Draft Initial Study/Mitigated Negative Declaration

Port of Los Angeles Navy Way Interchange Project

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with assistance from:

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THE PORT OF LOS ANGELES

October 2024

APP No. 220906-155

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DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Pursuant to the California Environmental Quality Act (Division 13, Public Resources Code)

1.0 INTRODUCTION

The Los Angeles Harbor Department (LAHD) has prepared this Draft Initial Study/Mitigated Negative Declaration (IS/MND) to address the environmental effects of the proposed Navy Way Interchange Project (proposed Project). The proposed Project limits on Seaside Avenue extend from just east of the California Department of Transportation (Caltrans) controlled SR-47/Vincent Thomas Bridge approach at the City of Los Angeles (City)/Port of Los Angeles (POLA) boundary to the east past the POLA/Port of Long Beach (POLB) boundary towards the Pier S Avenue interchange (see Figure 2-3 in Section 2.0 for the proposed Project design plan). The proposed Project is located in the POLA. The LAHD is the lead agency under the California Environmental Quality Act (CEQA).

The proposed Project directly serves 10 percent of all United States (U.S.) waterborne containers entering and exiting the entire U.S.[1] The primary objective of the proposed Project is to:

- Decrease the accident potential on a high-speed highway with a history of fatal and injury accidents;
- Reduce the vehicle (including truck) delay and vehicle hours of travel (VHT); and
- Reduce emissions (including greenhouse gases) at the center of the largest port complex in the western hemisphere, which is directly adjacent to the Wilmington and San Pedro communities in the City of Los Angeles, which are also two of the most “Disadvantaged/Low Income Communities” (DAC) as designated by the State of California.

1.1 California Environmental Quality Act Process

This document was prepared in accordance with CEQA (California Public Resources Code [PRC], Section 21000 et seq.), the CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.), and the City of Los Angeles CEQA Guidelines (2006). One of the main objectives of CEQA is to disclose the potential environmental effects of proposed activities to the public and decision makers. CEQA requires that the potential environmental effects of a project be evaluated prior to implementation. This IS/MND includes a discussion of the proposed Project’s effects on the existing environment, including the identification of avoidance, minimization, and mitigation

[1] California Transportation Commission. 2022. *Trade Corridor Enhancement Program America’s Port®: Port of Los Angeles National Highway Freight Network Improvement Program State Route 47-Seaside Avenue & Navy Way Interchange Improvement Project.*

measures. This document is an IS/MND because all impacts associated with the proposed Project can be mitigated to be below applicable significance thresholds.

Under CEQA, the lead agency is the public agency with primary responsibility over approval of a proposed Project. Pursuant to Section 15367 of the *State CEQA Guidelines* (14 CCR 15000 et seq.), LAHD is the lead agency for the proposed Project. LAHD prepared this environmental document to comply with CEQA. LAHD will consider the information in this document when determining whether to approve the proposed Project.

Preparation of an Initial Study is guided by Section 15063 of the *State CEQA Guidelines*, while Sections 15070–15075 of the *State CEQA Guidelines* direct the process for preparation of a Negative Declaration or a Mitigated Negative Declaration (MND) (14 CCR 15000, et seq.). Where appropriate and supportive, references will be made to CEQA, the CEQA Guidelines, or appropriate case law.

This IS/MND meets CEQA content requirements by including a project description; a description of the environmental setting, potential environmental impacts, and mitigation measures for any significant effects; a discussion of consistency with plans and policies; and the names of the document preparers.

In accordance with CEQA and the CEQA Guidelines, this IS/MND will be circulated for public review and comment for a period of 30 days. The public review period for this IS/MND is scheduled to begin on **October 17, 2024**, and conclude **November 15, 2024**. In addition, the IS/MND will be distributed to interested or involved public agencies, organizations, and private individuals and made available for general public review online at: https://www.portoflosangeles.org/ceqa.

Approximately 140 notices were sent to community residents, stakeholders, and local agencies.

During the 30-day public review period, the public has an opportunity to provide written comments on the information contained within this IS/MND. The public comments on the IS/MND as well as the responses to those comments will be included in the record and considered by LAHD during its deliberation as to whether the necessary approvals should be granted for the proposed Project. A project will be approved only when LAHD finds that there is no substantial evidence that it will have a significant effect on the environment and that the Negative Declaration or MND reflects the lead agency's independent judgment and analysis (14 CCR 15070).

In reviewing the IS/MND, affected public agencies and interested members of the public should focus on the sufficiency of the document with respect to identifying and analyzing potential impacts on the environment and the ways in which the potential significant effects of a project are proposed to be avoided or mitigated. Comments on the IS/MND should be submitted in writing prior to the end of the 30-day public review period and postmarked by to **November 15, 2024**.

Please submit written comments to:

Director of Environmental Management
City of Los Angeles Harbor Department
Environmental Management Division
425 South Palos Verdes Street
San Pedro, California 90731

Written comments may also be sent by email to ceqacomments@portla.org. Comments sent by email should include the Project title in the subject line.

For additional information, please contact the LAHD, Environmental Management Division, at (310) 732-3675.

1.2 Draft IS/MND Organization

This IS/MND contains the following sections:

- **Section 1.0: Introduction.** This section provides an overview of the proposed Project and the CEQA environmental documentation process.
- **Section 2.0: Project Description.** This section provides a detailed description of the proposed Project's objectives and components.
- **Section 3.0: Initial Study Checklist.** This section presents the CEQA checklist for all impact areas and mandatory findings of significance.
- **Section 4.0: Impacts and Mitigation Measures.** This section presents the environmental analysis for each issue area identified on the environmental checklist. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the proposed Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts and the mitigation measures and/or permit requirements to reduce those impacts to a less-than-significant level. This document is an IS/MND because there are no impacts associated with the proposed Project that cannot be mitigated to below applicable significance thresholds.
- **Section 5.0: Proposed Finding.** This section presents the proposed finding regarding environmental impacts.
- **Section 6.0: Preparers and Contributors.** This section provides a list of key personnel involved in preparation of the IS/MND.
- **Section 7.0: Abbreviations and Acronyms.** This section contains the industry-utilized abbreviations and acronyms used in the IS/MND**.**
- **Section 8.0: References.** This section provides a list of reference materials used during preparation of the IS/MND.

The environmental analysis included in Section 4.0, Impacts and Mitigation Measures, is consistent with the CEQA IS format presented in Section 3.0, Initial Study Checklist. Impacts are separated into the following categories:

- **Potentially Significant Impact.** This category is only applicable if there is substantial evidence that an effect may be significant, and no feasible mitigation measures can be identified to reduce impacts to a less-than-significant level. Given that this is an IS/MND, no impacts were identified that fall into this category.
- **Less-than-Significant Impact With Mitigation Incorporated.** This category applies where the incorporation of mitigation measures would reduce an effect from a "Potentially Significant Impact" to a "Less-than-Significant Impact." The lead agency must describe the mitigation measure(s) and briefly explain how they would reduce the effect to a less -than -significant level (mitigation measures from earlier analyses may be cross-referenced).
- **Less-than-Significant Impact.** This category is identified when the proposed Project would result in impacts below the threshold of significance, and no mitigation measures are required.
- **No Impact.** This category applies when a proposed Project would not create an impact in the specific environmental issue area. "No Impact" answers do not require a detailed explanation if they are adequately supported by the information sources cited by the lead agency that show that the impact does not apply to the specific project (e.g., the Project falls outside of a fault rupture zone). A "No Impact" answer should be explained to indicate whether it is based on project-specific factors and/or general standards (e.g., the project would not expose sensitive receptors to pollutants based on a project--specific screening analysis).

2.0 PROJECT DESCRIPTION

2.1 Project Overview

The proposed Project's overall objective is to reduce vehicular (including truck) delay, accidents, and emissions (including greenhouse gases). This will be achieved through:

- Removing the Navy Way/Seaside Avenue intersection traffic signal,
- Addressing existing traffic operating problems (e.g.; weaving, merging, and queuing);
- Reducing emissions in the air basin in an area adjacent to the San Pedro and Wilmington communities, which are considered State-designated "Disadvantaged/Low Income Communities."

As shown in Figure 2-1, Regional Location, the proposed Project consists of improvements to the existing partial interchange at State Route 47 (SR-47)/Seaside Avenue/Navy Way. The proposed Project limits on Seaside Avenue extend from just east of the Caltrans controlled SR-47/Vincent Thomas Bridge approach at the City of Los Angeles)/POLA boundary to the east, past the POLA/POLB boundary towards the Pier S Avenue interchange. The proposed Project is located in the POLA.

This section discusses the location, description, and purpose/need of the proposed Project. This document has been prepared in accordance with CEQA (California Public Resources Code, Section 21000 et seq.) and the *State CEQA Guidelines* (14 CCR 15000 et seq.).

2.2 Project Location

The Port is located at the southernmost portion in the City of Los Angeles within San Pedro Bay, approximately 25 miles south of downtown Los Angeles (see Figure 2-1). The Port encompasses approximately 7,500 acres of land and water along 43 miles of waterfront and provides a major gateway for international goods and services, with approximately 300 commercial berths. The Port comprises approximately 25 major cargo terminals, including passenger, container, breakbulk, dry and liquid bulk, and automobile terminals. In addition to cargo business operations, the Port is home to commercial fishing vessels, shipyards, and boat repair facilities, as well as recreational, community, and educational facilities. In addition, the Port accommodates boat repair yards and provides slips for approximately 3,950 recreational vessels, 150 commercial fishing boats, 35 miscellaneous small-service crafts, and 15 charter vessels that handle sport fishing and harbor cruises.[2] The Port has retail shops and restaurants primarily located along the west side of the Main Channel. It also accommodates recreation, community, and educational facilities, such as a public swimming beach, Cabrillo Beach Youth Waterfront Sports Center, the Cabrillo Marine Aquarium, the Los Angeles Maritime Museum, 22nd Street Park, and the Wilmington Waterfront Park. Figure 2-2 illustrates the Project location within the POLA/POLB.

[2] Port of Los Angeles, 2014. Notice of Intent to Adopt an Initial Study/Negative Declaration for the U.S. Navy Commissary Building Demolition Project. June 13, 2014. Website: https://kentico.portoflosangeles.org/getmedia/e050ffb1-02f4-46ae-a270-248a0b09f51d/Initial_Study_Negative_Declaration (accessed July 2023).

Figure 2-1: Regional Location

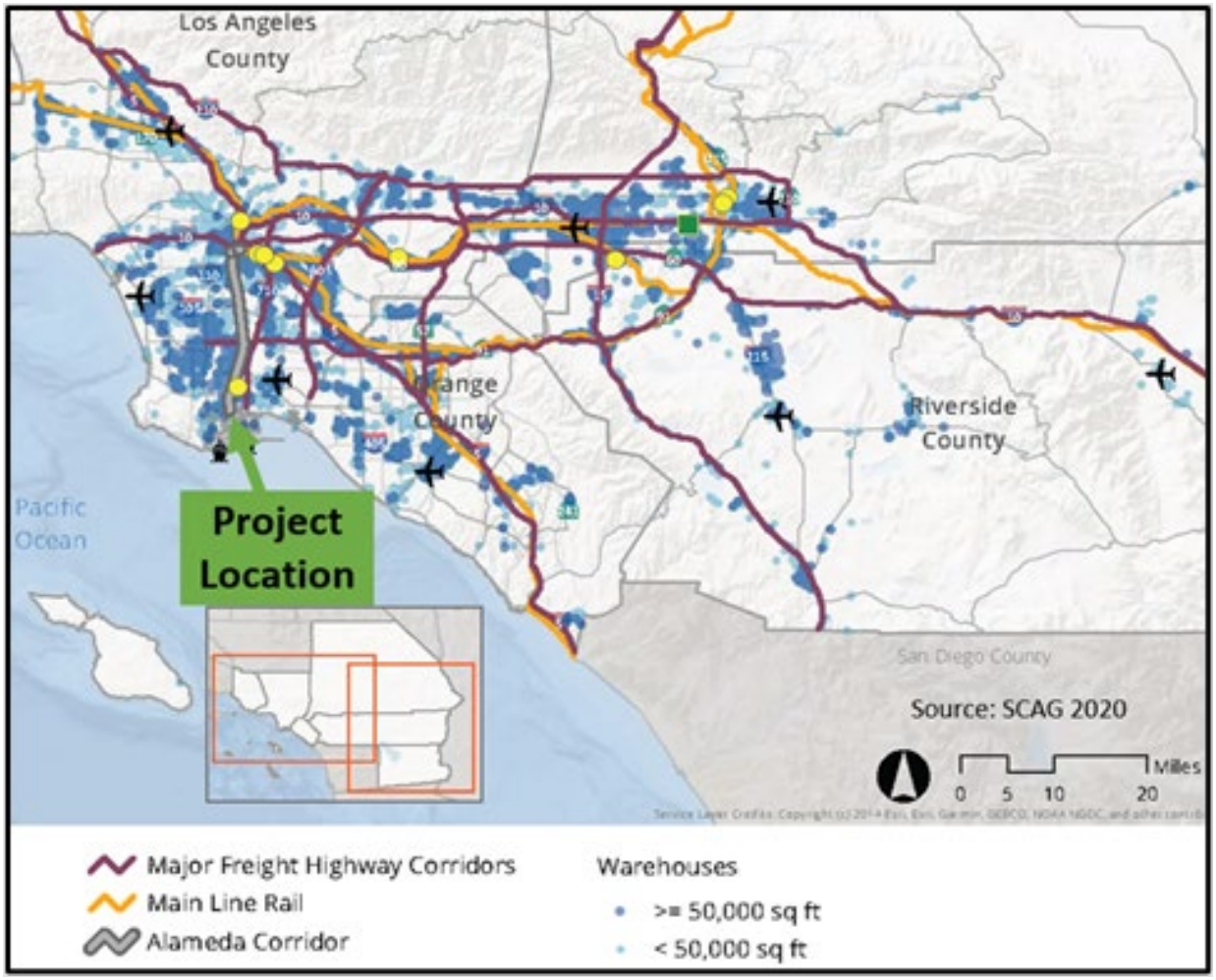


Figure 2-2: Project Site Vicinity

2.2.1 Land Use and Zoning

The proposed Project Area is located in the POLA Port Master Plan and POLB Port Master Plan. It is also located within the boundaries of the City of Los Angeles General Plan and Zoning Code as well as the City of Long Beach General Plan and Zoning Code.

Within the proposed Project Area, portions of SR-47/Seaside Avenue/Navy Way are designated as a Boulevard II (formerly Major Highway Class I) and Freeway in the City of Los Angeles General Plan Mobility Plan 2035. Ocean Boulevard is designated as a Regional Corridor and Scenic Route in the City of Long Beach General Plan Mobility Element. The surrounding PlaceType[3] and land uses along the portions of Seaside Avenue within the City/POLA between the SR-47/Vincent Thomas Bridge east approach and City/POLB and Ocean Boulevard easterly thereof to Pier S Avenue interchange consist of the following:

[3] The 2019 update of the City of Long Beach General Plan Land Use Element has adopted "PlaceTypes" to designate its land uses. PlaceTypes emphasizes flexibility and allows for a mix of compatible uses, and provides regulating guidance on land use, form and character-defining features.

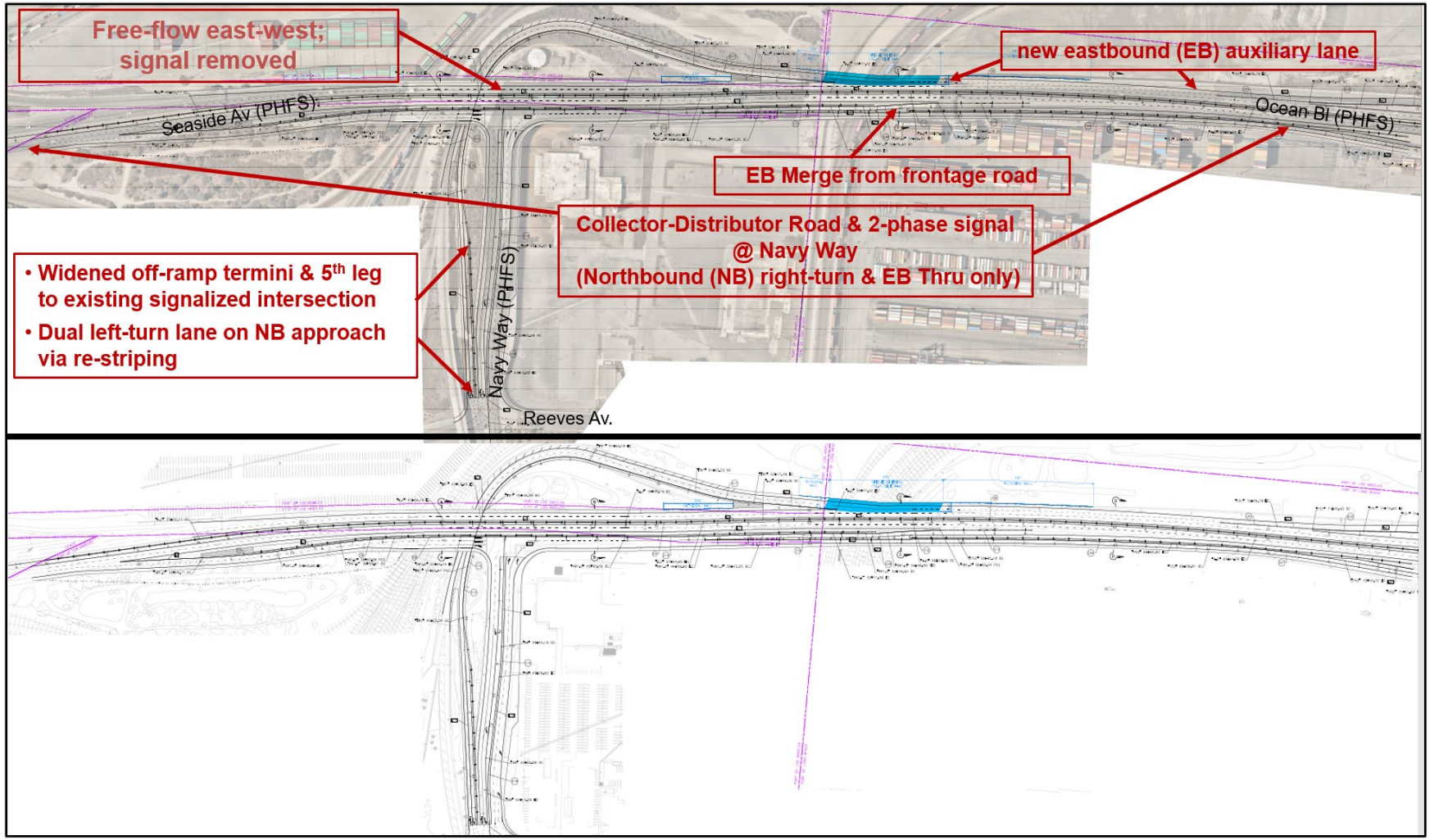
- City of Long Beach 2040 General Plan
    - Regional Corridor and Scenic Route
- City of Los Angeles General Plan Mobility Plan 2035
    - Boulevard II (formerly Major Highway Class I)
- Port Master Plan, Port of Los Angeles
    - Container
    - Liquid Bulk
    - Open Space
    - Maritime Support
- Port Master Plan, Port of Long Beach
    - Containerized Cargo

2.3 Project Description/Construction Elements

As shown in Figure 2-3, Project Design Plan, the Project **augments an existing partial interchange** at Seaside Avenue/Navy Way and entails the following core elements:

- Removal of last traffic signal and at-grade intersection on Terminal Island/SR-47, between I-110 and I-710
- New westbound auxiliary lane on SR-47, between Pier S Avenue and Navy Way, via a shifting (reconstruction) of the median to the north and shifting east-west travel lanes alignment
- New eastbound, two-lane collector-distributor road, separated by a new concrete barrier and located within the existing facility, between Ferry Street interchange eastbound on-ramp and Pier S Avenue interchange eastbound off-ramp
- New eastbound on-ramp from the collector-distributor road to Ocean Boulevard mainline
- New traffic two-phase traffic signal (along with necessary signage/striping) at intersection of Navy Way/new collector-distributor road, control eastbound through and right-turn movements, and northbound right turns from Navy Way
- Widening of the north side of the existing highway bridge over POLA/POLB owned rail tracks (widening accommodated via a separate structure to abut and tie into the existing structure; includes reconstruction of existing 490-foot retaining wall reconstruction of the existing 490-foot retaining wall and construction of a new 100-foot retaining wall
- Widening of existing westbound underpass off-ramp to create a fifth leg at Navy Way/Terminal Way intersection; dual northbound left-turn lane via re-striping (includes new signal detector and controller modifications)
- New lane guidance signage and striping on Seaside Avenue/Ocean Boulevard

Figure 2-3: Project Design Plan



2.3.1 Construction Details

In addition to the main elements described and shown above, approximately 70 trees would be removed as part of the proposed Project. The majority of these trees are located within the area southwest of the interchange/north of Reeves Field within the Project Area. Temporary and partial lane closures on SR-47 would be required during construction. However, partial lane closures would be temporary and would not inhibit emergency access or use of SR-47.

Construction activities associated with the proposed Project are expected to take approximately 16 months. It is anticipated that construction of the proposed Project would start in September 2026 and be completed in February 2028. The analysis of the proposed Project assumes that both the No Build and Build scenarios would have an opening year of 2029.

Initial activities would involve clearing the landside vegetation within the proposed alignment. Abutment areas for the bridge would be excavated and constructed, and new bridge pilings would be installed, which would extend to a maximum depth of approximately 60 feet. Girder sets would top the piles, followed by construction of the new rail tracks. Approximately 10,000 tons of roadway would be removed (excavated used on site) and 60,0000 tons of soil would be imported during construction of the proposed Project. The schedule is based on five, 8-hour workdays per week. Up to 50 workers would be required at the site at any given time, depending on the construction phase.

Additionally, construction activities would only occur between the hours of 7:00 a.m. and 9:00 p.m., Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturday, and construction would not occur on Sundays or federal holidays.

2.4 Project Purpose/Need

The POLA and POLB complex combined move 35 percent of all of waterborne containers moving thru all ports in the United States. The proposed Project is located ***at the centroid of the largest port complex in the western hemisphere.*** The proposed Project directly serves **10 percent of all U.S. waterborne containers.** These Ports are responsible for a significant portion of U.S. imports and exports, including inputs for domestic manufacturing and production processes. By 2035, the combined POLA-POLB is projected to handle about 36.3 million twenty-foot equivalent units (TEUs). This projection is contained in the *Ports of Los Angeles and Long Beach Rail Study* (December 2020*;* Port-of-LA-LB-Rail Study [Final].pdf [dropbox.com]).

The projected 36.3 million TEUs will generate about 115,000 truck trips per day (from 71,000 in 2021), and further strain the nation's most important freight gateway. This Project addresses existing safety and traffic operating problems, which will only be exacerbated with expected future traffic volume growth.

The existing conditions at the SR-47/Seaside Avenue/Navy Way interchange pose substantial safety and operational challenges that will only worsen with anticipated traffic volume growth. The current merge for right-turning northbound-to-eastbound trucks at the Navy Way/Seaside intersection forces them to merge into high-speed traffic within a substandard distance, creating

safety concerns. The merging distance of approximately 240 feet, combined with the high volume and speed of traffic on Seaside Avenue, leads to degraded traffic operating conditions. It is anticipated that this unsafe merging condition will reach an undesirable Level of Service (LOS) D or worse before opening day in the year 2028 (see Appendix C for detailed traffic analyses). This degradation not only increases the risk of accidents but also results in queuing and congestion upstream at the Navy Way/Reeves Avenue intersection.

Additionally, the existing traffic signal at the SR-47/Seaside Avenue/Navy Way intersection will not be unable to accommodate the projected year 2029 traffic volumes (analyzed project opening day year) traffic volumes, as demonstrated by a projected delay of close to three minutes for all vehicles at this intersection. This computed delay using standard traffic engineering models essentially denotes failure of the roadway/signal to accommodate such high traffic volumes. Moreover, the expected growth in traffic will degrade operating conditions to LOS D or E several years prior to 2028. Such delays would result in significant queuing upstream in both directions along Seaside Avenue/Ocean Boulevard, causing safety hazards as follows:

- Blockage of adjacent Ferry Street eastbound on-ramp, Navy Way westbound off-ramp, and Pier S Avenue westbound on-ramp
- Stopped, queued traffic along SR-47 is very hazardous due to high-speed eastbound traffic on the downgrade from the Vincent Thomas Bridge and high-speed westbound traffic from the Gerald Desmond Bridge
  - Speed surveys conducted in 2017: 85th percentile speeds = about 62 miles per hour

For truck and auto traffic making a westbound left turn at Navy Way, the existing configuration requires crossing two travel lanes, leading to difficult weaving movements amidst high-speed traffic. This hazardous maneuver will be eliminated by providing access to the signalized intersection of Navy Way/Reeves Avenue via the existing westbound underpass off-ramp and a dedicated fifth leg.

All of these above operational problems and hazards are of course exacerbated by a high proportion of truck traffic.

The proposed Project would also eliminate or ameliorate safety problems and reduce the potential for accidents directly and indirectly with the reduction in system delay (intersection delay and overall vehicle-hours of travel). The reduced delay on SR-47 would also benefit emergency responders using this route to serve not only the Ports, but also the surrounding communities.

The proposed Project is also necessary to satisfy two transportation mitigation measures that were previously approved by the City of Los Angeles Board of Harbor Commissioners as follows:

- Berth 97-109 [China Shipping] Container Terminal Project 2008 Mitigation Monitoring and Reporting Program (MMRP) MM-TRANS-6

  <u>Navy Way and Seaside Avenue</u>
  Provide an additional eastbound through-lane on Seaside Avenue. Reconfigure the

westbound approach to one left-turn lane and three through-lanes. This measure shall be implemented by 2030.

Upon development of the proposed SR-47/Navy Way interchange improvement project, it was determined by the LAHD that the proposed interchange project and its resultant improvement of traffic operating conditions is superior to the EIR mitigation measure. The EIR mitigation measure was devised to address the increase in east-west through traffic generated by the China Shipping (CS) project. This interchange project removes the intersection and traffic signal that was assumed in the CS environmental document. Replacing the signalized intersection with an interchange eliminates all traffic delays and also greatly improves roadway traffic operating conditions along SR-47 (Seaside Avenue)/ I-710 (Ocean Boulevard), much more than the proposed EIR mitigation measure. It also directly eliminates (mitigates) the CS project impact, since the intersection/signal is removed, and the CS generated traffic will no longer deteriorate intersection operating conditions.

- Berths 302-306 [American Presidents Line (APL)] Container Terminal Project 2016 Revised MMRP, MM-TRANS-1

  Navy Way and Reeves Avenue
  Re-stripe the southbound (and eastbound approach to accommodate the southbound dual right-turns) to provide a right-turn lane, a shared through/right turn lane, and a through lane on the southbound approach.

  - Timing: After construction of the proposed Project, when the intersection is determined to be operating at LOS E or worse.
  - Methods: This mitigation would only be constructed when the intersection operates at LOS E or worse. LAHD will monitor the LOS of this location as part of its ongoing port- area intersection monitoring activities and will perform periodic traffic analysis of intersection LOS after the Project is completed. The mitigation measure shall be completed within five years of this determination.

  Firstly, as reported in Appendix C of the draft IS-MND, using December 2023 traffic counts, this intersection is currently operating at a good LOS C during peak hours, and thus this mitigation measure is not yet required. Also, as reported in the IS-MND, the intersection is projected to operate at an LOS D or better for all peak hours under opening year 2029 and year 2045 conditions, which is even beyond the horizon year of analysis in the APL EIR/EIS. However, the LAHD is proposing to voluntarily implement improvements now as part of the Navy Way interchange project. Moreover, it was determined by the LAHD that these improvements and their resultant improvement of traffic operating conditions is superior to the EIR mitigation measure. Also, even after the completion of the Navy Way interchange project, the LAHD will continue to periodically monitor the LOS.

2.5 Project Permits and Approvals

The approvals or permits that could be required for the proposed Project include, but are not limited to, the following actions by the identified agencies:

- LAHD – Issuance of a Harbor Engineer Permit, Port Master Plan (PMP) Amendment, Coastal Development Permit, and property entitlement;
- Los Angeles Regional Water Quality Control Board (LARWQCB) – Issuance of Rivers and Harbors Act, Section 10;
- California Coastal Commission – Approval of PMP Amendment;
- City of Los Angeles – B-Permit
- Port of Long Beach – Harbor Development Permit; and
- Caltrans-Encroachment Permit.

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3.0 INITIAL STUDY CHECKLIST

1	**Project Title:**	Port of Los Angeles Navy Way Interchange Project
2	**Lead Agency Name and Address:**	Los Angeles Harbor Department Environmental Management Division 425 South Palos Verdes Street San Pedro, California 90731
3	**Contact Person and Phone Number:**	Lisa Ochsner lochsner@portla.org, (310) 732-3412
4	**Project Location:**	Seaside Avenue, within the City/Port of Los Angeles, between Caltrans-controlled SR-47/Vincent Thomas Bridge east approach and City/POLB boundary, and Ocean Boulevard easterly thereof to Pier S Avenue interchange within the City/POLB
5	**Project Sponsor's Name and Address:**	Los Angeles Harbor Department Environmental Management Division 425 South Palos Verdes Street San Pedro, California 90731
6	**General Plan Designation:**	• City of Los Angeles General Plan: Boulevard II (formerly Major Highway Class I) • City of Long Beach General Plan: Regional Corridor and Scenic Route
7	**Zoning:**	• City of Los Angeles: Qualified Heavy Industrial ([Q] M3) • City of Long Beach: IP - Port-Related Industrial
8	**Description of Project:**	The proposed Project involves augmenting the existing partial interchange at SR-47/Seaside Avenue/Navy Way; proposed roadway improvements include a new westbound auxiliary lane on SR-47 between Pier S Avenue and Navy Way, a new eastbound, two-lane collector-distributor road within the existing facility and right-of-way between the Ferry Street interchange eastbound on-ramp and the Pier S Avenue interchange eastbound off-ramp, widening of the north side of the existing highway bridge over POLA/ POLB -owned rail tracks, and widening of the existing westbound underpass off-ramp to create a fifth leg at the Navy Way/Terminal Way intersection and dual northbound left-turn lane via restriping. Other improvements include reconstruction of the existing 490-foot retaining wall on the north side of the existing highway bridge over POLA/POLB, installation of a new signal detector and controller modification at the existing westbound underpass off-ramp, and removal of the last traffic signal and at-grade intersection along Terminal Island/SR-47 between I-110 and I-710.

9	**Surrounding Land Uses/Setting:**	The Project Area is located at SR-47/Seaside Avenue/Navy Way in the Port of Los Angeles. The Project Area spans from the Caltrans-controlled SR-47/Vincent Thomas Bridge east approach and the boundary of the City/POLB, to Ocean Boulevard and eastward to the Pier S Avenue interchange. Surrounding land uses include industrial land uses that include container, liquid bulk, open space, maritime support, and containerized cargo. The Project Area is bounded by POLA and POLB facilities including a containerized cargo terminal (Berths 226–236) directly northwest; dry bulk and break-bulk cargo terminals (Berths 206–211), directly north; a rail Container transfer facility, directly north; Pier S directly north, and Pier T directly south; and an automobile terminal (Berths 195–199) to the north; dry bulk terminal (Berths 192–193) to the east; and the cement import terminal is located at Berth 191 on the East Basin along Canal Avenue. It is bounded by the liquid bulk terminal (Berths 187–190) to the north and west, dry bulk terminals (Berths 192–193) to the northeast, and the East Basin to the east and south. The inland terminal is located at 2200 E. Pacific Coast Highway, which is bordered by Pacific Coast Highway to the north; container cargo storage areas to the east and south; and Dominguez Channel to the northwest. Land access to and from the proposed Project Area is provided by a network of freeways and arterial routes, including the Harbor Freeway (I-110), the Long Beach Freeway (I-710), the Terminal Island Freeway (SR-103/SR-47), and Pacific Coast Highway.
10	**Other Public Agencies Whose Approval is Required:**	• Los Angeles Regional Water Quality Control Board • California Coastal Commission • City of Los Angeles • Port of Long Beach • Caltrans
11	**Have California Native American Tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code 21808.3.1?**	Yes (refer to Section 4.18, Tribal Cultural Resources)

3.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this Project (i.e., the proposed Project would involve at least one impact that is a "Potentially Significant Impact"), as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology and Soils	☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☐ Hydrology and Water Quality	☐ Land Use and Planning	☐ Mineral Resources
☐ Noise	☐ Population and Housing	☐ Public Services
☐ Recreation	☐ Transportation and Traffic	☐ Tribal Cultural Resources
☐ Utilities and Service Systems	☐ Wildfires	☐ Mandatory Findings of Significance

3.2 Determination

On the basis of this initial evaluation:

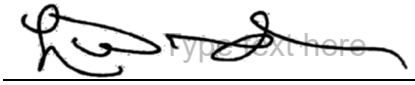
I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared. ☒

I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☐

I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ☐

I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required. ☐



10/11/2024

City of Los Angeles Harbor Department | Date

3.3 Environmental Checklist

Evaluation of Environmental Impacts:

1. A brief explanation is required for all answers except "no impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "no impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "no impact" answer should be explained if it is based on project-specific factors as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially significant impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "potentially significant impact" entries when the determination is made, an EIR is required.
4. "Negative declaration: less than significant with mitigation incorporated" applies when the incorporation of mitigation measures has reduced an effect from a "potentially significant impact" to a "less-than-significant impact." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level.
5. Earlier analyses may be used if, pursuant to tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063[c][3][D]). In this case, a brief discussion should identify the following:
    (a) Earlier analysis used. Identify and state where earlier analyses are available for review.
    (b) Impacts adequately addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    (c) Mitigation measures. For effects that are "less than significant with mitigation incorporated," describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting information sources. A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

   (a) the significance criteria or threshold, if any, used to evaluate each question, and

   (b) the mitigation measure identified, if any, to reduce the impact to a less-than-significant level.

10. The evaluations with this IS assume compliance with all applicable federal, state, and local laws, regulations, rules, and codes. In addition, the evaluation assumes that all conditions in applicable agency permits are complied with, including but not limited to local permits, air quality district permits, water quality permits and certifications, United States Army Corps of Engineers (USACE) permits, and other agency permits, as applicable.

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
1. AESTHETICS. Except as provided in Public Resources Code Section 21099, **would the project:**				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
2. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. **Would the project:**				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒
3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. **Would the project:**				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐
4. BIOLOGICAL RESOURCES. Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the city or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan?	☐	☐	☐	☒
5. CULTURAL RESOURCES. Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines §15064.5?	☐	☐	☐	☒
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5?	☐	☐	☐	☒
c. Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐
6. ENERGY. Would the project:				
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐
7. GEOLOGY AND SOILS. Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c. Be located on geologic units or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
8. GREENHOUSE GAS EMISSIONS. Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐
9. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☒
10. HYDROLOGY AND WATER QUALITY. Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
(iv) impede or redirect flood flows?	☐	☐	☐	☒
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐
11. LAND USE PLANNING. Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
12. MINERAL RESOURCES. Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒
13. NOISE. Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
14. POPULATION AND HOUSING. Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
15. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
a. Fire protection?	☐	☒	☐	☐
b. Police protection?	☐	☒	☐	☐
c. Schools?	☐	☐	☐	☒
d. Parks?	☐	☐	☐	☒
e. Other public facilities?	☐	☐	☐	☒

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
16. RECREATION				
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒
17. TRANSPORTATION. Would the project:				
a. Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☐	☒
b. Conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?	☐	☐	☐	☒
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d. Result in inadequate emergency access?	☐	☒	☐	☐
18. TRIBAL CULTURAL RESOURCES				
a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
(i) listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code §5020.1(k), or	☐	☐	☒	☐
(ii) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
19. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐
20. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, **would the project:**				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?	☐	☐	☐	☒
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒
21. MANDATORY FINDINGS OF SIGNIFICANCE				
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☒	☐	☐
c. Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

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4.0 ENVIRONMENTAL ANALYSIS AND DISCUSSION OF IMPACTS

4.1 Aesthetics

a. Would the project have a substantial adverse effect on a scenic vista?

Less-than-Significant Impact. The proposed Project Area and the surrounding vicinity are developed with industrial land uses which include container, liquid bulk, open space, maritime support, and containerized cargo. With the exception of the open space area south of the Project Area immediately north of Reeves Field, there are no vacant lands or areas in the proposed Project Area or within 0.5 mile of the proposed Project Area.

The City of Los Angeles General Plan Conservation Element designates scenic vistas as panoramic public views that grant access to natural features, including views of the ocean, striking or unusual natural terrain, or unique urban or historic features (City of Los Angeles, 2001), and the City of Long Beach Conservation Element does not contain a definition for scenic vistas or resources. The Port of Los Angeles Master Plan Update Draft Program EIR (Port of Los Angeles 2013) identifies sensitive public views. These critical views occur from points including the Main Channel and the San Pedro Waterfront, Harbor Freeway, Banning's Landing, San Pedro Bluffs and Lookout Point Park, Wilmington Waterfront Park, and the "C" Street residential area in Wilmington. Due to a combination of topography, intervening development, and distance, visibility of the Project Area from many of these locations is limited.

The proposed Project Area is located within a highly industrialized Port complex, and not within or near any protected or designated scenic vistas in the cities of Los Angeles. Although there is the potential that construction equipment may be visible from the Main Channel, these activities would be temporary and would not substantially alter the existing visual quality of the Project Area and the surrounding area. Therefore, construction of the proposed Project would not obstruct views of any identified scenic resources, and no scenic vistas would be substantially affected. No impact would occur.

b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less-than-Significant Impact. There are no officially designated or eligible State scenic highways, and there are no scenic resources within the proposed Project Area. The nearest eligible listing for State scenic highways to the proposed Project Area according to the California Department of Transportation (Caltrans) is a portion of State Route 1 (SR-1), which is approximately 6.8 miles northeast of the proposed Project Area. The nearest officially designated State scenic highway is a portion of State Route 91 (SR-91), located approximately 25.2 miles northeast of the Project Area.[4] The proposed Project Area is not

[4] California Department of Transportation (Caltrans). 2019. California State Scenic Highway Map. Website: https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa (accessed August 2023).

visible from either of these locations. Therefore, proposed Project activities would not affect the quality of the scenic views from a State designated scenic highway.

The City of Long Beach has City-designated scenic routes that include roadways of particular visual merit and viewpoints that are highlighted by iconic buildings or vistas of the high quality (City of Long Beach 2019). The Urban Design Element of the City's General Plan designates Ocean Boulevard as a scenic route. The Element designates sections of SR-47 and I-710 as portions of the scenic route. Although these designated scenic routes are not within the proposed Project Area, they are adjacent to the proposed Project improvements and the proposed Project Area is visible from the scenic routes. The proposed Project would augment the existing partial interchange at Seaside Avenue/Navy Way by removing the last traffic signal and at-grade intersection on Terminal Island/SR-47, between I-110 and I-710, adding a new westbound auxiliary lane on SR-47 between Pier S Avenue and Navy Way, adding a new eastbound two-lane collector-distributor road within the existing facility between the Ferry Street interchange eastbound on-ramp and the Pier S Avenue interchange eastbound off-ramp, widening the north side of the existing highway bridge over POLA/POLB owned rail tracks, widening the existing westbound underpass off-ramp, and installing new lane guidance signage and striping on Seaside Avenue/Ocean Boulevard. Therefore, construction of the proposed Project may result in temporary impacts to the visual quality or viewpoints from SR-47 or I-710. However, construction impacts would be temporary and would be consistent with surrounding land uses and visual character. Upon completion, the roadway and infrastructure improvements would match existing conditions and visual quality, and therefore would not affect the existing visual quality or viewpoints from the SR-47 or I-710. Therefore, the proposed Project would not substantially alter the existing setting or have any impact on views from a City of Long Beach-designated scenic highway.

The City of Los Angeles has City-designated scenic highways that have special controls for protection and enhancement of scenic resources. Several of these scenic highways including Harbor Boulevard, John S. Gibson Boulevard, Pacific Avenue/Front Street are within 2 miles of the Project Area. The scenic highways provide views of the Port and Vincent Thomas Bridge. Views of the proposed Project Area from these City-designated scenic highways are very limited or nonexistent due to topography and/or intervening development. The roadway and infrastructure improvements proposed as part of the Project would not affect the existing visual quality of the Project Area.

The proposed Project Area is located within a highly industrialized Port complex. No scenic trees or rock outcroppings exist in the Project Area. Proposed roadway and infrastructure improvements would not substantially alter the appearance of existing facilities and would be consistent with the visual context of an industrial Port complex. Therefore, the proposed Project would not damage scenic resources visible from a designated scenic highway.

c. In non-urbanized areas, would the project substantially degrade the existing visual character or quality of the public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the

project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

No Impact. The Project Area is located in an urbanized area surrounded by industrial land uses such as container, liquid bulk, maritime support, and regional serving facility uses, and land zoned for Port-Related Industrial (IP) and Qualified Heavy Industrial ([Q] M3). The segment of SR-47/Seaside Avenue/Navy Way, where the Project Area is located, is designated as a Boulevard II in the City of Los Angeles General Plan Mobility Plan 2035.

No structures are being proposed that would diminish the existing visual character of the area or quality of public views of the Project Area and its surroundings. The proposed improvements include removal of the last traffic signal and at-grade intersection on Terminal Island/SR-47, addition of a new westbound auxiliary lane on SR-47 and a new eastbound two-lane collector-distributor road within the existing facility, widening of the north side of the existing highway bridge over POLA/POLB owned rail tracks, widening of the existing westbound underpass off-ramp, and installation of new lane guidance signage and striping on Seaside Avenue/Ocean Boulevard. The proposed improvements would be consistent with the current urban and industrial character of the surrounding area. The proposed Project would not conflict with existing zoning or regulations governing visual quality, and no impacts would occur.

d. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less-than-Significant Impact. The Port complex generally is an area with high amounts of ambient lighting that includes approximately 25 cargo terminals and other facilities, all of which are illuminated at night.[5] The lighting emanates from stationary sources, such as parking lots, crane lights, and terminal access roads, and mobile sources, such as ship, rail, and vehicular traffic.

The addition of new auxiliary lanes and widening would accommodate for greater vehicular capacity. The proposed Project would require construction lighting, but these additional, temporary lighting sources would be similar to existing conditions.

Operational activities would remain similar to existing conditions. The proposed Project would remove one existing traffic signal and would include one new phase traffic signal at the intersection of the eastbound frontage road with existing Navy Way. The proposed Project would replace existing lighting which would be removed as part of the widening; new lighting at the new off-ramp/widening for westbound Navy Way would also be installed and would be consistent with the City of Los Angeles Bureau of Street Lighting standards. Therefore, the proposed Project would match existing levels of light and glare and would not introduce significant new sources of light or glare. Although the proposed Project would

[5] LA The Port of Los Angeles. 2023. Facts & Figures. Website: 2022 Port of Los Angeles Facts and Figures Card (accessed June 13, 2023).

accommodate for more vehicles, the lighting and glare from the proposed Project would be similar to existing conditions.

The proposed Project would not include any components that would generate glare (e.g., windows, metal, or other reflective surfaces). Therefore, the proposed Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area, and impacts would be less than significant.

4.2 Agriculture and Forestry Resources

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The California Natural Resources Agency's Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data used for analyzing impacts on California's agricultural resources. According to the California Important Farmland Finder, the proposed Project is in an area classified as Urban and Built-Up Land and is not designated as farmland (California Department of Conservation, Important Farmland Finder, 2022). Additionally, no agricultural uses exist in the Project Area. Because the Project Area is not designated as farmland pursuant to the FMMP, the proposed Project would not result in the conversion of farmland to a non-agricultural use. Therefore, no impacts related to farmland conversion would occur, and no mitigation is required.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The Project Area is zoned for IP – Port-Related Industrial (City of Long Beach) and Qualified Heavy Industrial ([Q] M3) (City of Los Angeles). According to the California Department of Conservation's most recently published Williamson Act Contracted Land Map, there are no Williamson Act agricultural preserves located within the City boundaries (State of California Williamson Act Contract Land 2021). Therefore, the proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract. No impact would occur.

c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No Impact. Public Resources Code Section 12220(g) identifies forest land as land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.

The Project Area is zoned for IP – Port-Related Industrial and Qualified Heavy Industrial. There is no land zoned for forest land, timberland, or timberland production in the City of

Los Angeles General Plan. The proposed Project Area is not currently being managed or used for forest land or timberland. No impact would occur.

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. As discussed in Section 4.2(c) above, the proposed Project does not support forests, nor is there any forest land adjacent to the proposed Project. Further, there is no land zoned for forest land, timberland, or timberland production in the City of Los Angeles or City of Long Beach General Plans. The proposed Project infrastructure and roadway improvements would not result in the loss of forest land or the conversion of forest land to non-forest uses. No impact would occur.

e. Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No Impact. As discussed in Sections 4.2(a) through (d) above, there are no agricultural operations or timberland production operations within the Project Area. Therefore, the proposed Project would not result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. No impacts would occur.

4.3 Air Quality

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less-than-Significant Impact. The federal Clean Air Act (CAA) of 1969 and its subsequent amendments form the basis for the nation's air pollution control effort. The U.S. Environmental Protection Agency (EPA) is responsible for implementing most aspects of the CAA. A key element of the CAA is the National Ambient Air Quality Standards (NAAQS) for criteria pollutants. The CAA delegates enforcement of the NAAQS to the states. In California, the California Air Resources Board (CARB) is responsible for enforcing air pollution regulations. CARB, in turn, delegates to local air agencies the responsibility of regulating stationary emission sources. The South Coast Air Quality Management District (SCAQMD) monitors air quality within the Project Area and the South Coast Air Basin (Basin), which includes Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties.

The USEPA, CARB, and SCAQMD use ambient air quality monitoring data to determine whether geographic areas achieve the NAAQS. Areas with pollutant concentrations within the NAAQS are designated as attainment areas, whereas areas that do not meet the NAAQS are designated as nonattainment or maintenance areas. For regions that do not attain the NAAQS, the CAA requires preparation of a State Implementation Plan (SIP). The Project Area is currently designated a nonattainment area for the ozone (O_3) and particulate matter less than 2.5 microns in size ($PM_{2.5}$) for federal standards and nonattainment for O_3, particulate matter less than 10 microns in size (PM_{10}), and $PM_{2.5}$ for State standards.

