

US Highway 101/Produce Avenue Interchange Project

CITY OF SOUTH SAN FRANCISCO,
SAN MATEO COUNTY, CALIFORNIA
04-SM-101 – PM 21.3/21.7
EA 04-4H360/Project ID 0413000212

Draft Environmental Impact Report/ Environmental Assessment



Prepared by the
State of California, Department of Transportation, City of South San Francisco, and
San Mateo County Transportation Authority

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans.



July 2022

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General Information about This Document

What's in this document:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this Draft Environmental Impact Report (EIR)/Environmental Assessment (EA), which examines the potential environmental impacts of the proposed project in San Mateo County, California. Caltrans is the lead agency under the National Environmental Policy Act and the California Environmental Quality Act. The document explains why the project is being proposed, what alternatives have been considered for the project, and how the existing environment could be affected by the project. It also describes the potential impacts of each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read this Draft EIR/EA.

The document is available to download at the Caltrans environmental document website (CaltransD4Environmental.com). To protect public health and adhere to State and local requirements during the COVID-19 pandemic, this document is being made available via the provided website. Should a hardcopy be required, it may be provided upon request via the contact provided below.

Attend a public meeting on: Thursday, August 11, 2022 from 5:30 PM to 7:00 PM

We would like to hear what you think. If you have comments about the proposed project, please attend and submit your comments at the public meeting and/or send your written comments to Caltrans by the deadline.

Send comments via postal mail to:

Caltrans, District 4
Office of Environmental Analysis
ATTN: Tanvi Gupta
P.O. Box 23660, MS: 8B
Oakland, CA 94623-0660

Or via email to Tanvi.Gupta@dot.ca.gov (preferred)

Be sure to send comments by the deadline: September 6, 2022

What happens next:

After comments are received from the public and reviewing agencies, Caltrans, as assigned by the FHWA, may: (1) give environmental approval to the proposed project, (2) do additional environmental studies, or (3) abandon the project. If the project is

General Information About this Document

given environmental approval and funding is obtained, Caltrans could design and construct all or part of the project.

Alternative Formats:

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to the California Department of Transportation, District 4, Attn: Tanvi Gupta, Associate Environmental Planner, P.O. Box 23660, MS: 8B, Oakland, CA 94623-0660; (510) 421-8378 (Voice), or use California Relay Service 1 (800) 735-2929 (TTY to Voice), 1 (800) 735-2922 (Voice to TTY), 1 (800) 855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech-to-Speech) or 711.

SCH Number: 2021080173
04-SM-101
EA No. 04-4H360
Project No. 0413000212

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Draft Environmental Impact Report/Environmental Assessment

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C)

THE STATE OF CALIFORNIA Department of Transportation

Responsible Agencies:
State Historic Preservation Officer, San Francisco Bay Regional Water Quality Control Board,
and
California Transportation Commission

07/11/2022

David Ambuehl

Date

For

Dina A. El-Tawansy
District Director,
District 4 – Bay Area
CEQA and NEPA Lead Agency

The following persons may be contacted for more information about this document:

Tanvi Gupta
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Oakland, CA 94623-0660
Tanvi.Gupta@dot.ca.gov
510-421-8378 (voice)

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Summary

NEPA Assignment

California participated in the “Surface Transportation Project Delivery Pilot Program” (Pilot Program) pursuant to 23 United States Code (USC) 327, for more than 5 years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (Public Law 112-141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, the Department entered into a Memorandum of Understanding (MOU) pursuant to 23 USC 327 (National Environmental Policy Act [NEPA] Assignment MOU) with the Federal Highway Administration (FHWA). The NEPA Assignment MOU became effective October 1, 2012, and was renewed on May 27, 2022, for a term of ten years. In summary, the Department continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, FHWA assigned, and the Department assumed, all of the United States Department of Transportation Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off the State Highway System in the State of California, except for certain categorical exclusions that FHWA assigned to the Department under the 23 USC 326 CE Assignment MOU; projects excluded by definition; and specific project exclusions.

Joint NEPA/CEQA Document

The proposed project is a joint project by Caltrans and the Federal Highway Administration (FHWA) and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The Department is the lead agency under NEPA and CEQA. In addition, FHWA's responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 United States Code Section 327 (23 USC 327) and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the project as a whole, often a “lower level” document is prepared for NEPA. One of the most common joint document types is an Environmental Impact Report/Environmental Assessment (EIR/EA).

After receiving comments from the public and reviewing agencies, a Final EIR/EA will be prepared. The Department may prepare additional environmental and/or engineering studies to address comments. The Final EIR/EA will include responses to comments received on the Draft EIR/EA and will identify the preferred alternative. If the decision is made to approve the project, a Notice of Determination will be

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published for compliance with CEQA, and the Department will decide whether to issue a Finding of No Significant Impact (FONSI) or require an Environmental Impact Statement (EIS) for compliance with NEPA. A Notice of Availability (NOA) of the FONSI will be sent to the affected units of federal, state, and local government, and to the State Clearinghouse in compliance with Executive Order 12372.

Project Overview

The City of South San Francisco and the San Mateo County Transportation Authority (SMCTA) are the sponsors of the United States (US) 101/Produce Avenue Interchange Project (the project) in the City of South San Francisco, within the County of San Mateo. The California Department of Transportation (Caltrans) is the lead agency responsible for the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) review and approval.

The project is located on and adjacent to US 101 between post miles (PM) 21.3 and 21.7 and in the City of South San Francisco in San Mateo County, California. The project is located in the San Francisco Bay Area Peninsula of Northern California. The land use within the project corridor is primarily urban commercial, with urban residential areas north, west, and south of the project area. Other nearby proposed projects include the US Highway 101 Managed Lanes North of I-380 Project, as well as multiple developments adjacent to US 101. A comprehensive list of these projects is provided in Section 2.5 below.

The project is considering one Build Alternative and a No Build alternative. The Build Alternative would include a new US 101 overcrossing that extends from the Utah Avenue/South Airport Boulevard intersection to San Mateo Avenue (referred to as the Utah Avenue extension), as well as to the South Airport Boulevard/Utah Avenue, San Mateo Avenue/Utah Avenue, and Airport Boulevard/Produce Avenue/San Mateo Avenue intersections. The overcrossing would provide two lanes in each direction. The overcrossing would span from the east side of US 101 and extend over Terminal Court, an existing city street and cul-de-sac adjacent to the Golden Gate Produce Market. The Build Alternative would also include new bicycle and pedestrian facilities, and signal modifications to accommodate Complete Streets design.

The purpose of the project is to provide an additional local east-west connection across US 101 that provides benefit to all modes of transportation in the project area and accommodates future planned growth in the City of South San Francisco and vicinity of the project area.

The project is needed in order to accommodate projected growth in employment east of US 101, as the existing east-west connections in the City of South San Francisco are anticipated to not be able to accommodate future traffic demands. Additionally, there are few non-vehicle transportation options that cross US 101 within or adjacent to the project area.

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Other alternatives were considered but eliminated as they did not meet the project's purpose and need. These alternatives are discussed in Section 1.3.6 below.

Project Impacts

Table S-1 summarizes and compares the effects of the Build Alternative and the No Build Alternative. The proposed project features and avoidance, minimization, and/or mitigation measures to reduce the effects of the Build Alternative are also presented. A complete description of potential effects and recommended measures is provided in the specific sections of Chapters 2 and 3.

Table S-1 Summary of Impacts, Project Features, Avoidance, Minimization, and/or Mitigation Measures

Affected Resource	Potential Impact: No Build Alternative	Potential Impact: Build Alternative	Project Features, Avoidance, Minimization, or Mitigation Measures
Consistency with State, Regional, and Local Plans and Programs	None.	None. The Build Alternative would be generally consistent with applicable plans and policies.	None.
Growth	None.	None. The Build Alternative does not contain elements that would influence the type or location of growth beyond what is already planned.	None.
Relocations and Real Property Acquisition	None.	<p>The Build Alternative would require full and partial property acquisitions adjacent to the proposed overcrossing, as well as Temporary Construction Easements (TCEs) throughout the project area.</p> <p>The Build Alternative would require the full acquisition of the following two properties:</p> <ul style="list-style-type: none"> • International House of Pancakes (IHOP) Restaurant, at 316 South Airport Boulevard (parcel 015-141-260). • A commercial warehouse that in 2019 contained a moving company and two sports facilities, at 1404, 1416, and 1422 San Mateo Avenue (parcel 015-114-370). <p>Partial acquisition of the following parcels would also be necessary, but the existing land use would remain:</p> <ul style="list-style-type: none"> • Travelodge hotel (326 South Airport Boulevard) conference center, pool area, and entrance – the entrance would require reconstruction to maintain operation of this facility • Travelodge parking lot • Best Western hotel parking lot (380 South Airport Boulevard) 	<p>Acquisitions and TCEs would require compensation. The Caltrans Relocation Assistance Program would be made available to assist in providing relocation benefits or entitlements to property owners. A booklet describing business property owner rights and benefits under the Caltrans Relocation Assistance Program is provided in Appendix C. Early coordination with the business owners would provide displaced employees with the time necessary to transition with minimal impacts. The Build Alternative would provide for the relocation of businesses, compensation, and there are sufficient vacancies available in the area for relocation. Acquired business properties can relocate to any location of their choice.</p>

Summary

Affected Resource	Potential Impact: No Build Alternative	Potential Impact: Build Alternative	Project Features, Avoidance, Minimization, or Mitigation Measures
		<ul style="list-style-type: none"> • Park 'N Fly lots and entrance (two lots with entrances off Terminal Court) • Golden Gate Produce Terminal (131 Terminal Court) • PS Business Parks (100 Produce Avenue) • Denny's Restaurant (10 South Airport Boulevard) • Business Park/office parking lot at 124 South Airport Boulevard. 	
Existing and Future Land Use	None.	As stated above, the Build Alternative would require the full acquisition of two properties, resulting in a change in land use from commercial to transportation right-of-way. Partial acquisition of several other properties would also be required, but the land uses of those parcels would remain the same.	The changes in land use, specifically the full and partial acquisitions, would require compensation as part of the right-of-way phase of the project. This is described in Section 2.2.5. The land use designations for the full and partial property acquisitions that are used or expanded for the proposed Build Alternative would be changed to a transportation use designation in the City of South San Francisco's General Plan.
		As stated above, multiple properties would require partial or full acquisition in the project area. Businesses in the project area would be impacted as follows: Travelodge: The conference room area, pool area, and entrance would be impacted. The number of rooms may be affected if reconfiguration is necessary. Parking spaces would be impacted. Park 'N Fly: Two remote private airport parking businesses would be impacted through loss of parking spaces where overcrossing structures and their supporting foundations/columns would be installed.	Any business that moves from real property, moves personal property from real property as a result of the acquisition of the real property, or is required to relocate as a result of a written notice from Caltrans from the real property required for a transportation project is eligible for relocation assistance. All activities will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources shall be available to the displaced in compliance with Title VI and State statute, after eligibility has been determined.

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Affected Resource	Potential Impact: No Build Alternative	Potential Impact: Build Alternative	Project Features, Avoidance, Minimization, or Mitigation Measures
Community Character and Cohesion	None.	<p>Bay Badminton Center, SF Elite, and Golden Gate Moving Company: These three businesses would require relocation.</p> <p>IHOP restaurant: This business would be acquired.</p> <p>Golden Gate Produce Terminal: There would be temporary impacts during installation of the new overcrossing structures, and some loss of parking, but access would remain via Terminal Court.</p> <p>Parking spaces would be acquired, and landscaping, driveway configurations, and sidewalks would be temporarily impacted during construction, and partial acquisition would be necessary, at business properties at the intersections of South Airport Boulevard/Utah Avenue, and at South Airport Boulevard/San Mateo Avenue/Produce Avenue.</p> <p>Except for the two full acquisitions, remaining businesses would be expected to continue to function.</p>	
Environmental Justice	None.	The Build Alternative would not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of Executive Order 12898.	None.
Utilities/ Emergency Services	None.	All utility service and emergency services/access will be maintained during construction. It would not result in long-term effects to utilities or emergency services.	None.

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<p>Traffic and Transportation</p>	<p>Traffic impacts were evaluated for 2025 (opening year) and 2045 (future year). The No Build Alternative would not improve traffic conditions in the project area.</p> <ul style="list-style-type: none"> <p>2025 No Build AM. All intersections will operate at Levels of Service (LOS) D or better in the AM peak hour. The following individual intersection movements would operate at LOS E/F:</p> <ul style="list-style-type: none"> - US 101 northbound off-/on-ramps/South Airport Blvd (intersection #10) westbound left-turn, northbound U-turn/left turn and southbound U-turn/left turn/through - Produce Ave/Airport Blvd/San Mateo Ave. (intersection #6) northbound through - South Airport Blvd/Utah Ave. (intersection #14) northbound left-turn - Gateway Blvd and South Airport Blvd/Mitchell Ave (#7) eastbound U-turn/left turn/through. <p>2025 No Build PM.</p> <ul style="list-style-type: none"> - South Airport Blvd/Utah Ave (#14) intersection will operate at LOS E (63.6 seconds [sec] delay). 	<p>Intersections functioning at LOS C/D or better with No Build conditions would maintain C/D or better with the Build Alternative except at those noted below:</p> <ul style="list-style-type: none"> <p>2025 Build AM. All study intersections will continue to function at overall LOS D or better in the AM peak hour. The following individual intersection movements would operate at LOS E/F:</p> <ul style="list-style-type: none"> - Produce Ave/Airport Blvd/San Mateo Ave. (intersection #6) westbound left turn, northbound left turn/through. - Gateway Blvd/ South Airport Blvd/Mitchell Ave. (intersection #7) eastbound U-turn/left turn/through. - US 101 northbound off-/on-ramps/South Airport Blvd (intersection #10) westbound left turn/through, southbound U-turn/left turn. - South Airport Blvd/Utah Ave. (intersection #14) eastbound through, northbound U-turn/left-turn. <p>Additionally, the queues for northbound movements at Produce Ave./ Airport Blvd. and San Mateo Ave (intersection #6), and eastbound and southbound queues at US 101 northbound off-/on-ramps/ South Airport Blvd (#10), would improve compared to No Build.</p> <p>2025 Build PM. The queues and delays for individual movements at the intersections along Grand Ave that operate at LOS F/E in No Build are projected to improve to LOS E/D in Build. For the Gateway Blvd and S. Airport Blvd/Mitchell Ave (#7) intersection, overall</p> 	<p>A Transportation Management Plan (TMP) would be prepared for the project to avoid or minimize temporary impacts to traffic and transportation associated with project construction, per project feature PF-TRA-01.</p> <p>At the intersection of the US 101 northbound off-/on-ramps/ S. Airport Blvd (intersection #10), a right-turn overlap phase will be provided for the eastbound approach to facilitate the efficient movement of right-turning vehicles from the US 101 northbound off-ramp. This phase would overlap with the northbound left-turn movement, thereby using the northbound left turn's green time as well. The City will evaluate and adjust signal timing/phasing. A No U-Turn sign for the northbound approach will need to be installed by the City with this overlap. This is per PF-TRA-02.</p>

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Affected Resource	Potential Impact: No Build Alternative	Potential Impact: Build Alternative	Project Features, Avoidance, Minimization, or Mitigation Measures
	<ul style="list-style-type: none"> - Produce Ave/101 southbound on-ramp/Terminal Ct (#9) will operate at an LOS F with 81.8 sec/delay. <p>2045 No Build. Six intersections in the AM peak and nine intersections in the PM peak would function at LOS E or F:</p> <p>2045 No Build AM.</p> <ul style="list-style-type: none"> - Airport Blvd/101 southbound off-ramp/Miller Ave (#1) will operate at LOS E (59.1 sec/vehicle [veh] delay). - Produce Ave/Airport Blvd and San Mateo Ave (#6) will operate at LOS F (86.2 sec/veh delay). - Gateway Blvd/S. Airport Blvd/Mitchell Ave (#7) will operate at LOS F (86.2 sec/veh delay). - Produce Ave/101 southbound off-ramp (#8) will be LOS F (1,007.6 sec/veh delay). - 101 northbound ramps/S. Airport Blvd (#10) (LOS F, 331.2 sec/veh delay). - San Mateo Ave and Tanforan Ave/Shaw Rd (#17) (LOS E, 41.4 sec/veh delay). <p>2045 No Build PM.</p> <ul style="list-style-type: none"> - Dubuque Ave/E. Grand Ave (#3) will operate at LOS E (62.9 sec/veh delay). 	<p>total intersection delay would decrease from 38.6 sec/veh (LOS D) in No Build to 34.7 sec/veh (LOS C) in Build. The following summarizes notable adverse LOS and delay effects:</p> <ul style="list-style-type: none"> - S. Airport Blvd and US 101 northbound ramps/Wondercolor Ln (#10) would change from LOS D (48.8 sec/veh) to LOS E (58.8 sec/veh) - S. Airport Blvd/Utah Ave (#14) would change from LOS E (63.6 sec/veh) to LOS F (116.0 sec/veh) - S. Airport Blvd/Belle Aire Rd (#18) would change from LOS B (15.7 sec/veh) to LOS E (61.5 sec/veh). <p>The northbound approach queue to US 101 northbound off- /on-ramps/S. Airport Blvd in PM would extend 1,850 feet beyond the Belle Aire Rd intersection compared to No Build, where the queue does not reach Belle Aire Rd.</p> <ul style="list-style-type: none"> • 2045 Build. Six of the study intersections in the AM and nine intersections in the PM will operate at LOS E or F: • 2045 Build AM. <ul style="list-style-type: none"> - Produce Ave/Airport Blvd and San Mateo Ave (#6) AM LOS E (65.8 seconds delay) - Gateway Blvd and S. Airport Blvd/Mitchell Ave (#7) AM LOS F (158.5 seconds delay) - US 101 northbound off-/on-ramps and S. Airport Blvd (#10) AM LOS F (319.4 seconds delay) 	

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Affected Resource	Potential Impact: No Build Alternative	Potential Impact: Build Alternative	Project Features, Avoidance, Minimization, or Mitigation Measures
	<ul style="list-style-type: none"> - Gateway Blvd/E. Grand Ave (#5) will operate at LOS F (367.4 sec/veh delay). - Produce Ave/Airport Blvd and San Mateo Ave (#6) will operate at LOS E (66.5 sec/veh delay). - Gateway Blvd/S. Airport Blvd/Mitchell Ave (#7) will operate at LOS F (460.5 sec/veh delay). - Produce Ave/101 southbound off-ramp (#8) will be LOS F (117.96 sec/veh delay). - Produce Ave/101 southbound on-ramp/Terminal Ct (#9) will operate at LOS E (41.7 sec/veh delay). - 101 northbound ramps/ S. Airport Blvd (#10) (LOS F, 199.1 sec/veh delay). - S. Airport Blvd/Utah Ave (#14) will operate at LOS F (176.0 sec/veh delay). - S. Airport Blvd/Belle Aire Rd (#18) will operate at LOS F (484.6 sec/veh delay) • Notable queuing will occur with the No Build 2045 conditions at the following intersection movements: <ul style="list-style-type: none"> - Produce Ave/US 101 southbound off-ramp (#8): The No Build AM 6,740-feet of queue on the off-ramp will extend back onto southbound US 101. 	<ul style="list-style-type: none"> - S. Airport Blvd and Utah Ave (#14) AM LOS F (142.4 seconds delay) - San Mateo Ave and Tanforan Ave/Shaw Rd (#17) AM LOS E (43.6 seconds delay) - S. Airport Blvd and Belle Aire Rd (#18) AM LOS F (145.1 seconds delay) • 2045 Build PM. <ul style="list-style-type: none"> - Airport Blvd and E. Grand Ave (#2) PM LOS E (58.8 seconds delay) - Dubuque Ave. and E. Grand Ave (#3) PM LOS E (55.6 seconds delay) - Gateway Blvd and E. Grand Ave (#5) PM LOS F (143.3 seconds delay) - Gateway Blvd and S. Airport Blvd/Mitchell Ave (#7) PM LOS F (363.1 seconds delay) - Produce Ave/101 southbound on ramp and Terminal Ct (#9) PM LOS F (59.9 seconds delay) - US 101 northbound off-/on-ramps and S. Airport Blvd (#10) PM LOS F (147.8 seconds delay) - S. Airport Blvd and Utah Ave (#14) PM LOS F (256 seconds delay) - Harbor Way and Utah Ave (#15) PM LOS E (47.1 seconds delay) - S. Airport Blvd and Belle Aire Rd (#18) PM LOS F (587 seconds delay) • Notable changes in delays and queue lengths will occur at the following intersections: <ul style="list-style-type: none"> - The southbound through queue at Produce Ave/Airport Blvd /San Mateo Ave (#6) would increase from 450 feet for the No Build Alternative to 1,600 feet under the Build Alternative during AM. 	

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Affected Resource	Potential Impact: No Build Alternative	Potential Impact: Build Alternative	Project Features, Avoidance, Minimization, or Mitigation Measures
	<ul style="list-style-type: none"> - US 101/northbound off and on-ramps/ S. Airport Blvd (#10): The No Build AM queue will be 7,770 feet, and PM will be 1,130 feet. The northbound off-ramp queue extends back onto northbound US 101. - The No Build PM southbound queuing from US 101/northbound off and on-ramps/ S. Airport Blvd (#10) will extend 5,500 feet beyond the Gateway Blvd and E. Grand Ave intersection (#5). - The No Build PM queue at Gateway Blvd and S. Airport Blvd/Mitchell Ave (#7) westbound through/right turn will extend to 7,660 feet and eastbound queue will extend to 980 feet. - The No Build PM northbound queue at S. Airport Blvd/Belle Aire Rd (#18) will extend to 9790 feet. - The eastbound queue at Produce Ave/Airport Blvd and San Mateo Ave (#6) will extend to 2620 feet in AM and 1,620 feet in PM peak hours. 	<ul style="list-style-type: none"> - The US 101/Produce Ave southbound off-ramp (#8) would improve from LOS F to LOS C in AM and PM, with substantial reduction in the queue length in the AM peak hour (6,740-foot No Build backup reduced to 1,160 feet with Build). - The US 101/northbound off and on-ramps/ S. Airport Blvd (#10) will have queuing on all intersection approaches for No Build and Build (except Wondercolor Ln), but the inclusion of a right-turn overlap phase will reduce the ramp queue length for the Build alternative. - The northbound approach queue to US 101 northbound off- and on-ramps/S. Airport Blvd (#10) in AM and PM will extend beyond the Belle Aire Rd intersection (#18) under both No Build and Build Alternatives. Compared to No Build, the queues in the Build Alternative increase by 3,890 feet in AM and 1,960 feet in PM. - The Build PM southbound and westbound queues at S. Airport Blvd/Belle Aire Rd (#18) will extend to 1,580 feet and 960 feet. - The southbound queuing from US 101/northbound off and on-ramps/ S. Airport Blvd (#10) queuing that extends beyond the Gateway Blvd/E. Grand Ave intersection (#5) will be decreased from 5,500 feet to 2,920 feet with the Build Alternative in PM. - The westbound approach queue to Gateway Blvd and S. Airport Blvd /Mitchell Ave (#7) will see an increase of 2,370 feet in AM and 770 feet in PM, and the southbound queue will see an increase of 510 feet in AM and 430 feet in PM under the Build Alternative. 	

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Affected Resource	Potential Impact: No Build Alternative	Potential Impact: Build Alternative	Project Features, Avoidance, Minimization, or Mitigation Measures
		<ul style="list-style-type: none"> - The S. Airport Blvd /Utah Ave (#14) intersection westbound approach in PM will see an increased queue of 1,050 feet under the Build Alternative. This queue from intersection #14 will extend to the upstream Harbor Wy/Utah Ave (#15) intersection; the westbound queue at intersection #15 will extend to 850 feet. - The eastbound overcrossing approach at intersection #14 will back up because of the queue spillback from the #10 intersection in AM and PM peak hours. The northbound queue at San Mateo Ave/Tanforan Ave (#17) will extend to 840 feet in the AM peak hour. • On-Street Parking Removal. Parking on San Mateo Ave from the western end of the new Utah overcrossing to just south of the San Mateo/Produce/ S. Airport intersection would be removed on both sides/directions of San Mateo Avenue to add the second lane of northbound traffic. The businesses along San Mateo Ave have existing off-street parking, and the removal of on-street parking will allow for the additional northbound through lane, and room for Class II bike lanes. • Vehicle Miles Traveled (VMT). The project was evaluated against Caltrans Transportation Analysis (TAC) criteria and guidelines, and determined would not likely induce substantial new VMT. The overcrossing will add a new segment of roadway, and would connect two minor arterials, but would carry volume characteristic of a collector street. New bike and pedestrian facilities will be provided and/or improved. 	

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Affected Resource	Potential Impact: No Build Alternative	Potential Impact: Build Alternative	Project Features, Avoidance, Minimization, or Mitigation Measures
Visual/Aesthetics	None.	The Build Alternative would have moderate visual impacts to the project area. The most visible changes will be of the new structure, from adjacent land uses at the Produce Terminal, airport parking lots, and the Travelodge.	Project features and avoidance and minimization measures (AMMs) would be implemented to reduce the project's visual impacts. These project features include PF-BIO-03, 04, 07, 08, and 11, AMMs VIS-01 (Aesthetic Treatments) and VIS-02 (Construction Impact Measures), and AMMs BIO-02 and 03.
Cultural Resources	None.	Ground-disturbing activities during construction of the project could affect unknown buried cultural resources in areas adjacent to US 101. The Golden Gate Produce Terminal is eligible to the National Register of Historic Places. The changes associated with the project were evaluated and a Finding of No Adverse Effect determination has been preliminarily determined.	AMM CUL-01 would avoid or minimize impacts to cultural resources by providing protocol to be implemented in the event that cultural resources and/or remains are discovered during construction.
Hydrology and Floodplain	The interchange is within the Colman Creek floodplain, and a portion of it is subject to flooding during a 100-year flood event.	The project changes are not considered a significant floodplain encroachment. Most improvements in the project would be within the existing impervious area and would not change the 100-year floodplain. The amount of new impervious surface area added would not have an impact to the flows within the project's limits.	None.
Water Quality and Storm Water Runoff	None.	The Build Alternative would disturb 4.62 acres of soil area, add 0.37 acres of new impervious area, and replace 3.60 acres of disturbed impervious area. The project would comply with standard practices to reduce impacts to water quality and would be in compliance with National Pollutant Discharge Elimination System (NPDES).	Project features PF-WQ-01, 02, and 03 would be implemented during design and construction to address stormwater runoff in compliance with Caltrans' municipal separate storm sewer system and NPDES permits.

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Affected Resource	Potential Impact: No Build Alternative	Potential Impact: Build Alternative	Project Features, Avoidance, Minimization, or Mitigation Measures
Geology/Soils/ Seismic	Potential geological and seismic hazards have been identified in the project area, expansive soils, landsliding, flooding, settlement, liquefaction, and lateral spreading.	It is not anticipated that the Build Alternative would exacerbate these conditions, nor expose additional people to these risks.	Project features PF-GEO-01 and 02 would be implemented during design and construction to address potential geological and seismic hazards.
Paleontology	Three fossil localities are potentially in the regional vicinity of the project location. However, paleontological resources are unlikely at the project site as it is almost entirely underlain by artificial fill and Holocene-age deposits (that are not considered sensitive for paleontological).	The project would require subsurface excavation and installation of deep foundation piers for the new bridge structure. The potential for encountering intact, significant fossils is low.	Project feature PF-PAL-01 would be implemented to provide adequate awareness training to workers.
Hazardous Waste/Materials	Previously contaminated sites and properties were identified at or near the project location.	Construction of the project could result in the potential disturbance of hazardous materials. Soil and groundwater testing would be conducted prior to construction, excavated soils and groundwater would be tested for proper disposal requirements, and soils determined to have lead contamination (associated with past use of lead in gasoline) will be tested and managed according to established procedures. No long-term impacts are expected to occur.	Project features PF-HAZ-01, 02, 03, and 04 would be implemented during design and construction to address potential contamination hazards.
Air Quality	The project is located in a federal nonattainment area for ozone and particulate matter (PM _{2.5}).	The project is included in regional air quality programs and plans that address regional air quality attainment requirements. Consultation was completed with the Bay Area Air Quality Conformity Task Force, who determined the project is not a Project of Air Quality Concern. When compared to both existing conditions and the No Build Alternative, regional emissions under the Build Alternative would be lower. Short-term construction emissions would occur, but were estimated to be below the Bay Area Air Quality District's (BAAQMD) emission thresholds.	Project features PF-AIR-01 and 02 would be implemented as construction best practices for dust and exhaust.

Summary

Affected Resource	Potential Impact: No Build Alternative	Potential Impact: Build Alternative	Project Features, Avoidance, Minimization, or Mitigation Measures
Noise	Existing noise levels will increase by 1 A-weighted decibels (dBA) by 2045 (due to future increases in local and regional traffic not caused by the project).	Noise levels would increase by up to 6 dBA over existing conditions and by up to 5 dBA over No Build conditions. The increase over No Build conditions is because the project adds a new elevated roadway alignment in the vicinity of several hotels and other land uses. The noise study evaluated all noise sensitive land uses near the project, and identified locations that exceed Caltrans noise abatement criteria (with and without the project). Only one of these locations (an outdoor pool area at a hotel) met the noise abatement criteria for feasible noise reduction. A solid 6 foot minimum height wall was evaluated surrounding the outdoor pool area. Noise levels would meet noise abatement criteria at this location and would achieve minimum reduction goals. However, that location would not meet the criteria for reasonableness based on the cost of installing the wall, the wall would have to be maintained on private property, and it was not recommended for inclusion in the project design. Construction would have temporary noise impacts, including impacts from pile driving.	Project features PF-NOI-01 and 02 would be implemented as best practices for construction noise and vibration.
Energy	None.	Operational direct energy consumption would be reduced by 2045 for the Build Alternative as compared to the No Build and existing conditions. Construction would require a one-time commitment of energy.	None.
Natural Communities	The project setting is highly urbanized. Few natural communities exist. Colma Creek passes through the project area, and is a concrete lined channel.	No work will take place within Colma Creek or its banks. Vegetation within the project area consists primarily of previously disturbed areas; the majority of vegetated areas are landscaped areas within urban development and feature hydro-seeded or planted species. Some of the landscaped areas would be impacted, but are not considered sensitive habitat. The Build Alternative is not anticipated to lead to impacts to sensitive natural communities.	Project features as well as avoidance and minimization measures would be implemented to reduce the potential for impacts to natural communities. These would include project features PF-BIO-01 through 11, and AMMs BIO-01, 02, and 03.

Summary

Affected Resource	Potential Impact: No Build Alternative	Potential Impact: Build Alternative	Project Features, Avoidance, Minimization, or Mitigation Measures
Wetlands and Other Water	A single water body passes through the project location, Colma Creek, which is channelized and at least partially concrete lined.	No in-water work is planned for the Build Alternative and permanent impacts to Colma Creek would be avoided.	AMM BIO-04, Environmentally Sensitive Area (ESA) at Colma Creek, would avoid or minimize potential impacts to Colma Creek through establishment of an ESA boundary along the top of the channel. No work will be allowed within the creek.
Plant Species	None.	Because of the low potential for sensitive plant species to occur in the BSA or to be affected by the project, effects on special-status plants are not anticipated.	None.
Animal Species: State Species of Special Concern	American Peregrine Falcons and Alameda Song Sparrows were identified as potentially occurring in the regional area.	Due to a lack of suitable habitat, it is unlikely that the project would affect animal species.	AMM BIO-05, Preconstruction Nesting Bird Surveys, would avoid or minimize potential impacts to nesting American Peregrine Falcons and Alameda Song Sparrows during construction.
Threatened and Endangered Species	North America green sturgeon southern Distinct Population Segment (DPS) (<i>Acipenser medirostris</i>) is the only threatened or endangered species with limited potential to occur.	No impacts to threatened and endangered species are likely under the Build Alternative. No work is proposed in Colma Creek, and it would be designated as an ESA.	AMMs BIO-01 and BIO-4 would reduce the potential for adverse impacts to green sturgeon Southern DPS during construction.
Invasive Species	None.	No substantial impacts from non-native invasive plant species is anticipated as part of the Build Alternative. AMM BIO-1 would further reduce the potential for impacts.	Project feature PF-BIO-09 would provide controls for invasive plant species encountered during construction.
Wildfire	Existing wildfire hazards are low in the project area. The No Build Alternative would not change fire risk conditions.	The project would not change fire risk conditions and it would not change the alignment of US 101.	None.
Climate Change	The No Build Alternative would have lower greenhouse gas (GHG) emissions than existing conditions.	The Build Alternative is anticipated to have lower GHG emissions than both existing conditions and the future No Build Alternative.	None.

Summary

Affected Resource	Potential Impact: No Build Alternative	Potential Impact: Build Alternative	Project Features, Avoidance, Minimization, or Mitigation Measures
<p>Cumulative Impacts</p>	<p>Two other highway improvement projects (US 101 Managed Lanes north of I-380, and US 101 Managed Lanes South of I-380 to Santa Clara County) were identified. In addition, Thirty other development projects were identified within one mile of the project location. All of these projects are independent of the proposed US 101/Produce Avenue Interchange project.</p>	<p>Caltrans guidance was followed for evaluation of cumulative impacts.</p> <p>Visual cumulative impacts were further considered, as the area is highly commercialized with development and additional development projects will continue to infill or increase the urban character and appearance of the area. These other highway and development projects are not anticipated to adversely change the visual character cumulatively with the proposed project or in combination with other projects.</p> <p>Relocation impacts were also considered. The proposed project would require 2 full property acquisitions; partial property acquisitions from 10 properties; 14 temporary construction easements to accommodate new walkways, new overcrossing, roadway widening, and new driveway; one permanent easement (at an underground pipeline); and three aerial easements (to allow raising of overhead powerlines). The project's direct acquisition and relocation impacts are considered adverse, but no additional adverse cumulative impacts are foreseeable with other cumulative development. The area is expected to continue to thrive as a productive commercial sector of the city.</p>	<p>None.</p>

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Chapter 1 Proposed Project

1.1 Introduction

Caltrans, as assigned by the Federal Highway Administration (FHWA), is the lead agency under the National Environmental Policy Act (NEPA). Caltrans is also the lead agency under the California Environmental Quality Act (CEQA).

