	0.004	0.002	0.000	-
13. ICTF Driveway No. 2/ Sepulveda Boulevard	B	0.612	A	0.540	B	0.659	B	0.613	A	0.541	B	0.659	0.001	0.001	0.000	-
14. Santa Fe Avenue and Anaheim Street	B	0.686	D	0.801	C	0.773	B	0.686	D	0.801	C	0.773	0.000	0.000	0.000	-
15. Pacific Avenue/John S Gibson at Channel Street	B	0.626	A	0.579	B	0.619	B	0.630	A	0.580	B	0.636	0.004	0.001	0.017	-
16. Harry Bridges Boulevard at Broad Avenue	A	0.297	A	0.237	A	0.336	A	0.297	A	0.241	A	0.342	0.000	0.005	0.006	-
17. Navy Way at Seaside Avenue	Not an intersection due to cumulative Navy Way/Seaside Interchange Project															-
18. Harry Bridges Boulevard at North Access Road	A	0.522	A	0.466	A	0.529	A	0.541	A	0.472	A	0.536	0.019	0.006	0.006	-
19. Henry Ford Avenue at Denni Street	A	0.454	A	0.529	B	0.679	A	0.461	A	0.532	B	0.679	0.008	0.003	0.000	-
20. Alameda Street at O Street	C	0.763	C	0.788	E	0.906	C	0.769	C	0.791	E	0.906	0.006	0.003	0.000	-
21. O Street at Pacific Coast Highway	B	0.681	E	0.922	E	0.971	B	0.681	E	0.922	E	0.971	0.000	0.000	0.000	-
22. Alameda Street at Sepulveda Boulevard (on Alameda Street) [1]	D	0.834	D	0.846	E	0.992	D	0.835	D	0.847	E	0.992	0.001	0.001	0.000	-
23. Sepulveda Boulevard at Alameda Street (on Sepulveda Boulevard) [1]	F	1.052	E	0.998	F	1.198	F	1.052	E	0.998	F	1.198	0.000	0.000	0.000	-
24. Front Street at Knoll Dr. (Future I-110 WB Ramps)	C	0.721	B	0.683	E	0.901	C	0.751	B	0.695	E	0.907	0.031	0.011	0.005	-

Notes: [1] City of Carson or Long Beach intersection analyzed using ICU methodology according to City standards. All other locations in the City of Los Angeles and analyzed using CMA methodology according to City standards.

Table 4-11: Intersection Level of Service Analysis— Year 2045 Remodeled Future Mitigated Baseline With Proposed ICTF and SCIG Compared to Year 2045 Revised Project With Proposed ICTF and SCIG

Study Intersection	Year 2045 Remodeled Future Mitigated Baseline With ICTF and SCIG						Year 2045 Revised Project Cumulative Conditions With ICTF and SCIG						Difference in V/C			Cumulatively Considerable Contribution?
	A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak	M.D. Peak	P.M. Peak	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C				
1. No Longer Exists	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-
2. Harry Bridges Boulevard at Avalon Boulevard	A	0.510	A	0.411	B	0.624	A	0.510	A	0.412	B	0.624	0.000	0.001	0.000	-
3. Alameda Street at Anaheim Street	B	0.669	B	0.601	C	0.773	C	0.749	B	0.692	D	0.869	0.080	0.091	0.096	A.M. and P.M.
4. Henry Ford Avenue at Anaheim Street	D	0.853	D	0.892	F	1.153	D	0.858	D	0.893	F	1.154	0.004	0.001	0.001	-
5. Front Street/Harbor Boulevard at I-110 On-Ramps	A	0.528	A	0.491	B	0.663	A	0.549	A	0.498	B	0.667	0.022	0.007	0.004	-
6. Harbor Boulevard at Swinford Street/I-110 Off-Ramps	B	0.697	B	0.656	E	0.968	B	0.699	B	0.668	E	0.971	0.001	0.012	0.003	-
7. John S. Gibson Boulevard at I-110 NB Ramps (WBCT gate)	E	0.950	E	0.977	F	1.181	F	1.035	F	1.001	F	1.365	0.084	0.024	0.184	A.M., M.D. and P.M.
8. Pacific Avenue at Front Street	A	0.530	A	0.428	A	0.583	A	0.532	A	0.430	A	0.586	0.001	0.002	0.004	-
9. Figueroa Street at I-110 Ramps (C Street)	B	0.688	B	0.620	C	0.720	B	0.688	B	0.620	C	0.720	0.000	0.000	0.000	-
10. Harry Bridges Boulevard at Fries Avenue	A	0.407	A	0.365	A	0.428	A	0.439	A	0.422	A	0.591	0.032	0.057	0.163	-
11. Harry Bridges Boulevard and Bayview Driveway	A	0.515	A	0.411	A	0.519	A	0.515	A	0.411	A	0.519	0.000	0.000	0.000	-
12. ICTF Driveway No. 1 / Sepulveda Boulevard	D	0.880	D	0.874	E	0.962	D	0.885	D	0.876	E	0.962	0.004	0.002	0.000	-
13. ICTF Driveway No. 2/ Sepulveda Boulevard	D	0.878	C	0.774	D	0.880	D	0.879	C	0.774	D	0.880	0.001	0.001	0.000	-
14. Santa Fe Avenue and Anaheim Street	C	0.795	E	0.920	D	0.842	C	0.795	E	0.920	D	0.842	0.000	0.000	0.000	-
15. Pacific Avenue/John S Gibson at Channel Street	B	0.634	B	0.657	C	0.717	B	0.639	B	0.659	C	0.732	0.005	0.002	0.015	-
16. Harry Bridges Boulevard at Broad Avenue	A	0.356	A	0.331	A	0.419	A	0.356	A	0.335	A	0.425	0.000	0.005	0.006	-
17. Navy Way at Seaside Avenue	Not an intersection due to cumulative Navy Way/Seaside Interchange Project															-
18. Harry Bridges Boulevard at North Access Road	B	0.616	A	0.550	B	0.623	B	0.635	A	0.555	B	0.629	0.019	0.006	0.006	-
19. Henry Ford Avenue at Denni Street	A	0.532	B	0.608	C	0.790	A	0.540	B	0.610	C	0.790	0.008	0.002	0.000	-
20. Alameda Street at O Street	D	0.864	D	0.887	F	1.078	D	0.869	D	0.888	F	1.078	0.005	0.001	0.000	-
21. O Street at Pacific Coast Highway	D	0.849	E	0.987	E	0.995	D	0.849	E	0.987	E	0.995	0.000	0.000	0.000	-
22. Alameda Street at Sepulveda Boulevard (on Alameda Street) [1]	D	0.848	D	0.859	F	1.021	D	0.85	D	0.86	F	1.021	0.002	0.001	0.000	-
23. Sepulveda Boulevard at Alameda Street (on Sepulveda Boulevard) [1]	F	1.19	F	1.204	F	1.423	F	1.19	F	1.204	F	1.423	0.000	0.000	0.000	-
24. Front Street at Knoll Dr. (Future I-110 WB Ramps)	B	0.676	B	0.619	E	0.940	C	0.707	B	0.631	E	0.944	0.031	0.013	0.004	-