An Air Quality Management Plan (AQMP) describes air pollution control strategies to be undertaken by a city or county in a region classified as a nonattainment area to meet the requirements of the federal Clean Air Act. The main purpose of an AQMP is to bring an area into compliance with the requirements of federal and California ambient air quality standards (NAAQS and CAAQS). The South Coast Air Basin (Basin) is in nonattainment for the federal and State standards for O_3 and $PM_{2.5}$. Therefore, the Basin is classified as a nonattainment area and an AQMP is required. The applicable air quality plan is the SCAQMD's adopted 2022 AQMP.[6] The AQMP is based on regional growth projections developed by the Southern California Association of Governments (SCAG). Additionally, the Ports of Long Beach and Los Angeles provide the San Pedro Bay Ports Clean Air Action Plan (CAAP).

A consistency determination plays an essential role in local agency project review by linking local planning and unique individual projects to the air quality plans. A consistency determination fulfills the CEQA goal of fully informing local agency decision-makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are addressed. Only new or amended General Plan elements, Specific Plans, and significantly unique projects need to undergo a consistency review given that the air quality plan strategy is based on projections from local General Plans.

The Port's CAAP and the City's General Plan are consistent with the SCAG Regional Comprehensive Plan Guidelines and the SCAQMD AQMP. Pursuant to the methodology provided in the SCAQMD *CEQA Air Quality Handbook*, consistency with the Port's CAAP and the Basin 2022 AQMP is affirmed when a project: (1) would not increase the frequency or severity of an air quality standards violation or cause a new violation, and (2) is consistent with the growth assumptions in the AQMP. The consistency review for the proposed Project found that:

1. The proposed Project would result in short-term construction and long-term operational pollutant emissions that are all less than the CEQA significance emissions thresholds established by SCAQMD, as demonstrated in Section 4.3.b, below. Therefore, the proposed Project would not result in an increase in the frequency or severity of an air quality standards violation or cause a new air quality standards violation.
2. The *CEQA Air Quality Handbook* indicates that consistency with AQMP growth assumptions must be analyzed for new or amended General Plan elements, Specific Plans, and significant projects. Significant projects include airports, electrical generating facilities, petroleum and gas refineries, designation of oil drilling districts, water ports, solid waste disposal sites, and offshore drilling facilities. The proposed Project would consist of a roadway improvement; therefore, the proposed Project is not defined as significant. In addition, the proposed Project would not require a change to the General Plan land use designation or the current zoning, and would be consistent with the City's General Plan and Zoning Ordinance.

[6] South Coast Air Quality Management District (SCAQMD). 2022. *2022 Air Quality Management Plan*. Adopted December 2, 2022 (accessed August 2023).

SCAQMD Rule 402 prohibits the discharge of air contaminates or other materials which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. SCAQMD Rule 402 regarding nuisances states: "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."

SCAQMD Rule 403 requires that fugitive dust be controlled with best available control measures, so the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source.

Based on the consistency analysis presented above and the implementation of SCAQMD Rules 402 and 403, the proposed Project would not conflict with or obstruct implementation of the applicable air quality plan. Impacts would be less than significant, and no mitigation is required.

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less-than-Significant Impact. The L.A. CEQA Thresholds Guide (City of Los Angeles 2006) references the SCAQMD's *CEQA Air Quality Handbook* (SCAQMD 1993) and USEPA AP-42 (USEPA 2011) for calculating and determining the significance of construction emissions. SCAQMD's current guidelines, the *CEQA Air Quality Handbook* with associated updates, were followed in this assessment of air quality impacts for the proposed Project. In developing thresholds of significance for air pollutants, SCAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Air pollutant emissions associated with the proposed Project would occur over the short term from construction activities lasting less than two years in duration. Operational emissions are based on the proposed Project operational year of 2029. The SCAQMD emission thresholds are shown in Table 4-1 below.

Table 4-1: SCAQMD Construction and Operation Thresholds of Significance

Emission Source	Pollutant Emissions Threshold (lbs/day)					
	VOCs	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction Thresholds	75	100	550	150	150	55
Operation Thresholds	55	55	550	150	150	55

Source: South Coast Air Quality Management District (1993).
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_2 = sulfur dioxide
VOCs = volatile organic compounds

The Basin is designated as nonattainment for O_3 and $PM_{2.5}$ for federal standards and nonattainment for O_3, PM_{10}, and $PM_{2.5}$ for State standards. The SCAQMD's nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of NAAQS or CAAQS. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, SCAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

Construction Emissions. Construction activities produce combustion emissions from various sources (e.g., utility engines, tenant improvements, and motor vehicles transporting the construction crew). Exhaust emissions from construction activities envisioned on site would vary daily as construction activity levels change.

The construction analysis includes estimating the construction equipment that would be used during each construction activity, the hours of use for that construction equipment, the quantities of earth and debris to be moved, and the on-road vehicle trips (e.g., worker, soil-hauling, and vendor trips). Implementation of standard regulatory compliance construction emissions control measures required of all projects are included in the emissions shown in Table 4-1. These features are included in Project Features PF-AQ-1 and PF-AQ-2. It is anticipated that construction of the proposed Project would start in September 2026 and be completed in February 2028. Table 4-2 shows the peak daily regional emissions from each of the construction phases.

Table 4-2: Short-Term Regional Construction Emissions

Construction Phase	Total Regional Pollutant Emissions (lbs/day)				
	VOCs	NO_X	CO	PM_{10}	$PM_{2.5}$
Land Clearing/Grubbing	2.3	14.2	12.9	10.8	2.0
Roadway Excavation & Removal	5.8	42.8	37.3	12.8	3.9
Structural Excavation & Removal	1.7	9.4	4.5	10.3	1.5
Base/Subbase/Imported Borrow	8.5	56.6	59.3	14.4	5.5
Structural Concrete	2.5	12.3	6.7	0.8	0.7
Paving	22.0	44.1	14.2	2.8	2.7
Drainage/Environment/Landscaping	2.6	16.4	6.6	1.3	1.3
Traffic Signalization/Signage/Striping/Painting	2.7	17.0	6.7	1.3	1.3
Peak Daily	**22.0**	**56.6**	**59.3**	**14.4**	**5.5**
SCAQMD Threshold	**75**	**100**	**550**	**150**	**55**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (April 2023) using Cal-CET 2020.
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
VOCs = volatile organic compounds

As shown in Table 4-2, construction emissions associated with the proposed Project would not exceed SCAQMD thresholds for volatile organic compounds (VOCs), nitrogen oxides (NO_X), carbon monoxide (CO), particulate matter less than 10 microns in size (PM_{10}), and particulate matter less than 2.5 microns in size ($PM_{2.5}$). Project Features PF-AQ-1, PF-AQ-2, and PF-AQ-3 require compliance with SCAQMD Rule 403, SCAQMD Rule 402, and California Department of Resources Recycling and Recovery (CalRecycle). With implementation of these features, construction emissions of regional pollutants would remain less than significant.

Project Features

The following Project Features pertaining to air quality are applicable to the proposed Project.

PF-AQ-1 **SCAQMD Rule 403.** During clearing, grading, earth moving, or excavation operations, excessive fugitive dust emissions shall be controlled by regular watering or other dust preventative measures by using the following procedures, in compliance with South Coast Air Quality Management District (SCAQMD) Rule 403 during construction. The applicable Rule 403 measures are as follows:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more) Stabilize soils once soil disturbing activities are complete.
- Water active sites at least twice daily (locations where grading is to occur shall be thoroughly watered prior to earthmoving).
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 2 feet (0.6 meter) of freeboard (vertical space between the top of the load and the top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.
- Pave construction access roads at least 100 feet (30 meters) onto the site from the main road.
- Reduce traffic speeds on all unpaved roads to 15 miles per hour (mph) or less.

PF-AQ-2 **SCAQMD Rule 402.** A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

PF-AQ-3 **CalRecycle.** The applicable California Department of Resources Recycling and Recovery (CalRecycle) Sustainable (Green) Building Program Measures are as follows:

- Recycle/reuse at least 50 percent of the construction material (including, but not limited to, soil, mulch, vegetation, concrete, lumber, metal, and cardboard).
- Use "green building materials" such as those materials that are rapidly renewable or resource-efficient, and recycled and manufactured in an environmentally friendly way, for at least 10 percent of the Project.

Operational Emissions. The proposed Project consists of roadway improvements and would generate emissions from daily operations and vehicle trips associated with Project operations, which would match the existing conditions. This analysis focuses on the long-term air pollutant emissions associated with mobile emissions.

Mobile source emissions are generated by the vehicle trips associated with Project operations. PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Entrainment of PM_{10} occurs when vehicle tires pulverize small rocks and pavement and the vehicle wakes generate airborne dust. The contribution of tire and brake wear is small compared to the other PM emission processes. Additionally, gasoline-powered engines have small rates of particulate matter emissions compared to diesel-powered vehicles.

The proposed Project long-term operational emissions under the No Build and the Build scenarios for the opening year (2029) are summarized in Table 4-3 below. As shown in Table 4-3, the proposed Project would reduce the emissions of all criteria pollutants, with VOC, NO_X, CO and PM_{10} showing measurable reductions and sulfur oxides (SO_X) and $PM_{2.5}$ having too small a reduction to show. As such, total operational air quality emissions with the proposed Project would be less than operational air quality emissions without the proposed Project.

Table 4-3: Long Term Operational Emissions for Opening Year (2029)

Emission Type	Pollutant Emissions (lbs/day)					
	VOCs	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Moving Autos	5.1	6.6	85.4	0.4	8.3	1.6
Moving Trucks	0.9	102.0	14.7	1.4	17.9	5.9
Idling Autos	0.0	0.1	1.0	0.0	0.0	0.0
Idling Trucks	1.0	11.1	14.7	0.0	0.0	0.0
Total Build Emissions	**7.0**	**119.7**	**115.8**	**1.8**	**26.2**	**7.5**
Total No Build emissions	**10.5**	**165.1**	**182.1**	**1.8**	**26.5**	**7.5**
Net total Emissions (Build – No Build)	**-3.5**	**-45.4**	**-66.3**	**0.0**	**-0.3**	**0.0**
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Exceed?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Port of Los Angeles, BCA Calculations (July 2023).
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOCs = volatile organic compounds

As shown in Table 4-3, the change in operational air quality emissions resulting from the proposed Project would not exceed the significance criteria for VOCs, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ emissions; thus, the proposed Project would not have a significant effect on regional air quality. Therefore, operation of the proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the proposed Project is nonattainment under an applicable NAAQS or CAAQS. Impacts would be less than significant. Mitigation is not required.

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Less-than-Significant Impact. SCAQMD published its *Final Localized Significance Threshold Methodology* in June 2003 and updated it in July 2008 (SCAQMD 2008), recommending that all air quality analyses include an assessment of both construction and operational impacts on the air quality of nearby sensitive receptors. The Localized Significance Thresholds (LSTs) represent the maximum emissions from a project site that are not expected to result in an exceedance of the NAAQS or CAAQS for CO, NO_2, PM_{10}, and $PM_{2.5}$ at any location of concern. LSTs are based on the ambient concentrations of that pollutant within the Project's Source Receptor Area (SRA) and the distance to the nearest sensitive receptor. The Project Area is in the South Coastal LA County SRA. Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality. As described above, the nearest sensitive receptors in proximity to the Project Area are livaboards at marinas along the north side of the Cerritos Channel, with the closest receptor approximately 3,100 feet (945 meters) from the Project Area. SCAQMD provides LST screening tables for 25-, 50-, 100-, 200-, and 500-meter source-receptor distances. Thus, the 500-meter values were used.

The LST screening tables provide for 1-acre, 2-acre, and 5-acre construction sites. The Project Area is 0.97 acre. Therefore, LSTs for the 1.0-acre/500-meter combination were used.

By design, the localized impacts analysis only includes on-site sources. For a worst-case scenario assessment, the emissions detailed in Table 4-5 assume 5 percent of the Project-related new mobile sources, which is an estimate of the amount of Project-related on-site vehicle and truck travel, would occur on site. The operational emissions are based on the net Project emissions from Table 4-4. Since the proposed Project resulted in a net decrease of emissions for NO_x, CO, PM_{10}, and $PM_{2.5}$, the localized operational emissions would not contribute to any additional impacts. The results of the LST analysis for both construction and operation of the proposed Project are summarized in Tables 4-4 and 4-5 below. Compliance with the SCAQMD standard conditions identified in Project Features PF-AQ-1, PF-AQ-2, and PF-AQ-3 is a regulatory requirement and was considered in the analysis of construction emissions. Because the proposed Project emissions would not exceed the LSTs with their compliance with regulatory requirements, impacts related to the exposure of sensitive receptors to substantial pollutant concentrations during Project construction would be less than significant. In addition, as shown in Table 4-5, the proposed Project would not result in an exceedance of a SCAQMD LST during Project operation.

Table 4-4: Construction Localized Impacts Analysis

Emissions Sources	Pollutant Emissions (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
On-Site Emissions	57	59	14	6
Localized Significance Threshold	**142**	**7,558**	**158**	**93**
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (April 2023).
Note: The SRA is South Coastal LA County, 1 acre, receptors at 500 meters.
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SRA = Source Receptor Area

Table 4-5: Operational Localized Impacts Analysis

Emissions Sources	Pollutant Emissions (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
On-Site Emissions	-2	-3	0	0
Localized Significance Threshold	**142**	**7,558**	**158**	**93**
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Port of Los Angeles, BCA Calculations (July 2023)
Note: The SRA is South Coastal LA County, 1 acre, receptors at 500 meters.
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SRA = Source Receptor Area

Therefore, the proposed Project would not expose sensitive receptors to substantial pollutant concentrations and impacts would be less than significant. Mitigation is not required.

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less-than-Significant Impact. Heavy-duty equipment in the Project Area during construction would emit odors, primarily from the equipment exhaust and asphalting. However, the construction-produced odors would cease to occur after individual construction is completed. No other sources of objectionable odors during construction have been identified for the proposed Project, and no mitigation measures are required.

Land uses generally associated with long-term objectionable odors include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting operations, refineries, landfills, dairies, and fiberglass molding facilities. The proposed Project is a roadway improvement Project that would not include uses that would generate long-term objectionable odors. Therefore, operation of the proposed Project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Impacts would be less than significant, and no mitigation is required.

4.4 Biological Resources

a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status

species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less-than-Significant Impact with Mitigation Incorporated. A general biological survey of the Biological Study Area (BSA) was conducted by LSA on January 19, 2023, and a bat habitat assessment was conducted on November 10, 2022. No special-status plant, or animal species were observed during the site surveys, although suitable roosting and foraging habitat for several bat species is present.

Plants

The Project Area consists primarily of developed areas, disturbed/barren areas, ornamental landscaping, and ruderal vegetation with small patches of native vegetation (i.e., disturbed fourwing saltbush scrub, disturbed mulefat scrub, disturbed mixed mulefat and fourwing saltbush scrub, and disturbed brittle bush scrub).

Wildlife

The maintained ornamental vegetation occurring in the Project Area is considered low quality habitat for most native wildlife species. While some native scrub habitat is present (i.e., disturbed fourwing saltbush scrub, disturbed mulefat scrub, disturbed mixed mulefat and fourwing saltbush scrub, and disturbed brittle bush scrub), these patches of scrub are disturbed, isolated, and provide only marginal habitat for native wildlife species. The Project Area and immediate vicinity contain vegetation and structures that provide suitable nesting habitat for a variety of native and migratory bird species, which are protected while nesting. Some of the mature ornamental trees within the vicinity of the BSA may also be used as day roosts by foliage-roosting species such as the hoary bat (*Lasiurus cinereus*), which roosts in a wide variety of tree species. Western yellow bats (*Lasiurus xanthinus*), western red bats (*Lasiurus blossevillii*), and hoary bats may also roost within any of the nonnative palm trees (e.g., *Washingtonia* spp.) present throughout the BSA, including at the northwest abutment of the SR-47 bridge over the railroad. A total of eight wildlife species were observed in or near the Project Area during the 2023 field survey: American crow (*Corvus brachyrhynchos*), western gull (*Larus occidentalis*), rock pigeon (*Columba livia*), house finch (*Haemorhous mexicanus*), yellow rumped warbler (*Setophaga coronata*), house sparrow (*Passer domesticus*), western fence lizard (*Sceloporus occidentalis*), and European honeybee (*Apis mellifera*). All of these species are commonly encountered in and around developed areas of coastal southern California.

Special-Status Species

The majority of the rare plant species that were identified in the databases have specialized habitat requirements (i.e., they occur on predominantly alkaline soils, woodland, riparian, or wetland habitats) that do not occur within the Project Area. Historic anthropogenic disturbances have greatly altered the natural hydrologic regimes and have either eliminated or greatly impacted the pre-settlement habitats needed to support the special-status plant species identified in the California Natural Diversity Database (CNDDB) and California Native Plant Society (CNPS) queries. As such, the specific habitats, soil substrates or “micro-climates” necessary for special-status plant species to occur are absent within the

boundaries of the Project Area, which consists of primarily developed areas, maintained ornamental landscaping, and disturbed vegetation. No special-status bird species have a moderate or high potential to nest within the BSA, although a few species may fly over or forage within the BSA. However, the BSA contains vegetation and structures that provide suitable nesting habitat for a variety of common native and migratory bird species, which are protected under the Federal Migratory Bird Treaty Act while nesting, which prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the United States Department of the Interior, the United States Fish and Wildlife Service (USFWS), and the California Fish and Game Code Sections 3500–3516, which state that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by [the] code or any regulation made pursuant thereto.

Vegetation removal and construction activities have the potential to directly impact nesting birds during the typical avian nesting season, and increased noise, vibration, dust, human activity, and lighting during construction have further potential to indirectly affect birds nesting within suitable habitats. To ensure compliance with the Federal Migratory Bird Treaty Act and California Fish and Game Code Sections 3500–3516, Mitigation Measure MM-BIO-3 would be implemented in order to reduce the potential impact to nesting birds to a less-than-significant level. While no special-status plant or animal species were observed during the January 2023 site survey, a bat habitat assessment was conducted in November 2022 to identify potential roost sites. The November 2022 bat assessment found suitable foraging habitat in or near the Project Area within scrub habitat, ornamental landscaping, and the adjacent bay. Suitable roosting habitat in or near the Project Area is found within mature ornamental trees and the four bridge structures. The Western red bat, hoary bat, and western yellow bat (California Species of Special Concern), and Yuma myotis (a California Special Animal) have a moderate potential of occurrence within the Project Area. “Species of Special Concern” is an administrative designation from the California Department of Fish and Wildlife (CDFW) and carries no formal legal status. However, all bat species (regardless of listing status) and other nongame mammals are protected by California Fish and Game Code Section 4150, which states that all nongame mammals or parts thereof may not be taken or possessed except as provided otherwise in the code or in accordance with regulations adopted by the California Fish and Game Commission. Activities resulting in the mortality of nongame mammals (e.g., destruction of an occupied bat roost, resulting in the death of bats) or disturbance that results in the loss of a maternity colony of bats (including the death of young) may be considered a “take” by the CDFW. Furthermore, any structure occupied by a bat maternity colony of any species is considered a native wildlife nursery site that is essential to the viability of local populations.

Suitable bat-roosting habitat would be subject to direct and indirect impacts from construction activities at bridge structures. Bats roosting in crevice habitat in bridges could be subject to direct impacts during demolition associated with structure widening and replacement of the retaining wall, and to indirect impacts from Project-related noise and lighting. In addition, trimming or removal of mature trees within the BSA could result in direct impacts to bats and roosting habitat if the trees are used by roosting bats. With

implementation of Mitigation Measures MM-BIO-1 and MM-BIO-2, direct impacts to bats during construction, such as demolition and structure widening, and indirect impacts from noise, lighting, and tree removal would be reduced to less than significant.

The BSA contains vegetation that provides suitable nesting habitat for a variety of native and migratory bird species, which are protected while nesting. Vegetation removal activities have the potential to directly impact nesting birds during the typical avian nesting season, and increased noise, vibration, dust, and lighting during construction have further potential to indirectly effect suitable habitats. To ensure compliance with the Federal Migratory Bird Treaty Act and California Fish and Game Code Sections 3500–3516, Mitigation Measure MM-BIO-3 would be implemented in order to reduce the potential impact to nesting birds to a less-than-significant level.

Mitigation Measures

The following mitigation measures pertaining to biological resources are applicable to the proposed Project.

MM-BIO-1 **Pre-Construction Bat Acoustic and Emergence Survey.** If construction activities are proposed at any of the bridge structures or retaining walls where suitable day-roosting habitat was identified, a nighttime acoustic and emergence survey shall be performed by a qualified bat biologist during the peak period (June or July) of the bat maternity season (April 1 through August 31) to confirm whether maternity colonies are present. These surveys should be performed by a qualified bat biologist at least one year in advance of construction so that appropriate site-specific and species-specific minimization measures can be developed in coordination with the California Department of Fish and Wildlife (CDFW) and a qualified bat biologist.

If any maternity colonies are found, a Bat Habitat Mitigation and Monitoring Plan (BHMMP) shall be prepared by a CDFW-approved biologist with demonstrated success in designing effective minimization and mitigation measures for bats. This BHMMP will include site- and Project-specific impact minimization measures that include, but are not limited to, seasonal avoidance of certain construction activities and/or humane eviction/ exclusion if warranted, roosting habitat mitigation associated with any eviction/exclusion, noise abatement, focused night-lighting, and construction monitoring of roosting bats.

MM-BIO-2 **Tree Trimming and Removal.** To the greatest extent feasible, tree trimming/removal activities shall be performed outside the bat maternity season (April 1 through August 31) to avoid direct impacts to nonvolant (flightless) young that may roost in palm trees within the biological study area. This period also coincides with the bird nesting season of March 15 through September 15. If trimming or removal of palm trees during the bat

maternity season (April 1 through August 31) cannot be avoided, any trees that have also been identified as containing suitable bat roosting habitat will be surveyed at night within 3 days prior to removal to identify any maternity roosts and avoid "take" of juvenile bats. These surveys must include acoustic monitoring and observation with night vision equipment to adequately confirm absence of bats. Any trees confirmed during those surveys as housing bat maternity colonies will be avoided until the end of the maternity season to avoid potential mortality of juvenile bats.

MM-BIO-3 **Pre-Construction Nesting Bird Surveys and Active Nest Avoidance Buffers.** If tree removal, vegetation removal, construction, or grading activities are planned to occur within the active nesting bird season (February 15 through August 31), a qualified biologist should conduct a pre-construction nesting bird survey no more than 3 days prior to the start of such activities. The nesting bird survey should include the Project Area and areas immediately adjacent to the Project Area that could potentially be affected by Project-related activities such as noise, vibration, increased human activity, and dust, etc. If active bird nests are found within areas that could be directly or indirectly impacted by Project-related activities, the qualified biologist should establish an appropriate buffer zone around the active nest(s). The appropriate buffer shall be determined by the qualified biologist based on species, location, and the nature of the proposed activities. proposed Project activities shall be avoided within the buffer zone until the nest is deemed no longer active by the qualified biologist.

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No Impact.

There is no riparian habitat or other sensitive natural community on or near the Project Area and therefore, the proposed Project would not affect these communities. Permanent direct impacts would be limited to nonnative ornamental landscaping and developed areas.

c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. There are no records of wetlands or potential jurisdictional drainage features existing within the Project Area, and no potentially jurisdictional drainage features, wetlands, or riparian areas were observed in the Project Area during the field surveys. The Pacific Ocean, a jurisdictional navigable water of the United States, occurs to the south of the Project Area (outside of the proposed Project disturbance limits); however, the proposed Project would not have any adverse effects to any United States Army Corps of Engineers

(USACE), Regional Water Quality Control Board (RWQCB), or CDFW jurisdictional aquatic resources. Therefore, the proposed Project would have no impact on wetlands or potential jurisdictional drainage features, and no mitigation is required.

Project Feature

The following Project Feature pertaining to biological resources is applicable to the proposed Project.

PF-BIO-1 Construction Site Housekeeping.

A. Prior to ground disturbance, the Project Contractor shall install adequate erosion and sedimentation barriers (e.g., silt fencing) at the Project Area boundaries to prevent any sediment-laden runoff or debris from reaching the Pacific Ocean located to the south of the Project Area.

B. The Project Area shall be clearly marked with construction fencing (or other highly visible material), and vehicle/equipment maintenance and fueling areas shall be located at least 100 feet away from the southern Project Area boundaries.

C. To prevent inadvertent entrapment of animals during the construction phase of the proposed Project, all excavated, steep-walled holes or trenches more than 2 feet deep shall be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals. In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape.

For the duration of construction activities, all food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least daily from the construction site.

Use of rodenticides and herbicides in Project Area shall be restricted. This is necessary to prevent primary or secondary poisoning of predators and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the United States Environmental Protection Agency, the California Department of Food and Agriculture, and other State and federal legislation.

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?

Less-than-Significant Impact with Mitigation Incorporated. The Project Area is adjacent to existing industrial areas outside of any known wildlife movement corridor. Project implementation would not have a substantial impact on wildlife movement. Proposed construction activities would not block or interfere with the migration of special-status birds or birds covered under the Migratory Bird Treaty Act, which could fly over or around construction activities.

Habitat suitable for maternity roosting bats is present within the Project Area. With implementation of the Mitigation Measures MM-BIO-1 through MM-BIO-2, impacts to maternity roosting bats would be reduced to less than significant.

The Project Area and immediate vicinity contain vegetation that provides suitable nesting habitat for a variety of native and migratory bird species, which are protected while nesting. With implementation of Mitigation Measure MM-BIO-3, impacts to nesting birds would be reduced to less than significant.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less-than-Significant Impact with Mitigation Incorporated. Section 46.00 of the Los Angeles Municipal Code addresses the relocation or removal of protected trees or shrubs of the following Southern California indigenous tree species, which measure four inches or more in cumulative diameter, four and one-half feet above the ground level at the base of the tree, or any of the following Southern California indigenous shrub species, which measure four inches or more in cumulative diameter, four and one-half feet above the ground level at the base of the shrub:

Protected Trees:

(a) Oak tree including Valley Oak (*Quercus lobata*) and California Live Oak (*Quercus agrifolia*), or any other tree of the oak genus indigenous to California but excluding the Scrub Oak (*Quercus berberidifolia*).

(b) Southern California Black Walnut (*Juglans californica*).

(c) Western Sycamore (*Platanus racemosa*).

(d) California Bay (*Umellularia californica*).

Protected Shrubs:

(a) Mexican Elderberry (*Sambucus mexicana*).

(b) Toyon (*Heteromeles arbutifolia*).

This definition shall not include any tree or shrub grown or held for sale by a licensed nursery, or trees or shrubs planted or grown as a part of a planting program.

Protected trees and shrubs cannot be relocated or removed until a permit from the Board of Public Works or its designated officer or employee has been obtained. There are no protected tree species within the Project Area; however, several toyon shrubs are present within the area mapped as disturbed mixed mulefat and fourwing saltbrush scrub, adjacent to the SR-47 westbound ramp to Navy Way. Impacts to the toyon shrubs may be subject to permit requirements under Section 46.00 of the Los Angeles Municipal Code.

Sections 62.170 and 62.171 of the Los Angeles Municipal Code require a permit for the removal or cutting down of any tree in or upon any street or parkway in the City. A permit fee shall provide for the removal or cutting down of 10 or less trees. Any permit for removal or cutting down of more than 10 trees shall require an additional fee for each additional unit of 10 trees, or any fraction thereof. Permit conditions may require that the permittee plant another tree of the type and size specified in the permit, within forty (40) days from the date of the issuance of the permit, in place of the tree to be destroyed or removed pursuant to the permit. The City of Long Beach also maintains that no person may plant, cut, trim, prune, remove, or in any way interfere with the natural growth of any tree planted along City streets or on other City property without having first obtained a permit from the Director of Public Works to do such work. Therefore, prior to the removal of any trees within the Million Tree Initiative area or other parklet trees within the Project Area, the appropriate tree removal permits must be secured. Mitigation Measure MM-BIO-4 would be implemented in order to reduce the potential impact to tree preservation policy or ordinances to a less-than-significant level.

MM-BIO-4 **Tree Removal Permits.** If there are impacts to toyon shrubs which measure four inches or more in cumulative diameter, four and one-half feet above the ground level at the base of the shrub, and which were not part of a planting program, a permit shall be obtained from the City of Los Angeles. The permit will specify and approve the location or locations to which said tree or shrub may be relocated, designate the species, number, and size of any replacement trees or shrubs. A permit fee and inspection fee would also be required.

The removal of street or parkway trees, including trees within the Million Tree Initiative area, would require that the applicable City of Los Angeles or City of Long Beach tree removal permits be obtained prior to removal. The Project shall comply with any requirements to replace parkway trees with a tree of the type and size specified in the permits, and required permit fees shall be paid.

Therefore, the proposed Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. No impacts would occur.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan?

No Impact. The Project Area is not located within an adopted Natural Communities Conservation Plan (NCCP) or Habitat Conservation Plan (HCP). There is only one NCCP

near POLA, located approximately 5 miles southwest of the Project Area in the City of Rancho Palos Verdes, and it was designed to protect coastal scrub habitat (California Department of Fish and Wildlife 2015).

HCPs are administered by the United States Fish and Wildlife Service (USFWS) and are designed to identify how impacts would be mitigated when a project would impact endangered species or designated critical habitat. There are no HCPs in place for POLA. A Memorandum of Understanding is in place for the LAHD, the CDFW, the USFWS, and the USACE to protect the California least tern, and requires a 15-acre nesting site on Pier 400 to be protected during the annual nesting season (May through October). The nesting site is designated as a Significant Ecological Area by the County of Los Angeles (County of Los Angeles Department of Regional Planning 2015). The south end of the Project Area is located approximately 2.3 miles north of the California least tern nesting site and does not contain nesting habitat or foraging habitat. The inland terminal is paved and does not provide nesting or foraging habitat. The proposed Project would have no impact on NCCPs, HCPs, the Memorandum of Understanding, or the Significant Ecological Area for the California least tern. Therefore, no impacts to established NCCPs or HCPs would occur.

4.5 Cultural Resources

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines §15064.5?

No Impact. To be eligible for listing in the National Register of Historic Places (NRHP), a property must be at least 50 years of age (unless the property is of "exceptional significance") and possesses significance in American history, culture, architecture, or archaeology. A property of potential significance must meet one or more of the following four established criteria:

- Association with events that have made a significant contribution to the broad patterns of our history;
- Association with the lives of persons significant in our past;
- Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- Yield, or may be likely to yield, information important in prehistory or history (36 Code of Federal Regulations Part 60.4).

In addition to possessing significance within a historic context, to be eligible for listing in the NRHP, a property must have integrity. Integrity is defined as "the ability of a property to convey its significance." The NRHP recognizes the following seven aspects or qualities that define integrity: feeling, association, workmanship, location, design, setting, and materials. The significance of a property must be fully established before integrity is analyzed (NRHP Bulletin No.15, 44–45).

Eligibility for listing in the California Register of Historic Resources (CRHR) is based on the NRHP criteria. In California, a property must generally be at least 50 years of age and must possess significance at the local, state, or national level, under one or more of the following four criteria:

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
- It is associated with the lives of persons important to local, California, or national history;
- It embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master or possesses high artistic values; or
- It has yielded, or has the potential to yield, information important in the prehistory or history of the local area, California, or the nation.

As determined by the Built Environment Memorandum prepared for the proposed Project (LSA 2023b) there are no historic-period (50 years of age or older) built environment resources within the Project Area. There is an existing tank and related concrete block building located north of SR-47 and south of the Berths 301–305 and Berths 410–406 off-ramp, which were built after 1980 and therefore are not more than 50 years old. Both of the bridges (No. 53 2789 and No. 53 2817) located within the Project Area were built in 1995. Appendix B contains the bridge inventory.

The City of Los Angeles Municipal and Administrative Codes address the preservation of historic and cultural monuments and Preservation Overlay Zones. A list of historic and cultural monuments has been compiled and is maintained by the Cultural Heritage Commission. It is the responsibility of the Cultural Heritage Commission to oversee and approve the establishment of Preservation Overlay Zones (City of Los Angeles Municipal Code [LAMC] Section 12.20.3) and to determine whether a site, building, or structure conforms with the definition of a monument (Administrative Code Section 22.171.10).

According to LAMC Section 22.171.7:

> *A Historic-Cultural Monument (Monument) is any site (including significant trees or other plant life located on the site), building or structure of particular historic or cultural significance to the City of Los Angeles, including historic structures or sites in which the broad cultural, economic or social history of the nation, State or community is reflected or exemplified; or which is identified with historic personages or with important events in the main currents of national, State or local history; or which embody the distinguishing characteristics of an architectural type specimen, inherently valuable for a study of a period, style or method of construction; or a notable work of a master builder, designer, or architect whose individual genius influenced his or her age.*

According to LAMC Section 22.171.11:

> *The [Historic Preservation] Commission shall take all steps necessary to preserve Monuments not in conflict with the public health, safety and general welfare, powers and duties of the City of Los Angeles, or its several boards, officers or departments. These steps may include assistance in the creation of civic citizens' committees; assistance in the establishment of a private fund for the acquisition or restoration of designated Monuments; and recommendation that a Monument be acquired by a governmental agency where private acquisition is not feasible.*

The Project Area is not located within a City of Los Angeles Historic Preservation Overlay Zone.[7]

The City of Long Beach Municipal and Administrative Codes address the preservation of historic properties and Landmarks. A list of historic Landmarks has been compiled and is maintained by the Cultural Heritage Commission. It is the responsibility of the Cultural Heritage Commission to recommend designations and approve the designation of Landmark Districts and to determine the eligibility of the proposed Landmark District (City of Long Beach Municipal Code [LBMC] Section 2.63.070).

According to LBMC Section 2.63.050:

> *A cultural resource qualifies for designation as a Landmark if it retains integrity and manifests one (1) or more of the following criteria: (1) It is associated with events that have made a significant contribution to the broad patterns of the City's history; (2) It is associated with the lives of persons significant in the City's past; (3) It embodies the distinctive characteristics of a type, period or method of construction, or it represents the work of a master or it possesses high artistic values; (4) It has yielded, or may be likely to yield, information important in prehistory or history. A group of cultural resources qualify for designation as a Landmark District if it retains integrity as a whole and meets the following criteria: The grouping represents a significant and distinguishable entity that is significant within a historic context. A minimum of sixty percent (60%) of the properties within the boundaries of the proposed landmark district qualify as a contributing property.*

According to Long Beach Municipal Code (LBMC) Section 2.63.040:

> *The Cultural Heritage Commission shall have the following powers and duties: (1) To recommend to the City Council that specific districts, buildings, structures, natural features, works of art, signs or similar objects having a special historical, cultural, archaeological, architectural, or aesthetic value as part of the heritage of the City, be designated as a Landmark or Landmark*

[7] City of Los Angeles. City of Los Angeles Historic Preservation Overlay Zone. Website: https://ladcp.maps. arcgis. com/apps/View/index.html?appid=ed19e4498cae45839e71bd937a3e3d10 (accessed August 2023).

> *District; (2) To review any proposed modifications to Landmarks or to a contributing building or structure within a Landmark District, and to issue or deny a certificate of appropriateness thereon; (3) To encourage public interest in the preservation of cultural resources in the City; (4) To compile, maintain and update a local register of Landmarks and Landmark Districts and to publicize and periodically update the City's cultural resource survey; (5) To review and comment for advisory purposes only upon the conduct of land use, housing, redevelopment, public works and other types of planning and programs undertaken by any agency or department of the City, County, State or nation, as they relate to the cultural heritage of the City; (6) Upon authorization of the City Council, coordinate and cooperate with local, County, State and federal governments in pursuit of the Commission's purposes; (7) Subject to the consent of the City Council, recommend acceptance of gifts, grants and facade easement donations consistent with the purposes for which the Commission was established; (8)To make and adopt, and from time to time amend, rules and procedures governing the conduct of its business and provide for the administration of this Chapter consistent with Chapter 2.18 of this Code; (9) To assume whatever responsibilities and duties may be assigned to it by the State under certified local government provisions of the National Historic Preservation Act of 1966, as amended; and (10) To perform any other functions consistent with the purposes herein that may be directed by the City Council.*

Since the proposed Project is not located within a City of Los Angeles identified Historic Preservation Overlay Zone or City of Long Beach designated Landmark District and does not contain any historic resources pursuant to *State CEQA Guidelines* Section 15064.5, the proposed Project would not result in any impacts to historic resources.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

No Impact. As determined by the Archaeological Resources Assessment prepared for the proposed Project (LSA 2023a), the Project Area has little to no sensitivity for prehistoric archaeological resources. A records search conducted by the South-Central Coastal Information Center (SCCIC No. 24672.10846) determined that no archaeological resources were identified within the Project Area. A pedestrian survey was conducted on May 16, 2023, by an LSA archaeologist and determined that majority of the Project Area consists of built environment. The only portions that contained vegetation were along the on- and off-ramps from SR-47, but these were largely inaccessible because they were either densely vegetated and/or behind locked gates. Also surveyed was the on-ramp from Ferry Way to northbound SR-47 in the southwestern portion of the Project Area because that was the only accessible vegetated area. The area consists mainly of dense bushes and grass. Visible soils in this area consisted of densely packed light-brown clay and were likely artificial fill material. Road base and modern trash were also observed.

In summary, the Project Area has been heavily impacted by roadway construction and urban development, which prevented review of undisturbed soils. The intensive nature of these impacts makes it unlikely that intact historical archaeological deposits are present within the Project Area. A geoarchaeological sensitivity analysis identifies little to no sensitivity for prehistoric archaeological resources. Therefore, the proposed Project would not result a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

c. Would the project disturb any human remains, including those interred outside of formal cemeteries?

Less-than-Significant Impact. There are no known cemeteries or burial grounds located within the Project Area or vicinity. Proposed activities would occur on artificial fill, previously disturbed soils, and within adjacent harbor waters. In the unlikely event that human remains are encountered, the construction contractor would comply with Project Feature PF-CUL-1 and be required to notify the proper authorities and adhere to standard procedures that would ensure the respectful handling of human remains during the earthmoving activities. Therefore, with inclusion of Project Feature PF-CUL-1, the proposed Project is not expected to encounter human remains, and impacts associated with discovery of human remains would be reduced to less than significant.

Project Feature

The following Project Feature pertaining to cultural resources is applicable to the proposed Project.

PF-CUL-1 **Human Remains.** In the event that human remains are encountered on the Project site, work within 50 feet of the discovery shall be redirected and the County Coroner notified immediately consistent with the requirements of California Code of Regulations (CCR) Section 15064.5(e). State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code (PRC) Section 5097.98. If the remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission (NAHC), which shall determine and notify a Most Likely Descendant (MLD). With the permission of the City of Los Angeles the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Consistent with CCR Section 15064.5(d), if the remains are determined to be Native American and an MLD is notified, the City shall consult with the MLD as identified by the NAHC to develop an agreement for treatment and disposition of the remains. Prior to the issuance of grading permits, the Director of the City Development Services

Department, or designee, shall verify that all grading plans specify the requirements of CCR Section 15064.5(e), State Health and Safety Code Section 7050.5, and PRC Section 5097.98, as stated above.

4.6 Energy

a. Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less-than-Significant Impact. Energy, primarily in the form of diesel fuel and minor amounts of gasoline and electricity, would be used during construction of the proposed Project. Fuel consumption during construction would be temporary, lasting for approximately 16 months for the proposed Project, and would represent a negligible fraction of the approximately 3.97 billion gallons of diesel fuel and 11.96 billion gallons of gasoline consumed in California each day (EIA 2021). Proposed construction activities are necessary to achieve the overall proposed Project objective of improving safety and current and future traffic volumes.

The proposed Project is a roadway improvement project and would not directly increase additional vehicle trips during operation. The proposed Project would implement energy-efficient practices, optimize traffic flow, and adhere to sustainable construction guidelines, and would not create any adverse environmental effects associated with energy consumption. The nature of proposed improvements would not require substantial amounts of energy for either construction or maintenance purposes. Therefore, the proposed Project would not use nonrenewable resources in a wasteful or inefficient manner, and energy impacts would be less than significant.

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less-than-Significant Impact. The proposed Project would be required to comply with Executive Directive No. 10, the Sustainable City pLAn, LAHD's Sustainable Construction Guidelines, and the CAAP. In addition, LAHD's Development Bureau (Construction and Engineering Divisions) is responsible for design, inspection, management, and oversight of construction projects to ensure projects comply with energy efficiency requirements. The only sources for energy consumption during construction include fuel for construction equipment and vehicle trips to and from the Project Area by workers on site. Additionally, these construction impacts would only be temporary, as construction is expected to last approximately 16 months. Energy consumed would be used efficiently and would represent a negligible portion of statewide energy consumption. As such, the proposed Project would not conflict with any State or local plan for renewable energy or energy efficiency, and impacts would be less than significant.

4.7 Geology and Soils

a. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Less-than-Significant Impact. The Project Area is not within a State of California Alquist-Priolo Earthquake Fault Hazard Zone according to the California Department of Conservation California Geological Survey (CGS) Earthquake Zones of Required Investigation Map (DOC 2017). There are active faults and fault zones located within a 25-mile radius of the Project Area, including the Palos Verdes, Newport-Inglewood, Elysian Park, Whittier-Elsinore, Santa Monica Raymond, Compton Thrust, THUMS-Huntington Beach, Cabrillo, Los Alamitos, Puente Hills Blind Thrust System, East Montebello, Eagle Rock, Hollywood, El Modeno, and Elsinore Fault Zone. The Palos Verdes Fault is the closest fault to the Project Area at a distance of 0.63 mile.

The proposed Project Area is located within the jurisdiction of the POLA Port Master Plan and the City of Los Angeles General Plan and Zoning Code. The City of Los Angeles has construction design codes that are meant to minimize structural damage resulting from a seismic event. The proposed Project is subject to adhere to applicable engineering standards, POLA engineering criteria, the Caltrans Highway Design Manual, and applicable sections of the City of Los Angeles Building Code. Additionally, the proposed Project would not include residential or habitable structures and would therefore not result in a greater seismic risk to people. No active or potentially active faults are located in the proposed Project Area, and therefore potential for ground rupture of an earthquake fault within the Project Area would be less than significant.

(ii) Strong seismic ground shaking?

Less-than-Significant Impact. Although no faults within the Project Area are currently zoned under the Alquist-Priolo Act, potential hazards exist due to seismic activities associated with the Palos Verdes Fault Zone and the presence of man-made engineered fill. The exposure of people to seismic ground shaking is a potential risk with or without the proposed Project.

As discussed in Section 4.7(a)(i), compliance with seismic safety regulations engineering standards, and building codes are designed to minimize damage to bridges, ramps, other structures, or the road surfaces resulting from a seismic event. The proposed Project would comply with the applicable engineering standards and building codes, including applicable sections of the California Building Code regulations, and POLA engineering criteria. Compliance with applicable regulations and standard engineering practices would reduce anticipated impacts related to the proximity of earthquake faults by requiring proposed Project features to be built to withstand seismic ground shaking.

(iii) Seismic-related ground failure, including liquefaction?

Less-than-Significant Impact. Liquefaction occurs when saturated granular sediments temporarily lose their shear strength during periods of strong ground shaking. The susceptibility of a site to liquefaction is a function of the depth, density, and water content of the granular sediments, and the magnitude and frequency of earthquakes in the surrounding region. Saturated, unconsolidated silts, sands, and silty sands within 50 feet of the ground surface are most susceptible to liquefaction. Liquefaction results in lateral spreading, ground oscillation, loss of bearing strength, subsidence, and densification of soil resulting in vertical settlement of the ground.

According to the City of Los Angeles Local Hazard Mitigation Plan[8], the proposed Project is located within an area susceptible to liquefaction. Project Feature PF-GEO-1 would require preparation of a Final Geotechnical Investigation Report which adequately assesses risk of liquefaction in the Project Area. An evaluation of the liquefaction potential in the Project Area is required and as previously mentioned, the proposed Project would comply with all applicable engineering standards, POLA engineering criteria, POLA emergency planning procedures, and applicable sections of the Los Angeles Building Code. Therefore, impacts associated with the risk of seismically related ground failure, including liquefaction, would be less than significant.

Project Feature

The following Project Feature pertaining to geology and soils, is applicable to the proposed Project.

PF-GEO-1 **Final Geotechnical Report.** The City's Construction Contractor shall implement the recommendations of the Final Geotechnical Investigation Report prepared for this project and applicable sections of the most current California Building Code (CBC). The project specific Final Geotechnical Investigation Report must adequately assess and mitigate risk of liquefaction in the Project Area. Prior to the issuance of building permits for planned structures, the Project Soils Engineer shall review building plans to verify that the structural design conforms to the requirements of the Geotechnical Investigation Report and the Cities of Los Angeles and Long Beach Municipal Codes.

(iv) Landslides?

No Impact. According to the California Department of Conservation, the Project Area is not located within a landslide zone (City of Los Angeles 1996).[9] The Project Area is relatively flat with no significant natural or graded slopes that could be susceptible to landslides.

[8] City of Los Angeles. 2018. City of Los Angeles 2018 Local Hazard Mitigation Plan. Website: https://emergency.lacity.gov/sites/g/files/wph1791/files/2021-10/2018_LA_HMP_Final_with_maps_2018-02-09.pdf (accessed August 2023).

[9] Ibid.

Therefore, the proposed Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.

b. Would the project result in substantial soil erosion or the loss of topsoil?

No Impact. The Project Area is entirely paved with an existing roadway. Construction of the new westbound auxiliary lane and other associated improvements would result in minor and temporary removal of pavement. Pavement would be replaced following construction, which would prevent substantial soil erosion from the Project Area. Construction of the proposed Project would result in 10,000 tons of roadway removed and 60,0000 tons of imported soil.[10] The proposed Project would be required to comply with the Orange County Fire Authority (OCFA) Hazardous Material Management Plan[11] and the City of Los Angeles Municipal Code Section 91.7013 Erosion Control and Drainage Devices. Therefore, the proposed Project would not result in soil erosion, or the loss of topsoil, and no impacts would occur.

c. Would the project be located on geologic units or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less-than-Significant Impact. The Project Area ranges from approximately 20 to 50 feet above mean sea level in elevation and is surrounded by commercial land uses to the north, east, and west, and the Pacific Ocean to the south. Based on available mapping,[12] the parcel is underlain by Urban land, 0 to 2 percent slopes, dredged fill substratum (artificial fill). Specially, the Project Area is entirely underlain by artificial fill, which poses a risk of lateral spreading, subsidence, liquefaction, or collapse. Underneath the artificial fill is a layer of Holocene to late Pleistocene alluvium made up of unconsolidated gravel, sand, and silt. The artificial fill at the surface of the site extends from the surface to a depth of 10–30 feet, while the young alluvial fan deposits (Unit 2) range from 10 feet to 200 feet deep, and the San Pedro Formation can be found at depths as shallow as 50 feet and as deep as 300 feet (GEOFON 1993). The unconsolidated nature of these deposits, particularly the alluvium, makes the soil potentially unstable. Moreover, the proximity of active faults to the site increases the risk of instability. These deposits may also be susceptible to liquefaction during seismic events and could experience subsidence or settlement over time due to their depth and variable nature**.** The proposed Project would involve roadway widening and improvements that would comply with applicable engineering standards and building codes, and POLA engineering criteria. In addition, proposed Project features do not include the construction of a habitable building or structure. Therefore, potential impacts associated with the risk of unstable soil would be less than significant.