The City of South San Francisco and the San Mateo County Transportation Authority (SMCTA) are the sponsors of the United States (US) 101/Produce Avenue Interchange Project (the project) in the City of South San Francisco, within the County of San Mateo. The project would construct a new overcrossing of United States Highway 101 (US 101) in the City of South San Francisco. The new overcrossing, referred to as the Utah Avenue extension, would connect the Utah Avenue/South Airport Boulevard intersection on the east side of US 101 to San Mateo Avenue on the west side of US 101. The intersections of Utah Avenue/South Airport Boulevard and San Mateo Avenue would also be reconstructed to include turning lanes, and to connect to the new overcrossing by a through lane on San Mateo Avenue. The Airport Boulevard/Produce Avenue/San Mateo Avenue intersection on the west side of US 101 would also be modified or reconstructed. A detailed description of the proposed changes is included in Section 1.3.1. The project area is shown in Figure 1.1-1.

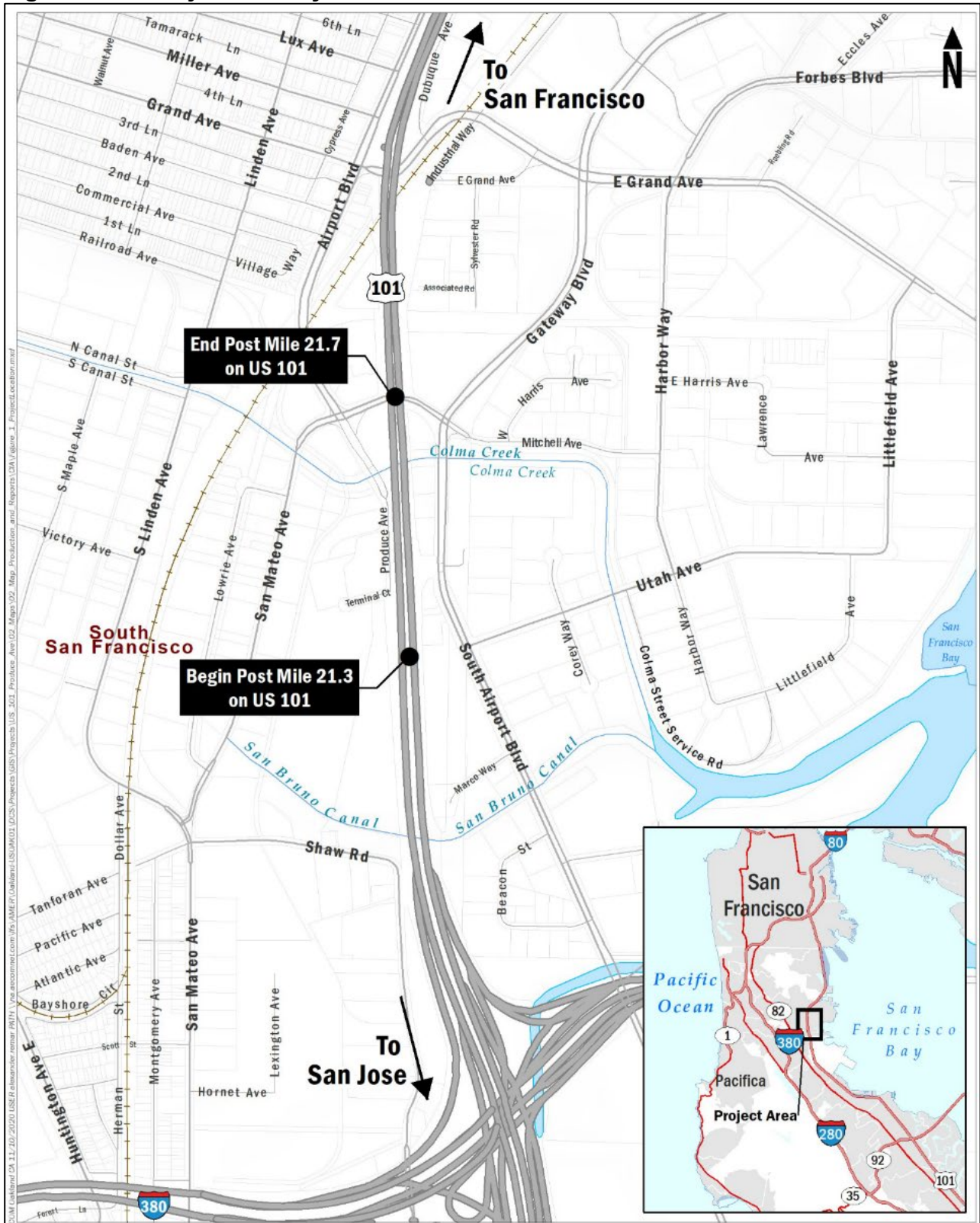
The project area is between the US 101/East Grand Avenue interchange (0.7 mile to the north) and the US 101/Interstate 380 (I-380) interchange (0.5 mile to the south). San Francisco International Airport is located approximately 2.5 miles to the south. US 101 at the project location has four general purpose lanes in each direction. In the southbound direction, an auxiliary lane exits at the connector ramp to I-380. In the northbound direction, there are auxiliary lanes that connect to the on- and off-ramps at South Airport Boulevard.

Within the project area resides the Golden Gate Produce Terminal, which was constructed in November 1962. The Golden Gate Produce Terminal is believed to be the largest and busiest produce terminal in Northern California. In 2015, 23 independent and family-owned businesses operated at the Market, including wholesalers, jobbers, commission merchants, brokers, food service distributors, processors, and one restaurant. A discussion of this site and its potential historical status is included in Section 2.2.1 below.

Currently, within the City of South San Francisco, there are three east-west connections across US 101 – Oyster Point, Grand Avenue, and Produce Avenue/South Airport Boulevard (South Airport Boulevard undercrossing of US 101).

- The Oyster Point interchange/overpass primarily serves the north end of the city.
- The Grand Avenue interchange serves the downtown area, including the Caltrain station. The southbound on-ramp is missing at this interchange.
- The South Airport Boulevard undercrossing serves the southern portion of the City.

Figure 1.1-1 Project Vicinity



The City of South San Francisco developed a list of potential projects and service improvements, based on stakeholder research and City and peer agency staff input, in order to improve east-west transportation connections. The major infrastructure improvements identified to serve future traffic conditions included a new Utah Avenue extension and improvements to alleviate congestion at South Airport Boulevard/Produce Avenue. Originally, the project was intended to include ramp improvements in the vicinity of Produce Avenue, hence the project name. However, the purpose and need has since been updated, with the project being refocused on building an overcrossing structure and improvements at adjacent intersections.

This project is included in the Metropolitan Transportation Commission's (MTC) fiscally constrained 2021 Transportation Improvement Program (TIP; MTC 2021, TIP ID SM-110003). It is also included in the MTC Regional Transportation Plan (RTP), Plan Bay Area 2050 (ABAG and MTC 2021, RTP ID 21-T06-027).

1.2 Purpose and Need

1.2.1 Purpose of the Project

The purpose of the proposed project is twofold. It would provide an additional local east-west connection across US 101 that provides benefit to all modes of transportation in the project area, and accommodate future planned growth in the City of South San Francisco and vicinity of the project area.

1.2.2 Project Need

The “East of US 101 Area” within the project limits is among the Bay Area’s fastest growing employment districts. Home to approximately 28,000 employees, the area represents an international hub for life science and biotechnology as well as a regional center for industry, logistics, and travel. Over the next two decades, the City expects to add over 13 million square feet of mostly office and research and development (R&D) space, roughly doubling its daytime population to over 55,000 employees. Approximately half of this growth is already approved or under construction, while the remainder is expected to be approved and developed in the future (City of South San Francisco 2019).

Doubling employment would increase travel demand in this area to about 50,000 person trips during peak periods by year 2040 (City of South San Francisco 2019). The City will require new transportation development to meet demand, including projected employment growth in the area that is predicted to add 16,000 new daily vehicle trips during peak periods.

The “West of US 101 Area” within and adjacent to the project limits has seen a large amount of development. This includes 11 developments either completed or entitled for multi-story residential buildings and hotels composed of 1,783 units and a four-story, 7,000-square-foot clinic.

An investment in overall transportation infrastructure and services is needed to accommodate and realize the expected future growth. The area's few points of east-west vehicle access/connections constrain travel, while active transportation options are limited. The City's General Plan includes the project in its Lindenville Planning Subarea as "a new interchange at South Airport Boulevard" (City of South San Francisco 1999, Section 3.2-I-14). The General Plan also includes the potential for a future extension of Victory Avenue connecting to US 101 (at the proposed Produce Avenue interchange) and an extension of Shaw Road, which could connect to Produce Avenue.

The existing east-west connections across US 101 within the City of South San Francisco may not be able to accommodate future traffic demands. The interchanges and the undercrossing currently operates close to capacity. The US 101/Produce Avenue Project is proposed to address the City's need for a new east-west connection across US 101.

In addition to relieving anticipated traffic congestion, the project is needed to accommodate active transportation. There are few non-vehicle transportation options that cross US 101 within the project area of South San Francisco. At Produce Avenue/South Airport Boulevard, the South Airport Boulevard undercrossing is a designated Class III facility in the City's bike plan (the roadway shoulder is not striped). San Mateo Avenue is also a non-striped Class III bike shoulder, as is Utah Avenue (Utah Avenue is marked with "sharrow" symbols designating a preferred bike route where the lane is shared with bikes). Gateway Boulevard (which connects to South Airport Boulevard) is a Class II bike facility (striped but not physically separated). Therefore, bicyclists needing to cross US 101 within the project area are limited to the South Airport Boulevard undercrossing, where they ride alongside traffic in the unmarked shoulder.

Regional bicycle and pedestrian facilities connecting to or nearby the project area are the Bay Trail, which is a Class I (separated from traffic lanes) bicycle/pedestrian shared path that extends along the San Bruno Canal to South Airport Boulevard (near Costco). To link to the Bay Trail, bicyclists using Caltrain or the San Bruno BART station, or from any location in the southern portion of South San Francisco, can only cross US 101 at the South Airport Boulevard undercrossing, or alternatively travel north or south to use the San Bruno Avenue overcrossing in San Bruno or the Grand Avenue undercrossing.

1.2.3 Independent Utility and Logical Termini

FHWA regulations (23 Code of Federal Regulations [CFR] 771.111 [f]) require that the project be evaluated for independent utility and logical termini. "Logical termini" for a project are defined as rational end points for transportation improvements. These rational end points help facilitate a thorough review of environmental effects. Having "independent utility" means a project's improvements are usable and constitute a reasonable expenditure, even if no additional transportation improvements are made in the area.

1.2.3.1 Logical Termini

The project will not connect to or affect US 101, and therefore the limits on the freeway are focused on where an overcrossing could pass over the freeway and connect between Utah Avenue and San Mateo Avenue. The western and eastern limits were

defined to allow consideration of how a new overcrossing of US 101 would connect to local roads and meet the purpose of serving the commercial and business traffic in this area. The western project limit is San Mateo Avenue. It is the nearest arterial that serves this commercial area and provides a connection to the South Linden Avenue business and commercial district. It extends along San Mateo Avenue to South Airport Boulevard to include the turning lanes at this intersection, and consideration for connections for bicycles. Produce Avenue and Airport Boulevard, also on the west side of US 101, were included within the western project limits to consider local street improvements and connections to the US 101 southbound on-ramp, and provide access to the commercial land uses on the west side of US 101.

1.2.3.2 Independent Utility

The project would require no other improvements to provide the transportation connection served by the proposed overcrossing and intersection improvements. The project would provide a new east-west connection across U.S. 101, new facilities for pedestrians and bicyclists, and improvements at adjacent intersections. The project does not restrict consideration of nor depend upon other foreseeable transportation projects, including the US Highway 101 Managed Lanes North of I-380 Project.

1.3 Project Description

This section describes the proposed project that was developed by a multidisciplinary team to achieve the identified purpose and need of the project, while avoiding or minimizing environmental impacts. One Build Alternative is considered in this document, and would construct a new overcrossing of US 101 connecting the Utah Avenue/South Airport Boulevard intersection and San Mateo Avenue. The No Build Alternative is also considered for comparison.

1.3.1 Build Alternative

The Build Alternative would construct a new overcrossing with two lanes in each direction extending Utah Avenue westerly over US 101 to connect with San Mateo Avenue. The existing intersections at South Airport Boulevard/Utah Avenue and San Mateo Avenue/Utah Avenue would be reconstructed to include additional turning lanes and connect to the new overcrossing. The existing Airport Boulevard/Produce Avenue/San Mateo Avenue intersection would also be modified to include new through lanes and turning lanes. All three of these intersections would have increased capacity for vehicles passing through or turning.

The project will add an additional northbound lane of traffic on San Mateo Avenue from the west end of the proposed Utah Avenue overcrossing to south of the Airport Boulevard/Produce Avenue/San Mateo Avenue intersection. The existing on street parking on San Mateo Avenue will be prohibited on both sides between the new Utah Avenue intersection and the Airport Boulevard/Produce Avenue/San Mateo Avenue intersection, to accommodate the new northbound lane and bicycle lanes in each direction (described in Section 1.3.1.1). The Build Alternative is shown in Figures 1.3.1-1 through 1.3.1-4.

Figure 1.3.1-1 Build Alternative

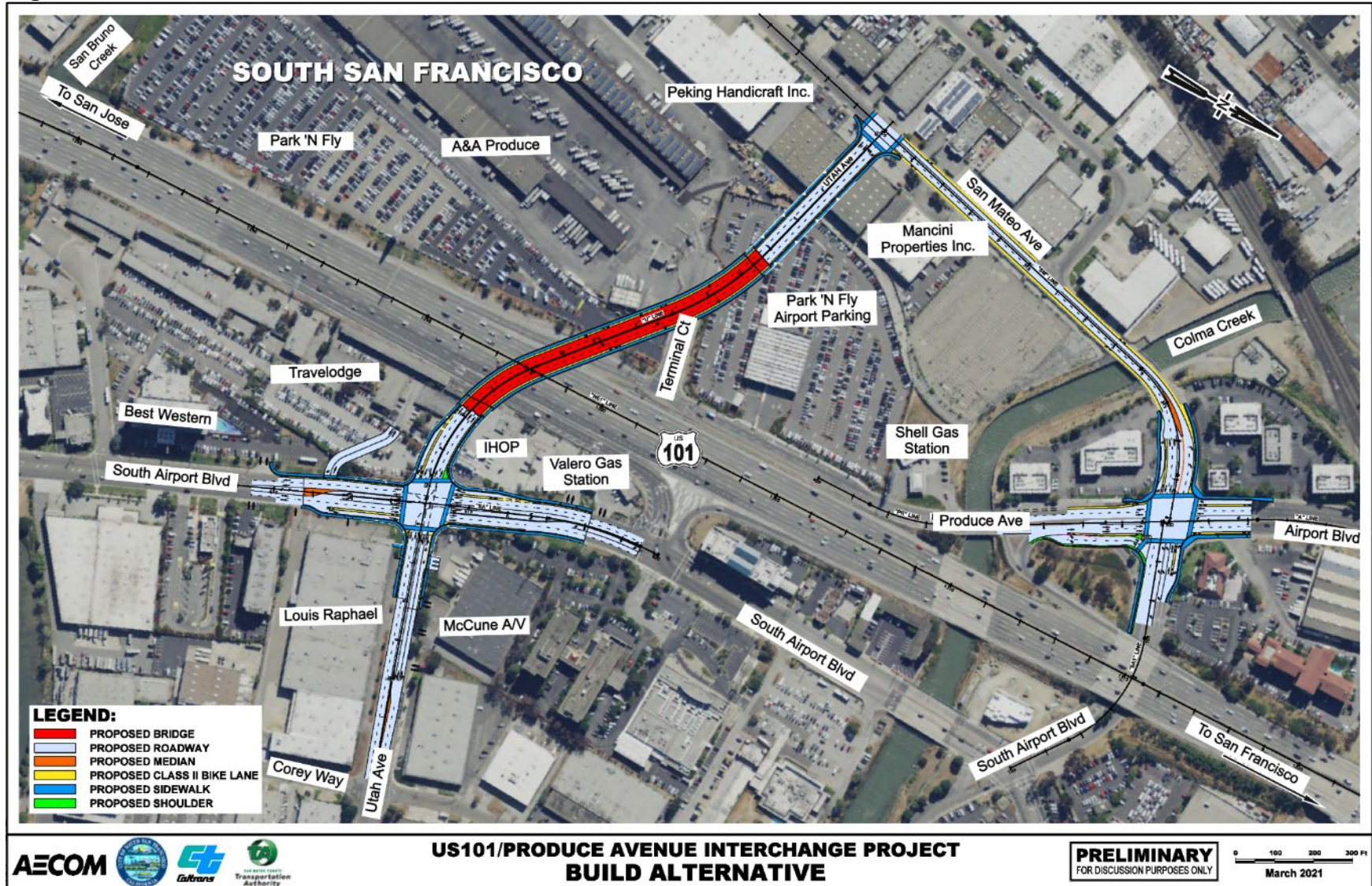


Figure 1.3.1-2 Proposed Utah Avenue/South Airport Boulevard Intersection

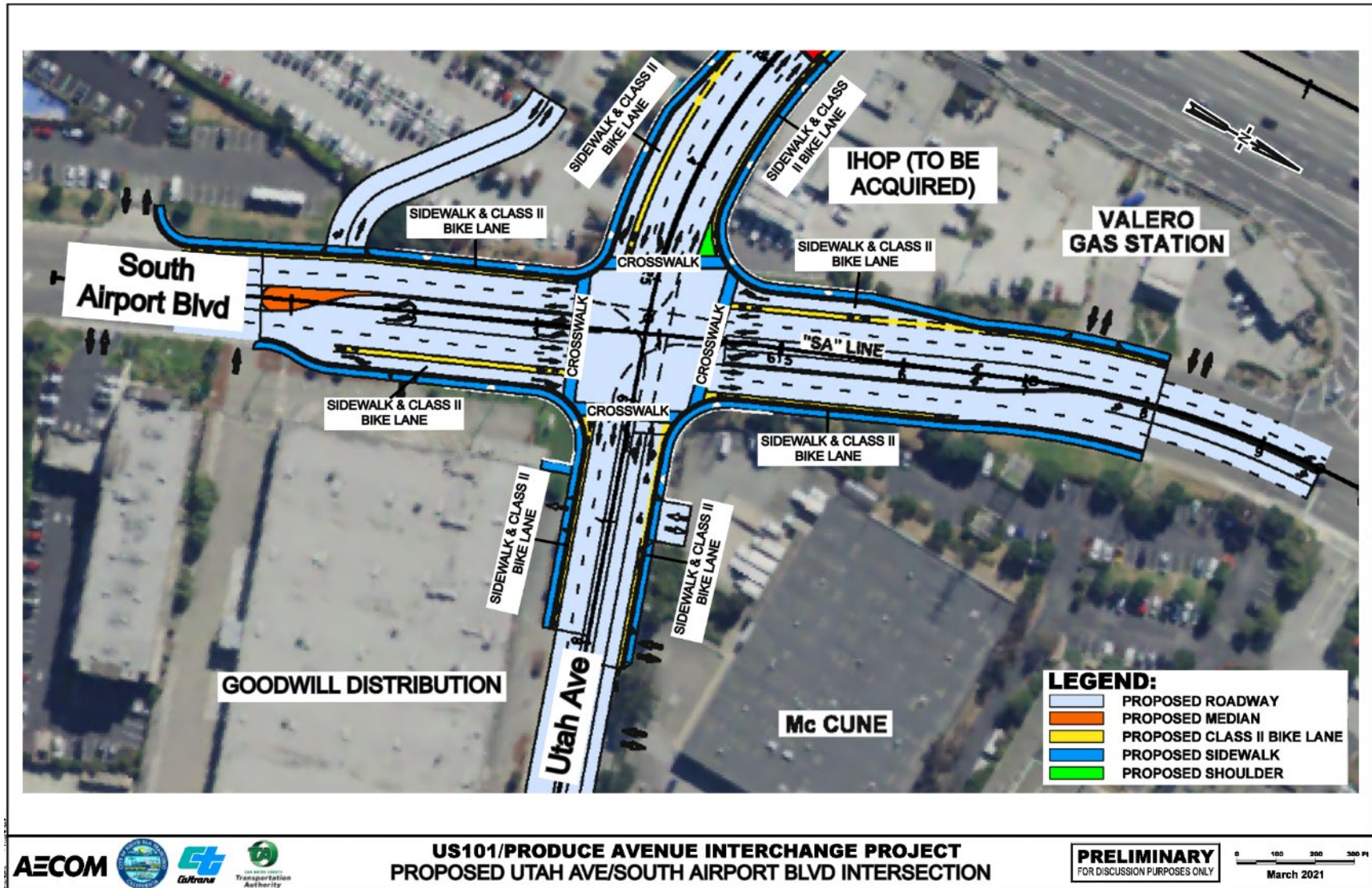


Figure 1.3.1-3 Proposed Utah Avenue/San Mateo Avenue Intersection

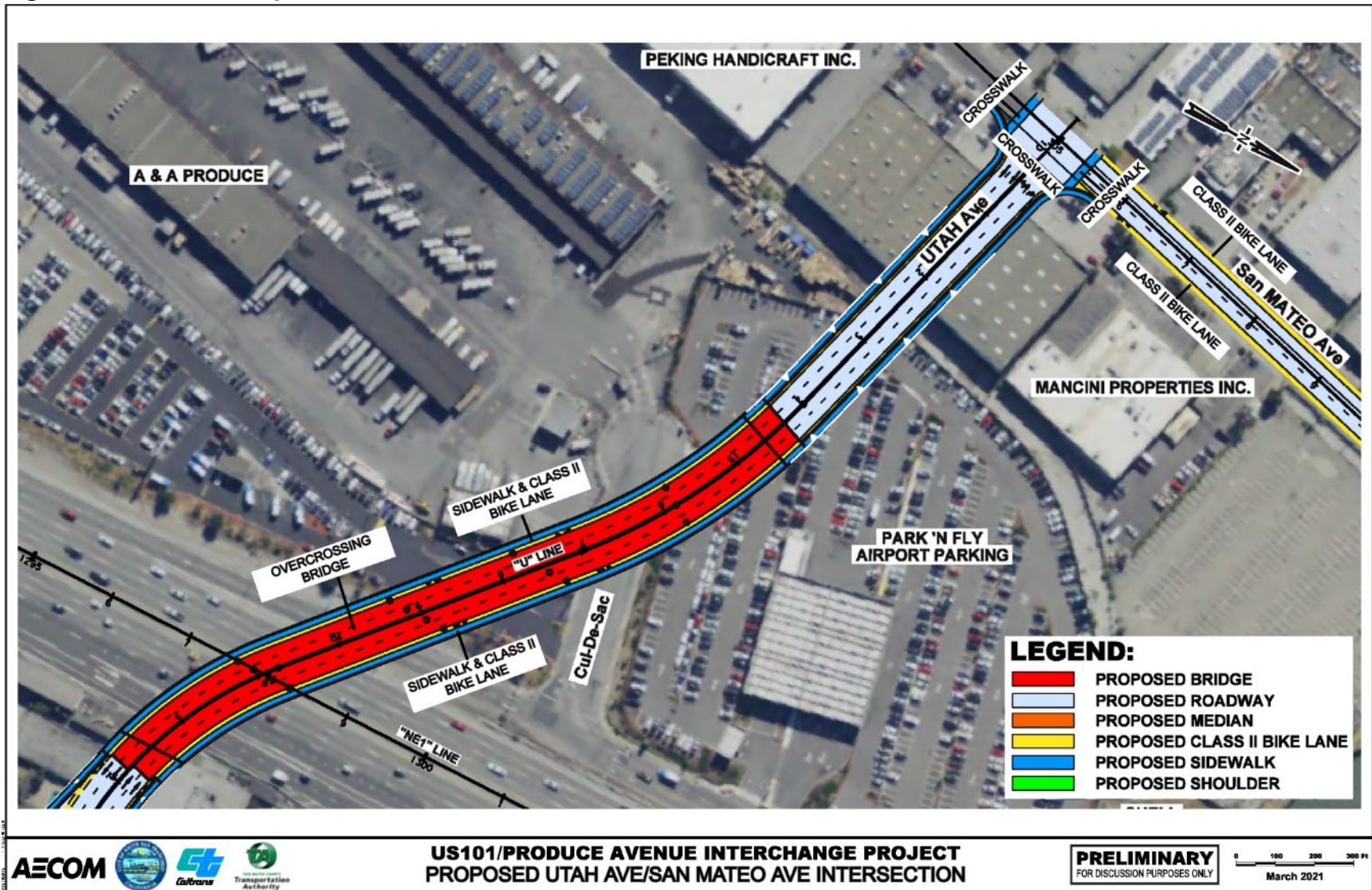
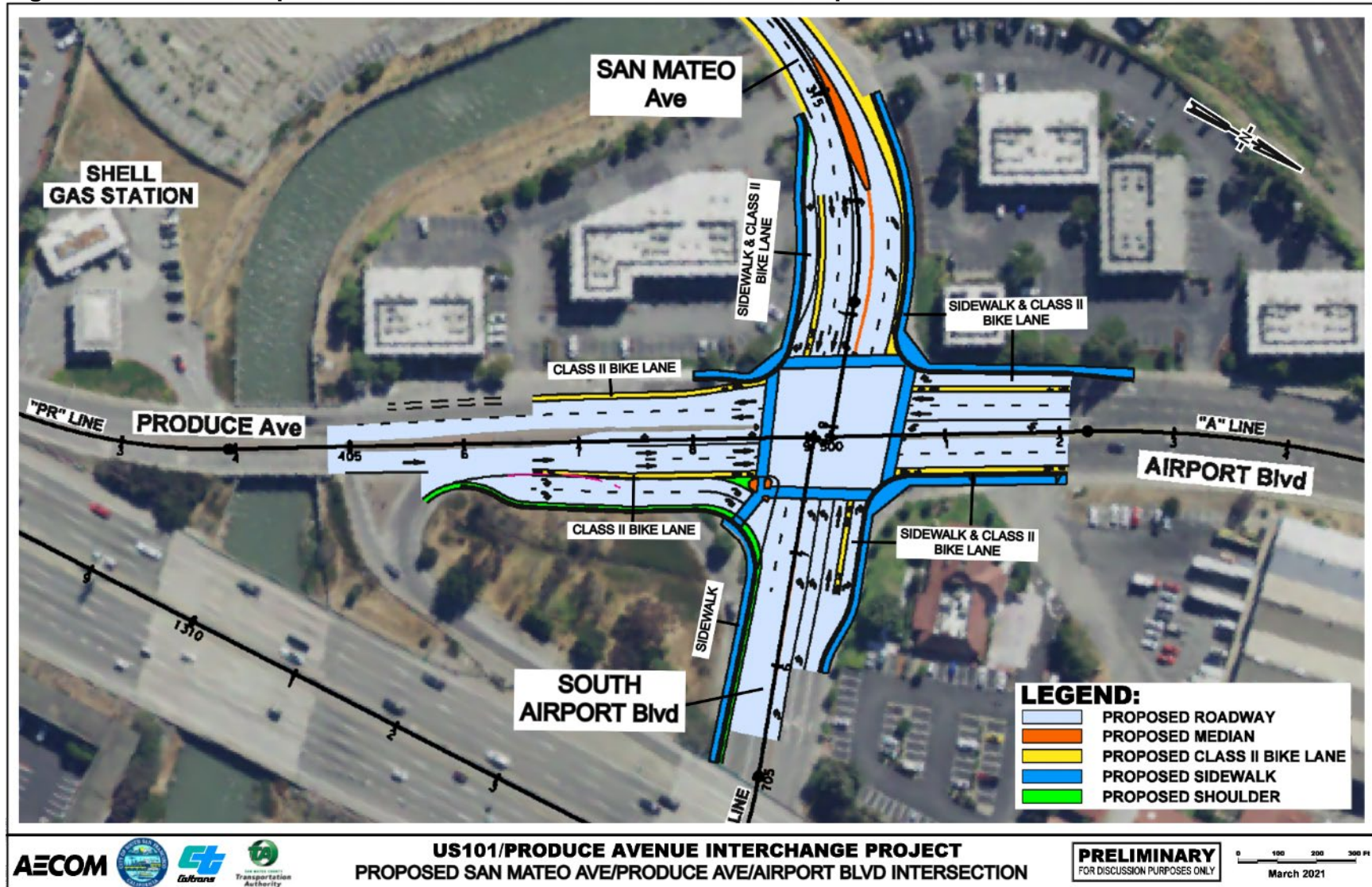


Figure 1.3.1-4 Proposed San Mateo Avenue/Produce Avenue/Airport Boulevard Intersection



1.3.1.1 Bicycle and Pedestrian Facilities

The Build Alternative would include the following new bicycle and pedestrian facilities:

- Class II bike lanes would be constructed in each direction on Utah Avenue between San Mateo Avenue and South Airport Boulevard. Bike lanes would also extend for several hundred feet north and south on South Airport Boulevard and Utah Avenue east of South Airport Boulevard.
- Class II bike lanes would be constructed in each direction on the east side of San Mateo Avenue from the west end of the new Utah Avenue overcrossing to south of the South Airport Boulevard/Produce Avenue/San Mateo Avenue intersection.
- Sidewalks would be constructed on the overcrossing and would extend along Utah Avenue on both sides of US 101 connecting to pedestrian facilities at the Utah Avenue/San Mateo Avenue intersection west of US 101 and the Utah Avenue/South Airport Boulevard intersection east of US 101.
- Signalized crosswalks would be constructed at the intersections of Utah Avenue/South Airport Boulevard and Utah Avenue/San Mateo Avenue.
- The signal at the intersection of South Airport Boulevard/Produce Avenue/San Mateo Avenue would be modified to accommodate complete streets design. Class II bike lanes would be added to San Mateo Avenue and South Airport Boulevard at this intersection to separate bikes from vehicles making right turns. The existing crosswalks and sidewalks at this intersection would be replaced, and pedestrians would have access to each quadrant of this intersection.

All the improvements would be designed following the applicable provisions of the Americans with Disabilities Act (ADA). The proposed bicycle and pedestrian facilities can be seen in Figure 1.3.1-2 below.

Figure 1.3.1-2 Visual Simulation of Utah Avenue with the Build Alternative



1.3.2 Project Construction

The following activities and components are anticipated to be included as part of project. The project construction would take approximately two years to complete. Ramp, lane, and partial freeway closures may be required during falsework placement/removal operations.

1.3.2.1 Right-of-Way Acquisition

The Build Alternative would require the full acquisition of two parcels and partial acquisitions from industrial and commercial properties. Temporary construction easements (TCEs) would be needed for construction access and staging. There would be 2 full property acquisitions, partial property acquisitions from 10 properties, and 14 temporary construction easements. The right-of-way requirements are described in more detail in Section 2.2.5.3. The right-of-way acquisition process would not occur until after a decision is made on the preferred alternative, public review and consideration of all comments received, and the environmental document and project are approved.

1.3.2.2 Structures

A new overcrossing would be constructed over US 101 and would extend over Terminal Court. The overcrossing would provide two lanes in each direction as well as sidewalks and Class II bike lanes. The overcrossing would span from the east side of US 101 and extend over Terminal Court. As shown in Figure 1.3.1-1, the red portion of the span would be elevated while the non-red portion would be on fill and retaining

walls that descend to connect at South Airport Boulevard and San Mateo Avenue. A portion of the span on the west side of US 101 would be supported on piles. It is anticipated that the maximum subsurface depth for the construction of the overcrossing would be approximately 60 feet or more, depending on whether driven or drilled piles are used. Structures would be designed with appropriate aesthetic treatments, per measure VIS-01. Such aesthetic treatments would reflect the character of the community, be developed in cooperation with the City of South San Francisco, and enhance compatibility with existing visual resources in the area.

1.3.2.3 Retaining Walls and Concrete Barriers

Utah Avenue and South Airport Boulevard would be raised to conform to the proposed new overcrossing of US 101 profile. Figure 1.3.1-1 provides a preliminary exhibit of the project. The approaches to the structure would be on fill with retaining walls varying in elevation up to 20 feet high. As with structures, any retaining walls and concrete barriers included as part of the Build Alternative would be designed with appropriate aesthetic treatments.

The retaining walls would be visible from the freeway and neighboring properties and would be architecturally treated to enhance their appearance. The treatment design would be determined during final design in consultation with the City of South San Francisco. Vertical impacts would extend approximately 6 to 10 feet deep for the retaining walls and 3 feet for concrete barriers. These impacts would be entirely in fill.

1.3.2.4 Utilities

There are three pairs of existing 115 kilovolt (KV) overhead electrical lines that are parallel to, and approximately 200 feet east of, the northbound US 101 freeway. Because South Airport Boulevard would be elevated to conform to the proposed new US 101/Produce Avenue overcrossing, the overhead lines would need to be raised by PG&E to maintain the required clearance above these local roadways. This can be achieved by increasing the height of the existing steel lattice towers. This would require restringing the powerlines once the towers have been raised. Once completed, the electrical towers and lines would be similar in appearance to the existing facilities. Electrical service would be maintained during this operation.

Underground and overhead utility/electrical lines, gas, water, and sanitary sewer facilities are located within the project area, along or within the local roadways. Where necessary, these utilities would be relocated to accommodate the project. It is anticipated that utility installation would entail approximately 4 to 6 feet of subsurface disturbance.

1.3.2.5 Lighting

To provide improved roadway visibility, the project would provide new highway lighting on the new overcrossing and provide enhanced signage and pavement delineation.

The maximum height of the lighting would be 35 to 40 feet. The actual spacing and number of lights in the project corridor will be determined during detailed project design in coordination with the Caltrans Traffic Safety unit.

1.3.2.6 Construction Staging

Temporary nighttime closures would be required along US 101 for the construction of the median bent, placement and removal of bridge falsework and the placement of precast bridge segments. The reconstruction of the local intersections to accommodate additional turning lanes, through lanes, signals, pedestrian improvements, and bike lanes would require staging, temporary lane closures or detours, and possible night-time work.

As part of standard practices, a Transportation Management Plan (TMP) would be prepared during the design phase of the project to address traffic disruptions from project construction. The TMP would include outreach to inform local jurisdictions, agencies, and the public of the times and locations of upcoming construction, construction signs in and approaching the project area, and incident management for traffic control in the vicinity of construction activities. Access would be maintained for emergency response vehicles.

1.3.2.7 Project Funding

The proposed project's current phase is funded by the San Mateo County Transportation Authority Measure A funds and the City of South San Francisco. The design (Plans, Specifications and Estimates or PS&E) phase is funded with \$5 million of State Transportation Improvement Program /Regional Improvement Program funds, and with local funds. The \$5 million is programmed Federal Aid Highway Funds, and triggers federal involvement in the project, including compliance with NEPA review requirements. The City of South San Francisco is working with local, state, and federal agencies to identify funding sources for the construction of the project.