Notes: [1] City of Carson or Long Beach intersection analyzed using ICU methodology according to City standards. All other locations in the City of Los Angeles and analyzed using CMA methodology according to City standards.

Table 4-12: Intersection Level of Service Analysis— Study Intersection #3 Alameda Street at Anaheim Street Mitigation Measure TRANS-2

Scenario	Revised Project Conditions Prior to Mitigation						Revised Project Conditions with Mitigations						Difference in V/C			Cumulatively Considerable Contribution?
	A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak	M.D. Peak	P.M. Peak	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C				
Year 2015 Revised Project	A	0.571	B	0.615	D	0.829	A	0.502	A	0.539	C	0.734	-0.069	-0.076	-0.095	No
Year 2030 Revised Project	B	0.641	A	0.589	D	0.867	A	0.565	A	0.511	C	0.711	-0.076	-0.078	-0.156	No
Year 2045 Revised Project	C	0.736	B	0.685	D	0.875	B	0.651	A	0.591	C	0.779	-0.085	-0.095	-0.095	No
Cumulative with ICTF Modernization and SCIG																
Year 2030 Revised Project With ICTF/SCIG	B	0.637	A	0.573	D	0.860	A	0.562	A	0.496	C	0.728	-0.076	-0.077	-0.132	No
Year 2045 Revised Project With ICTF/SCIG	C	0.741	B	0.692	D	0.869	B	0.662	B	0.601	C	0.773	-0.079	-0.091	-0.095	No

Notes: [1] City of Carson or Long Beach intersection analyzed using ICU methodology according to City standards. All other locations in the City of Los Angeles and analyzed using CMA methodology according to City standards.

Table 4-13: Intersection Level of Service Analysis— Study Intersection #7 John S. Gibson Boulevard at I-110 NB Ramps Mitigation Measure TRANS-3 (with 2008 EIS/EIR Mitigation and with Additional Mitigation)

Scenario	Revised Project Conditions Prior to Mitigation						Revised Project Conditions with Mitigations						Difference in V/C			Cumulatively Considerable Contribution?
	A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak		M.D. Peak		P.M. Peak		A.M. Peak	M.D. Peak	P.M. Peak	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C				
Cumulative without ICTF Modernization and SCIG																
Year 2030 Revised Project (2008 Mitigation)	D	0.846	D	0.807	F	1.108	C	0.797	C	0.750	F	1.058	-0.049	-0.057	-0.050	No
Year 2045 Revised Project (2008 Mitigation)	F	1.040	F	1.022	F	1.413	E	0.938	E	0.923	F	1.327	-0.103	-0.100	-0.086	No
Year 2030 Revised Project (Additional Mitigation)	D	0.846	D	0.807	F	1.108	C	0.768	B	0.662	D	0.802	-0.079	-0.145	-0.306	No
Year 2045 Revised Project (Additional Mitigation)	F	1.040	F	1.022	F	1.413	D	0.805	C	0.712	F	1.005	-0.236	-0.310	-0.407	No
Cumulative with ICTF Modernization and SCIG																
Year 2030 Revised Project With ICTF/SCIG (2008 Mitigation)	C	0.746	C	0.734	F	1.001	B	0.699	B	0.680	F	1.001	-0.047	-0.055	0.000	Yes
Year 2045 Revised Project With ICTF/SCIG (2008 Mitigation)	F	1.035	F	1.001	F	1.365	E	0.938	E	0.904	F	1.283	-0.097	-0.097	-0.082	No
Year 2030 Revised Project With ICTF/SCIG (Additional Mitigation)	C	0.746	C	0.734	F	1.001	B	0.699	B	0.611	C	0.751	-0.047	-0.123	-0.250	No
Year 2045 Revised Project With ICTF/SCIG (Additional Mitigation)	F	1.035	F	1.001	F	1.365	C	0.795	C	0.709	E	0.965	-0.240	-0.292	-0.401	No

Notes: [1] City of Carson or Long Beach intersection analyzed using ICU methodology according to City standards. All other locations in the City of Los Angeles and analyzed using CMA methodology according to City standards

4.2.3.4 Cumulative Impact TRANS-4: Would Revised Project operations result in a cumulatively considerable contribution to a significant cumulative impact related to freeway congestion?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Freeway traffic has increased in the Port area over the past decade due to development in San Pedro, Wilmington, Harbor City, and in Southern California as a whole. In addition to increased locally-generated traffic on I-110 and SR-47, regional increases in traffic have resulted in increased diversion of traffic from other congested facilities such as I-405 to the freeways near the project study area. The analysis in the 2008 EIS/EIR considered fewer locations than the SEIR is required to evaluate under a 2013 City of Los Angeles agreement with Caltrans. Regional transportation infrastructure improvements programmed through the Regional Transportation Plan (RTP) and the State Transportation Improvement Program (STIP) are included as cumulative projects. Therefore, as discussed in Section 4.2.3.2, the analysis of cumulative freeway impacts, for the years 2015, 2030, and 2045, uses a 2045 Remodeled Future Mitigated Baseline which uses forecasts based on 2014 observed traffic conditions. This analysis uses the PortTAM travel demand model to forecast future traffic growth.

The past, present, and reasonably foreseeable future projects would add traffic to the freeway system, including the study segments, resulting in significant cumulative impacts (LOS F or worse) to several monitoring stations under Future Mitigated Baseline P.M. peak-hour traffic conditions. Each analysis year is shown in four successive tables showing AM Northbound/Westbound freeway links, AM Southbound/Eastbound freeway links, PM Northbound/Westbound freeway links, and PM Southbound/Eastbound freeway links.