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10 Personal communication, March 17, 2023, Ravi Shah (Mark Thomas & Company, Inc.).

11 Orange County Fire Authority (OCFA). Hazardous Material Management Plan. Hazardous Materials Identification. December 6, 2007.

12 United States Department of Agriculture Natural Resources Conservation Service. 2019. Web Soil Survey. Website: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (accessed January 2024).

d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less-than-Significant Impact. Expansive soils are fine-grained soils (generally high-plasticity clays) that can undergo a significant increase in volume with an increase in water content as well as a significant decrease in volume with a decrease in water content. Changes in the water content of highly expansive soils can result in severe distress for structures constructed on or against the soils. Clay minerals in geologic deposits within the Project Area and previously imported fill soils could have expansive characteristics (LAHD 2018). However, the proposed Project would comply with applicable engineering standards, POLA engineering criteria, and the Los Angeles Building Code. Adherence to the aforementioned codes, standards, and regulations would reduce potential impacts associated with expansive soils to less than significant, and no mitigation is required.

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The proposed Project will not require the use of septic tanks or alternative wastewater. The proposed Project would not generate wastewater that would be treated by an alternate wastewater disposal system. Therefore, the proposed Project would have no impact on wastewater disposal systems or use of septic tanks.

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less-than-Significant Impact. The Project Area contains artificial fill, which has no paleontological sensitivity, and Young Alluvial Fan Deposits, Unit 2, and the San Pedro Formation, which have high paleontological sensitivity. Young Alluvial Fan Deposits, Unit 2 are Holocene to late Pleistocene in age (less than 129,000 years ago) and consist of poorly to moderately consolidated and poorly sorted clay, silty clay, and sand (Saucedo et al. 2016). These deposits extend from as shallow as 10 feet to as deep as 200 feet. The San Pedro Formation is early Pleistocene in age (774,000 years ago to 2.58 million years ago) and consists of poorly consolidated fine- to coarse-grained sand and silty sand interbedded with thin beds and lenses of gravel (Saucedo et al. 2016). The San Pedro Formation begins as shallow as 50 feet and as deep as 300 feet.

The majority of ground disturbance associated with the proposed Project is expected to remain in deposits with no paleontological sensitivity. The deepest excavation associated with the proposed Project is expected to be for the bridge piles, which will extend to a maximum depth of approximately 80 feet. The excavation depths of the various components of the Project are listed in Table 4-6 below. Only excavation for the Cast-In-Drilled-Hole (CIDH) piles and abutment piles are expected to extend into native high sensitivity deposits of the Young Alluvial Fan Deposits Unit 2 and San Pedro Formation. However, this method of ground disturbance precludes access to the rock face or the recovery of any paleontological resources. Therefore, there would be a less than significant to unique paleontological resources or unique geologic features, and no mitigation is required.

Table 4-6: Anticipated Maximum Excavation Depths for Components of the Proposed Project

Project Component	Depth (ft)[1]
Roadway Excavation	3
Drainage	8
Overhead Sign Structures (CIDH Piles)	30
Bridge Abutments	5
Bridge Piles	80
MSE Walls	2
L-Wall	5

[1] Personal communication, Ravi Shah (Mark Thomas & Company, Inc., November 16, 2022).
CIDH = Cast-In-Drilled-Hole
ft = foot/feet
MSE = Mechanically Stabilized Earth

4.8 Greenhouse Gas Emissions

a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Less-than-Significant Impact. The proposed Project would involve construction activities that would generate greenhouse gas (GHG) emissions. The methods of analysis for Project GHG emissions are consistent with the SCAQMD guidelines and LAHD standard protocols.

CEQA Significance Thresholds

State CEQA Guidelines Section 15064.4(b) sets forth the factors that should be considered by a lead agency when assessing the significance of impacts from GHG emissions on the environment. These factors include:

- The extent to which a project may increase or reduce GHG emissions compared with the existing environmental setting.
- Whether project emissions exceed a threshold of significance that the lead agency determines applicable to a project.
- The extent to which a project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions.

The guidelines do not specify significance thresholds and allow the lead agencies discretion in how to address and evaluate significance based on these criteria. The SCAQMD has adopted a CEQA significance threshold of 10,000 metric tons per year (MT/yr) of carbon dioxide equivalent (CO_2e) for industrial projects where SCAQMD is the lead agency (SCAQMD 2008a). This IS/MND used this threshold to evaluate the proposed Project's GHG emissions under CEQA. GHG emissions below this threshold would be considered to produce less-than-significant impacts to GHG levels. LAHD has determined the SCAQMD adopted 10,000 MT/yr CO_2e threshold to be suitable for LAHD projects for the following reasons:

- The SCAQMD used Governor Schwarzenegger's June 1, 2005, Executive Order S-3-05 as the basis for its development. EO S-3-05 set targets of reducing GHG emissions to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050 (SCAQMD 2008a). The 2020 target is the core of the California Global Warming Solutions Act of 2006, widely known as Assembly Bill (AB) 32 (SCAQMD 2008a).
- The SCAQMD industrial source threshold is appropriate for projects with future operations continuing as far out as 2050. The SCAQMD threshold development methodology used the Governor's Executive Order (EO) #S-3-05 emission reduction targets as the basis in developing the threshold (SCAQMD 2008a), with the Assembly Bill (AB) 32, 2020 reduction requirements incorporated as a subset (SCAQMD 2016).[13] EO S-3-05 sets an emission reduction target of 80 percent below 1990 levels by 2050. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020 (SCAQMD 2016). AB 32 has the goal of achieving 1990 GHG levels by 2020.
- The SCAQMD industrial source threshold is appropriate for projects with both stationary and mobile sources, such as the proposed Project. California Air Pollution Control Officers Association (CAPCOA) guidance considers industrial projects to include substantial GHG emissions associated with mobile sources (CAPCOA 2008, 2010). SCAQMD, on industrial projects for which it is the lead agency, uses the 10,000 MT/yr threshold to determine CEQA significance by combining a project's stationary source and mobile source emissions. Although the threshold was originally developed for stationary sources, SCAQMD staff views the threshold as conservative for projects with both stationary and mobile sources because it is applied to a larger set of emissions and therefore captures a greater percentage of projects than would be captured if the threshold were only used for stationary sources (SCAQMD 2008c).
- The SCAQMD industrial source threshold is appropriate for projects with sources that use primarily diesel fuel. Although most of the sources that were considered by the SCAQMD in the development of the 10,000 MT/yr threshold are natural gas fueled (SCAQMD 2008b), both natural gas and diesel combustion produce CO_2 as the dominant GHG (The Climate Registry 2019). Furthermore, the conversion of all GHG species into CO_2e ensures that the GHG emissions from any source, regardless of fuel type, can be evaluated equitably.

Projects would create a significant GHG impact if annual GHG emissions between the future year and the baseline exceeds the significance threshold of 10,000 MT/yr CO_2e.

[13] Port of Los Angeles. 2021. Draft Initial Study and Negative Declaration Berth 163-164 [NuStar-Valero] Marine Oil Terminal Wharf Improvements Project May 2021, Page | 64 of Governor's EO #S-3-05.

Project GHG Emissions

Construction activities associated with the proposed Project would produce combustion emissions from various sources. During construction, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates greenhouse gases (GHGs) such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change. Table 4-7 lists the GHG emissions by construction phase.

Table 4-7: Construction Greenhouse Gas Emissions for the Proposed Project

Construction Phase	Total Emissions per Phase (MT)			Total Emissions per Phase (MT CO_2e)
	CO_2	CH_4	N_2O	
Land Clearing/Grubbing	31	0.001	0.001	31
Roadway Excavation & Removal	95	0.003	0.005	97
Structural Excavation & Removal	22	0.001	0.001	22
Base/Subbase/Imported Borrow	106	0.004	0.002	107
Structural Concrete	180	0.006	0.006	181
Paving	85	0.002	0.006	86
Drainage/Environment/Landscaping	24	0.001	0.001	24
Traffic Signalization/Signage/Striping/ Painting	55	0.002	0.001	56
Total Emissions for the Entire Construction Process				**604**
Total Construction Emissions Amortized over 30 Years				**20**
SCAQMD GHG Emissions Screening Threshold				**10,000**
Emissions Exceed Threshold?				**No**

Source: Compiled by LSA (April 2023).
CH_4 = methane
CO_2 = carbon dioxide
GHG = greenhouse gas
MT = metric tons
MT CO_2e = metric tons of carbon dioxide equivalent
N_2O = nitrous oxide
SCAQMD = South Coast Air Quality Management District

As shown in Table 4-7, the proposed Project would generate 604 metric tons of carbon dioxide equivalent (MT CO_2e) over the 16-month construction period, which would be 20 MT/yr when amortized over a 30-year life of the Project. As such, total construction GHG emissions would be less than the South Coast Air Quality Management District's (SCAQMD) Tier 3 threshold of 10,000 MT CO_2e per year (MT CO_2e/yr). Therefore, there would not be a significant GHG emissions impact during construction. Long-term GHG emissions are typically generated from mobile sources (e.g., cars, trucks, and buses) as they move through the Project area. Table 4-8 shows the calculated GHG emissions for operations of the proposed Project.

As shown in Table 4-8, the proposed Project would result in a reduction of 7,128 MT CO_2e/yr per year compared to the No Build scenario. As such, total operational GHG emissions would be less than SCAQMD's Tier 3 threshold of 10,000 MT CO_2e/yr.

Table 4-8: Long Term Operational GHG Emissions for Opening Year (2029)

Emission Source	GHG Emissions (MT/year)			Total Emissions per Emission Source (MT CO_2e)
	CO_2	CH_4	N_2O	
Moving Autos	36,735	0.6	0.7	36,950
Moving Trucks	149,303	1.3	23.5	156,352
Idling Autos	275	0.1	0.0	281
Idling Trucks	2,388	0.3	0.4	2,507
Total Build Emissions	**188,700**	**2.2**	**24.6**	**196,091**
Total No Build Emissions	**195,514**	**3.7**	**25.5**	**203,219**
Net total Emissions (Build – No Build)	**-6,814**	**-1.529**	**-0.928**	**-7,128**
			SCAQMD Thresholds	**10,000**
			Exceed?	**No**

Source: Port of Los Angeles, BCA Calculations (July 2023).
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = metric tons of carbon dioxide equivalent
GHG = greenhouse gas
MT = metric tons
N_2O = nitrous oxide
SCAQMD = South Coast Air Quality Management District

b. Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs?

Less-Than-Significant Impact. The State of California is leading the way in the United States with respect to GHG reductions. Several legislative and municipal targets for reducing GHG emissions below 1990 levels have been established. Key examples include, but are not limited to:

- Assembly Bill 32 (AB 32)
  - 1990 GHG emissions levels by 2020
  - 40 percent below 1990 GHG emissions levels by 2030
  - 80 percent below 1990 GHG emissions levels by 2050
- San Pedro Bay Ports CAAP
  - 40 percent below 1990 GHG emissions levels by 2030
  - 80 percent below 1990 GHG emissions levels by 2050
- City of Los Angeles Green New Deal (4-Year Update to the Sustainable City pLAn)
  - Reduce Port-related GHG emissions by 80 percent by 2050

Several State, regional, and local plans have been developed that set goals for the reduction of GHG emissions over the next few years and decades, but no regulations or requirements have been adopted by relevant public agencies to implement those plans for specific projects, within the meaning of *State CEQA Guidelines* Section 15064.4(b)(3). However, there are GHG emissions reduction measures contained in State and local plans, strategies, policies, and regulations that directly or indirectly affect the proposed Project's construction and operation emissions source sectors or specific types. A summary of Project compliance with potentially applicable GHG emissions reductions measures is provided in Table 4-9.

Table 4-9: Applicable GHG Emissions Reduction Strategies

Strategy	Compliance with Strategy
State AB 32 Plan Strategies (CARB 2017)	
Vehicle Climate Change Standards	These are CARB enforced standards; vehicles that access the Project Area and are required to comply with the standards and would comply with these strategies.
Limit Idling Time for Commercial Vehicles (13 CCR § 2485) and Off-Road Equipment (13 CCR § 2449)	The Project applicant and construction contractor would be required to comply with applicable idling regulations for on-road vehicles during Project construction and operation.
Electricity Use/Renewables Performance Standard	The proposed Project's electricity would come from the Los Angeles Department of Water and Power, a California publicly owned utility that is subject to the Renewables Performance Standard that requires increasing renewable energy procurement targets over time and so reduces GHG emissions from electricity generation. Therefore, the electricity used at the site would comply with State electricity sector GHG reduction strategies.
Port of Los Angeles and City of Los Angeles Plans and Strategies	
LA's Green New Deal Sustainable City pLAn (City of Los Angeles 2019a)	The City of Los Angeles' Sustainable City pLAn is intended to guide operational, policy, and financial decisions to create a more sustainable Los Angeles. Although the pLAn is mostly focused on City property, buildings, and public transportation, the pLAn includes the 80 percent from baseline emissions reduction goal and notes three primary GHG emissions reduction initiatives, one of which would apply to the proposed Projects emissions sources: 1. Reduce VMT per capita by at least 13% by 2025, 39% by 2035, and 45% by 2050. The proposed Project would contribute to this initiative by reducing traffic congestion, promoting efficient goods movement, and improving safety along the SR-47/ Seaside Avenue/Navy Way interchange.
San Pedro Bay Ports CAAP (POLA and POLB 2017)	The CAAP has several policy initiatives related to GHG emissions reductions. The 2017 CAAP Update incorporates new emission reduction targets to deduce GHGs from port-related sources to 40% below 1990 levels by 2030 and to 80% below 1990 levels by 2050. The proposed Project operations would not conflict with the strategies in the CAAP.
City of Los Angeles Construction and Demolition (C and D) Waste Recycling Ordinance	The City of Los Angeles approved a Citywide construction and demolition waste recycling ordinance in 2010. This ordinance requires that ALL mixed C&D waste generated within City limits be taken to City-certified C&D waste processors. This would include demolition waste generated by the proposed Project. LA Sanitation (LASAN) is responsible for the C&D

Table 4-9: Applicable GHG Emissions Reduction Strategies

Strategy	Compliance with Strategy
	waste recycling policy. All haulers and contractors responsible for handling C&D waste must obtain a Private Waste Hauler Permit from LASAN prior to collecting, hauling and transporting C&D waste, and C&D waste can only be taken to City-certified C&D processing facilities.
City of Los Angeles General Plan – Mobility Element (City of Los Angeles 2035)	The City of Los Angeles General Plan, Mobility Element was developed to improve the way people, goods, and resources are moved in Los Angeles. The proposed Project would be consistent with this General Plan Element as it would address existing traffic operating and geometric deficiencies in the Project Area.

In summary, the proposed Project would conform to State and local GHG emissions/climate change regulations, policies, and strategies. The proposed Project would have less-than-significant GHG impacts, and no mitigation is required.

4.9 Hazards and Hazardous Materials

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less-than-Significant Impact. Construction activities associated with the proposed Project would not involve the handling of significant amounts of hazardous materials beyond those needed for construction vehicle operations and typical construction activities. Short-term, temporary uses of limited quantities of potentially hazardous materials would be confined to existing paved construction areas and within existing roadways and rights-of-way. Construction activities would be conducted using BMPs in accordance with City of Los Angeles guidelines, as detailed in the Low Impact Development Best Management Practices Handbook (City of Los Angeles 2016)[14] and the LAMC regulations (Chapter 5, Article 7, Section 57). Applicable Best Management Practices (BMPs) would include, but not be limited to, controls for vehicle and equipment fueling and maintenance; material delivery, storage, and use; spill prevention and control; and solid and hazardous waste management. Additionally, the proposed Project would comply with the State General Permit for Stormwater Discharges Associated with Construction Activity, and a Project-specific Stormwater Pollution Prevention Plan (SWPPP) . Further, the use of potentially hazardous materials would be regulated by United States Environmental Protection Agency (USEPA), the California Department of Toxic Substances Control (DTSC), the Occupational Safety and Health Administration (OSHA), and the Los Angeles Fire Department (LAFD) health and safety requirements under federal, state, and local regulations, including

[14] City of Los Angeles. 2016. Low Impact Development Best Management Practices Handbook. Website: https://www.lacitysan.org/cs/groups/sg_sw/documents/document/y250/mde3/~edisp/cnt017152.pdf (accessed August 2023).

handling, storage, and disposal of the materials, as well as emergency spill response. As such, all chemicals used during construction of the proposed Project would be used and stored in compliance with applicable requirements. Compliance with all applicable laws and regulations governing the use, storage, and transportation of hazardous materials would minimize the potential for significant safety impacts associated with accidental spill, release, or explosion of hazardous materials.

Operation of the proposed Project would not involve the use, manufacturing, treatment, production, storage, or disposal of hazardous, flammable material, hazardous waste, or other chemicals. With adherence to applicable federal, state, and local regulations and standards, potential impacts would be less than significant.

b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less-than-Significant Impact. As discussed in Section 4.9(a), construction may involve the transport, storage, use or disposal of some hazardous materials, such as on-site fueling/ servicing of construction equipment. These types of materials are not acutely hazardous. All construction activities involving the transportation, usage, and disposal of hazardous materials would be subject to federal, state, and local health and safety requirements. Such transport, use, storage and disposal would not create a significant hazard to workers or the community. As described above, construction activities would be conducted using BMPs in accordance with City of Los Angeles guidelines, as detailed in the Low Impact Development Best Management Practices Handbook (City of Los Angeles 2016), and LAMC regulations (Chapter 5, Section 57). A spill response and implementation element of the SWPPP would be developed prior to commencement of construction activities. The SWPPP requires that equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly; and that appropriate spill response personnel are assigned and trained. Project personnel would have available adequate spill containment and cleanup resources on site at all times and be prepared to contain, control, clean up, and dispose of any potential fuel spill quickly and completely. During construction, Project personnel would follow all applicable rules and regulations governing the storage, transportation, use, handling, and disposal of hazardous materials. Compliance with all applicable federal, state, and local regulations, would ensure construction of the proposed Project would not result in a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Operational activities of the Project Area would match existing conditions. Therefore, the proposed Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. There are no schools located within 0.25 mile of the Project Area. Project construction would involve the handling of hazardous materials (fuels, lubricants, and oils). However, construction activities are temporary in nature and the handling of minor amounts of hazardous materials would be in compliance with applicable regulations. As discussed, the proposed Project would not pose a substantial risk involving the routine transport, use, and disposal of hazardous materials. Additionally, operation of the proposed Project would not generate industrial wastes or toxic substances. Therefore, no impact associated with the emission of hazardous materials near an existing or proposed school would occur.

d. Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less-than-Significant Impact. The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List" (after the legislator who authored the legislation that enacted it). The California Environmental Protection Agency (CalEPA) has identified the following data resources that provide information regarding facilities or sites identified as meeting the "Cortese List" requirements (CalEPA 2022):

- List of Hazardous Waste and Substances sites from the California Department of Toxic Substances EnviroStor database;
- List of Leaking Underground Storage Tank Sites from State Water Board's GeoTracker database;
- List of solid waste disposal sites identified by the State Water Resources Control Board (SWRCB) with waste constituents above hazardous waste levels outside the waste management unit;
- List of "active" Cease and Desist Orders and Cleanup and Abatement Orders from the State Water Board; and
- List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by the California Department of Toxic Substances.

According to the Environmental Data Resources (EDR) the Project Area is not listed in any of these databases (CalEPA 2022; DTSC 2022; SWRCB 2022). Therefore, the proposed Project would not create a significant hazard to the public or environment related to the disturbance of a Cortese Listed Site.

While the Project Area does not contain any listed sites, there are five aboveground storage tank (AST) sites, six Cleanup Program Sites (CPS-SLIC), twenty-two ENVIROSTOR sites, ten leaking underground storage tank (LUST) sites, sixteen underground storage tank (UST) sites, and five Solid Waste Facilities/Landfill Sites (SWF/LF) sites within approximately 1 mile of the Project Area (EDR 2023). None of the listed sites are located

within the Project Area or would be impacted as a result of the proposed Project. Therefore, the proposed Project would not be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. The Project Area is not located within an airport land use plan or within 2 miles of a public airport or a public use airport. The closest airport is Torrance Municipal Airport (Zamperini Field), approximately 6 miles northwest of the Project Area, and the Long Beach Airport, approximately 7 miles northeast of the Project Area. Additionally, a helicopter-landing pad for Island Express is located at the Port of Long Beach, approximately 4 miles southeast of the Project Area. Only small helicopters operate from this location and transit primarily via the Main Channel. The proximity of the heliport would not result in a safety hazard for construction activities within the Project Area. The proposed Project would have no effect related to private airstrips, or create a safety hazard, or result in excessive noise.

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less-than-Significant Impact. The proposed Project would not physically interfere with an adopted emergency response plan as POLA would coordinate with all applicable agencies regarding construction schedules and worksite traffic control and detour plans, including Los Angeles Police Department (LAPD) and LAFD, prior to and during all construction activities. As required by Mitigation Measure MM-TRAN-1 (as detailed in Section 4.17, Transportation), a Transportation Management Plan (TMP) would be prepared for the proposed Project, ensuring emergency access and response is not significantly impacted during construction. Additionally, POLA administers a comprehensive emergency management program in partnership with all departments, agencies, operating units, administration, and neighboring jurisdictions including the National Incident Management System (NIMS) and Emergency Management Coordinators (EMCs). Construction would last for approximately one year and four months, from September 2026 to February 2028. Ingress and egress to the Project Area and surrounding properties, particularly for emergency response vehicles, would be maintained during construction. Therefore, with incorporation of Mitigation Measure MM-TRAN-1, construction-related impacts would be less than significant.

The proposed Project would improve safety, reduce vehicular delays, and decrease emissions in the POLA. Operation of the proposed Project would not impair or interfere with implementation of an adopted emergency response plan or emergency evacuation plan. Additionally, adherence to emergency planning procedures would also contribute to reducing potential injuries on site in the event of a seismic event. Therefore, impacts would be considered less than significant.

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

No Impact. The proposed Project is located within a highly developed area within the POLA complex, and no wildland areas are located at or near the Project Area. The Project Area is not located within a designated Wildland Fire Hazards zone (City of Los Angeles 1996). Therefore, the proposed Project would not expose people or structures to a significant risk of loss injury, or death involving wildland fires, and no impacts would occur.

4.10 Hydrology and Water Quality

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less-than-Significant Impact. The proposed Project is located within the Dominquez Channel Watershed. The Dominguez Watershed extends as far north as Inglewood and includes several small cities as well as portions of Los Angeles and part of Los Angeles International Airport. The Dominguez Watershed is primarily fed by urban runoff from stormwater and non-stormwater sources. The watershed also receives water from several tributaries, including Compton Creek, the Los Angeles River, and the San Gabriel River. The watershed's main water bodies are the Los Angeles and Long Beach Harbors, which receive water from the Dominguez Channel and the Los Angeles River, respectively. Ultimately, the watershed terminates into the Pacific Ocean.

Pollutants of concern during construction include sediment, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion and sedimentation compared to existing conditions. In addition, chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during construction. Any of these pollutants have the potential to be transported via storm water runoff into receiving waters. Duration of soil exposure during construction would be short term and temporary.

During construction, the total disturbed area would be approximately 3.13 acres. Projects that disturb greater than 1 acre of soil are required to obtain coverage under the *State Water Resources Control Board (SWRCB) Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities* (Order WQ 2022-0057-DWQ NPDES [National Pollutant Discharge Elimination System] No. CAS000002 (Construction General Permit). This permit requires the development and implementation of a SWPPP, incorporating BMPs measures such as site management, waste management, erosion control, and sediment control during construction. Additionally, the construction BMPs designed to address pollutant discharges associated with construction activities are required by City of Los Angeles guidelines, as detailed in the City

of Los Angeles Low Impact Development Best Management Practices Handbook,[15] LAMC Article 4.4 Stormwater and Urban Runoff Pollution Control, and City of Long Beach Municipal Code (LBMC) Sections 8.96.120 and 8.96.130. Construction BMPs would include, but not be limited to, Erosion Control and Sediment Control BMPs designed to minimize erosion and retain sediment on site and Good Housekeeping BMPs to prevent spills, leaks, and discharge of construction debris and waste into receiving waters.

Groundwater dewatering is not anticipated to be required during construction. However, if groundwater dewatering is required during construction, the proposed Project would be conducted in accordance with the requirements of the *Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watershed of Los Angeles and Ventura Counties (Groundwater Discharge Permit), Order No. R4-2018-0125, NPDES No. CAG994004.* This order requires water sampling, analysis, treatment (if required), and reporting of dewatering related discharges of groundwater extracted during construction prior to its release into surface waters to ensure that effluent limitations for constituents are not exceeded. As a result, groundwater dewatering would not introduce pollutants to receiving waters or violate water quality standards or waste discharge requirements. Adherence to these requirements would ensure that if dewatering is required during construction, the proposed Project would not degrade water quality.

Pollutants of concern during operation of the proposed Project include suspended solids/ sediments, nutrients, pesticides, heavy metals, oil and grease, toxic organic compounds, and trash and debris. The proposed Project would result in a net increase in impervious surface area of approximately 1.81 acres. An increase in impervious surface area would increase the volume of runoff during a storm, which would increase the amount of pollutants discharged into downstream receiving waters. In addition, an increase in impervious surface area would increase the total amount of pollutants in stormwater runoff, which would increase the amount of pollutants traveling to on-site drainages and downstream receiving waters.

During project operations, the proposed Project must comply with the *Waste Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) Permit For Municipal Separate Storm Sewer System (MS4) Discharges Within the Coastal Watersheds of Los Angeles and Ventura Counties* NPDES Permit No. CAS004004 Order No. R4-2021-0105. The MS4 permit is part of the City of Long Beach's stormwater program aimed at reducing the discharge of pollutants into the storm drain system. As required by the Los Angeles MS4 Permit, LBMC Section 18.74, and LAMC Section 64.72, POLA must prepare a Project-specific Low Impact Development (LID) plan that addresses the applicable requirements in the LAMC and LBMC, including implementation of BMPs to control sediment erosion, manage runoff, and minimize pollution. Proposed on-site infiltration,

[15] City of Los Angeles. 2016. Low Impact Development Best Management Practices Handbook. Website: https://www.lacitysan.org/cs/groups/sg_sw/documents/document/y250/mde3/~edisp/cnt017152.pdf (accessed August 2023).

capture and reuse evapotranspiration, and/or on-site treatment of stormwater as allowed in the LID Best Management Practices Handbook must be designed in compliance with the Los Angeles MS4 Permit. Further, the on-site stormwater management techniques must be properly sized, at a minimum, to infiltrate, evapotranspire, and/or store for use without any stormwater runoff leaving the site to the maximum extent feasible, for at least the volume of water produced by a storm event that results from:

(MM) The volume of runoff produced from a 0.75-inch storm event; or

(ii) The 85th percentile, 24-hour runoff event, as determined from the Los Angeles County 85th percentile precipitation isohyetal map.

To ensure compliance with the Los Angeles MS4 permit, POLA would monitor and implement appropriate BMPs to reduce the discharge of pollutants from the Project Area.

Under existing conditions, generally, the north side of the SR-47 drains to the West Basin/ Cerritos Channel and the south side drains to San Pedro Bay. The proposed Project would be required to develop and implement structural and nonstructural post-construction BMPs and prepare a low impact development (LID) plan to address on-site stormwater runoff pollution during Project operations in compliance with the LBMC, the LAMC, and the Los Angeles MS4 permit. Compliance with these regulations would result in less-than-significant impacts to water quality.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less-than-Significant Impact. Groundwater dewatering is not anticipated to be required during construction. However, if groundwater dewatering is required during construction, the proposed Project would comply with the Groundwater Discharge Permit, which requires water sampling, analysis, treatment (if required), and reporting of dewatering related discharges of groundwater extracted during construction prior to its release into surface waters to ensure that effluent limitations for constituents are not exceeded. As a result, groundwater dewatering would not introduce pollutants to receiving waters or violate water quality standards or waste discharge requirements. Furthermore, groundwater extraction would not be required during Project construction. Therefore, with adherence with the Groundwater Discharge Permit, construction impacts related to depletion of groundwater supplies or interference with groundwater recharge would be less than significant,

Groundwater beneath the Project Area is located south of the Dominguez Gap Barrier, which is designed to minimize saltwater intrusion, and experiences seawater intrusion in the San Pedro Bay, making it non-potable. The Project Area is also not used or designated for groundwater recharge. Therefore, construction of the proposed Project would have a less-than-significant impact with respect to groundwater.

Operation of the proposed Project would not require water usage and therefore would not increase City of Los Angeles water demands. The proposed Project would not install any new groundwater wells, and groundwater extraction would not occur as part of the proposed Project. Thus, the proposed Project would not affect existing groundwater supplies, drinking

water supplies, groundwater recharge facilities, or aquifers. Operation of the proposed Project would have a less-than-significant impact with respect to groundwater, and no mitigation is required.

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

(i) result in substantial erosion or siltation on- or off-site?

Less-than-Significant Impact. During construction activities, approximately 3.13 acres of area would be disturbed and excavated soil would be exposed and disturbed, drainage patterns would be temporarily altered during grading and other construction activities, and there would be an increased potential for soil erosion and transport of sediment downstream when compared with existing conditions. Additionally, during a storm event, soil erosion could occur at an accelerated rate. As discussed above the Construction General Permit requires preparation of a SWPPP and implementation of construction BMPs to reduce impacts to water quality during construction. Construction BMPs would include, but not be limited to, Erosion Control and Sediment Control BMPs designed to minimize erosion and retain sediment on site. All construction BMPs would be designed in compliance with the City of Los Angeles LID Handbook. POLA must prepare a project-specific LID plan that addresses the applicable requirements in the LAMC and LBMC, including implementation of BMPs to control sediment erosion, manage runoff, and minimize pollution.

The proposed Project would result in a net increase of impervious surface area of 1.81 acres, which would decrease infiltration and increase the volume of runoff during a storm, which can more effectively transport sediments to receiving waters. The proposed Project's drainage system would match the existing drainage patterns and would comply with the Los Angeles County MS4 Permit. This permit and compliance with the LBMC and LAMC require the proposed Project to develop and implement structural and nonstructural post-construction BMPs and prepare an LID plan to address on-site stormwater runoff pollution during project operations Therefore, the proposed Project would not substantially alter the on-site existing drainage pattern through erosion or siltation, and impacts would be reduced to less than significant.

(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less-than-Significant Impact. During construction, soil would be disturbed and compacted, and drainage patterns would be temporarily altered, which can increase the volume and velocity of stormwater runoff and increase the potential for localized flooding compared to existing conditions. As discussed above the Construction General Permit requires the preparation of a SWPPP and implementation of construction BMPs to control and direct surface runoff on site. All construction BMPs would be designed in compliance with the City of Los Angeles LID Handbook. POLA must prepare a project specific LID plan that addresses the applicable requirements in the LAMC and LBMC, including BMPs to control and direct surface runoff on site. With adherence to the Construction General Permit and the municipal codes, construction impacts related to altering the existing drainage

pattern of the site or area or increasing the rate or amount of surface runoff in a manner that would result in flooding on site or off site would be reduced to less than significant.

As discussed above, the proposed Project would permanently increase the impervious surface area by 1.81 acres. The proposed Project would maintain the overall on-site drainage patterns. All new proposed storm drain pipes and structures will be sized during final design to convey the proposed peak flows. The proposed Project would be required to prepare a LID plan and implement BMPs to address on-site stormwater management during project operations in compliance with LBMC Section 18.74 and LAMC Article 4.4, such that on–site and off-site drainage facilities are designed adequately to convey and reduce runoff so flooding would not occur. With adherence operational impacts related to altering the existing drainage pattern of the site or area or increasing the rate or amount of surface runoff in a manner that would result in flooding on site or off site would be reduced to less than significant.

(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? or

Less-than-Significant Impact. Earthwork activities would compact soil (which can increase stormwater runoff during construction), drainage patterns would be temporarily altered during grading and other construction activities, and construction-related pollutants (e.g., liquid and petroleum products and concrete-related waste) could be spilled, leaked, or transported via storm runoff into adjacent drainages and into downstream receiving waters. The proposed Project would be required to comply with the Construction General Permit, which requires preparation of a SWPPP and implementation of construction BMPs to control stormwater runoff, including the discharge of pollutants. Additionally, construction BMPs would be designed in compliance with the City of Los Angeles LID Handbook. POLA must prepare a project-specific LID plan that addresses the applicable requirements in the LAMC and LBMC, including implementation of BMPs to control sediment erosion, manage runoff, and minimize pollution. With adherence potential impacts during construction, related to the creation or contribution of runoff which would exceed the capacity of the stormwater drainage system or provide substantial additional sources of polluted runoff would be reduced to less than significant. Operation of the proposed Project would result in a permanent increase of 1.81 acres of impervious surface area compared to existing conditions. The proposed Project would match overall drainage patterns and areas to that of existing conditions. The existing storm drain systems for the Project Area may be modified by the proposed Project, in compliance with all discharge requirements stipulated in Los Angeles MS4 Permit. If existing facilities are not adequately sized to handle increased runoff generated from the 1.81 acres of new impervious surface area, the proposed Project would include new stormwater drainage infrastructure. All new proposed storm drainpipes and structures will be sized during final design to convey the proposed peak flows. The proposed Project would be required to prepare a LID plan and implement BMPs to address on-site stormwater management during Project operations in compliance with LBMC Section 18.74 and LAMC Article 4.4, such that on–site and off-site drainage facilities are

designed adequately to convey and reduce runoff so that on-site and off-site drainage facility capacity would not be exceeded.

Therefore, the proposed Project would not generate surface runoff that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Therefore, operational impacts to stormwater runoff and drainage systems would be reduced to less than significant.

(iv) impede or redirect flood flows?

No Impact. Proposed Project improvements would occur in the same location as the existing infrastructure and would not impede or redirect flood flows. No new structures would be built on land that would alter the existing conditions with respect to flood flows, and the elevation and topography would not change under the proposed Project. Although the proposed Project would result in an increase of 1.8 acres of impervious surface, the elevation and topography of the Project Area will remain unchanged. Construction of the new westbound auxiliary lane and other associated improvements would result in minor and temporary removal of pavement; however, pavement would be replaced following construction and would not impede or redirect flood flows in the Project Area. Additionally, the proposed Project's drainage system would match the existing drainage patterns. Therefore, the proposed Project would not impede or redirect flood flows. No impacts would occur.

d. Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less-than-Significant Impact. According to the Federal Emergency Management Agency (FEMA) Flood Hazard Maps 06037C2032G, 06037C1944G, and 06037C1963G, the Project Area is located in Zone X, which is identified as an Area of Minimal Flood Hazard, Zone X is outside the Special Flood Hazard Area (SFHA) and higher than the elevation of the 0.2-percent-annual-chance flood (FEMA 2008). Proposed improvements would occur in the same location as the existing infrastructure and would not impede or redirect flood flows. As stated above in Section 4.10(iv), no structures would be built on land that would alter the existing conditions with respect to flood flows, and the Project Area elevation and topography would not change under the proposed Project.

Tsunamis are generated wave trains generally caused by tectonic displacement of the seafloor associated with shallow earthquakes, seafloor landslides, rock falls, and exploding volcanic islands. Seiching is a phenomenon that occurs when seismic groundshaking induces standing waves (seiches) inside water retention facilities such as reservoirs and water tanks. Such waves can cause retention structures to fail and flood downstream properties.

According to the City of Los Angeles Safety Element of the General Plan (City of Los Angeles 1996), the Project Area is within an area susceptible to impacts from a tsunami and subject to possible inundation. However, the Tsunami Hazard Assessment for the Ports of Los Angeles and Long Beach (Moffatt and Nichol 2007) concluded that based on seismicity, geodetics, and geology, a large, locally generated tsunami affecting the San

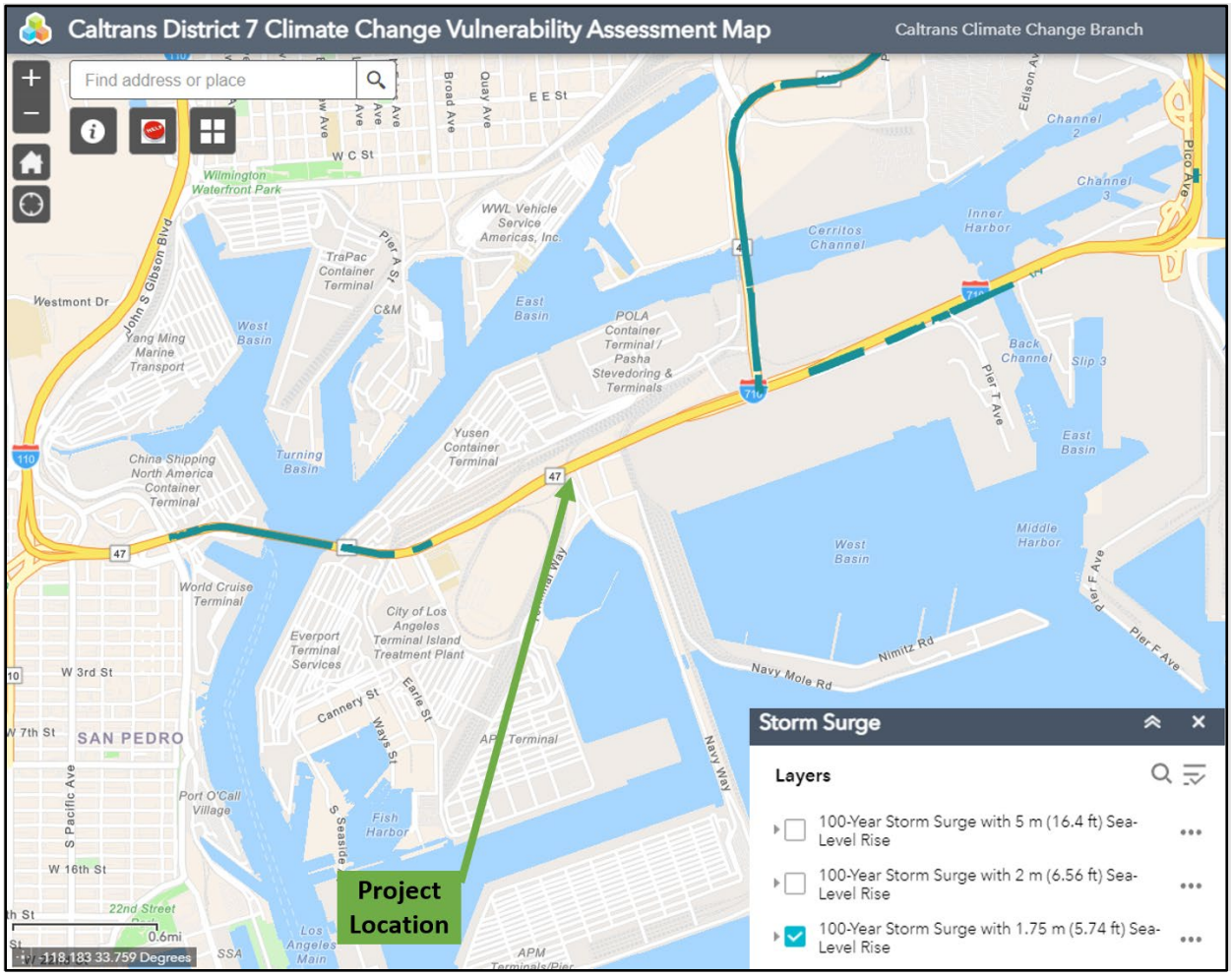
Pedro Bay Port Complex would likely not occur more than once every 10,000 years. Under the maximum future tsunami scenarios, the San Pedro Bay Port Complex model predicts a maximum tsunami wave height of 9.1 feet along the East Basin Channel (Moffatt and Nichol 2007). The construction of infrastructure at adequate elevations and the incorporation of emergency planning in accordance with current State and City of Los Angeles regulations would minimize damage to structures and injury to personnel from flooding or inundation. A Port-wide emergency notification system provides phone/text/email notification of tsunami warnings or other emergency situations. Furthermore, the existing terminals have emergency response plans that mention natural disasters, including tsunamis, to identify necessary procedures in the event a tsunami warning is issued. The tsunami plan would remain in effect under the proposed Project.

Climate Change – Sea Level Rise

With respect to potential flood hazard or tsunami due to potential sea level rise, Assembly Bill (AB) 691 required LAHD, as a local trustee of the lands granted by the California State Lands Commission (CSLC), to address the impacts of sea level rise for all of its granted public trust lands. Per that requirement, LAHD developed a Sea Level Rise Adaptation The POLA conducted a sea level rise (SLR) study (2018_sea_level_rise_adaptation_study [portoflosangeles.org]) in 2018. These studies have analyzed the expected effect of long term SLR, which enables the POLA to prepare for climate change and associated coastal hazards by providing a framework for incorporating adaptive measures into policymaking and planning processes, environmental documents, infrastructure design, and construction practices. Since these studies, the U.S. Geological Survey Coastal Storm Modeling System (CoSMoS) has been developed through a partnership of numerous other federal and State agencies. An interactive model is available on the website (Our Coast, Our Future (ourcoastourfuture.org), in which various scenarios can be produced. Using this model and other studies, in 2018, the State of California's Ocean Protection Council (OPC) updated its guidance to local governments for analyzing and evaluating risks associated with SLR (State of California Sea-Level Rise Guidance). This guidance was also adopted by the California Coastal Commission in 2018.

As contained in the CoSMoS and OPC guidance document, the year 2100 SLR projections vary widely, depending upon emission scenario and probability (including storm event probability). For example, the range considering a 66 percent probability (likely scenario) to a 0.5 percent probability (considered a "high risk aversion" scenario in the OPC document), combined with either a "low" or "high" global emission scenario, yields a SLR range from 2.1 to 6.7 feet. Using the worst-case scenario contained in "2019 Caltrans Climate Change Vulnerability Assessments" (2019 Climate Change Vulnerability Assessments | Caltrans), which entails a 5.74-foot SLR and a 100-year storm event (which translates to a low, 0.5% probability), it was determined that the Project and surrounding area would not be impacted (see Figure 4-1).

Figure 4-1: Climate Change – Sea Level Rise



Resiliency Measures

The POLA will continually address infrastructure on an on-going basis, as updated SLR models/projections are developed. If projections change, for any assets that might be temporarily flooded during a storm surge condition, temporary protection only, such as sandbags or an aquafence, may be provided. For assets that could be permanently inundated, permanent protection will be necessary to continue operations, such as retrofitting a sheet pile wall or building a seawall. Also, the POLA permitting processes require SLR analyses to ensure that any future project would be designed to avoid risks based on the latest guidance available at that time.

Operation of the proposed Project would match overall existing conditions of POLA and would not increase the potential for release of pollutants due to project inundation.

As described above, the proposed Project would not increase the potential for release of pollutants due to Project inundation, and potential impacts would be less than significant.

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less-than-Significant Impact. The proposed Project is within the jurisdiction of the Los Angeles RWQCB. The LARWQCB adopted a Water Quality Control Plan (i.e., Basin Plan) in 2019. This Basin Plan designates beneficial uses for all surface and groundwater within its jurisdiction and establishes the water quality objectives and standards necessary to protect those beneficial uses. The proposed Project would comply with the Construction General Permit and Los Angeles MS4, which require preparation of a SWPPP and implementation of construction and operational BMPs to reduce pollutants of concern in stormwater runoff. As such, the proposed Project would not result in water quality impacts that would conflict with the LARWQCB, and impacts related to conflict with a water quality control plan would be less than significant.

The California Sustainable Groundwater Management Act (SGMA) was enacted in September 2014. SGMA established a framework of priorities and requirements to facilitate sustainable groundwater management throughout the State. The intent of SGMA is for groundwater to be managed by local public agencies (e.g., water districts and irrigation districts) and newly formed Groundwater Sustainability Agencies (GSAs) to ensure that a groundwater basin is operated within its sustainable yield (no long-term overdraft) through the development and implementation of Groundwater Sustainability Plans (GSPs). The Project Area is located within the Coastal Plain of Los Angeles – West Coast groundwater basin, which is designated as a Very Low priority basin (California Department of Water Resources 2023). Therefore, no groundwater sustainability plan has been established for this basin. However, the Water Replenishment District of Southern California developed the Groundwater Basins Master Plan (2016), which identifies opportunities to develop supplemental replenishment water supplies to further utilize the West Coast and Central Basins (Water Replenishment District 2016). As discussed above, construction or operation of the proposed Project would not result in significant impacts to groundwater supplies or quality. Therefore, the proposed Project, would not conflict with the Groundwater Basins Master Plan.

The proposed Project may require groundwater dewatering, which would comply with the Groundwater Discharge Permit. Additionally, it would be temporary in nature and cease following completion of construction. Further, the proposed Project would not substantially impact groundwater quality, interfere with groundwater recharge, or decrease groundwater supplies. With compliance with permits and municipal codes, the proposed Project's potential impacts would be reduced to less than significant and would not conflict with or obstruct implementation of a sustainable groundwater management plan.

4.11 Land Use and Planning

a. Would the project physically divide an established community?

No Impact. The proposed Project is located within Planning Area 3, Terminal Island, and focuses on container operations.[16] The proposed Project is located in heavy industrial areas that do not contain any established communities. The Project Area is within an existing freeway with interchanges/ramps, retaining walls, and other structural features, and the proposed Project would not introduce a new structural barrier that would divide or disrupt existing communities. Existing land uses surrounding the Project Area include transportation, communications, and utilities (port uses). The temporary use of such land for construction activities would not adversely affect community character, divide existing land uses or existing communities, or create barriers between existing communities. A less-than-significant impact would occur, and no mitigation is required.