1.3.3 Transportation System Management (TSM) and Transportation Demand Management (TDM) Alternatives

TSM strategies increase the efficiency of existing facilities; they are actions that increase the number of vehicle trips a facility can carry without increasing the number of through lanes. Examples of TSM strategies include: ramp metering, auxiliary lanes, turning lanes, reversible lanes, and traffic signal coordination. TSM also promotes automobile, public and private transit, ridesharing programs, and bicycle and pedestrian improvements as elements of a unified urban transportation system. Modal alternatives integrate multiple forms of transportation modes, such as pedestrian, bicycle, automobile, rail, and mass transit.

Although Transportation System Management measures alone could not satisfy the purpose and need of the project, the following Transportation System Management measures have been incorporated into the build alternatives for this project:

- Bicycle and pedestrian facilities are incorporated into the overcrossing and the intersection improvements. These facilities will provide an improved and additional connection across US 101 for pedestrians and bicyclists, that helps connect to the San Francisco Bay Trail by way of South Airport Boulevard or Utah Avenue (the Bay Trail is located to the east of the project).
- Ramp metering rates for the northbound US 101 on-ramp from South Airport Boulevard will be increased in 2025 (from existing), and will then be increased again in 2045. Rates between No Build and Build alternatives will remain the same.

TDM focuses on regional means of reducing the number of vehicle trips and vehicle miles traveled as well as increasing vehicle occupancy. As the project is limited to an overcrossing and intersection improvements, it will not affect vehicle occupancy. The traffic modeling performed for the project did indicate a slight reduction in vehicle miles traveled (VMT), likely associated with drivers being able to reduce overall trip length by using the overcrossing.

1.3.4 No Build Alternative

The No Build Alternative assumes no modifications would be made to the current Utah Avenue or improvements made to local roadway intersections, other than routine maintenance and rehabilitation of the facility and any currently planned and programmed projects within the City of South San Francisco. City of South San Francisco Adaptive Timing Project, which optimizes the signal timings on a traffic demand basis, is also considered in the No Build analysis for 2025 and 2045. The No Build Alternative would not provide a local east-west connection across US 101 to help serve commercial and pedestrian traffic. It would not enhance vehicular, pedestrian or bicycle safety.

1.3.5 Alternative Selection Process

After the public circulation period, all comments would be considered, and Caltrans would identify a preferred alternative and make the final determination of the project's effect on the environment. Under the California Environmental Quality Act (CEQA), Caltrans would certify that the project complies with CEQA; prepare findings for any significant impacts identified; prepare a Statement of Overriding Considerations, if needed, for impacts that would not be mitigated below a level of significance; and certify that the findings and Statement of Overriding Considerations have been considered prior to project approval. Caltrans would then file a Notice of Determination with the State Clearinghouse that would indicate whether the project would have significant impacts; if mitigation measures were included as conditions of project approval; that findings were made; and that a Statement of Overriding Considerations was adopted, as needed. Similarly, if Caltrans, as assigned by the FHWA, determines that the National Environmental Policy Act action does not adversely impact the environment, Caltrans would issue a Finding of No Significant Impact (FONSI).

1.3.6 Alternatives Considered but Eliminated from Further Discussion

Alternatives were considered during the early stages of project development but were eliminated because they would not meet the project's purpose and need, or were considered infeasible. The following describes these alternatives and why they were not advanced for further evaluation.

1.3.6.1 Reversible Lanes

In 2016, California's Governor signed AB 2542 into law requiring Caltrans to demonstrate that reversible lanes have been considered for any project that would increase capacity or realign a highway. Reversible lanes are lanes that can be used in either direction, depending on the flow of traffic and congestion patterns. Barriers (including movable median barriers), signals, or lighting may be used to direct or separate opposing traffic flow.

The proposed project will not affect the alignment of US 101, add any through lanes, or otherwise change the capacity of the freeway. Reversible lanes on US 101 therefore were not considered.

1.3.6.2 Alternative 1 – Braided US 101 Southbound Off-Ramp

Alternative 1 would shift the existing southbound Produce Avenue on-ramp northerly to improve the weaving distance to I-380. The existing southbound off-ramp would be closed and replaced by a new diagonal off-ramp grade that would connect to the new overcrossing. The southbound off-ramp would begin as a single lane ramp and widen to two lanes, providing off-ramp storage improvement. A new local road would be constructed starting just before the southbound on-ramp and ending west of Utah Avenue extension. The existing Terminal Court would be closed.

Alternative 1 would increase capacity for the southbound off-ramp by constructing a new clear-span bridge over Colma Creek and Produce Avenue. It would also provide connectivity and circulation with the west-side of the freeway and the proposed Utah overcrossing, and reduce traffic on Airport Boulevard between Produce Avenue and Gateway Boulevard. The cul-de-sac would have to extend parallel to the proposed Utah Avenue to provide access to the Park 'N Fly lot adjacent to US 101. However, because of the cul-de-sac, there would be necessary right-of-way takes at the produce market and therefore a refined version of this alternative was created (Alternative 5).

Alternative 1 was eliminated because the isolated off-ramp has potential for wrong way movements. In addition, the proposed cul-de-sac on the south side of Utah Avenue would adversely impact the produce market.

1.3.6.3 Alternative 2 – Modified Partial Cloverleaf

Alternative 2 would construct a modified partial cloverleaf interchange on the west side of US 101 by creating a new southbound off- and on-ramps on the north side of a new Utah Avenue overcrossing. The existing southbound off-ramp would be closed and removed. New southbound off- and on-ramps would connect to the north side of Utah

Avenue at a “T” intersection. Produce Avenue south of Colma Creek would be realigned to create a frontage road partially alongside the freeway. This road would run connect to a signalized intersection, west of San Mateo Avenue.

The overcrossing structure and embankment would require removal of Terminal Court and the existing entrance/access gate and road into the produce market area. A new cul-de-sac would be provided parallel to the south side of the Utah Avenue extension to allow access to the produce market and Park ‘N Fly lot.

Several design issues with this alternative could adversely impact traffic operations at the ramps. The southbound off-ramp and southbound on-ramp connections at Utah Avenue are side-by-side. This would require multi-phase signal timing as these two on- and off-ramp intersections can only function in a green phase one at a time. This would create additional signal time, and during peak periods delayed traffic on Utah Avenue could create queuing that interferes with the nearby intersection at Produce Avenue/Utah Avenue. The Caltrans Highway Design Manual standards call for intersection spacing of at least 400 feet between a ramp and a local road intersection. The spacing between the southbound off-ramp and the Produce Avenue connections to Utah Avenue would be 300 feet, which would not meet this design requirement. Moving the Produce Avenue/Utah Avenue intersection to the west is not feasible as it would then be too close to the Utah Avenue/San Mateo Avenue intersection.

The southbound off- and on-ramps are relatively short. These ramps could be lengthened but would require realignment of the adjacent Produce Avenue connector road further into the Park ‘N Fly lot, thereby impacting that business and its operations.

A proposed cul-de-sac on the south side of the proposed Utah Avenue intersection would adversely impact the produce market buildings and operations. This cul-de-sac is necessary to allow traffic to access the Park ‘N Fly business on the south side of the proposed Utah Avenue overcrossing.

Alternative 2 was eliminated because the intersection spacing on Utah Avenue between the on- and off-ramps, Produce Avenue, and San Mateo Avenue intersections is too close to allow for adequate queuing of vehicles without interfering with intersection operations. The proposed adjacent on- and off-ramp connections to Utah Avenue would require a multiphase signal that could delay traffic flow. Finally, the proposed cul-de-sac on the south side of Utah Avenue would adversely impact the produce market.

1.3.6.4 Alternative 3 – Tight Diamond with Braided Ramps

Alternative 3 would reconfigure the interchange to a tight diamond interchange. The on- and off-ramps south of the overcrossing would extend south and connect with the I-380 interchange in a configuration referred to as braided connector ramps. The primary benefit of this design is elimination of weaving between the interchange ramps and the I-380 ramp connectors. This interchange is the most complex of any considered, and includes the following features:

- Northbound US 101: The I-380 two-lane northbound on-ramp to US 101 would cross over a US 101 off-ramp that connects to the Utah Avenue overcrossing. This would separate these two traffic movements.
- Southbound US 101: The two-lane Utah Avenue to US 101 southbound on-ramp would split into two connectors: one ramp connecting to westbound I-380 and the other ramp connecting to southbound US 101.
- Produce Avenue: South of Colma Creek, Produce Avenue would be relocated along the westerly side of the new southbound diagonal off-ramp, ending in a cul-de-sac just south of the new Utah Avenue overcrossing. This connection would serve the Park 'N Fly lot and the Produce Market businesses.
- Terminal Court: Terminal Court would be removed, and access to the produce market would be from the cul-de-sac described above.

This alternative would require new bridge structures for the braided ramps on the north and south sides of US 101 over San Bruno Creek, including along the banks of the creek. The design represents the maximum footprint of any of the alternatives considered, and would require the greatest amount of right-of-way acquisition for the installation of the braided ramp connectors. The construction of all new elevated connector ramps on both sides of US 101 would also require challenging staged construction. Because of the proposed structures and necessary right-of-way, this alternative would have the highest cost for property acquisition and construction.

Alternative 3 was eliminated from further consideration because of the extensive right-of-way acquisition requirements, the substantial new structures required, the complexity of construction staging, and impacts to the produce market structures and operations.

1.3.6.5 Alternative 4 – Roundabout Intersections

This alternative would incorporate roundabouts in place of traffic signals at the following key locations:

- Northbound US 101: A two-lane roundabout would serve the northbound off- and on-ramps, where they connect with South Airport Boulevard.
- Southbound US 101: A two-lane roundabout would connect the southbound off- and on-ramps, Utah Avenue, and a new cul-de-sac that would provide access to the produce market and Park 'N Fly properties.
- South Airport Boulevard/Utah Avenue intersection: This intersection would be replaced by a two-lane roundabout.

Produce Avenue south of Colma Creek would parallel southbound US 101 and terminate at a cul-de-sac at the airport parking lot. Terminal court would be removed, and access to the produce market and Park 'N Fly properties would be from a new cul-de-sac on the south side of Utah Avenue.

This alternative was considered as a part of Intersection Control Evaluation (ICE) in an effort to reduce the need for intersection signals and evaluate whether it might improve traffic flow at the ramp and local street intersections. However, there were several design constraints unique to this design and location. The roundabouts would require a greater area due to their larger design, which impacts adjoining parcels and increases the size of the intersections. At the South Airport Boulevard/Utah Avenue intersection, a roundabout would extend the intersection towards the proposed Utah Avenue overcrossing, and the necessary profile of the overcrossing would require a steep grade between this roundabout and the elevated overcrossing. To minimize the grade difference would require elevating the roundabout on fill, but this would adversely impact adjacent business driveways that require access to South Airport Boulevard and Utah Avenue.

The lack of signals in the roundabouts can help efficiently move traffic through the intersections unless traffic queues during peak conditions back up into the roundabout from adjacent intersections. In contrast, signal timing can be adjusted to address heavy traffic movements. The lack of signals at a roundabout presents a risk if traffic at the northbound off-ramp spills back onto the freeway mainline during peak periods. At the northbound on-ramp, traffic waiting at the ramp meter has the potential to extend back into the roundabout.

The roundabouts would also introduce relatively tight radius turns that would be challenging to trucks that travel to or through this commercial and light industrial area of South San Francisco. Super elevation (banking) of the roundabout turns could help offset this risk but would complicate the surface profile between the roundabouts and local roads.

Alternative 4 was eliminated from further consideration due to the unacceptable profile grades that would be necessary on Utah Avenue and at connecting driveways if the roundabouts are raised (especially at South Airport Boulevard/Utah Avenue). The commercial land uses and associated truck traffic that would use the roundabouts were an important consideration, as the necessary grade profiles and turning radiuses could delay or prevent trucks from using the intersections or interchange ramps. This alternative was also eliminated because the lack of traffic signalization at the roundabouts would preclude regulating traffic flow in the future during expected heavy peak periods when backups could potentially extend into adjacent intersections or ramps.

1.3.6.6 Alternatives 5 – Braided US 101 Southbound Off-Ramp (Modified)

This alternative is similar to Alternative 1 but would include several major design refinements to avoid or minimize potential adverse effects. The alignment of the Utah Avenue overcrossing was adjusted to avoid adverse effects to the two main buildings at the Produce Market property. This alignment would still affect the entrance gate to the market and administrative buildings but would avoid the Produce Market structures that may potentially be considered historic. It would provide direct access from the Produce Market area to the intersection at Utah Avenue and Produce Avenue. To serve the south Park 'N Fly lot, a connector roadway would provide access from the realigned Produce Avenue. The southbound Produce Avenue on-ramp would accommodate multiple lanes including an HOV bypass, with increased capacity. The southbound off-ramp would require a clear span bridge over Colma Creek.

Alternative 5 was eliminated from further consideration because the proposed isolated off-ramp has the potential for wrong-way movements. This alternative would have also eliminated Terminal Court, with a revised access to the Park 'N Fly lots and Produce Market property from a new road connecting to the Utah Avenue overcrossing. This change would have split the Park 'N Fly lot and required more circuitous truck access into and out of the Produce Market.

1.3.6.7 Alternative 6

Alternative 6 was developed as a split southbound US 101 off-ramp with the existing ramp to Produce Avenue, and a split leg connecting to the new Utah Avenue overcrossing. This design was similar to the proposed project except it would provide a divided (split) off-ramp where the left lane of the elevated ramp would extend over Colma Creek and Produce Avenue, parallel the southbound US 101 freeway, and connect to the proposed Utah Avenue overcrossing. Although this off-ramp for Alternative 6 would help address queue spillback to the freeway, the ramp would also create more impacts to the entrances to the Park 'N Fly lot and produce market. This alternative also included an at-grade intersection that would provide additional or new access to the produce market. This alternative was eliminated because the southbound off-ramp structure connecting to Utah Avenue was costly and determined unnecessary with the proposed project's improved southbound off-ramp connection to Produce Avenue and Airport Boulevard. The at-grade intersection to the produce market was also determined to have an undesirable grade requirement between the intersection and the height necessary to elevate the Utah Avenue overcrossing of US 101. In addition, the shortening of the Terminal Court cul-de-sac is unacceptable to the produce market due to the lack of storage space for trucks queuing to enter.

Alternative 6A is a modified version of Alternative 6. It features an off-ramp connection to the new Utah Avenue overcrossing without the Produce Avenue split shown in Alternative 6. The elevated ramp would extend over Colma Creek and Produce Avenue, parallel the southbound US 101 freeway, and connect to the proposed Utah Avenue overcrossing. Similar to Alternative 6, this off-ramp would help address queue spillback to the freeway, but the ramp would also impact to the entrances to the Park 'N Fly lot and produce market. This alternative also included an at-grade intersection from Utah Avenue that would provide access to the produce market. Similar to Alternative 6, this alternative was eliminated because the proposed project design adequately improved the southbound off-ramp connection to Produce Avenue and Airport Boulevard without the lengthy ramp connection to the Utah Avenue overcrossing. It also had the same undesirable grade requirement between the intersection to the produce market and the height necessary to elevate Utah Avenue over US 101, and the undesirable shortening of Terminal Court.

1.4 Project Funding and Schedule

The project approval and environmental document phase of the project is funded by San Mateo County Transportation Authority Measure A funds and the City of South San Francisco. The plans, specifications, and estimate phase is funded with \$5 million of State Transportation Improvement Program/Regional Improvement Program funds, and with local funds. This \$5 million is programmed from Federal Aid Highway Funds

and triggers federal involvement in the latter phase of the project. The City of South San Francisco is working with local, state, and federal agencies to identify remaining funding sources for the construction of the project.

Total capital cost estimate for the project is \$111,849,000 (2021 dollars). Total escalated capital cost is estimated at \$125,650,000 (2024).

The following list the project's schedule's anticipated major milestones:

- Completion of Project Approval and Environmental Document (PA&ED): October 2022
- Plans, Specifications and Estimates (PS&E): 2023 – 2024
- Right of Way Certification: 2024
- Project Funding Allocation, Advertise and Award Construction: 2024 – 2025
- Construction: 2025 – 2027

1.5 Permits and Approvals Needed

Table 1.5-1 summarizes the permits, reviews, and approvals that would be required for project construction. Permit applications would be submitted during the design phase.

1.6 Project Features

This project contains a number of standardized project features that are employed on most, if not all, Caltrans projects in accordance with standard specifications, state and federal laws, and anticipated standard environmental permit conditions, and were not developed in response to any specific environmental impact resulting from the proposed project. Project features are separated out from avoidance, minimization, and minimization measures (AMMs), which directly relate to the impacts resulting from the proposed project. AMMs and other measures are discussed separately in each environmental section.

A summary of these project features is presented in Table 1.6-1.

Table 1.5-1 Project Permits and Approvals

Agency	Permit/Approval	Status
FHWA	Concurrence with project's conformity to Clean Air Act and other requirements	Air quality studies would be submitted for FHWA concurrence after the environmental document's circulation period has closed and prior to a FONSI. MTC's Air Quality Control Task Force determined the project is not a Project of Air Quality Concern on September 23, 2021.
State Historic Preservation Officer	National Historic Preservation Act Section 106 consultation	Caltrans' consultation on identification was completed in January 2022, following submittal of the cultural resources reports to SHPO and receiving no comments. Consultation will continue regarding the Golden Gate Produce Terminal.
San Francisco Bay Regional Water Quality Control Board (RWQCB)	Potential Section 401 Water Quality Certification or waiver and or/Porter Cologne Act Waste Discharge Requirements Compliance with the NPDES Construction General Permit	The applicable RWQCB permit will be determined during design. If needed, this may involve a joint "Application for 401 Water Quality Certification" and/or "Report of Waste Discharge." A statewide NPDES permit for construction and operations would be in effect for the project. Compliance review would take place during the design phase.

Table 1.6-1 Other Project Features

Resource	EIR-EA Section	Feature Number	Description
Traffic and Transportation/ Pedestrian and Bicycle Facilities	2.2.8	PF-TRA-01	<p>During the final design phase, a Traffic Management Plan (TMP) will be prepared in accordance with Caltrans requirements and guidelines to minimize the construction-related delays and inconvenience for travelers, residents, and businesses within the project limits. The TMP will include details about the project’s construction hours and address the potential traffic impacts as they relate to lane closures and other traffic handling concerns associated with construction of the project. The TMP will include:</p> <ul style="list-style-type: none"> • Distribution of press releases and other public outreach necessary to notify local jurisdictions, agencies, and the public of upcoming lane closures and expected delays; • Coordination with California Highway Patrol (CHP) and local law enforcement on contingency plans; • Use of portable changeable message signs and CHP Construction Zone Enhanced Enforcement Program where possible to minimize delays. • Access will be maintained for emergency response vehicles.
Traffic and Transportation/ Pedestrian and Bicycle Facilities	2.2.8	PF-TRA-02	<p>At the intersection of the US 101 northbound off-/on-ramps/ South Airport Boulevard (intersection #10), a right-turn overlap phase will be provided for the eastbound approach to facilitate the efficient movement of right-turning vehicles from the US 101 northbound off-ramp. This phase would overlap with the northbound left-turn movement, thereby using the northbound left turn’s green time as well. The City will be responsible to evaluate and be responsible for the signal timing, and a No U-Turn sign for the northbound approach should be installed by the City with this overlap.</p>
Paleontology	2.3.4	PF-PAL-01	<p>Preconstruction training on paleontological resource awareness would be provided to construction staff by a trained paleontologist or geologist.</p>
Air Quality	2.3.6	PF-AIR-01	<p>Construction Best Practices for Dust</p> <p>The following are BMPs from Mitigation Measure AQ-2 of the Final Program Environmental Impact Report Plan Bay Area 2050 (ABAG and MTC 2021c). These measures control dust during any construction period that involves ground disturbance and should be applied to the construction contract as applicable. These measures do not replace Caltrans Standard Specifications that achieve the same or equivalent control of dust.</p> <ul style="list-style-type: none"> • Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. For projects over five acres in size, soil moisture should be maintained at a minimum of 12 percent. Moisture content can be verified by lab samples or a moisture probe. • Haul trucks transporting soil, sand, or other loose material off-site shall be covered. On-site dirt piles or other stockpiled PM shall be covered, wind breaks installed, and water and/or soil stabilizers employed to reduce wind-blown dust emissions. The use of approved nontoxic soil stabilizers shall be incorporated according to manufacturers’ specifications to all inactive construction areas. • Visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. Dry power sweeping should only be performed in conjunction with thorough watering of the subject roads.

Resource	EIR-EA Section	Feature Number	Description
			<ul style="list-style-type: none"> • Vehicle speeds on unpaved roads and surfaces shall be limited to 15 mph. • Roadway, driveway, and sidewalk paving shall be completed as soon as possible. Building pads shall be paved as soon as possible after grading. • Construction sites shall provide a posted sign visible to the public with the telephone number and person to contact at the lead agency regarding dust complaints. The recommended response time for corrective action shall be within 48 hours. BAAQMD’s Complaint Line (1-800-334-6367) shall also be included on posted signs to ensure compliance with applicable regulations. • Excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph. • Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity. • Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established. • The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time. • Transfer processes involving a free fall of soil or other PM shall be operated in such a manner as to minimize the free fall distance and fugitive dust emissions. All trucks and equipment, including their tires, shall be washed off before leaving the site. • Site accesses to a distance of 100 feet from the paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel. • Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent. Open burning shall be prohibited at the project site. No open burning of vegetative waste (natural plant growth wastes) or other legal or illegal burn materials (e.g., trash, demolition debris) may be conducted at the project site. Vegetative wastes shall be chipped or delivered to waste-to-energy facilities (permitted biomass facilities), mulched, composted, or used for firewood. It is unlawful to haul waste materials off-site for disposal by open burning. • The primary contractor shall be responsible for ensuring that all construction equipment is properly tuned and maintained before and for the duration of on-site operation. Where accessible, existing power sources (e.g., power poles) or clean-fuel generators shall be used rather than temporary power generators. • A traffic plan shall be developed to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Operations that affect traffic shall be scheduled for off-peak hours. Obstruction of through-traffic lanes shall be minimized. A flag person shall be provided to guide traffic properly and ensure safety at construction sites.

Resource	EIR-EA Section	Feature Number	Description
Air Quality	2.3.6	PF-AIR-02	<p>Construction Best Practices for Exhaust. The following are BMPs from Mitigation Measure AQ-2 of the Final Program Environmental Impact Report Plan Bay Area 2050 (ABAG and MTC 2021c). These measures control exhaust during any construction period that involves ground disturbance and should be applied to the construction contract as applicable. These measures do not replace Caltrans Standard Specifications that achieve the same or equivalent control of equipment emissions.</p> <ul style="list-style-type: none"> • Contractor for the project shall submit a list of all off-road equipment greater than 25 horsepower (hp) that would be operated for more than 20 hours over the entire duration of project construction, including equipment from subcontractors to the relevant air district (e.g., BAAQMD, NSCAPCD, or YSAQMD) for review and certification. The list shall include all information necessary to ensure the equipment meets the following requirement: <ul style="list-style-type: none"> – Equipment shall be zero emissions or have engines that meet or exceed either EPA or CARB Tier 4 off-road emission standards, and it shall have engines that are retrofitted with a CARB Level 3 Verified Diesel Emissions Control Strategy (VDECS), if one is available for the equipment being used. Equipment with engines that meet Tier 4 Interim or Tier 4 Final emission standards automatically meet this requirement; therefore, a VDECS would not be required. – Idling time of diesel-powered construction equipment and trucks shall be limited to no more than two minutes. Clear signage of this idling restriction shall be provided for construction workers at all access points. – All construction equipment shall be maintained and properly tuned in accordance with the manufacturers' specifications. – Portable diesel generators shall be prohibited. Grid power electricity should be used to provide power at construction sites; or propane and natural gas generators may be used when grid power electricity is not feasible.
Biological	2.4	PF-BIO-01	<p>Environmentally Sensitive Area Delineation. Before the start of construction, ESAs, including wetlands and habitats suitable for sensitive species, will be shown in Project plans. An ESA has been defined within the banks and channel of Colma Creek. The bid solicitation package special provisions will specify acceptable fencing material and prohibited construction-related activities in these areas. Prior to construction in or near an ESA, a Project biologist will delineate them in the field using signage, flagging, wildlife exclusion fencing (WEF), or other site markers as appropriate.</p>
Biological	2.4	PF-BIO-02	<p>Wildlife Exclusion Fencing. Before ground-disturbing activities commence, high-visibility WEF (suitable for amphibian and small mammal exclusion) will be installed along the environmentally sensitive area boundaries to protect special-status animal species and to keep them from entering the Project footprint. Maintenance of the WEF shall happen regularly and as requested by the Project biologist in coordination with the Resident Engineer. Repair and maintenance costs for the fence shall be a bid item in the Project contract.</p>

Resource	EIR-EA Section	Feature Number	Description
Biological	2.4	PF-BIO-03	Site Restoration. All temporarily disturbed areas and staging areas will be cleaned up and recontoured to original grade or designed contours. All construction-related materials will be removed after construction, site clean-up, and restoration activities are complete. Temporarily impacted areas where vegetation was removed will be revegetated within one growing season of completion of project activities.
Biological	2.4	PF-BIO-04	Landscaping and Revegetation Plan. Vegetation and trees removed by construction operations within the Project limits will be replaced according to Caltrans policy. Appropriate native species will be used to the maximum extent possible, and trees, shrubs, and groundcover will be selected for drought tolerance and disease resistance. Mulch will be applied to planted areas to reduce weed growth, conserve moisture, and minimize maintenance operations. The final revegetation plan would be developed during the detailed design phase.
Biological	2.4	PF-BIO-05	Biological Monitoring. The Project biologist(s) will be on site during initial ground-disturbing activities in previously undisturbed areas, during work that occurs in wetlands or in waters below mean higher high water elevation, and thereafter as needed to fulfill the role of the Project biologist as specified in Project permits. The Project biologist(s) will keep copies of applicable permits in their possession when on site. Prior to any initial ground-disturbing activity, the Project biologist(s) will conduct work site surveys for the presence of special-status plant and animal species no less than 48 hours before work. The Project biologist(s) will implement appropriate avoidance measures in the field and in coordination with the Resident Engineer to ensure that any identified special-status species or environmentally sensitive areas are clearly marked for avoidance.
Biological	2.4	PF-BIO-06	Construction Site Best Management. The following site restrictions will be implemented to avoid or minimize potential effects on listed species and their habitats, pursuant to Caltrans Standard Specifications and Special Provisions. <ul style="list-style-type: none"> • Speed Limit. Vehicles will not exceed 15 miles per hour in the project footprint, to reduce dust and excessive soil disturbance. • Trash Control. Food and food-related trash items will be secured in sealed trash containers and removed from the site at the end of each day. • Pets. Pets will be prohibited from entering the project limits during construction. • Firearms. Firearms will be prohibited within the Project limits, except for those carried by authorized security personnel or local, state, or federal law enforcement officials.
Biological	2.4	PF-BIO-07	Vegetation Removal. Native vegetation will be cleared only when necessary and will be cut above soil level, except in areas that will be excavated. A truck with a chipper will be used for chipping the removed trees. All vegetation will be conducted within appropriate species protection word windows.

Resource	EIR-EA Section	Feature Number	Description
Biological	2.4	PF-BIO-08	<p>Tree Protection. Only trees that require removal will be removed. Whenever possible, trees will be trimmed rather than removed. Retained trees will be safeguarded during construction through the following measures:</p> <ul style="list-style-type: none"> • Protected trees will be fenced around the drip line to limit construction impacts to the root zone. • No construction equipment, vehicles, or materials will be stored, parked, or staged within the tree dripline. • Work will not be performed within the dripline of the remaining trees without consultation with the Project biologist. If trees are damaged during construction and become unhealthy or die, the damaged tree(s) will be removed and replaced.
Biological	2.4	PF-BIO-09	<p>Invasive Plant Control. Noxious weeds will be controlled in the project construction site in accordance with Caltrans’ Highway Design Manual Topic 110.5, “Control of Noxious Weeds – Exotic and Invasive Species,” and Executive Order 13112 (Invasive Species), and by methods approved by a Caltrans’ landscape architect or vegetation control specialist.</p> <p>To minimize the spread of nonnative invasive plant (NNIP), any borrow material, erosion-control material (i.e., fiber rolls), and seed mixtures for erosion control will meet the following Caltrans (2018) specifications as they relate to NNIP species, including:</p> <ul style="list-style-type: none"> • Fiber roll must be a premanufactured and roll-filled with rice or wheat straw, wood excelsior, or coconut fiber. Fiber roll must be covered with biodegradable jute, sisal, or coir fiber netting secured tightly at each end. Fiber rolls must be certified to be free of prohibited noxious weeds (those Rated “A” by California Department of Food and Agriculture [CDFA]). • Imported topsoil must be free from deleterious substances such as litter, refuse, toxic waste, stones larger than 1 inch in size, coarse sand, heavy or stiff clay, brush, sticks, grasses, roots, noxious weed seed, weeds, and other substances detrimental to plant, animal, and human health. • Seed must not contain any prohibited noxious weed seed, or more than 1.0 percent total weed seed by weight. • All equipment brought into work areas will be free of soil and plant matter. • In work areas where CDFAs-listed noxious weeds or California Invasive Plant Council Moderate- or High-Rated NNIP species occur in fruit or flower and may spread seed as a result of the Project, these NNIP species will be removed to an approved offsite disposal location.
Biological	2.4	PF-BIO-10	<p>Erosion Control Matting. Plastic monofilament netting (i.e., erosion control matting) or similar material will not be used. Acceptable substitutes would include coconut coir matting or pacifying hydroseeding compounds.</p>
Biological	2.4	PF-BIO-11	<p>Construction Lighting and Signage. Construction area lighting will be limited to the area of work, and used only where necessary for safety and signage. Light trespass will be minimized through the use of directional lighting and shielding if feasible. Downcast lighting to minimize lighting of natural areas will be used throughout the project footprint.</p>

Resource	EIR-EA Section	Feature Number	Description
Geology/Soils/ Seismic/ Topography	2.3.3	PF-GEO-01	Geotech Investigations. A geotechnical investigation will be performed during final design for any proposed new earthwork or new structure within the project limits, including retaining walls, overhead signs, embankments, bridges, and sound walls; it will address geologic hazards, including liquefaction, cracking, differential compaction, ground shaking, and shrink swell.
Geology/Soils/ Seismic/ Topography	2.3.3	PF-GEO-02	Seismic Standards. Caltrans' design and construction guidelines incorporate engineering standards that address seismic risks. Project elements will be designed and constructed to meet seismic design requirements for ground shaking and ground motions, as determined for the project vicinity and site conditions.
Hazardous Materials	2.3.5	PF-HAZ-01	Site Investigations. A preliminary site investigation (PSI) for hazardous materials would be conducted during the project design phase. A PSI will be performed in accordance with current Caltrans guidance to investigate hazardous materials concerns related to soil, groundwater, and building materials within the project limits. Caltrans will prepare a work plan for the PSI. The findings of the PSI will be used to evaluate soil and groundwater handling practices, construction worker health and safety concerns, and soil and groundwater reuse and disposal options. If hazardous materials are identified during the PSI, additional investigation would be required to their full evaluation. All environmental investigations for the project will be provided to project contractors so the findings can be incorporated into their Health and Safety and Hazard Communication Programs.