Tables 4-14.1 to 4-16.4 show the 2015, 2030, 2045 without the SCIG and ICTF Modernization projects conditions, and Tables 4-17.1 to 4-18.4, with the SCIG and ICTF Modernization projects. The SR 47 at Vincent Thomas Bridge (Study Segment #1, Table 3.3-5), I-110 north of I-405 (#5), and I-710 north of Pacific Coast Highway (#6) and north of Florence Avenue (#10) are projected to operate at LOS F in at least one direction and during at least one peak period during all future analysis years.

Table 4-14.1: Peak Freeway Level of Service (LOS) 2015 Remodeled Future Mitigated Baseline and 2015 Revised Project Cumulative Conditions – AM Peak Hour Northbound/Westbound

Location		Capacity	2015 Remodeled Future Mitigated Baseline					2015 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	1,875	17.9	B	-		1,942	18.6	C	-		-	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	1,120	7.1	A	-		1,121	7.1	A	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	4,450	18.0	C	-		4,536	18.4	C	-		-	No
#4 I-110	North of 223rd Street	9,400	7,910	35.6	E	0.84	D	7,977	36.1	E	0.85	D	0.01	No
#5 I-110	North of I-405	11,750	11,690	50.2	F	0.99	E	11,745	50.8	F	1.00	E	0.01	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	5,970	39.6	E	0.88	D	5,970	39.6	E	0.88	D	0.00	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	7,120	34.2	D	-		7,121	34.2	D	-		-	No
#8 I-710	North of Alondra Boulevard	11,750	8,160	27.0	D	-		8,179	27.1	D	-		-	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	7,580	33.3	D	-		7,594	33.4	D	-		-	No
#10 I-710	North of Florence Avenue	9,400	7,030	29.8	D	-		7,041	29.8	D	-		-	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	9,430	33.0	D	-		9,430	33.0	D	-		-	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	6,400	17.3	B	-		6,402	17.3	B	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-14.2: Peak Freeway Level of Service (LOS) 2015 Remodeled Future Mitigated Baseline and 2015 Revised Project Cumulative Conditions – AM Peak Hour Southbound/Eastbound

Location		Capacity	2015 Remodeled Future Mitigated Baseline					2015 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	2,235	21.4	C	-		2,242	21.5	C	-		-	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	920	5.9	A	-		941	6.0	A	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	3,250	13.2	B	-		3,290	13.3	B	-		-	No
#4 I-110	North of 223rd Street	9,400	5,820	18.9	C	-		5,858	19.0	C	-		-	No
#5 I-110	North of I-405	11,750	8,600	28.9	D	-		8,626	29.0	D	-		-	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	6,330	43.9	E	0.94	E	6,365	44.3	E	0.94	E	0.00	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	7,950	39.6	E	0.88	D	7,986	39.8	E	0.89	D	0.01	No
#8 I-710	North of Alondra Boulevard	11,750	9,510	33.4	D	-		9,540	33.6	D	-		-	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	8,840	44.0	E	0.94	E	8,859	44.2	E	0.94	E	0.00	No
#10 I-710	North of Florence Avenue	9,400	8,200	38.0	E	0.87	D	8,216	38.1	E	0.87	D	0.00	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	7,740	25.4	C	-		7,740	25.4	C	-		-	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	8,090	21.8	C	-		8,129	21.9	C	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-14.3: Peak Freeway Level of Service (LOS) 2015 Remodeled Future Mitigated Baseline and 2015 Revised Project Cumulative Conditions – PM Peak Hour Northbound/Westbound

Location		Capacity	2015 Remodeled Future Mitigated Baseline					2015 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	2,765	26.5	D	-		2,842	27.2	D	-		-	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	1,175	7.5	A	-		1,187	7.6	A	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	2,990	12.1	B	-		3,108	12.6	B	-		-	No
#4 I-110	North of 223rd Street	9,400	5,510	22.3	C	-		5,604	22.7	C	-		-	No
#5 I-110	North of I-405	11,750	8,150	27.0	D	-		8,222	27.3	D	-		-	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	5,440	34.9	D	-		5,441	34.9	D	-		-	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	7,360	35.5	E	0.82	D	7,360	35.5	E	0.82	D	0.00	No
#8 I-710	North of Alondra Boulevard	11,750	7,560	24.7	C	-		7,583	24.8	C	-		-	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	7,030	29.8	D	-		7,044	29.9	D	-		-	No
#10 I-710	North of Florence Avenue	9,400	6,520	27.0	D	-		6,530	27.0	D	-		-	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	8,610	29.0	D	-		8,610	29.0	D	-		-	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	7,340	19.8	C	-		7,340	19.8	C	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-14.4: Peak Freeway Level of Service (LOS) 2015 Remodeled Future Mitigated Baseline and 2015 Revised Project Cumulative Conditions – PM Peak Hour Southbound/Eastbound

Location		Capacity	2015 Remodeled Future Mitigated Baseline					2015 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	2,760	26.4	D	-		2,789	26.7	D	-		-	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	1,000	6.4	A	-		1,022	6.5	A	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	4,410	17.9	B	-		4,438	18.0	B	-		-	No
#4 I-110	North of 223rd Street	9,400	7,400	24.1	C	-		7,426	24.2	C	-		-	No
#5 I-110	North of I-405	11,750	11,000	43.6	E	0.94	E	11,016	43.7	E	0.94	E	0.00	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	5,160	32.9	D	-		5,204	33.2	D	-		-	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	6,350	30.4	D	-		6,394	30.6	D	-		-	No
#8 I-710	North of Alondra Boulevard	11,750	8,310	27.7	D	-		8,344	27.8	D	-		-	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	7,790	34.7	D	-		7,807	34.9	D	-		-	No
#10 I-710	North of Florence Avenue	9,400	7,190	30.7	D	-		7,204	30.8	D	-		-	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	9,630	34.1	D	-		9,630	34.1	D	-		-	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	8,120	21.9	C	-		8,160	22.0	C	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-15.1: Peak Freeway Level of Service (LOS) 2030 Remodeled Future Mitigated Baseline and 2030 Revised Project Cumulative Conditions – AM Peak Hour Northbound/Westbound