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less-than-Significant Impact. The Project Area is governed by the City of Los Angeles Port of Los Angeles Plan, and City of Los Angeles zoning ordinances and codes. The proposed Project Area is located in Planning Area 3, in an urbanized area surrounded by industrial land uses such as container, liquid bulk, maritime support, and regional serving facility uses. The Project Area is currently zoned for Port-Related Industrial (IP) and Qualified Heavy Industrial ([Q] M3), as designated by the City of Los Angeles Zoning Ordinance. The continued operation within the existing Project Area would be consistent with the existing Los Angeles Port of Los Angeles Plan designations for these areas. Therefore, the proposed Project would not cause a potentially significant impact due to a conflict with land use plans, policies, or regulation.

4.12 Mineral Resources

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

No Impact. According to the California Department of Conservation, Division of Oil, Gas, and Geothermic Resources,[17] the Project Area is located within Wilmington Oil Field. There are several plugged wells along the SR-47 Project Area that are no longer in use (California Department of Conservation 2020). According to the City of Los Angeles General Plan Conservation Element, the Project Area is not located within a Mineral Resource Zone (City of Los Angeles 2001). Proposed construction activities within the Project Area would predominantly occur at the surface or shallow depths relative to the oil field. Because the

[16] Port of Los Angeles. 2018. Port Master Plan. Website: https://kentico.portoflosangeles.org/getmedia/adf788d8-74e3-4fc3-b774-c6090264f8b9/port-master-plan-update-with-no-29_9-20-2018 (accessed August 2023).

[17] California Department of Conservation. Well Finder. Website: https://maps.conservation.ca.gov/doggr/wellfinder/ (accessed May 5, 2023).

proposed Project is not located within an active oil drilling area and construction activities would occur at the surface or shallow depths relative to the oil field, no impacts on mineral resources would occur.

The proposed Project Area is surrounded by development and is located in an urbanized area of the POLA. Operation of the proposed Project would match existing conditions and would not restrict, change, or impact use of Wilmington Oil Field. The proposed Project is not located within an active oil drilling area and, therefore, Project operation would have no impacts on mineral resources.

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. As discussed in Section 4.12(a), the Project Area is not located within a Mineral Resource Zone (City of Los Angeles 2001). All proposed activities would be confined to the Project Area and would, therefore, not result in the loss of availability of a delineated locally important mineral resource recovery site.

4.13 Noise

a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less-than-Significant Impact. The proposed Project is located in an industrialized area within the POLA and Terminal Island. Existing land uses within the Project Area include POLA buildings and industrial uses. There are no sensitive land uses within one mile of the Project Area. The closest sensitive uses are the livaboards to the north in the Cerritos Channel approximately 2,800 feet away and the livaboards to the southwest in Fish Harbor approximately 7,600 feet away. Two types of short-term noise would occur during Project construction: (1) equipment delivery and construction worker commutes; and (2) Project construction operations produced by construction-related equipment.

The first type of short-term construction noise would result from the transport of construction equipment and materials to the Project Area and construction worker commutes. These transportation activities would incrementally raise noise levels on access roads leading to the Project Area. It is expected that larger trucks used in equipment delivery would generate higher noise impacts than trucks associated with worker commutes. The single-event noise from equipment trucks passing at a distance of 50 feet from a sensitive noise receptor would reach a maximum level of 84 A-weighted decibel (dBA) maximum instantaneous sound level (L_{max}). However, the pieces of heavy equipment for construction activities would be moved on site just one time and would remain on site for the duration of each construction phase. This one-time trip, when heavy construction equipment is moved on and off site, would not add to the daily traffic noise in the vicinity of the Project Area. The total number of daily vehicle trips would be minimal when compared to existing traffic volumes on the

affected streets, and the long-term noise level changes associated with these trips would not be perceptible. Therefore, equipment transport noise and construction-related worker commute impacts would be short term and would result in a less-than-significant off-site noise impact. No mitigation is required.

The second type of short-term noise impact is related to noise generated during construction in the Project Area. Construction is undertaken in discrete steps, each of which has its own mix of equipment, and consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated in the Project Area. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 4-10 lists the maximum noise levels recommended for noise impact assessments for typical construction equipment based on a distance of 50 feet between the construction equipment and a noise receptor.

Table 4-10: Typical Construction Equipment Noise Levels

Equipment Description	Acoustical Usage Factor (%)	Maximum Noise Level (L_{max}) at 50 ft
Compressor	100	81
Concrete Mixer	40	85
Concrete Pump	40	85
Crane	16	83
Dozer	40	80
Forklift	20	75
Front [End] Loader	40	79
Generator	100	78
Grader	8	85
Scraper	40	88
Welder	40	74

Sources: *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances* (USEPA 1971); Roadway Construction Noise Model (FHWA 2006).
ft = foot/feet
L_{max} = maximum instantaneous sound level

Typical operating cycles for these types of construction equipment may involve 1–2 minutes of full power operation followed by 3–4 minutes at lower power settings.

As presented below, Table 4-11, shows the equipment expected to be used, the composite noise levels of the equipment at 50 feet, the distance of the nearest receptor from the average location of construction activities (a distance of approximately 2,800 feet from the center of the Project Area), and noise levels expected during construction. These noise level projections do not take into account intervening topography or barriers. It is expected that average noise levels during construction at the nearest sensitive use, the livaboards in the Cerritos Channel to the north, would approach the 60 dBA L_{eq} (equivalent continuous sound level measured in A-weighted decibels) during the daytime hours. These predicted noise levels would only occur when all construction equipment is operating simultaneously and, therefore, these noise levels are assumed to be conservative in nature.

Table 4-11: Construction Noise Levels by Phase

Phase	Equipment	Composite Noise Level at 50 ft (dBA L_{eq})	Distance to Receptor (ft)[1]	Noise Level at Receptor (dBA L_{eq})
Land Cleaning/Grubbing	Concrete saw, excavator, grader, compressor (air), roller, front end loader, scraper, backhoe, other equipment > 5 HP	91	2,800	56
Roadway Excavation & Removal	Auger drill rig, concrete saw, dozer, excavator, grader, compressor (air) welder/torch, paver compactor (ground), roller, man lift, front end, loader, scraper, tractor, other equipment > 5 HP	94		59
Structural Excavation & Removal	Concrete saw, tractor, excavator, grader, compressor (air), paver, compactor (ground), roller, man lift, front end loader, scraper backhoe, other equipment > 5 HP	92		57
Base/Subbase/Imported Borrow	Concrete saw, tractor, excavator grader, compressor (air), paver, compactor (ground), roller, man lift front end loader, scraper, backhoe, other equipment > 5 HP	95		60
Structure Concrete	Man lift, auger drill rig, drum mixer concrete saw, crane, tractor, excavator, grader, compressor (air) generator, welder/torch, paver compactor (ground), roller, front end loader, scraper, backhoe, other equipment > 5 HP	92		57
Paving	Concrete saw, crane tractor, excavator, grader compressor (air), paver, compactor (ground), roller, man lift, front end loader, scraper, backhoe, other equipment > 5 HP	95		60
Drainage/Environment/ Landscaping	Man lift, auger drill rig, drum mixer concrete saw, crane, tractor, excavator, grader, compressor (air) generator, welder/torch, paver, compactor (ground), roller, dozer, front end loader, scraper, backhoe, other equipment > 5 HP	94		59
Traffic Signalization Signage	Man lift, auger drill rig drum mixer, concrete saw, crane tractor, excavator, grader compressor (air), generator welder/torch, paver, compactor (ground), roller, front end loader, scraper, backhoe, other equipment > 5 HP	94		59

Source: Compiled by LSA (2023).
[1] Distances are from the average location of construction activity, assumed to be the center of the Project Area.
dBA L_{eq} = average A-weighted hourly noise level
ft = foot/feet
HP = horsepower

Based on the existing noise measurements presented in Table 4-12, ambient daytime noise levels in the vicinity of the Project Area and surrounding areas exceed the expected construction noise levels at the nearest sensitive receptors. Additionally, the proposed Project would comply with Project Feature PF-NOI-1, which requires compliance with the requirements of the City of Los Angeles Noise Ordinance. Therefore, compliance with Project Feature PF-NOI-1 would ensure impacts generated from a temporary increase in ambient noise levels from construction activities would comply with applicable standards and would be less than significant.

Table 4-12: Existing Noise Level Measurements

Location Number	Location Description	Daytime Noise Levels[1] (dBA L_{eq})	Evening Noise Levels[2] (dBA L_{eq})	Nighttime Noise Levels[3] (dBA L_{eq})	Average Daily Noise Levels (dBA CNEL)	Primary Noise Sources
LT-1	Southeast of Seaside Freeway and Navy Way, on a gated fence, approximately 160 ft away from Seaside Freeway centerline and 85 ft from Navy Way centerline.	61.1 – 65.0	62.6 – 63.7	56.4 – 64.6	68.3	Vehicle traffic noise on Navy Way and Seaside Freeway.
LT-2	Southwest of Long Beach Fire Department Station 24, on a utility pole, approximately 45 ft from Pier South Avenue centerline.	70.5 – 74.0	70.9 – 71.9	67.1 – 71.9	76.8	Vehicle traffic noise on Pier South Avenue and Seaside Freeway.

Source: Compiled by LSA (2023).
[1] Daytime Noise Levels = noise levels during the hours of 7:00 a.m. to 7:00 p.m.
[2] Evening Noise Levels = noise levels during the hours of 7:00 p.m. to 10:00 p.m.
[3] Nighttime Noise Levels = noise levels during the hours of 10:00 p.m. to 7:00 a.m.
CNEL = Community Noise Equivalent Level
dBA L_{eq} = average A-weighted hourly noise level
ft = foot/feet

Operation of the proposed Project is expected to minimally increase traffic volumes which would result in total traffic volumes similar to existing conditions. With traffic volumes remaining similar to existing conditions, the generated increase in noise level to the nearest sensitive receptors would be very low. Therefore, the proposed Project would not result in significant operational impacts to ambient noise levels in the vicinity of the Project Area.

Project Feature

The following Project Feature pertaining to noise is applicable to the proposed Project.

PF-NOI-1 **Los Angeles Noise Ordinance.** Section 41.40 of the Los Angeles Municipal Code limits construction activities, including the delivery of construction materials, to the hours of 7:00 a.m. to 9:00 p.m. Monday through Friday, and 8:00 AM to 6:00 PM on Saturday (no work is allowed on Sundays or national

holidays) (City of Los Angeles, 2022b). Construction activities to prepare the site (completed by the Port) would typically occur Monday through Friday between 7:00 a.m. and 5:00 p.m., which would comply with the Los Angeles Municipal Code time restrictions; however, dredging activities would occur 24 hours per day requiring a variance.

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Less-than-Significant Impact Typical sources of vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads.

Construction Vibration Building Damage Potential. Vibration from construction activity of the proposed Project would be low. Table 4-13 provides reference peak particle velocity (PPV) values and vibration levels (in terms of vibration velocity in decibels [VdB]) from typical construction vibration sources at 25 feet. The proposed Project is anticipated to use standard construction equipment. To provide a comparison of vibration levels expected for a project of this size, a large bulldozer would generate 0.089 PPV (inches per second [in/sec]) of vibration when measured at 25 feet, based on the Federal Transit Administration's (FTA) 2018 *Transit Noise and Vibration Impact Assessment Manual* (FTA Manual).

Table 4-13: Construction Vibration Damage Criteria

Building Category	PPV (in/sec)
Reinforced concrete, steel, or timber (no plaster)	0.50
Engineered concrete and masonry (no plaster)	0.30
Non-engineered timber and masonry buildings	0.20
Buildings extremely susceptible to vibration damage	0.12

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
in/sec = inches per second PPV = peak particle velocity

As shown in Table 4-14, it would take a minimum of 0.12 PPV (in/sec) to cause any potential building damage to structures extremely susceptible to vibration damage.

Table 4-14: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV/L_V at 25 ft	
	PPV (in/sec)	L_V (VdB)[1]
Pile Driver (Impact), Typical	0.644	104
Pile Driver (Sonic), Typical	0.170	93
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] RMS VdB re 1 µin/sec.
µin/sec = micro-inches per second L_V = velocity in decibels
ft = foot/feet PPV = peak particle velocity

FTA = Federal Transit Administration
in/sec = inches per second
RMS = root-mean-square
VdB = vibration velocity in decibels

The closest structures, which are associated with the nearest building to the southeast (Naval and Maritime Reserve Center), are approximately 50 feet from the average location of construction activities. It is expected that vibration levels generated by dump trucks and other large equipment would generate vibration levels of up to 0.037 PPV (in/sec) at the closest structure to the Project Area. This vibration level would not exceed the 0.12 in/sec PPV threshold considered safe for fragile buildings. Therefore, construction of the proposed Project would not result in any vibration damage, impacts would be less than significant, and no mitigation is required.

Construction Vibration Human Annoyance Potential. For construction vibration human annoyance potential, the analysis is based on the distance from the center of the Project site to the closest building. The existing Naval and Maritime Reserve Center is the nearest building, located 150 feet from the center of Project Area, and would experience vibration levels approaching 64 VdB. Based on the standards provided in Table 4-15, this level of vibration is below the threshold of distinctly perceptible, which is approximately 84 VdB for frequent events at office type uses and would not exceed the FTA vibration threshold for human annoyance at the nearest receptor. Project construction would not result in vibration levels that would typically result in human annoyance. Therefore, this level of vibration would be less than significant for human annoyance. No mitigation is required.

Table 4-15: Criteria for Potential Vibration Annoyance

Land Use	Max L_v (VdB)[1]	Description of Use
Workshop	90	Distinctly feelable vibration. Appropriate to workshops and non-sensitive areas.
Office	84	Feelable vibration. Appropriate to offices and non-sensitive areas.
Residential Day	78	Feelable vibration. Appropriate for computer equipment and low-power optical microscopes (up to 20X).
Residential Night and Operating Rooms	72	Vibration not feelable, but ground-borne noise may be audible inside quiet rooms. Suitable for medium-power microscopes (100X) and other equipment of low sensitivity.

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] As measured in 1/3-octave bands of frequency over the frequency range 8 to 80 hertz.
FTA = Federal Transit Administration
L_V = velocity in decibels
Max = maximum
VdB = vibration velocity decibels

Long-Term Vibration from Vehicular Traffic. Because the rubber tires and suspension systems of buses and other on-road vehicles provide vibration isolation and reduce noise, it is unusual for on-road vehicles to cause vibration. When on-road vehicles cause such effects as the rattling of windows, the source is almost always airborne noise. Most problems with on-road vehicle-related noise and vibration can be directly related to a pothole, bump, expansion joint, or other discontinuity in the road surface. Smoothing the bump or filling the pothole will usually solve the problem. The proposed Project would result

in a road surface with smooth pavement and would result in less-than-significant vibration impacts from vehicular traffic. No mitigation is required.

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the Project Area to excessive noise levels?

No Impact. The Project Area is not located within an airport land use plan or within 2 miles of a public airport or public use airport. The closest airport, Long Beach Airport, is located approximately 7 miles away. Furthermore, the proposed Project is not adding any residents or employees within the Project Area. Therefore, the proposed Project would not result in impacts from exposure of excessive noise levels from public or private airport uses.

4.14 Population and Housing

a. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The proposed Project is a roadway improvement project and would not establish new residential uses. The proposed Project does not include growth-accommodating infrastructure, nor would it result in the relocation of substantial numbers of people from outside of the region. Therefore, the proposed Project is not expected to induce substantial population growth directly or indirectly through the extension of roads or other infrastructure. As a result, there would be no impact, and no mitigation is required.

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. As stated previously in Section 4.14(a). there is no housing within the Project Area or immediate vicinity that would be displaced as a result of the proposed Project. No replacement housing would be needed associated with implementation of the proposed Project.

4.15 Public Services

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

a. Fire protection?

Less-than-Significant Impact with Mitigation Incorporated. The Los Angeles Fire Department (LAFD) provides fire protection and emergency services to the Project Area and surrounding area. LAFD facilities in the POLA include land-based fire stations and fireboat companies. The nearest station with direct fireboat access to the Project Area is

Fire Station No. 49, located at Berth 194 on 400 Yacht Street, approximately 0.8 mile south of SR-47. This station is equipped with a single engine company and two boats (Fire Boats Nos. 3 and 4). Fire Station No. 38, located at 124 East I Street, approximately 2.0 mile from the Project Area, provides land-based fire service to the Project Area.

The proposed Project would implement roadway improvements, which would not adversely affect fire safety. In addition, the proposed Project improvements would, as a standard practice, be reviewed by the LAFD, and any recommendations would be incorporated into the proposed Project design.

Construction activities would involve building a new westbound auxiliary lane, widening bridges and retaining walls, expanding off-ramps, restriping intersections, modifying traffic signals, constructing a new collector-distributor road, and installing concrete barriers. These activities will entail excavation, concrete pouring, bridge reinforcement, road resurfacing, signal installation, and barrier placement to enhance transportation infrastructure and improve traffic efficiency. Construction of the proposed Project would require temporary partial lane closures on SR-47; however, partial lane closures would be temporary and would not inhibit emergency access or use of SR-47. As detailed in Mitigation Measure MM-TRAN-1 (provided in Section 4.17, Transportation), the LAFD would be notified of the construction schedule so as to coordinate emergency response routing during construction work. Accordingly, construction of the proposed Project is not expected to result in an increase in demand for LAFD personnel, equipment, facilities, or firefighting capabilities, or affect response times that could lead to a substantial adverse physical impact.

Operation of the proposed Project would comply with fire safety requirements established by the relevant authorities, including the State fire safety requirements, and City fire codes, standards, and regulations. Additionally, operation of the proposed Project would reduce traffic delays benefitting emergency responders using this route to the Ports and surrounding communities. By adhering to these guidelines, the operation of the proposed Project would result in improved safety access and not increase the demand for fire protection services. Therefore, with incorporation of Mitigation Measure MM-TRAN-1, impacts associated with fire protection services would be less than significant.

b. Police Protection?

Less-than-Significant Impact with Mitigation Incorporated. The LAHD Port Police (Port Police) and the Los Angeles Police Department (LAPD) provide police services to the POLA. The Port Police is the primary law enforcement agency within the POLA and is responsible for patrol and surveillance of POLA property, including POLA-owned properties within the communities of Wilmington, San Pedro, and Harbor City. The Port Police maintains 24-hour land and water patrols and enforces federal, state, and local public safety statutes, POLA tariff regulations, and environmental and maritime safety regulations. LAPD provides police protection to the entire City of Los Angeles, including San Pedro. The Project Area is located within the LAPD Harbor Division Area, which includes Harbor City, Harbor Gateway, San Pedro, Wilmington, and Terminal Island.

The proposed Project would not alter POLA activities or substantially increase long-term traffic flows or result in indirect growth that would result in the need for additional police

protection. As required by Mitigation Measure MM-TRAN-1, construction of the proposed Project would require temporary partial lane closures on SR-47; however, partial lane closures would be temporary and would not inhibit emergency access or use of SR-47. Accordingly, the proposed Project would not increase the demand for additional law enforcement officers and/or facilities such that the Port Police or LAPD would not be able to maintain an adequate level of service without additional facilities. Operation of the proposed Project would substantially reduce accidents and travel delays within the Project Area, benefitting emergency responders using this route to the Project Area. Therefore, with incorporation of Mitigation Measure MM-TRAN-1, impacts on police protection services would be less than significant.

c. Schools?

No Impact. The Project Area is located on Terminal Island in the POLA. There are existing school facilities located on Terminal Island. The proposed Project would not include the development of land uses that would generate additional habitable structures or employment opportunities that would result in an increase in population that may lead to an increase in school-age children. Therefore, the proposed Project would result in no impact on schools.

d. Parks?

No Impact. The Project Area is located on Terminal Island in the POLA. There are currently no existing parks located on Terminal Island. The proposed Project would not include the development of land uses that would generate additional habitable structures or employment opportunities that would result in an increase in population that would generate demand for parks. Therefore, the proposed Project would result in no impact on parks.

e. Other Public Facilities?

No Impact. The proposed Project would improve the existing partial interchange at SR-47/Seaside Avenue/Navy Way. No public facilities are located within the vicinity of the Project Area. Therefore, there would be no impact to public facilities as a result of the proposed Project.

4.16 Recreation

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The proposed Project would not directly or indirectly result in physical deterioration of parks or other recreational facilities because it is not near any such facilities and would not induce population growth that would increase the use of recreational facilities. Therefore, no impact would occur.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

No Impact. The proposed Project would not include recreational facilities or new residential development that would require construction or expansion of existing recreational facilities. Therefore, no impact would occur.

4.17 Transportation

The City of Los Angeles Department of Transportation (LADOT) requires a transportation assessment for transportation projects such as the proposed Project when the transportation project is likely to either:

(1) Induce additional vehicle miles traveled (VMT) by increasing vehicle capacity; or

(2) Reduce roadway through-lane capacity on a street that exceeds 750 vehicles per hour per lane for at least two (2) consecutive hours in a 24-hour period after project completion.

The proposed Project would remove one westbound through lane at the intersection of Navy Way and Seaside Avenue, and Seaside Avenue is expected to exceed 750 vehicles per hour per lane for more than two (2) consecutive hours in a 24-hour period after project completion. Additionally, the project will not increase vehicle-miles traveled (VMT), apart from the minor re-routing of traffic from two POLA terminals, on roadways that have ample capacity south of the project. This is a localized VMT increase on approximately 1.7 miles of port roadway, away from the community, and is a result of yielding safer access for all vehicles. As such, the proposed Project is required to complete a transportation assessment; the LADOT Transportation Assessment Guidelines (TAG) (LADOT, August 2022) includes several thresholds to evaluate whether the Project will have any significant impacts under CEQA (which is included in this section), as well as criteria that are required to be evaluated outside of CEQA (referred to as non-CEQA analysis in the TAG). This non-CEQA analysis is included in Appendix C, and addresses: pedestrian, bicycle, and transit access; operational analysis; construction impacts; and residential street cut-through analysis.

The TAG provides the following impact threshold criteria:

a. Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

No Impact. The 2022 TAG states that if the proposed Project requires a discretionary action, and the answer is yes to any of the following questions, further analysis will be required to assess whether the proposed Project would conflict with plans, programs, ordinances, or policies:

- Does the project require a discretionary action that requires the decision maker to find that the decision substantially conforms to the purpose, intent and provisions of the General Plan?
- Is the project known to directly conflict with a transportation plan, policy, or program adopted to support multimodal transportation options or public safety?

- Is the project required to or proposing to make any voluntary modifications to the public right-of-way (i.e., dedications and/or improvements in the right-of-way, reconfigurations of curb line, etc.)?

The proposed Project requires approval by the Board of Harbor Commissioners, which is a discretionary action; however, this discretionary action does not require the decision-maker to find that the decision substantially conforms to the purpose, intent, and provisions of the General Plan. The proposed Project would make modifications to the public right-of-way, so the TAG requires further analysis to determine if the proposed Project would have an impact under this threshold.

The TAG provides a Plan Consistency Worksheet (Appendix D) to aid in determining whether the proposed Project would have an impact; as seen in the completed Worksheet, the proposed Project does not conflict with the City's circulation system policies, and therefore does not have an impact under this threshold.

b. Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

No Impact. The 2022 TAG states that if the answer is no to the following question, further analysis will not be required for this threshold, and a no impact determination can be made:

- Would the project include the addition of through traffic lanes on existing or new highways, including general purpose lanes, high-occupancy vehicle (HOV) lanes, peak period lanes, auxiliary lanes, and lanes through grade-separated interchanges (except managed lanes, transit lanes, and auxiliary lanes of less than one mile in length designed to improve roadway safety)?

The proposed Project does not include the addition of through traffic lanes; the proposed Project does include the addition of auxiliary lanes, but the length is less than one mile, and is to improve roadway safety. The proposed Project also has the following project elements, which the TAG has identified as "not likely to lead to a substantial or measurable increase in vehicle travel and would, therefore, not be required to prepare an induced travel analysis":

- Addition of auxiliary lanes of less than one mile in length, designed to improve roadway safety
- Removal of left turn (westbound left turn and northbound left turn) lanes which are not utilized as through lanes
- Changing lane management in a manner that would not substantially increase vehicle travel
- Reduction in number of westbound through lanes
- Removal of traffic control device (traffic signal)

California Department of Transportation (Caltrans) Guidance. Caltrans issued the *Transportation Analysis Framework: Evaluating Transportation Impacts of State Highway System Projects* (TAF) and the companion guidance *Transportation Analysis under CEQA*

(TAC) in September 2020 to guide implementation of Senate Bill (SB) 743 and determine whether projects are consistent with *State CEQA Guidelines* Section 15064.3 as they pertain to the State highway system. The screening and impact determination methodology outlined in the LADOT TAG (evaluated above) is consistent with Caltrans' TAC. Therefore, per both LADOT and Caltrans' guidance, the proposed Project is determined to have no impact for this threshold, and no further analysis is required.

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. Based on TAG requirements, because the proposed Project would make modifications to the public right-of-way a more detailed evaluation of the Project is required. Based on traffic engineering design standards the proposed Project design would not include any significant deficiencies.

The POLA has performed operational analysis using standard Highway Capacity Manual (HCM) methodologies for merge, diverge and weaving sections for both with and without Project conditions and has found that no dangerous queuing would occur at the diverge locations which would infringe onto the mainline. Therefore, the proposed Project would not have adverse impacts to safety on the State's highway system.

The proposed Project supports the National Roadway Safety Strategy (National Roadway Safety Strategy goal supporting the planning, design and implementation of safer roads and streets in all communities using all available and applicable Federal funding resources). The proposed Project will eliminate or ameliorate safety problems and reduce the potential for accidents directly, and indirectly with the reduction in system delay (intersection delay and overall vehicle-hours of travel). The following describes the specific safety improvement elements of the proposed Project:

- Elimination of SR-47 upstream queuing in both directions, and subsequent ramp blockages
- Elimination of signalized westbound left-turn movement at Navy Way/Seaside Avenue
- Improvement of merging in all directions and weaving (also via new westbound auxiliary lane)

The reduced delay on SR-47 will also benefit emergency responders using this route to serve not only the ports but the surrounding communities. The POLA has also performed detailed safety impact analysis for the Project using the Enhanced Interchange Safety Analysis Tool (ISATe). The ISATe tool was used to estimate the predicted number of crashes for the Build and No Build options, and determined that the proposed Project is expected to reduce the number and severity of crashes compared to no-build conditions. The estimated accident reduction benefit for the Project is summarized in Table 4-16:

Table 4-16: Annual Accident Potential Reduction

Year	Total	W/Fatalities	W/Serious Injury
	(All per 100 million vehicle-miles)		
2048	-37.8	-0.1	-1.8

Therefore, the proposed Project would not increase hazards due to geometric design features or incompatible uses, and a no impact determination can be made for this threshold.

d. Would the project result in inadequate emergency access?

Less-than-Significant Impact with Mitigation Incorporated. Construction of the proposed Project would require temporary partial lane closures on the SR-47. Construction would not result in the full closure of the roadways and emergency access would be maintained. Partial lane closures would be temporary in nature and would not inhibit emergency access or use of SR-47. As required by Mitigation Measure MM-TRAN-1, a Transportation Management Plan (TMP) would be prepared for the proposed Project. Mitigation Measure MM-TRAN-1 would ensure all closure schedules would be coordinated with emergency providers and would be designed to ensure adequate emergency access is provided during construction. With incorporation of Mitigation Measure MM-TRAN-1, construction of the proposed Project would not result in significant impacts to adequate emergency access.

Operation of the proposed Project would not alter the existing configuration of local access roads or block an access point. Therefore, impacts from Project operation would be less than significant.

The LAHD is also coordinating with Caltrans on their planned Vincent Thomas Bridge (VTB) deck replacement project. At this juncture, Caltrans has not yet identified their construction option, and thus also the construction schedule. The construction is presently planned to occur between approximately late 2025 and sometime in 2027, depending upon the construction option to be determined by Caltrans (HNTB VTB Fact Sheet English (virtualeventroom.com). Based upon this schedule, there could be a one-year overlap of the two projects. The LAHD is thus coordinating very closely with Caltrans on the VTB construction staging options. The LAHD will be actively involved in Caltrans' TMP for the VTB project and will operate/maintain the TMP for the Navy Way Interchange project to minimize any possible combined effects of both projects.

Mitigation Measure

The following mitigation measure pertaining to transportation is applicable to the proposed Project.

MM-TRAN-1 **Transportation Management Plan (TMP).** During final design, the Project Engineer shall prepare a Final TMP. The objectives of the TMP will be to:

- Maintain traffic safety during construction;
- Effectively maintain an acceptable level of traffic flow along the SR-47;

- Minimize traffic delays and facilitate reduction of duration of construction activities;
- Minimize detours and impacts to pedestrians and bicyclists;
- Foster public awareness of the Project and related impacts; and
- Incorporate input on the Final TMP measures from stakeholders.

Depending upon the extent of potential detours, the TMP may entail deployment of cameras and a web-based public information system. Portable changeable signs will also be deployed, as necessary. The TMP shall address all aspects of transportation effects of all construction activities on vehicular, pedestrian, and bicycle access and mobility, including: temporary lane, sidewalk closures; detours; increases in traffic volumes (including regular traffic and construction traffic, construction equipment, materials delivery vehicles, waste/haul vehicles, and employee commutes); and potential effects on emergency services (e.g., fire, police, ambulances), transit services, bicyclists, and pedestrians. The development of the TMP will be closely coordinated with local jurisdictions (cities and the county), and other potentially affected parties (school bus and transit operators and police, fire, and emergency services providers). The TMP shall identify specific TMP strategies, the party/parties responsible for implementing those strategies, the agencies and parties the TMP strategies will be coordinated with, and the timing of the implementation of those strategies. The TMP shall include information in other languages as determined by the local jurisdictions. The Final TMP shall be approved by the City Engineer and incorporated into the final design plans and specifications.

4.18 Tribal Cultural Resources

This section evaluates impacts to tribal cultural resources associated with the implementation of the proposed Project. Pursuant to Assembly Bill (AB) 52, a lead agency is required to consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the Project if the tribe requested to the lead agency, in writing, to be informed by the lead agency of proposed projects in that geographic area. As part of Native American consultation associated with the proposed Project, the Native American Heritage Commission (NAHC) was contacted, and a consultation list was received of tribes that are traditionally and culturally affiliated with the geographic area of the proposed Project.

POLA contacted the NAHC requesting an updated search of the Sacred Lands File and a current AB 52 Tribal Consultation List identifying any tribal groups or persons who have expressed an interest in receiving notification about projects being undertaken or applications being reviewed by LAHD on April 27, 2023. On May 16, 2023, the NAHC responded that the Sacred Lands File search was negative and provided a list of nine tribal organizations identified as potentially having

an interest in the proposed Project. These tribes included: Gabrieleno Band of Mission Indians-Kizh Nation; Gabrieleno/Tongva San Gabriel Band of Mission Indians; Gabrielino/Tongva Nation; Gabrielino Tongva Indians of California Tribal Council; Gabrielino-Tongva Tribe; Juaneño Band of Mission Indians Acjachemen Nation – Belardes; Juaneño Band of Mission Indians Acjachemen Nation 84A; Santa Rosa Band of Cahuilla Indians; and Soboba Band of Luiseno Indians. Pursuant to AB 52 and Public Resources Code Section 21080.3.1(d), on May 18, 2023, LAHD mailed certified AB 52 letters to representatives of tribes identified by the NAHC. The letters included a brief description of the proposed Project, information on how to contact the lead agency, and a Project location map. The letters noted that requests for consultation needed to be received within 30 days of the date of receipt of the notification letter.

On May 20, 2023, the Gabrielino Tongva Indians of California responded, stating that the Area of Potential Effect (APE) is within five village sites and requested receipt of the cultural report prepared for the proposed Project.

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

(i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

Less-than-Significant Impact. The Project Area is not listed or eligible for listing in the California Register of Historical Resources (CRHR) or in a local register of historical resources. The proposed Project is located within both City of Long Beach and City of Los Angeles jurisdictions. The proposed Project is not located with a Historic Preservation District as determined by the City of Long Beach.[18] The proposed Project Area does not contain any historic resources as determined by the City of Los Angeles.[19]

An Archaeological Resources Assessment was prepared for the proposed Project (LSA 2023a), which is provided in Appendix E. The Archeological Resources Memorandum describes the records search and additional background research conducted for the proposed Project. The Project Area has little to no sensitivity for prehistoric archaeological resources. A records search conducted by the South-Central Coastal Information Center (SCCIC No. 24672.10846) determined that no archaeological resources were identified by the records search within the Project Area. A pedestrian survey was conducted on May 16, 2023, by LSA archaeologist, determined that the majority of the Project Area consists of built environment. The only portions that contained vegetation were along the on- and off-ramps from SR-47, but these were largely inaccessible because they were either densely

[18] City of Long Beach. City of Long Beach Historic Districts Map. Website: http://historicplacesla.org/map (accessed July 18, 2023).

[19] City of Los Angeles. Los Angeles Resources Inventory. Website: http://historicplacesla.org/map (accessed July 18, 2023).

vegetated and/or behind locked gates. Also surveyed was the on-ramp from Ferry Way to northbound SR-47 in the southwestern portion of the Project Area because that was the only accessible vegetated area. The proposed Project Area is entirely underlain by artificial fill and previously disturbed soils. The proposed Project would result in minor amounts of ground-disturbing activities. However, because the Project Area was previously disturbed, tribal cultural resources are not likely present.

The Project Area has been heavily impacted by roadway construction and urban development, which prevented review of undisturbed soils. The intensive nature of these impacts makes it unlikely that intact historical archaeological deposits are present within the Project Area. A geoarchaeological sensitivity analysis identifies little to no sensitivity for prehistoric archaeological resources.

POLA requested a Sacred Lands File (SLF) search from the Native American Heritage Commission (NAHC) on April 27, 2023. The NAHC responded on May 16, 2023, with negative SLF results and a list of tribes designated for contact per requirements of California AB 52. On May 18, 2023, POLA sent letters to the tribes listed on the NAHC response, inviting tribal consultation. On May 20, 2023, the Gabrielino Tongva Indians of California responded, stating that the APE is within five village sites and requested receipt of the cultural report prepared for the proposed Project. POLA consultation with the tribe is ongoing.

No tribal cultural resources listed or eligible for listing in the CRHR or in a local register exist within the Project Area, and there are no known tribal cultural resources in the Project Area. Despite there being no known tribal cultural resources in the Project Area, the potential for resources to be discovered is addressed below under Section 4.18(a)(ii). Due to the absence of known tribal resources in the Project Area and limited ground-disturbing activities and sediment removal, less-than-significant impacts would occur.

(ii) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Codes Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Less-than-Significant Impact. The proposed Project would have very low potential to discover an unknown or buried tribal resource because the Project Area is previously disturbed and located on artificial fill. Although no human remains are known to be on the Project site or are anticipated to be discovered during Project construction, there is always a possibility of encountering unanticipated human remains. If human remains are Native American in origin, the remains may be considered a tribal cultural resource. If human remains are encountered, the City is required to adhere to Project Feature PF-CUL-1 (provided in Section 4.5, Cultural Resources), which requires compliance with the State's Health and Safety Code for the treatment of human remains and coordinate with the Native American Heritage Commission and a Most Likely Descendant if the remains are

determined to be Native American. Implementation of Project Feature PF-CUL-1 would ensure potential impacts to tribal cultural resources would be less than significant.

4.19 Utilities and Service Systems

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

No Impact. The Project Area is located in a developed area that is served by existing utilities. The proposed Project would not relocate or construct new or expanded water, wastewater treatment, electric power, natural gas, or telecommunications facilities. Drainage systems for the proposed Project would match the existing drainage patterns of POLA. Therefore, no impacts would occur.

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Less-than-Significant Impact. The proposed Project Area does not currently impact water demand and would not result in a demand for water supplies under operating conditions. Water would be used by construction activities, such as dust suppression and equipment washdown. Given the temporary nature of construction, however, water usage during construction would be insubstantial and would not exceed the existing water supply. The proposed Project would not construct any facilities that would require or result in additional water consumption under operating conditions beyond existing conditions (e.g., landscaping). Therefore, the proposed Project would not result in impacts to water supplies.

c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less-than-Significant Impact. The City of Los Angeles Department of Public Works, Bureau of Sanitation, provides sewer service to all areas within the Project Area and surrounding vicinity. The proposed Project is a transportation facility and would not generate wastewater during construction or operation. The proposed Project does not consist of any new commercial, residential, or any other new land uses that would alter the Project Area's wastewater production or contribute to the generation of any wastewater. Therefore, the proposed Project would not result in a determination by City of Los Angeles Department of Public Works, Bureau of Sanitation, that it has inadequate capacity to serve the proposed Project's anticipated demand in addition to the provider's existing commitments. There may be an incremental increase in the production of wastewater during construction; however, impacts related to wastewater generation would be less than significant.

d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less-than-Significant Impact. The proposed Project would temporarily generate waste associated with demolition and construction activities. Proposed roadway improvement activities would generate construction debris (e.g., concrete, steel, and asphalt). During demolition activities, excess asphalt would be hauled away and disposed of. Construction of the proposed Project would result in approximately 60,000 tons [20] of imported soil; soil exportation is not anticipated. As specified in Project Feature PF-AQ-3 (provided in Section 4.3, Air Quality), the generation of landfill waste would be reduced by recycling demolition debris to the extent feasible. The asphalt/concrete debris would be crushed at the facility or elsewhere in the POLA for construction reuse within the Port. Metal debris would be salvaged for scrap by the construction contractor. Any removed sediment would be tested and approved for disposal at a permitted upland facility (e.g., Sunshine Canyon Landfill).

Solid waste requiring disposal at a landfill is not expected to be substantial relative to the permitted landfill capacity at Chiquita Canyon Landfill, Sunshine Canyon Landfill, or other local or regional disposal facilities that could accept construction waste from the proposed Project. There is currently sufficient solid waste disposal capacity available in Los Angeles County (Los Angeles Department of Public Works 2020). In addition, there are a number of operations within Los Angeles County that recycle C&D material, and the POLA, as standard conditions of permit approval, requires recycling of construction materials and use of materials with recycled content where feasible to minimize impacts to solid waste (Project Feature PF-AQ-3). Demolition debris, including removed sediment, would not exceed landfill capacity.

Other than the temporary construction-related waste that would be generated by the proposed Project, the proposed Project would not consist of any new commercial, residential, or any other new land uses that would generate solid waste. Therefore, with implementation of Project Feature PF-AQ-3, the proposed Project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals, and impacts would be reduced to less than significant.

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less-than-Significant Impact. The proposed Project would be required to conform to the policies and programs of the City of Los Angeles' Solid Waste Integrated Resources Plan. Compliance with the Solid Waste Integrated Resources Plan would ensure sufficient capacity to service the proposed Project (City of Los Angeles 2013). The proposed Project would comply with all applicable codes and requirements pertaining to solid waste disposal, including but not limited to: Chapter VI Article 6 Garbage, Refuse Collection of the City of LAMC; Part 13 Chapter 4 Article 7 of The California Health and Safety Code, Solid Waste Handling and Disposal; United States Code Chapter 39; and Assembly Bill (AB) 939, the California Waste Management Act, which requires each city in the State to divert at least 50

[20] Personal communication, March 17, 2023, Ravi Shah (Mark Thomas & Company, Inc.).

percent of their solid waste from landfill disposal through source reduction, recycling, and composting (Project Feature PF-AQ-3). In addition, waste would be diverted and recycled or disposed of according to the California Green Building Standards Code. The proposed Project would implement and be consistent with the procedures and policies detailed in the codes and requirements identified above, Port-wide standard conditions of approval requiring recycling of construction materials, the City of Los Angeles' recycling and solid waste diversion efforts, and related laws pertaining to solid waste disposal. Therefore, construction of the proposed Project would comply with federal, State, and local statutes and regulations related to solid waste. Therefore, with implementation of Project Feature PF-AQ-3, solid waste impacts would be in compliance with federal, State, and local solid waste reduction statutes and regulations and would be reduced to less than significant.

4.20 Wildfire

If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a. Substantially impair an adopted emergency response plan or emergency evacuation plan?

b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?

c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. Public Resources Code Sections 4201–4204 direct the California Department of Forestry and Fire Protection (CAL FIRE) map fire hazards based on relevant factors such as fuels, terrain, and weather. The Project Area is not located in or near a State responsibility area or lands classified as a Very High Fire Hazard Severity Zone within its Local Responsibility Area (CAL FIRE 2022). Therefore, the proposed Project would not impair an emergency evacuation plan, exacerbate fire risks, require the installation or maintenance of associated infrastructure, or expose people or structures to significant risks related to wildfires. Therefore, no impacts would occur.

4.21 Mandatory Findings of Significance

a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate

a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Less-than-Significant Impact with Mitigation Incorporated. The proposed Project has been determined to have less-than-significant impacts with mitigation incorporated. As discussed in Section 4.4, Biological Resources, the Project Area is located in an area of the POLA that is developed with commercial and industrial uses, consisting of disturbed/barren areas, ornamental landscaping, and ruderal vegetation with small patches of native vegetation. Construction activities would cause permanent direct impacts on nonnative ornamental landscaping and some disturbed native scrub habitats. Vegetation removal activities have the potential to directly impact nesting birds during the typical avian nesting season, and increased noise, vibration, dust, and lighting during construction have further potential to indirectly effect suitable habitats. Additionally, bats roosting in crevice habitat in bridges and culverts could be subject to direct impacts during demolition associated with structure widening or replacement, and indirect impacts from Project-related noise and lighting. Mitigation Measures MM-BIO-1 through MM-BIO-3 would be implemented to avoid or minimize impacts to these species, and specifically, Mitigation Measure MM-BIO-1, a preconstruction bat survey, would ensure that special-status bats and maternity roosting sites are not significantly affected. No rare or endangered habitats or protected plant or wildlife species were identified within the Project Area. Because the proposed Project has no waterside improvements, it would not cause any fish or wildlife population to drop below self-sustaining levels or threaten to eliminate a plant or wildlife community. As discussed in Section 4.5 Cultural Resources, the Project Area is not located within a City-identified Historic Preservation Overlay Zone and does not contain any historic period resources; however, Project Feature PF-CUL-1 would reduce impacts associated with the discovery of human remains to a less-than-significant impact. Additionally, Project Features PF-AQ-1 through PF-AQ-3 in Section 4.3, Air Quality, which require compliance with SCAQMD Rule 403, SCAQMD Rule 402, and California Department of Resources Recycling and Recovery (CalRecycle), would reduce construction emissions associated with the proposed Project. Therefore, with incorporation of Mitigation Measures MM-BIO-1 through MM-BIO-3 and Project Features PF-AQ-1 through PF-AQ-3 and PF-CUL-1, impacts would be less than significant.

b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, effects of other current projects, and the effects of probable future projects.)

Less-than-Significant Impact with Mitigation Incorporated. The proposed Project would result in no impacts or less-than-significant impacts to all analyzed resource areas. Due to the limited scope and localized effects of the proposed Project, the potential incremental contribution would not be cumulatively considerable. Implementation of the proposed Project would improve safety, reduce traffic delays, and reduce emissions, and for all cumulative sources of traffic.

Impacts from construction related biology, would be short-term and be mitigated to less-than-significant levels with implementation of Mitigation Measures MM-BIO-1 through MM-BIO-3. Additionally, Project Features PF-AQ-1 through PF-AQ-3 and PF-NOI-1 would ensure any potential impacts generated from a temporary increase in construction emissions or ambient noise levels would be less than significant.

Currently planned and future related projects in the vicinity would also be required to comply with applicable environmental laws and regulations, including adherence to best management practices and measures to reduce or avoid potential environmental impacts and associated cumulative impacts. Therefore, the proposed Project would not contribute substantially to a cumulatively considerable impact.

Planned and Future Related Projects

The LAHD is coordinating with Caltrans on their planned Vincent Thomas Bridge (VTB) deck replacement project. At this juncture, Caltrans has not yet identified their preferred construction option, and thus also the proposed construction schedule. A preliminary construction duration is presently planned to occur between approximately late 2025 and sometime in 2027, depending upon the construction option to be determined by Caltrans (available at: HNTB VTB Fact Sheet English [virtualeventroom.com]). Based upon this preliminary schedule, there could be a potential one-year overlap of the two projects. The LAHD is thus coordinating very closely with Caltrans on the VTB construction staging options, detour routes, and proposed schedule. The LAHD will be actively involved in Caltrans' Traffic Management Plan (TMP) for the VTB project and will operate/maintain the TMP for the Navy Way Interchange project as specified in Mitigation Measure MM-TRAN-1 to minimize any possible combined effects of both projects.

The LAHD and Caltrans are undertaking a project to reconfigure the interchange at State Route 47 (SR-47)/Vincent Thomas Bridge and Front Street/Harbor Boulevard. The interchange project will reduce travel times, alleviate congestion, and improve motorist and pedestrian safety by modifying the northbound SR-47 on-ramp onto the bridge toward Terminal Island and the southbound off-ramp to Harbor Boulevard, along with a number of other improvements. Project construction is expected to be completed by 2026 (see https://www.portoflosangeles.org/references/2024-news-releases/news_031324_sr_47_construction). The earliest anticipated start date of construction for the proposed Project is September 2026 and thus any overlapping of construction activities with the SR-47/Vincent Thomas Bridge and Front Street/Harbor Boulevard interchange project would be minimal as the majority of the SR-47 interchange work would be completed and in operation. Nevertheless, the LAHD will coordinate closely with Caltrans' TMP and schedule to minimize any possible combined effects of both projects.

c. Does the project have environmental effects, which would cause substantial adverse effects on human beings, either directly or indirectly?

Less-than-Significant Impact with Mitigation Incorporated. The proposed Project has been determined to have less-than-significant impacts with mitigation incorporated. As discussed in Section 4.15, Public Services, and Section 4.17, Transportation, construction of the proposed Project would require temporary partial lane closures on SR-47. As required

by Mitigation Measure MM-TRAN-1, a TMP would be prepared for the proposed Project. Mitigation Measure MM-TRAN-1 would ensure all closure schedules would be coordinated with emergency providers and would be designed to ensure adequate emergency access is provided during construction. Additionally, Project Features PF-AQ-1 through PF-AQ-3, PF-CUL-1, PF-GEO-1, and PF-NOI-1 would reduce any potential impacts to less than significant. Therefore, with incorporation of Mitigation Measure MM-TRAN-1 and Project Features PF-AQ-1 through PF-AQ-3, PF-CUL-1, PF-GEO-1, and PF-NOI-1, impacts would be less than significant.

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5.0 PROPOSED FINDING

LAHD has prepared this IS/MND to address the environmental effects of the proposed Project. Based on the analysis provided in this IS/MND, LAHD finds that the proposed Project would not have a significant effect on the environment with incorporation of the mitigation measures described in this document.