Resource	EIR-EA Section	Feature Number	Description
Hazardous Materials	2.3.5	PF-HAZ-02	<p>Anticipated measures include the following as outlined in Caltrans Standard Specifications Section 13-4, Job Site Management and Section 14-11, Hazardous Waste and Contamination:</p> <ul style="list-style-type: none"> • Soils contaminated with aeri ally deposited lead (ADL) exceeding California hazardous waste thresholds will be reused in accordance with the Department of Toxic Substances Control’s 2016 Soil Management Agreement for Aeri ally Deposited Lead-Contaminated Soils. • Lead compliance plans for ADL-contaminated soils and pavement markings containing lead will be prepared in accordance with the Caltrans Standard Special Provisions and implemented by the project construction contractor(s) to ensure compliance with the California Occupational Safety and Health Administration (Cal/OSHA) worker safety regulations. • Groundwater from dewatering of excavations will be stored in Baker tanks during construction activities and characterized to determine the appropriate treatment requirements for discharge and disposal. The extracted groundwater shall be collected and managed for disposal/treatment in compliance with local and state regulations. • All loose and peeling lead-based paint and asbestos-containing material shall be removed by a certified contractor(s) in accordance with local, state, and federal requirements. All other hazardous materials will be removed from structures in accordance with Cal/OSHA regulations. • Asphalt concrete and Portland cement concrete grindings shall be reused in accordance with the San Francisco Bay Regional Water Quality Control Board (RWQCB) guidance to protect water quality or transported off-site for recycling or disposal. • Job site perimeter air monitoring will be required when the project work disturbs regulated lead-contaminated soils. Air monitoring program requirements will be defined in Standard Special Provision 14-11.08 (Regulated Material Containing Aeri ally Deposited Lead), Section 14-11.08F (Air Monitoring). <p>Before any excavation work begins, the contractor will be required to submit a plan for excavating, loading, and transporting contaminated soils, for review and acceptance by the state’s resident engineer, as stated in Standard Special Provision 14-11.08, Regulated Material Containing Aeri ally Deposited Lead, subsection D(3).</p>
Hazardous Materials	2.3.5	PF-HAZ-03	<p>Hazardous Structure Material Surveys. Hazardous Structure Material Surveys would be conducted for asbestos-containing material, lead-based paint, treated-wood waste, and polychlorinated biphenyls.</p>

Resource	EIR-EA Section	Feature Number	Description
Hazardous Materials	2.3.5	PF-HAZ-04	<p>There is a potential for petroleum hydrocarbons, chlorinated hydrocarbons, metals and residual amounts of aerially deposited lead to be present in surface soil and/or shallow groundwater in the project area. Soil and/or groundwater sampling is recommended prior to or during soil excavation activities. The exact sample locations, sampling depths, sample media (soil/groundwater), and constituents analyzed should be selected with all potential identified impacts to the project area in mind to prepare a comprehensive sampling plan. The following measures are recommended:</p> <ul style="list-style-type: none"> • If the project construction excavations will extend to groundwater, groundwater sampling, analysis, and characterization are recommended before the start of construction to investigate safety precautions for construction personnel. Furthermore, treatment and disposal options for extracted groundwater will need to be evaluated prior to any dewatering of excavations due to construction activities. • If suspected petroleum hydrocarbon-impacted soils are encountered during soil excavation activities, soil should be sampled, tested, and characterized for petroleum hydrocarbons. • Additionally, prior to the beginning of, and periodically during any soil excavation work, surface soils should be tested for aerially deposited and subsurface lead to evaluate safety recommendations for construction workers and soil management options. • Any proposed acquisition of property detailed in Section 2.2.5 requires further investigation of soil and/or groundwater, due to the potential for presence of petroleum hydrocarbons, aerially deposited or subsurface lead, and metals. • A qualified and licensed inspector should evaluate and sample the existing building and structures scheduled for demolition for the presence of potential asbestos-containing materials, lead-based paint, and PCBs. • Soil and/or groundwater found to have environmental contaminants should be properly characterized and disposed of at an appropriate facility per applicable regulations. <p>Contractors working at the project site or removing soil materials and/or groundwater from the project area, should be aware of appropriate handling and disposal methods. Elevated levels of the potential contaminants could be present at some locations and, therefore, material moved or removed may require individual or specific testing to verify that concentrations are below any regulatory action limits.</p>

Resource	EIR-EA Section	Feature Number	Description
Noise	2.3.7	PF-NOI-01	<p>Construction Noise. The Caltrans 2018 Standard Specifications, Section 14 8.02, requires that the Maximum Sound Level not exceed 86 A-weighted decibels at 50 feet from the job site, from 9:00 p.m. to 6:00 a.m. Construction noise would not exceed thresholds or Caltrans' standards. Construction noise control measures would be required of the contractor. These include control measures for equipment and operating hours such as:</p> <ul style="list-style-type: none"> • All construction equipment shall conform to Section 14 8.02, Noise Control, of the latest Standard Specifications. • Noise-generating construction activities shall be restricted to between 7:00 a.m. and 7:00 p.m. on weekdays, with no construction occurring on weekends or holidays. If work is necessary outside of these hours, Caltrans shall require the contractor to implement a construction noise monitoring program and provide additional noise controls where practical and feasible. • Pile driving activities shall be limited to daytime hours only. • All internal-combustion-engine-driven equipment shall be equipped with manufacturer-recommended intake and exhaust mufflers that are in good condition and appropriate for the equipment. • Unnecessary idling of internal combustion engines within 100 feet of residences shall be strictly prohibited. • Noise-generating equipment shall be kept as far as practical from sensitive receptors when sensitive receptors adjoin or are near the construction project area. • "Quiet" air compressors and other "quiet" equipment shall be used where such technology exists.
Noise	2.3.7	PF-NOI-02	<p>Construction Vibration. To reduce the potential for vibration impacts resulting from Project construction, the following measures shall be implemented during Project construction.</p> <ul style="list-style-type: none"> • Prohibit impact or vibratory pile driving methods when within the exceedance distances from vibration-sensitive structures as listed in table 2.3.7-2. Drilled piles cause lower vibration levels where geological conditions permit their use. • Performance of a photo and crack monitoring survey for older residential structures and new residential, commercial, or industrial buildings exposed to vibration from impact pile driving located within the exceedance distances given in table 2.3.7-2, based on the determination made as the sensitivity of the structure to damage due to construction vibration. • Conduct a post-survey on structures where complaints of damage occur. Make appropriate repairs where damage has occurred as a result of construction activities. • Designate a person responsible for registering and investigating claims of excessive vibration. The contact information of such person shall be clearly posted on the construction site.

Resource	EIR-EA Section	Feature Number	Description
Water Quality	2.3.2	PF-WQ-01	<p>Water Quality Best Management Practices. The contractor will adhere to the instructions, protocols, and specifications outlined in the most current Caltrans Construction Site Best Management Practices Manual and Caltrans Standard Specifications. At a minimum, protective measures will include the following:</p> <ul style="list-style-type: none"> • The discharging of pollutants from vehicle and equipment cleaning into storm drains or watercourses will be disallowed. • Storing or servicing vehicles and construction equipment including fueling, cleaning and maintenance, will be performed at least 50 feet from aquatic habitat unless separated by a topographic or drainage barrier. • Equipment will be maintained to prevent the leakage of vehicle fluids such as gasoline, oils, or solvents, and a spill response plan will be developed. Hazardous materials such as fuels, oils, or solvents, will be stored in sealable containers in a designated location that is at least 50 feet from aquatic habitats. • Concrete wastes and water from curing operations will be collected and disposed of in appropriate washouts at least 50 feet from watercourses. • Temporary stockpiles will be covered. • Coir rolls or straw wattles will be installed along or at the base of slopes during construction to capture sediment. • Graded areas will be protected from erosion using a combination of silt fences, fiber rolls, and erosion control netting (jute or coir), as appropriate.
Water Quality	2.3.2	PF-WQ-02	<p>Temporary Dewatering Activities. Groundwater extracted from temporary dewatering activities will be managed based on the groundwater quality in the Project area. Clean groundwater could be used for dust control, collected on site using desilting basins and/or tanks prior to discharging to receiving waters, and transported to a publicly owned treatment works. Groundwater depths will be determined during the Plans, Specifications, and Estimates (PS&E) Phase.</p>
Water Quality	2.3.2	PF-WQ-03	<p>Groundwater Treatment. If the Project area contains contaminated groundwater or groundwater that may release contaminated plumes when disturbed, applicable waste discharge requirements or permits would be obtained during the PS&E phase. An active treatment system may also be necessary to treat contaminated groundwater exposed during excavation activities. Dewatering requirements, costs, and design of the active treatment system would be determined during the PS&E phase.</p>

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Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

For the proposed project, the CEQA baseline for all resource areas except traffic, air quality, energy, climate change, and noise is 2021, the year that the Notice of Preparation was filed with the State Clearinghouse (Appendix G). For air quality, energy, and noise, the baseline is 2013-2015, the most recent years for which complete traffic data were available when the traffic studies began in 2015. The air quality, energy, climate change, and noise studies began in 2016, use 2013-2015 traffic data, and this traffic data is forecasted with growth to the study years of 2025 and 2045. This approach was used because traffic volumes in the Peninsula area declined during the pandemic years of 2019-2021, and the earlier data was determined to represent worst-case (higher) volumes for purposes of analysis of traffic and traffic-based studies such as air, noise, and energy. Extrapolating the future traffic conditions to 2025 and 2045 using the pre-pandemic data likewise represents higher volumes in the future, for evaluation of environmental impacts.

The NEPA baseline for comparing environmental impacts is the No Build Alternative.

2.1 Topics Considered but Determined Not to be Relevant

As part of the scoping and environmental analysis carried out for the project, the following environmental issues were considered, but no adverse impacts were identified:

- Coastal Zone
- Wild and Scenic Rivers
- Parks and Recreational Facilities
- Farmlands
- Timberlands
- Plant Species

The project is located in a developed, urban area, primarily on-fill. It is not in a coastal zone and does not contain any wild and scenic rivers, parks or recreation facilities, farmlands, or timberlands. It is nearby the San Francisco Bay, but the proposed project features are not within the BCDP Shoreline Band, and no work is proposed within Colma Creek or its banks, which passes through the project area. As a result, there is no further discussion about these issues in this document.

2.2 Human Environment

2.2.1 Existing and Future Land Use

This section describes the existing and future regional land use in the immediate project area and surrounding vicinity. The following section is based on the *Community Impact Assessment* prepared for the project (AECOM 2020c).

2.2.1.1 Affected Environment

Existing Land Use

The project area is located entirely within the City of South San Francisco in San Mateo County. Existing land use types in the project area include community commercial, business commercial, mixed industrial, open space and parks and recreation. Land uses to the east and west of the project area (east of San Mateo Avenue and west of Colma Creek) are mixed industrial. Land uses to the north and south of the project area (north of South Airport Boulevard/Mitchell and south of Utah Avenue) are business commercial, parks and mixed industrial. The closest residential land use (downtown high density residential) is just west of Airport Boulevard and East Grand Avenue (City of South San Francisco no date). Land within the project area is zoned for freeway commercial, transit office/R&D core, and public/quasi-public uses (City of South San Francisco 2018a).

Businesses that are located in and around the project area include hotels, car rentals, airport parking facilities, restaurants, gas stations, and warehouse facilities. Several are businesses that benefit from close proximity to the San Francisco International Airport (SFO), which is located southeast of the project area.

Colma Creek runs through the project area and crosses under South Airport Boulevard, US 101, and Produce Avenue. The land bordering Colma Creek is designated as recreation (City of South San Francisco 2015a). The City of South San Francisco notes this area has the potential to contain sensitive biological resources, likely in reference to the water way since the creek banks are concrete lined in many areas. The South San Francisco general plan map of planned and proposed parks and open space indicates that no parks are currently planned along the Colma Creek Canal in the project area (City of South San Francisco 2015), although this area includes a planned “other” trail noted on the Bay Trail Plan (San Francisco Bay Trail 2018). The City of South San Francisco has designated this planned trail to use the railway for a potential rails to trails program that would connect to the Bay Trail (Rozzi 2018). The closest existing recreational trail to the project area is the current San Francisco Bay Trail spur that runs west along the San Bruno Canal before heading south along Airport Boulevard.

Development Trends and Future land use in the Project Vicinity

The majority of future projects are located to the north of the project area. Future land use is anticipated to be primarily residential and commercial. Several new apartment complexes are planned. Additionally, two new hotels are planned within a 0.25-mile of the project area. This area has been rapidly expanding due to growth in the life sciences industry (see Section 2.2.3 for a discussion on the growth of this industry). The industrial lands immediately surrounding the proposed project area contain long-standing established businesses. Table 2.2.1-1 is a list of proposed and planned developments within approximately 0.25-mile of the proposed project area.

Table 2.2.1-1 Planned Developments within 0.25-Mile of the Project Area

Name	Address	Distance from Project	Proposed Uses	Status
The Hanover Company Apartments	124 Airport Boulevard and 100 Produce Avenue	0.00 mile	A 7-story residential building with 294 apartments and a 7-story residential building with 186 apartments.	Under Review Construction Date – Listed by City of South San Francisco as to be determined (TBD)
Bella Vista Development Hotel	40 Airport Boulevard	0.00 mile	250 room hotel building with accessory parking structure on a 1.63 acre lot.	Under Review Construction Date – TBD
Essex Property Trust, Inc. Apartments	7 South Liden Avenue	0.12 miles	A 5-story residential building with 445 apartments on a 4.22 acre site.	Under Review Construction Date – TBD
Marriott Fairfield Inn and Suites	127 West Harris Avenue	0.24 miles	5-story Hotel with 128 rooms on a 64,117 SF lot	Currently Under Construction Estimated Completion – Q1, 2021
“150 Airport Boulevard”	150, 178, 190 Airport Boulevard	0.24 mile	5-story residential development consisting of 157 units with a 2-level parking garage.	Currently under construction Estimated Completion – Q4, 2020

Sources: City of South San Francisco 2020a

2.2.1.2 Environmental Consequences

No Build Alternative

The projects described in Table 2.2.1-1 would occur with the No Build Alternative. The No Build Alternative would not impact existing land uses or access to parcels in the project area. The No Build Alternative would not enhance the connection between east and west South San Francisco and would not serve planned development.

Build Alternative

Potential property acquisitions for the Build Alternative are described in Section 2.2.5. Several properties would be affected, including full acquisitions of one restaurant and three commercial warehouses. Additionally, partial acquisitions and permanent easements would be required, that would alter access to adjacent properties. Therefore, the Build Alternative would permanently change the land uses at the following properties where two full acquisitions are necessary (and have been identified in Section 2.2.5):

- IHOP Restaurant, at 316 South Airport Boulevard (east of US 101) (parcel 015-141-260).
- A commercial warehouse that in 2019 contained a moving company and two sports facilities, at 1404, 1416, and 1422 San Mateo Avenue (west of US 101) (parcel 015-114-370).

The land use designations at these two above properties would permanently change from their existing business use to transportation land use where the overcrossing and city street right-of-way is created and/or expanded. Compensation for the acquisition and change would be required as part of the right-of-way phase of the project, as described in Section 2.2.5.

Additional properties described in Section 2.2.5 would have partial acquisitions, which would change the land use designation for the portion of the properties acquired, while the remaining portion of the property retains its existing use. The most substantial partial property acquisitions are at the Travelodge hotel (326 South Airport Boulevard), where acquisition of a portion of the existing Travelodge hotel will remove the property's conference center, pool area, and entrance (compensation would be provided for this acquisition, including for reconstruction of the hotel entrance). Similarly, parking lot spaces would be acquired and compensated at the Travelodge parking lot, the Best Western hotel parking lot (380 South Airport Boulevard), Park 'N Fly lots and entrance (two lots with entrances off Terminal Court), Golden Gate Produce Terminal (131 Terminal Court), PS Business Parks (100 Produce Avenue), Denny's Restaurant (10 South Airport Boulevard), and a business park/office parking lot at 124 South Airport Boulevard.

The Build Alternative would not preclude any of the planned projects listed in Table 2.2.1-1. It would provide enhanced access within this portion of the City of South San Francisco to large trucks and other vehicles destined for the industrial and

commercial uses, in addition to the access at the existing Airport Boulevard undercrossing.

2.2.1.3 Avoidance, Minimization, and/or Mitigation Measures

The changes in land use, specifically the full and partial acquisitions, would require compensation as part of the right-of-way phase of the project. This is described in Section 2.2.5. The land use designations for the full and partial property acquisitions that are used or expanded for the proposed Build Alternative would be changed to a transportation use designation in the City of South San Francisco's General Plan.

2.2.2 Consistency with State, Regional, and Local Plans and Programs

Information from this section is based on the *Community Impact Assessment* prepared for the project (AECOM 2020c).

2.2.2.1 Affected Environment

There are several community, regional, and transportation plans that include the project area. The following types of plans were considered and are discussed below:

- Transportation Plans (Regional/Metropolitan Transportation Plans (RTPs/MTPs) and Regional/Metropolitan Transportation Improvement Programs (RTIPs/MTIPs).
- Regional Growth Plans (if proposed or adopted).
- Habitat Conservation Plans or similar regional conservation plans.
- General, Community, and Airport Plans.
- Climate Change Plans.

Transportation Plans/Programs

This project is included in *Plan Bay Area 2050*, the regional transportation plan (RTP) and sustainable community strategy (SCS) for the nine-county San Francisco Bay Area (Association of Bay Area Governments [ABAG] and Metropolitan Transportation Commission [MTC] 2021; RTP ID 21-T06-027). The RTP lists projects of local and regional importance based on factors such as local support and need, ridership, and potential cost and funding. These factors provide direction on how anticipated federal, state, and local transportation funds will be spent in the Bay Area during the next 29 years. The Produce Avenue Interchange is programmed with several other corridor and interchange projects in San Mateo County (ABAG and MTC 2021b).

The project is also included in the City of South San Francisco's *Fiscal Years 2021-2022 Capital Improvement Program* (US-101 Produce Avenue Interchange [TIF#39]). The *Fiscal Years Capital Improvement Program* is a plan for South San Francisco's infrastructure improvements and expenditures for fiscal years 2021 through 2022.

According to the plan, construction of a new interchange at Produce Avenue and US 101 will “improve access between 101 and Produce Avenue and Airport Boulevard” (City of South San Francisco 2021b).

Regional Growth Plans

Plan Bay Area 2050 also functions as a regional growth plan for the nine-county San Francisco Bay Area (ABAG and MTC 2021b). Plan Bay Area 2050 designates priority development areas (PDAs), which are areas within existing communities that have been identified and approved by a local city or county for future growth because of proximity to transit, jobs, shopping, and other services. Promoting compact development within PDAs is intended to take development pressure off the region’s open space and agricultural lands (ABAG and MTC 2021b).

No PDAs have been designated in the proposed project area. The Downtown South San Francisco PDA is located 0.25-mile northwest of the proposed project area (MTC 2020). This 121-acre planned PDA is focused on connecting transit with the downtown core and includes the Caltrain station, SamTrans, and several shuttles.

Habitat Conservation Plans

The *San Bruno Mountain Habitat Conservation Plan* is in effect near the project area. However, the area covered by this plan does not extend to the project area. Additionally, no Natural Community Conservation Plans overlap with the proposed project area (California Department of Fish and Wildlife 2017).

The McAteer-Petri’s Act created the Bay BCDC to regulate landfill and development within the San Francisco Bay portion of the California coastal zone. Fill and dredge of the Bay or project construction within 100-feet inland from the Bay requires a permit and review by BCDC. This jurisdiction includes tidal waters and wetlands. BCDC jurisdiction has been preliminarily mapped on Colma Creek to extend from the South Airport Boulevard bridge crossing east to the San Francisco Bay. The Build Alternative does not propose any work within Colma Creek, and all proposed improvements are west of the South Airport Boulevard bridge.

General Plans and Related Plans

The following planning documents address the study area:

- ***South San Francisco General Plan***. The South San Francisco General Plan Transportation Element, amended and adopted in 2014, includes policies and programs to enhance “capacity and circulation” throughout the city by addressing future improvements, including improvements to alternative modes of transportation such as bicycling and walking. The plan area encompasses the entire project area. The South San Francisco General Plan contains the following goals and policies that relate to the proposed project (City of South San Francisco 2014a):

Policy 4.2-G-1: Undertake efforts to enhance transportation capacity, especially in growth and emerging employment areas such as in the East of 101 area.

Policy 4.2-G-2: Improve connections between different parts of the city. These would help integrate different parts of the city. Connections between areas west and east of US 101 (currently limited to streets that provide freeway access) would also free-up capacity along streets such as Grand Avenue and Oyster Point Boulevard that provide access to US 101.

Policy 4.2-G-13: Strive to maintain LOS D or better on arterial and collector streets, at all intersections, and on principal arterials in the congestion management plan during peak hours.

Policy 4.2-I-6: Incorporate as part of the City's Capital Improvement Program needed intersection and roadway improvements to enhance mobility in the East of 101 area. These improvements shall include consideration of bike lanes and pedestrian routes.

Policy 4.3-G-1: Develop a comprehensive and integrated system of bikeways that promote bicycle riding for transportation and recreation.

- **South San Francisco East of 101 Area Plan.** The South San Francisco East of 101 Area Plan, adopted in 1994, covers approximately 1,700 acres of land in the area east of US 101 from the City's northern to southern borders. The plan is intended to provide policies and guidelines to regulate development in the area in a way that protects the area's existing physical, economic, and natural resources. The plan area encompasses part of the project area and the areas immediately adjacent of the project area to the east. The South San Francisco East of 101 Area Plan contains the following goals and policies that relate to the project (City of South San Francisco 1994):

Policy 2.2: Maintain acceptable levels of transportation systems by achieving an appropriate balance between system improvements and development transportation demands.

Policy 2.5: Encourage and support transportation modes other than single-occupancy automobiles including ridesharing, bicycling, walking and transit.

- **South San Francisco Bicycle Master Plan.** The South San Francisco Bicycle Master Plan was adopted in 2011 and promotes bicycle riding throughout the City for transportation and recreation. The Plan identifies the proposed project as accommodating future growth. The Plan recommends maintaining the existing bicycle facilities in the proposed project area including the Class II Bike Lanes and Class III Bike Routes along Airport Boulevard, San Mateo Avenue, and Utah Avenue. It also proposes adding Class II Bike Lanes to South Airport Boulevard from Mitchell Avenue to SFO (City of South San Francisco 2011).

- **South San Francisco Pedestrian Master Plan.** The South San Francisco Pedestrian Master Plan promotes walkable community for all residents. The South San Francisco Pedestrian Master Plan notes that in the proposed project area, US 101 is a major barrier between this area and the rest of the City; limited pedestrian access points exist across the highway. In addition, Utah Avenue has been identified in the Citywide pedestrian inventory as missing sidewalks, tactile domes, and crosswalks. The Plan identifies the goal of filling sidewalk gaps and upgrading sidewalks to be compliant with the Americans with Disabilities Act. Utah Avenue has been designated as a Second Priority area for improvement to pedestrian facilities. The South Airport Boulevard and US 101 off-ramp project (the Build Alternative) has been designated as a first tier prioritization project by the Plan.

The plan contains the following policy related to the project (City of South San Francisco 2013):

Policy 3.1: The city shall expand the existing pedestrian network and improve access throughout the community with a special emphasis on connections to places of work, transit, commercial centers and community amenities and on ADA accessibility.

- **Comprehensive Airport Land Use Compatibility Plan for the Environs of the San Francisco International Airport.** Adopted in 2012, the plan includes the proposed project area in the airport influence area. General plans, specific plans, and zoning ordinances are required to be compliant with the airport plan (RI Condo & Associates, Inc. 2012).

Climate Action Plans

City of South San Francisco Climate Action Plan. The Climate Action Plan, adopted in 2014, provides goals, policies, and programs to reduce greenhouse gas emissions, adapt to climate change, and support the goals of Assembly Bill 32 and Senate Bill 375. The Plan notes that transportation is the second-largest emitter of greenhouse gases in the City, behind energy consumption. The plan contains the following goals and policies related to the proposed project (City of South San Francisco 2014b):

- Measure 1.1: Expand active transportation alternatives by providing infrastructure and enhanced connectivity for bicycle and pedestrian access.

2.2.2.2 Environmental Consequences

The proposed project is included in the most recent RTP prepared by ABAG and MTC, Plan Bay Area 2050. The project is a priority highway and arterial improvement project. It is also included in the City of South San Francisco's Fiscal Years 2020-2021 Capital Improvement Program.

Table 2.2.2-1 summarizes the consistency of the No Build and the Build Alternative with applicable local plan policies.

Table 2.2.2-1 Project Consistency with Plans

Plan	Policy	No Build Alternative	Build Alternative
San Bruno Mountain Habitat Conservation Plan	N/A	No Change. This alternative would not impart any changes that would implicate the conservation plan.	Consistent. The Build Alternative area is well outside of the plan area.
South San Francisco General Plan	Policy 4.2-G-1. Undertake efforts to enhance transportation capacity, especially in growth and emerging employment areas such as in the East of 101 area	No Change. This alternative would not enhance transportation capacity in the East of 101 area.	Consistent. This alternative would improve transportation connections in the East of 101 area.
South San Francisco General Plan	Policy 4.2-G-2. Improve connections between different parts of the city. These would help integrate different parts of the city. Connections between areas west and east of US 101 (currently limited to streets that provide freeway access) would also free-up capacity along streets such as Grand Avenue and Oyster Point Boulevard that provide access to US 101.	No Change. This alternative would not provide additional connection between different parts of the city.	Consistent. This alternative would connect the east and west neighborhoods across US 101 via an extension of Utah Avenue over US 101 to connect with San Mateo Avenue.
South San Francisco General Plan	Policy 4.2-G-13. Strive to maintain LOS D or better on arterial and collector streets, at all intersections, and on principal arterials in the congestion management plan during peak hours.	Inconsistent. As shown in Section 2.2.8, several intersections are anticipated to operate at LOS D or worse by 2045 with the No Build Alternative.	Partially Consistent. This alternative would improve some intersection performance relative to the No Build Alternative, but there will remain some intersections that do not operate at LOS D or better. Although some intersections are measurably improved, there are intersections where traffic increases at turning movements will degrade LOS. Overall, the improvements to intersections are considered beneficial.

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Plan	Policy	No Build Alternative	Build Alternative
South San Francisco General Plan	Policy 4.2-I-6. Incorporate as part of the City's Capital Improvement Program needed intersection and roadway improvements to enhance mobility in the East of 101 Area. These improvements shall include consideration of bike lanes and pedestrian routes.	No Change. This alternative would not involve intersection and roadway improvements to the East of 101 area to enhance mobility.	Consistent. This alternative would implement a project included in the Capital Improvement Program and includes enhancements to bike and pedestrian facilities.
South San Francisco General Plan	Policy 4.3-G-1. Develop a comprehensive and integrated system of bikeways that promote bicycle riding for transportation and recreation.	No Change. This alternative would not provide for additional bike lanes.	Consistent. This alternative would provide Class II bike lanes on the Utah Avenue overcrossing. It would connect the existing Class III bike route on Utah Avenue and San Mateo Avenue as well as build a portion of the proposed Class II bike lane on South Airport Boulevard.
South San Francisco East of 101 Area Plan	Policy 2.2. Maintain acceptable levels of transportation systems by achieving an appropriate balance between system improvements and development transportation demands.	No Change. This alternative would not make any transportation improvements and would not accommodate traffic from proposed development in the area east of US 101.	Consistent. This alternative would provide transportation system connections to address circulation issues and accommodate traffic from proposed developments in the area east of US 101.
South San Francisco East of 101 Area Plan	Policy 2.5. Encourage and support transportation modes other than single-occupancy automobiles including ridesharing, bicycling, walking and transit.	No Change. This alternative would not support alternative transportation modes.	Consistent. This alternative would provide Class II bike lanes on the Utah Avenue overcrossing. It would connect the existing Class III bike route on Utah Avenue and San Mateo Avenue as well as build a portion of the proposed Class II bike lane on South Airport Boulevard.

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Plan	Policy	No Build Alternative	Build Alternative
South San Francisco Bicycle Master Plan	Maintain existing facilities and support the creation of additional facilities.	No Change. This alternative would maintain existing facilities but would not support the development of planned facilities.	Consistent. This alternative would maintain existing facilities and build portions of the planned facility along South Airport Boulevard. It would also connect the existing Class III bike route on Utah Avenue and San Mateo Avenue as well as build a portion of the proposed Class II bike lane on South Airport Boulevard.
South San Francisco Pedestrian Master Plan	Policy 3.1. The city shall expand the existing pedestrian network and improve access throughout the community with a special emphasis on connections to places of work, transit, commercial centers and community amenities and on ADA accessibility.	No Change. This alternative would not expand the existing pedestrian network.	Consistent. This alternative would expand the existing pedestrian network by filling existing gaps and upgrading sidewalks, crosswalks, and curbs to ADA standards. It includes the second tier priority of Utah Avenue and the first tier priority of South Airport Boulevard.
Comprehensive Airport Land Use Compatibility Plan for the Environs of the San Francisco International Airport	N/A	Consistent. This alternative would not alter existing land use in a way that would conflict with the airport plan.	Consistent. This alternative would not alter existing land use in a way that would conflict with the airport plan.
City of South San Francisco Climate Action Plan	Measure 1.1. Expand active transportation alternatives by providing infrastructure and enhanced connectivity for bicycle and pedestrian access.	No Change. This alternative would not provide any additional infrastructure and enhanced connectivity for bicycle and pedestrian access.	Consistent. This alternative would provide additional ADA compliant sidewalks, crosswalks, and curbs as well as Class II bike lanes to connect existing bicycle facilities.

2.2.2.3 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation is required.

2.2.3 Growth

2.2.3.1 Regulatory Setting

The Council on Environmental Quality (CEQ) regulations, which established the steps necessary to comply with the National Environmental Policy Act (NEPA) of 1969, require evaluation of the potential environmental effects of all proposed federal activities and programs. This provision includes a requirement to examine indirect effects, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations (40 Code of Federal Regulations [CFR] 1508.8) refer to these consequences as indirect impacts. Indirect impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

The California Environmental Quality Act (CEQA) also requires the analysis of a project's potential to induce growth. The CEQA Guidelines (Section 15126.2[d]) require that environmental documents "...discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment..."

2.2.3.2 Affected Environment

The information in this section is based on the *Community Impact Assessment* prepared for the project (AECOM 2020c).

The project area is located in South San Francisco in an area of commercial and industrial land uses. The project area does not contain residential housing but does include visitor hotel land uses. South San Francisco grew 5 percent between the 2000 and 2010 decennial censuses (US Census 2000, 2010). From 2015 through 2050, households and jobs in the North San Mateo County Super District (including the City of South San Francisco) are expected to increase by 70 and 44 percent, respectively (ABAG and MTC 2021a). The City's General Plan anticipates that the highest growth rates for employment will be associated with high-technology and research and development (R&D) and to a great extent hotel and visitor services (City of South San Francisco 1999).

The City's General Plan forecasts that demand for all land uses will exceed existing supply with full build-out of the General Plan, necessitating the redevelopment and intensification of land uses. The General Plan allows for non-residential floor space to increase by about 30 percent; however employment could increase by as much as 80 percent or 32,500 additional jobs. A great majority of these new jobs are anticipated to be in the services sector, in R&D establishments, and in the hotel/visitor services industry. Major sites targeted for employment growth are located in the life sciences

business cluster in the east of US 101 area and in the industrial area of the Lindenville neighborhood, both of which are considered unsuitable for residential uses (City of South San Francisco 1999).

Section 2.1.1 lists the developments that are planned within 0.25-mile of the project area. It includes hotels and residential apartment units. These developments are planned for areas north of the project area.

2.2.3.3 Environmental Consequences

No Build Alternative

The No Build Alternative would maintain the existing transportation facilities at Produce Avenue. It would not contribute to or respond to the planned growth in and around the proposed project area.

Build Alternative

The Build Alternative proposes to provide a local east-west connection across US 101 for the southern neighborhoods of the City and modify three intersections to have increased capacity for vehicles: Airport Boulevard/Produce Avenue, San Mateo Avenue/Utah Avenue, and South Airport Boulevard/Utah Avenue. Utah Avenue would be extended westerly over US 101 to connect with San Mateo Avenue. Ultimately, under the City's General Plan, Utah Avenue Extension would connect with Victory Avenue to the west, but that extension is not funded or proposed.

The Build Alternative would change access to several business properties but would not provide any access to previously inaccessible parcels or remove access to any properties. The Build Alternative would facilitate the movement of trucks bound for the industrial and warehouse properties west of US 101 and the freeway. It would allow trucks to use the overcrossing and reserve the South Airport Boulevard undercrossing for passenger cars and trucks. It would also provide a direct bicycle and pedestrian connection from the residential core west of US 101 to the businesses, visitor services, and bay recreation east of US 101.

The Build Alternative would require changes to the land use designations at the properties that cannot be avoided and would be acquired to build the proposed overcrossing. These properties are the IHOP restaurant and a commercial warehouse that serves a moving company and two private sports facilities. Whether the general plan designations change would depend on whether the remaining land at these sites can be resold for other business uses. This would be determined during the relocation and property acquisition phase of the project. This change is not considered a growth inducing impact. The Build Alternative does not contain elements that would influence the type or location of growth beyond what is already planned.

2.2.3.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation is required.

2.2.4 Community Character and Cohesion

2.2.4.1 Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, established that the federal government use all practicable means to ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). The Federal Highway Administration (FHWA) in its implementation of NEPA (23 USC 109[h]) directs that final decisions on projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

Under the California Environmental Quality Act (CEQA), an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Because this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

2.2.4.2 Affected Environment

The information in this section is based on the *Community Impact Assessment* prepared for the project (AECOM 2020c).

The project area is primarily industrial and commercial, and there are no senior centers, schools or medical centers located in or near the project area. The South San Francisco Conference Center (operated by the South San Francisco Conference Center Authority) is located near the project, but would not be affected. The Travelodge is privately operated but also provides conference facilities that are available for rent. The Travelodge conference room area would be unavoidably acquired as a result of the project.

Population and Housing

All project features are in San Mateo County, in South San Francisco, and in Census Tract 6023. The Census Tract includes the project features as well as land east to the San Francisco Bay, west to El Camino Real (SR 82), north past Oyster Point Boulevard, and south to Interstate 380. It contains just 4,167 people or 6.1 percent of the population of the City of South San Francisco, which was estimated to have a population of 67,294. Most of the housing units in the Census Tract are west of Spruce Avenue, west of the project area. The rest of the Census Tract is primarily industrial and commercial land uses (US Census Bureau 2018).

Minority groups¹ represent greater than 50 percent of the population in Census Tract 6023 and South San Francisco. In contrast, San Mateo County has a majority of white

¹ Minority is the sum of Black, Native American, Asian, Native Hawaiian, or Other Pacific Islander populations.

individuals (US Census Bureau, 2018). Table 2.2.4-1 illustrates the racial profile of the US Census Tract 6023, City and County. See Section 2.2.6 below for a detailed breakdown of race, ethnicity, and poverty status in the project area.

Table 2.2.4-1 Racial Profile by Geographic Area

Race	US Census Tract 6023	South San Francisco	San Mateo County
White	32.1%	34.8%	58.5%
Minority	67.9%	65.2%	41.5%

U.S. Census Bureau, 2018. ACS 5-year estimates data.

As shown in Table 2.2.4-2, the Census Tract, City, and County all have a similar age distribution, with the median age being approximately 39 years old. The County has a higher percentage of the population that attained a bachelor’s degree (34.7 percent), opposed to the Census Tract (19.3 percent) and City (13.3 percent). However, the City has a higher per capita income than the Census Tract and County (US Census Bureau 2018).

Table 2.2.4-2 Age, Education and Income by Geographic Area

Geographic Area	Median Age	Mean Income Per Capita	Education (Bachelor’s Degree)
US Census Tract 6023	39.6	\$47,721	19.3%
South San Francisco	40	\$82,320	13.3%
San Mateo County	39.6	\$71,780	34.7%

U.S. Census Bureau, 2018. ACS 5-year estimates data.

There are 1,136 total household units in the Census Tract. The majority of households are primarily composed of family households (78.6%). Similarly, the City and County are primarily composed of family households (75.3% and 71.5%, respectively). The Census Tract, City and County have similar size households of approximately three people per household (US Census Bureau 2018). Table 2.2.4-3 illustrates household size and composition by geographic area.

Table 2.2.4-3 Household Size and Composition by Geographic Area

Geographic Area	Total Household Units	Average Household Size	Composition (Family Households)
US Census Tract 6023	1,136	3.54	78.6%
South San Francisco	21,083	3.16	75.3%
San Mateo County	276,444	2.89	71.5%

U.S. Census Bureau, 2018. ACS 5-year estimates data.

Economic Conditions

Regional Economy

The City of South San Francisco contains residential areas and a downtown core west of US 101, industrial areas in the Lindenville neighborhood west of US 101 and east of Colma Creek, airport support services (i.e. hotels, restaurants, and distribution businesses) adjacent to US 101 south of Mitchell Avenue, and life sciences (i.e. biotechnical, pharmaceutical, biomedical) companies north of Colma Creek through Oyster Point.

The economy in City of South San Francisco employed 35,247 people in 2016. The largest industries in South San Francisco are Healthcare and Social Assistance (5,378), Retail Trade (3,788), and Accommodation and Food Service (3,461), and Professional, Scientific, Tech (3,461; South San Francisco 2018c). Some of the City's largest employers are Genentech, Costco, Life Technologies Corporation, Amgen San Francisco, Successfactors, ZS Associates, American ETC/Royal Laundry, SBM Site Services, Tobi.com, and Holiday Inn (City of South San Francisco 2017b). The mean travel time to work is 28.6 minutes (US Census Bureau 2019).