Location		Capacity	2030 Remodeled Future Mitigated Baseline					2030 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	3,283	31.4	D	-		3,350	32.1	D	-		-	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	2,533	16.2	B	-		2,534	16.2	B	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	6,070	24.8	C	-		6,155	25.2	C	-		-	No
#4 I-110	North of 223rd Street	9,400	8,900	44.7	E	0.95	E	8,966	45.4	F	0.95	E	0.00	No
#5 I-110	North of I-405	11,750	12,531	61.0	F	1.07	F(0)	12,585	61.8	F	1.07	F(0)	0.00	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	6,871	52.6	F	1.02	F(0)	6,871	52.7	F	1.02	F(0)	0.00	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	8,509	44.6	E	0.95	E	8,510	44.6	E	0.95	E	0.00	No
#8 I-710	North of Alondra Boulevard	11,750	9,011	30.8	D	-		9,030	30.9	D	-		-	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	8,084	37.0	E	0.86	D	8,098	37.1	E	0.86	D	0.00	No
#10 I-710	North of Florence Avenue	9,400	7,548	33.0	D	-		7,559	33.1	D	-		-	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	10,149	37.3	E	0.86	D	10,149	37.3	E	0.86	D	0.00	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	6,707	18.1	C	-		6,709	18.1	C	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-15.2: Peak Freeway Level of Service (LOS) 2030 Remodeled Future Mitigated Baseline and 2030 Revised Project Cumulative Conditions – AM Peak Hour Southbound/Eastbound

Location		Capacity	2030 Remodeled Future Mitigated Baseline					2030 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	3,210	30.7	D	-		3,216	30.8	D	-		-	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	2,108	13.4	B	-		2,129	13.6	B	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	5,096	20.6	C	-		5,136	20.8	C	-		-	No
#4 I-110	North of 223rd Street	9,400	7,185	23.3	C	-		7,223	23.5	C	-		-	No
#5 I-110	North of I-405	11,750	9,464	33.2	D	-		9,490	33.3	D	-		-	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	7,194	60.0	F	1.07	F(0)	7,229	61.0	F	1.07	F(0)	0.00	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	8,765	47.4	F	0.97	E	8,801	47.8	F	0.98	E	0.01	No
#8 I-710	North of Alondra Boulevard	11,750	10,261	38.0	E	0.87	D	10,291	38.2	E	0.88	D	0.01	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	9,690	55.1	F	1.03	F(0)	9,709	55.4	F	1.03	F(0)	0.00	No
#10 I-710	North of Florence Avenue	9,400	9,429	51.3	F	1.00	F(0)	9,445	51.5	F	1.00	F(0)	0.00	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	8,625	29.0	D	-		8,625	29.0	D	-		-	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	8,629	23.4	C	-		8,668	23.5	C	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-15.3: Peak Freeway Level of Service (LOS) 2030 Remodeled Future Mitigated Baseline and 2030 Revised Project Cumulative Conditions – PM Peak Hour Northbound/Westbound

Location		Capacity	2030 Remodeled Future Mitigated Baseline					2030 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	4,768	59.0	F	1.014	F(0)	4,844	62.0	F	1.031	F(0)	0.016	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	2,306	14.7	B	-		2,318	14.8	B	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	5,027	20.4	C	-		5,144	20.8	C	-		-	No
#4 I-110	North of 223rd Street	9,400	7,007	29.6	D	-		7,101	30.2	D	-		-	No
#5 I-110	North of I-405	11,750	9,020	30.9	D	-		9,091	31.2	D	-		-	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	6,771	50.8	F	1.00	F(0)	6,772	50.8	F	1.00	F(0)	0.00	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	8,760	47.3	F	0.97	E	8,760	47.3	F	0.97	E	0.00	No
#8 I-710	North of Alondra Boulevard	11,750	9,032	30.9	D	-		9,054	31.1	D	-		-	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	7,891	35.5	E	0.84	D	7,905	35.6	E	0.84	D	0.00	No
#10 I-710	North of Florence Avenue	9,400	7,170	30.6	D	-		7,180	30.7	D	-		-	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	9,285	32.2	D	-		9,285	32.2	D	-		-	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	7,799	21.0	C	-		7,799	21.0	C	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-15.4: Peak Freeway Level of Service (LOS) 2030 Remodeled Future Mitigated Baseline and 2030 Revised Project Cumulative Conditions – PM Peak Hour Southbound/Eastbound

	Location	Capacity	2030 Remodeled Future Mitigated Baseline					2030 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	3,776	36.7	E	0.80	D	3,805	37.1	E	0.81	D	0.01	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	1,626	10.4	A	-		1,647	10.5	A	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	5,830	23.7	C	-		5,858	23.8	C	-		-	No
#4 I-110	North of 223rd Street	9,400	8,296	27.6	D	-		8,322	27.7	D	-		-	No
#5 I-110	North of I-405	11,750	11,503	48.2	F	0.98	E	11,519	48.4	F	0.98	E	0.00	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	6,794	51.2	F	1.01	F(0)	6,838	52.0	F	1.01	F(0)	0.00	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	7,528	36.6	E	0.84	D	7,572	36.8	E	0.84	D	0.00	No
#8 I-710	North of Alondra Boulevard	11,750	9,719	34.6	D	-		9,753	34.8	D	-		-	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	8,521	40.8	E	0.91	D	8,538	41.0	E	0.91	D	0.00	No
#10 I-710	North of Florence Avenue	9,400	8,153	37.6	E	0.87	D	8,167	37.7	E	0.87	D	0.00	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	10,506	39.7	E	0.89	D	10,506	39.7	E	0.89	D	0.00	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	8,469	22.9	C	-		8,508	23.0	C	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-16.1: Peak Freeway Level of Service (LOS) 2045 Remodeled Future Mitigated Baseline and 2045 Revised Project Cumulative Conditions – AM Peak Hour Northbound/Westbound