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7.0 ACRONYMS AND ABBREVIATIONS

AAQS	Ambient Air Quality Standards
AB	Assembly Bill
APE	Area of Potential Effect
APL	American Presidents Line
AQMP	Air Quality Management Plan
AST	aboveground storage tank
Basin Plan	Water Quality Control Plan
BHMMP	Bat Habitat Mitigation and Monitoring Plan
BMPs	Best Management Practices
BSA	Biological Study Area
BUG	Backlight, Uplight and Glare
C&D	Construction and Demolition
CAA	Clean Air Act
CAAP	Clean Air Action Plan
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
CalEPA	California Environmental Protection Agency
CALGreen Code	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CH_4	methane
CIDH	Cast-In-Drilled-Hole
City	City of Los Angeles

CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CPS- SLIC	Cleanup Program Sites-Spills, Leaks, Investigations, and Cleanups
CRHR	California Register of Historic Resources
CSLC	California State Lands Commission
CTCs	County Transportation Commissions
DAC	Disadvantaged/Low Income Communities
dBA	A-weighted decibel
dBA L_{eq}	average A-weighted hourly noise level
DTSC	California Department of Toxic Substances Control
EDR	Environmental Data Resources
EIA	U.S. Energy Information Administration
EIR	Environmental Impact Report
EMCs	Emergency Management Coordinators
EO	Executive Order
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
FTA Manual	FTA's *Transit Noise and Vibration Impact Assessment Manual*
GHG	greenhouse gas
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HFCs	hydrofluorocarbons
I-110	Interstate 110
I-710	Interstate 710
IES	Illuminating Engineering Society
in/sec	Inches per second
IP	Port-Related Industrial

IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration
ISATe	Enhanced Interchange Safety Analysis Tool
LADOT	Los Angeles Department of Transportation
LAFD	Los Angeles Fire Department
LAHD	Los Angeles Harbor Department
LAMC	Los Angeles Municipal Code
LAPD	Los Angeles Police Department
LARWQCB	Los Angeles Regional Water Quality Control Board
LBMC	Long Beach Municipal Code
L_{eq}	equivalent continuous sound level
LID	Low Impact Development
L_{max}	maximum instantaneous sound level
LSTs	Localized Significance Thresholds
LUST	leaking underground storage tank
MLD	Most Likely Descendant
MND	Mitigated Negative Declaration
MS4	Municipal Separate Storm Sewer System
MT	metric tons
MT CO_2e	metric tons of carbon dioxide equivalent
MT CO_2e/yr	metric tons of carbon dioxide equivalent per year
MT/yr	metric tons per year
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Communities Conservation Plan
NIMs	National Incident Management System
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places

O_3	ozone
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PFCs	perfluorocarbons
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PMP	Port Master Plan
POLA	Port of Los Angeles
POLB	Port of Long Beach
Port Police	LAHD Port Police
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
PRDs	Permit Registration Documents
Project	Port of Los Angeles Navy Way Interchange Project
[Q] M3	Qualified Heavy Industrial
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South-Central Coastal Information Center
SF_6	sulfur hexafluoride
SFHA	Special Flood Hazard Area
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SLF	Sacred Lands File
SMARTS	Stormwater Multiple Application and Report Tracking System
SO_X	sulfur oxides
SR-1	State Route 1
SR-103	State Route 103
SR-47	State Route 47
SR-91	State Route 91

SRA	Source Receptor Area
SWFLF	Solid Waste Facilities/Landfill Sites
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAG	LADOT's Transportation Assessment Guidelines
TEU	twenty-foot equivalent units
TMP	Transportation Management Plan
U.S.	United States
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VdB	vibration velocity in decibels
VHT	vehicle hours traveled
VMT	vehicle miles traveled
VOC	volatile organic compound
WDID	Waste Discharge Identification Number

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APPENDIX A

Project Features and Mitigation Summary

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Appendix A Project Features and Mitigation Summary

In order to ensure that all of the environmental requirements, including project features and mitigation measures identified in this document are executed at the appropriate times, the following Mitigation Monitoring and Reporting Program (MMRP) would be implemented. During project design, project features and mitigation measures will be incorporated into the project's final plans, specifications, and cost estimates, as appropriate. All permits will be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff will ensure that the environmental requirements contained in this MMRP are fulfilled. As the following MMRP is a draft tracking tool, some fields have not been completed, and will be filled out as each of the project features and mitigation measures are implemented.

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Requirement Description	Responsible Party	Timing / Phase	Action Taken to Comply with Requirement	Requirement Completed		Remarks	Environmental Compliance	
				Initials	Date		Initials	Date
Air Quality								
Project Features								
PF-AQ-1: SCAQMD Rule 403. During clearing, grading, earth moving, or excavation operations, excessive fugitive dust emissions shall be controlled by regular watering or other dust preventative measures by using the following procedures, in compliance with South Coast Air Quality Management District (SCAQMD) Rule 403 during construction. The applicable Rule 403 measures are as follows: • Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more) Stabilize soils once soil disturbing activities are complete. • Water active sites at least twice daily (locations where grading is to occur shall be thoroughly watered prior to earthmoving). • Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 2 feet (0.6 meter) of freeboard (vertical space between the top of the load and the top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114. • Pave construction access roads at least 100 feet (30 meters) onto the site from the main road. • Reduce traffic speeds on all unpaved roads to 15 miles per hour (mph) or less.	Project Engineer, Construction Contractor	During construction						
PF-AQ-2: SCAQMD Rule 402. A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.	Project Engineer, Construction Contractor	During construction						
PF-AQ-3: CalRecycle. The applicable California Department of Resources Recycling and Recovery (CalRecycle) Sustainable (Green) Building Program Measures are as follows: • Recycle/reuse at least 50 percent of the construction material (including, but not limited to, soil, mulch, vegetation, concrete, lumber, metal, and cardboard). • Use "green building materials" such as those materials that are rapidly renewable or resource-efficient, and recycled and manufactured in an environmentally friendly way, for at least 10 percent of the Project.	Project Engineer, Construction Contractor	During construction						
Mitigation Measures								
No measures are required.								
Biological Resources								
Project Features								
PF-BIO-1: Construction Site Housekeeping. A. Prior to ground disturbance, the Project Contractor shall install adequate erosion and sedimentation barriers (e.g., silt fencing) at the Project Area boundaries to prevent any sediment-laden	Project Contractor	Prior to ground-disturbing activities						

Requirement Description	Responsible Party	Timing / Phase	Action Taken to Comply with Requirement	Requirement Completed		Remarks	Environmental Compliance	
				Initials	Date		Initials	Date
runoff or debris from reaching the Pacific Ocean located to the south of the Project Area. B. The Project Area shall be clearly marked with construction fencing (or other highly visible material), and vehicle/equipment maintenance and fueling areas shall be located at least 100 feet away from the southern Project Area boundaries. C. To prevent inadvertent entrapment of animals during the construction phase of the proposed Project, all excavated, steep-walled holes or trenches more than 2 feet deep shall be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals. In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape. For the duration of construction activities, all food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least daily from the construction site. Use of rodenticides and herbicides in Project Area shall be restricted. This is necessary to prevent primary or secondary poisoning of predators and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the United States Environmental Protection Agency, the California Department of Food and Agriculture, and other State and federal legislation.								
Mitigation Measures								
MM-BIO-1: Pre-Construction Bat Acoustic and Emergence Survey. If construction activities are proposed at any of the bridge structures or retaining walls where suitable day-roosting habitat was identified, a nighttime acoustic and emergence survey shall be performed by a qualified bat biologist during the peak period (June or July) of the bat maternity season (April 1 through August 31) to confirm whether maternity colonies are present. These surveys should be performed by a qualified bat biologist at least one year in advance of construction so that appropriate site-specific and species-specific minimization measures can be developed in coordination with the California Department of Fish and Wildlife (CDFW) and a qualified bat biologist. If any maternity colonies are found, a Bat Habitat Mitigation and Monitoring Plan (BHMMP) shall be prepared by a CDFW-approved biologist with demonstrated success in designing effective minimization and mitigation measures for bats. This BHMMP will include site- and Project-specific impact minimization measures that include, but are not limited to, seasonal avoidance of certain construction activities and/or humane eviction/ exclusion if warranted, roosting habitat mitigation associated with any eviction/ exclusion, noise abatement, focused night-lighting, and construction monitoring of roosting bats.	Qualified Bat Biologist CDFW-Approved Biologist	Prior to and during construction during the peak period (June or July) of the bat maternity season (April 1 through August 31).						

Requirement Description	Responsible Party	Timing / Phase	Action Taken to Comply with Requirement	Requirement Completed		Remarks	Environmental Compliance	
				Initials	Date		Initials	Date
MM-BIO-2: Tree Trimming and Removal. To the greatest extent feasible, tree trimming/removal activities shall be performed outside the bat maternity season (April 1 through August 31) to avoid direct impacts to nonvolant (flightless) young that may roost in palm trees within the biological study area. This period also coincides with the bird nesting season of March 15 through September 15. If trimming or removal of palm trees during the bat maternity season (April 1 through August 31) cannot be avoided, any trees that have also been identified as containing suitable bat roosting habitat will be surveyed at night within 3 days prior to removal to identify any maternity roosts and avoid "take" of juvenile bats. These surveys must include acoustic monitoring and observation with night vision equipment to adequately confirm absence of bats. Any trees confirmed during those surveys as housing bat maternity colonies will be avoided until the end of the maternity season to avoid potential mortality of juvenile bats.	Project Engineer, Construction Contractor	Trimming or removal of palm trees during the bat maternity season (April 1 through August 31)						
MM-BIO-3: Pre-Construction Nesting Bird Surveys and Active Nest Avoidance Buffers. If tree removal, vegetation removal, construction, or grading activities are planned to occur within the active nesting bird season (February 15 through August 31), a qualified biologist should conduct a pre-construction nesting bird survey no more than 3 days prior to the start of such activities. The nesting bird survey should include the Project Area and areas immediately adjacent to the Project Area that could potentially be affected by Project-related activities such as noise, vibration, increased human activity, and dust, etc. If active bird nests are found within areas that could be directly or indirectly impacted by Project-related activities, the qualified biologist should establish an appropriate buffer zone around the active nest(s). The appropriate buffer shall be determined by the qualified biologist based on species, location, and the nature of the proposed activities. proposed Project activities shall be avoided within the buffer zone until the nest is deemed no longer active by the qualified biologist.	Construction Contractor, Qualified Biologist	3 days prior to the start of ground-disturbing activities occurring within the active nesting bird season (February 15 through August 31).						
MM-BIO-4: Tree Removal Permits. If there are impacts to toyon shrubs which measure four inches or more in cumulative diameter, four and one-half feet above the ground level at the base of the shrub, and which were not part of a planting program, a permit shall be obtained from the City of Los Angeles. The permit will specify and approve the location or locations to which said tree or shrub may be relocated, designate the species, number, and size of any replacement trees or shrubs. A permit fee and inspection fee would also be required. The removal of street or parkway trees, including trees within the Million Tree Initiative area, would require that the applicable City of Los Angeles or City of Long Beach tree removal permits be obtained prior to removal. The Project shall comply with any requirements to replace parkway trees with a tree of the type and size specified in the permits, and required permit fees shall be paid.	City, Qualified Biologist	Prior to removal						

Requirement Description	Responsible Party	Timing / Phase	Action Taken to Comply with Requirement	Requirement Completed		Remarks	Environmental Compliance	
				Initials	Date		Initials	Date
Cultural Resources								
Project Features								
PF-CUL-1: Human Remains: In the event that human remains are encountered on the Project site, work within 50 feet of the discovery shall be redirected and the County Coroner notified immediately consistent with the requirements of California Code of Regulations (CCR) Section 15064.5(e). State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code (PRC) Section 5097.98. If the remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission (NAHC), which shall determine and notify a Most Likely Descendant (MLD). With the permission of the City of Los Angeles the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Consistent with CCR Section 15064.5(d), if the remains are determined to be Native American and an MLD is notified, the City shall consult with the MLD as identified by the NAHC to develop an agreement for treatment and disposition of the remains. Prior to the issuance of grading permits, the Director of the City Development Services Department, or designee, shall verify that all grading plans specify the requirements of CCR Section 15064.5(e), State Health and Safety Code Section 7050.5, and PRC Section 5097.98, as stated above.	Construction Contractor, County Coroner, City	During construction activities						
Mitigation Measures								
No measures are required.								
Geology and Soils								
Project Features								
PF-GEO-1: Final Geotechnical Report. The City's Construction Contractor shall implement the recommendations of the Final Geotechnical Investigation Report prepared for this project and applicable sections of the most current California Building Code (CBC). The project specific Final Geotechnical Investigation Report must adequately assess and mitigate risk of liquefaction in the Project Area. Prior to the issuance of building permits for planned structures, the Project Soils Engineer shall review building plans to verify that the structural design conforms to the requirements of the Geotechnical Investigation Report and the Cities of Los Angeles and Long Beach Municipal Codes. Preservation of Existing Landscape**.**	City Construction Contractor, Project Soils Engineer	Prior to the issuance of building permits						
Mitigation Measures								
No measures are required.								

Requirement Description	Responsible Party	Timing / Phase	Action Taken to Comply with Requirement	Requirement Completed		Remarks	Environmental Compliance	
				Initials	Date		Initials	Date
Noise								
Project Features								
PF-NOI-1: Los Angeles Noise Ordinance. Section 41.40 of the Los Angeles Municipal Code limits construction activities, including the delivery of construction materials, to the hours of 7:00 a.m. to 9:00 p.m. Monday through Friday, and 8:00 AM to 6:00 PM on Saturday (no work is allowed on Sundays or national holidays) (City of Los Angeles, 2022b). Construction activities to prepare the site (completed by the Port) would typically occur Monday through Friday between 7:00 a.m. and 5:00 p.m., which would comply with the Los Angeles Municipal Code time restrictions; however, dredging activities would occur 24 hours per day requiring a variance.	Construction Contractor	During construction						
Mitigation Measures								
No measures are required.								
Transportation								
Project Features								
No project features are required.								
Mitigation Measures								
MM-Tran-1: Transportation Management Plan (TMP). During final design, the Project Engineer shall prepare a Final TMP. The objectives of the TMP will be to: • Maintain traffic safety during construction; • Effectively maintain an acceptable level of traffic flow along the SR-47; • Minimize traffic delays and facilitate reduction of duration of construction activities; • Minimize detours and impacts to pedestrians and bicyclists; • Foster public awareness of the Project and related impacts; and • Incorporate input on the Final TMP measures from stakeholders.	Project Engineer, City Engineer	During final design						

Requirement Description	Responsible Party	Timing / Phase	Action Taken to Comply with Requirement	Requirement Completed		Remarks	Environmental Compliance	
				Initials	Date		Initials	Date
Depending upon the extent of potential detours, the TMP may entail deployment of cameras and a web-based public information system. Portable changeable signs will also be deployed, as necessary. The TMP shall address all aspects of transportation effects of all construction activities on vehicular, pedestrian, and bicycle access and mobility, including: temporary lane, sidewalk closures; detours; increases in traffic volumes (including regular traffic and construction traffic, construction equipment, materials delivery vehicles, waste/haul vehicles, and employee commutes); and potential effects on emergency services (e.g., fire, police, ambulances), transit services, bicyclists, and pedestrians. The development of the TMP will be closely coordinated with local jurisdictions (cities and the county), and other potentially affected parties (school bus and transit operators and police, fire, and emergency services providers). The TMP shall identify specific TMP strategies, the party/parties responsible for implementing those strategies, the agencies and parties the TMP strategies will be coordinated with, and the timing of the implementation of those strategies. The TMP shall include information in other languages as determined by the local jurisdictions. The Final TMP shall be approved by the City Engineer and incorporated into the final design plans and specifications.								

APPENDIX B

Built Environment Memorandum

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LSA

CARLSBAD
CLOVIS
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: August 24, 2023

TO: Lisa Ochsner, Port of Los Angeles, Environmental Management Division

FROM: Casey Tibbet, LSA Architectural Historian

SUBJECT: Port of Los Angeles Navy Way Interchange Project, Port of Los Angeles (LSA Project Number 20231056.01)

The Port of Los Angeles (POLA) is proposing to improve the existing partial interchange at State Route 47 (SR-47)/Seaside Avenue/Navy Way (Proposed Project) (see Attachment A Project Area). The Project limits on Seaside Avenue extend from just east of the California Department of Transportation (Caltrans) controlled SR-47/Vincent Thomas Bridge approach at the City of Los Angeles (City)/POLA boundary to the east past the POLA/Port of Long Beach (POLB) boundary towards the Pier S Avenue interchange, from approximately Post Mile [PM] 1.8 to PM R3.5. The Proposed Project directly serves 10 percent of all United States (U.S.) waterborne containers entering and exiting the entire U.S., and reduces:

- Accident potential on a high-speed highway with a history of fatal and injury accidents;
- Vehicular (including truck) delay/hours of travel; and
- Emissions (including greenhouse gases) at the center of the largest port complex in the western hemisphere**,** which is directly adjacent to the Wilmington and San Pedro communities in the City of Los Angeles, which are also two of the most "Disadvantaged/Low Income Communities" (DAC) as designated by the State of California.

Proposed improvements include the following:

- A new westbound auxiliary lane on SR-47, between Pier S Avenue and Navy Way;
- Widening of the north side of the existing freeway bridge over POLA/POLB owned rail tracks, which includes reconstruction of the existing 490-foot retaining wall and construction of a new 100-foot retaining wall;
- Widening of the existing westbound off-ramp from one lane to two lanes from Seaside Avenue to approximately to the existing split between the westbound Terminal Way connector and the southbound Navy Way viaduct, that also entails a third split lane that creates a fifth leg at the Navy Way/Terminal Way/Reeves Avenue intersection:
    - Including potential settlement mitigation;

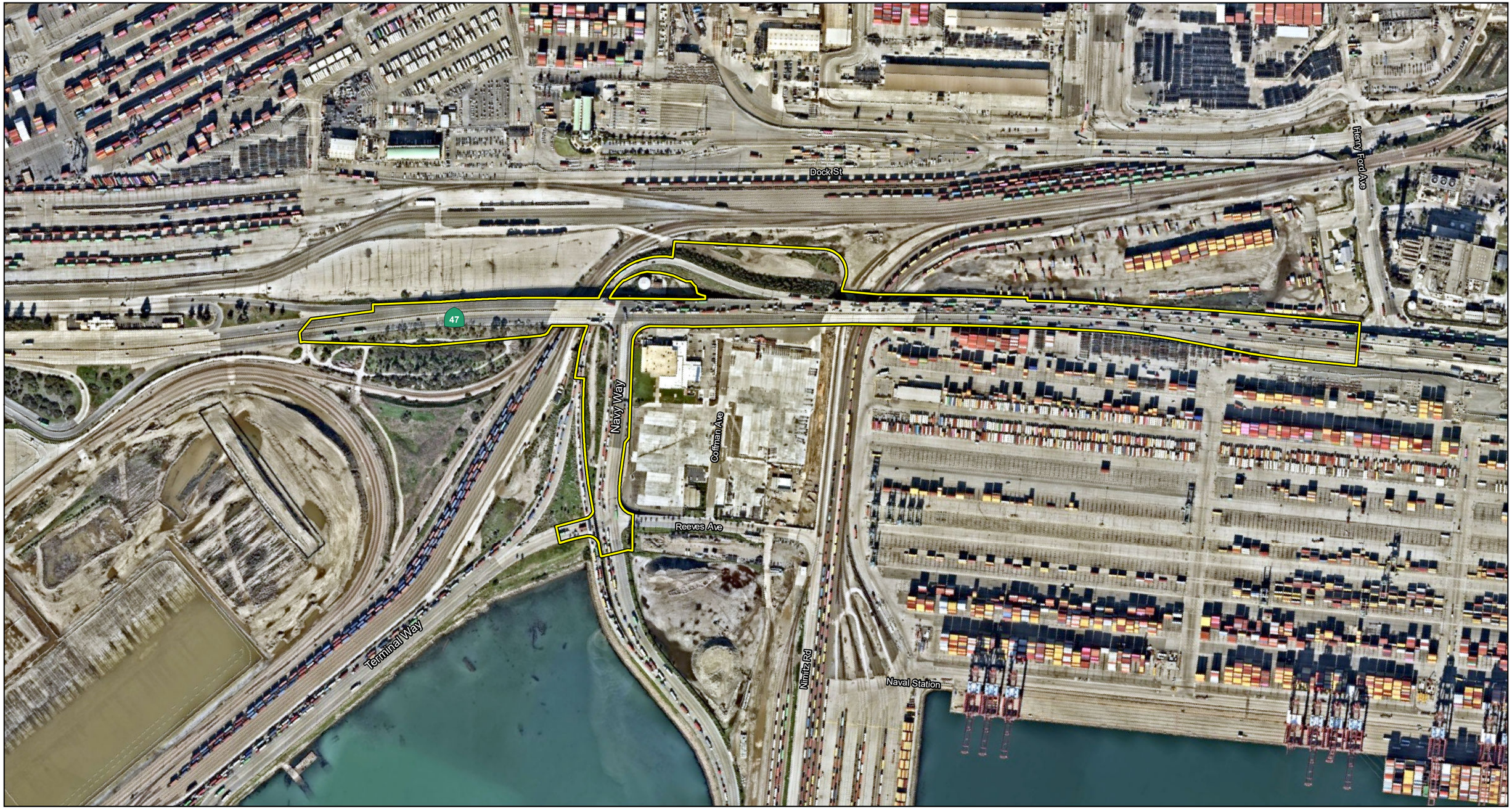
- Restriping of the northbound approach of the Navy Way/Terminal Way/Reeves Avenue intersection to provide a dual northbound left-turn lane;
- Necessary traffic signal modifications at the Navy Way/Terminal Way/Reeves Avenue intersection;
- New eastbound two-lane collector-distributor road within the existing facility, between just east of the Ferry Street interchange eastbound on-ramp and the Pier S Avenue interchange eastbound off-ramp:
    - Including installation of a new two-phase traffic signal at the intersection of the eastbound frontage road with existing Navy Way, controlling eastbound through and right-turns and northbound right-turns from Navy Way;
    - Eastbound on-ramp from frontage road to the Ocean Boulevard mainline; and
- Improvements along Terminal Island/SR-47 between Vincent Thomas Bridge and the International Gateway Bridge, including installation of concrete barrier, restriping and removal of the existing traffic signal.

As part of the environmental analysis for the Proposed Project, LSA has determined that there are no historic-period (50 years of age or older) built environment resources within the Project Area. Both bridges (Bridges 53 2789 and 53 2817) in the Project Area were built in 1995 (Attachment B). The railroad facilities are outside the vertical Project Area.

Attachments: A - Project Area
B - Caltrans Bridge List

ATTACHMENT A

PROJECT AREA



LSA

LEGEND

Project Area

N

0 225 450
FEET

SOURCE: Nearmap (1/17/2023)

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POLA Navy Way Interchange Project

Project Area

ATTACHMENT B

CALTRANS BRIDGE LIST

Structure Maintenance & Investigations

Historical Significance - State Agency Bridges

District 07

Los Angeles County

Bridge Number	Bridge Name	Location	Historical Significance	Year Built	Year Wid/Ext
53 2768R	STUDEBAKER SIDEHILL VIADUCT	07-LA-405-0.46-LBCH	5. Bridge not eligible for NRHP	1993	
53 2769K	S405 OFF RAMP SIDEHILL VIADUCT	07-LA-405-0.66-LBCH	5. Bridge not eligible for NRHP	1993	
53 2772	96TH STREET OC	07-LA-001-27.40-LA	5. Bridge not eligible for NRHP	1993	
53 2773K	39TH STREET RAMP SEPARATION	07-LA-110-19.60-LA	5. Bridge not eligible for NRHP	1996	
53 2775	VALLEY CIRCLE BLVD OC	07-LA-101-27.36-LA	5. Bridge not eligible for NRHP	1996	
53 2776R	SLAUSON AVENUE BUS POC	07-LA-110-17.93-LA	5. Bridge not eligible for NRHP	1996	
53 2778R	KING SIDEHILL VIADUCT	07-LA-110-19.52-LA	5. Bridge not eligible for NRHP	1996	
53 2780F	S405-N710 CONNECTOR OC	07-LA-405-7.79-LBCH	5. Bridge not eligible for NRHP	1997	
53 2782	FAIR OAKS-E210 HOV RAMP	07-LA-210-R25.30-PAS	5. Bridge not eligible for NRHP	1996	
53 2784K	WARDLOW ROAD UC (OFF-RAMP)	07-LA-405-6.50-LBCH	5. Bridge not eligible for NRHP	1994	
53 2785S	PICO AVENUE ON-RAMP OVERHEAD	07-LA-710-5.98-LBCH	5. Bridge not eligible for NRHP	1994	
53 2786K	PICO AVENUE OFF-RAMP OH	07-LA-710-6.00-LBCH	5. Bridge not eligible for NRHP	1994	
53 2789	NAVY WAY OVERHEAD	07-LA-047-2.60-LA	5. Bridge not eligible for NRHP	1995	
53 2790L	GAVIN CANYON UC	07-LA-005-R47.83	5. Bridge not eligible for NRHP	1994	2015
53 2790R	GAVIN CANYON UC	07-LA-005-R47.83	5. Bridge not eligible for NRHP	1994	2015
53 2791	LA CIENEGA-VENICE SEPARATION	07-LA-010-R8.83-LA	5. Bridge not eligible for NRHP	1994	
53 2791S	LA CIENEGA-VENICE SEP (EB RAMPS)	07-LA-010-R8.83-LA	5. Bridge not eligible for NRHP	1994	
53 2792	FAIRFAX-WASHINGTON UC	07-LA-010-R9.31-LA	5. Bridge not eligible for NRHP	1994	
53 2793L	MISSION-GOTHIC UC	07-LA-118-R8.63-LA	5. Bridge not eligible for NRHP	1994	
53 2793R	MISSION-GOTHIC UC	07-LA-118-R8.63-LA	5. Bridge not eligible for NRHP	1994	
53 2794L	BULL CREEK CANYON CHANNEL	07-LA-118-R8.84-LA	5. Bridge not eligible for NRHP	1994	
53 2794R	BULL CREEK CANYON CHANNEL	07-LA-118-R8.84-LA	5. Bridge not eligible for NRHP	1994	
53 2795F	S14-S5 CONNECTOR OH	07-LA-014-R24.79-LA	5. Bridge not eligible for NRHP	1994	2014
53 2795G	ROUTE 14/5 SEPARATION OVERHEAD	07-LA-005-R45.58-LA	5. Bridge not eligible for NRHP	1994	2013
53 2796F	S14-N5 CONNECTOR OC	07-LA-014-R24.92-LA	5. Bridge not eligible for NRHP	1994	
53 2797F	S5-N14 CONNECTOR OC	07-LA-005-R45.69-LA	5. Bridge not eligible for NRHP	1994	
53 2798	SOUTH SLIDE CANYON VIADUCT	07-LA-002-28.43-PAS	5. Bridge not eligible for NRHP	1995	
53 2799	NORTH SLIDE CANYON VIADUCT	07-LA-002-28.46-PAS	5. Bridge not eligible for NRHP	1995	
53 2800F	W105-S1 CONNECTOR OC	07-LA-105-R0.44-LA	5. Bridge not eligible for NRHP	1990	
53 2801F	S1-E105 CONNECTOR SEPARATION	07-LA-001-25.95-LA	5. Bridge not eligible for NRHP	1990	
53 2802F	W105-N1 CONNECTOR OC	07-LA-105-R0.53-LA	5. Bridge not eligible for NRHP	1990	2010
53 2803K	NASH STREET OFF-RAMP OC	07-LA-105-R0.98-LA	5. Bridge not eligible for NRHP	1989	
53 2805G	E105-N&S405 CONNECTOR	07-LA-105-R1.63-LA	5. Bridge not eligible for NRHP	1990	
53 2806S	IMPERIAL HIGHWAY EB ON-RAMP	07-LA-105-R1.79-LA	5. Bridge not eligible for NRHP	1989	
53 2807K	IMPERIAL HIGHWAY WB OFF-RAMP	07-LA-105-R1.79-LA	5. Bridge not eligible for NRHP	1990	
53 2808	EASTBOUND LRT FLYOVER (LRT VIADUCT)	07-LA-105-R1.79-LA	5. Bridge not eligible for NRHP	1989	
53 2809L	BUTTE CANYON	07-LA-005-R50.80	5. Bridge not eligible for NRHP	1994	
53 2809R	BUTTE CANYON	07-LA-005-R50.80	5. Bridge not eligible for NRHP	1994	
53 2810K	SANTA FE-S405/S405-S710	07-LA-405-7.71-LBCH	5. Bridge not eligible for NRHP	2001	
53 2811	SAN MARTINEZ GRANDE	07-LA-126-R1.44	5. Bridge not eligible for NRHP	1998	
53 2816	SAND CANYON ROAD OC	07-LA-014-33.42-SCTA	5. Bridge not eligible for NRHP	1998	
53 2817	NAVY MOLE OVERHEAD	07-LA-047-2.80-LA	5. Bridge not eligible for NRHP	1995	
53 2818	MALIBU LAGOON	07-LA-001-46.88-MAL	5. Bridge not eligible for NRHP	1995	

APPENDIX C-1

LADOT Transportation Assessment Guidelines Assessment

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The LADOT TAG lays out analyses required to assess the transportation impacts, also referred to as deficiencies, of projects in addition to those required by CEQA. The authority for requiring these analyses lies in the City's powers to regulate the use of land.

Pedestrian, Bicycle and Transit Access Assessment

This assessment is intended to determine a project's potential effect on pedestrian, bicycle and transit facilities in the vicinity of the proposed project. The deficiencies could be physical (through removal, modification, or degradation of facilities) or demand-based (by adding pedestrian or bicycle demand to inadequate facilities). The LADOT TAG lists the following questions, and if the answer is yes to all of them, further analysis would be required to assess whether the project would negatively affect existing pedestrian, bicycle, or transit facilities:

- Does the land use project involve a discretionary action that would be under review by the Department of City Planning?
- Does the land use project include the construction, or addition of:
    - 50 (or more) dwelling units or guest rooms or combination thereof, or
    - 50,000 square feet (or more) of non-residential space?
- Would the project generate a net increase of 1,000 or more daily vehicle trips, or is the project's frontage along an Avenue, Boulevard, or Collector (as designated in the City's General Plan) 250 linear feet or more, or is the project's building frontage encompassing an entire block along an Avenue or Boulevard (as designated in the City's General Plan)?

This project does not include a discretionary action by the Department of City Planning, and does not produce any vehicle, pedestrian or bicycle trips. In addition, this project does not lead to the degradation of existing pedestrian, bicycle, or transit facilities, and does not intensify the use of existing pedestrian, bicycle, or transit facilities. Therefore, the project does not negatively affect transportation facilities for these users, and no further analysis is required.

Project Access Safety and Circulation Evaluation

This evaluation determines if constraints due to the project will lead to site access, safety, and circulation deficiencies in the project vicinity. For transportation projects, if the answer is yes to the following question, further analysis will be required to assess how the project would affect access and circulation:

- Does the Project reduce travel lane capacity on a road that would be expected to carry more than 750 vehicles per hour per lane for at least two (2) consecutive hours in a 24-hour period after the project is completed?

The Project will reduce the westbound through lanes from three to two lanes at the project site; the roadway is expected to accommodate more than 30,000 vehicles on average on a daily basis in the westbound direction. Therefore, the POLA has performed the following evaluation to ensure the Project does not cause a deficiency for this assessment.

Operational Evaluation

CEQA no longer requires that an environmental document analyze the effects of a project's truck traffic on the transportation system, but instead focuses on passenger vehicle travel. Although not required by

CEQA, this Initial Study/Mitigated Negative Declaration (IS/MND) presents, for informational purposes, an assessment of the potential effects of Project-related truck traffic on local intersections and weave segment.

Existing traffic Conditions

The evaluation of existing traffic conditions was performed at five intersection locations and one weaving location, using 2023 traffic counts and a traffic operating conditions assessment, known as level of service (LOS). The results of the analyses are presented below in Tables B-1 and B-2. The operations of the study locations were evaluated during the weekday morning (AM), mid-day (MD) and evening (PM) peak hours. As shown in Tables B-1 and B-2 the study locations currently operate at an acceptable LOS C or better.

TABLE B-1: **SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS**
EXSITING CONDITIONS

No.	Intersection	Peak Hour	Existing (2023) Conditions	
			Delay (s)	LOS
1.	Navy Way & Seaside Avenue (SR-47)	AM	11	B
		MD	16	B
		PM	22	C
2.	Navy Way & Terminal Way/Reeves Avenue	AM	26	C
		MD	27	C
		PM	27	C
3.	Ferry Street & SR-47 Eastbound Ramps	AM	15	B
		MD	10	B
		PM	9	A
4.	Pier S Avenue & Ocean Boulevard Westbound	AM	17	B
		MD	19	B
		PM	14	B
5.	Pier S Avenue & Ocean Boulevard Eastbound	AM	17	B
		MD	13	B
		PM	10	A

Delay - Average vehicle delay in seconds
LOS - Level of Service

TABLE B-2: **WEAVING ANALYSIS SUMMARY**
EXSITING CONDITIONS

Weave Section *	Peak Hour	Existing (2023) Conditions		
		Average Speed (mph)	Average Density (pc/mi/ln)	LOS
Seaside Avenue between Navy Way and Pier S Avenue EB Off-Ramp	AM	57	15	B
-Eastbound Direction (1-Sided Weave Section)	MD	53	22	C
	PM	54	23	C

* Results based on HCS7,
mph – Miles per hour; pc/mi/ln – Passenger cars per mile per lane; LOS – Level of Service

Methodology

The intersection analysis was conducted using Synchro Software and the weave section was analyzed using Highway Capacity Software (HCS), both based on the methodologies contained in the Highway Capacity Manual (2000). Tables B-3 and B-4 present the LOS Criteria as defined by the Highway Capacity Manual.

TABLE B-3: LOS DEFINITIONS FOR INTERSECTION

Level of Service	Average Delay (sec/vehicle)	General Description
A	≤10	Free Flow
B	>10 - 20	Stable Flow (slight delays)
C	>20 - 35	Stable Flow (acceptable delays)
D	>35 - 55	Approaching Unstable Flow (tolerable delay, occasionally wait through more than one signal cycle to proceed)
E	E >55 - 80	Unstable Flow (intolerable delay)
F	F >80	Forced Flow (jammed)

TABLE B-4: LOS DEFINITIONS FOR FREEWAY WEAVING SEGMENTS

LOS	Density (pc/mi/ln)
A	0-10
B	>10 - 20
C	>20 - 28
D	>28 - 35
E	>28 - 43
F	>43 or demand exceeds capacity

LOS – Level of Service; pc/mi/ln – Passenger cars per mile per lane

Future traffic volumes

This project is expected to be completed in 2029; therefore, this project is considered a longer-term lane reconfiguration project and required the development of a traffic model to reflect the year 2029 conditions. The Port, in conjunction with the Port of Long Beach (POLB), jointly prepare long-term container and other cargo demand forecasts using macro-economic models, most recently completed in 2016. In addition to forecasting future cargo volumes, the two Ports evaluate the physical/operational capacity of the marine terminals to handle those volumes, including the rail yards and rail system. To estimate the future maximum or optimal capacity of each terminal through 2045 and beyond, the Ports use a methodology that relies on two capacity models: one that analyzes the terminals' backland (i.e., container yard, or CY) capacity and one that analyzes the terminals' berth capacity) a terminal could be berth constrained or backlands constrained or evenly balanced between the two). For the CY capacity, the Port has also utilized a simulation model to aid the estimate of overall terminal capacity, when and where appropriate. The following parameters are accounted for when estimating the terminal's' capacity: length of a berth; size of CY and storage slots (grounded and wheeled); hours of operation; crane productivity; and container dwell time.

Using Year 2029 container volume projections for the Port and POLB, the truck trip estimates associated with those container volumes have been quantified using the Ports' container truck trip generation model, called "QuickTrip". This model was developed several years ago and was recognized by the Institute of Transportation Engineers (ITE), garnering the awarding of the ITE 2002 "Innovative Intermodal Solutions for Urban Transportation" award. This trip generation model is also used by the Southern California Association of Governments (SCAG) in their federally required Regional Transportation Plan. The QuickTrip model is enhanced on a continual basis to reflect updated cargo demand forecasts, terminal capacities, terminal operating parameters, and other assumptions.

The Port utilizes a detailed travel demand model called PortTAM, which is a focus model of the SCAG RTP model. Using the QuickTrip and PortTAM models, the traffic volumes on the regional roadway system were produced for year 2029 conditions for No Build and Build conditions. The Port then utilized the Transportation Research Board Highway Capacity Manual (HCM) intersection level of service (LOS) methodology and Highway Capacity Software (HCS) to evaluate the LOS at all intersections (including the new intersection of the eastbound collector-distributor road adjacent to eastbound Seaside Avenue and

Navy Way northbound right-turns under Build conditions), weaving sections, on-ramp merging, and off-ramp diverging locations.

The intersection delay and LOS, merge/diverge/weaving section density and LOS, and queuing results are summarized in the following tables for opening year conditions.

Intersection Delay

Intersection	Peak Hour	2029 No Build		2029 Build	
		Delay/Veh (Seconds)	LOS	Delay/Veh (Seconds)	LOS
1. Seaside Avenue & Navy Way (No Build) / Seaside Avenue Connector & Navy Way (Build)	AM	12	B	10	B
	MD	12	B	18	B
	PM	162	F	18	B
2. Terminal Way/Reeves Ave & Navy Way	AM	24	C	33	C
	MD	29	C	41	D
	PM	30	C	46	D
3. SR-47 Eastbound Ramps & Ferry St	AM	18	B	17	B
	MD	11	B	11	B
	PM	14	B	15	B
4. Ocean Blvd. Westbound & Pier S Ave	AM	18	B	18	B
	MD	23	C	23	C
	PM	25	C	25	C
5. Ocean Blvd. Eastbound & Pier S Ave	AM	16	B	19	B
	MD	11	A	11	B
	PM	15	B	15	B

Merge/Diverge/Weave Analysis

Future 2029 Build Location (Movement type)	Peak Hour	Average Density (pc/mi/ln)	LOS
Eastbound Seaside Ave between Ferry St On-Ramp and Navy Way (1-sided weave)	AM	17	B
	MD	18	B
	PM	29	D
Eastbound Seaside Ave at Navy Way On-Ramp (Merge)	AM	20	B
	MD	21	C
	PM	31	D
Westbound Seaside Ave between Pier S On-Ramp and Navy Way Off-Ramp (1-sided weave)	AM	20	C
	PM	26	C
	MD	33	D

Future 2029 No Build Location (Movement type)	Peak Hour	Average Density (pc/mi/ln)	LOS
Eastbound Seaside Ave at Navy Way On-Ramp (Merge)	AM	19	B
	MD	28	D
	PM	34	D

Eastbound Seaside Ave between Navy Way and Pier S Off-Ramp (1-sided weave)	AM	16	B
	MD	24	C
	PM	32	D
Westbound Seaside Ave at Navy Way Off-Ramp (Diverge)	AM	22	C
	MD	28	C
	PM	31	D

Queuing Analysis

Future 2029 Build Location	Approach / Movement	Storage Length (ft)	95th Percentile Queue Length (ft)		
			AM	MD	PM
1. Seaside Avenue Connector Road & Navy Way	ET	1,198	86	256	283
	ER	223	NONE	NONE	NONE
	NR (2 lanes)	850	113	489	477
2. Terminal Way/Reeves Ave & Navy Way	NL (2 lanes)	248	13	131	174
	SL	850	86	87	128
	ST	850	301	405	555
	EL (2 lanes)	850+	93	342	324
3. SR-47 Eastbound Ramps & Ferry St	NT	1,098	108	290	468
	NR	1,098	NONE	160	175
	WL/WLR	852	215	180	225
	SL	86	NONE	NONE	NONE

E = Eastbound, W = Westbound, N = Northbound, S = Southbound

L = Left-turn lane, T = Through lane, R = Right-turn lane

Future 2029 No Build Location	Approach / Movement	Storage Length (ft)	95th Percentile Queue Length (ft)		
			AM	MD	PM
1. Seaside Avenue Connector Road & Navy Way	ER	555	113	128	205
	WL1/WL2	390	30	23	30
	NL1/NL2	865	50	140	278
2. Terminal Way/Reeves Ave & Navy Way	NL	248	22	29	26
	SL	850	69	70	103
	ST	850	85	77	137
	EL	850+	76	244	209
3. SR-47 Eastbound Ramps & Ferry St	NT	1,098	88	205	303
	NR	1,098	13	160	173
	WL/WLR	852	215	180	225
	SL	86	NONE	NONE	NONE

E = Eastbound, W = Westbound, N = Northbound, S = Southbound

L = Left-turn lane, T = Through lane, R = Right-turn lane

As seen in the queuing analysis summary, the queue does not exceed the storage length for any of the intersection approaches during any of the peak periods. This, combined with the LOS results, shows that operational deficiencies will not occur with the project, and no further analysis is required. The HCS worksheets reflecting the summary tables above are included as Appendix X.2.

In addition to the queuing analysis above, project-related queuing must be analyzed to identify whether the queue would increase traffic diversion so as to burden neighborhood streets. This potential change is discussed in the "Residential Street Cut-Through Analysis" section below.

Safety Evaluation

The Port collected available collision data for the 10-year period from 2014-2023 from THE California Statewide Integrated Traffic Records System (SWITRS) and the California State Department of Transportation (Caltrans) for the project area. Also, to provide further context of the frequency of historic accidents, the accident potential for the existing roadway configuration with the current (CY2023) traffic conditions was predicted using the United States Department of Transportation *Highway Safety Manual* (HSM) "Predictive Method for Urban and Suburban Arterials Analysis" spreadsheet tool. As seen in the table below, there have been many more accidents in this area than what the HSM tool predicted.

Accident by Severity		# of Accidents per Year
Annual Average over 10-year period 2014-2023[1]	Fatal (K)	1
	Severe Injury (A)	1
	Other Visible Injury (B) & Complaint of Pain (C)	8
	Property Damage Only (PDO)	13
	Total Accidents	23
HSM Predicted Total Annual Accidents (2023 Volumes)		9
1: SWITRS and Caltrans Accident Data		

Also, as discussed in the main document under the "Increase Hazards Criteria", the POLA has completed a detailed accident analysis for opening year 2029 under both Build and No Build conditions using the Enhanced Interchange Safety Analysis Tool (ISATe), developed by the National Cooperative Research Program (NCHRP) to estimate the safety impacts of interchange re-designs.

Year 2029 Accident Rates per 100 Million VMT

Accident by Severity	No Build	Build	Delta
Fatal (K)	0.381	0.262	-0.120
Severe Injury (A)	2.502	1.342	-1.160
Other Visible Injury (B) & Complaint of Pain (C)	43.390	26.052	-17.338
Property Damage Only (PDO)	53.148	42.046	-11.102
Total Accidents	99.421	69.702	-29.720

As shown above, the Project is expected to reduce all types of accidents as compared to both historic data and No Build conditions. The project reduces the potential for accidents for vulnerable users by reducing accidents between passenger vehicles and Port trucks, which are more severe than collisions between passenger vehicles.

<u>Project Construction</u>

Under the screening criteria for project construction deficiencies outlined in the TAG, the Project's construction would negatively impact existing vehicle circulation. Therefore, the Port will implement a Transportation Management Plan (TMP) to minimize the deficiency during construction. The TMP will be developed in detail during final design of the Project and will be implemented by the construction

contractor to address short-term traffic circulation and access effects during construction. The TMP will be prepared by a qualified traffic engineer and will include (but will not be limited to) the elements listed below to reduce traveler delays and enhance traveler safety during Project construction. The TMP will be approved by the LADOT and Caltrans, and will be incorporated into the plans, specifications, and estimates (PS&E) for implementation by the construction contractor.

The purpose of the TMP is to address short-term traffic and transportation impacts during construction of the Project, and the objectives are to:

- Maintain traffic safety during construction
- Effectively maintain an acceptable level of traffic flow throughout the transportation system during construction
- Minimize traffic delays and facilitate reduction of the overall duration of construction activities
- Minimize detours and impacts to pedestrians and bicyclists
- Foster public awareness of the proposed project and related transportation and traffic impacts

The TMP will contain, but not be limited to, the following elements:

- Public Information/Public Awareness Campaign (PAC). The PAC will educate motorists, business owners, residents, elected officials, and government agencies about project construction activities and associated transportation impacts.
- Traveler Information Strategies. The TMP will provide travelers with real-time information on mainline, ramp, lane, and arterial closures and detours; travel delays; access to adjacent land uses; "businesses are open" signing; and other signing and information to assist travels in navigating through, around, and in construction areas.
- Incident Management. Effective incident management will ensure that incidents in and near construction areas are cleared quickly and do not result in substantial delays for the traveling public in the vicinity of work zones.
- Construction Strategies. The TMP will include procedures to lessen the transportation effects of project-related construction activities by considering: conflicts with other projects and special events; construction staging alternatives; mainline lane closures; traffic control improvements; and project phasing.
- Alternate Route Strategies. The TMP will provide strategies for notifying motorists, pedestrians, and bicyclists of planned construction activities. This notification will allow travelers to make informed decisions about their travel plans, including the consideration of possible alternate routes.

<u>Residential Street Cut-Through Analysis</u>

The TAG states that if the answer is yes to the following question, further analysis may be required to assess whether the project would negatively affect project access and circulation:

> Does the Project reduce travel lane capacity on a road that would be expected to carry more than 750 vehicles per hour per lane for at least two (2) consecutive hours in a 24-hour period after the project is completed?

As stated in the Operational Analysis section, the answer to the question is yes; however, the TAG further states the following criteria for selecting residential street segments for analyses, for which all the following conditions must be present:

- The Project will reduce capacity on the roadway such that motorists traveling on the roadway may opt to divert to a parallel route through a Local Street,
- The Project is projected to cause a shift of a substantial amount of traffic to alternative route(s), and
- Nearby local residential street(s) provide motorists with a viable alternative route.

There are no Local Streets or other residential streets in the Project vicinity that meet all of the conditions above, and therefore, the Project is not expected to cause any deficiencies due to residential street cut-through traffic.