Employment and Income

Of the 4,167 people in the Census Tract 6023, 63.5 percent are employed in the civilian labor force above age 16 (Table 2.2.4-4). The City and County have similar percentages of people employed in the civilian labor force at 68 percent and 68.8 percent, respectively. Census Tract 6023 has a mean household income of \$109,844 and 9.4 percent of the population living in poverty and 4.1 percent of the population unemployed. The County has a mean household income of \$113,776 and 7 percent of the population living in poverty and 4.1 percent of the population unemployed. The City has a higher mean household income (\$120,721) and lower unemployment rate (3.1%) and poverty rate (6.1 percent) than the US Census Tract 6023 and County (US Census Bureau 2018).

Table 2.2.4-4 Economic Conditions by Geographic Area

Geographic Area	Mean Household Income	Labor Force	Poverty Status
US Census Tract 6023	\$109,844	63.5%	9.2%
South San Francisco	\$120,721	68%	6.1%
San Mateo County	\$113,776	68.8%	7.0%

U.S. Census Bureau, 2018. ACS 5-year estimates data.

Business Activity

The project area contains businesses that are dependent upon their close proximity to the San Francisco International Airport and US 101. The project area contains airport parking lots, hotels, multiple restaurants, business parks/office and commercial warehouses. Some commercial businesses in the project area include McCune Audio, Video, Lighting; IHOP restaurant; Travelodge hotel; Best Western hotel and a Denny's

Restaurant. Many businesses in the project area are members of the South San Francisco Chamber of Commerce (South San Francisco Chamber of Commerce 2018).

2.2.4.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not affect the distribution of existing or planned housing, nor the economic conditions of the project area. There is no housing in the proposed project area, and economic activity and employment would not be changed.

Build Alternative

The Build Alternative would change the distribution of existing or planned housing. There is no housing in the proposed project area. The project would not physically divide a residential community or affect residential community cohesion.

Economic Conditions

Regional Economy

The Build Alternative would impact specific businesses at the project location (see Business Activity, below). At a regional level, economic demand and growth in the project area is strong and expected to continue to expand, based on the continued proposed development projects. Specific businesses have the potential to be affected by the Build Alternative, but the industries and housing projections for the region would not be affected.

Employment and Income

The Build Alternative would require right-of-way changes (as described in Section 4.4) and would require the acquisition of business properties. Specifically, the Build Alternative requires the closures of an IHOP location (a restaurant), and a multiuse building that has three business tenants occupied in 2020 by Bay Badminton Center (a badminton club), SF Elite (a volleyball club), and Golden Gate Moving Company (a moving and storage company). The design of the project cannot avoid the acquisition of these properties due to the need to connect Utah Avenue between both sides of US 101. The IHOP location employs approximately 20 or more people (Owler 2018, IHOP 2018). The sports clubs and moving company employees at these locations is unknown. The partial acquisition at the Park 'N Fly lots (a provide SF Airport remote parking service) will affect a portion of the work force at this location. The partial acquisition at the Travelodge hotel will affect employees associated with the conference facility. These companies would be eligible for relocation compensation for the affected businesses. This is an adverse impact.

Business Activity

As noted above, the Build Alternative would require right-of-way changes (as described in Section 4.4) and would require partial property acquisitions from

businesses including two full acquisitions, and permanent easements. All property owners will be compensated for businesses losses in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. The Build Alternative has the potential to result in fewer businesses in the proposed project area in the short-term if they choose or are unable to relocate within the immediate area. In the long-term, given that demand for property is greater than supply, it is expected that all property in the project area would be used for the highest economic gain, and business activity in the proposed project area would remain robust.

The Build Alternative would require construction near the South San Francisco Conference Center but would not impact business activities at that facility.

Private facilities and businesses that serve the community and regional area that would be impacted are (refer also to Table 2.2.5-1):

- **Travelodge:** The private conference room area, pool area, and entrance to the Travelodge would be acquired; the entrance facility would require compensation and redesign in order to restore its function within the remaining parcel. Although existing rooms at this hotel are not directly impacted or removed, the number of rooms may be affected if the hotel property is reconfigured to accommodate reconstructed entrance, pool, and conference area facilities. The extent of these compensatory changes would be determined by the hotel owner and Caltrans during right-of-way acquisition.
- **Park 'N Fly:** A portion of the Park 'N Fly lots would be acquired to accommodate the overcrossing, the entrance facilities would be impacted requiring reconfiguration within the property, and the project would require temporary construction easements within the parking area that would temporarily impact the number of parking stalls and the revenue associated with those parking stalls. Once the Utah Avenue overcrossing is constructed, the remaining parking area (reduced in area/reduced parking number of parking stalls) beneath the structure would be accessible for continued use for airport parking and shuttle services.
- **Bay Badminton Center, SF Elite, and Golden Gate Moving Company:** The building housing these three businesses would be fully acquired and removed (unless during right-of-way acquisition and final design a portion of the building can be retained). These three businesses and property owners would have to relocate and would be eligible for relocation assistance and compensation, which would be fully determined during right-of-acquisition.
- **IHOP Restaurant:** This restaurant would be acquired and removed, and no longer serve the local or regional community. The owner and business would be eligible for relocation assistance and compensation.

Table 2.2.5-1 Potential Full Acquisitions, Partial Acquisitions, Temporary Construction Easements of the Build Alternative

Assessor's Parcel Number (APN)	Parcel Address/Location	Name and Type of Business	Project Feature	Impact Type	Potential Impact to Existing Use
015-145-050	101 Utah Avenue (east of US 101)	McCune Audio, Video, Lighting	New driveway from Utah Avenue	Temporary Construction Easement (TCE) during construction	Driveway used for truck access would be impacted for a short period during construction. Two parking spaces would be permanently removed, and three parking spaces would be temporarily impacted.
015-142-080	100 Utah Avenue (east of US 101)	Clothing warehouse, with front office space	New walkway	TCE during construction	Pedestrian walkway off Utah Avenue would be impacted for a short period during construction. Driveway access from Utah Avenue and South Airport Boulevard would be impacted for a short period during construction.
015-141-260	316 South Airport Boulevard (east of US 101)	IHOP restaurant	New Utah Avenue Overcrossing	Full Property Acquisition, Temporary Construction	Restaurant acquired/purchased, and removed. Remainder of lot will become TCE.
015-141-030	326 South Airport Boulevard (east of US 101)	Travelodge hotel conference center and pool area	New Utah Avenue Overcrossing	Partial Property Acquisition, TCE during construction	Travelodge conference center, entrance plaza, and swimming pool would be removed for construction of southern overcrossing abutment and elevated roadway.
015-141-999 (PG&E SBE 135-141-050)	326 South Airport Boulevard (east of US 101)	Travelodge parking lot (beneath PG&E overhead lines)	New roadway between South Airport Boulevard to Travelodge Airport Hotel	Partial Property Easement, TCE during construction	Approximately 41 parking spaces in front of Travelodge would be permanently removed (for relocated entrance to the hotel).

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Assessor's Parcel Number (APN)	Parcel Address/Location	Name and Type of Business	Project Feature	Impact Type	Potential Impact to Existing Use
015-141-999 (PG&E SBE 135-141-050)	326 South Airport Boulevard	Travelodge parking lot (beneath PG&E overhead lines)	New Utah Avenue Overcrossing	Partial Property Easement, Temporary Construction	Approximately 10 parking spaces in front of Travelodge would be permanently removed.
015-141-222	380 South Airport Boulevard (east of US 101)	Best Western hotel parking lot	New roadway between South Airport Boulevard to Travelodge Airport Hotel	Partial Property Acquisition, TCE during construction	Approximately 2 parking spaces from north end of Best Western parking lot would be permanently removed (for relocated entrance driveway to Travelodge).
015-113-044	No Address (west of US 101, between 1416 San Mateo Avenue and Park 'N Fly lot)	Kinder Morgan oil pipeline	New Utah Avenue Overcrossing	Permanent Easement, and TCE during construction.	Easement needed to allow for Utah Avenue extension on fill. Protect existing oil pipeline during construction.
015-113-350 015-113-290 015-113-340 015-113-330	Entrance at 160 Terminal Court (west of US 101)	Park 'N Fly Airport Parking Lot (north of Terminal Court)	New Utah Avenue overcrossing	Partial Property Acquisition, TCE during construction, Aerial Easement	Two parking spaces permanently removed due to proposed bridge columns and 14 parking spaces temporarily impacted. Partial ROW take. 96 parking spaces permanently removed and 60 parking spaces would be temporarily impacted. (156 total among 015-113-290, 015-113-330, and 015-113-340). Partial ROW take.
015-113-210	131 Terminal Court (west of US 101)	Golden Gate Produce Terminal	New Utah Avenue overcrossing	Partial Property Acquisition, TCE during construction, Aerial Easement	Three parking spaces permanently removed for proposed bridge columns and Twenty-one parking spaces would be temporarily impacted. Partial ROW take.

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Assessor's Parcel Number (APN)	Parcel Address/Location	Name and Type of Business	Project Feature	Impact Type	Potential Impact to Existing Use
015-114-370	1404, 1416, 1422 San Mateo Avenue (west of US 101)	Commercial Warehouse (Moving Company/Sports Facilities)	New Utah Avenue overcrossing	Full Property Acquisition	The building would be removed to allow for Utah Avenue extension. This building currently contains Bay Badminton Center, SF Elite, and Golden Gate Moving Company.
015-113-240	Entrance on Terminal Court (west of US 101)	Park 'N Fly Airport Parking Lot (south of Terminal Court)	New Utah Avenue overcrossing	Partial Property Acquisition, Aerial Easement, TCE during construction	Approximately three parking spaces would be temporarily impacted. Entrance plaza would be temporarily impacted. Partial ROW take.
015-113-380	100 Produce Avenue (west of US 101)	PS Business Parks	Widen San Mateo Avenue	Partial Property Acquisition, TCE during construction	Six parking spaces would be permanently removed. Ten parking spaces would be temporarily impacted. Landscaping would be removed and replaced. Partial ROW take.
015-126-050	10 South Airport Boulevard (west of US 101)	Denny's Restaurant	Widen South Airport Boulevard	Partial Property Acquisition, TCE during construction	Two parking spaces adjacent to South Airport Boulevard would be temporarily impacted. Some existing trees would be removed and replaced. Partial ROW take.
015-113-180	124 South Airport Boulevard (west of US 101)	Business Park/Office	Widen South Airport Boulevard and San Mateo Avenue	Partial Property Acquisition, TCE during construction	Approximately fifteen parking spaces would be temporarily impacted. Landscaping would be removed and replaced. Partial ROW take.

- Golden Gate Produce Terminal: This business should be able to maintain full operations during and after construction. Temporary impacts near the entrance will occur to allow for installation of the overcrossing piers and overhead crossing structure. After construction is completed, the Utah Avenue overcrossing would be above the entrance area on Terminal Court, and access to this facility will remain from Terminal Court.
- Permanent and temporary impacts to business entrances, landscaping, and private parking: Business at the intersections of South Airport Boulevard/Utah Avenue, and at South Airport Boulevard/San Mateo Avenue/Produce Avenue would be affected by the reconfiguration of these intersections. The South Airport Boulevard/Utah Avenue intersection will have new turning lanes, and the elevation of this intersection will be slightly raised, to accommodate the new connection to the Utah Avenue overcrossing. The intersection at South Airport Boulevard/San Mateo Avenue/Produce Avenue will require reconfiguration to accommodate turning lanes. This would require changes to the private business driveways, sidewalks, and landscaping that are adjacent to these intersections. The affected businesses will be able to remain open during and after construction, although access at the driveways during construction may require temporary changes or realignments.

2.2.4.4 Avoidance, Minimization, and/or Mitigation Measures

Population and Housing

The Build Alternative would include features that would minimize community impacts, and potentially enhance community character. These beneficial features include new pedestrian and bicycle facilities, such as the sidewalks and bicycle paths on the proposed overcrossing structure.

Economic Conditions

Any business that moves from real property, moves personal property from real property as a result of the acquisition of the real property, or is required to relocate as a result of a written notice from Caltrans from the real property required for a transportation project is eligible for relocation assistance. All activities will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources shall be available to the displaced in compliance with Title VI and State statute, after eligibility has been determined.

2.2.5 Relocations and Real Property Acquisition

2.2.5.1 Regulatory Setting

The Department's Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of the RAP is to ensure that persons and businesses displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. See Appendix C for a summary of the RAP.

All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 United States Code [USC] 2000d, et seq.). Please see Appendix B for a copy of the Department's Title VI Policy Statement.

2.2.5.2 Affected Environment

The information in this section is based on the *Community Impact Assessment* prepared for the project (AECOM 2020c).

No residential parcels would be acquired or used for temporary construction access or staging for the project. However, several nearby business properties would be impacted by this project and cannot be avoided. Partial and full takes would be required, as well as temporary construction and permanent easements, and compensation would be provided in accordance with the State's relocation assistance and property acquisition policies.

West of US 101, the new overcrossing would require acquisition and removal of a warehouse building off San Mateo Avenue that currently houses three businesses (two sports-related businesses and a moving company). Partial acquisition, aerial easements, and temporary construction easements would be necessary at the Golden Gate Produce Terminal, and the Park 'N Fly airport parking lots that are accessed from Terminal Court and Produce Avenue. A permanent utility easement and temporary construction easement would be needed at the Kinder Morgan pipeline crossing that is located underground between the warehouse off San Mateo Avenue and the west side of the Park 'N Fly lot.

On the east side of US 101, the new overcrossing would require acquisition and demolition of several buildings accessed from South Airport Boulevard. The IHOP restaurant would require acquisition and removal. The northern most buildings at the Travelodge would be impacted and partial acquisition of this property required. This acquisition would impact (require removal of) the hotel reception area, the outdoor pool facility, and the hotel's meeting and conference center buildings. The remainder of the Travelodge facility would not be impacted, and the entrance facilities would be reconstructed. The new entrance road would require partial acquisition of the parking lot area to provide the new driveway to the property from South Airport Boulevard.

The intersection at South Airport Boulevard and Utah Avenue would be reconstructed. This would require partial acquisition and temporary easements at portions of the parking and landscaped areas at this intersection. The intersection at Airport Boulevard/San Mateo Avenue/Produce Avenue would also be reconstructed. This would include widening of a portion of San Mateo Avenue and South Airport Boulevard and partial acquisition and temporary easements at the parking and landscaped areas. Parking along the section of San Mateo Avenue that is restriped for an additional lane would preclude on-street parking. This removal of street parking is discussed in Section 2.2.8.3.

See Appendix C for a summary of relocation benefits, as detailed by the Department's RAP.

2.2.5.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not require changes to properties in the proposed project area.

Build Alternative

The Build Alternative would require the full acquisition of two parcels and partial acquisitions from industrial and commercial properties. Adverse impacts as a result of relocations and property acquisition are anticipated, and compensation and relocation assistance would be provided correspondingly, as described below. Throughout the project area, TCEs would be needed for construction access and staging. No residential properties would be affected. The potentially affected properties are listed in Table 2.2.5-1 and depicted in Figure 2.2.5-1. Descriptions of potential project impacts are listed below.

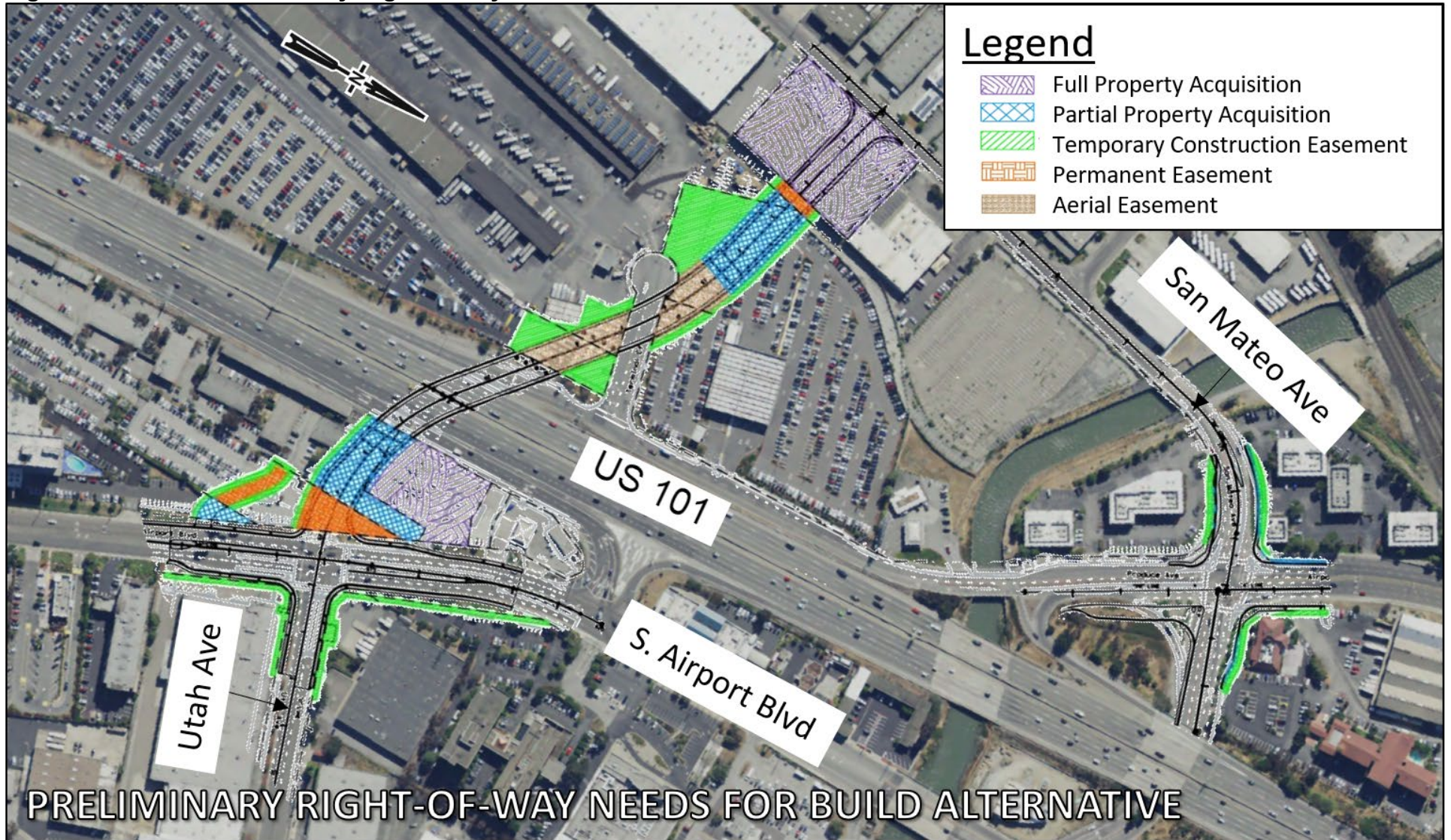
At this preliminary stage of project design, the Build Alternative is anticipated to require two full property acquisitions; partial property acquisitions from 10 properties; 14 temporary construction easements to accommodate new walkways, new overcrossing, roadway widening, and new driveway; one permanent easement (at an underground pipeline); and three aerial easements (to allow raising of overhead powerlines). All property owners and tenants will be made aware of any potential impacts to businesses and all businesses not being acquired would be able to remain open during project construction. The actual impacts to properties will be determined during the project's final design phase.

Partial Property Acquisitions

Some businesses may experience loss of revenue due to the full or partial property acquisitions. An example of such loss includes public parking lots that may lose a portion of their parking spaces due to partial property acquisition. Parking spaces at Travelodge Hotel; Best Western; McCune Audio, Video, Lighting; Park 'N Fly Airport Parking Lot; Golden Gate Produce Terminal; and PS Business Park will be permanently lost. The Travelodge hotel at 326 South Airport Boulevard would lose property amenities consisting of their swimming pool and conference center as a result of the overcrossing.

According to the "Your Property, Your Transportation Project Booklet," when only a part of a property is needed for a project, every reasonable effort is made to ensure that the owner does not suffer damages to the remainder of your property (Caltrans 2008). The total payment for the property that is actually purchased and for any loss in market value to the remaining property. Each property will be evaluated independently by the project right-of-way staff during final design and property owners will have the opportunity to coordinate with Caltrans and/or the City of South San Francisco to determine the value of the property impacts. Therefore, partial property acquisitions are not anticipated to create a hardship for property owners in the proposed project area.

Figure 2.2.5-1 Preliminary Right-of-way Needs for Build Alternative



Full Property Acquisitions

Full property acquisitions will be required for two properties to accommodate the new Utah Avenue overcrossing. The IHOP (APN #015-141-260) located at 316 Airport Boulevard would be acquired, purchased, and removed. Additionally, a commercial building (APN #015-114-340) at 1404, 1416, 1422 San Mateo Avenue would be acquired, purchased, and removed.

There are properties available in the area that are similar to those that would be acquired with the Build Alternative—this will minimize the impact to property owners. San Mateo County has three properties for sale that are suitable for restaurant retail uses, as well as nine warehouses (LoopNet 2021). Suitable relocation properties are available in the county and the surrounding area (within a 50-mile radius). The property owner would be compensated for its loss in the property under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. In addition, the measures described in Section 2.2.5.4 below would minimize impacts to the property owner.

Impacts to Neighboring Businesses

Table 2.2.5-1 describes the potential property impacts the Build Alternative could have to businesses in and around the project area. Many of the businesses with the potential to be impacted rent their space from the property owner. However, they are not entitled to compensation under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. Each individual lease for rental of business property would govern the impacts to businesses that rent property in one of the parcels described in Table 2.2.5-1. Regardless, Caltrans is committed to providing as much notice as possible to both property owners and tenants. Chapter 4 describes the public outreach that has already occurred and that is planned for the Build Alternative.

2.2.5.4 Avoidance, Minimization, and/or Mitigation Measures

The Caltrans Relocation Assistance Program would be made available to assist in providing relocation benefits or entitlements to property owners. A booklet describing business property owner rights and benefits under the Caltrans Relocation Assistance Program is provided in Appendix C. Early coordination with the business owners would provide displaced employees with the time necessary to transition with minimal impacts. The Build Alternative would provide for the relocation of businesses, compensation, and there are sufficient vacancies available in the area for relocation. Acquired business properties can relocate to any location of their choice.

2.2.6 Environmental Justice

2.2.6.1 Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by President William J. Clinton on February 11, 1994. This EO directs federal agencies to take the appropriate

and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. For 2021, this was \$26,500 for a family of four.

All considerations under Title VI of the Civil Rights Act of 1964, and related statutes, have also been included in this project. The Department's commitment to upholding the mandates of Title VI is demonstrated by its Title VI Policy Statement, signed by the Director, which can be found in Appendix B of this document.

2.2.6.2 Affected Environment

The information in this section is based on the *Community Impact Assessment (CIA)* prepared for the project (AECOM 2020c).

The environmental justice analysis incorporates a slightly different set of data than the other portions of the CIA. In order to determine the presence of environmental justice communities of concern that have the potential to be affected by the project, higher resolution data was used. The environmental justice analysis includes the Census block groups that contain or border the project area. Block groups are divisions of Census tracts that are delineated by local or regional organizations and usually consist of a cluster of several blocks (U.S. Census Bureau 2012). For the environmental justice analysis, the study area block groups are compared to the County of San Mateo (i.e. reference area). Data for the analysis was derived from the US Census Bureau 2015-2018 American Community Survey 5-Year Estimates (U.S. Census Bureau 2018).

Caltrans identifies a community as an environmental justice community of concern if it meets one or both of the following criteria:

- The minority population exceeds 50 percent or is meaningfully greater (e.g., more than 10 percentage points) than the minority population percentage in the general population or other appropriate unit of geographic analysis (e.g., the surrounding county).
- The low-income population comprises more than 25 percent of the Census block group or tract.

There are five block groups that contain or border the project area. Three block groups meet at least one of the criteria of an environmental justice community of concern, as shown in Table 2.2.6-1. The project area north of I-380 has a higher proportion of Hispanic and low-income persons than the rest of the study area or county as a whole.

Table 2.2.6-1 Summary of Race, Ethnicity, and Poverty Status by Geographic Area

Geography	Black	Native American	Asian	Native Hawaiian or Other Pacific Islander	Minority*	Hispanic	Below Poverty Level
San Mateo County	3.6%	1.2%	23.1%	2.2%	30.1%	25.2%	7.0%
Census Tract 6022, BG 2	2.0%	0.0%	21.2%	1.0%	24.2%	66.9%	16.3%
Census Tract 6022, BG 3	1.9%	0.0%	16.1%	0.0%	18.0%	75.5%	10.2%
Census Tract 6023, BG 1	4.1%	0.4%	25.1%	3.7%	32.9%	52.4%	9.2%
Census Tract 6042, BG 1	1.2%	0.0%	34.1%	0.0%	35.3%	36.2%	0.0%
Census Tract 6042, BG 2	0.0%	0.0%	18.6%	28.3%	46.9%	32.9%	5.2%

Notes: *Minority is the sum of Black, Native American, Asian, Native Hawaiian or Other Pacific Islander., BG = Block Group, Grey Shading – Reference population, Bold – Meets at least one of the criteria of an environmental justice community of concern, Source: Census 2018

2.2.6.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not involve construction activities or alter existing circulation or business activity to affect environmental justice communities of concern. It would also not improve pedestrian and bicycle access between the east and west parts of the City for environmental justice communities on the west side of US 101.

Build Alternative

The Build Alternative would involve construction of a new overcrossing structure as well as changes to local streets in the proposed project area. Three block groups that overlap or border the proposed project area meet at least one of the criteria for of an environmental justice community of concern. Because there is no housing in or immediately adjacent to the proposed project area, residents of the communities of concern would have the potential to be affected only when traveling through the project area. These impacts could include street closures as well as construction noise and dust. These effects would be limited to the period of project construction and would affect all people that travel through the project area by vehicle, transit, on foot, or by bicycle.

Local residents, including those that live in an environmental justice community of concern, would also have the potential to be impacted by changes in business activity in the project area. However, as noted in Section 2.2.4, changes to business activity as part of the proposed project are expected to be minimal and limited primarily to business property owners. Because the potentially affected businesses are owned by people that reside in the City and elsewhere around the country, the changes to business activity would not represent a disproportionate impact to an environmental justice community of concern.

2.2.6.4 Avoidance, Minimization, and/or Mitigation Measures

Based on the above discussion and analysis, the Build Alternative will not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of Executive Order 12898. No further environmental justice analysis is required. No avoidance, minimization, and mitigation measures are required.

2.2.7 Utilities and Emergency Services

2.2.7.1 Affected Environment

Power, gas, telecommunication (fiber optic), and water utilities are located within the project vicinity. Pacific Gas and Electric (PG&E) provides gas and electricity service; American Telephone and Telegraph Company (AT&T), Verizon, and San Mateo County provide telecommunication service through the project area; and the California Water Service manages water utilities located within the project limits. The City of South San Francisco provides sewer service.

Police protection and traffic enforcement services in the study area are provided by the South San Francisco Police Department. CHP has jurisdiction over the US 101 corridor. Fire protection services in the study area are provided by the South San Francisco Fire Department.

2.2.7.2 Environmental Consequences

The information in this section is based on the *Community Impact Assessment* prepared for the project (AECOM 2020c).

No Build Alternative

The No Build Alternative would not require utility relocations and would not affect emergency services.

Build Alternative

Lane closures and detours within the project area would be required to construct the Build Alternative. During final design, a Transportation Management Plan (TMP) will be developed for the project to minimize construction-related delays and inconvenience to project area residents/employees and the traveling public. The TMP will include notification to emergency service providers and the public of lane closures and detours; coordination with CHP and local law enforcement on contingency plans; and using portable Changeable Message Signs where possible to minimize delays. Therefore, no emergency services would be temporarily affected by construction of the Build Alternative. No law enforcement, fire, and/or emergency services would be permanently affected by the proposed project as access to US 101 would not be permanently altered by the project.

Utility investigations have identified the location and extent of existing service lines within the project area. The project would require relocating some utilities. There are three pairs of existing 115 kilovolt (KV) overhead electrical lines that are parallel to, and approximately 200 feet east of, the northbound US 101 freeway. Because South Airport Boulevard would be elevated to conform to the proposed new US 101/Produce Avenue overcrossing, the overhead lines would be raised by PG&E to maintain the required clearance above these local roadways. The relocation of utilities would result in localized construction impacts that will require coordination and possible temporary measures to maintain service.

2.2.7.3 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization or mitigation is required.

2.2.8 Traffic and Transportation/Pedestrian and Bicycle Facilities

2.2.8.1 Regulatory Setting

The Department, as assigned by the Federal Highway Administration (FHWA), directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of Federal-aid highway projects (see 23 Code of

Federal Regulations [CFR] 652). It further directs that the special needs of the elderly and the disabled must be considered in all Federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the USDOT regulations (49 CFR 27) implementing Section 504 of the Rehabilitation Act (29 United States Code [USC] 794). The FHWA has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to Federal-aid projects, including Transportation Enhancement Activities.

2.2.8.2 Affected Environment

The information in this section is based on the *Traffic Operations Analysis Report* (TOAR) prepared for the project (AECOM 2022a). Existing conditions represent the years of 2017/2018. Future conditions are projected for the years 2025 (Opening Year) and 2045 (Design Year). The study area of the TOAR includes portions of US 101 and several local intersections in the City of South San Francisco. The project study area was identified based on inputs from the study team, the City of South San Francisco and Caltrans staff. The study intersections and the extent of the study freeway segments are listed below.

Mainline Segments:²

- US 101 Northbound between the Millbrae Avenue interchange and the Sierra Point Parkway interchange
- US 101 Southbound between the Sierra Point Parkway interchange and the Millbrae Avenue interchange

Study Intersections:

1. US 101 Southbound off-ramp/Airport Boulevard/Miller Avenue
2. US 101 Northbound on-ramp/Airport Boulevard/Grand Avenue
3. East Grand Avenue/Dubuque Avenue
4. East Grand Avenue/Grand Avenue
5. East Grand Avenue/Gateway Boulevard
6. Produce Avenue/Airport Boulevard/San Mateo Avenue
7. South Airport Boulevard/Gateway Boulevard/Mitchell Avenue
8. US 101 Southbound off-ramp/Produce Avenue
9. US 101 Southbound on-ramp/Produce Avenue/Terminal Court
10. US 101 Northbound off-/on-ramps/South Airport Boulevard

² Analyzed under Existing Conditions only

11. San Mateo Avenue/Utah Avenue (Future)
12. US 101 Southbound on-ramp/Utah Avenue/Produce Avenue (conceptual intersection initially evaluated but not carried forward²)
13. US 101 Southbound off-ramp/Utah Avenue (conceptual intersection initially evaluated but not carried forward)³
14. South Airport Boulevard/Utah Avenue⁴
15. Harbor Way/Utah Avenue
16. South Linden Avenue/San Mateo Avenue
17. San Mateo Avenue/Shaw Road/Tanforan Avenue
18. South Airport Boulevard/Belle Aire Road

Traffic Operations Analysis Methods and Existing Conditions

Intersection Operations

Study intersections were analyzed using Highway Capacity Manual (HCM) 2000 methodologies. Traffic operations were analyzed using the Synchro/Sim-Traffic 10.0 software program, which is based on procedures outlined in HCM 2000.

Level of Service is an indicator of operating conditions on a roadway or at an intersection and is defined in categories ranging from A to F. These categories can be viewed much like school grades, with A representing the best traffic flow conditions and F representing poor conditions. LOS A indicates free-flowing traffic and LOS F indicates substantial congestion with stop-and-go traffic and long delays at intersections. In urban areas, because intersections are spaced relatively close together, intersection capacities generally control traffic operations on the arterials. Therefore, the level of service at signalized intersections gives a good indication of the general operating conditions throughout the transportation network. The micro-simulation model, Sim-Traffic, was used to determine queue lengths at key study intersections.

LOS is determined differently depending on the type of control at a given intersection. For side-street stop-controlled intersections, the LOS rating is based on the weighted average control delay of each minor street movement as well as major –street left-turns measured in seconds per vehicle. At all-way stop-controlled and signalized intersections, the LOS rating is based on the weighted average control delay of all movements measured in seconds per vehicle. Peak hour traffic volumes, lane configurations and signal timing plans are used as inputs in the LOS calculations. The LOS criteria used for this methodology are summarized in Table 2.2.8-1 for both signalized and un-signalized intersections. Results from Sim-Traffic were used to determine the delay, and LOS at all intersections.

³ Intersections #12 and #13 were initially identified as conceptual intersection geometric designs for alternatives that were ultimately not carried forward, and were therefore not analyzed for traffic conditions because these would not be needed with the proposed project design. Only one proposed Build Alternative was advanced for this project, and it was determined that these future intersections would not need to be carried forward into the operations analysis (because they are not needed for the proposed Build Alternative) and hence were dropped from the traffic operational analysis.

Table 2.2.8-1 Intersection Level of Service Categories

LOS	Signalized Intersection Delay	Unsignalized Intersections Delay	Description
A	delay ≤ 10.0	delay ≤ 10.0	Little or no traffic delay
B	10.0 < delay ≤ 20.0	10.0 < delay ≤ 15.0	Minimal traffic delay
C	20.0 < delay ≤ 35.0	15.0 < delay ≤ 25.0	Average traffic delay
D	35.0 < delay ≤ 55.0	25.0 < delay ≤ 35.0	Long traffic delay
E	55.0 < delay ≤ 80.0	35.0 < delay ≤ 50.0	Very long traffic delay
F	delay > 80.0	delay > 50.0	Extreme traffic delay

Other measures of effectiveness for intersections include the 95th percentile queue lengths for the existing and future conditions from the Sim-Traffic multi-run simulation.

The traffic volumes collected at the studied intersections are the served volumes that are passing through the intersection, while vehicles in queue are the unserved volumes. The actual traffic demand at the intersection is the sum of both served and unserved volumes. Therefore, as a part of calibration process, the counts were adjusted to reflect the actual demand to match field observations.

For this analysis, the selected global peak hour was between 8:00 AM and 9:00 AM in the morning and between 4:45 PM and 5:45 PM in the evening.

In order to document the existing traffic operations and queueing conditions, Sim-Traffic was used to provide real time operating conditions of the study intersections.