Location		Capacity	2045 Remodeled Future Mitigated Baseline					2045 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	3,516	33.7	D	-		3,583	34.4	D	-		-	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	2,704	17.3	B	-		2,705	17.3	B	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	6,516	27.0	D	-		6,602	27.4	D	-		-	No
#4 I-110	North of 223rd Street	9,400	9,027	46.1	F	0.96	E	9,094	46.9	F	0.97	E	0.01	No
#5 I-110	North of I-405	11,750	12,842	66.1	F	1.09	F(0)	12,897	67.1	F	1.10	F(0)	0.01	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	7,141	58.7	F	1.06	F(0)	7,141	58.7	F	1.06	F(0)	0.00	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	8,822	48.1	F	0.98	E	8,823	48.1	F	0.98	E	0.00	No
#8 I-710	North of Alondra Boulevard	11,750	9,657	34.3	D	-		9,676	34.4	D	-		-	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	8,253	38.4	E	0.88	D	8,267	38.5	E	0.88	D	0.00	No
#10 I-710	North of Florence Avenue	9,400	7,836	35.1	E	0.83	D	7,847	35.2	E	0.83	D	0.00	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	10,593	40.4	E	0.90	D	10,593	40.4	E	0.90	D	0.00	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	6,953	18.8	C	-		6,955	18.8	C	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-16.2: Peak Freeway Level of Service (LOS) 2045 Remodeled Future Mitigated Baseline and 2045 Revised Project Cumulative Conditions – AM Peak Hour Southbound/Eastbound

Location		Capacity	2045 Remodeled Future Mitigated Baseline					2045 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	3,538	33.9	D	-		3,545	34.0	D	-		-	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	2,467	15.7	B	-		2,488	15.9	B	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	5,632	22.8	C	-		5,672	23.0	C	-		-	No
#4 I-110	North of 223rd Street	9,400	7,685	25.2	C	-		7,723	25.3	C	-		-	No
#5 I-110	North of I-405	11,750	9,971	36.1	E	0.85	D	9,997	36.3	E	0.85	D	0.00	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	7,385	65.5	F	1.09	F(0)	7,420	66.7	F	1.10	F(0)	0.01	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	8,996	50.3	F	1.00	E	9,032	50.8	F	1.00	F(0)	0.00	No
#8 I-710	North of Alondra Boulevard	11,750	11,194	45.3	F	0.95	E	11,224	45.6	F	0.96	E	0.01	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	10,170	63.9	F	1.08	F(0)	10,189	64.3	F	1.08	F(0)	0.00	No
#10 I-710	North of Florence Avenue	9,400	10,370	68.3	F	1.10	F(0)	10,386	68.7	F	1.10	F(0)	0.00	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	10,116	37.1	E	0.86	D	10,116	37.1	E	0.86	D	0.00	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	9,668	26.6	D	-		9,707	26.7	D	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-16.3: Peak Freeway Level of Service (LOS) 2045 Remodeled Future Mitigated Baseline and 2045 Revised Project Cumulative Conditions – PM Peak Hour Northbound/Westbound

Location		Capacity	2045 Remodeled Future Mitigated Baseline					2045 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	5,321	92.5	F	1.132	F(0)	5,398	100.6	F	1.149	F(0)	0.016	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	2,784	17.8	B	-		2,796	17.8	B	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	5,837	23.7	C	-		5,955	24.3	C	-		-	No
#4 I-110	North of 223rd Street	9,400	7,474	32.5	D	-		7,568	33.2	D	-		-	No
#5 I-110	North of I-405	11,750	9,674	34.4	D	-		9,746	34.8	D	-		-	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	7,071	57.0	F	1.05	F(0)	7,072	57.0	F	1.05	F(0)	0.00	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	9,287	54.6	F	1.03	F(0)	9,287	54.6	F	1.03	F(0)	0.00	No
#8 I-710	North of Alondra Boulevard	11,750	10,036	36.6	E	0.85	D	10,059	36.7	E	0.86	D	0.01	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	8,586	41.4	E	0.91	D	8,600	41.6	E	0.91	D	0.00	No
#10 I-710	North of Florence Avenue	9,400	8,084	37.0	E	0.86	D	8,094	37.1	E	0.86	D	0.00	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	10,315	38.4	E	0.88	D	10,315	38.4	E	0.88	D	0.00	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	8,883	24.1	C	-		8,883	24.1	C	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-16.4: Peak Freeway Level of Service (LOS) 2045 Remodeled Future Mitigated Baseline and 2045 Revised Project Cumulative Conditions – PM Peak Hour Southbound/Eastbound

	Location	Capacity	2045 Remodeled Future Mitigated Baseline					2045 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	4,049	40.8	E	0.86	D	4,078	41.2	E	0.87	D	0.01	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	2,077	13.3	B	-		2,099	13.4	B	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	6,237	25.6	C	-		6,265	25.7	C	-		-	No
#4 I-110	North of 223rd Street	9,400	8,717	29.4	D	-		8,743	29.6	D	-		-	No
#5 I-110	North of I-405	11,750	11,944	53.1	F	1.02	F(0)	11,960	53.3	F	1.02	F(0)	0.00	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	7,059	56.7	F	1.05	F(0)	7,103	57.7	F	1.05	F(0)	0.00	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	7,874	39.0	E	-		7,918	39.3	E	-		-	No
#8 I-710	North of Alondra Boulevard	11,750	10,229	37.8	E	0.87	D	10,263	38.0	E	0.87	D	0.00	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	8,630	41.9	E	0.92	D	8,647	42.0	E	0.92	D	0.00	No
#10 I-710	North of Florence Avenue	9,400	8,501	40.6	E	0.90	D	8,515	40.8	E	0.91	D	0.01	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	11,090	44.4	E	0.94	E	11,090	44.4	E	0.94	E	0.00	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	8,962	24.3	C	-		9,002	24.5	C	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-17.1: Peak Freeway Level of Service (LOS) 2030 Remodeled Future Mitigated Baseline and 2030 Revised Project Cumulative Conditions With ICTF Modernization and SCIG Projects – AM Peak Hour Northbound/Westbound