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APPENDIX C-2

2029 Build HCS Intersection Worksheets

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2029 Build

HCS Intersection Worksheets

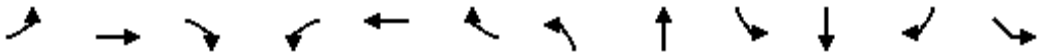
Delay/LOS/Queues

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	264	345	0	0	0	372
Future Volume (vph)	264	345	0	0	0	372
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0				5.0
Lane Util. Factor	0.95	1.00				0.88
Frt	1.00	0.85				0.85
Flt Protected	1.00	1.00				1.00
Satd. Flow (prot)	3610	1615				2842
Flt Permitted	1.00	1.00				1.00
Satd. Flow (perm)	3610	1615				2842
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	264	345	0	0	0	372
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	264	345	0	0	0	372
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA	Free				Perm
Protected Phases						
Permitted Phases	8	Free				2
Actuated Green, G (s)	36.0	90.0				44.0
Effective Green, g (s)	36.0	90.0				44.0
Actuated g/C Ratio	0.40	1.00				0.49
Clearance Time (s)	5.0					5.0
Vehicle Extension (s)	5.0					3.0
Lane Grp Cap (vph)	1444	1615				1389
v/s Ratio Prot						
v/s Ratio Perm	0.07	c0.21				c0.13
v/c Ratio	0.18	0.21				0.27
Uniform Delay, d1	17.5	0.0				13.5
Progression Factor	1.00	1.00				1.00
Incremental Delay, d2	0.3	0.3				0.5
Delay (s)	17.8	0.3				14.0
Level of Service	B	A				B
Approach Delay (s)	7.9			0.0	14.0	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	EBT	EBR	NBR
Lane Group Flow (vph)	264	345	372
v/c Ratio	0.18	0.21	0.27
Control Delay	17.9	0.3	14.2
Queue Delay	0.0	0.0	0.0
Total Delay	17.9	0.3	14.2
Queue Length 50th (ft)	50	0	67
Queue Length 95th (ft)	86	0	113
Internal Link Dist (ft)	894		
Turn Bay Length (ft)		550	
Base Capacity (vph)	1444	1615	1389
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.18	0.21	0.27

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	SBL	SBT	SBR	SEL
Lane Configurations												
Traffic Volume (vph)	136	3	6	1	32	27	9	209	50	227	69	28
Future Volume (vph)	136	3	6	1	32	27	9	209	50	227	69	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1			7.4	6.8	6.2	7.2	6.8	7.2		6.8
Lane Util. Factor	0.97	1.00			1.00	1.00	1.00	0.95	1.00	1.00		1.00
Frt	1.00	0.90			1.00	0.85	1.00	1.00	1.00	0.97		1.00
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	0.95	1.00		0.95
Satd. Flow (prot)	3502	1710			1897	1615	1805	3610	1805	1834		1805
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	0.95	1.00		0.95
Satd. Flow (perm)	3502	1710			1897	1615	1805	3610	1805	1834		1805
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	136	3	6	1	32	27	9	209	50	227	69	28
RTOR Reduction (vph)	0	5	0	0	0	24	0	0	0	0	0	0
Lane Group Flow (vph)	136	4	0	0	33	3	9	209	50	296	0	28
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split	NA		Split	NA	pm+ov	Prot	NA	Prot	NA		Perm
Protected Phases	3	3		4	4	1	5	2	1	6		
Permitted Phases						4						9
Actuated Green, G (s)	12.7	12.7			7.3	15.0	1.6	50.9	7.7	57.6		6.1
Effective Green, g (s)	12.7	12.7			7.3	15.0	1.6	50.9	7.7	57.6		6.1
Actuated g/C Ratio	0.11	0.11			0.06	0.12	0.01	0.42	0.06	0.48		0.05
Clearance Time (s)	7.1	7.1			7.4	6.8	6.2	7.2	6.8	7.2		6.8
Vehicle Extension (s)	7.5	7.5			7.0	3.0	3.0	6.9	3.0	6.2		7.0
Lane Grp Cap (vph)	370	180			115	201	24	1531	115	880		91
v/s Ratio Prot	c0.04	0.00			c0.02	0.00	0.00	0.06	c0.03	c0.16		
v/s Ratio Perm						0.00						c0.02
v/c Ratio	0.37	0.02			0.29	0.02	0.38	0.14	0.43	0.34		0.31
Uniform Delay, d1	49.9	48.1			53.9	46.0	58.7	21.1	54.1	19.3		54.9
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	2.4	0.2			4.9	0.0	9.8	0.2	2.6	1.0		6.8
Delay (s)	52.3	48.3			58.8	46.1	68.5	21.3	56.7	20.4		61.7
Level of Service	D	D			E	D	E	C	E	C		E
Approach Delay (s)		52.1			53.0			23.3		25.6		61.7
Approach LOS		D			D			C		C		E

Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	35.3
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	60		
c Critical Lane Group			

Movement	SER
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	Perm
Protected Phases	
Permitted Phases	9
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR2	NBL2	NBT	SBL	SBT	SEL
Lane Group Flow (vph)	136	9	33	27	9	209	50	296	28
v/c Ratio	0.37	0.05	0.18	0.07	0.07	0.12	0.36	0.28	0.19
Control Delay	53.0	33.6	52.2	0.4	54.1	23.5	59.4	19.8	54.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.0	33.6	52.2	0.4	54.1	23.5	59.4	19.8	54.3
Queue Length 50th (ft)	51	2	24	0	7	58	38	140	21
Queue Length 95th (ft)	93	21	63	0	27	105	86	301	57
Internal Link Dist (ft)		513	415			750		951	340
Turn Bay Length (ft)					245				
Base Capacity (vph)	376	189	199	404	132	1743	183	1043	153
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.05	0.17	0.07	0.07	0.12	0.27	0.28	0.18

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	491	10	359	322	8	530
Future Volume (veh/h)	491	10	359	322	8	530
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	500	0	359	52	8	530
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	697	310	1221	1345	652	2497
Arrive On Green	0.19	0.00	0.64	0.64	0.01	0.69
Sat Flow, veh/h	3619	1610	1900	1610	1810	3705
Grp Volume(v), veh/h	500	0	359	52	8	530
Grp Sat Flow(s),veh/h/ln	1810	1610	1900	1610	1810	1805
Q Serve(g_s), s	11.6	0.0	7.5	0.5	0.1	4.8
Cycle Q Clear(g_c), s	11.6	0.0	7.5	0.5	0.1	4.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	697	310	1221	1345	652	2497
V/C Ratio(X)	0.72	0.00	0.29	0.04	0.01	0.21
Avail Cap(c_a), veh/h	1086	483	1221	1345	805	2497
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.0	0.0	7.1	1.3	5.3	5.0
Incr Delay (d2), s/veh	3.9	0.0	0.6	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	0.0	5.2	0.6	0.1	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.9	0.0	7.7	1.3	5.3	5.2
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	500		411			538
Approach Delay, s/veh	37.9		6.9			5.2
Approach LOS	D		A			A

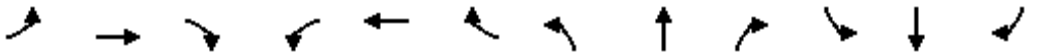
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	4.4	63.3		22.3		67.7
Change Period (Y+Rc), s	3.5	5.4		* 5		5.4
Max Green Setting (Gmax), s	8.5	40.6		* 27		52.6
Max Q Clear Time (g_c+I1), s	2.1	9.5		13.6		6.8
Green Ext Time (p_c), s	0.0	6.5		3.7		8.0

Intersection Summary	
HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

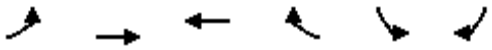


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	723	355	0	189	0	0	262	173
Future Volume (vph)	0	0	0	0	723	355	0	189	0	0	262	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0	5.3		6.0			5.3	5.3
Lane Util. Factor					0.95	0.88		0.95			0.95	1.00
Frt					1.00	0.85		1.00			1.00	0.85
Flt Protected					1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)					3610	2842		3610			3610	1615
Flt Permitted					1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)					3610	2842		3610			3610	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	723	355	0	189	0	0	262	173
RTOR Reduction (vph)	0	0	0	0	0	104	0	0	0	0	0	69
Lane Group Flow (vph)	0	0	0	0	723	251	0	189	0	0	262	104
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type					NA	custom		NA			NA	custom
Protected Phases												
Permitted Phases					6	4 6		5			4	4 5
Actuated Green, G (s)					63.7	87.3		16.4			17.6	39.3
Effective Green, g (s)					63.7	81.3		16.4			17.6	39.3
Actuated g/C Ratio					0.55	0.71		0.14			0.15	0.34
Clearance Time (s)					6.0			6.0			5.3	
Vehicle Extension (s)					3.9			2.0			3.9	
Lane Grp Cap (vph)					1999	2009		514			552	551
v/s Ratio Prot												
v/s Ratio Perm					c0.20	0.09		c0.05			c0.07	0.06
v/c Ratio					0.36	0.12		0.37			0.47	0.19
Uniform Delay, d1					14.3	5.4		44.6			44.5	26.6
Progression Factor					1.00	1.00		0.07			1.00	1.00
Incremental Delay, d2					0.5	0.0		0.1			0.9	0.2
Delay (s)					14.8	5.5		3.1			45.3	26.9
Level of Service					B	A		A			D	C
Approach Delay (s)		0.0			11.7			3.1			38.0	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	723	355	189	262	173
v/c Ratio	0.36	0.16	0.37	0.47	0.27
Control Delay	16.4	0.7	4.8	46.6	10.5
Queue Delay	0.0	0.0	0.2	0.0	0.0
Total Delay	16.4	0.7	4.9	46.6	10.5
Queue Length 50th (ft)	149	0	2	94	34
Queue Length 95th (ft)	274	20	4	146	87
Internal Link Dist (ft)	597		72	329	
Turn Bay Length (ft)					
Base Capacity (vph)	1998	2352	878	712	773
Starvation Cap Reductn	0	0	228	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.36	0.15	0.29	0.37	0.22

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	189	238	0	0	262	0
Future Volume (vph)	189	238	0	0	262	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			5.3	
Lane Util. Factor	1.00	0.95			0.97	
Frt	1.00	1.00			1.00	
Flt Protected	0.95	1.00			0.95	
Satd. Flow (prot)	1805	3610			3502	
Flt Permitted	0.95	1.00			0.95	
Satd. Flow (perm)	1805	3610			3502	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	189	238	0	0	262	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	189	238	0	0	262	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			Perm	
Protected Phases	5					
Permitted Phases		2			4	
Actuated Green, G (s)	16.4	86.1			17.6	
Effective Green, g (s)	16.4	86.1			17.6	
Actuated g/C Ratio	0.14	0.75			0.15	
Clearance Time (s)	6.0	6.0			5.3	
Vehicle Extension (s)	2.0	3.9			3.9	
Lane Grp Cap (vph)	257	2702			535	
v/s Ratio Prot	c0.10					
v/s Ratio Perm		c0.07			c0.07	
v/c Ratio	0.74	0.09			0.49	
Uniform Delay, d1	47.2	3.9			44.6	
Progression Factor	1.00	1.00			0.07	
Incremental Delay, d2	9.5	0.1			0.9	
Delay (s)	56.8	4.0			4.0	
Level of Service	E	A			A	
Approach Delay (s)		27.3	0.0		4.0	
Approach LOS		C	A		A	

Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	EBL	EBT	SBL
Lane Group Flow (vph)	189	238	262
v/c Ratio	0.74	0.09	0.49
Control Delay	65.0	4.4	6.1
Queue Delay	0.0	0.0	0.1
Total Delay	65.0	4.4	6.2
Queue Length 50th (ft)	136	21	3
Queue Length 95th (ft)	230	43	8
Internal Link Dist (ft)		555	72
Turn Bay Length (ft)	325		
Base Capacity (vph)	439	2702	691
Starvation Cap Reductn	0	0	50
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.43	0.09	0.41

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	613	378	0	0	0	1369
Future Volume (vph)	613	378	0	0	0	1369
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0				5.0
Lane Util. Factor	0.95	1.00				0.88
Frt	1.00	0.85				0.85
Flt Protected	1.00	1.00				1.00
Satd. Flow (prot)	3610	1615				2842
Flt Permitted	1.00	1.00				1.00
Satd. Flow (perm)	3610	1615				2842
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	613	378	0	0	0	1369
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	613	378	0	0	0	1369
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA	Free				Perm
Protected Phases						
Permitted Phases	8	Free				2
Actuated Green, G (s)	23.0	90.0				57.0
Effective Green, g (s)	23.0	90.0				57.0
Actuated g/C Ratio	0.26	1.00				0.63
Clearance Time (s)	5.0					5.0
Vehicle Extension (s)	3.0					3.0
Lane Grp Cap (vph)	922	1615				1799
v/s Ratio Prot						
v/s Ratio Perm	c0.17	0.23				c0.48
v/c Ratio	0.66	0.23				0.76
Uniform Delay, d1	30.0	0.0				11.7
Progression Factor	1.00	1.00				1.00
Incremental Delay, d2	3.8	0.3				3.2
Delay (s)	33.9	0.3				14.8
Level of Service	C	A				B
Approach Delay (s)	21.1			0.0	14.8	
Approach LOS	C			A	B	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	EBT	EBR	NBR
Lane Group Flow (vph)	613	378	1369
v/c Ratio	0.66	0.23	0.76
Control Delay	34.2	0.3	15.3
Queue Delay	0.0	0.0	0.0
Total Delay	34.2	0.3	15.3
Queue Length 50th (ft)	164	0	281
Queue Length 95th (ft)	256	0	489
Internal Link Dist (ft)	894		
Turn Bay Length (ft)		550	
Base Capacity (vph)	922	1615	1799
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.66	0.23	0.76

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	562	2	23	10	23	14	180	792	7	49	172	156
Future Volume (vph)	562	2	23	10	23	14	180	792	7	49	172	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1			7.4	6.8	6.2	7.2		6.8	7.2	
Lane Util. Factor	0.97	1.00			1.00	1.00	1.00	0.95		1.00	1.00	
Frt	1.00	0.86			1.00	0.85	1.00	1.00		1.00	0.93	
Flt Protected	0.95	1.00			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	1638			1872	1615	1805	3605		1805	1764	
Flt Permitted	0.95	1.00			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	1638			1872	1615	1805	3605		1805	1764	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	562	2	23	10	23	14	180	792	7	49	172	156
RTOR Reduction (vph)	0	19	0	0	0	13	0	1	0	0	0	0
Lane Group Flow (vph)	562	6	0	0	33	1	180	798	0	49	328	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)				0								
Turn Type	Split	NA		Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	1	5	2		1	6	
Permitted Phases						4						
Actuated Green, G (s)	23.0	23.0			6.0	12.4	14.9	46.1		6.4	38.2	
Effective Green, g (s)	23.0	23.0			6.0	12.4	14.9	46.1		6.4	38.2	
Actuated g/C Ratio	0.19	0.19			0.05	0.10	0.12	0.38		0.05	0.32	
Clearance Time (s)	7.1	7.1			7.4	6.8	6.2	7.2		6.8	7.2	
Vehicle Extension (s)	7.5	7.5			7.0	3.0	3.0	6.9		3.0	6.2	
Lane Grp Cap (vph)	671	313			93	166	224	1384		96	561	
v/s Ratio Prot	c0.16	0.00			c0.02	0.00	c0.10	c0.22		0.03	0.19	
v/s Ratio Perm						0.00						
v/c Ratio	0.84	0.02			0.35	0.01	0.80	0.58		0.51	0.58	
Uniform Delay, d1	46.7	39.4			55.1	48.3	51.1	29.2		55.3	34.3	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.2	0.1			8.2	0.0	21.1	1.8		4.6	4.5	
Delay (s)	58.9	39.5			63.4	48.3	72.2	31.0		59.9	38.7	
Level of Service	E	D			E	D	E	C		E	D	
Approach Delay (s)		58.0			58.9			38.6			41.5	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	45.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	35.3
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	60		

c Critical Lane Group

Movement	SEL	SER
Lane Configurations		
Traffic Volume (vph)	15	0
Future Volume (vph)	15	0
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.8	
Lane Util. Factor	1.00	
Frt	1.00	
Flt Protected	0.95	
Satd. Flow (prot)	1805	
Flt Permitted	0.95	
Satd. Flow (perm)	1805	
Peak-hour factor, PHF	1.00	1.00
Adj. Flow (vph)	15	0
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	15	0
Heavy Vehicles (%)	0%	0%
Parking (#/hr)		
Turn Type	Perm	Perm
Protected Phases		
Permitted Phases	9	9
Actuated Green, G (s)	3.2	
Effective Green, g (s)	3.2	
Actuated g/C Ratio	0.03	
Clearance Time (s)	6.8	
Vehicle Extension (s)	7.0	
Lane Grp Cap (vph)	48	
v/s Ratio Prot		
v/s Ratio Perm	c0.01	
v/c Ratio	0.31	
Uniform Delay, d1	57.3	
Progression Factor	1.00	
Incremental Delay, d2	13.2	
Delay (s)	70.5	
Level of Service	E	
Approach Delay (s)	70.5	
Approach LOS	E	

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR2	NBL2	NBT	SBL	SBT	SEL
Lane Group Flow (vph)	562	25	33	14	180	799	49	328	15
v/c Ratio	0.84	0.08	0.21	0.03	0.81	0.49	0.41	0.49	0.12
Control Delay	60.3	16.7	55.0	0.1	82.6	28.6	64.7	36.6	55.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.3	16.7	55.0	0.1	82.6	28.6	64.7	36.6	55.3
Queue Length 50th (ft)	218	1	24	0	136	237	37	198	11
Queue Length 95th (ft)	#365	31	64	0	#294	425	88	#454	38
Internal Link Dist (ft)		513	415			750		951	340
Turn Bay Length (ft)					245				
Base Capacity (vph)	671	332	156	403	237	1638	120	666	120
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.08	0.21	0.03	0.76	0.49	0.41	0.49	0.13

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	391	12	837	748	8	703
Future Volume (veh/h)	391	12	837	748	8	703
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	402	0	837	533	8	703
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	549	244	1299	1345	273	2645
Arrive On Green	0.15	0.00	0.68	0.68	0.01	0.73
Sat Flow, veh/h	3619	1610	1900	1610	1810	3705
Grp Volume(v), veh/h	402	0	837	533	8	703
Grp Sat Flow(s),veh/h/ln	1810	1610	1900	1610	1810	1805
Q Serve(g_s), s	9.5	0.0	22.4	7.3	0.1	5.8
Cycle Q Clear(g_c), s	9.5	0.0	22.4	7.3	0.1	5.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	549	244	1299	1345	273	2645
V/C Ratio(X)	0.73	0.00	0.64	0.40	0.03	0.27
Avail Cap(c_a), veh/h	796	354	1299	1345	416	2645
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.4	0.0	8.0	1.8	7.0	4.0
Incr Delay (d2), s/veh	5.3	0.0	2.5	0.9	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.0	0.0	13.2	7.7	0.1	3.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.7	0.0	10.5	2.7	7.1	4.2
LnGrp LOS	D	A	B	A	A	A
Approach Vol, veh/h	402		1370			711
Approach Delay, s/veh	41.7		7.5			4.3
Approach LOS	D		A			A

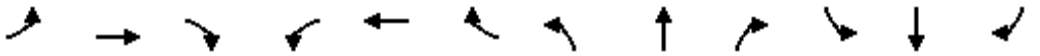
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	4.4	66.9		18.7		71.3
Change Period (Y+Rc), s	3.5	5.4		* 5		5.4
Max Green Setting (Gmax), s	8.0	48.3		* 20		59.8
Max Q Clear Time (g_c+I1), s	2.1	24.4		11.5		7.8
Green Ext Time (p_c), s	0.0	18.8		2.1		11.7

Intersection Summary	
HCM 6th Ctrl Delay	12.1
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

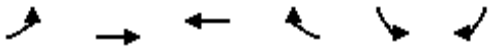


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1326	351	0	147	0	0	436	338
Future Volume (vph)	0	0	0	0	1326	351	0	147	0	0	436	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0	5.3		6.0			5.3	5.3
Lane Util. Factor					0.95	0.88		0.95			0.95	1.00
Frt					1.00	0.85		1.00			1.00	0.85
Flt Protected					1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)					3610	2842		3610			3610	1615
Flt Permitted					1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)					3610	2842		3610			3610	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	1326	351	0	147	0	0	436	338
RTOR Reduction (vph)	0	0	0	0	0	93	0	0	0	0	0	20
Lane Group Flow (vph)	0	0	0	0	1326	258	0	147	0	0	436	318
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type					NA	custom		NA			NA	custom
Protected Phases												
Permitted Phases					6	4 6		5			4	4 5
Actuated Green, G (s)					62.4	90.5		13.2			22.1	40.6
Effective Green, g (s)					62.4	84.5		13.2			22.1	40.6
Actuated g/C Ratio					0.54	0.73		0.11			0.19	0.35
Clearance Time (s)					6.0			6.0			5.3	
Vehicle Extension (s)					3.9			2.0			3.9	
Lane Grp Cap (vph)					1958	2088		414			693	570
v/s Ratio Prot												
v/s Ratio Perm					c0.37	0.09		0.04			c0.12	c0.20
v/c Ratio					0.68	0.12		0.36			0.63	0.56
Uniform Delay, d1					19.0	4.4		47.0			42.7	30.0
Progression Factor					1.00	1.00		0.11			1.00	1.00
Incremental Delay, d2					1.9	0.0		0.2			2.0	1.4
Delay (s)					20.9	4.5		5.1			44.7	31.4
Level of Service					C	A		A			D	C
Approach Delay (s)		0.0			17.5			5.1			38.9	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	1326	351	147	436	338
v/c Ratio	0.68	0.15	0.35	0.63	0.56
Control Delay	22.0	0.5	6.9	47.2	30.1
Queue Delay	0.6	0.0	0.6	0.0	0.0
Total Delay	22.6	0.5	7.5	47.2	30.1
Queue Length 50th (ft)	365	0	2	156	178
Queue Length 95th (ft)	574	15	10	240	303
Internal Link Dist (ft)	597		72	329	
Turn Bay Length (ft)					
Base Capacity (vph)	1957	2323	533	712	645
Starvation Cap Reductn	275	0	169	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.79	0.15	0.40	0.61	0.52

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	147	1065	0	0	436	0
Future Volume (vph)	147	1065	0	0	436	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			5.3	
Lane Util. Factor	1.00	0.95			0.97	
Frt	1.00	1.00			1.00	
Flt Protected	0.95	1.00			0.95	
Satd. Flow (prot)	1805	3610			3502	
Flt Permitted	0.95	1.00			0.95	
Satd. Flow (perm)	1805	3610			3502	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	147	1065	0	0	436	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	147	1065	0	0	436	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			Perm	
Protected Phases	5					
Permitted Phases		2			4	
Actuated Green, G (s)	13.2	81.6			22.1	
Effective Green, g (s)	13.2	81.6			22.1	
Actuated g/C Ratio	0.11	0.71			0.19	
Clearance Time (s)	6.0	6.0			5.3	
Vehicle Extension (s)	2.0	3.9			3.9	
Lane Grp Cap (vph)	207	2561			672	
v/s Ratio Prot	c0.08					
v/s Ratio Perm		c0.30			c0.12	
v/c Ratio	0.71	0.42			0.65	
Uniform Delay, d1	49.1	6.9			42.9	
Progression Factor	1.00	1.00			0.07	
Incremental Delay, d2	9.6	0.5			1.9	
Delay (s)	58.7	7.4			4.9	
Level of Service	E	A			A	
Approach Delay (s)		13.6	0.0		4.9	
Approach LOS		B	A		A	

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	EBL	EBT	SBL
Lane Group Flow (vph)	147	1065	436
v/c Ratio	0.71	0.42	0.65
Control Delay	68.9	7.5	6.9
Queue Delay	0.0	0.0	0.0
Total Delay	68.9	7.5	6.9
Queue Length 50th (ft)	106	154	5
Queue Length 95th (ft)	193	224	18
Internal Link Dist (ft)		555	72
Turn Bay Length (ft)	325		
Base Capacity (vph)	266	2561	691
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.55	0.42	0.63

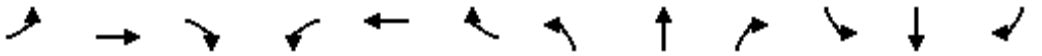
Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	711	511	0	0	0	1274
Future Volume (vph)	711	511	0	0	0	1274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0				5.0
Lane Util. Factor	0.95	1.00				0.88
Frt	1.00	0.85				0.85
Flt Protected	1.00	1.00				1.00
Satd. Flow (prot)	3610	1615				2842
Flt Permitted	1.00	1.00				1.00
Satd. Flow (perm)	3610	1615				2842
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	711	511	0	0	0	1274
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	711	511	0	0	0	1274
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA	Free				Perm
Protected Phases						
Permitted Phases	8	Free				2
Actuated Green, G (s)	27.0	90.0				53.0
Effective Green, g (s)	27.0	90.0				53.0
Actuated g/C Ratio	0.30	1.00				0.59
Clearance Time (s)	5.0					5.0
Vehicle Extension (s)	3.0					3.0
Lane Grp Cap (vph)	1083	1615				1673
v/s Ratio Prot						
v/s Ratio Perm	c0.20	0.32				c0.45
v/c Ratio	0.66	0.32				0.76
Uniform Delay, d1	27.5	0.0				13.8
Progression Factor	1.00	1.00				1.00
Incremental Delay, d2	3.2	0.5				3.4
Delay (s)	30.6	0.5				17.2
Level of Service	C	A				B
Approach Delay (s)	18.0			0.0	17.2	
Approach LOS	B			A	B	

Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	EBT	EBR	NBR
Lane Group Flow (vph)	711	511	1274
v/c Ratio	0.66	0.32	0.76
Control Delay	31.0	0.5	17.7
Queue Delay	0.0	0.0	0.0
Total Delay	31.0	0.5	17.7
Queue Length 50th (ft)	184	0	282
Queue Length 95th (ft)	283	0	477
Internal Link Dist (ft)	894		
Turn Bay Length (ft)		550	
Base Capacity (vph)	1083	1615	1673
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.66	0.32	0.76

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	495	9	9	2	32	44	231	735	3	82	302	126
Future Volume (vph)	495	9	9	2	32	44	231	735	3	82	302	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1			7.4	6.8	6.2	7.2		6.8	7.2	
Lane Util. Factor	0.97	1.00			1.00	1.00	1.00	0.95		1.00	1.00	
Frt	1.00	0.93			1.00	0.85	1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	1758			1894	1615	1805	3608		1805	1816	
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	1758			1894	1615	1805	3608		1805	1816	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	495	9	9	2	32	44	231	735	3	82	302	126
RTOR Reduction (vph)	0	8	0	0	0	39	0	0	0	0	0	0
Lane Group Flow (vph)	495	10	0	0	34	5	231	738	0	82	428	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)				0								
Turn Type	Split	NA		Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	1	5	2		1	6	
Permitted Phases						4						
Actuated Green, G (s)	18.9	18.9			6.0	14.7	16.7	46.3		8.7	38.9	
Effective Green, g (s)	18.9	18.9			6.0	14.7	16.7	46.3		8.7	38.9	
Actuated g/C Ratio	0.16	0.16			0.05	0.12	0.14	0.39		0.07	0.32	
Clearance Time (s)	7.1	7.1			7.4	6.8	6.2	7.2		6.8	7.2	
Vehicle Extension (s)	7.5	7.5			7.0	3.0	3.0	6.9		3.0	6.2	
Lane Grp Cap (vph)	551	276			94	197	251	1392		130	588	
v/s Ratio Prot	c0.14	0.01			c0.02	0.00	c0.13	0.20		0.05	c0.24	
v/s Ratio Perm						0.00						
v/c Ratio	0.90	0.04			0.36	0.03	0.92	0.53		0.63	0.73	
Uniform Delay, d1	49.6	42.8			55.1	46.4	51.0	28.5		54.1	35.9	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	25.1	0.2			8.4	0.1	52.8	1.5		10.0	8.1	
Delay (s)	74.7	43.1			63.5	46.4	103.8	29.9		64.1	43.9	
Level of Service	E	D			E	D	F	C		E	D	
Approach Delay (s)		73.6			53.9			47.5			47.2	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	54.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	35.3
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	60		

c Critical Lane Group

Movement	SEL	SER
Lane Configurations		
Traffic Volume (vph)	40	0
Future Volume (vph)	40	0
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.8	
Lane Util. Factor	1.00	
Frt	1.00	
Flt Protected	0.95	
Satd. Flow (prot)	1805	
Flt Permitted	0.95	
Satd. Flow (perm)	1805	
Peak-hour factor, PHF	1.00	1.00
Adj. Flow (vph)	40	0
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	40	0
Heavy Vehicles (%)	0%	0%
Parking (#/hr)		
Turn Type	Perm	Perm
Protected Phases		
Permitted Phases	9	9
Actuated Green, G (s)	4.8	
Effective Green, g (s)	4.8	
Actuated g/C Ratio	0.04	
Clearance Time (s)	6.8	
Vehicle Extension (s)	7.0	
Lane Grp Cap (vph)	72	
v/s Ratio Prot		
v/s Ratio Perm	c0.02	
v/c Ratio	0.56	
Uniform Delay, d1	56.6	
Progression Factor	1.00	
Incremental Delay, d2	24.0	
Delay (s)	80.5	
Level of Service	F	
Approach Delay (s)	80.5	
Approach LOS	F	

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR2	NBL2	NBT	SBL	SBT	SEL
Lane Group Flow (vph)	495	18	34	44	231	738	82	428	40
v/c Ratio	0.90	0.06	0.22	0.12	0.92	0.46	0.53	0.64	0.33
Control Delay	75.3	29.7	55.1	0.7	110.6	29.6	65.3	40.7	61.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.3	29.7	55.1	0.7	110.6	29.6	65.3	40.7	61.5
Queue Length 50th (ft)	196	6	25	0	179	261	62	321	30
Queue Length 95th (ft)	#348	32	66	0	#390	386	128	#604	76
Internal Link Dist (ft)		513	415			750		951	340
Turn Bay Length (ft)					245				
Base Capacity (vph)	551	284	157	385	252	1601	178	674	120
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.06	0.22	0.11	0.92	0.46	0.46	0.64	0.33

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	503	16	1046	841	1	622
Future Volume (veh/h)	503	16	1046	841	1	622
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	518	0	1046	564	1	622
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	655	292	1260	1359	163	2539
Arrive On Green	0.18	0.00	0.66	0.66	0.00	0.70
Sat Flow, veh/h	3619	1610	1900	1610	1810	3705
Grp Volume(v), veh/h	518	0	1046	564	1	622
Grp Sat Flow(s),veh/h/ln	1810	1610	1900	1610	1810	1805
Q Serve(g_s), s	12.3	0.0	37.1	7.6	0.0	5.6
Cycle Q Clear(g_c), s	12.3	0.0	37.1	7.6	0.0	5.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	655	292	1260	1359	163	2539
V/C Ratio(X)	0.79	0.00	0.83	0.41	0.01	0.24
Avail Cap(c_a), veh/h	788	351	1260	1359	321	2539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.2	0.0	11.4	1.7	13.0	4.8
Incr Delay (d2), s/veh	7.4	0.0	6.8	0.9	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.0	0.0	21.7	8.9	0.0	3.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.6	0.0	18.2	2.6	13.0	5.0
LnGrp LOS	D	A	B	A	B	A
Approach Vol, veh/h	518		1610			623
Approach Delay, s/veh	42.6		12.7			5.0
Approach LOS	D		B			A

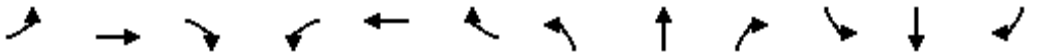
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	3.6	65.1		21.3		68.7
Change Period (Y+Rc), s	3.5	5.4		* 5		5.4
Max Green Setting (Gmax), s	8.0	48.5		* 20		60.0
Max Q Clear Time (g_c+I1), s	2.0	39.1		14.3		7.6
Green Ext Time (p_c), s	0.0	8.8		2.0		10.0

Intersection Summary	
HCM 6th Ctrl Delay	16.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



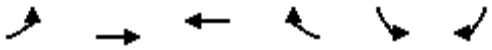
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1281	260	0	172	0	0	300	494
Future Volume (vph)	0	0	0	0	1281	260	0	172	0	0	300	494
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0	5.3		6.0			5.3	5.3
Lane Util. Factor					0.95	0.88		0.95			0.95	1.00
Frt					1.00	0.85		1.00			1.00	0.85
Flt Protected					1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)					3610	2842		3610			3610	1615
Flt Permitted					1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)					3610	2842		3610			3610	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	1281	260	0	172	0	0	300	494
RTOR Reduction (vph)	0	0	0	0	0	71	0	0	0	0	0	17
Lane Group Flow (vph)	0	0	0	0	1281	189	0	172	0	0	300	477
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type					NA	custom		NA			NA	custom
Protected Phases												
Permitted Phases					6	4 6		5			4	4 5
Actuated Green, G (s)					55.9	89.4		14.3			27.5	47.1
Effective Green, g (s)					55.9	83.4		14.3			27.5	47.1
Actuated g/C Ratio					0.49	0.73		0.12			0.24	0.41
Clearance Time (s)					6.0			6.0			5.3	
Vehicle Extension (s)					3.9			2.0			3.9	
Lane Grp Cap (vph)					1754	2061		448			863	661
v/s Ratio Prot												
v/s Ratio Perm					c0.35	0.07		0.05			0.08	c0.30
v/c Ratio					0.73	0.09		0.38			0.35	0.72
Uniform Delay, d1					23.5	4.7		46.3			36.3	28.5
Progression Factor					1.00	1.00		0.18			1.00	1.00
Incremental Delay, d2					2.8	0.0		0.2			0.3	4.2
Delay (s)					26.3	4.7		8.4			36.6	32.7
Level of Service					C	A		A			D	C
Approach Delay (s)		0.0			22.7			8.4			34.2	
Approach LOS		A			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	101.5%	ICU Level of Service	G
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	1281	260	172	300	494
v/c Ratio	0.73	0.11	0.38	0.35	0.72
Control Delay	27.2	0.6	10.1	37.6	33.0
Queue Delay	0.6	0.0	1.0	0.0	0.0
Total Delay	27.8	0.6	11.1	37.6	33.0
Queue Length 50th (ft)	393	0	2	97	279
Queue Length 95th (ft)	595	13	m22	156	477
Internal Link Dist (ft)	597		72	329	
Turn Bay Length (ft)					
Base Capacity (vph)	1755	2272	533	869	712
Starvation Cap Reductn	162	0	185	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.80	0.11	0.49	0.35	0.69

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	172	972	0	0	300	0
Future Volume (vph)	172	972	0	0	300	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			5.3	
Lane Util. Factor	1.00	0.95			0.97	
Frt	1.00	1.00			1.00	
Flt Protected	0.95	1.00			0.95	
Satd. Flow (prot)	1805	3610			3502	
Flt Permitted	0.95	1.00			0.95	
Satd. Flow (perm)	1805	3610			3502	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	172	972	0	0	300	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	172	972	0	0	300	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			Perm	
Protected Phases	5					
Permitted Phases		2			4	
Actuated Green, G (s)	14.3	76.2			27.5	
Effective Green, g (s)	14.3	76.2			27.5	
Actuated g/C Ratio	0.12	0.66			0.24	
Clearance Time (s)	6.0	6.0			5.3	
Vehicle Extension (s)	2.0	3.9			3.9	
Lane Grp Cap (vph)	224	2392			837	
v/s Ratio Prot	c0.10					
v/s Ratio Perm		c0.27			c0.09	
v/c Ratio	0.77	0.41			0.36	
Uniform Delay, d1	48.7	9.0			36.4	
Progression Factor	1.00	1.00			0.08	
Incremental Delay, d2	14.4	0.5			0.3	
Delay (s)	63.1	9.5			3.1	
Level of Service	E	A			A	
Approach Delay (s)		17.5	0.0		3.1	
Approach LOS		B	A		A	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	107.3%	ICU Level of Service	G
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	EBL	EBT	SBL
Lane Group Flow (vph)	172	972	300
v/c Ratio	0.77	0.41	0.36
Control Delay	73.9	9.6	3.9
Queue Delay	0.0	0.0	0.4
Total Delay	73.9	9.6	4.3
Queue Length 50th (ft)	124	160	3
Queue Length 95th (ft)	#246	233	9
Internal Link Dist (ft)		555	72
Turn Bay Length (ft)	325		
Base Capacity (vph)	266	2392	843
Starvation Cap Reductn	0	0	207
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.65	0.41	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

2029 No Build

HCS Intersection Worksheets

Delay/LOS/Queues

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2276	278	65	2116	105	321
Future Volume (veh/h)	2276	278	65	2116	105	321
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2276	278	65	2116	105	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	3020	1103	282	3840	362	
Arrive On Green	0.58	0.58	0.08	0.74	0.10	0.00
Sat Flow, veh/h	5358	1610	3510	5358	3510	1610
Grp Volume(v), veh/h	2276	278	65	2116	105	0
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1755	1610
Q Serve(g_s), s	29.4	5.9	1.6	16.1	2.5	0.0
Cycle Q Clear(g_c), s	29.4	5.9	1.6	16.1	2.5	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	3020	1103	282	3840	362	
V/C Ratio(X)	0.75	0.25	0.23	0.55	0.29	
Avail Cap(c_a), veh/h	3020	1103	351	3840	390	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.99	0.00
Uniform Delay (d), s/veh	14.0	5.4	38.8	5.1	37.3	0.0
Incr Delay (d2), s/veh	1.8	0.5	0.4	0.6	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.0	4.5	1.2	8.0	2.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.8	5.9	39.2	5.7	38.9	0.0
LnGrp LOS	B	A	D	A	D	
Approach Vol, veh/h	2554			2181	105	
Approach Delay, s/veh	14.7			6.7	38.9	
Approach LOS	B			A	D	

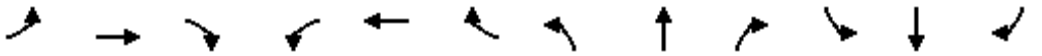
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.2	59.5		16.3		73.7
Change Period (Y+Rc), s	* 7	* 7.1		7.0		* 7.1
Max Green Setting (Gmax), s	* 9	* 50		10.0		* 66
Max Q Clear Time (g_c+I1), s	3.6	31.4		4.5		18.1
Green Ext Time (p_c), s	0.1	17.8		0.3		41.4

Intersection Summary	
HCM 6th Ctrl Delay	11.6
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	3	6	1	0	59	9	209	0	50	226	68
Future Volume (vph)	158	3	6	1	0	59	9	209	0	50	226	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1			7.4	6.8	6.2	7.2		6.8	7.2	
Lane Util. Factor	0.97	1.00			1.00	1.00	1.00	0.91		1.00	0.95	
Frt	1.00	0.90			1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	1710			1805	1615	1805	5187		1805	3485	
Flt Permitted	0.95	1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	1710			1805	1615	1805	5187		1805	3485	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	158	3	6	1	0	59	9	209	0	50	226	68
RTOR Reduction (vph)	0	5	0	0	0	53	0	0	0	0	21	0
Lane Group Flow (vph)	158	4	0	0	1	6	9	209	0	50	273	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split	NA		Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	1	5	2		1	6	
Permitted Phases						4						
Actuated Green, G (s)	13.7	13.7			2.0	9.1	1.6	38.7		7.1	44.8	
Effective Green, g (s)	13.7	13.7			2.0	9.1	1.6	38.7		7.1	44.8	
Actuated g/C Ratio	0.15	0.15			0.02	0.10	0.02	0.43		0.08	0.50	
Clearance Time (s)	7.1	7.1			7.4	6.8	6.2	7.2		6.8	7.2	
Vehicle Extension (s)	7.5	7.5			7.0	3.0	3.0	6.9		3.0	6.2	
Lane Grp Cap (vph)	533	260			40	163	32	2230		142	1734	
v/s Ratio Prot	c0.05	0.00			0.00	c0.00	0.00	0.04		c0.03	c0.08	
v/s Ratio Perm						0.00						
v/c Ratio	0.30	0.02			0.03	0.04	0.28	0.09		0.35	0.16	
Uniform Delay, d1	33.9	32.4			43.0	36.5	43.6	15.2		39.3	12.3	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.02	0.89	
Incremental Delay, d2	1.2	0.1			0.9	0.1	4.8	0.1		1.5	0.2	
Delay (s)	35.1	32.5			43.9	36.6	48.5	15.3		41.6	11.1	
Level of Service	D	C			D	D	D	B		D	B	
Approach Delay (s)		35.0			36.7			16.7			15.5	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	28.5
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	158	9	1	59	9	209	50	294
v/c Ratio	0.30	0.03	0.01	0.18	0.06	0.08	0.29	0.14
Control Delay	35.0	22.3	36.0	1.1	38.6	14.7	42.6	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.0	22.3	36.0	1.1	38.6	14.7	42.6	8.2
Queue Length 50th (ft)	41	2	1	0	5	20	28	17
Queue Length 95th (ft)	76	16	6	1	22	57	69	85
Internal Link Dist (ft)		513	416			593		951
Turn Bay Length (ft)					245		615	
Base Capacity (vph)	618	307	252	410	216	2651	264	2172
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.03	0.00	0.14	0.04	0.08	0.19	0.14

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	453	10	269	243	8	458
Future Volume (veh/h)	453	10	269	243	8	458
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	462	0	269	43	8	458
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	664	295	1239	1345	743	2530
Arrive On Green	0.18	0.00	0.65	0.65	0.01	0.70
Sat Flow, veh/h	3619	1610	1900	1610	1810	3705
Grp Volume(v), veh/h	462	0	269	43	8	458
Grp Sat Flow(s),veh/h/ln	1810	1610	1900	1610	1810	1805
Q Serve(g_s), s	10.8	0.0	5.2	0.4	0.1	3.9
Cycle Q Clear(g_c), s	10.8	0.0	5.2	0.4	0.1	3.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	664	295	1239	1345	743	2530
V/C Ratio(X)	0.70	0.00	0.22	0.03	0.01	0.18
Avail Cap(c_a), veh/h	1166	519	1239	1345	916	2530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	6.3	1.3	4.8	4.6
Incr Delay (d2), s/veh	3.7	0.0	0.4	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.6	0.0	3.5	0.5	0.1	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.1	0.0	6.8	1.3	4.8	4.8
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	462		312			466
Approach Delay, s/veh	38.1		6.0			4.8
Approach LOS	D		A			A

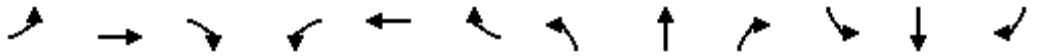
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	4.4	64.1		21.5		68.5
Change Period (Y+Rc), s	3.5	5.4		* 5		5.4
Max Green Setting (Gmax), s	9.5	37.6		* 29		50.6
Max Q Clear Time (g_c+I1), s	2.1	7.2		12.8		5.9
Green Ext Time (p_c), s	0.0	4.6		3.8		6.7

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

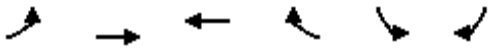


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	682	355	0	192	0	0	262	172
Future Volume (vph)	0	0	0	0	682	355	0	192	0	0	262	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0	5.3		6.0			5.3	5.3
Lane Util. Factor					0.95	0.88		0.95			0.95	1.00
Frt					1.00	0.85		1.00			1.00	0.85
Flt Protected					1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)					3610	2842		3610			3610	1615
Flt Permitted					1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)					3610	2842		3610			3610	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	682	355	0	192	0	0	262	172
RTOR Reduction (vph)	0	0	0	0	0	105	0	0	0	0	0	71
Lane Group Flow (vph)	0	0	0	0	682	250	0	192	0	0	262	101
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type					NA	custom		NA			NA	custom
Protected Phases												
Permitted Phases					6	4 6		5			4	4 5
Actuated Green, G (s)					63.3	87.1		16.6			17.8	39.7
Effective Green, g (s)					63.3	81.1		16.6			17.8	39.7
Actuated g/C Ratio					0.55	0.71		0.14			0.15	0.35
Clearance Time (s)					6.0			6.0			5.3	
Vehicle Extension (s)					3.9			2.0			3.9	
Lane Grp Cap (vph)					1987	2004		521			558	557
v/s Ratio Prot												
v/s Ratio Perm					c0.19	0.09		c0.05			c0.07	0.06
v/c Ratio					0.34	0.12		0.37			0.47	0.18
Uniform Delay, d1					14.3	5.5		44.5			44.3	26.3
Progression Factor					1.00	1.00		0.07			1.00	1.00
Incremental Delay, d2					0.5	0.0		0.1			0.8	0.2
Delay (s)					14.8	5.5		3.1			45.1	26.5
Level of Service					B	A		A			D	C
Approach Delay (s)		0.0			11.6			3.1			37.8	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	682	355	192	262	172
v/c Ratio	0.34	0.16	0.37	0.47	0.27
Control Delay	16.4	0.7	4.8	46.3	9.9
Queue Delay	0.0	0.0	0.2	0.0	0.0
Total Delay	16.4	0.7	4.9	46.3	9.9
Queue Length 50th (ft)	139	0	2	94	32
Queue Length 95th (ft)	262	20	4	144	83
Internal Link Dist (ft)	597		72	329	
Turn Bay Length (ft)					
Base Capacity (vph)	1985	2364	910	743	793
Starvation Cap Reductn	0	0	231	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.34	0.15	0.28	0.35	0.22

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	192	407	0	0	262	0
Future Volume (vph)	192	407	0	0	262	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			5.3	
Lane Util. Factor	1.00	0.95			0.97	
Frt	1.00	1.00			1.00	
Flt Protected	0.95	1.00			0.95	
Satd. Flow (prot)	1805	3610			3502	
Flt Permitted	0.95	1.00			0.95	
Satd. Flow (perm)	1805	3610			3502	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	192	407	0	0	262	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	192	407	0	0	262	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			Perm	
Protected Phases	5					
Permitted Phases		2			4	
Actuated Green, G (s)	16.6	85.9			17.8	
Effective Green, g (s)	16.6	85.9			17.8	
Actuated g/C Ratio	0.14	0.75			0.15	
Clearance Time (s)	6.0	6.0			5.3	
Vehicle Extension (s)	2.0	3.9			3.9	
Lane Grp Cap (vph)	260	2696			542	
v/s Ratio Prot	c0.11					
v/s Ratio Perm		c0.11			c0.07	
v/c Ratio	0.74	0.15			0.48	
Uniform Delay, d1	47.1	4.1			44.4	
Progression Factor	1.00	1.00			0.07	
Incremental Delay, d2	9.6	0.1			0.9	
Delay (s)	56.7	4.3			4.0	
Level of Service	E	A			A	
Approach Delay (s)		21.1	0.0		4.0	
Approach LOS		C	A		A	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	EBL	EBT	SBL
Lane Group Flow (vph)	192	407	262
v/c Ratio	0.74	0.15	0.48
Control Delay	64.9	4.7	6.0
Queue Delay	0.0	0.0	0.1
Total Delay	64.9	4.7	6.1
Queue Length 50th (ft)	138	38	3
Queue Length 95th (ft)	233	75	8
Internal Link Dist (ft)		555	72
Turn Bay Length (ft)	325		
Base Capacity (vph)	455	2695	721
Starvation Cap Reductn	0	0	59
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.42	0.15	0.40