Table 2.2.8-2 summarizes the existing intersection LOS and average vehicle delay results for the study intersections. All the study intersections are currently operating at Caltrans acceptable standard level of service (LOS C/D or better) during both AM and PM peak hours except the following intersection:

- Intersection of Produce Avenue/101 SB on-ramp/Terminal Court (#9) operates at LOS F during the PM peak hour

Forecast Traffic Volumes and Vehicle Miles Traveled

The future forecast volumes for the study area were developed using the C/CAG-VTA Countywide model, which was enhanced for the US 101 Managed Lanes Study. The C/CAG model used for developing the forecasts for the 2016/2017 US 101 Managed Lanes Study has a base year of 2013, an interim year of 2020 and a long-range horizon of 2040. To match with this Project’s opening year (2025) and design year (2045), the traffic model’s interim year 2020 forecasts and long-range horizon 2040 forecasts were interpolated linearly.

Table 2.2.8-2 Existing Conditions LOS and Delay

No.	Intersection	Control	AM Peak Hour Delay (Sec/Veh)	AM Peak Hour LOS	PM Peak Hour Delay (Sec/Veh)	PM Peak Hour LOS
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Signal	26.3	C	19.8	B
2	Airport Boulevard and E. Grand Avenue	Signal	25.5	C	34.3	C
3	Dubuque Avenue and E. Grand Avenue	Signal	7.7	A	18.9	B
4	Grand Avenue and E. Grand Avenue	Signal	11.4	B	13.6	B
5	Gateway Boulevard and E. Grand Avenue	Signal	26.6	C	20.0	C
6	Produce Avenue/Airport Boulevard and San Mateo Avenue	Signal	22.4	C	30.4	C
7	Gateway Boulevard and South Airport Boulevard/Mitchell Avenue	Signal	27.8	C	30.2	C
8	Produce Avenue and 101 SB off-ramp	TWSC	8.7	A	16.6	C
9	Produce Avenue/101 SB on-ramp and Terminal Court	TWSC	22.1	C	82.0	F
10	South Airport Boulevard and 101 NB ramps/Wondercolor Lane	Signal	41.1	D	46.3	D
11	San Mateo Avenue/Utah Avenue (does not exist under Existing Conditions)	NA	NA	NA	NA	NA
14	South Airport Boulevard and Utah Avenue	Signal	40.8	D	31.9	C
15	Harbor Way and Utah Avenue	AWSC	12.3	B	9.6	A
16	San Mateo Avenue and Linden Avenue	Signal	4.7	A	6.1	A
17	San Mateo Avenue and Tanforan Avenue/Shaw Road	TWSC	10.0	B	7.8	A
18	South Airport Boulevard and Belle Aire Road	Signal	30.6	C	15.8	B

Notes:

Intersections originally identified as #12 and #13 were not carried forward as part of the proposed project, and were therefore not evaluated in the traffic analysis and not included in this table. Results are based on Sim-Traffic average of 10 runs.

NA = Not Applicable

TWSC – Two-Way Stop Control; AWSC – All-Way Stop Control

A. Two-way stop-controlled Intersections are analyzed for worst movement.

B. Average Intersection delay is reported for All-way stop controlled Intersections and Signalized Intersections.

The model uses a standard 4-step process that includes: trip generation, trip distribution, mode choice and multi-class trip assignment. The mode choice step is a nested logic style model that predicts travel for autos (drive-alone, shared-ride 2, shared ride 3+) and transit (local bus, express bus, BART, Caltrain, and LRT). Private shuttle services were coded into the model to represent employer shuttles traveling on US 101 from San Francisco to key major employers in San Mateo and Santa Clara counties.

Two scenarios were modeled to use for the traffic operational analyses:

- No Build Alternative – Freeway mainline segments and study intersections were evaluated for the No Build geometry for both the opening year (2025) and design year (2045) traffic volumes. No build geometry is existing geometry plus any approved (roadway/interchange) modifications. The Managed Lanes on US 101 to the south of this project are assumed to be operational for the opening year and design year. In addition, for the design year conditions, extension of Managed Lanes to the north is also included.
- Build Alternative – Freeway mainline segments and study intersections were evaluated for the Build Alternative geometry, which includes any approved roadway/interchange modifications included under the No Build Alternative, for both the opening year (2025) and design year (2045) traffic volumes.

Access, Circulation, and Parking

The proposed project area contains a freeway, major arterial, and minor arterial roads (City of South San Francisco 2014a). The following roadways have the potential to be affected by the Build Alternative and are described below.

- US 101. Within the study area the freeway has four general purpose lanes in each direction. In the southbound direction, auxiliary lanes exit at the South Airport Boulevard-Produce Avenue off-ramp and at the connector ramps to I-380. In the northbound direction, there are auxiliary lanes that connect to the on- and off-ramps at South Airport Boulevard.
- Produce Avenue is a major arterial roadway that connects Airport Boulevard to US 101. It is a three-lane road with two lanes in the southbound direction and one lane in the northbound direction.
- South Airport Boulevard is a major arterial road that runs from the Airport Boulevard/San Mateo Avenue/Produce Avenue/South Airport Boulevard intersection east crossing under US 101 then heading south across Colma Creek. East of US 101, South Airport Boulevard has two lanes in the northbound direction and two lanes in the southbound direction plus turn lanes at intersections and many business driveways.

- Utah Avenue is a major arterial roadway from Harbor Way to South Airport Boulevard. It serves as a major east-west roadway between the life sciences businesses and US 101. It is a four-lane roadway with two lanes in each direction.
- San Mateo Avenue is a minor arterial roadway that runs north-south on the west side of US 101. It also connects to Airport Boulevard north of Colma Creek. It is a two-lane roadway with on-street parking in each direction.
- Terminal Court is a cul-de-sac roadway that stems from Produce Avenue and serves the Golden Gate Produce Terminal and the Park 'N Fly parking lot.

Public Transportation

There are four bus stops in the project area on South Airport Boulevard (two in the northbound direction and two in the southbound direction). The stations at Utah Avenue and South Airport Boulevard provide bus service for SamTrans routes 292 and 397. The stations at South Airport Boulevard in front of the convention center provide service for SamTrans routes 292 and 397 as well as the Utah/Grand BART Shuttle, Utah/Grand Ferry Shuttle, and the Utah/Grand Caltrain Shuttle. These shuttles provide service to the South San Francisco BART station, ferry terminal, and Caltrain station and area businesses. They are supported by the Bay Area Air Quality Management District, San Mateo City/County Association of Governments, and San Mateo County Transportation Authority (Commute.org 2018).

Bicycle and Pedestrian Facilities

Bicyclists and pedestrians can only cross US 101 in two places in the project vicinity: at the US 101/East Grand Avenue overcrossing (north of the project area), and at the US 101/South Airport Boulevard undercrossing (within the proposed project area). The following is a list of existing bicycle facilities that cross through the project area:

- An existing Class II bicycle lane extends along Gateway Boulevard connecting to South Airport Boulevard/Mitchell Avenue (striped, pavement designation, and signed).
- An existing Class III bike route follows San Mateo Avenue onto South Airport Boulevard, crossing under US 101 and ending at Gateway Boulevard. It also extends along South Airport Boulevard on the eastern side of US 101.
- An existing Class III bike route extends along Airport Boulevard, beginning at the San Mateo Avenue/South Airport Boulevard/Produce Avenue intersection and continues north along Airport Boulevard.

All roadways in the project area have sidewalks on both sides, with the exception of the segment of Produce Avenue where it connects to the US 101 southbound on-ramp. Produce Avenue only has sidewalks on the southbound side and Utah Avenue only has sidewalks on the eastbound side. Pedestrian facilities at the South Airport Boulevard undercrossing of US 101 consist of a narrow walkway at the freeway undercrossing. The nearest alternative US 101 crossing is the East Grand Avenue bridge 0.3 mile to the north.

2.2.8.3 Environmental Consequences

The No Build Alternative assumes that no modifications would be made to the current US 101/Produce Avenue interchange or improvements made to local roadway intersections, other than routine maintenance and rehabilitation of the facility and any currently planned and programmed projects within the City of South San Francisco.

The Build Alternative would provide a local east-west connection across US 101 for the southern neighborhoods of the City and improve circulation and traffic operations on local streets. The construction of the interchange would provide more direct access to US 101 to better accommodate planned land use and employment changes and help separate freeway bound traffic from the surrounding local streets. The project is also expected to encourage more pedestrians and bicyclists in the area by constructing new bicycle and pedestrian facilities.

Traffic Operations Analysis

Table 2.2.8-3 and Table 2.2.8-4 show the projected LOS for the studied intersections in the years 2025 and 2045, comparing conditions with the No Build and Build Alternatives. Additionally, delays per turning movement (e.g., through, left turn, right turn) and queues per lane (through lane, left-turn lane, right turn) for all of the studied intersections are provided in Appendix J.

Intersection Operations – 2025 (Opening Year)

No Build Alternative

All intersections will operate at LOS D or better in the AM peak hour. However, individual movements at the intersections of US 101 Northbound off-/on-ramps/ South Airport Boulevard (#10 northbound U-turn/left turn and southbound U-turn/left turn/through), and Gateway Boulevard and South Airport Boulevard /Mitchell Avenue (#7 eastbound U-turn/left turn/through) experience more delays due to demands at or above capacity. Also, for the eastbound (left/through) and northbound (left/right turn) movements at Produce Avenue/Airport Boulevard and San Mateo Avenue (#6) intersection, and the eastbound and southbound movements at US 101 Northbound off-/on-ramps/South Airport Boulevard (#10) intersection, the queues would exceed the available storage.

During the PM peak hour, No Build traffic operations would worsen at two intersections that will operate at LOS E or F. The South Airport Boulevard/Utah Avenue intersection (#14) would operate at LOS E (63.6 seconds delay), and the Produce Avenue/ Southbound US 101 on-ramp and terminal Court (#9) intersection would operate at LOS F (81.8 seconds delay). Demand would exceed capacity for the northbound approach at the US 101 northbound off-/on-ramps/South Airport Boulevard intersection (#10), and the queue would extend to the South Airport Boulevard/Utah Avenue intersection (#14), resulting in LOS F at the latter intersection. Additionally, the eastbound and westbound movements at the Gateway Boulevard and South Airport Boulevard/Mitchell Avenue intersection (#7) would be at capacity, and experience delays.

Build Alternative

With the proposed overpass, traffic conditions with the Build Alternative would be similar to those of the No Build Alternative during the AM peak hour, with similar delay times. Delay at some intersections would improve (delay time decreases) compared to the No Build Alternative, such as the northbound movement at the Produce Avenue/Airport Boulevard and San Mateo Avenue intersection (#6), and eastbound and southbound movements at the South Airport Boulevard and northbound US 101 ramps/Wondercolor Lane intersection (#10).

Certain traffic conditions would be similar or improve with the Build Alternative during the PM peak hour, with the exception of South Airport Boulevard. Queues and delays for individual movements at the intersections along Grand Avenue that operate at LOS F/E under the No Build Alternative are projected to improve to LOS E/D under the Build Alternative. For the Gateway Boulevard and South Airport Boulevard/Mitchell Avenue intersection (#7), delays would improve (decrease) for the eastbound and westbound movements compared to the No Build Alternative.

As stated above, certain traffic conditions would worsen with the Build Alternative in 2025. At the US 101 northbound off-/on-ramps/ South Airport Boulevard (#10) intersection, the northbound approach would increase, and extend 1,850 feet beyond the South Airport Boulevard and Belle Aire Road (#18) intersection compared to 220 feet under the No Build Alternative. This results in increased delay and a decline in LOS for intersections along South Airport Boulevard, including south of the US 101 northbound off-/on-ramps/ South Airport Boulevard (#10) intersection.

The following intersections are anticipated to operate below the Caltrans acceptable standard level of service (LOS C/D or better) with the Build Alternative in 2025:

- Produce Avenue/101 southbound on-ramp and Terminal Court (#9)– LOS F (88.9 sec/veh delay) during the PM peak hour
- South Airport Boulevard and 101 northbound ramps/Wondercolor Lane (#10) – LOS E (58.0 sec/veh delay) during the PM peak hour
- South Airport Boulevard and Utah Avenue (#14) – LOS F (116.0 sec/veh delay) during the PM peak hour
- South Airport Boulevard and Belle Aire Road (#18) – LOS E (61.5 sec/veh delay) during the PM peak hour

The full results of the LOS analysis for 2025 are included in Table 2.2.8-3.

Table 2.2.8-3 2025 Intersection LOS and Delay Summary

No.	Intersection	Control	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Signal	28.2	C	28.1	C	29.5	C	24.6	C
2	Airport Boulevard and E. Grand Avenue	Signal	30.0	C	47.6	D	30.8	C	47.5	D
3	Dubuque Avenue and E. Grand Avenue	Signal	11.5	B	51.2	D	11.7	B	39.8	D
4	Grand Avenue and E. Grand Avenue	Signal	13.5	B	35.8	D	13.4	B	21.0	C
5	Gateway Boulevard and E. Grand Avenue	Signal	33.0	C	29.6	C	34.3	C	24.7	C
6	Produce Avenue/Airport Boulevard and San Mateo Avenue	Signal	25.6	C	30.5	C	24.9	C	30.3	C
7	Gateway Boulevard and South Airport Boulevard/Mitchell Avenue	Signal	43.4	D	38.6	D	40.3	D	34.7	C
8	Produce Avenue and 101 SB off-ramp	TWSC	10.5	B	16.2	C	9.6	A	15.8	C
9	Produce Avenue/101 SB on-ramp and Terminal Court	TWSC	19.7	C	81.8	F	24.7	C	88.9	F
10	South Airport Boulevard and 101 NB ramps/Wondercolor Lane	Signal	46.2	D	48.8	D	33.4	C	58.0	E
11	San Mateo Avenue/Utah Avenue	Signal	NA	NA	NA	NA	10.9	B	8.3	A
14	South Airport Boulevard and Utah Avenue	Signal	29.3	C	63.6	E	25.8	C	116.0	F

Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

No.	Intersection	Control	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
15	Harbor Way and Utah Avenue	AWSC	14.6	B	10.5	B	16.3	C	10.1	B
16	San Mateo Avenue and Linden Avenue	Signal	7.5	A	9.8	A	6.5	A	7.6	A
17	San Mateo Avenue and Tanforan Avenue/Shaw Road	TWSC	19.6	C	22.4	C	21.8	C	14.3	B
18	South Airport Boulevard and Belle Aire Road	Signal	18.0	B	15.7	B	15.8	B	61.5	E

Notes:

Intersections originally identified as #12 and #13 were not carried forward as part of the proposed project, and were therefore not evaluated in the traffic analysis and not included in this table.

NA = Not Applicable

Results are based on Sim-Traffic average of 10 runs.

TWSC – Two-Way Stop Control; AWSC – All-Way Stop Control

Intersection Operations – 2045 (Design Year)

No Build Alternative

The No Build Alternative would have the following queuing conditions.

South Airport Boulevard /NB 101Ramps/Wondercolor Lane (#10)

- AM – northbound left turn queues (260 feet) will exceed available storage of 190 feet
- AM – eastbound off-ramp queue length will be 7,770 feet long
- AM – southbound approach queue may sometimes extend beyond the Gateway Boulevard/South Airport Boulevard/Mitchell Avenue (#17) intersection
- PM – northbound approach queue will extend 9,790 feet beyond the South Airport Boulevard/Belle Aire Road (#18) intersection
- PM – eastbound off-ramp queue length will be 1,130 feet long
- PM – southbound approach extends 5,500 feet beyond the Gateway Boulevard/East Grand Avenue (#5) intersection

Produce Avenue/SB 101 off-ramp (#8)

- AM – westbound approach (SB off-ramp) queue will be 6,740 feet long

Gateway Boulevard/South Airport Boulevard/Mitchell Avenue (#7)

- AM – westbound through/right queue will extend to 690 feet
- PM – westbound through/right queue will extend to 7,660 feet

For the No Build Alternative, delays and queues are anticipated to worsen in 2045 as compared to 2025 conditions. The following intersections are anticipated to operate below the Caltrans acceptable standard level of service (LOS C/D or better) with the No Build Alternative in 2045:

- Airport Boulevard and 101 SB off-ramp/Miller Avenue – LOS E (59.1 sec/veh) during the AM peak hour
- Dubuque Avenue and E. Grand Avenue – LOS E (62.9 sec/veh) during the PM peak hour
- Gateway Boulevard and E. Grand Avenue – LOS F (367.4 sec/veh) during the PM peak hour

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- Produce Avenue/Airport Boulevard and San Mateo Avenue – LOS F during the AM peak hour, LOS E during the PM peak hour (86.2 sec/veh in AM and 66.5 sec/veh in PM)
- Gateway Boulevard and South Airport Boulevard/Mitchell Avenue – LOS F during both the AM and PM peak hours (86.2 sec/veh in AM and 460.5 sec/veh in PM)
- Produce Avenue and 101 SB off-ramp – LOS F during both the AM and PM peak hours (1,007.6 sec/veh in AM and 117.9 sec/veh in PM)
- Produce Avenue/101 SB on-ramp and Terminal Court – LOS E (41.7 sec/veh delay) during the PM peak hour
- South Airport Boulevard and 101 NB ramps/Wondercolor Lane – LOS F during both the AM and PM peak hours (331.2 sec/veh in AM and 199.1 sec/veh in PM)
- South Airport Boulevard and Utah Avenue – LOS F (176.0 sec/veh) during the PM peak hour
- San Mateo Avenue and Tanforan Avenue/Shaw Road – LOS E (41.4 sec/veh delay) during the AM peak hour
- South Airport Boulevard and Belle Aire Road – LOS F (484.6 sec/veh) during the PM peak hour

Build Alternative

As with 2025, certain traffic operations would improve with the Build Alternative in 2045, while others would worsen. The proposed project improvements at the Produce Avenue/Airport Boulevard/San Mateo Avenue intersection (#6) would improve overall operating conditions compared to the No Build Alternative during the AM peak hour. The Produce Avenue and US 101 southbound off-ramp intersection (#8) would improve substantially from LOS F to LOS C during both the AM and PM peak hours. The Build alternative would also reduce queues backing up to the freeway from the US 101 southbound off-ramp (reduction of 6,570 feet in AM and 1,110 feet in PM), and the US 101 northbound off-ramp (reduction of 700 feet in AM and 200 feet in PM) during the AM and PM peak hours.

The intersection of US 101 and the northbound off-/on-ramps/South Airport Boulevard (#10) is at capacity under the AM and PM No Build and Build conditions; as a result, heavy queueing would happen on all the approaches except for Wondercolor Lane. The queues on the US 101 northbound off-ramp would spill back beyond the freeway gore point. Under Build conditions, a right-turn overlap phase for the off-ramp was included. As a result, off-ramp queues were reduced for the Build Alternative (7,000 feet AM, 930 feet PM) compared to No Build (7,770 feet AM, 1,130 feet PM).

Under the PM No Build conditions, the southbound queues from US 101 northbound off-/on-ramps/South Airport Boulevard (#10) intersection spill back 5,500 feet beyond the Gateway Boulevard and East Grand Avenue (#5) intersection. Under the Build Alternative, these southbound queues would decrease to 2,920 feet beyond the Gateway underpass and East Grand Avenue intersection due to the proposed improvements and circulation changes at the intersection of the US 101 northbound off-/on-ramps/ South Airport Boulevard (#10).

Eastbound (AM 1,690 feet and PM 1,540 feet) and westbound (PM 920 feet) queues would occur at the modified intersection of South Airport Boulevard /Utah Avenue (#14) under the Build conditions.

The Build Alternative is projected to result in adverse impacts associated with some additional delays. These include:

- The northbound queue along South Airport Boulevard, which is expected to increase where queues would extend beyond the South Airport Boulevard/Belle Aire Road (#18) intersection under the Build Alternative (4,380 feet AM, 11,750 feet PM) compared to the No Build Alternative (PM 9,790 feet). There are no northbound queues during the No Build AM period that extend beyond the #18 intersection.
- For the Gateway Boulevard and South Airport Boulevard /Mitchell Avenue (#7) intersection, the Build queues for the westbound approaches (3,060 feet AM, 8,430 feet PM) and southbound (1,440 feet AM, 2,750 feet PM) would increase compared to No Build (westbound – 690 feet AM, 7,660 feet PM; southbound – 990 feet AM, 2,320 feet PM.)
- The southbound left-turn movement will experience more delay under the Build Alternative (269 sec/veh) compared to No Build (51.8 sec/veh). The southbound left-turn queues with the Build Alternative would exceed the storage capacity and spill into the southbound through lanes of South Airport Boulevard where it would extend beyond the Airport Boulevard/East Grand Avenue (#1) intersection.

The following intersections are anticipated to operate below the Caltrans acceptable standard level of service (LOS D or better) with the Build Alternative in 2045:

- Airport Boulevard and E. Grand Avenue (#2) – LOS E (58.8 sec/veh delay) during the PM peak hour
- Dubuque Avenue and E. Grand Avenue (#3) – LOS E (55.6 sec/veh delay) during the PM peak hour
- Gateway Boulevard and E. Grand Avenue (#5) – LOS F during the PM peak hour (143.3 sec/veh delay)

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- Produce Avenue/Airport Boulevard and San Mateo Avenue (#6) – LOS E (65.8 sec/veh) during the AM peak hour
- Gateway Boulevard and South Airport Boulevard/Mitchell Avenue (#7) – LOS F during both the AM and PM peak hours (158.5 sec/veh in AM and 363.1 sec/veh in PM)
- Produce Avenue/101 SB on-ramp and Terminal Court (#9) – LOS F (59.9 sec/veh delay) during the PM peak hour
- South Airport Boulevard and 101 NB ramps/Wondercolor Lane (#10) – LOS F during both the AM and PM peak hours (319.4 sec/veh in AM and 147.8 sec/veh in PM)
- South Airport Boulevard and Utah Avenue (#14) – LOS F during both the AM and PM peak hours.(142.4 sec/veh in AM and 256.0 sec/veh in PM)
- Harbor Way and Utah Avenue (#15) – LOS E (47.1 sec/veh delay) during the PM peak hour
- San Mateo Avenue and Tanforan Avenue/Shaw Road (#17) – LOS E (43.6 sec/veh) during the AM peak hour
- South Airport Boulevard and Belle Aire Road (#18) – LOS F during the PM peak hour.(145.1 sec/veh in AM and 587.0 sec/veh in PM)

The full results of the LOS analysis for 2045 are included in Table 2.2.8-4.

Vehicle Miles Traveled

The VMT analysis consists of an initial screening of project type and determines whether the project is likely to induce travel. This methodology is consistent with the guidance in Caltrans Transportation Analysis (TAC) under CEQA (Caltrans 2020c). An applicable screening criteria in the TAC includes the “Addition of roadway capacity on local or collector streets provided the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit.” This criteria would apply to the proposed overcrossing, as this overcrossing is proposed to connect two minor arterials, and is expected to carry considerably less volume (6,660 vehicles/day in year 2045). This volume indicates the proposed overcrossing would function at a traffic volume characteristic of a collector street. New bike and pedestrian facilities will be provided and/or improved as summarized in the project description. The overcrossing and the pedestrian and bicycle improvements would provide safer and more attractive routes to facilitate pedestrian, bicycle, transit circulation and access across US 101 within this area of South San Francisco.

Table 2.2.8-4 2045 Intersection LOS and Delay Summary

No.	Intersection	Control	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Signal	59.1	E	26.7	C	47.3	D	33.7	C
2	Airport Boulevard and E. Grand Avenue	Signal	36.1	D	49.7	D	34.7	C	58.8	E
3	Dubuque Avenue and E. Grand Avenue	Signal	12.3	B	62.9	E	11.0	B	55.6	E
4	Grand Avenue and E. Grand Avenue	Signal	15.6	B	38.8	D	15.4	B	39.0	D
5	Gateway Boulevard and E. Grand Avenue	Signal	38.9	D	367.4	F	45.2	D	143.3	F
6	Produce Avenue/Airport Boulevard and San Mateo Avenue	Signal	86.2	F	66.5	E	65.8	E	40.4	D
7	Gateway Boulevard and South Airport Boulevard/Mitchell Avenue	Signal	86.2	F	460.5	F	158.5	F	363.1	F
8	Produce Avenue and 101 SB off-ramp	TWSC	1007.6	F	117.9	F	23.7	C	19.3	C
9	Produce Avenue/101 SB on-ramp and Terminal Court	TWSC	25.9	D	41.7	E	24.0	C	59.9	F
10	South Airport Boulevard and 101 NB ramps/Wondercolor Lane	Signal	331.2	F	199.1	F	319.4	F	147.8	F
11	San Mateo Avenue/Utah Avenue	Signal	NA	NA	NA	NA	46.9	D	9.5	A

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No.	Intersection	Control	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
14	South Airport Boulevard and Utah Avenue	Signal	41.7	D	176.0	F	142.4	F	256.0	F
15	Harbor Way and Utah Avenue	AWSC	20.5	C	12.8	B	16.1	C	47.1	E
16	San Mateo Avenue and Linden Avenue	Signal	9.5	A	13.4	B	10.0	A	8.8	A
17	San Mateo Avenue and Tanforan Avenue/Shaw Road	TWSC	41.4	E	16.3	C	43.6	E	25.2	D
18	South Airport Boulevard and Belle Aire Road	Signal	24.3	C	484.6	F	47.3	D	587.0	F

Notes:

Intersections originally identified as #12 and #13 were not carried forward as part of the proposed project, and were therefore not evaluated in the traffic analysis and not included in this table.

NA = Not Applicable

Results are based on Sim-Traffic average of 10 runs.

TWSC – Two-Way Stop Control; AWSC – All-Way Stop Control

Access, Circulation, and Parking

The No Build Alternative would not alter access, circulation, or parking in the project area.

The Build Alternative would construct a new overcrossing structure that would connect Utah Avenue to San Mateo Avenue over US 101. The project would require both temporary and permanent removal of private parking spaces at the Travelodge Hotel; Best Western; McCune Audio, Video, Lighting; Park 'N Fly Airport Parking Lot; Golden Gate Produce Terminal; Denny's Restaurant and two business parks. No properties would lose access as a result of the Build Alternative. Existing on street parking on both sides (in both directions) of San Mateo Avenue between the proposed Utah Avenue/San Mateo Avenue intersection and the San Mateo Avenue/Airport Boulevard/Produce Avenue intersection would be removed where the project would add an additional northbound through lane. Parking lots are available at the businesses that front San Mateo Avenue. The loss of street parking along San Mateo Avenue would reduce some availability of existing parking, but parking within the business properties would still be available. The loss of on-street parking on San Mateo Avenue is necessary to provide the additional lane and Class II bicycle lanes.

At the intersection of the US 101 northbound off-/on-ramps/ South Airport Boulevard (#10), a right-turn overlap phase will be provided for the eastbound approach to facilitate the efficient movement of right-turning vehicles from the US 101 northbound off-ramp. This phase would overlap with the northbound left-turn movement, thereby using the northbound left turn's green time as well. A No U-Turn sign for the northbound approach must be installed with this overlap. The northbound vehicles wishing to make a U-turn at the intersection of the US 101 northbound off-/on-ramps/ South Airport Boulevard (#10) would then have to travel further north on South Airport Boulevard to make a U-turn. The signal timing and No U-Turn has been included as a project commitment (project feature) in Section 1.6.

During construction, access would be maintained to all business properties. Phased construction would be used to construct the project with only lane closures instead of full local roadway closures to allow businesses to continue to operate during construction and allow local circulation to be maintained. No full local roadway closures would be necessary. Temporary traffic detours would be required for the southbound US 101 off-ramp and South Airport Boulevard. No long-term closures are anticipated for any of the freeway ramps. Temporary nighttime closures would be required along US 101 for the placement/removal of bridge falsework or the placement of precast bridge segments. Freeway closures would also be limited to one direction at a time. The TMP described in Sections 1.5 and 2.2.7.2, that will be developed during final design would minimize disruption to local circulation and freeway access.

Public Transportation

The No Build Alternative would not alter public transportation facilities or access in the project area.

The Build Alternative would not change the location or number of any public transportation facilities. It would, however, require the temporary relocation of the bus stops located at Utah Avenue and South Airport Boulevard that provide service for SamTrans routes 292 and 397. This area would be reconstructed and raised in height to conform to the new overcrossing structure. The TMP described in Section 1.5 will provide for coordination with SamTrans and the City of South San Francisco to alert transit patrons of any changes prior to temporary bus stop relocations. Possible options that would be considered, in consultation with SamTrans, could include relocating the bus stop north on South Airport Boulevard, or patrons would be redirected to the South Airport Boulevard station one-tenth of a mile north. The existing station would be reopened on the newly aligned sidewalk following project construction.

Bicycle and Pedestrian Facilities

The No Build Alternative would not alter the existing bicycle and pedestrian facilities in the project area.

The Build Alternative would add ADA compliant sidewalks, curb cuts, and crosswalks on portions of Utah Avenue and South Airport Boulevard in the project area that are currently lacking these facilities. Class II bicycle lanes will be added to San Mateo Avenue and South Airport Boulevard at the South Airport Boulevard/Produce Avenue/San Mateo Avenue intersection to separate bicycles from vehicles making right turns. The Build Alternative would also construct Class II bike lanes on both directions of the new Utah Avenue from San Mateo Avenue past South Airport Boulevard and on South Airport Boulevard in the project area.

Construction of the Build Alternative is not anticipated to adversely affect any existing bicycle facilities currently in the project area. Existing pedestrian facilities on South Airport Boulevard and Utah Avenue would be temporarily closed during construction. Pedestrians would be allowed to pass through the project area, however, and the details of pedestrian facility closures will be described in the TMP.

2.2.8.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization or mitigation is required. As described in project feature PF-TRA-01 of Table 1.6-1, a Transportation Management Plan would be prepared for the project to avoid or minimize temporary impacts to traffic and transportation associated with project construction.

Additionally, project feature PF-TRA-02 would provide a right-turn overlap phase for the eastbound approach at the intersection of the US 101 northbound off-/on-ramps/ South Airport Boulevard (intersection #10) to facilitate the efficient movement of right-turning vehicles from the US 101 northbound off-ramp. This phase would overlap with the northbound left-turn movement, thereby using the northbound left turn's green time as well. The City will be responsible to evaluate and be responsible for the signal timing, and a No U-Turn sign for the northbound approach needs to be installed by the City with this overlap.

2.2.9 Visual/Aesthetics

2.2.9.1 Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). To further emphasize this point, FHWA, in its implementation of NEPA (23 USC 109[h]), directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide the people of the state “with...enjoyment of aesthetic, natural, scenic and historic environmental qualities” (CA Public Resources Code [PRC] Section 21001[b]).

California Streets and Highways Code Section 92.3 directs Caltrans to use drought resistant landscaping and recycled water when feasible and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.

2.2.9.2 Affected Environment

The following discussion is based on the Visual Impact Assessment completed for this project in November 2021 (AECOM 2021a).

The project area landscape is characterized by commercial buildings, the adjacent San Francisco International Airport, and distant mountainous features. The land use within the project corridor is primarily urban commercial, with urban residential areas north, west, and south of the project area. Figures 2.2.9-1 and 2.2.9-2 depict typical views within the project area.

The San Francisco Bay is east of the project area. However, the bay is not visible from US 101 or its immediately adjacent arterials/intersections. Views of Colma Creek, which runs through the project area, will not be altered by the Build Alternative. Additionally, US 101 within the project area is not designated a part of the California State Scenic Highway System but is a Classified Landscaped Freeway.

Figure 2.2.9-1. Existing view from Northbound US 101 facing north, with San Bruno Mountain in the background.



Photo date January 20, 2021.

Figure 2.2.9-2. Existing view from the Utah Avenue/South Airport Boulevard intersection looking west towards the proposed overcrossing structure site



Photo date January 21, 2021.

Visual Resources and Resource Change

Visual resources of the project setting are defined and identified below by assessing *visual character* and *visual quality* in the project corridor. *Resource change* is assessed by evaluating the visual character and the visual quality of the visual resources that comprise the project corridor before and after the construction of the proposed project.

Resource change would be low. Although the addition of the new overcrossing structure to the project area would represent a noticeable new element, it would not be incompatible with the existing form, lines, color, or texture in the corridor, or visual quality. The overcrossing structure itself would be the most noticeable change to the project area.

2.2.9.3 Environmental Consequences

No Build Alternative

The No Build Alternative assumes no modifications would be made to the current Utah Avenue or improvements made to local roadway intersections, other than routine maintenance and rehabilitation of the facility and any currently planned and programmed projects within the City of South San Francisco. The No Build Alternative would have no inherent temporary or permanent impacts on the visual character or quality of the project area.

Build Alternative

Visual impacts are determined by assessing changes to the visual resources and predicting viewer response to those changes. Impacts discussed under Short-Term Construction Impacts are considered temporary impacts. Impacts discussed under Long-Term Operational Impacts are considered permanent impacts.

Short-Term Construction Impacts

Construction of the project would be readily visible to drivers on US 101, and from the adjacent commercial properties at and surrounding the project location. The project would require the use of temporary features on US 101 and adjacent intersections and streets throughout various stages of construction. Fencing would be erected to accommodate additional right-of-way, or where temporary construction easements are required.

Major construction activities would include, but are not limited to:

- Demolition of the few buildings to the east and west of US 101 which would be redeveloped into the new overcrossing structure;
- Pile driving and retaining wall construction to support the new overcrossing structure;
- Construction of the new overcrossing structure. This will take the longest, and temporary installation of falsework to create the new bridge structures.

Falsework includes the forms (typically wood) for pouring of concrete, and scaffolding or platforms for worker access. Temporary large overhead cranes will be needed; and

- Geometry modifications at the nearby intersections.

Nighttime construction activities could temporarily add new sources of light and glare for motorists, bicyclists, and pedestrians, as well as employees and customers of local businesses. Customers of the adjacent hotels and workers at the nearby businesses would be exposed to views of the project construction activities listed above.

Temporary visual impacts from project construction would be typical of any major corridor improvement project.

Long-Term Operational Impacts

Permanent impacts were assessed through visual resource change and viewer response from four key observation points (KOPs). KOPs 1 – 4 were selected for this purpose based on the locations where project features would be most visible to the public and would have a high potential for viewer sensitivity. Changes to the visual resources pictured in the KOPs are discussed, along with the viewer response and resulting visual impact for that view. These views are described and illustrated in this section.