Location		Capacity	2030 Remodeled Future Mitigated Baseline					2030 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	3,318	31.8	D	-		3,372	32.3	D	-		-	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	2,544	16.2	B	-		2,545	16.2	B	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	6,051	24.7	C	-		6,131	25.1	C	-		-	No
#4 I-110	North of 223rd Street	9,400	8,901	44.7	E	0.95	E	8,957	45.3	F	0.95	E	0.00	No
#5 I-110	North of I-405	11,750	12,514	60.7	F	1.07	F(0)	12,558	61.4	F	1.07	F(0)	0.00	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	6,795	51.2	F	1.01	F(0)	6,796	51.2	F	1.01	F(0)	0.00	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	8,350	43.0	E	0.93	D	8,352	43.0	E	0.93	D	0.00	No
#8 I-710	North of Alondra Boulevard	11,750	8,922	30.4	D	-		8,935	30.5	D	-		-	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	8,017	36.5	E	0.85	D	8,023	36.5	E	0.85	D	0.00	No
#10 I-710	North of Florence Avenue	9,400	7,480	32.6	D	-		7,483	32.6	D	-		-	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	10,132	37.2	E	0.86	D	10,133	37.2	E	0.86	D	0.00	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	6,621	17.9	B	-		6,626	17.9	B	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-17.2: Peak Freeway Level of Service (LOS) 2030 Remodeled Future Mitigated Baseline and 2030 Revised Project Cumulative Conditions With ICTF Modernization and SCIG Projects – AM Peak Hour Southbound/Eastbound

Location		Capacity	2030 Remodeled Future Mitigated Baseline					2030 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	3,205	30.7	D	-		3,213	30.7	D	-		-	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	2,150	13.7	B	-		2,167	13.8	B	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	5,035	20.4	C	-		5,078	20.6	C	-		-	No
#4 I-110	North of 223rd Street	9,400	7,113	23.1	C	-		7,153	23.2	C	-		-	No
#5 I-110	North of I-405	11,750	9,412	32.9	D	-		9,439	33.1	D	-		-	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	7,180	59.7	F	1.06	F(0)	7,204	60.3	F	1.07	F(0)	0.01	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	8,727	47.0	F	0.97	E	8,752	47.2	F	0.97	E	0.00	No
#8 I-710	North of Alondra Boulevard	11,750	10,327	38.5	E	0.88	D	10,347	38.6	E	0.88	D	0.00	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	9,646	54.4	F	1.03	F(0)	9,657	54.6	F	1.03	F(0)	0.00	No
#10 I-710	North of Florence Avenue	9,400	9,312	49.7	F	0.99	E	9,320	49.8	F	0.99	E	0.00	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	8,594	28.9	D	-		8,596	28.9	D	-		-	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	8,564	23.2	C	-		8,592	23.2	C	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-17.3: Peak Freeway Level of Service (LOS) 2030 Remodeled Future Mitigated Baseline and 2030 Revised Project Cumulative Conditions With ICTF Modernization and SCIG Projects – PM Peak Hour Northbound/Westbound

Location		Capacity	2030 Remodeled Future Mitigated Baseline					2030 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	4,809	60.5	F	1.023	F(0)	4,872	63.2	F	1.037	F(0)	0.014	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	2,327	14.8	B	-		2,338	14.9	B	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	5,002	20.3	C	-		5,113	20.7	C	-		-	No
#4 I-110	North of 223rd Street	9,400	6,978	29.5	D	-		7,062	30.0	D	-		-	No
#5 I-110	North of I-405	11,750	9,015	30.9	D	-		9,075	31.2	D	-		-	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	6,725	49.9	F	1.00	E	6,727	50.0	F	1.00	E	0.00	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	8,664	46.2	F	0.96	E	8,664	46.2	F	0.96	E	0.00	No
#8 I-710	North of Alondra Boulevard	11,750	8,857	30.1	D	-		8,877	30.2	D	-		-	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	7,720	34.2	D	-		7,730	34.3	D	-		-	No
#10 I-710	North of Florence Avenue	9,400	7,010	29.7	D	-		7,016	29.7	D	-		-	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	9,180	31.7	D	-		9,180	31.7	D	-		-	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	7,767	21.0	C	-		7,767	21.0	C	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-17.4: Peak Freeway Level of Service (LOS) 2030 Remodeled Future Mitigated Baseline and 2030 Revised Project Cumulative Conditions With ICTF Modernization and SCIG Projects – PM Peak Hour Southbound/Eastbound

	Location	Capacity	2030 Remodeled Future Mitigated Baseline					2030 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	3,819	37.3	E	0.81	D	3,848	37.7	E	0.82	D	0.01	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	1,619	10.3	A	-		1,637	10.4	A	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	5,796	23.5	C	-		5,826	23.7	C	-		-	No
#4 I-110	North of 223rd Street	9,400	8,248	27.4	D	-		8,275	27.5	D	-		-	No
#5 I-110	North of I-405	11,750	11,427	47.5	F	0.97	E	11,443	47.6	F	0.97	E	0.00	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	6,736	50.1	F	1.00	E	6,769	50.7	F	1.00	F(0)	0.00	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	7,405	35.8	E	0.82	D	7,438	36.0	E	0.83	D	0.01	No
#8 I-710	North of Alondra Boulevard	11,750	9,522	33.5	D	-		9,544	33.6	D	-		-	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	8,349	39.2	E	0.89	D	8,357	39.3	E	0.89	D	0.00	No
#10 I-710	North of Florence Avenue	9,400	7,964	36.0	E	0.85	D	7,968	36.1	E	0.85	D	0.00	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	10,442	39.3	E	0.89	D	10,442	39.3	E	0.89	D	0.00	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	8,488	23.0	C	-		8,524	23.1	C	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-18.1: Peak Freeway Level of Service (LOS) 2045 Remodeled Future Mitigated Baseline and 2045 Revised Project Cumulative Conditions With ICTF Modernization and SCIG Projects – AM Peak Hour Northbound/Westbound

Location		Capacity	2045 Remodeled Future Mitigated Baseline					2045 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	3,465	33.2	D	-		3,518	33.7	D	-		-	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	2,727	17.4	B	-		2,728	17.4	B	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	6,471	26.7	D	-		6,550	27.1	D	-		-	No
#4 I-110	North of 223rd Street	9,400	8,961	45.4	F	0.95	E	9,016	46.0	F	0.96	E	0.01	No
#5 I-110	North of I-405	11,750	12,658	63.0	F	1.08	F(0)	12,701	63.7	F	1.08	F(0)	0.00	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	7,033	56.1	F	1.04	F(0)	7,034	56.1	F	1.04	F(0)	0.00	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	8,656	46.1	F	0.96	E	8,658	46.2	F	0.96	E	0.00	No
#8 I-710	North of Alondra Boulevard	11,750	9,312	32.4	D	-		9,325	32.4	D	-		-	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	8,137	37.4	E	0.87	D	8,142	37.5	E	0.87	D	0.00	No
#10 I-710	North of Florence Avenue	9,400	7,596	33.4	D	-		7,599	33.4	D	-		-	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	10,485	39.6	E	0.89	D	10,486	39.6	E	0.89	D	0.00	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	6,776	18.3	C	-		6,781	18.3	C	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-18.2: Peak Freeway Level of Service (LOS) 2045 Remodeled Future Mitigated Baseline and 2045 Revised Project Cumulative Conditions With ICTF Modernization and SCIG Projects – AM Peak Hour Southbound/Eastbound