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2179	310	49	2194	263	1305
Future Volume (veh/h)	2179	310	49	2194	263	1305
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2179	310	49	2194	263	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	3029	1119	248	3799	390	
Arrive On Green	0.58	0.58	0.07	0.73	0.11	0.00
Sat Flow, veh/h	5358	1610	3510	5358	3510	1610
Grp Volume(v), veh/h	2179	310	49	2194	263	0
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1755	1610
Q Serve(g_s), s	27.1	6.5	1.2	17.7	6.5	0.0
Cycle Q Clear(g_c), s	27.1	6.5	1.2	17.7	6.5	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	3029	1119	248	3799	390	
V/C Ratio(X)	0.72	0.28	0.20	0.58	0.68	
Avail Cap(c_a), veh/h	3029	1119	351	3799	468	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.84	0.00
Uniform Delay (d), s/veh	13.4	5.2	39.4	5.6	38.4	0.0
Incr Delay (d2), s/veh	1.5	0.6	0.4	0.6	6.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.9	5.1	0.9	8.7	5.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.9	5.8	39.8	6.2	44.9	0.0
LnGrp LOS	B	A	D	A	D	
Approach Vol, veh/h	2489			2243	263	
Approach Delay, s/veh	13.8			7.0	44.9	
Approach LOS	B			A	D	

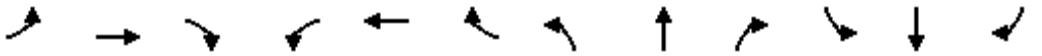
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.4	59.7		17.0		73.0
Change Period (Y+Rc), s	* 7	* 7.1		7.0		* 7.1
Max Green Setting (Gmax), s	* 9	* 48		12.0		* 64
Max Q Clear Time (g_c+I1), s	3.2	29.1		8.5		19.7
Green Ext Time (p_c), s	0.0	17.9		0.7		39.5

Intersection Summary	
HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	571	2	23	10	1	37	14	959	7	49	156	154
Future Volume (vph)	571	2	23	10	1	37	14	959	7	49	156	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1			7.4	6.8	6.2	7.2		6.8	7.2	
Lane Util. Factor	0.97	1.00			1.00	1.00	1.00	0.91		1.00	0.95	
Frt	1.00	0.86			1.00	0.85	1.00	1.00		1.00	0.93	
Flt Protected	0.95	1.00			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	1638			1817	1615	1805	5181		1805	3341	
Flt Permitted	0.95	1.00			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	1638			1817	1615	1805	5181		1805	3341	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	571	2	23	10	1	37	14	959	7	49	156	154
RTOR Reduction (vph)	0	18	0	0	0	34	0	1	0	0	89	0
Lane Group Flow (vph)	571	7	0	0	11	3	14	965	0	49	221	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)				0								
Turn Type	Split	NA		Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	1	5	2		1	6	
Permitted Phases						4						
Actuated Green, G (s)	20.8	20.8			2.0	8.4	1.6	32.3		6.4	37.7	
Effective Green, g (s)	20.8	20.8			2.0	8.4	1.6	32.3		6.4	37.7	
Actuated g/C Ratio	0.23	0.23			0.02	0.09	0.02	0.36		0.07	0.42	
Clearance Time (s)	7.1	7.1			7.4	6.8	6.2	7.2		6.8	7.2	
Vehicle Extension (s)	7.5	7.5			7.0	3.0	3.0	6.9		3.0	6.2	
Lane Grp Cap (vph)	809	378			40	150	32	1859		128	1399	
v/s Ratio Prot	c0.16	0.00			c0.01	0.00	0.01	c0.19		c0.03	c0.07	
v/s Ratio Perm						0.00						
v/c Ratio	0.71	0.02			0.28	0.02	0.44	0.52		0.38	0.16	
Uniform Delay, d1	31.8	26.7			43.3	37.1	43.8	22.7		39.9	16.3	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.06	0.98	
Incremental Delay, d2	5.2	0.1			13.2	0.1	9.5	1.0		1.9	0.2	
Delay (s)	37.0	26.8			56.5	37.1	53.3	23.8		44.3	16.2	
Level of Service	D	C			E	D	D	C		D	B	
Approach Delay (s)		36.5			41.6			24.2			20.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	28.5
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	60		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	571	25	11	37	14	966	49	310
v/c Ratio	0.70	0.06	0.05	0.11	0.09	0.42	0.30	0.17
Control Delay	37.3	12.6	36.6	0.7	39.1	20.3	46.2	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	12.6	36.6	0.7	39.1	20.3	46.2	7.6
Queue Length 50th (ft)	154	1	6	0	7	132	27	12
Queue Length 95th (ft)	#244	24	24	0	29	268	70	77
Internal Link Dist (ft)		513	416			593		951
Turn Bay Length (ft)					245		615	
Base Capacity (vph)	813	398	202	327	160	2274	162	1871
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.06	0.05	0.11	0.09	0.42	0.30	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	345	12	606	672	8	609
Future Volume (veh/h)	345	12	606	672	8	609
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	356	0	606	482	8	609
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	508	226	1321	1345	389	2686
Arrive On Green	0.14	0.00	0.70	0.70	0.01	0.74
Sat Flow, veh/h	3619	1610	1900	1610	1810	3705
Grp Volume(v), veh/h	356	0	606	482	8	609
Grp Sat Flow(s),veh/h/ln	1810	1610	1900	1610	1810	1805
Q Serve(g_s), s	8.4	0.0	12.8	6.3	0.1	4.7
Cycle Q Clear(g_c), s	8.4	0.0	12.8	6.3	0.1	4.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	508	226	1321	1345	389	2686
V/C Ratio(X)	0.70	0.00	0.46	0.36	0.02	0.23
Avail Cap(c_a), veh/h	844	376	1321	1345	532	2686
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	0.0	6.1	1.7	4.6	3.5
Incr Delay (d2), s/veh	4.9	0.0	1.2	0.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.2	0.0	8.2	6.4	0.1	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.8	0.0	7.3	2.5	4.6	3.7
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	356		1088			617
Approach Delay, s/veh	41.8		5.2			3.8
Approach LOS	D		A			A

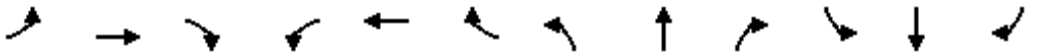
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	4.4	68.0		17.6		72.4
Change Period (Y+Rc), s	3.5	5.4		* 5		5.4
Max Green Setting (Gmax), s	8.0	47.1		* 21		58.6
Max Q Clear Time (g_c+I1), s	2.1	14.8		10.4		6.7
Green Ext Time (p_c), s	0.0	18.2		2.2		9.7

Intersection Summary	
HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

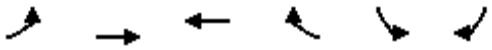


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1352	350	0	148	0	0	436	290
Future Volume (vph)	0	0	0	0	1352	350	0	148	0	0	436	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0	5.3		6.0			5.3	5.3
Lane Util. Factor					0.95	0.88		0.95			0.95	1.00
Frt					1.00	0.85		1.00			1.00	0.85
Flt Protected					1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)					3610	2842		3610			3610	1615
Flt Permitted					1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)					3610	2842		3610			3610	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	1352	350	0	148	0	0	436	290
RTOR Reduction (vph)	0	0	0	0	0	93	0	0	0	0	0	20
Lane Group Flow (vph)	0	0	0	0	1352	257	0	148	0	0	436	270
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type					NA	custom		NA			NA	custom
Protected Phases												
Permitted Phases					6	4 6		5			4	4 5
Actuated Green, G (s)					63.4	90.4		13.3			21.0	39.6
Effective Green, g (s)					63.4	84.4		13.3			21.0	39.6
Actuated g/C Ratio					0.55	0.73		0.12			0.18	0.34
Clearance Time (s)					6.0			6.0			5.3	
Vehicle Extension (s)					3.9			2.0			3.9	
Lane Grp Cap (vph)					1990	2085		417			659	556
v/s Ratio Prot												
v/s Ratio Perm					c0.37	0.09		0.04			c0.12	c0.17
v/c Ratio					0.68	0.12		0.35			0.66	0.49
Uniform Delay, d1					18.5	4.5		46.9			43.7	29.7
Progression Factor					1.00	1.00		0.11			1.00	1.00
Incremental Delay, d2					1.9	0.0		0.2			2.8	0.9
Delay (s)					20.4	4.5		5.3			46.5	30.6
Level of Service					C	A		A			D	C
Approach Delay (s)		0.0			17.1			5.3			40.1	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	1352	350	148	436	290
v/c Ratio	0.68	0.15	0.35	0.66	0.50
Control Delay	21.5	0.5	7.0	49.1	28.5
Queue Delay	0.7	0.0	0.6	0.0	0.0
Total Delay	22.1	0.5	7.6	49.1	28.5
Queue Length 50th (ft)	369	0	2	158	147
Queue Length 95th (ft)	580	15	10	242	255
Internal Link Dist (ft)	597		72	329	
Turn Bay Length (ft)					
Base Capacity (vph)	1990	2324	533	681	631
Starvation Cap Reductn	290	0	169	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.80	0.15	0.41	0.64	0.46

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	148	1005	0	0	436	0
Future Volume (vph)	148	1005	0	0	436	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			5.3	
Lane Util. Factor	1.00	0.95			0.97	
Frt	1.00	1.00			1.00	
Flt Protected	0.95	1.00			0.95	
Satd. Flow (prot)	1805	3610			3502	
Flt Permitted	0.95	1.00			0.95	
Satd. Flow (perm)	1805	3610			3502	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	148	1005	0	0	436	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	148	1005	0	0	436	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			Perm	
Protected Phases	5					
Permitted Phases		2			4	
Actuated Green, G (s)	13.3	82.7			21.0	
Effective Green, g (s)	13.3	82.7			21.0	
Actuated g/C Ratio	0.12	0.72			0.18	
Clearance Time (s)	6.0	6.0			5.3	
Vehicle Extension (s)	2.0	3.9			3.9	
Lane Grp Cap (vph)	208	2596			639	
v/s Ratio Prot	c0.08					
v/s Ratio Perm		c0.28			c0.12	
v/c Ratio	0.71	0.39			0.68	
Uniform Delay, d1	49.0	6.3			43.9	
Progression Factor	1.00	1.00			0.08	
Incremental Delay, d2	9.6	0.4			2.5	
Delay (s)	58.6	6.7			6.2	
Level of Service	E	A			A	
Approach Delay (s)		13.4	0.0		6.2	
Approach LOS		B	A		A	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	EBL	EBT	SBL
Lane Group Flow (vph)	148	1005	436
v/c Ratio	0.71	0.39	0.68
Control Delay	68.9	6.9	8.3
Queue Delay	0.0	0.0	0.0
Total Delay	68.9	6.9	8.3
Queue Length 50th (ft)	107	137	5
Queue Length 95th (ft)	194	200	30
Internal Link Dist (ft)		555	72
Turn Bay Length (ft)	325		
Base Capacity (vph)	266	2596	660
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.56	0.39	0.66

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	3476	442	66	3094	375	1132
Future Volume (veh/h)	3476	442	66	3094	375	1132
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	3476	442	66	3094	375	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2976	1103	284	3798	390	
Arrive On Green	0.57	0.57	0.08	0.73	0.11	0.00
Sat Flow, veh/h	5358	1610	3510	5358	3510	1610
Grp Volume(v), veh/h	3476	442	66	3094	375	0
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1755	1610
Q Serve(g_s), s	51.6	10.7	1.6	35.6	9.6	0.0
Cycle Q Clear(g_c), s	51.6	10.7	1.6	35.6	9.6	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2976	1103	284	3798	390	
V/C Ratio(X)	1.17	0.40	0.23	0.81	0.96	
Avail Cap(c_a), veh/h	2976	1103	351	3798	390	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.87	0.00
Uniform Delay (d), s/veh	19.2	6.2	38.8	8.0	39.8	0.0
Incr Delay (d2), s/veh	306.9	1.1	0.4	2.1	54.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	133.8	8.2	1.2	15.7	11.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	326.1	7.3	39.2	10.1	94.7	0.0
LnGrp LOS	F	A	D	B	F	
Approach Vol, veh/h	3918			3160	375	
Approach Delay, s/veh	290.1			10.7	94.7	
Approach LOS	F			B	F	

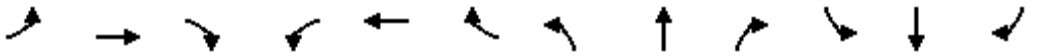
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.3	58.7		17.0		73.0
Change Period (Y+Rc), s	* 7	* 7.1		7.0		* 7.1
Max Green Setting (Gmax), s	* 9	* 50		10.0		* 66
Max Q Clear Time (g_c+I1), s	3.6	53.6		11.6		37.6
Green Ext Time (p_c), s	0.1	0.0		0.0		28.1

Intersection Summary		
HCM 6th Ctrl Delay		161.8
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	485	9	9	2	7	70	12	953	3	82	301	125
Future Volume (vph)	485	9	9	2	7	70	12	953	3	82	301	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1			7.4	6.8	6.2	7.2		6.8	7.2	
Lane Util. Factor	0.97	1.00			1.00	1.00	1.00	0.91		1.00	0.95	
Frt	1.00	0.93			1.00	0.85	1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	1758			1879	1615	1805	5185		1805	3451	
Flt Permitted	0.95	1.00			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	1758			1879	1615	1805	5185		1805	3451	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	485	9	9	2	7	70	12	953	3	82	301	125
RTOR Reduction (vph)	0	7	0	0	0	63	0	0	0	0	39	0
Lane Group Flow (vph)	485	11	0	0	9	7	12	956	0	82	387	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)				0								
Turn Type	Split	NA		Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	1	5	2		1	6	
Permitted Phases						4						
Actuated Green, G (s)	18.7	18.7			2.0	9.1	1.6	33.7		7.1	39.8	
Effective Green, g (s)	18.7	18.7			2.0	9.1	1.6	33.7		7.1	39.8	
Actuated g/C Ratio	0.21	0.21			0.02	0.10	0.02	0.37		0.08	0.44	
Clearance Time (s)	7.1	7.1			7.4	6.8	6.2	7.2		6.8	7.2	
Vehicle Extension (s)	7.5	7.5			7.0	3.0	3.0	6.9		3.0	6.2	
Lane Grp Cap (vph)	727	365			41	163	32	1941		142	1526	
v/s Ratio Prot	c0.14	0.01			c0.00	0.00	0.01	c0.18		c0.05	c0.11	
v/s Ratio Perm						0.00						
v/c Ratio	0.67	0.03			0.22	0.04	0.38	0.49		0.58	0.25	
Uniform Delay, d1	32.8	28.4			43.2	36.5	43.7	21.6		40.0	15.8	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.06	0.98	
Incremental Delay, d2	4.6	0.1			9.6	0.1	7.4	0.9		5.5	0.4	
Delay (s)	37.4	28.5			52.8	36.6	51.1	22.5		47.8	15.8	
Level of Service	D	C			D	D	D	C		D	B	
Approach Delay (s)		37.1			38.5			22.8			21.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	28.5
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	60		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	485	18	9	70	12	956	82	426
v/c Ratio	0.67	0.05	0.04	0.21	0.07	0.41	0.47	0.22
Control Delay	37.9	20.5	36.4	1.5	38.9	19.4	49.8	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	20.5	36.4	1.5	38.9	19.4	49.8	10.8
Queue Length 50th (ft)	130	4	5	0	6	128	45	32
Queue Length 95th (ft)	209	25	21	8	26	261	103	137
Internal Link Dist (ft)		513	416			593		951
Turn Bay Length (ft)					245		615	
Base Capacity (vph)	735	376	208	345	160	2358	184	1972
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.05	0.04	0.20	0.07	0.41	0.45	0.22

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	450	16	774	728	1	559
Future Volume (veh/h)	450	16	774	728	1	559
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	465	0	774	480	1	559
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	612	272	1283	1359	286	2582
Arrive On Green	0.17	0.00	0.68	0.68	0.00	0.72
Sat Flow, veh/h	3619	1610	1900	1610	1810	3705
Grp Volume(v), veh/h	465	0	774	480	1	559
Grp Sat Flow(s),veh/h/ln	1810	1610	1900	1610	1810	1805
Q Serve(g_s), s	11.0	0.0	20.1	6.0	0.0	4.7
Cycle Q Clear(g_c), s	11.0	0.0	20.1	6.0	0.0	4.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	612	272	1283	1359	286	2582
V/C Ratio(X)	0.76	0.00	0.60	0.35	0.00	0.22
Avail Cap(c_a), veh/h	804	358	1283	1359	444	2582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	0.0	8.0	1.6	6.8	4.3
Incr Delay (d2), s/veh	6.0	0.0	2.1	0.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.0	0.0	12.1	6.9	0.0	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.7	0.0	10.1	2.3	6.8	4.5
LnGrp LOS	D	A	B	A	A	A
Approach Vol, veh/h	465		1254			560
Approach Delay, s/veh	41.7		7.1			4.5
Approach LOS	D		A			A

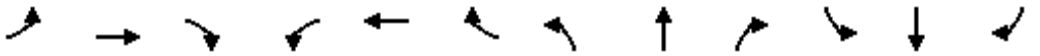
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	3.6	66.2		20.2		69.8
Change Period (Y+Rc), s	3.5	5.4		* 5		5.4
Max Green Setting (Gmax), s	8.0	48.1		* 20		59.6
Max Q Clear Time (g_c+I1), s	2.0	22.1		13.0		6.7
Green Ext Time (p_c), s	0.0	18.6		2.2		8.8

Intersection Summary	
HCM 6th Ctrl Delay	13.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



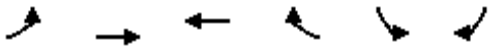
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1249	290	0	171	0	0	304	475
Future Volume (vph)	0	0	0	0	1249	290	0	171	0	0	304	475
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0	5.3		6.0			5.3	5.3
Lane Util. Factor					0.95	0.88		0.95			0.95	1.00
Frt					1.00	0.85		1.00			1.00	0.85
Flt Protected					1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)					3610	2842		3610			3610	1615
Flt Permitted					1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)					3610	2842		3610			3610	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	1249	290	0	171	0	0	304	475
RTOR Reduction (vph)	0	0	0	0	0	80	0	0	0	0	0	16
Lane Group Flow (vph)	0	0	0	0	1249	210	0	171	0	0	304	459
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type					NA	custom		NA			NA	custom
Protected Phases												
Permitted Phases					6	4 6		5			4	4 5
Actuated Green, G (s)					55.3	89.4		14.3			28.1	47.7
Effective Green, g (s)					55.3	83.4		14.3			28.1	47.7
Actuated g/C Ratio					0.48	0.73		0.12			0.24	0.41
Clearance Time (s)					6.0			6.0			5.3	
Vehicle Extension (s)					3.9			2.0			3.9	
Lane Grp Cap (vph)					1735	2061		448			882	669
v/s Ratio Prot												
v/s Ratio Perm					c0.35	0.07		0.05			0.08	c0.28
v/c Ratio					0.72	0.10		0.38			0.34	0.69
Uniform Delay, d1					23.7	4.7		46.3			35.9	27.5
Progression Factor					1.00	1.00		0.18			1.00	1.00
Incremental Delay, d2					2.7	0.0		0.2			0.3	3.2
Delay (s)					26.4	4.7		8.3			36.2	30.7
Level of Service					C	A		A			D	C
Approach Delay (s)		0.0			22.3			8.3			32.8	
Approach LOS		A			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	24.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	96.7%	ICU Level of Service	F
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	1249	290	171	304	475
v/c Ratio	0.72	0.13	0.38	0.34	0.68
Control Delay	27.4	0.5	10.0	37.0	30.8
Queue Delay	0.4	0.0	1.0	0.0	0.0
Total Delay	27.8	0.5	11.0	37.0	30.8
Queue Length 50th (ft)	385	0	2	97	258
Queue Length 95th (ft)	582	14	m22	156	441
Internal Link Dist (ft)	597		72	329	
Turn Bay Length (ft)					
Base Capacity (vph)	1736	2287	533	900	726
Starvation Cap Reductn	145	0	185	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.79	0.13	0.49	0.34	0.65

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	171	873	0	0	304	0
Future Volume (vph)	171	873	0	0	304	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			5.3	
Lane Util. Factor	1.00	0.95			0.97	
Frt	1.00	1.00			1.00	
Flt Protected	0.95	1.00			0.95	
Satd. Flow (prot)	1805	3610			3502	
Flt Permitted	0.95	1.00			0.95	
Satd. Flow (perm)	1805	3610			3502	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	171	873	0	0	304	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	171	873	0	0	304	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			Perm	
Protected Phases	5					
Permitted Phases		2			4	
Actuated Green, G (s)	14.3	75.6			28.1	
Effective Green, g (s)	14.3	75.6			28.1	
Actuated g/C Ratio	0.12	0.66			0.24	
Clearance Time (s)	6.0	6.0			5.3	
Vehicle Extension (s)	2.0	3.9			3.9	
Lane Grp Cap (vph)	224	2373			855	
v/s Ratio Prot	c0.09					
v/s Ratio Perm		c0.24			c0.09	
v/c Ratio	0.76	0.37			0.36	
Uniform Delay, d1	48.7	8.9			36.0	
Progression Factor	1.00	1.00			0.08	
Incremental Delay, d2	14.1	0.4			0.3	
Delay (s)	62.8	9.3			3.1	
Level of Service	E	A			A	
Approach Delay (s)		18.1	0.0		3.1	
Approach LOS		B	A		A	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	102.5%	ICU Level of Service	G
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	EBL	EBT	SBL
Lane Group Flow (vph)	171	873	304
v/c Ratio	0.77	0.37	0.36
Control Delay	73.5	9.5	3.8
Queue Delay	0.0	0.0	0.4
Total Delay	73.5	9.5	4.3
Queue Length 50th (ft)	123	143	3
Queue Length 95th (ft)	#243	208	9
Internal Link Dist (ft)		555	72
Turn Bay Length (ft)	325		
Base Capacity (vph)	266	2372	873
Starvation Cap Reductn	0	0	228
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.64	0.37	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

2029 Build

HCS Freeway Worksheets

Merge/Diverge/Weave

HCS7 Freeway Merge Report

Project Information			
Analyst	RA	Date	9/21/2022
Agency	RA	Analysis Year	2029 Build
Jurisdiction	Port of LA	Time Period Analyzed	AM Peak Hour
Project Description	Seaside EB, Navy Way On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	62.7	40.0
Segment Length (L) / Acceleration Length (LA),ft	1500	830
Terrain Type	Specific Grade	Specific Grade
Percent Grade, %	-2.60	5.71
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	2138	208
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	0	0
Tractor-Trailers (TT), %	100	100
Heavy Vehicle Adjustment Factor (fHV)	1.000	1.000
Flow Rate (vi),pc/h	2274	221
Capacity (c), pc/h	4600	2000
Volume-to-Capacity Ratio (v/c)	0.54	0.11

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	19.7
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	0.302
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	56.4
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h	2274	Ramp Junction Speed (S), mi/h	56.4
Flow Entering Ramp-Infl. Area (vR12), pc/h	2495	Average Density (D), pc/mi/ln	22.1
Level of Service (LOS)	B		

HCS7 Freeway Merge Report

Project Information			
Analyst	RA	Date	9/21/2022
Agency	RA	Analysis Year	2029 Build
Jurisdiction	Port of LA	Time Period Analyzed	MD Peak Hour
Project Description	Seaside EB, Navy On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	62.7	40.0
Segment Length (L) / Acceleration Length (LA),ft	1500	830
Terrain Type	Specific Grade	Specific Grade
Percent Grade, %	-2.60	5.71
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1742	770
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	0	0
Tractor-Trailers (TT), %	100	100
Heavy Vehicle Adjustment Factor (fHV)	1.000	1.000
Flow Rate (vi),pc/h	1853	819
Capacity (c), pc/h	4600	2000
Volume-to-Capacity Ratio (v/c)	0.58	0.41

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	20.8
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	0.311
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	56.3
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h	1853	Ramp Junction Speed (S), mi/h	56.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	2672	Average Density (D), pc/mi/ln	23.7
Level of Service (LOS)	C		

HCS7 Freeway Merge Report

Project Information			
Analyst	RA	Date	9/21/2022
Agency	RA	Analysis Year	2029 Build
Jurisdiction	Port of LA	Time Period Analyzed	PM Peak Hour
Project Description	Seaside EB, Navy On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	62.7	40.0
Segment Length (L) / Acceleration Length (LA),ft	1500	830
Terrain Type	Specific Grade	Specific Grade
Percent Grade, %	-2.60	5.71
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	2897	842
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	0	0
Tractor-Trailers (TT), %	100	100
Heavy Vehicle Adjustment Factor (fHV)	1.000	1.000
Flow Rate (vi),pc/h	3082	896
Capacity (c), pc/h	4600	2000
Volume-to-Capacity Ratio (v/c)	0.86	0.45

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	31.0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	0.463
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	53.1
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h	3082	Ramp Junction Speed (S), mi/h	53.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	3978	Average Density (D), pc/mi/ln	37.5
Level of Service (LOS)	D		

HCS7 Freeway Merge Report

Project Information			
Analyst	RA	Date	9/21/2022
Agency	RA	Analysis Year	2029 Build
Jurisdiction	Port of LA	Time Period Analyzed	AM Peak Hour (with PCE)
Project Description	Seaside EB, Navy Way On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	62.7	40.0
Segment Length (L) / Acceleration Length (LA),ft	1500	830
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	2138	208
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	1.000	1.000
Flow Rate (vi),pc/h	2274	221
Capacity (c), pc/h	4600	2000
Volume-to-Capacity Ratio (v/c)	0.54	0.11

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	19.7
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	0.302
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	56.4
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h	2274	Ramp Junction Speed (S), mi/h	56.4
Flow Entering Ramp-Infl. Area (vR12), pc/h	2495	Average Density (D), pc/mi/ln	22.1
Level of Service (LOS)	B		

HCS7 Freeway Merge Report

Project Information			
Analyst	RA	Date	9/21/2022
Agency	RA	Analysis Year	2029 Build
Jurisdiction	Port of LA	Time Period Analyzed	MD Peak Hour (with PCE)
Project Description	Seaside EB, Navy On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	62.7	40.0
Segment Length (L) / Acceleration Length (LA),ft	1500	830
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1742	770
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	1.000	1.000
Flow Rate (vi),pc/h	1853	819
Capacity (c), pc/h	4600	2000
Volume-to-Capacity Ratio (v/c)	0.58	0.41

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	20.8
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	0.311
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	56.3
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h	1853	Ramp Junction Speed (S), mi/h	56.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	2672	Average Density (D), pc/mi/ln	23.7
Level of Service (LOS)	C		

HCS7 Freeway Merge Report

Project Information			
Analyst	RA	Date	9/21/2022
Agency	RA	Analysis Year	2029 Build
Jurisdiction	Port of LA	Time Period Analyzed	PM Peak Hour (with PCE)
Project Description	Seaside EB, Navy On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	62.7	40.0
Segment Length (L) / Acceleration Length (LA),ft	1500	830
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	2897	842
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	1.000	1.000
Flow Rate (vi),pc/h	3082	896
Capacity (c), pc/h	4600	2000
Volume-to-Capacity Ratio (v/c)	0.86	0.45

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	31.0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	0.463
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	53.1
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h	3082	Ramp Junction Speed (S), mi/h	53.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	3978	Average Density (D), pc/mi/ln	37.5
Level of Service (LOS)	D		

HCS7 Freeway Weaving Report

Project Information

Analyst	RA	Date	9/21/2022
Agency	RA	Analysis Year	2029 Build
Jurisdiction	Port of LA	Time Period Analyzed	AM Peak Hour
Project Description	Seaside EB, Ferry to Navy Way (1-Sided Weave Section)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	415	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Specific Grade	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	1.50	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	1944	194	61	549
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	2068	206	65	584
Weaving Flow Rate (v_W), pc/h	790	Freeway Max Capacity (c_{IFL}), pc/h/ln		2327
Non-Weaving Flow Rate (v_{NW}), pc/h	2133	Density-Based Capacity (c_{IWL}), pc/h/ln		1956
Total Flow Rate (v), pc/h	2923	Demand Flow-Based Capacity (c_{IW}), pc/h		8889
Volume Ratio (VR)	0.270	Weaving Segment Capacity (c_W), veh/h		5868
Minimum Lane Change Rate (LC_{MIN}), lc/h	206	Adjusted Weaving Area Capacity, pc/h		5868
Maximum Weaving Length (L_{MAX}), ft	5264	Volume-to-Capacity Ratio (v/c)		0.50

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	89	Average Weaving Speed (S_W),mi/h	54.7
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	87	Average Non-Weaving Speed (S_{NW}), mi/h	56.5
Weaving Lane Change Rate (LC_W), lc/h	272	Average Speed (S), mi/h	56.0
Weaving Lane Change Rate (LC_{All}), lc/h	359	Density (D), pc/mi/ln	17.4
Weaving Intensity Factor (W)	0.202	Level of Service (LOS)	B

HCS7 Freeway Weaving Report

Project Information

Analyst	RA	Date	9/21/2022
Agency	RA	Analysis Year	2029 Build
Jurisdiction	Port of LA	Time Period Analyzed	MD Peak Hour
Project Description	Seaside EB, Ferry to Navy Way (1-Sided Weave Section)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	415	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Specific Grade	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	1.50	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	1266	476	201	790
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	1347	506	214	840
Weaving Flow Rate (v_w), pc/h	1346	Freeway Max Capacity (c_{IFL}), pc/h/ln		2327
Non-Weaving Flow Rate (v_{NW}), pc/h	1561	Density-Based Capacity (c_{IWL}), pc/h/ln		1793
Total Flow Rate (v), pc/h	2907	Demand Flow-Based Capacity (c_{IW}), pc/h		5184
Volume Ratio (VR)	0.463	Weaving Segment Capacity (c_W), veh/h		5184
Minimum Lane Change Rate (LC_{MIN}), lc/h	506	Adjusted Weaving Area Capacity, pc/h		5184
Maximum Weaving Length (L_{MAX}), ft	7397	Volume-to-Capacity Ratio (v/c)		0.56

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	65	Average Weaving Speed (S_W),mi/h	51.9
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	54.4
Weaving Lane Change Rate (LC_W), lc/h	572	Average Speed (S), mi/h	53.2
Weaving Lane Change Rate (LC_{All}), lc/h	572	Density (D), pc/mi/ln	18.2
Weaving Intensity Factor (W)	0.291	Level of Service (LOS)	B

HCS7 Freeway Weaving Report

Project Information

Analyst	RA	Date	9/21/2022
Agency	RA	Analysis Year	2029 Build
Jurisdiction	Port of LA	Time Period Analyzed	PM Peak Hour
Project Description	Seaside EB, Ferry to Navy Way (1-Sided Weave Section)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	415	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Specific Grade	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	1.50	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	2390	507	227	995
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	2543	539	241	1059
Weaving Flow Rate (v_w), pc/h	1598	Freeway Max Capacity (c_{IFL}), pc/h/ln		2327
Non-Weaving Flow Rate (v_{NW}), pc/h	2784	Density-Based Capacity (c_{IWL}), pc/h/ln		1877
Total Flow Rate (v), pc/h	4382	Demand Flow-Based Capacity (c_{IW}), pc/h		6575
Volume Ratio (VR)	0.365	Weaving Segment Capacity (c_W), veh/h		5631
Minimum Lane Change Rate (LC_{MIN}), lc/h	539	Adjusted Weaving Area Capacity, pc/h		5631
Maximum Weaving Length (L_{MAX}), ft	6292	Volume-to-Capacity Ratio (v/c)		0.78

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	116	Average Weaving Speed (S_W),mi/h	49.3
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	221	Average Non-Weaving Speed (S_{NW}), mi/h	51.8
Weaving Lane Change Rate (LC_W), lc/h	605	Average Speed (S), mi/h	50.9
Weaving Lane Change Rate (LC_{All}), lc/h	826	Density (D), pc/mi/ln	28.7
Weaving Intensity Factor (W)	0.389	Level of Service (LOS)	D

HCS7 Freeway Weaving Report

Project Information

Analyst	RA	Date	9/21/2022
Agency	RA	Analysis Year	2029 Build
Jurisdiction	Port of LA	Time Period Analyzed	AM Peak Hour (with PCE)
Project Description	Seaside Avenue WB, Pier S On-Ramp to Navy Way (1-sided Weave Section)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	995	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	1672	632	264	459
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	1779	672	281	488
Weaving Flow Rate (v_w), pc/h	1160	Freeway Max Capacity (c_{IFL}), pc/h/ln		2336
Non-Weaving Flow Rate (v_{NW}), pc/h	2060	Density-Based Capacity (c_{IWL}), pc/h/ln		1935
Total Flow Rate (v), pc/h	3220	Demand Flow-Based Capacity (c_{IW}), pc/h		6667
Volume Ratio (VR)	0.360	Weaving Segment Capacity (c_W), veh/h		5805
Minimum Lane Change Rate (LC_{MIN}), lc/h	672	Adjusted Weaving Area Capacity, pc/h		5805
Maximum Weaving Length (L_{MAX}), ft	6236	Volume-to-Capacity Ratio (v/c)		0.55

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	205	Average Weaving Speed (S_W),mi/h	53.4
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	386	Average Non-Weaving Speed (S_{NW}), mi/h	53.6
Weaving Lane Change Rate (LC_W), lc/h	833	Average Speed (S), mi/h	53.5
Weaving Lane Change Rate (LC_{All}), lc/h	1219	Density (D), pc/mi/ln	20.1
Weaving Intensity Factor (W)	0.265	Level of Service (LOS)	C

HCS7 Freeway Weaving Report

Project Information

Analyst	RA	Date	9/21/2022
Agency	RA	Analysis Year	2029 Build
Jurisdiction	Port of LA	Time Period Analyzed	MD Peak Hour (with PCE)
Project Description	Seaside Avenue WB, Pier S On-Ramp to Navy Way (1-sided Weave Section)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	995	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	1183	1102	564	814
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	1259	1172	600	866
Weaving Flow Rate (v_w), pc/h	2038	Freeway Max Capacity (c_{IFL}), pc/h/ln		2336
Non-Weaving Flow Rate (v_{NW}), pc/h	1859	Density-Based Capacity (c_{IWL}), pc/h/ln		1793
Total Flow Rate (v), pc/h	3897	Demand Flow-Based Capacity (c_{IW}), pc/h		4589
Volume Ratio (VR)	0.523	Weaving Segment Capacity (c_W), veh/h		4589
Minimum Lane Change Rate (LC_{MIN}), lc/h	1172	Adjusted Weaving Area Capacity, pc/h		4589
Maximum Weaving Length (L_{MAX}), ft	8097	Volume-to-Capacity Ratio (v/c)		0.85

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	185	Average Weaving Speed (S_W),mi/h	51.2
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	344	Average Non-Weaving Speed (S_{NW}), mi/h	48.9
Weaving Lane Change Rate (LC_W), lc/h	1333	Average Speed (S), mi/h	50.1
Weaving Lane Change Rate (LC_{All}), lc/h	1677	Density (D), pc/mi/ln	25.9
Weaving Intensity Factor (W)	0.341	Level of Service (LOS)	C

HCS7 Freeway Weaving Report

Project Information

Analyst	RA	Date	9/21/2022
Agency	RA	Analysis Year	2029 Build
Jurisdiction	Port of LA	Time Period Analyzed	PM Peak Hour (with PCE)
Project Description	Seaside Avenue WB, Pier S On-Ramp to Navy Way (1-sided Weave Section)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	995	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	2080	1138	638	627
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	2213	1211	679	667
Weaving Flow Rate (v_w), pc/h	1878	Freeway Max Capacity (c_{IFL}), pc/h/ln		2336
Non-Weaving Flow Rate (v_{NW}), pc/h	2892	Density-Based Capacity (c_{IWL}), pc/h/ln		1906
Total Flow Rate (v), pc/h	4770	Demand Flow-Based Capacity (c_{IW}), pc/h		6091
Volume Ratio (VR)	0.394	Weaving Segment Capacity (c_W), veh/h		5718
Minimum Lane Change Rate (LC_{MIN}), lc/h	1211	Adjusted Weaving Area Capacity, pc/h		5718
Maximum Weaving Length (L_{MAX}), ft	6614	Volume-to-Capacity Ratio (v/c)		0.83

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	288	Average Weaving Speed (S_W),mi/h	50.2
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	557	Average Non-Weaving Speed (S_{NW}), mi/h	47.2
Weaving Lane Change Rate (LC_W), lc/h	1372	Average Speed (S), mi/h	48.3
Weaving Lane Change Rate (LC_{All}), lc/h	1929	Density (D), pc/mi/ln	32.9
Weaving Intensity Factor (W)	0.381	Level of Service (LOS)	D

2029 No Build

HCS Freeway Worksheets

Merge/Diverge/Weave

HCS7 Freeway Merge Report

Project Information			
Analyst	RA	Date	10/18/2022
Agency	RA	Analysis Year	2029 No Build
Jurisdiction	Port of LA	Time Period Analyzed	AM Peak Hour (Truck%)
Project Description	Seaside EB, Navy On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	50.0	28.0
Segment Length (L) / Acceleration Length (LA),ft	1500	240
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	2113	186
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	9.13	87.63
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.916	0.533
Flow Rate (vi),pc/h	2454	371
Capacity (c), pc/h	6750	1900
Volume-to-Capacity Ratio (v/c)	0.42	0.20

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	18.7
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	0.334
Downstream Equilibrium Distance (LEQ), ft	4922.8	Flow Outer Lanes (vOA), pc/mi/ln	930
Distance to Downstream Ramp (LDOWN), ft	2405	On-Ramp Influenece Area Speed (SR), mi/h	47.3
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.621	Outer Lanes Freeway Speed (SO), mi/h	48.5
Flow in Lanes 1 and 2 (v12), pc/h	1524	Ramp Junction Speed (S), mi/h	47.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	1895	Average Density (D), pc/mi/ln	19.7
Level of Service (LOS)	B		

HCS7 Freeway Merge Report

Project Information			
Analyst	RA	Date	10/18/2022
Agency	RA	Analysis Year	2029 No Build
Jurisdiction	Port of LA	Time Period Analyzed	MD Peak Hour (Truck%)
Project Description	Seaside EB, Navy On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	50.0	28.0
Segment Length (L) / Acceleration Length (LA),ft	1500	240
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1784	741
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	27.58	90.15
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.784	0.526
Flow Rate (vi),pc/h	2421	1499
Capacity (c), pc/h	6750	1900
Volume-to-Capacity Ratio (v/c)	0.58	0.79

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	28.2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	0.402
Downstream Equilibrium Distance (LEQ), ft	9876.8	Flow Outer Lanes (vOA), pc/mi/ln	738
Distance to Downstream Ramp (LDOWN), ft	2405	On-Ramp Influenece Area Speed (SR), mi/h	46.8
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.695	Outer Lanes Freeway Speed (SO), mi/h	49.1
Flow in Lanes 1 and 2 (v12), pc/h	1683	Ramp Junction Speed (S), mi/h	47.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	3182	Average Density (D), pc/mi/ln	27.7
Level of Service (LOS)	D		

HCS7 Freeway Merge Report

Project Information			
Analyst	RA	Date	10/18/2022
Agency	RA	Analysis Year	2029 No Build
Jurisdiction	Port of LA	Time Period Analyzed	PM Peak Hour (Truck%)
Project Description	Seaside EB, Navy On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	50.0	28.0
Segment Length (L) / Acceleration Length (LA),ft	1500	240
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	3152	727
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	12.63	66.16
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.888	0.602
Flow Rate (vi),pc/h	3776	1285
Capacity (c), pc/h	6750	1900
Volume-to-Capacity Ratio (v/c)	0.75	0.68

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	33.5
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	0.491
Downstream Equilibrium Distance (LEQ), ft	8799.8	Flow Outer Lanes (vOA), pc/mi/ln	1212
Distance to Downstream Ramp (LDOWN), ft	2405	On-Ramp Influenece Area Speed (SR), mi/h	46.1
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.679	Outer Lanes Freeway Speed (SO), mi/h	47.4
Flow in Lanes 1 and 2 (v12), pc/h	2564	Ramp Junction Speed (S), mi/h	46.4
Flow Entering Ramp-Infl. Area (vR12), pc/h	3849	Average Density (D), pc/mi/ln	36.4
Level of Service (LOS)	D		

HCS7 Freeway Diverge Report

Project Information			
Analyst	RA	Date	8/8/2022
Agency	RA	Analysis Year	2029 No Build
Jurisdiction	Port of LA	Time Period Analyzed	AM Peak Hour (with PCE)
Project Description	Seaside WB, Navy Off-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	63.6	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	140
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	2844	663
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	1.000	1.000
Flow Rate (vi),pc/h	3026	705
Capacity (c), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.44	0.35

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	10440.5	Density in Ramp Influence Area (DR), pc/mi/ln	22.1
Distance to Upstream Ramp (LUP), ft	1500	Speed Index (D)	0.491
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	808
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	53.0
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.652	Outer Lanes Freeway Speed (SO), mi/h	69.8
Flow in Lanes 1 and 2 (v12), pc/h	2218	Ramp Junction Speed (S), mi/h	56.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	17.8
Level of Service (LOS)	C		

HCS7 Freeway Diverge Report

Project Information			
Analyst	RA	Date	8/8/2022
Agency	RA	Analysis Year	2029 No Build
Jurisdiction	Port of LA	Time Period Analyzed	MD Peak Hour (with PCE)
Project Description	Seaside WB, Navy Off-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	63.6	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	140
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	3588	1346
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	1.000	1.000
Flow Rate (vi),pc/h	3817	1432
Capacity (c), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.55	0.72

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	34964.8	Density in Ramp Influence Area (DR), pc/mi/ln	27.6
Distance to Upstream Ramp (LUP), ft	1500	Speed Index (D)	0.557
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	956
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	51.6
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.599	Outer Lanes Freeway Speed (SO), mi/h	69.8
Flow in Lanes 1 and 2 (v12), pc/h	2861	Ramp Junction Speed (S), mi/h	55.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	23.0
Level of Service (LOS)	C		

HCS7 Freeway Diverge Report

Project Information			
Analyst	RA	Date	8/8/2022
Agency	RA	Analysis Year	2029 No Build
Jurisdiction	Port of LA	Time Period Analyzed	PM Peak Hour (with PCE)
Project Description	Seaside WB, Navy Off-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	63.6	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	140
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	4362	1203
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	1.000	1.000
Flow Rate (vi),pc/h	4640	1280
Capacity (c), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.67	0.64

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	22813.4	Density in Ramp Influence Area (DR), pc/mi/ln	30.9
Distance to Upstream Ramp (LUP), ft	1500	Speed Index (D)	0.543
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1394
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	51.9
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.585	Outer Lanes Freeway Speed (SO), mi/h	68.2
Flow in Lanes 1 and 2 (v12), pc/h	3246	Ramp Junction Speed (S), mi/h	55.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	27.7
Level of Service (LOS)	D		

HCS7 Freeway Weaving Report

Project Information

Analyst	RA	Date	8/8/2022
Agency	RA	Analysis Year	2029 No Build
Jurisdiction	Port of LA	Time Period Analyzed	AM Peak Hour (with PCE)
Project Description	Seaside Avenue EB, Navy Way to Pier S Off-Ramp (1-Sided Weave Section)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	1915	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	1821	179	144	455
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	1937	190	153	484
Weaving Flow Rate (v_w), pc/h	674	Freeway Max Capacity (c_{IFL}), pc/h/ln		2327
Non-Weaving Flow Rate (v_{NW}), pc/h	2090	Density-Based Capacity (c_{IWL}), pc/h/ln		2092
Total Flow Rate (v), pc/h	2764	Demand Flow-Based Capacity (c_{IW}), pc/h		9836
Volume Ratio (VR)	0.244	Weaving Segment Capacity (c_W), veh/h		6276
Minimum Lane Change Rate (LC_{MIN}), lc/h	190	Adjusted Weaving Area Capacity, pc/h		6276
Maximum Weaving Length (L_{MAX}), ft	4991	Volume-to-Capacity Ratio (v/c)		0.44

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	400	Average Weaving Speed (S_W),mi/h	55.8
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	891	Average Non-Weaving Speed (S_{NW}), mi/h	56.9
Weaving Lane Change Rate (LC_W), lc/h	436	Average Speed (S), mi/h	56.6
Weaving Lane Change Rate (LC_{All}), lc/h	1327	Density (D), pc/mi/ln	16.3
Weaving Intensity Factor (W)	0.169	Level of Service (LOS)	B

HCS7 Freeway Weaving Report

Project Information

Analyst	RA	Date	8/8/2022
Agency	RA	Analysis Year	2029 No Build
Jurisdiction	Port of LA	Time Period Analyzed	MD Peak Hour (with PCE)
Project Description	Seaside Avenue EB, Navy Way to Pier S Off-Ramp (1-Sided Weave Section)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	1915	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	1600	733	573	580
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	1702	780	610	617
Weaving Flow Rate (v_w), pc/h	1397	Freeway Max Capacity (c_{IFL}), pc/h/ln		2327
Non-Weaving Flow Rate (v_{NW}), pc/h	2312	Density-Based Capacity (c_{IWL}), pc/h/ln		1982
Total Flow Rate (v), pc/h	3709	Demand Flow-Based Capacity (c_{IW}), pc/h		6366
Volume Ratio (VR)	0.377	Weaving Segment Capacity (c_W), veh/h		5946
Minimum Lane Change Rate (LC_{MIN}), lc/h	780	Adjusted Weaving Area Capacity, pc/h		5946
Maximum Weaving Length (L_{MAX}), ft	6424	Volume-to-Capacity Ratio (v/c)		0.62

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	443	Average Weaving Speed (S_W),mi/h	53.8
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	936	Average Non-Weaving Speed (S_{NW}), mi/h	51.1
Weaving Lane Change Rate (LC_W), lc/h	1026	Average Speed (S), mi/h	52.1
Weaving Lane Change Rate (LC_{All}), lc/h	1962	Density (D), pc/mi/ln	23.7
Weaving Intensity Factor (W)	0.230	Level of Service (LOS)	C