KOP-1 – Northbound US 101 Facing North Towards San Bruno Mountain

KOP 1 – Resource Change (moderate). The addition of the proposed overcrossing structure with the Build Alternative would lead to alteration of the visual character of KOP 1. The form of the corridor at this view would be changed, as the structure's shape and mass would largely dominate the view. The structure would also add contrasting lines to the view, which would bisect the lines of US 101. Texture and color would be addressed through aesthetic treatments, with the goal of matching and preserving the existing visual character of the corridor. Visual quality would be slightly diminished, as the harmonious natural transition from San Bruno Mountain to the horizon would be obscured.

KOP 1 – Viewer Response (moderate-low). Highway users at the existing KOP 1 have views of US 101 stretching north towards San Francisco, a background view of San Bruno Mountain, and a relatively unobstructed horizon. This viewer group has a moderate viewer exposure and moderate-low viewer sensitivity. The project would add the proposed overcrossing structure, which would include overhead luminaires, as well as support structures along the median, shoulders, and adjacent intersections. The overcrossing structure would screen views towards San Bruno Mountain, and its luminaires would partially obstruct views of the horizon. The screened view would affect highway users by reducing the existing view of the distant mountainside, as well as the South San Francisco hillside sign. However, viewer exposure at KOP 1 is limited by typical highway speeds, so this change is only witnessed momentarily. Although the overcrossing structure would screen views at KOP 1, highway users would likely be exposed to it for a relatively short period of time before returning to an unobstructed view.

Figure 2.2.9-3 KOP 1 – Existing Condition



Photo date January 20, 2021.

Figure 2.2.9-4 KOP 1 – Proposed Condition



KOP 1 – Visual Impact. Moderate-low to Moderate. Although the addition of the proposed overcrossing structure with the Build Alternative would be apparent to viewers at KOP 1, the overall resource change would not drastically depart from the existing visual composition. Additionally, viewer exposure would likely be low as the motorist is traveling through the corridor. The moderate resource change combined with moderate-low viewer response results in a moderate-low to moderate visual impact.

KOP-2 – Southbound US 101 Facing South, Towards the Santa Cruz Mountain Range

KOP-2 – Resource Change (moderate-low). As with KOP 1, the addition of the proposed overcrossing structure with the Build Alternative would lead to alteration of the visual character of KOP 2. The form of the corridor at this view would change, as the structure's shape and mass would largely dominate the view, replacing foreground views of the surrounding complex of commercial buildings and distant background views of the mountain range. The structure would also add contrasting lines to the view, which would bisect the lines of US 101. Texture and color would be addressed through aesthetic treatments. Unlike KOP 1, background views of natural features are less distinct and recognizable from KOP 2, and overall existing visual quality is low. Therefore, the potential detriment to visual quality from the proposed overcrossing structure would be lower. However, visual quality will still be diminished, as views of the horizon would be slightly obscured by the overcrossing structure and overhead luminaires.

KOP-2 – Viewer Response (moderate-low). Highway users at the existing KOP 2 have views of US 101 stretching south towards the distant mountain range, and a horizon partially obstructed by sign structures, powerlines, and buildings. This viewer group has a moderate viewer exposure and moderate-low viewer sensitivity. The project would add the proposed overcrossing structure, which would include overhead luminaires, as well as support structures along the median, shoulders, and adjacent intersections. The segment of Utah Avenue, pictured on the left side of KOP 2 – Proposed Condition, with retaining walls, would screen views of the surrounding area. The overcrossing structure would partially screen views of background features and the horizon. However, viewer exposure at KOP 2 is limited by typical highway speeds. Highway users would likely be exposed to the overcrossing structure for a relatively short period of time before returning to an unobstructed view.

KOP-2 – Visual Impact. Moderate-low. Although the addition of the proposed overcrossing structure with the Build Alternative would be apparent to viewers at KOP 2, the overall resource change would not drastically depart from the existing visual composition. Additionally, viewer exposure would likely be low due to typical highway speeds. Moderate-low resource change combined with moderate-low viewer response results in moderate-low visual impact for this view.

Figure 2.2.9-5 KOP 2 – Existing Condition

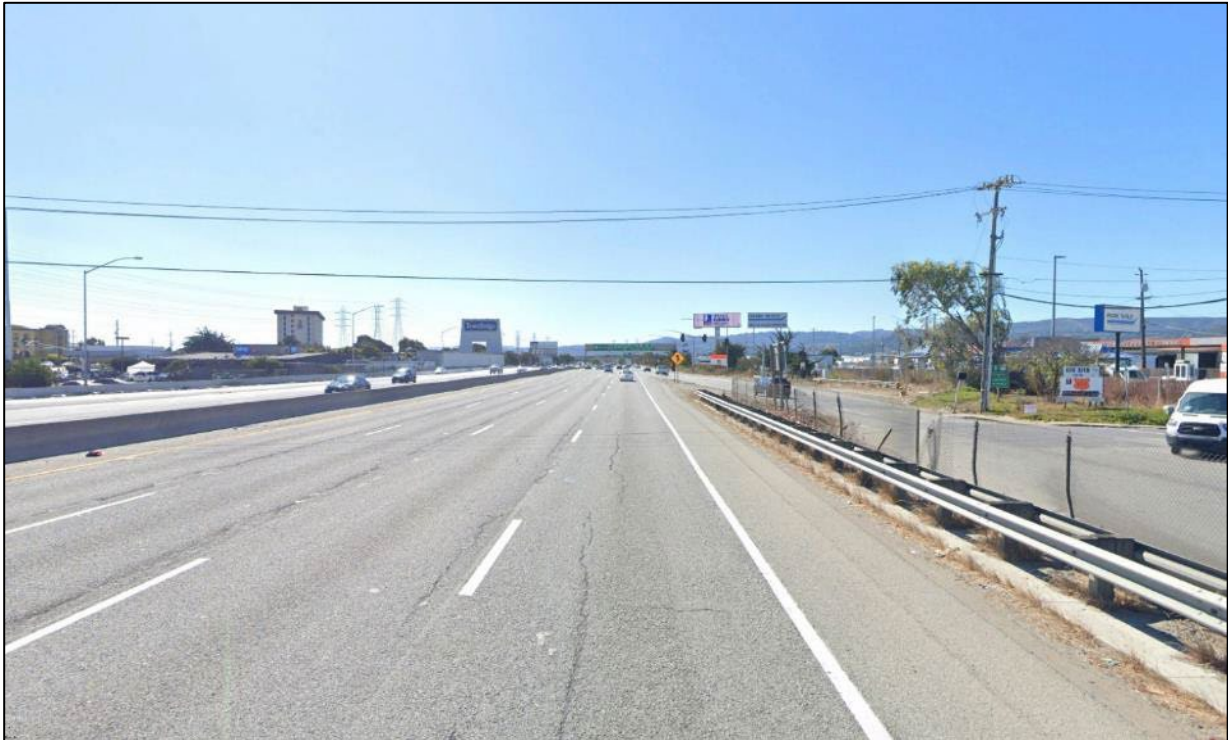


Photo date January 20, 2021.

Figure 2.2.9-6 KOP 2 – Proposed Condition



KOP-3: Terminal Court Facing West

KOP 3 – Resource Change (moderate). The addition of the proposed overcrossing structure with the Build Alternative would be a notable change as viewed from KOP 3. The form of the corridor at this view would be altered, as the structure's shape and mass would largely dominate the view, replacing foreground views of the surrounding complex of commercial buildings, and a partial background view of the mountain range at the left of the view. The structure would also add contrasting lines to the view relative to those on Terminal Court and surrounding elements. Texture and color would be addressed through aesthetic treatments. Existing visual quality at KOP 3 is low due to the complex of commercial buildings and pavement surrounding it. The addition of the proposed overcrossing structure may increase vividness, as the structure itself would be distinctive and contrasting. New shading beneath the overcrossing would occur. Overall, the primary change would be the dominance of the new elevated structure from views on or near Terminal Court.

KOP 3 – Viewer Response (moderate). Viewer groups at KOP 3 could include motorists, bicyclists and pedestrians, as well as employees of local businesses. These viewer groups have a moderate to moderate-high viewer exposure and moderate viewer sensitivity. Changes to this area will be apparent to these groups, however viewer expectations of scenic quality are likely to be low for employees of the neighboring commercial/industrial businesses. Likewise, travelers in all modes will be passing through the environment on their way to other destinations. For these reasons, viewer response is moderate to moderate-low.

KOP 3 – Visual Impact. Moderate-low to Moderate. The overcrossing structure and on-fill section visible in KOP 3 would be prominent in this view. However, these elements of the Build Alternative would not be incompatible with the existing visual character and quality. Additionally, viewer response would be limited by low expectations of scenic quality from this perspective, as well as moderate to moderate-low viewer exposure for travelers passing through this environment. Moderate resource change combined with moderate viewer response results in moderate-low to moderate visual impact for this view.

Figure 2.2.9-7 KOP 3 – Existing Condition



Photo date January 20, 2021.

Figure 2.2.9-8 KOP 3 – Proposed Condition



KOP-4: Utah Avenue Facing West Towards the Intersection with South Airport Boulevard.

This area would represent the east side of the proposed overcrossing structure and redesigned Utah Avenue.

KOP 4 – Resource Change (moderate). The reconfiguration of Utah Avenue, the Utah Avenue/South Airport Boulevard intersection, and the addition of the proposed overcrossing structure would be compatible with the existing visual character and visual quality at KOP 4. The changes with the Build Alternative would lead to an overall uniform appearance, with the form and lines of Utah Avenue extending towards the horizon as it arches over US 101. Views of landscaped areas associated with development in the foreground and the narrow band of green hillsides in the background would be partially or completely obscured, and KOP 4 would be dominated by smooth gray pavement. The changes to KOP 4 could lead to increased unity, as the transition from pavement to the horizon would be harmonious relative to the existing visual pattern, which is marked by differently colored buildings and signs. The view of the Travelodge will be partially blocked from this perspective, but the businesses sign will still be evident. The IHOP restaurant that is on the right side of the Travelodge will no longer be present. Although the changes to KOP 4 would lead to a different perspective due to the added structures and project elements, the existing setting is commercial and industrial, with low visual quality. Therefore, resource change is anticipated to be moderate.

KOP 4 – Viewer Response (moderate). Viewer groups at KOP 3 could include motorists, bicyclists and pedestrians, as well as employees of local businesses. These viewer groups have a moderate to moderate-high viewer exposure and moderate viewer sensitivity. Because they are familiar with the existing area, changes to this area will likely be apparent to these groups. However, viewer response will be moderate given these groups low expectations for scenic experiences in this commercial and industrial area.

KOP 4 – Visual Impact. Moderate. The changes to Utah Avenue and the Utah Avenue/South Airport Boulevard intersection would be compatible with existing visual character and quality, and would lead to an overall uniform appearance. Noticeable moderate resource change and moderate viewer response would result in an overall moderate visual impact for this view.

Figure 2.2.9-9 KOP 4 – Existing Condition



Photo date January 20, 2021.

Figure 2.2.9-10 KOP 4 – Proposed Condition



Summary

The project would likely lead to moderate overall visual impacts for viewers in the area. Key project components that could alter visual resources in the project area include the new overcrossing structure and support structures, and geometry modifications to the Utah Avenue/South Airport Boulevard, Utah Avenue/San Mateo Avenue, and Airport Boulevard/Produce Avenue/San Mateo Avenue intersections. Motorists, bicyclists and pedestrians on US 101 and adjacent streets would be the primary viewers of these changes, as well as employees and customers of adjacent businesses and hotels. Existing visual character is likely to be altered in most views due to the addition of the proposed over-crossing. The most visible changes will be of the new structure, from adjacent land uses at the Produce Terminal, airport parking lots, and the Travelodge.

Overall, the existing visual quality in most areas of the corridor is low to moderate. Viewer responses from US 101 are expected to be low due typical highway speeds. The project would generally maintain the existing visual character and quality of the corridor, and enhance accessibility (and views) for bicyclists and pedestrians, while simultaneously creating new vistas above US 101.

Avoidance and minimization measures VIS-01 and VIS-02 would improve the short and long-term integration of project components within the corridor. Additionally, measures BIO-02 and BIO-03 would minimize the removal of vegetation and trees, and provide the conditions for replanting. Aesthetic or architectural treatment of the structure, tree and vegetation replanting, construction practices, and the other measures listed below would assist with integrating the project features into the existing area.

The overall visual impacts from project features would be moderate with the implementation of avoidance and minimization measures.

2.2.9.4 Avoidance, Minimization, and/or Mitigation Measures

Avoidance or minimization measures have been identified and can lessen visual impacts caused by the project. Also, the inclusion of aesthetic features in the project design previously discussed can help generate public acceptance of a project. This section describes additional avoidance and/or minimization measures to address specific visual impacts. These will be designed and implemented with concurrence of the District Landscape Architect and project team.

The following measures to avoid or minimize visual impacts will be incorporated into the project:

VIS-01: Aesthetic Treatments. New structures, including the overcrossing structure and retaining walls, will match or enhance the aesthetics of the corridor through context-sensitive designs. The visual simulations in Section 2.2.9.3 show one potential design for the overcrossing structure, but specific aesthetic treatments will ultimately be determined during the detailed design phase.

VIS-02: Construction Impact Measures

- Contractor staging areas shall use unvegetated, preferably paved areas. The project requires acquisition of two parcels, at the IHOP Restaurant on South Airport Boulevard and the commercial building on San Mateo Avenue, and these properties would be available for contractor staging use.
- Place unsightly materials, equipment storage and staging so that they are not visible within the foreground of the highway corridor to the maximum extent feasible. Where such siting is unavoidable, material and equipment shall be visually screened to minimize visibility from the roadway and nearby sensitive off-road receptors.

Additionally, AMMs BIO-02 and BIO-03 would avoid or minimize effects on vegetation and trees, respectively. AMM-BIO-03 would include a landscaping plan to replace removed trees at a minimum 1:1 ratio if sufficient space and sight distance requirement allow for safe replacement. See Section 2.4.1.3 for detailed descriptions of these measures.

In addition to the avoidance and minimization measures described above, the following project features described in Table 1.6-2 would lessen adverse effects to visual resources associated with the project:

- **PF-BIO-03:** Site Restoration
- **PF-BIO-04:** Landscaping and Revegetation Plan
- **PF-BIO-07:** Vegetation Removal
- **PF-BIO-08:** Tree Protection
- **PF-BIO-11:** Construction Lighting and Signage

2.2.10 Cultural Resources

2.2.10.1 Regulatory Setting

The term “cultural resources,” as used in this document, refers to the “built environment” (e.g., structures, bridges, railroads, and water conveyance systems); places of traditional or cultural importance; and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms, including “historic properties,” “historic sites,” “historical resources,” and “tribal cultural resources.” Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act (NHPA) of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places (NRHP). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to

comment on those undertakings, following regulations issued by the ACHP (36 CFR 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement (PA) among FHWA, the ACHP, the California State Historic Preservation Officer (SHPO), and Caltrans went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the ACHP's regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans. FHWA's responsibilities under the PA have been assigned to Caltrans as part of the Surface Transportation Project Delivery Program (23 USC 327).

CEQA requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as "unique" archaeological resources. California PRC Section 5024.1 established the California Register of Historical Resources (CRHR) and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the CRHR and, therefore, a historical resource. Historical resources are defined in PRC Section 5020.1(j). In 2014, Assembly Bill (AB) 52 added the term "tribal cultural resources" to CEQA, and AB 52 is commonly referenced instead of CEQA when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in PRC Section 21074(a), a tribal cultural resource is a CRHR or local register-eligible site, feature, place, cultural landscape, or object which has a cultural value to a California Native American tribe. Tribal cultural resources must also meet the definition of a historical resource. Unique archaeological resources are referenced in PRC Section 21083.2.

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires Caltrans to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the SHPO before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the NRHP or are registered or eligible for registration as California Historical Landmarks. Procedures for compliance with PRC Section 5024 are outlined in a Memorandum of Understanding between Caltrans and SHPO, effective January 1, 2015. For most federal-aid projects on the State Highway System, compliance with the Section 106 PA would satisfy the requirements of PRC Section 5024.

2.2.10.2 Affected Environment

The following section is based on information from the *Archeological Survey Report* (AECOM 2021b) and the *Historic Resources Evaluation Report* (AECOM 2021c) for the proposed project. These reports were completed in November 2021.

The study area for cultural resources is called the Area of Potential Effects (APE). The 8.3-acre APE is on both sides of US 101 and is bounded by San Bruno Creek on the south, San Mateo Avenue on the west, and Corey Way on the east; the northern boundary is just north of intersection of San Mateo Avenue and Airport Boulevard. The vertical APE (depth of construction) is approximately 60 feet or more.

Records, Archival, and Field Review

A cultural resources records search was conducted by the Northwest Information Center (NWIC) of the California Historical Resources Information System, Sonoma State University, for the APE and a 0.25-mile buffer. Other cultural resource inventories and references were also reviewed, including the San Mateo County History Museum and the South San Francisco Historical Society. The records search identified two prehistoric and six historic cultural resources in the APE. A pedestrian/vehicular survey of the APE was conducted in March 2018. No cultural resources were identified during the pedestrian survey.

Shellmounds have been mapped within the City of South San Francisco, and background research indicated the potential for two shellmounds in the approximate project region based on general mapping from the early 1900s. However, the sites have not been re-identified since the original mapping. Subsurface archaeological testing was performed that indicated the area below the project is on historic marsh (areas not generally associated with pre-historic settlement) which is now artificial fill, and entirely urbanized. Review of archaeological sensitivity mapping indicated the project area has low potential for buried archaeological resources, and moderate sensitivity for submerged resources beneath the fill that overlies the Bay Mud in this area.

Native American Consultation

The California Native American Heritage Commission (NAHC) was contacted via e-mail on December 22, 2017, to request a search of its Sacred Lands File for any Native American cultural resources that potentially could be affected by the proposed project. A request also was made for the CEQA Tribal Consultation List, which includes the names of Native Americans who may have information or concerns about the APE and have requested notice about projects from CEQA lead agencies in accordance with Assembly Bill 52 (AB 52). The NAHC responded with a list of Native American parties and negative results from the Sacred Lands File search.

On June 13, 2018, letters initiating Section 106 and AB 52 consultation were sent to all parties listed in the NAHC letter, including chairpersons from the Ohlone Indian Tribe, Costanoan Rumsen Carmel Tribe, Amah Mutsun Tribal Band of Mission San Juan Bautista, Indian Canyon Mutsun Band of Costanoan, and Muwekma Ohlone Indian Tribe of the San Francisco Bay Area. Caltrans received an e-mail reply from the Ohlone Indian Tribe asking for a copy of the project APE in relation to other cultural resources. Caltrans provided the requested map on June 14, 2018, and no further responses have been received. No responses were received from any of the other individuals. Follow-up phone calls were made on September 19, 2018.

On February 2, 2021, an updated project description and APE map was sent to the individuals contacted in 2018. On February 2, 2021, the Chairperson of the Amah Mutsun Tribal Band of Mission San Juan Bautista responded to recommend that all crews have Cultural Sensitivity Training, that the archaeological monitors for the

project are California-trained, and the Native American monitors are qualified. Native American Consultation is also documented in Section 4.3.3.

Historic Architectural and Archaeological Resources

The archaeological review indicated the project site is on former marsh and modern artificial fill, with a low sensitivity for unknown buried resources below the existing urbanized project setting, and moderately sensitive for the potential for submerged archaeological resources. Numerous buildings and structures are in the APE, and six were evaluated for eligibility for the NRHP and CRHR and for their potential to be historical resources for purposes of CEQA. One property, the Golden Gate Produce Terminal (131 Terminal Court, South San Francisco, APN 015-113-210), was determined to be eligible for the NRHP under Criterion A for its association with the development of the South San Francisco Industrial Park and the produce industry in the San Francisco Bay area. The Golden Gate Produce Terminal also is considered to be a historical resource for CEQA compliance and is eligible for the California Register of Historical Resources (CRHR) on the local level under Criterion 1. It is also considered a Section 4(f) property, as documented below and in Appendix A. The remaining five properties were determined to not be NRHP-eligible or to be historical resources for the purposes of CEQA.

2.2.10.3 Environmental Consequences

No Build Alternative

The No Build Alternative is not anticipated to affect cultural resources.

Build Alternative

The majority of the project construction would occur in areas that are paved or have had previous ground disturbances. Ground-disturbing activities during construction of the project could affect unknown buried cultural resources in areas adjacent to US 101. The background research and literature review conducted for this project identified two previously recorded prehistoric archaeological sites (shellmounds). However, these resources have not been relocated and as stated above, project activities are not anticipated to encounter submerged archaeology.

No adverse effects to the produce terminal are anticipated because there are no improvements planned that will alter, physically destroy, cause neglect and deterioration, or lead to the transfer, sale, or lease of the historic property and any of its character-defining features. The historic property's integrity aspects of location, design, workmanship, materials, and association would not be diminished by the project because there are no direct effects.

Caltrans has proposed a Finding of No Adverse Effect on historic properties, and is seeking the State Historic Preservation Officer's (SHPO) concurrence in this finding, pursuant to 36 Code of Federal Regulations (CFR) 800.5(c) and Stipulation X.B.2 of the Section 106 PA.

2.2.10.4 Avoidance, Minimization, and/or Mitigation Measures

The following measure would be included to avoid or minimize impacts to cultural resources.

CUL-01: Cultural Resource Protection

During project construction, if previously unidentified cultural resources are unearthed, all earth-moving activity within and around the immediate discovery area will be halted until a qualified archaeologist can assess the nature and significance of the find.

If remains are discovered during excavation, all work within 60 feet of the discovery will halt and Caltrans' Office of Cultural Resource Studies (OCRS) will be called. Caltrans OCRS staff will assess the remains and, if determined human, will contact the County Coroner as per Public Resources Code (PRC) Sections 5097.98, 5097.99, and 7050.5 of the California Health and Safety Code. If the Coroner determines the remains to be Native American, the Coroner will contact the Native American Heritage Commission who will assign a Most Likely Descendant. Caltrans will consult with the Most Likely Descendant on treatment and reburial of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

2.3 Physical Environment

2.3.1 Hydrology and Floodplain

2.3.1.1 Regulatory Setting

Executive Order 11988 (Floodplain Management, 1977)

Executive Order (EO) 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration (FHWA) requirements for compliance are outlined in 23 Code of Federal Regulations (CFR) 650 Subpart A.

To comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments.
- Risks of the action.
- Impacts on natural and beneficial floodplain values.
- Support of incompatible floodplain development.
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project.

The base floodplain is defined as “the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year.” An encroachment is defined as “an action within the limits of the base floodplain.”

2.3.1.2 Affected Environment

The following discussion is based on the Location Hydraulic Study (WRECO 2021b).

The project is in the Colma Creek watershed. Colma Creek crosses US 101 within the project limits, and the San Bruno Canal crosses US 101 approximately 0.2 mile south of the southern project limit. The project's receiving water bodies are Colma Creek, San Bruno Canal, and San Francisco Bay (Lower). Colma Creek is a flood control channel which drains approximately 16.6 square miles of the northern San Francisco Peninsula. Channel reaches include earthen trapezoidal channels, channels with concrete walls and earthen beds, fully concrete lined channels, and concrete box culverts. San Bruno Canal extends westward from Colma Creek towards San Mateo Avenue. Both Colma Creek and San Bruno Canal drain to the San Francisco Bay.

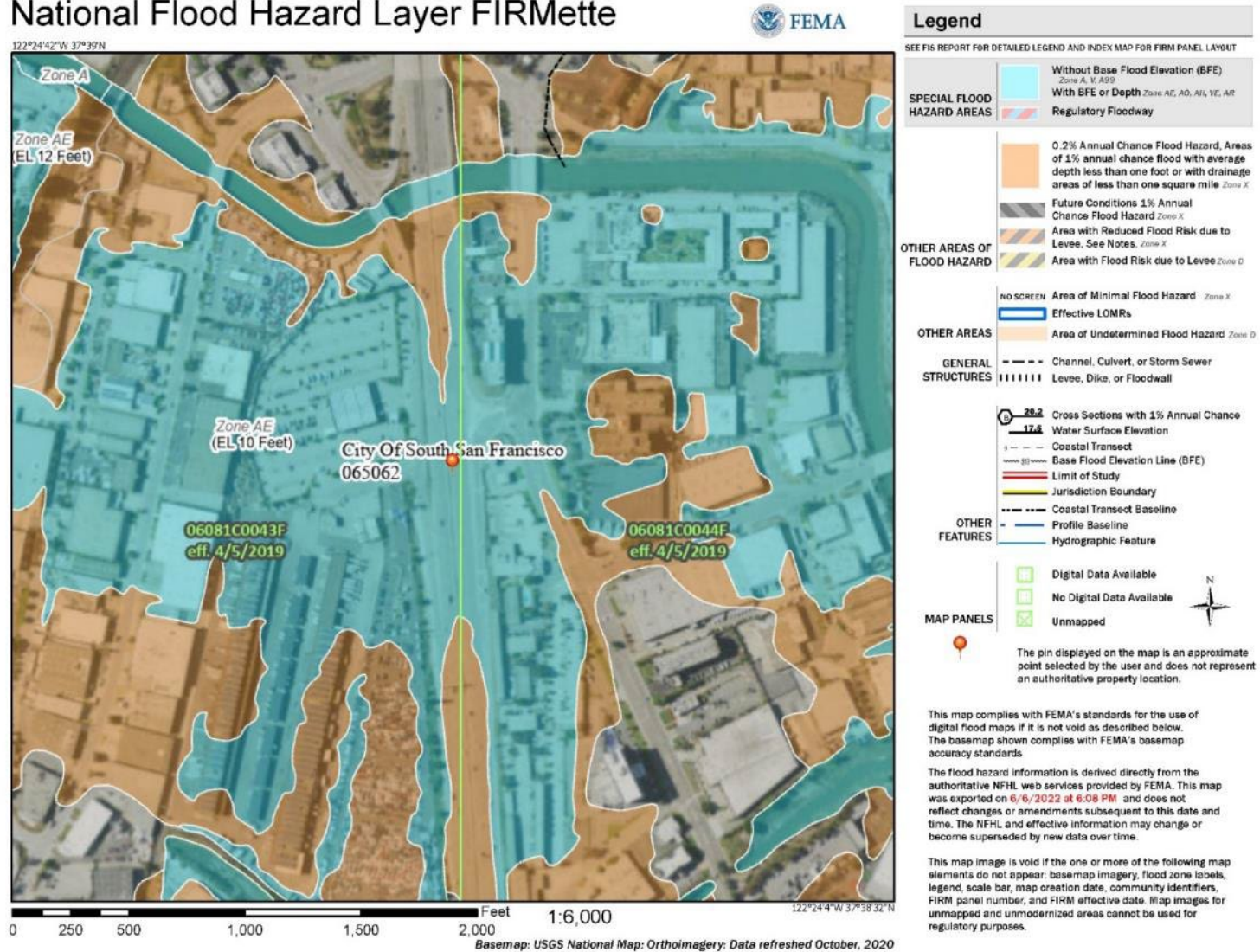
Floodplains are defined using Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), which categorize floodplains into different areas. The applicable FIRMs for the project area are depicted in Figure 2.3.1-1.

The Project site is located within the Colma Creek floodplain (FIRM Panel Number 06081C00F, effective April 2, 2019). FEMA defines the Base Flood as the flood that has a one percent chance of being equaled or exceeded in any given year (100-year flood).

As shown in Figure 2.3.1-1, part of the project area is within Zone AE EL 10, which represents areas that are subject to flooding by the aforementioned 100-year flood. The remainder of the project area, including the existing Utah Avenue/South Airport Boulevard intersection, is within Zone X. Zone X in this context represents an area with a 0.2% annual chance flood hazard or 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile.

Figure 2.3.1-1 Project Area FIRM Map

National Flood Hazard Layer FIRMette



2.3.1.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not alter the existing floodplains within the project limits.

Build Alternative

Risks Associated with the Proposed Action

As defined by the FHWA, risk shall mean the consequences associated with the probability of flooding attributable to an encroachment. It shall include the potential for property loss and hazard to life during the service life of the bridge and roadway.

The potential risk associated with the implementation of the proposed action includes but is not limited to: 1) change in land use, 2) change in impervious surface area, 3) fill inside the floodplain, or 4) change in the 100-year water surface elevation.

- 1) **Change in Land Use.** The Project would not change the overall land use within the Project location and within the watershed basin (it would remain urban/developed).
- 2) **Change in Impervious Area.** The addition of the Utah Street bridge crossing would not substantially increase the impervious surface area within the Colma Creek watershed. The added impervious area resulting from the Project would be insubstantial compared to the watershed of the Project location, and the surface area of the new bridge would be over an already paved area (the US 101 freeway). Therefore, the peak 100-year flow at the Project site would not increase significantly from this Project.
- 3) **Fill Inside the Floodplain.** Abutment excavation and fill will be required for the bridge landing at both Utah Avenue and San Mateo Avenue. This would disturb the existing 100-year floodplain in this area. Bridge abutments will be designed to add similar quantities of cut and fill to the area to prevent permanent disturbances to the 100-year flood plain.
- 4) **Change in the 100-Year Water Surface Elevation.** Hydraulic modeling will be done in the latter stages of design to ensure that there are no significant changes to the 100-year floodplain. Changes in the 100-year flood plain caused by added fill can potentially create new entry points for floods during storms to damage pre-existing structures.

Summary of Potential Encroachments

The FHWA defines a significant encroachment as a highway encroachment, and any direct support of likely base floodplain development, that would involve one or more of the following construction or flood-related impacts: 1) significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route, 2) a significant risk, or 3) a

significant adverse impact on the natural and beneficial floodplain values (1994). The following sections discuss the potential impacts to the floodplain that may result from the proposed action.

- 1) **Potential Traffic Interruptions for the Base Flood.** The Project does not have significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles or provides a community's evacuation route. The impacts to the floodplains within the Project area will not have a risk of causing significant effects on traffic flow.
- 2) **Potential Impacts on Natural and Beneficial Floodplain Values.** Natural and beneficial floodplain values include, but are not limited to: fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, forestry, natural moderation of floods, water quality maintenance, and ground water recharge. There will be no potential impacts to the surrounding nature. Urban is not added to the Project site.
- 3) **Support of Probable Incompatible Floodplain Development.** As defined by the FHWA, the support of incompatible base floodplain development will encourage, allow, serve, or otherwise facilitate incompatible base floodplain development, such as commercial development or urban growth. The Project area is already developed, and would not create new access to developed or undeveloped land and hence, and would not support new incompatible floodplain development since the project area is already built out.
- 4) **Longitudinal Encroachments.** As defined by the FHWA, a longitudinal encroachment is an action within the limits of the base floodplain that is longitudinal to the normal direction of the floodplain. The Project would not have any longitudinal encroachment at the base floodplain, because the overcrossing is not parallel to the direction of flow in Colma Creek.

Based on the points above, the project is not anticipated to result in a significant floodplain encroachment. The proposed Project would not change the overall land use within the project watershed, and would not significantly increase impervious areas. The proposed Project would add fill in the floodplain because of the construction of a bridge. Hydraulic analysis will be done to ensure that the added fill will not alter the existing floodplain. Therefore, the overall Project's possible impact to the floodplain would be minimal, and minimization measures would not be required.

2.3.1.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization or mitigation is required.

2.3.2 Water Quality and Storm Water Runoff

2.3.2.1 Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source⁵ unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of stormwater from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCBs) administer this permitting program in California. Section 402(p) requires permits for discharges of stormwater from industrial/construction and municipal separate storm sewer systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The goal of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE’s Individual permits. There are two types of individual permits: standard permits and letters of permission. For individual permits,

⁵ A point source is any discrete conveyance such as a pipe or a man-made ditch.

the USACE decision to approve is based on compliance with U.S. EPA's Section 404 (b)(1) Guidelines (40 CFR Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the Wetlands and Other Waters section.

State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation in California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the State include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined, and this definition is broader than the CWA definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, RWQCBs designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect those uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or nonpoint source controls (NPDES permits or WDRs), the CWA requires the establishment of total maximum daily loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, nonpoint, and natural) for a given watershed.

State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCBs)

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

NPDES Program – Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of stormwater discharges, including MS4s. An MS4 is defined as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over stormwater, that is designed or used for collecting or conveying stormwater.” The SWRCB has identified Caltrans as an owner/operator of an MS4 under federal regulations. The Department’s MS4 permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for 5 years, and permit requirements remain active until a new permit has been adopted.

The Department’s MS4 Permit, Order No. 2012-0011-DWQ (adopted on September 19, 2012, and effective on July 1, 2013), as amended by Order No. 2014-0006-EXEC (effective January 17, 2014), Order No. 2014-0077-DWQ (effective May 20, 2014) and Order No. 2015-0036-EXEC (conformed and effective April 7, 2015), has three basic requirements:

1. The Department must comply with the requirements of the Construction General Permit (see below).
2. The Department must implement a year-round program in all parts of the state to effectively control stormwater and non-stormwater discharges.
3. The Department stormwater discharges must meet water quality standards through implementation of permanent and temporary (construction) best management practices (BMPs), to the maximum extent practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.
4. Caltrans must implement trash control measures to meet trash regulation compliance. This requirement is per the California Water Code Section 13383 Order issued by the State Water Resources Control Board to Caltrans, applicable to all Caltrans projects (SWRCB 2017). However, per the Caltrans Trash Amendment Implementation Plan CTSW-RT-19-379.09.2, full trash capture BMPs are only considered for Significant Trash Generating Areas (STGA).

To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan (SWMP) to address stormwater pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities in Caltrans for implementing stormwater management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices Caltrans uses to reduce pollutants in stormwater and non-stormwater discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address stormwater runoff.

Construction General Permit

Construction General Permit, Order No. 2009-0009-DWQ (adopted on September 2, 2009 and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012). The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop Storm Water Pollution Prevention Plans (SWPPPs); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective SWPPP. In accordance with the Department's SWMP and Standard Specifications, a Water Pollution Control Program (WPCP) is necessary for projects with DSA less than one acre.

Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by the USACE. The 401 permit certifications are obtained from the

appropriate RWQCB, depending on the project location, and are required before the USACE issues a 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as WDRs under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

Regional and Local Requirements: RWQCB Basin Plan

The Project is within the jurisdiction of the San Francisco Bay RWQCB, Region 2. The San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin (2019) states the goals and policies, beneficial uses, and water quality objectives that apply to water bodies throughout the San Francisco Bay region, which includes the Project area. The Basin Plan has been adopted by the SWRCB, U.S. EPA, and Office of Administrative Law.

Regional and Local Requirements: MS4

The work within the City is covered under the San Francisco Bay Municipal Regional Permit (MRP), Order No. R2-2015-0049, as amended by Order No. R2-2019-0004.