Location		Capacity	2045 Remodeled Future Mitigated Baseline					2045 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	3,503	33.5	D	-		3,510	33.6	D	-		-	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	2,484	15.8	B	-		2,501	16.0	B	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	5,539	22.4	C	-		5,581	22.6	C	-		-	No
#4 I-110	North of 223rd Street	9,400	7,540	24.6	C	-		7,579	24.8	C	-		-	No
#5 I-110	North of I-405	11,750	9,790	35.0	E	0.83	D	9,817	35.2	E	0.84	D	0.01	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	7,405	66.2	F	1.10	F(0)	7,429	67.0	F	1.10	F(0)	0.00	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	8,925	49.4	F	0.99	E	8,950	49.7	F	0.99	E	0.00	No
#8 I-710	North of Alondra Boulevard	11,750	10,935	43.1	E	0.93	E	10,955	43.2	E	0.93	E	0.00	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	10,068	61.8	F	1.07	F(0)	10,079	62.0	F	1.07	F(0)	0.00	No
#10 I-710	North of Florence Avenue	9,400	10,035	61.2	F	1.07	F(0)	10,043	61.3	F	1.07	F(0)	0.00	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	9,642	34.2	D	-		9,644	34.2	D	-		-	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	9,141	24.9	C	-		9,169	25.0	C	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-18.3: Peak Freeway Level of Service (LOS) 2045 Remodeled Future Mitigated Baseline and 2045 Revised Project Cumulative Conditions With ICTF Modernization and SCIG Projects – PM Peak Hour Northbound/Westbound

Location		Capacity	2045 Remodeled Future Mitigated Baseline					2045 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	5,338	94.2	F	1.14	F(0)	5,401	100.9	F	1.15	F(0)	0.01	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	2,774	17.7	B	-		2,785	17.8	B	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	5,832	23.7	C	-		5,942	24.2	C	-		-	No
#4 I-110	North of 223rd Street	9,400	7,444	32.3	D	-		7,527	32.9	D	-		-	No
#5 I-110	North of I-405	11,750	9,665	34.3	D	-		9,724	34.7	D	-		-	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	6,996	55.3	F	1.04	F(0)	6,998	55.3	F	1.04	F(0)	0.00	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	9,167	52.7	F	1.02	F(0)	9,167	52.7	F	1.02	F(0)	0.00	No
#8 I-710	North of Alondra Boulevard	11,750	9,925	35.9	E	0.84	D	9,945	36.0	E	0.85	D	0.01	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	8,458	40.2	E	0.90	D	8,468	40.3	E	0.90	D	0.00	No
#10 I-710	North of Florence Avenue	9,400	7,930	35.8	E	0.84	D	7,936	35.8	E	0.84	D	0.00	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	10,273	38.1	E	0.87	D	10,273	38.1	E	0.87	D	0.00	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	8,878	24.1	C	-		8,878	24.1	C	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Table 4-18.4: Peak Freeway Level of Service (LOS) 2045 Remodeled Future Mitigated Baseline and 2045 Revised Project Cumulative Conditions With ICTF Modernization and SCIG Projects – PM Peak Hour Southbound/Eastbound

	Location	Capacity	2045 Remodeled Future Mitigated Baseline					2045 Revised Project					Change in D/C	Sig. Imp.
			Vol.	Density Analysis		Demand to Capacity		Vol.	Density Analysis		Demand to Capacity			
				Density*	LOS	D/C	LOS		Density*	LOS	D/C	LOS		
#1 SR-47	Vincent Thomas Bridge	4,700	4,067	41.1	E	0.87	D	4,096	41.6	E	0.87	D	0.00	No
#2 SR-47/SR-103	Commodore Schuyler Heim Bridge	6,750	2,057	13.1	B	-		2,074	13.2	B	-		-	No
#3 I-110	South of C Street (CMP monitoring station	9,400	6,214	25.5	C	-		6,243	25.6	C	-		-	No
#4 I-110	North of 223rd Street	9,400	8,700	29.4	D	-		8,727	29.5	D	-		-	No
#5 I-110	North of I-405	11,750	11,927	52.9	F	1.02	F(0)	11,943	53.1	F	1.02	F(0)	0.00	No
#6 I-710	North of PCH/Willow Street (CMP monitoring station)	6,750	6,960	54.5	F	1.03	F(0)	6,993	55.2	F	1.04	F(0)	0.01	No
#7 I-710	North of I-405/ south of Del Amo (CMP monitoring station)	9,000	7,723	37.9	E	0.86	D	7,756	38.1	E	0.86	D	0.00	No
#8 I-710	North of Alondra Boulevard	11,750	10,101	37.0	E	0.86	D	10,123	37.1	E	0.86	D	0.00	No
#9 I-710	North of I-105 and north of Firestone Boulevard (CMP monitoring station)	9,400	8,477	40.4	E	0.90	D	8,485	40.5	E	0.90	D	0.00	No
#10 I-710	North of Florence Avenue	9,400	8,307	38.9	E	0.88	D	8,311	38.9	E	0.88	D	0.00	No
#11 I-405	Between I-110 and I-710 at Santa Fe Ave (CMP monitoring station)	11,750	11,096	44.4	E	0.94	E	11,096	44.4	E	0.94	E	0.00	No
#12 SR-91	West of I-710/east of Alameda Street/Santa Fe Avenue (CMP monitoring station)	14,100	8,966	24.4	C	-		9,001	24.5	C	-		-	No

* Density = passenger car/mile/lane

** Per Caltrans guidelines, Caltrans targets maintaining LOS between C and D; for segments where LOS is E or F, D/C was used to determine impact significance per CMP guidelines.