HCS7 Freeway Weaving Report

Project Information

Analyst	RA	Date	8/8/2022
Agency	RA	Analysis Year	2029 No Build
Jurisdiction	Port of LA	Time Period Analyzed	PM Peak Hour (with PCE)
Project Description	Seaside Avenue EB, Navy Way to Pier S Off-Ramp (1-Sided Weave Section)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	1915	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	2845	719	413	632
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	3027	765	439	672
Weaving Flow Rate (v_w), pc/h	1437	Freeway Max Capacity (c_{IFL}), pc/h/ln		2327
Non-Weaving Flow Rate (v_{NW}), pc/h	3466	Density-Based Capacity (c_{IWL}), pc/h/ln		2052
Total Flow Rate (v), pc/h	4903	Demand Flow-Based Capacity (c_{IW}), pc/h		8191
Volume Ratio (VR)	0.293	Weaving Segment Capacity (c_W), veh/h		6156
Minimum Lane Change Rate (LC_{MIN}), lc/h	765	Adjusted Weaving Area Capacity, pc/h		6156
Maximum Weaving Length (L_{MAX}), ft	5509	Volume-to-Capacity Ratio (v/c)		0.80

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	664	Average Weaving Speed (S_W),mi/h	53.1
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	1174	Average Non-Weaving Speed (S_{NW}), mi/h	49.3
Weaving Lane Change Rate (LC_W), lc/h	1011	Average Speed (S), mi/h	50.4
Weaving Lane Change Rate (LC_{All}), lc/h	2185	Density (D), pc/mi/ln	32.4
Weaving Intensity Factor (W)	0.251	Level of Service (LOS)	D

HCS7 Freeway Weaving Report

Project Information

Analyst	RA	Date	8/8/2022
Agency	RA	Analysis Year	2029 No Build
Jurisdiction	Port of LA	Time Period Analyzed	AM Peak Hour (with PCE)
Project Description	Seaside Avenue WB, Pier S On-Ramp to Navy Way (2-sided Weave Section)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	1980	Number of Maneuver Lanes (N_{WL}), ln	0
Weaving Configuration	Two-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	2
Interchange Density (ID), int/mi	1.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	1978	802	52	13
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	2104	853	55	14
Weaving Flow Rate (v_w), pc/h	55	Freeway Max Capacity (c_{IFL}), pc/h/ln		2336
Non-Weaving Flow Rate (v_{NW}), pc/h	2971	Density-Based Capacity (c_{IWL}), pc/h/ln		2037
Total Flow Rate (v), pc/h	3026	Demand Flow-Based Capacity (c_{IW}), pc/h		-
Volume Ratio (VR)	0.018	Weaving Segment Capacity (c_W), veh/h		6111
Minimum Lane Change Rate (LC_{MIN}), lc/h	110	Adjusted Weaving Area Capacity, pc/h		6111
Maximum Weaving Length (L_{MAX}), ft	5894	Volume-to-Capacity Ratio (v/c)		0.50

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	588	Average Weaving Speed (S_W),mi/h	56.3
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	1107	Average Non-Weaving Speed (S_{NW}), mi/h	58.0
Weaving Lane Change Rate (LC_W), lc/h	360	Average Speed (S), mi/h	58.0
Weaving Lane Change Rate (LC_{All}), lc/h	1467	Density (D), pc/mi/ln	17.4
Weaving Intensity Factor (W)	0.178	Level of Service (LOS)	B

HCS7 Freeway Weaving Report

Project Information

Analyst	RA	Date	8/8/2022
Agency	RA	Analysis Year	2029 No Build
Jurisdiction	Port of LA	Time Period Analyzed	MD Peak Hour (with PCE)
Project Description	Seaside Avenue WB, Pier S On-Ramp to Navy Way (2-sided Weave Section)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	1980	Number of Maneuver Lanes (N_{WL}), ln	0
Weaving Configuration	Two-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	2
Interchange Density (ID), int/mi	1.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	1943	1595	47	3
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	2067	1697	50	3
Weaving Flow Rate (v_w), pc/h	50	Freeway Max Capacity (c_{IFL}), pc/h/ln		2336
Non-Weaving Flow Rate (v_{NW}), pc/h	3767	Density-Based Capacity (c_{IWL}), pc/h/ln		2040
Total Flow Rate (v), pc/h	3817	Demand Flow-Based Capacity (c_{IW}), pc/h		-
Volume Ratio (VR)	0.013	Weaving Segment Capacity (c_W), veh/h		6120
Minimum Lane Change Rate (LC_{MIN}), lc/h	100	Adjusted Weaving Area Capacity, pc/h		6120
Maximum Weaving Length (L_{MAX}), ft	5848	Volume-to-Capacity Ratio (v/c)		0.62

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	746	Average Weaving Speed (S_W),mi/h	55.7
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	1271	Average Non-Weaving Speed (S_{NW}), mi/h	56.8
Weaving Lane Change Rate (LC_W), lc/h	350	Average Speed (S), mi/h	56.8
Weaving Lane Change Rate (LC_{All}), lc/h	1621	Density (D), pc/mi/ln	22.4
Weaving Intensity Factor (W)	0.193	Level of Service (LOS)	C

HCS7 Freeway Weaving Report

Project Information

Analyst	RA	Date	8/8/2022
Agency	RA	Analysis Year	2029 No Build
Jurisdiction	Port of LA	Time Period Analyzed	PM Peak Hour (with PCE)
Project Description	Seaside Avenue WB, Pier S On-Ramp to Navy Way (2-sided Weave Section)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	1980	Number of Maneuver Lanes (N_{WL}), ln	0
Weaving Configuration	Two-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	2
Interchange Density (ID), int/mi	1.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	2629	1668	58	8
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	2797	1774	62	9
Weaving Flow Rate (v_w), pc/h	62	Freeway Max Capacity (c_{IFL}), pc/h/ln		2336
Non-Weaving Flow Rate (v_{NW}), pc/h	4580	Density-Based Capacity (c_{IWL}), pc/h/ln		2040
Total Flow Rate (v), pc/h	4642	Demand Flow-Based Capacity (c_{IW}), pc/h		-
Volume Ratio (VR)	0.013	Weaving Segment Capacity (c_W), veh/h		6120
Minimum Lane Change Rate (LC_{MIN}), lc/h	124	Adjusted Weaving Area Capacity, pc/h		6120
Maximum Weaving Length (L_{MAX}), ft	5848	Volume-to-Capacity Ratio (v/c)		0.76

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	907	Average Weaving Speed (S_W),mi/h	55.1
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	1439	Average Non-Weaving Speed (S_{NW}), mi/h	55.3
Weaving Lane Change Rate (LC_W), lc/h	374	Average Speed (S), mi/h	55.3
Weaving Lane Change Rate (LC_{All}), lc/h	1813	Density (D), pc/mi/ln	28.0
Weaving Intensity Factor (W)	0.211	Level of Service (LOS)	C

APPENDIX D

Los Angeles Department of Transportation, Plan Consistency Worksheet

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LADOT

Plans, Policies and Programs Consistency Worksheet

The worksheet provides a structured approach to evaluate the threshold T-1 question below, that asks whether a project conflicts with a program, plan, ordinance or policy addressing the circulation system. The intention of the worksheet is to streamline the project review by highlighting the most relevant plans, policies and programs when assessing potential impacts to the City's circulation system.

> ***Threshold T-1***: Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities?

This worksheet does not include an exhaustive list of City policies, and does not include community plans, specific plans, or any area-specific regulatory overlays. The Department of City Planning project planner will need to be consulted to determine if the project would obstruct the City from carrying out a policy or program in a community plan, specific plan, streetscape plan, or regulatory overlay that was adopted to support multimodal transportation options or public safety. LADOT staff should be consulted if a project would lead to a conflict with a mobility investment in the Public Right of Way (PROW) that is currently undergoing planning, design, or delivery. This worksheet must be completed for all projects that meet the Section I. Screening Criteria. For description of the relevant planning documents, **see Attachment D.1.**

For any response to the following questions that checks the box in **bold text** ((i.e.☐ **Yes** or ☐ **No**), further analysis is needed to demonstrate that the project does not conflict with a plan, policy, or program.

I. SCREENING CRITERIA FOR POLICY ANALYSIS

If the answer is 'yes' to any of the following questions, further analysis will be required:

Does the project require a discretionary action that requires the decision maker to find that the project would substantially conform to the purpose, intent and provisions of the General Plan?

☐ Yes ◉ No

Is the project known to directly conflict with a transportation plan, policy, or program adopted to support multimodal transportation options or public safety?

☐ Yes ◉ No

Is the project required to or proposing to make any voluntary modifications to the public right-of-way (i.e., dedications and/or improvements in the right-of-way, reconfigurations of curb line, etc.)?

◉ Yes ☐ No

II. PLAN CONSISTENCY ANALYSIS

A. Mobility Plan 2035 PROW Classification Standards for Dedications and Improvements

These questions address potential conflict with:

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Plan, Policy, and Program Consistency Worksheet

Mobility Plan 2035 Policy 2.1 *– Adaptive Reuse of Streets. Design, plan, and operate streets to serve multiple purposes and provide flexibility in design to adapt to future demands.*

Mobility Plan 2035 Policy 2.3 *– Pedestrian Infrastructure. Recognize walking as a component of every trip, and ensure high quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.*

Mobility Plan 2035 Policy 3.2 – *People with Disabilities. Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.*

Mobility Plan 2035 Street Designations and Standard Roadway Dimensions

A.1 Does the project include additions or new construction along a street designated as a Boulevard I, and II, and/or Avenue I, II, or III on property zoned for R3 or less restrictive zone? □ Yes ◉ No

A.2 If **A.1 is yes**, is the project required to make additional dedications or improvements to the Public Right of Way as demonstrated by the street designation. □ Yes □ No ◉ N/A

A.3 If **A.2 is yes**, is the project making the dedications and improvements as necessary to meet the designated dimensions of the fronting street (Boulevard I, and II, or Avenue I, II, or III)?

□ Yes □ No ◉ N/A

If the answer is to **A.1 or A.2 is NO, or to A.1, A.2 and A.3. is YES**, then the project does not conflict with the dedication and improvement requirements that are needed to comply with the Mobility Plan 2035 Street Designations and Standard Roadway Dimensions.

A.4 If the answer to **A.3. is NO**, is the project applicant asking to waive from the dedication standards?

□ **Yes** □ **No** ◉ N/A

Lists any streets subject to dedications or voluntary dedications and include existing roadway and sidewalk widths, required roadway and sidewalk widths, and proposed roadway and sidewalk width or waivers.

Frontage 1 Existing PROW'/Curb' : Existing
_____Required_____Proposed_____

Frontage 2 Existing PROW'/Curb' : Existing
_____Required_____Proposed_____

Frontage 3 Existing PROW'/Curb' : Existing
_____Required_____Proposed_____

Frontage 4 Existing PROW'/Curb' : Existing
_____Required_____Proposed_____

If the answer to **A.4 is NO**, the project is inconsistent with Mobility Plan 2035 street designations and must file for a waiver of street dedication and improvement.

If the answer to **A.4 is YES**, additional analysis is necessary to determine if the dedication and/or improvements are necessary to meet the City's mobility needs for the next 20 years. The following factors may contribute to determine if the dedication or improvement is necessary:

Is the project site along any of the following networks identified in the City's Mobility Plan?

- Transit Enhanced Network
- Bicycle Enhanced Network
- Bicycle Lane Network
- Pedestrian Enhanced District
- Neighborhood Enhanced Network

To see the location of the above networks, see **Transportation Assessment Support Map**.[1]

Is the project within the service area of Metro Bike Share, or is there demonstrated demand for micro-mobility services?

If the project dedications and improvements asking to be waived are necessary to meet the City's mobility needs, the project may be found to conflict with a plan that is adopted to protect the environment.

B. Mobility Plan 2035 PROW Policy Alignment with Project-Initiated Changes

B.1 Project-Initiated Changes to the PROW Dimensions

These questions address potential conflict with:

> ***Mobility Plan 2035 Policy 2.1*** *– Adaptive Reuse of Streets. Design, plan, and operate streets to serve multiple purposes and provide flexibility in design to adapt to future demands.*
>
> ***Mobility Plan 2035 Policy 2.3*** *– Pedestrian Infrastructure. Recognize walking as a component of every trip, and ensure high quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.*
>
> ***Mobility Plan 2035 Policy 3.2 –*** *People with Disabilities. Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.*
>
> ***Mobility Plan 2035 Policy 2.10*** *– Loading Areas. Facilitate the provision of adequate on and off-site street loading areas.*
>
> **Mobility Plan 2035 Street Designations and Standard Roadway Dimensions**

B.1 Does the project physically modify the curb placement or turning radius and/or physically alter the sidewalk and parkways space that changes how people access a property?

Examples of physical changes to the public right-of-way include:

[1] LADOT Transportation Assessment Support Map https://arcg.is/fubbD

- widening the roadway,
- narrowing the sidewalk,
- adding space for vehicle turn outs or loading areas,
- removing bicycle lanes, bike share stations, or bicycle parking
- modifying existing bus stop, transit shelter, or other street furniture
- paving, narrowing, shifting or removing an existing parkway or tree well

☐ **Yes** ◉ No

B.2 Driveway Access

These questions address potential conflict with:

> ***Mobility Plan 2035 Policy 2.10*** *– Loading Areas. Facilitate the provision of adequate on and off-site street loading areas.*
>
> ***Mobility Plan 2035 Program PL.1. Driveway Access.*** *Require driveway access to buildings from non-arterial streets or alleys (where feasible) in order to minimize interference with pedestrian access and vehicular movement.*
>
> ***Citywide Design Guidelines - Guideline 2****: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience.*
>
> *Site Planning Best Practices:*
>
> - *Prioritize pedestrian access first and automobile access second. Orient parking and driveways toward the rear or side of buildings and away from the public right-of-way. On corner lots, parking should be oriented as far from the corner as possible.*
> - *Minimize both the number of driveway entrances and overall driveway widths.*
> - *Do not locate drop-off/pick-up areas between principal building entrances and the adjoining sidewalks.*
> - *Orient vehicular access as far from street intersections as possible.*
> - *Place drive-thru elements away from intersections and avoid placing them so that they create a barrier between the sidewalk and building entrance(s).*
> - *Ensure that loading areas do not interfere with on-site pedestrian and vehicular circulation by separating loading areas and larger commercial vehicles from areas that are used for public parking and public entrances.*

B.2 Does the project add new driveways along a street designated as an Avenue or a Boulevard that conflict with LADOT's Driveway Design Guidelines (See Sec. 321 in the Manual of Policies and Procedures) by any of the following:

- locating new driveways for residential properties on an Avenue or Boulevard, and access is otherwise possible using an alley or a collector/local street, or
- locating new driveways for industrial or commercial properties on an Avenue or Boulevard and access is possible along a collector/local street, or
- the total number of new driveways exceeds 1 driveway per every 200 feet[2] along on the Avenue or Boulevard frontage, or

[2] for a project frontage that exceeds 400 feet along an Avenue or Boulevard, the incremental additional driveway above 2 is more than 1 driveway for every 400 additional feet.

- locating new driveways on an Avenue or Boulevard within 150 feet from the intersecting street, or
- locating new driveways on a collector or local street within 75 feet from the intersecting street, or
- locating new driveways near mid-block crosswalks, requiring relocation of the mid-block crosswalk

☐ **Yes** ☐ No

If the answer to **B.1 and B.2 are both NO**, then the project would not conflict with a plan or policies that govern the PROW as a result of the project-initiated changes to the PROW.

Impact Analysis

If the answer to either **B.1 or B.2 are YES**, City plans and policies should be reviewed in light of the proposed physical changes to determine if the City would be obstructed from carrying out the plans and policies. The analysis should pay special consideration to substantial changes to the Public Right of Way that may either degrade existing facilities for people walking and bicycling (e.g., removing a bicycle lane), or preclude the City from completing complete street infrastructure as identified in the Mobility Plan 2035, especially if the physical changes are along streets that are on the High Injury Network (HIN). The analysis should also consider if the project is in a Transit Oriented Community (TOC) area, and would degrade or inhibit trips made by biking, walking and/ or transit ridership. The streets that need special consideration are those that are included on the following networks identified in the Mobility Plan 2035, or the HIN:

- Transit Enhanced Network
- Bicycle Enhanced Network
- Bicycle Lane Network
- Pedestrian Enhanced District
- Neighborhood Enhanced Network
- High Injury Network

To see the location of the above networks, see **Transportation Assessment Support Map**.[3]

Once the project is reviewed relevant to plans and policies, and existing facilities that may be impacted by the project, the analysis will need to answer the following two questions in concluding if there is an impact due to plan inconsistency.

B.2.1 Would the physical changes in the public right of way or new driveways that conflict with LADOT's Driveway Design Guidelines degrade the experience of vulnerable roadway users such as modify, remove, or otherwise negatively impact existing bicycle, transit, and/or pedestrian infrastructure?

☐ **Yes** ☐ No ☐ N/A

B.2.2 Would the physical modifications or new driveways that conflict with LADOT's Driveway Design Guidelines preclude the City from advancing the safety of vulnerable roadway users?

☐ **Yes** ☐ No ☐ N/A

[3] LADOT Transportation Assessment Support Map https://arcg.is/fubbD

If either of the answers to either **B.2.1 or B.2.2 are YES**, the project may conflict with the Mobility Plan 2035, and therefore conflict with a plan that is adopted to protect the environment. If either of the answers to both **B.2.1. or B.2.2. are NO**, then the project would not be shown to conflict with plans or policies that govern the Public Right-of-Way.

C. Network Access

C. 1 Alley, Street and Stairway Access

These questions address potential conflict with:

Mobility Plan Policy 3.9 *Increased Network Access: Discourage the vacation of public rights-of-way.*

C.1.1 Does the project propose to vacate or otherwise restrict public access to a street, alley, or public stairway?

□ Yes ◉ No

C.1.2 If the answer to C.1.1 is Yes, will the project provide or maintain public access to people walking and biking on the street, alley or stairway?

□ Yes □ **No** ◉ N/A

C.2 New Cul-de-sacs

These questions address potential conflict with:

Mobility Plan 2035 Policy 3.10 *Cul-de-sacs: Discourage the use of cul-de-sacs that do not provide access for active transportation options.*

C.2.1 Does the project create a cul-de-sac or is the project located adjacent to an existing cul-de-sac?

□ Yes ● No

C.2.2 If yes, will the cul-de-sac maintain convenient and direct public access to people walking and biking to the adjoining street network?

□ Yes □ **No** ◉ N/A

If the answers to either C.1.2 or C.2.2 are YES, then the project would not conflict with a plan or policies that ensures access for all modes of travel. If the answer to either **C.1.2 or C.2.2 are NO**, the project may conflict with a plan or policies that governs multimodal access to a property. Further analysis must assess to the degree that pedestrians and bicyclists have sufficient public access to the transportation network.

D. Parking Supply and Transportation Demand Management

These questions address potential conflict with:

Mobility Plan 2035 Policy 3.8 *– Bicycle Parking, Provide bicyclists with convenient, secure and well maintained bicycle parking facilities.*

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Plan, Policy, and Program Consistency Worksheet

Mobility Plan 2035 Policy 4.8 – *Transportation Demand Management Strategies. Encourage greater utilization of Transportation Demand Management Strategies to reduce dependence on single-occupancy vehicles.*

Mobility Plan 2035 Policy 4.13 *– Parking and Land Use Management: Balance on-street and off-street parking supply with other transportation and land use objectives.*

D.1 Would the project propose a supply of onsite parking that exceeds the baseline amount[4] as required in the Los Angeles Municipal Code or a Specific plan, whichever requirement prevails?

□ Yes ⦿ No

D.2 If the answer to D.1. is YES, would the project propose to actively manage the demand of parking by independently pricing the supply to all users (e.g. parking cash-out), or for residential properties, unbundle the supply from the lease or sale of residential units?

□ Yes □ **No** ⦿ N/A

If the answer to **D.2. is NO** the project may conflict with parking management policies. Further analysis is needed to demonstrate how the supply of parking above city requirements will not result in additional (induced) drive-alone trips as compared to an alternative that provided no more parking than the baseline required by the LAMC or Specific Plan. If there is potential for the supply of parking to result in induced demand for drive-alone trips, the project should further explore transportation demand management (TDM) measures to further off-set the induced demands of driving and vehicle miles travelled (VMT) that may result from higher amounts of on-site parking. The TDM measures should specifically focus on strategies that encourage dynamic and context-sensitive pricing solutions and ensure the parking is efficiently allocated, such as providing real time information. Research has demonstrated that charging a user cost for parking or providing a 'cash-out' option in return for not using it is the most effective strategy to reduce the instances of drive-alone trips and increase non-auto mode share to further reduce VMT. To ensure the parking is efficiently managed and reduce the need to build parking for future uses, further strategies should include sharing parking with other properties and/or the general public.

D.3. Would the project provide the minimum on and off-site bicycle parking spaces as required by Section 12.21 A.16 of the LAMC?

⦿ Yes □ **No**

D.4. Does the Project include more than 25,000 square feet of gross floor area construction of new non-residential gross floor?

□ Yes ⦿ No

D.5 If the answer to D.4. is YES, does the project comply with the City's TDM Ordinance in Section 12.26 J of the LAMC?

□ Yes □ **No** ⦿ N/A

[4] The baseline parking is defined here as the default parking requirements in section 12.21 A.4 of the Los Angeles Municipal Code or any applicable Specific Plan, whichever prevails, for each applicable use not taking into consideration other parking incentives to reduce the amount of required parking.

If the answer to **D.3. or D.5. is NO** the project conflicts with LAMC code requirements of bicycle parking and TDM measures. If the project includes uses that require bicycle parking (Section 12.21 A.16) or TDM (Section 12.26 J), and the project does not comply with those Sections of the LAMC, further analysis is required to ensure that the project supports the intent of the two LAMC sections. To meet the intent of bicycle parking requirements, the analysis should identify how the project commits to providing safe access to those traveling by bicycle and accommodates storing their bicycle in locations that demonstrates priority over vehicle access.

Similarly, to meet the intent of the TDM requirements of Section 12.26 J of the LAMC, the analysis should identify how the project commits to providing effective strategies in either physical facilities or programs that encourage non-drive alone trips to and from the project site and changes in work schedule that move trips out of the peak period or eliminate them altogether (as in the case in telecommuting or compressed work weeks).

E. Consistency with Regional Plans

This section addresses potential inconsistencies with greenhouse gas (GHG) reduction targets forecasted in the Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) / Sustainable Communities Strategy (SCS).

E.1 Does the Project or Plan apply one the City's efficiency-based impact thresholds (i.e. VMT per capita, VMT per employee, or VMT per service population) as discussed in **Section 2.2.3** of the TAG?

□ Yes ⊙ No

E.2 If the Answer to **E.1 is YES**, does the Project or Plan result in a significant VMT impact?

□ **Yes** □ No □ N/A

E.3 If the Answer to **E.1 is NO**, does the Project result in a net increase in VMT?

□ **Yes** □ No ● N/A

If the Answer to **E.2 or E.3 is NO**, then the Project or Plan is shown to align with the long-term VMT and GHG reduction goals of SCAG's RTP/SCS.

E.4 If the Answer to **E.2 or E.3 is YES**, then further evaluation would be necessary to determine whether such a project or land use plan would be shown to be consistent with VMT and GHG reduction goals of the SCAG RTP/SCS. For the purpose of making a finding that a project is consistent with the GHG reduction targets forecasted in the SCAG RTP/SCS, the project analyst should consult **Section 2.2.4** of the Transportation Assessment Guidelines (TAG). **Section 2.2.4** provides the methodology for evaluating a land use project's cumulative impacts to VMT, and the appropriate reliance on SCAG's most recently adopted RTP/SCS in reaching that conclusion.

The analysis methods therein can further support findings that the project is consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy for which the State Air Resources Board, pursuant to Section 65080(b)(2)(H) of the Government Code, has accepted a metropolitan planning organization's determination that the sustainable communities strategy or the alternative planning strategy would, if implemented, achieve the greenhouse gas emission reduction targets.

References

BOE Street Standard Dimensions S-470-1
http://eng2.lacity.org/techdocs/stdplans/s-400/S-470-1_20151021_150849.pdf

LADCP Citywide Design Guidelines.
https://planning.lacity.org/odocument/f6608be7-d5fe-4187-bea6-20618eec5049/Citywide_Design_Guidelines.pdf

LADOT Transportation Assessment Support Map https://arcg.is/fubbD

Mobility Plan 2035
https://planning.lacity.org/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf

SCAG. Connect SoCal, 2020-2045 RTP/SCS, https://www.connectsocal.org/Pages/default.aspx

CITY PLAN, POLICIES AND GUIDELINES

The Transportation Element of the City's General Plan, Mobility Plan 2035, established the "Complete Streets Design Guide" as the City's document to guide the operations and design of streets and other public rights-of-way. It lays out a vision for designing safer, more vibrant streets that are accessible to people, no matter what their mode choice. As a living document, it is intended to be frequently updated as City departments identify and implement street standards and experiment with different configurations to promote complete streets. The guide is meant to be a toolkit that provides numerous examples of what is possible in the public right-of-way and that provides guidance on context-sensitive design.

The Plan for A Healthy Los Angeles (March 2015) includes policies directing several City departments to develop plans that promote active transportation and safety.

The City of Los Angeles Community Plans, which make up the Land Use Element of the City's General Plan, guide the physical development of neighborhoods by establishing the goals and policies for land use. The 35 Community Plans provide specific, neighborhood-level detail for land uses and the transportation network, relevant policies, and implementation strategies necessary to achieve General Plan and community-specific objectives.

The stated goal of Vision Zero is to eliminate traffic-related deaths in Los Angeles by 2025 through a number of strategies, including modifying the design of streets to increase the safety of vulnerable road users. Extensive crash data analysis is conducted on an ongoing basis to prioritize intersections and corridors for implementation of projects that will have the greatest effect on overall fatality reduction. The City designs and deploys Vision Zero Corridor Plans as part of the implementation of Vision Zero. If a project is proposed whose site lies on the High Injury Network (HIN), the applicant should consult with LADOT to inform the project's site plan and to determine appropriate improvements, whether by funding their implementation in full or by making a contribution toward their implementation.

The Citywide Design Guidelines (October 24, 2019) includes sections relevant to development projects where improvements are proposed within the public realm. Specifically, Guidelines one through three provide building design strategies that support the pedestrian experience. The Guidelines provide best practices in designing that apply in three spatial categories of site planning, building design and public right of way. The Guidelines should be followed to ensure that the project design supports pedestrian safety, access and comfort as they access to and from the building and the immediate public right of way.

The City's Transportation Demand Management (TDM) Ordinance (LA Municipal Code 12.26.J) requires certain projects to incorporate strategies that reduce drive-alone vehicle trips and improve access to destinations and services. The ordinance is revised and updated periodically and should be reviewed for application to specific projects as they are reviewed.

The City's LAMC Section 12.37 (Waivers of Dedication and Improvement) requires certain projects to dedicate and/or implement improvements within the public right-of-way to meet the street designation standards of the Mobility Plan 2035.

The Bureau of Engineering (BOE) Street Standard Dimensions S-470-1 provides the specific street widths and public right of way dimensions associated with the City's street standards.

APPENDIX E

Archaeological Resources Assessment

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CARLSBAD
CLOVIS
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

June 30, 2023

Lisa Ochsner
Port of Los Angeles, Environmental Management Division
425 S. Palos Verdes St
San Pedro, CA 90731

Subject: Archaeological Resources Assessment for the Port of Los Angeles Navy Way Interchange Project, Long Beach, Los Angeles County, California (LSA Project No. 20231056.01)

Dear Ms. Ochsner:

The Port of Los Angeles (POLA) is proposing to improve the existing partial interchange at State Route 47 (SR-47)/Seaside Avenue/Navy Way (Proposed Project) (see Figure 1, Attachment A). The Project limits on Seaside Avenue extend from just east of the California Department of Transportation (Caltrans) controlled SR-47/Vincent Thomas Bridge approach at the City of Los Angeles (City)/POLA boundary to the east past the POLA/Port of Long Beach (POLB) boundary towards the Pier S Avenue interchange, which is approximately Post Mile [PM] 1.8 to R3.5. The Proposed Project includes a new auxiliary lane, widening of the north side of the existing freeway bridge over the POLA/POLB-owned railway tracks, widening of the westbound off-ramp from Seaside Avenue approximately to the Navy Way viaduct, restriping, traffic signal modification, a new eastbound collector-distributor road, and improvements along Terminal Island/SR-47.

LSA conducted this assessment to identify archaeological cultural resources that are "historical resources" under the California Environmental Quality Act (CEQA) or that appear eligible for inclusion in the California Register of Historical Resources (California Register.) The study did not identify any prehistoric or historical archaeological resources that warrant further study.

To complete the assessment, LSA conducted the following tasks:

- **Records Search:** Data from a records search conducted by the South Central Coastal Information Center (SCCIC No. 24672.10846) indicate that 10 cultural resource studies have included the Project Area: LA-02399, LA-03043, LA-03341, LA-04130, LA-04136, LA-04970, LA-10527, LA-10858, LA-12389, LA-12808. One study (LA-10808) identified sensitivity for historical archaeological cultural resources on Terminal Island and little to no sensitivity for prehistoric archaeological resources, and another (LA-12858) identified very low sensitivity for historical archaeological deposits. No archaeological resources were identified by the records search within the Project Area (Attachment B).

- **Archaeological Field Survey:** A pedestrian survey was conducted on May 16, 2023, by LSA archaeologist Aaron McCann. Most of the Project Area consists of built environment. The only portions that contained vegetation were along the on- and off-ramps from SR-47, but these were largely inaccessible because they were either densely vegetated and/or behind locked gates. Also surveyed was the on-ramp from Ferry Way to northbound SR-47 in the southwestern portion of the Project Area because that was the only accessible vegetated area. The area consists mainly of dense

bushes and grass. Visible soils in this area consisted of densely packed light-brown clay and were likely artificial fill material. Road base and modern trash were also observed.

- **Sacred Lands File Search:** POLA requested a Sacred Lands File (SLF) search from the Native American Heritage Commission (NAHC) on April 27, 2023. The NAHC responded on May 16, 2023, with negative SLF results and a list of tribes designated for contact per requirements of California Assembly Bill 52 (Appendix C).

- **Assembly Bill 52 Consultation Results:** On May 18, 2023, POLA sent letters to the tribes listed on the NAHC response, inviting tribal consultation. On May 20, 2023, the Gabrielino Tongva Indians of California responded and requested the following: *Would you please provide your cultural reporting so that we may comment. Your APE stands within the footprint of 5 village sites* (Appendix D). POLA consultation with the tribe is ongoing.

DISCUSSION

The Project Area has been heavily impacted by roadway construction and urban development, which prevented review of undisturbed soils. The intensive nature of these impacts makes it unlikely that intact historical archaeological deposits are present within the Project Area. A geoarchaeological sensitivity analysis identifies little to no sensitivity for prehistoric archaeological resources.

CONCLUSION

This study did not identify any archaeological cultural resources that are "historical resources" under CEQA or that appear eligible for inclusion in the California Register.

If you have any questions regarding this information, please contact me at neal.kaptain@lsa.net.

Sincerely,

LSA Associates, Inc.

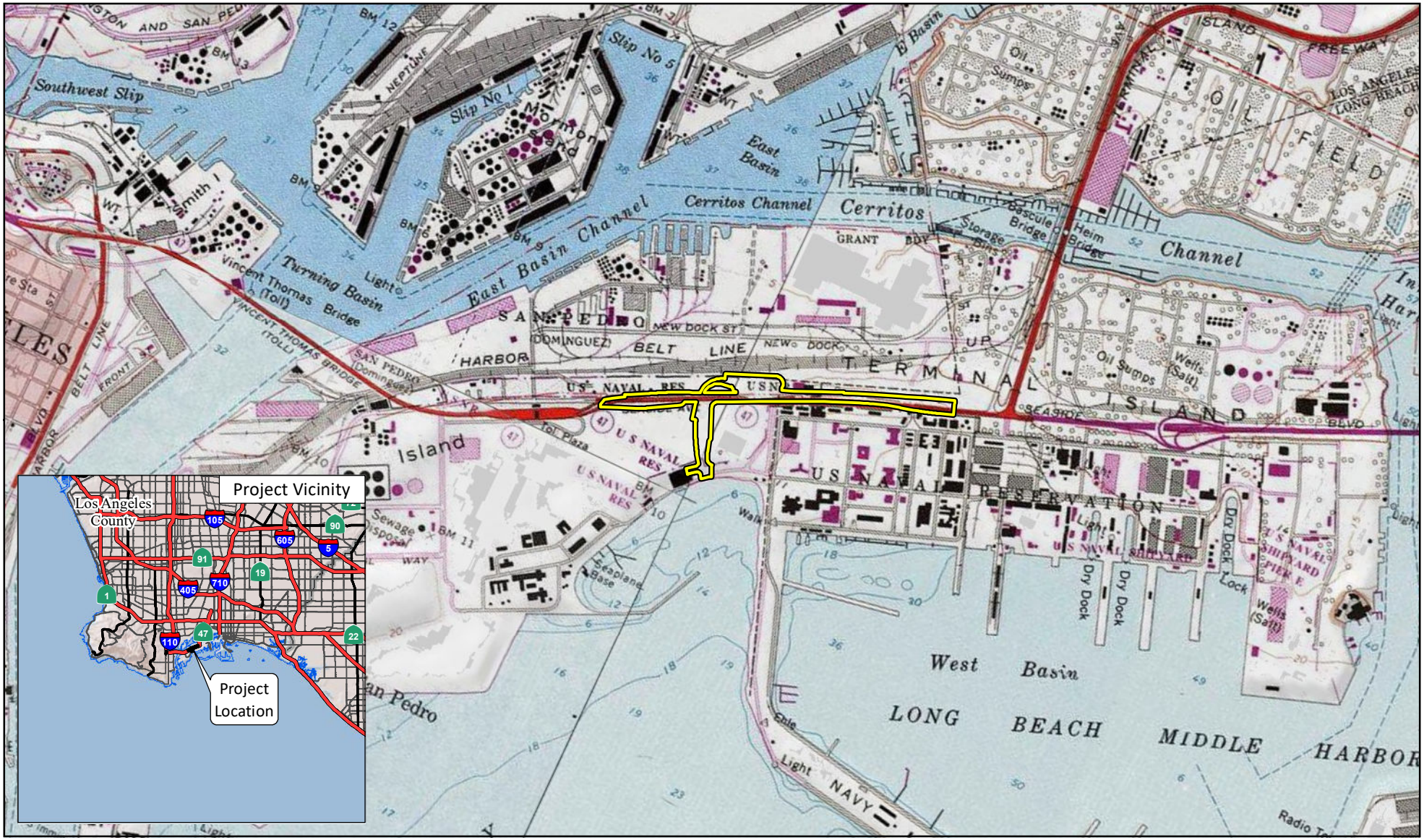
Neal Kaptain

Neal Kaptain, RPA
Archaeologist

Attachments: A: Figure 1: Project Area and Vicinity
B: Records Search Reports
C: Sacred Lands File Search Results Letter
D: Tribal Responses to POLA Consultation Requests

ATTACHMENT A

FIGURE 1: PROJECT AREA AND VICINITY



LSA

LEGEND

Project Area

FIGURE 1

N

0 1000 2000

FEET

SOURCE: USGS 7.5' Quad - *Long Beach* (1978), *San Pedro* (1981), *Torrance* (1981), CA

I:\MKT2219\GIS\MXD\ProjLoc_USGS.mxd (8/21/2023)

POLA Navy Way Interchange Project

Project Area and Vicinity

ATTACHMENT B

RECORDS SEARCH REPORTS

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-02399		1978	Winman, Lois J. and E. Gary Stickel	Los Angeles-long Beach Harbor Areas Cultural Resource Survey.		19-167246, 19-167265, 19-167266, 19-167267, 19-174912, 19-176737, 19-186116, 19-186554
LA-02910		1981	Stickel, Gary E.	A Literature Search for Shipwrecks in the Los Angeles - Long Beach Harbors and at the US Naval Facility at Terminal Island	Environmental Research Archaeologists	
LA-02929		1993	Clevenger, Joyce M. and Kathleen Crawford	General Overview Phase I Survey Archaeological, Historical and Architectural Properties on the Navel Shipyard Long Beach, California	Ogden Environmental and Energy Services Company, Inc.	19-150149, 19-150150, 19-150151, 19-150152, 19-150153, 19-150154, 19-150155, 19-150156, 19-150157, 19-150158, 19-150159, 19-150160, 19-150161, 19-150162, 19-150163, 19-150164, 19-150165, 19-150166, 19-150167, 19-150168, 19-150169, 19-150170, 19-150171, 19-150172, 19-150173, 19-150174, 19-150175, 19-150176, 19-150177, 19-150178, 19-150179, 19-150180, 19-150181, 19-150182, 19-150183, 19-150184, 19-150185, 19-150186, 19-150187, 19-150188, 19-150189, 19-150190, 19-150191, 19-150192, 19-190705, 19-190706, 19-190707, 19-190708, 19-190709, 19-190710
LA-03043		1994	Hector, Susan M., William R. Manley, and Martin Rosen	Historic and Archaeological Resources Protection (harp) Plan for Naval Station Long Beach (navsta)	Broken Fragments	19-000283
LA-03341		1994	Komporlides, Dena S.	Cultural Resources Evaluation for Site 6-a, Long Beach Naval Station, California	Tetra Tech, Inc.	
LA-03707		1974	Clewlow, C. William Jr.	Preliminary Report of the Potential Impact on Archaeological Resources of the Proposed Gas Transmission Pipeline From Los Angeles Harbor to Yorba Linda - Southern California Gas Co.: Environmental Analysis	University of California, Los Angeles Archaeological Survey	30-000277
LA-04130		1984	Anonymous	Los Angeles-long Beach Harbors Landfill Development and Channel Improvement Studied Cultural Resources Appendix	Los Angeles-Long Beach Harbors Landfill Development and Channel	19-000145, 19-000146, 19-000147, 19-000149, 19-000150, 19-000283, 19-000285, 19-001129
LA-04131		1992	Clevenger, Joyce M. and Kathleen Crawford	General Overview Phase I Survey Archaeological, Historical and Architectual Properties on the Navel Shipyard Long Beach, California	Ogden Environmental and Energy Services Company, Inc.	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-04132		1992	Clevenger, Joyce M. and Kathleen Crawford	General Overview Phase I Survey Archaeological, Historical, and Architectural Properties on the Naval Station Long Beach, California	Ogden Environmental and Energy Services Company, Inc.	19-150260, 19-150261, 19-150262, 19-150263, 19-150264, 19-150265, 19-150266, 19-150267, 19-150268, 19-150269, 19-150270, 19-150271, 19-150272, 19-150273, 19-150274, 19-150275, 19-150276, 19-150277, 19-150278, 19-150279, 19-150280, 19-150281, 19-150282, 19-150283, 19-150284, 19-150285, 19-150286, 19-150287, 19-150288, 19-150289, 19-150290, 19-150291, 19-150292, 19-150293
LA-04136		1996	Unknown	Gatx Leases Renewal Los Angeles Marine Terminal Berths 171-173 and Deep Draft Vessel Access at Pier 400	Environmental Management Divison L. A. Harbor Department & SAIC	19-188201
LA-04970		2000	Smith, C. Philomene	Reconstruction Along Route 47 From the Vincent Thomas Toll Plaza to Navy Way	Caltrans District 7	
LA-10527		1978	Weinman, Lois J.	Los Angeles-Long Beach Harbor Areas Regional Cultural History, Los Angeles County, California		
LA-10858		2007	Robinson, Mark	Final SR-47 Flyover Considered part of the Schuyler Heim Bridge Replacement and SR-47 Expressway Project - Supplemental Historic Property Survey Report Archaeological Survey Report	Jones 7 Stokes	
LA-12389		2012	Chasteen, Carrie	Identification and Evaluation of Smokehouses Port of Long Beach Long Beach, Los Angeles County, California	Parsons	19-190588

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-12808		2014	Chasteen, Carrie, Clark, Tiffany, Hanes, Richard, and Mirro, Michael	Cultural Resources Study of the Wilmington Oil and Gas Field, Los Angeles County, California in Support of Analysis of Oil and Gas Well Stimulation Treatments in California Environmental Impact Report	Applied EarthWorks	19-000098, 19-000148, 19-000693, 19-000694, 19-002135, 19-002208, 19-002660, 19-002788, 19-002850, 19-004279, 19-004313, 19-004325, 19-150149, 19-150150, 19-150151, 19-150152, 19-150153, 19-150154, 19-150155, 19-150156, 19-150157, 19-150158, 19-150159, 19-150160, 19-150161, 19-150162, 19-150163, 19-150164, 19-150165, 19-150166, 19-150167, 19-150168, 19-150169, 19-150170, 19-150171, 19-150172, 19-150173, 19-150174, 19-150175, 19-150176, 19-150177, 19-150178, 19-150179, 19-150180, 19-150181, 19-150182, 19-150183, 19-150184, 19-150185, 19-150186, 19-150187, 19-150188, 19-150189, 19-150190, 19-150192, 19-150260, 19-150261, 19-150262, 19-150263, 19-150264, 19-150265, 19-150266, 19-150267, 19-150268, 19-150269, 19-150270, 19-150271, 19-150272, 19-150273, 19-150274, 19-150275, 19-150276, 19-150277, 19-150278, 19-150279, 19-150280, 19-150281, 19-150282, 19-150283, 19-150284, 19-150285, 19-150286, 19-150287, 19-150288, 19-150289, 19-150290, 19-150291, 19-150293, 19-150345, 19-150346, 19-150347, 19-150348, 19-150349, 19-150350, 19-150351, 19-150352, 19-150353, 19-150354, 19-150355, 19-150356, 19-150357, 19-150358, 19-150362, 19-150394, 19-150395, 19-167294, 19-167314, 19-175277, 19-176737, 19-178682, 19-178683, 19-178689, 19-178693, 19-178699, 19-178702, 19-178703, 19-178955, 19-178967, 19-180734, 19-180784, 19-186116, 19-186672, 19-186745, 19-186752, 19-186992, 19-187005, 19-187016, 19-187017, 19-187020, 19-187021, 19-187022, 19-187023, 19-187024, 19-187051, 19-187078, 19-187085, 19-187089, 19-187096,

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
						19-187097, 19-187116, 19-187121, 19-187124, 19-187125, 19-187126, 19-187127, 19-187128, 19-187129, 19-187131, 19-187134, 19-187144, 19-187148, 19-187163, 19-187165, 19-187166, 19-187167, 19-187168, 19-187169, 19-187171, 19-187172, 19-187174, 19-187178, 19-187179, 19-187182, 19-187185, 19-187187, 19-187188, 19-187189, 19-187190, 19-187193, 19-187194, 19-187197, 19-187198, 19-187199, 19-187200, 19-187201, 19-187202, 19-187206, 19-187210, 19-187211, 19-187214, 19-187216, 19-187217, 19-187218, 19-187221, 19-187223, 19-187225, 19-187226, 19-187227, 19-187229, 19-187230, 19-187231, 19-187232, 19-187236, 19-187239, 19-187240, 19-187243, 19-187246, 19-187247, 19-187249, 19-187250, 19-187252, 19-187287, 19-187288, 19-187289, 19-187292, 19-187295, 19-187296, 19-187297, 19-187300, 19-187301, 19-187302, 19-187303, 19-187304, 19-187305, 19-187312, 19-187314, 19-187315, 19-187641, 19-187642, 19-187643, 19-187644, 19-187645, 19-187646, 19-187647, 19-187648, 19-187649, 19-187650, 19-187651, 19-187652, 19-187654, 19-187682, 19-187683, 19-187684, 19-187685, 19-187686, 19-187957, 19-187958, 19-187971, 19-188092, 19-188178, 19-188198, 19-188201, 19-188776, 19-188864, 19-188865, 19-188866, 19-188867, 19-188906, 19-189318, 19-189426, 19-189874, 19-190040, 19-190079, 19-190080, 19-190096, 19-190103, 19-190105, 19-190107, 19-190108, 19-190109, 19-190112, 19-190321, 19-190327, 19-190588, 19-190597, 19-190598, 19-190670

ATTACHMENT C

SACRED LANDS FILE SEARCH RESULTS LETTER

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

May 16, 2023

Lisa Ochsner
Port of Los Angeles

Via Email to: LOchsner@portla.org

Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Navy Way Interchange Separation Project, Los Angeles County

Dear Ms. Ochsner:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

    - Any report that may contain site forms, site significance, and suggested mitigation measures.

      All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

ATTACHMENT D

TRIBAL RESPONSES TO POLA CONSULTATION REQUESTS

AB 52 NATIVE AMERICAN CONSULTATION ASSISTANCE RECORD

Native American Consultation for the Proposed: Port of Los Angeles Navy Way Interchange Project
Date LSA Requested Sacred Lands File Search: 4/27/2023
Date Native American Heritage Commission Replied: 5/16/2023
Results of Sacred Lands File Search: The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.
Date designated groups/individuals were contacted: 5/18/23

Groups Contacted	Date LSA contacted Tribes	Date of follow-ups	Date and Results of Responses
Gabrieleno Band of Mission Indians - Kizh Nation Andrew Salas, Chairperson	5/18/23		
Gabrieleno/Tongva San Gabriel Band of Mission Indians Anthony Morales,Chairperson	5/18/23		
Chairperson, Gabrielino Tongva Nation Sandonne Goad	5/18/23		
Gabrielino Tongva Indians of California Tribal Council Robert F. Dorame, Chairperson	5/18/23		
Gabrielino-Tongva Tribe Charles Alvarez	5/18/23		
Gabrielino Tongva Indians of California Tribal Council Christina Conley	5/18/23		5/20/23: Ms. Conley's response via email: Would you please provide your cultural reporting so that we may comment. Your APE stands within the footprint of 5 village sites.
Juaneno Band of Mission Indians Acjachemen Nation - Belardes Joyce Perry, Chairperson	5/18/23		
Juaneno Band of Mission Indians Acjachemen Nation 84A Heidi Lucero, Chairperson	5/18/23		
Santa Rosa Band of Cahuilla Indians Lovina Redner, Tribal Chair	5/18/23		
Soboba Band of Luiseno Indians Isaiah Vivanco, Chairperson	5/18/23		
Soboba Band of Luiseno Indians Joseph Ontiveros	5/18/23		