Contribution of the Revised Project

As discussed in section 4.2.3.2, this Draft SEIR recognizes a cumulatively considerable contribution of the Revised Project to a significant freeway congestion impact where the contribution of the Revised Project would result in an increase of 0.02 or more in the D/C ratio with a resulting LOS F. The future-year analyses of 2015, 2030 and 2045 show that traffic generated by the Revised Project would not cause an increase of 0.02 or more in the D/C ratio of any freeway link operating at LOS F compared to the future baseline years, nor would it cause any segment to degrade to LOS F (Tables 4-14 to 4-23). Accordingly, the Revised Project would not make a cumulatively considerable contribution to a significant cumulative freeway congestion impact.

Mitigation Measures and Residual Cumulative Impacts

Although a significant cumulative impact is predicted, mitigation is not required because the Revised Project's contribution would not be cumulatively considerable. Residual impacts would be less than significant.

4.2.3.5 Cumulative Impact TRANS-5: Would the Revised Project cause a cumulatively considerable contribution to a significant cumulative increase in rail activity and/or delays in regional highway traffic due to an increase in rail activity?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Train traffic through the Henry Ford Avenue grade crossing north of the CS Terminal will continue to increase as additional cargo is moved through the on-dock railyards at several container terminals. The number of trains through that crossing would not be affected by the presence or absence of the SCIG and ICTF Modernization projects.

Despite increased train traffic, the analysis of future baseline years indicates that in 2045 per vehicle delay will be approximately 41 seconds (Table 4-19); since the threshold of significance is 55 seconds, the cumulative impact is less than significant.

Table 4-19: P.M. Peak-Hour Vehicular Delay at the Henry Ford Avenue At-Grade Crossing, 2045.

	Gate Down Time (Minutes)			Total Vehicle Delay (Hours)			Average Vehicle Delay (Seconds)		
P.M. Peak Hour Traffic (Vehicles)	2045 Future Mitigated Baseline	2045 Revised Project Cumulative Conditions	Change	2045 Future Mitigated Baseline	2045 Revised Project Cumulative Conditions	Change	2045 Future Mitigated Baseline	2045 Revised Project Cumulative Conditions	Change
1,600	6.8	7.7	0.9	18.3	21.3	3.0	41.3	47.9	6.6

Contribution of the Revised Project (Prior to Mitigation)

Compared to the 2045 Future Mitigated Baseline, the Revised Project's train traffic would cause an additional delay of 6.6 seconds per vehicle, but total delay would still be less than 55 seconds per vehicle (Table 4-19). Accordingly, the Revised Project would not make a cumulatively considerable contribution to a significant cumulative impact.

This finding contrasts with the finding of the 2008 EIS/EIR, which predicted that the average delay per vehicle at the Henry Ford Avenue crossing in 2045 would be 97 seconds during the P.M. peak hour. The difference, as in the case of the intersection and freeway analyses, is attributable to the overestimate of future traffic volumes in the 2008 EIS/EIR and the improvements to the transportation network that have occurred since that document was prepared.

Mitigation Measures and Residual Cumulative Impacts

Because the Revised Project would not contribute to, or result in, a significant cumulative impact, no mitigation is necessary. Residual impacts would be less than significant.

INFORMATIONAL ONLY - Analysis of Inland Empire Rail Crossings

At the at-grade rail crossings on the rail lines east of downtown Los Angeles, average vehicular delays in 2045 would be more than 55 seconds (the threshold of significance) two crossings: Del Mar Avenue on the UP Alhambra Subdivision (73.9 seconds) and Hargrave Street on the UP Yuma Subdivision (57.2 seconds). Accordingly, those crossings would operate at unacceptable levels of delay, which represents a significant cumulative impact. A grade separation project is already underway for the Del Mar Avenue crossing, and the Riverside County Transportation Commission's (RCTC) 2012 Grade Separation Priority Update Study has identified Hargrave Street as one of the at-grade crossings with top priority for grade separation (RCTC, 2012). Accordingly, it is likely that delays at those crossings will be eliminated by 2045. Average vehicular delays at all other at-grade crossings would be less than 55 seconds (see tables C2-23 through C2-30 in Appendix C [one table is provided for each main line]).

Comparison of delay at the at-grade crossings along each rail line under future baseline (2045) conditions and with-project conditions (see tables C2-23 through C2-30 in Appendix C) show that the Revised Project's trains would add no more than 1 second to per-vehicle delay to any crossing, including Del Mar Avenue and Hargrave Street.

4.3 Mitigation Monitoring

Mitigation measure MM TRANS-3 would be required to be implemented based on monitoring the intersection LOS annually beginning in 2018. The mitigation measure would be implemented within three years after the intersection LOS is measured as D or worse, with the concurrence of LADOT.

TRANS-3: Vehicular traffic associated with the Revised Project's operations would result in a cumulatively considerable contribution to a significant cumulative impact in study intersection volume/ capacity ratios or level of service.	
Mitigation Measure	**MM TRANS-2: Alameda & Anaheim Streets**: Provide an additional eastbound through-lane on Anaheim Street. This mitigation measure shall be implemented at the same time as the City's planned improvement project at this location, with design/construction commencing in the first quarter of 2019, subject to LADOT approval.
Timing	Design/construction commencing in the first quarter of 2019.
Methodology	LAHD will coordinate with the City of Los Angeles' Alameda Street Improvement Project.
Responsible Parties	LAHD
Residual Impacts	Significant and unavoidable (unless LADOT approves the measure).
Mitigation Measure	**MM TRANS-3: John S. Gibson Boulevard and I-110 N/B Ramps**: Provide an additional westbound right-turn lane with westbound right-turn overlap phasing and an additional southbound left-turn lane. LAHD shall monitor the intersection LOS annually beginning in 2018 and LAHD shall implement the mitigation within three years after the intersection level of service (LOS) is measured as D or worse, as a result of cumulative traffic to which the China Shipping terminal would contribute, with the concurrence of LADOT.
Timing	Within three years after the intersection LOS is measured as D or worse (measurements to begin in 2018 on an annual basis)
Methodology	LAHD will conduct annual measurements of the intersection LOS beginning in 2018 on an annual basis.
Responsible Parties	LAHD with the concurrence of LADOT
Residual Impacts	Less than significant

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