Regional and Local Requirements: Storm Water Management Plan

The City is a member of the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), which was established in 1990 to reduce the pollution carried by stormwater into local creeks, the San Francisco Bay, and the Pacific Ocean. The SMCWPPP developed the C.3 Regulated Projects Guide (2020) to summarize requirements of the MRP and provide guidance for low-impact development (LID) design strategies and specific BMP selection criteria. Selection, placement, and design of stormwater treatment BMPs within the City's right-of-way would follow this guidance document.

2.3.2.2 Affected Environment

The following discussion is based on the US 101/Produce Avenue Interchange Project Draft Water Quality Assessment Report (WRECO 2021a).

Regional Hydrology

Per the CalWater watershed delineation in Caltrans' Water Quality Planning Tool (2020), the Project area is within an undefined Hydrologic Sub Area (#204.40) of the San Mateo Bayside Hydrologic Area within the South Bay Hydrologic Unit. The Project lies within the Colma Creek watershed, which drains approximately 16.6 square miles of the eastern portion of South San Francisco. The headwaters of Colma Creek are on San Bruno Mountain. The lower reaches of Colma Creek are managed by the San Mateo County Flood Control District (County of San Mateo Public Works No Date).

Surface Waters

The surface waters in the project area are identified in Section 2.3.1.2. Water quality objectives are numeric and narrative objectives used to define the appropriate levels of environmental quality, to protect beneficial uses, and to manage activities that can impact aquatic environments. The Basin Plan lists the following narrative and numeric water quality objectives for the region's surface waters: bacteria, bioaccumulation, biostimulatory substances, color, dissolved oxygen, floating material, oil and grease, population and community ecology, pH, radioactivity, salinity, sediment, settleable material, suspended material, sulfide, tastes and odors, temperature, toxicity, turbidity, and un-ionized ammonia (San Francisco Bay RWQCB 2019).

Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning. The Basin Plan lists beneficial uses for Colma Creek and San Francisco Bay Lower. San Bruno Canal is not listed for any beneficial uses; however, per the Basin's Plan tributary rule, San Bruno Canal would have the same beneficial uses as Colma Creek.

The 2014/2016 California Integrated Report (Clean Water Act Section 303[d] List/305[b] Report) (SWRCB 2018) does not identify any pollution impairments for San Bruno Canal. It does list Colma Creek and San Francisco Bay Lower as being pollutant impaired. The City and Caltrans are stakeholders for several impairments at San Francisco Bay Lower, including trash, mercury, and polychlorinated biphenyls (PCB).

Municipal Supply

The Caltrans District 4 Work Plan (Caltrans 2020a) identifies three drinking water reservoirs or recharge facility areas within San Mateo County. Of those, San Andreas Lake is closest to the Project, at approximately 3 miles southwest of the Project area. These reservoirs should not be impacted by the Project.

Groundwater Hydrology

The Project lies within the Westside Groundwater Basin (2-035). The Westside Basin covers approximately 25,400 acres of San Francisco and San Mateo counties and is largely composed of bedrock and unconsolidated materials (DWR, 2006). During subsurface explorations performed in 1972, free groundwater was encountered in some of the borings at elevations of 2 to 3 feet below ground surface (bgs). In addition, borings drilled at a nearby gasoline service station encountered groundwater at 3.5 to 8.5 feet bgs. Because of the Project's close proximity to the bay, groundwater may be subject to tidal fluctuations (AECOM 2020c). Groundwater depths will be determined during the Plans, Specifications, and Estimates (PS&E) phase.

Groundwater Quality Objectives/Standards and Beneficial Uses

The Basin Plan (San Francisco Bay RWQCB 2019) identifies narrative and numerical groundwater objectives for the region; it states: "at a minimum, groundwater shall not contain concentrations of bacteria, chemical constituents, radioactivity, or substances

producing taste and odor.” The Basin Plan lists the following beneficial uses for the Westside Groundwater Basin:

- Existing: municipal and domestic water supply, industrial process supply, industrial service supply
- Potential: agricultural water supply

2.3.2.3 Environmental Consequences

No Build Alternative

No short-term water quality impacts would occur with the No Build Alternative because it would not require any construction activities.

Build Alternative

Currents, Circulation, or Drainage Patterns

The Project would result in an increase of impervious area. The goal of the Project is to maintain the current drainage patterns; however, the existing drainage may need to be modified to accommodate larger flows due to the additional impervious area. Drainage improvements would be determined during the PS&E phase.

Suspended Particulates (Turbidity)

The additional impervious area would increase the amount of runoff not infiltrated or dispersed over unpaved surfaces. Although the added impervious area could result in an increase of sediment- laden flow directly discharging to receiving water bodies, stormwater impacts would be reduced through the proper implementation of permanent erosion control, design pollution prevention, and stormwater treatment measures.

Oil, Grease, and Chemical Pollutants

The project would implement treatment BMPs within City and Caltrans’ right-of-way to remove pollutants, including trash, mercury, and PCBs, from stormwater runoff before discharging into receiving water bodies. The Project would also implement source and trash control measures within the City right-of-way.

Erosion and Accretion Patterns

The increase in impervious area can result in the modification of runoff hydrographs to existing receiving water bodies by increasing the flow volumes and rates and peak durations from the loss of unpaved overland flow routes and infiltration capacity. Although the Project would create and/or replace 3.92 acres within the City’s right-of-way and would increase impervious surfaces over pre-project conditions, it is located within an exempt area within the SMCWPPP’s Hydromodification Control Area Map (2009). Therefore, the Project is not required to implement hydromodification management measures within the City’s right-of-way.

Aquifer Recharge/Groundwater

The Project area is highly urbanized, which limits areas of groundwater recharge. Long-term dewatering activities are not needed for the Project. Therefore, permanent impacts to the Westside Groundwater Basin are not anticipated.

Special Aquatic Sites

There is no in-water work for this Project. Therefore, the Project would not impact jurisdictional features.

Recreational or Commercial Fisheries

San Francisco Bay Lower has the beneficial uses of commercial and sport fishing. The Project limits do not extend to the Bay, and the proposed stormwater treatment measures would remove sediment and pollutants from discharging into the receiving water bodies. Therefore, the Project is not expected to have any permanent impacts to recreational or commercial fisheries.

Other Water Related Recreation

Each receiving water body has water contact recreation and noncontact water recreation beneficial uses. The proposed stormwater treatment measures would remove sediment and pollutants from discharging into the receiving water bodies. Therefore, there are no anticipated permanent adverse impacts on water quality recreation.

Temporary Impacts to Water Quality

The Project would have an estimated 4.62 acres of DSA. During construction, potentially sediment-laden flow can result from runoff over DSAs that enter storm drainage facilities or directly discharge into the receiving water bodies, increasing the turbidity, decreasing the clarity, and potentially impacting the beneficial uses of the receiving water bodies. Construction BMPs are anticipated to avoid temporary impacts to water quality as a result of such runoff.

Construction General Permit Risk Level Assessment

This Project would disturb more than 1 acre of soil and must comply with the CGP, which includes performing risk level determination to determine the required monitoring and sampling of stormwater during construction. The risk level assessment is determined from the combined receiving water risk and sediment risk.

The Project has a low receiving water risk because the Project's receiving water bodies do not have the combined existing beneficial uses of cold freshwater habitat, fish spawning, and fish migration, nor are they impaired for sediment. Using the U.S. EPA's "Rainfall Erosivity Factor Calculator for Small Construction Sites" (2020), it was determined that the project has a medium sediment risk.

The low receiving water and medium sediment risks result in the Project being classified as Risk Level 2. Therefore, in addition to implementation of standard construction site BMPs, the contractor would be required to perform quarterly non-stormwater discharge visual inspections, and rain event visual inspections pre-storm, daily during a storm event, and post-storm. Risk Level 2 projects are also required to implement Rain Event Action Plans and comply with Numeric Action Level effluent limits for pH and turbidity. This assessment may be updated during the PS&E phase as more detailed Project information becomes available.

Long-Term Impacts During Operation and Maintenance

The Project would enhance multi-modal access system connectivity in each direction on Utah Avenue between San Mateo Avenue and South Airport Boulevard. Therefore, drain inlet stenciling should be considered for the Project. Implementation of maintenance BMPs, including maintenance-vehicle pullouts, will be considered during the PS&E phase, and coordinated with the Caltrans Maintenance Staff.

The new impervious area would increase hydromodification and stormwater pollution effects along the Project's right-of-way. These impacts would be reduced through the implementation of source control, LID, and stormwater treatment BMPs. Pollution and runoff sources are not expected to change.

2.3.2.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation is required. Project features PF-WQ-01 through 03 will be implemented as shown in Table 1.6-1.

2.3.3 Geology/Soils/Seismic/Topography

2.3.3.1 Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features." Topographic and geologic features are also protected under CEQA.

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Structures are designed using the Department's Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge's category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please see the Department's Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria at <https://dot.ca.gov/programs/engineering-services>.

2.3.3.2 Affected Environment

The information in this section is summarized from the *Structure Preliminary Geotechnical Report* (SPGR) (AECOM 2021d).

Site Geology

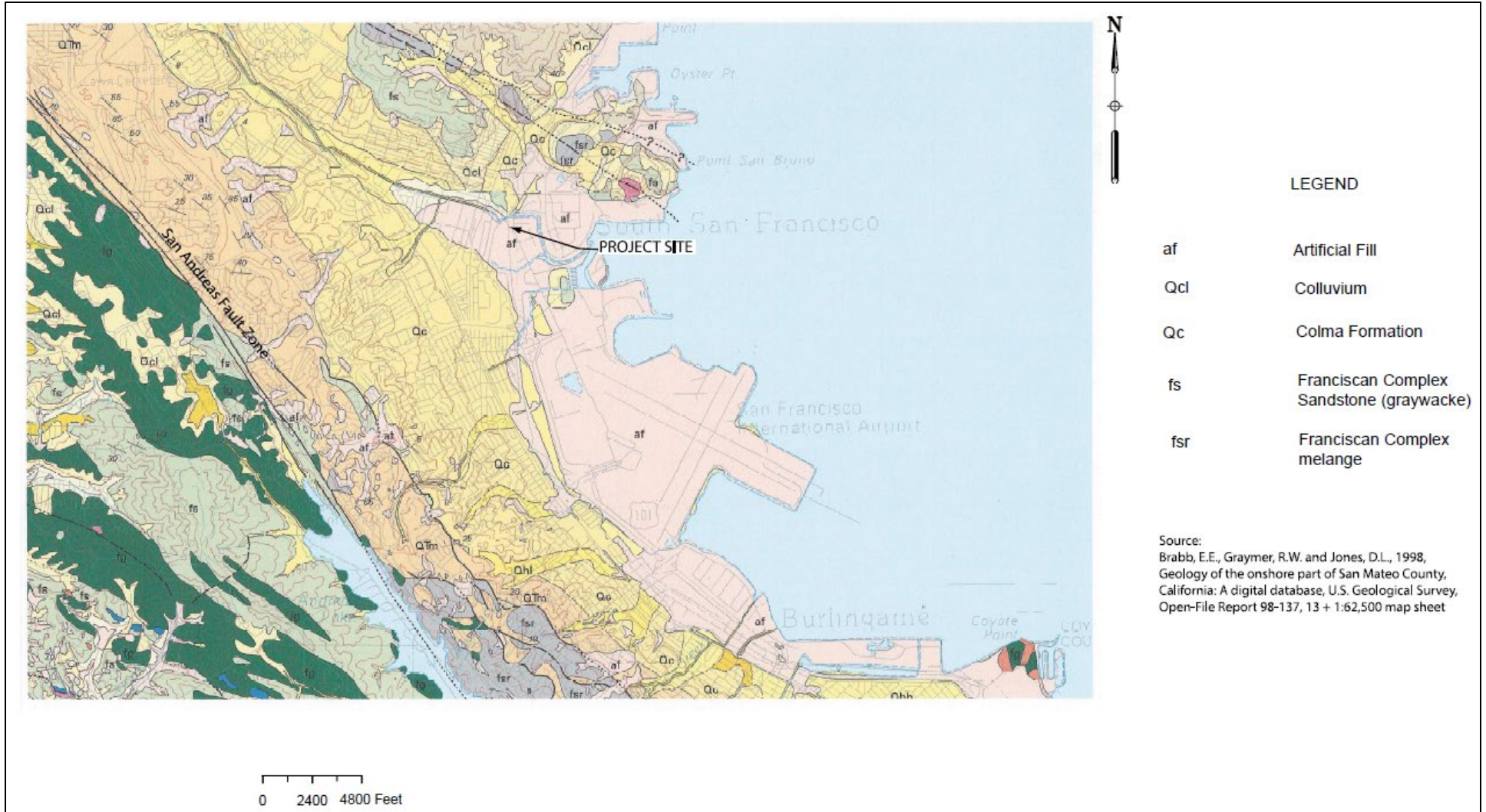
The project site is located just west and northwest of the current San Francisco Bay margin. The historic tidal flats were covered in the early 1900s with artificial fill to create the present-day topography. The artificial fill covers all of the project area and is mapped from about the San Mateo Avenue undercrossing to the north of the site (Bridge No. 35-119) and extends along the US 101 corridor well south of the San Francisco Airport (Witter, et al, 2006; Barb, et al, 1998). The artificial fill also extends inland (west of US 101) 3,000 to 4,000 feet of the site along the margins of Colma Creek. A portion of the geologic map covering the project area prepared by Brabb is included as Figure 2.3.3-1. Witter (2006) shows the artificial fill as being underlain by estuarine deposits known locally as San Francisco Bay Mud.

Southwest of the mapped limits of the artificial fill, Quaternary deposits exposed at the surface are mapped by Witter (2006) as Holocene (less than 10,000 years old) alluvial fan deposits consisting of sand, silt and clayey silt, underlain by older Pleistocene alluvial fan and fluvial deposits consisting of gravel, sand and silt. Mapping by Brabb (1998) classifies these deposits as the Pleistocene age Colma Formation consisting of fine to medium-grained sand with silt and clay. Bedrock consisting of Franciscan Complex sandstone and mélangé outcrops approximately 1 mile north and northeast of the site at Point San Bruno. The depth to bedrock is estimated to be at least 150 feet at the project site.

Subsurface Conditions

A previous boring on the outside shoulder of northbound US 101 within about 100 feet of the proposed east approach. It encountered approximately 5 feet of loose sand and rock fill underlain by about 25 feet of very soft silty clay (Bay Mud). Slightly compact to very dense silty and clayey sands with interbedded clayey silts and sandy clays, interpreted to be Quaternary alluvium fan deposits and Pleistocene Colma Formation, were encountered below the Bay Mud to the terminal boring depth of about 82 feet. About 1,100 feet to the south, Boring B-12 from the 1972 study encountered about 5 feet of Bay Mud with organics, overlain by about 3 feet of loose sand and rubble fill. The Bay Mud thickness observed in borings for the Colma Creek Bridge, located about 1,300 feet north of the project site, range from about 10 to 25 feet.

Figure 2.3.3-1 Project Site Geology



Potential Geological Hazards

Expansive Soils

Expansive soils are those that shrink or swell significantly with changes in moisture content. The near surface fill described on the as-built log of test borings in the vicinity of the bridge west abutment are expected to have low expansion potential. The Bay Mud that underlies the fill has high shrink/swell potential with changes of moisture content.

Landsliding

The project site is on relatively flat ground and is not subject to landsliding. Landsliding is, therefore, not considered to be a hazard for the project.

Flooding

As stated in Section 2.3.1 above, part of the project area is primarily within Zone AE EL 10, while the remainder is within Zone X.

Settlement

Settlement can occur quickly when soil is loaded by a structure or by the placement of fill; it can also occur gradually when soil pore pressures, increased by vertical loading, gradually dissipate over time. The Build Alternative would be designed to prevent adverse effects associated with settlement, based on the recommendations of the SPGR.

Groundwater

Borings drilled at a nearby gasoline station encountered groundwater at depths of about 3.5 to 8.5 feet bgs, corresponding to about Elevation 2.6 to 5.1 feet (NAVD 88). Because of the close proximity of the site to the bay, San Bruno Canal and Colma Creek, groundwater is likely subject to tidal fluctuations.

2.3.3.3 Environmental Consequences

The following discussion pertains to both the Build and No Build Alternatives because seismic and geologic hazards on the project alignment are present under the existing condition and would be present under both the No Build and Build Alternatives. The proposed improvements would not increase existing seismic or other geological hazards.

Potential Seismic Hazards

Fault Rupture

Surface fault rupture tends to recur along existing fault traces. The highest potential for surface faulting is along existing fault traces that have had Holocene fault displacement, mapped as Alquist-Priolo Earthquake Fault Zones. There are no Alquist-Priolo zones mapped in the project vicinity of the project site, and the potential for surface fault rupture is considered low.

Liquefaction

Soil liquefaction is a phenomenon in which saturated cohesionless soils are subject to a temporary but essentially total loss of shear strength under the reversing, cyclic shear stresses associated with earthquake shaking. In extreme cases, the soil particles can be suspended in groundwater, resulting in the deposit becoming mobile and fluid-like. Based on a liquefaction susceptibility map generated from the Association of Bay Area Governments (ABAG) geographic information systems (GIS), the project site is mapped as an area of “very high” liquefaction susceptibility. This is consistent with the presence of loose sand fill encountered in the upper 10 feet of borings near Colma Creek.

Lateral Spreading

Lateral spreading occurs when a layer liquefies at depth and causes horizontal movement or displacement of the overburden mass toward a free face such as a stream or canal bank or excavation, or toward an open body of water. The potential for liquefaction is expected to be high and due to the site proximity to Colma Creek and the San Bruno Canal, a potential for lateral spreading exists. This should be evaluated during the design phase following completion of field exploration and laboratory testing.

Geological Implications of the Project

Based on the above, it is not anticipated that the project would exacerbate existing geological conditions in the area. If the Build Alternative is selected, geological conditions, as identified in the SPGR, would be considered in the final design of the proposed overcrossing structure and retaining walls.

2.3.3.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation is required.

2.3.4 Paleontology

2.3.4.1 Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils.

A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects. The regulations listed below are included in this section based on the scope and federal funding of the proposed project.

16 United States Code (USC) 431-433 (the “Antiquities Act”) prohibits appropriating, excavating, injuring, or destroying any object of antiquity situated on federal land without the permission of the Secretary of the Department of Government having jurisdiction over the land. Fossils are considered “objects of antiquity” by the Bureau of

Land Management, the National Park Service, the Forest Service, and other federal agencies.

23 United States Code (USC) 1.9(a) requires that the use of Federal-aid funds must be in conformity with all federal and state laws.

23 United States Code (USC) 305 authorizes the appropriation and use of federal highway funds for paleontological salvage as necessary by the highway department of any state, in compliance with 16 USC 431-433 above and state law.

Under California law, paleontological resources are protected by the California Environmental Quality Act (CEQA).

2.3.4.2 Affected Environment

The information in this section is summarized from the *Paleontological Identification Report/Paleontological Evaluation Report* (PIR/PER) prepared in November 2020 (AECOM 2020e).

Geologic Setting

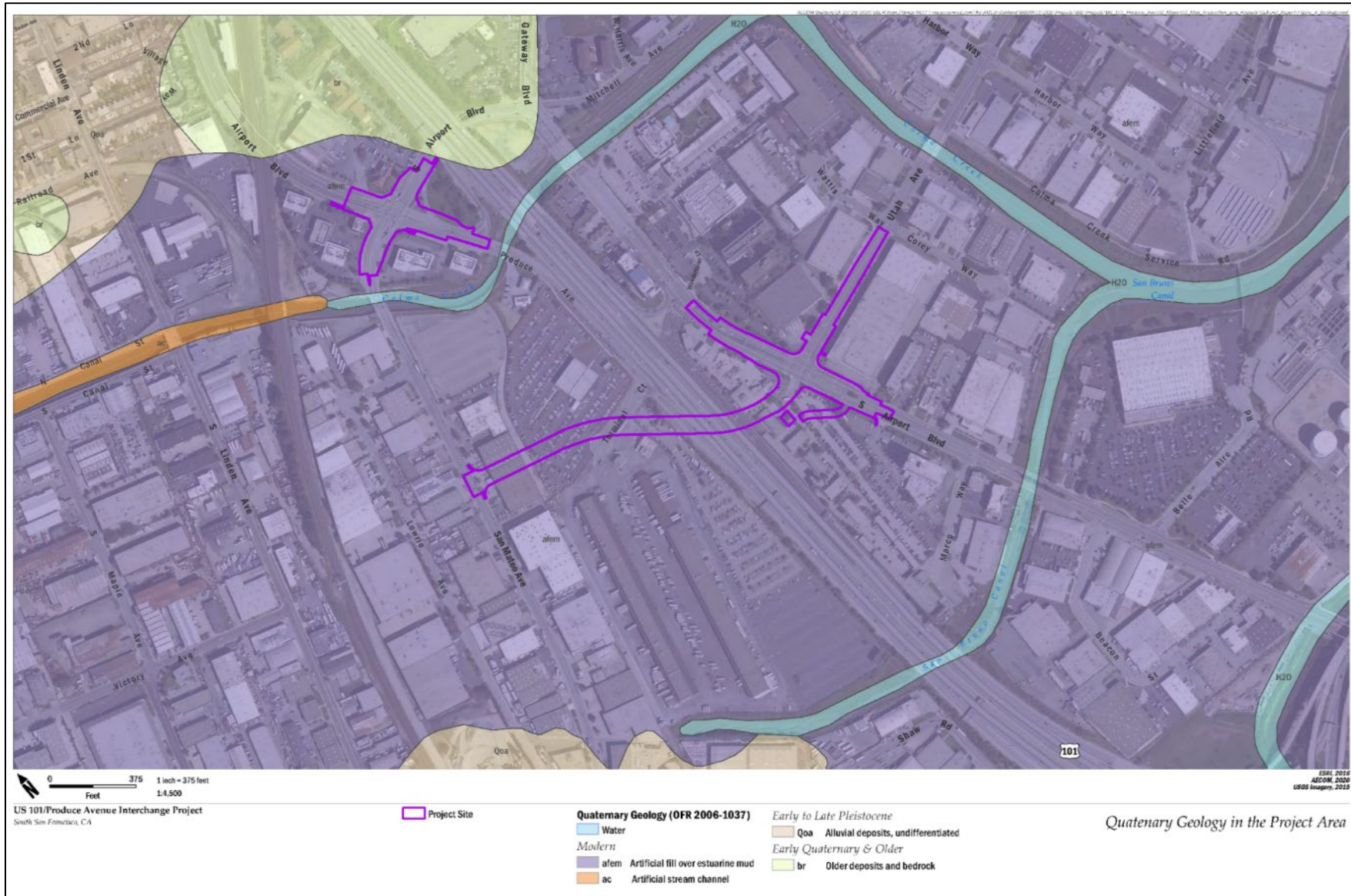
The project is underlain by the Colma Formation, formed in the Colma Valley, a “shallow marine passageway connecting the ocean with an ancestral bay...” (Helley and LaJoie 1979:25). In the general vicinity of project area, artificial fill and Bay mud overlie the Colma Formation and colluvium, which overlie bedrock (Franciscan Complex and associated rocks), at depth (Bonilla et al. 2000:11).

The project area is situated near the edge of San Francisco Bay, a late Pliocene-age structural depression that extends from the Santa Clara Valley north in Napa and Sonoma counties (Sloan 2006). During warm periods, the bay basin was partially flooded (Helley and LaJoie 1979:18). The bay as it currently exists began to form toward the end of the Pleistocene when the climate warmed and sea levels rose to fill the depression, known as the Franciscan Valley. The historic margins of the Bay shoreline were in the general vicinity of US 101; the project area was largely a tidal flat until areas along the freeway and to the east were filled. The placement of artificial fill occurred through approximately the 1960s, when further alteration of the Bay and its shorelines became regulated.

Stratigraphy

The project area is underlain by modern artificial fill over Holocene estuarine mud (afem) (Figure 2.3.4-1). North of the channelized flow of Colma Creek, and north of the project area, the surface geology is mapped as Cretaceous-Jurassic sandstone and shale bedrock (br) of the Franciscan Complex surrounded by surficial Pleistocene slope debris and ravine fill (Qoa) (Bonilla 1998; Brabb et al 1998). The subsurface geology in the project area is extrapolated based on a geologic cross section just north of the project area, the Holocene tidal flats likely overlie the Pleistocene Colma Formation (Qc) at depth, as does the slope debris and ravine fill (Qoa) (Bonilla et al. 2000). Below the Colma Formation is Franciscan Complex bedrock.

Figure 2.3.4-1 Quaternary Geology in the Project Area



Quaternary

The project area may contain Holocene, Pleistocene, Cretaceous and Jurassic quaternary geology. It consists of artificial fill over estuarine mud (Holocene era, 9 to 27 feet deep at the project site), slope debris and ravine fill (Quaternary alluvium fan, 27 to 43 feet deep), and the Pleistocene era Colma Formation below 43 feet deep.

Cretaceous and Jurassic

The Jurassic-Cretaceous sandstone and shale (KJs) and sheared rock (KJu) of the Franciscan Complex underlies the project area below 150 feet. No fossils have been found in this unit, but it is marine in origin. Beneath this formation is the Franciscan Complex bedrock at an estimated depth of 150 to 200 feet (URS 2012: 1-3).

2.3.4.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not affect the paleontology of the project area.

Build Alternative

Sensitivity

Caltrans uses a tripartite scale to characterize paleontological sensitivity consisting of no potential, low potential, and high potential (Caltrans 2014). The Bureau of Land Management (BLM) has developed a more nuanced system with multilevel ranking based on demonstrated yield of fossils called the Potential Fossil Yield Classification (PFYC) system (BLM 2016). The PFYC system provides additional guidance regarding assessment and is used to complement the Caltrans scale.

Occurrences of fossil resources are closely tied to the geologic units (e.g., formations or members) that contain them. The probability for finding significant fossils in a project area can be broadly predicted from previous records of fossils recovered from the geologic units present in and/or adjacent to the study area.

Using the PFYC system, geologic units are classified based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts. The PFYC uses the following scale:

- Class 1 – Very Low. Geologic units that are not likely to contain recognizable paleontological resources.
- Class 2 – Low. Geologic units that are not likely to contain paleontological resources.
- Class 3 – Moderate. Sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence.
- Class 4 – High. Geologic units that are known to contain a high occurrence of paleontological resources.

- Class 5 – Very High. Highly fossiliferous geologic units that consistently and predictably produce significant paleontological resources.
- Class U – Unknown Potential. Geologic units that cannot receive an informed PFYC assignment.

The project area is mapped as modern artificial fill over estuarine mud (afem), which is underlain by Pleistocene slope debris and ravine fill (Qoa) and the overlie the Colma Formation (Qc), which consists of fine to medium-grained sand with silt and clay. (URS, 2012:1-3).

There are no known fossil localities in KJs or KJu. There are no known fossils in the Holocene estuarine mud. There are 22 fossil localities in Pleistocene deposits in San Mateo County, but additional information about the geologic units is not available. No fossils in the UCMP database are assigned to the Colma Formation, but other sources suggest that the Colma Formation is sensitive (e.g., Savage 1951). It is unlikely that intact fossils would be preserved in the slope debris and ravine fill unit, though there is an unknown potential for intact fossils to be present below 43 feet in the Colma Formation, which is beneath afem and Qoa (URS 2012).

Based on these results, all of the surficial geologic formations are ranked as low on both PFYC and Caltrans scales. The Colma Formation is ranked as Caltrans High or PFYC Class 3.

Potential Effects

During construction of the project, ground-disturbing activities have the potential to destroy paleontological resources (if any are present). However, paleontological resources are unlikely to be encountered as the project area is almost entirely underlain by artificial fill and Holocene-age deposits and most construction impacts would occur in these recent deposits.

The Pleistocene Colma Formation has been demonstrated to be the only paleontologically-sensitive sediments within the project area and may be affected during construction activities when construction of the overcrossing occurs below 43 feet, which is where the formation would be encountered. The potential to affect any fossils varies with depth of impacts, previous disturbance, and presence of non-fossiliferous sediments. Logistics of excavation also affect the possibility of recovering scientifically significant fossils since, as outlined above, information on exact location, vertical elevation, rock unit of origin, and other aspects of context are critical. The Pleistocene Colma Formation is likely to be encountered during pile driving and drilling for the construction of the overcrossing. Pile driving will not result in the exposure of any fossiliferous sediments. If drilling for pile installation is used, this type of construction has the potential to rotate out fossil bones or other materials but the specimens will lack context, depth/elevation, formation identification and other elements that are critical to scientific significance. These types of unprovenanced (lacking in locational specificity) fossils will only be significant if they result in identification of new species that are

currently not known in the county. If they are identified as already known species, they will be suitable for educational uses.

Based on the proposed scope of work, the potential for encountering intact, significant fossils is low. Although the sensitivity of the Colma Formation is ranked as Caltrans High or PFYC Class 3, the potential of exposing this formation during project implementation is low because of the type of proposed construction activities. Because there remains a low potential of encountering fossils, preconstruction training can be provided by a trained paleontologist or geologist. A Paleontological Mitigation Plan has not been prepared due to the low potential for encountering intact, significant fossils.

2.3.4.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation is required. Project feature PF-PAL-01 would be implemented as described in Table 1.6-1, to provide adequate awareness training to workers.

2.3.5 Hazardous Waste/Materials

2.3.5.1 Regulatory Setting

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, and the Resource Conservation and Recovery Act (RCRA) of 1976. The purpose of CERCLA, often referred to as “Superfund,” is to identify and cleanup abandoned contaminated sites so that public health and welfare are not compromised. The RCRA provides for “cradle to grave” regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act of 1992
- CWA
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

In addition to the acts listed above, EO 12088, Federal Compliance with Pollution Control Standards, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the CA Health and Safety Code (available at <https://leginfo.legislature.ca.gov/faces/codesTOCSelected.xhtml?tocCode=HSC&tocTitle=+Health+and+Safety+Code+-+HSC>) and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction.

2.3.5.2 Affected Environment

Information in this section is summarized from the Initial Site Assessment (ISA) update prepared in November 2021 for this project (AECOM 2020e). A comprehensive ISA was previously completed in 2015, followed by additional record searches in 2018 and 2020.

The ISA update identified additional sites that had involved hazardous materials, but all of the additional sites identified in 2020 were listed as closed with respect to risk assessment. The conclusions of the original ISAs do not change, and recommendations for testing and handling of excavated soils and materials removed from buildings acquired from right-of-way expansion still apply from the original reports. All sites identified are listed in Tables 2.3.5-1 through 2.3.5-3.

All of the 17 sites identified in 2020 have been reported as closed after performance of a risk assessment. Although these sites are considered closed from a regulatory perspective, the risk assessments that resulted in approval of environmental site closure frequently depend on land use of the site remaining the same. In some cases, hazardous materials may remain on the site under pavement, and therefore the potential for presence of these hazardous materials is noted as a current, unknown risk. Additionally, changes in land ownership or easements will be needed during the right-of-way acquisition process that specify responsibilities between the new owner (Caltrans), the former owner, and potentially an applicable regulatory agency. This process would begin to be determined during Plans, Specifications, and Estimates (PS&E) and right of way phase of the project, after the conclusion of environmental review and approval of the environmental document.

Table 2.3.5-1 New 2020 Sites Identified

Site Name	Site Code (for Use with Figure 2.3.5-1)	Description	Site Type	Status	Address	City
Grosvenor Airport Inn	1	Contaminant of concern: gasoline.	LUST CLEANUP SITE	Completed 6/26/2001	380 South Airport Boulevard	South San Francisco
Harmon Shragge Co	2	Contaminant of concern: gasoline.	LUST CLEANUP SITE	Completed 8/22/1996	280 Wattis Way	South San Francisco
Ken Funk Property	3	Contaminant of concern: gasoline.	LUST CLEANUP SITE	Completed 12/3/1998	264 South Airport Boulevard	South San Francisco
Olympian Produce Mkt Card Lock	4	Contaminant of concern: gasoline.	LUST CLEANUP SITE	Completed 3/27/2014	131 Terminal Court	South San Francisco
Peking Handicraft	5	Contaminant of concern: gasoline.	LUST CLEANUP SITE	Completed 8/18/1998	1388 San Mateo Avenue	South San Francisco
Sam Trans (Vacant)	6	Contaminant of concern: gasoline.	LUST CLEANUP SITE	Completed 4/10/2000	196 Produce Avenue	South San Francisco
Shell Service Station	7	Contaminant of concern: gasoline.	LUST CLEANUP SITE	Completed 8/29/2006	248 South Airport Boulevard	South San Francisco
U-Freight America Inc	8	Contaminant of concern: gasoline.	LUST CLEANUP SITE	Completed 6/26/2001	320 Corey Way	South San Francisco

Table 2.3.5-2 Same 2020 Sites also Identified in 2014/2018

Site Name	Site Code (for Use with Figure 2.3.5-1)	Description	Site Type	Status	Address	City
Amphlett Printing	9	Contaminants of concern are undefined. Remedial action occurred in 1994. Verification monitoring follow-up was performed in 2004.	CLEANUP PROGRAM SITE	Completed 03/09/2005	1331 San Mateo Avenue	South San Francisco
Chevron 9-7875	10	LUST. Release was reported on 9/20/1994. Contaminant of concern: gasoline.	LUST CLEANUP SITE	Completed 12/11/2002	300 South Airport Boulevard	South San Francisco
Diadoti Construction	11	Substance released: gasoline.	LUST CLEANUP SITE	Completed 11/10/1998	1461 San Mateo Avenue	South San Francisco
Four Star Automotive I	12	Contaminant of concern: gasoline. Media affected was soil. No remedial action documented.	LUST CLEANUP SITE	Completed 6/12/1995	1405 San Mateo Avenue	South San Francisco
Shell Oil	13	Substances released: TPH-g and BTEX. Soil excavated for remediation.	LUST	Completed 6/24/2005	140 Produce Avenue	South San Francisco
Greyhound Exposition Services	14	Discharge discovered 9/25/1991. Contaminant of concern: gasoline.	LUST	Completed 7/28/2000	100 Utah Avenue	South San Francisco
Parking Corporation of America	15	Contaminant of concern: gasoline.	LUST	Completed 5/20/2010	120 Terminal Court	South San Francisco
Not identified	16	LUST release discovered on 3/2/1987. Contaminant of concern: gasoline.	LUST	Completed 8/4/1992	1395 Lowrie Avenue	South San Francisco

Table 2.3.5-3 Sites Identified in 2015/2018 Report Not identified 2020

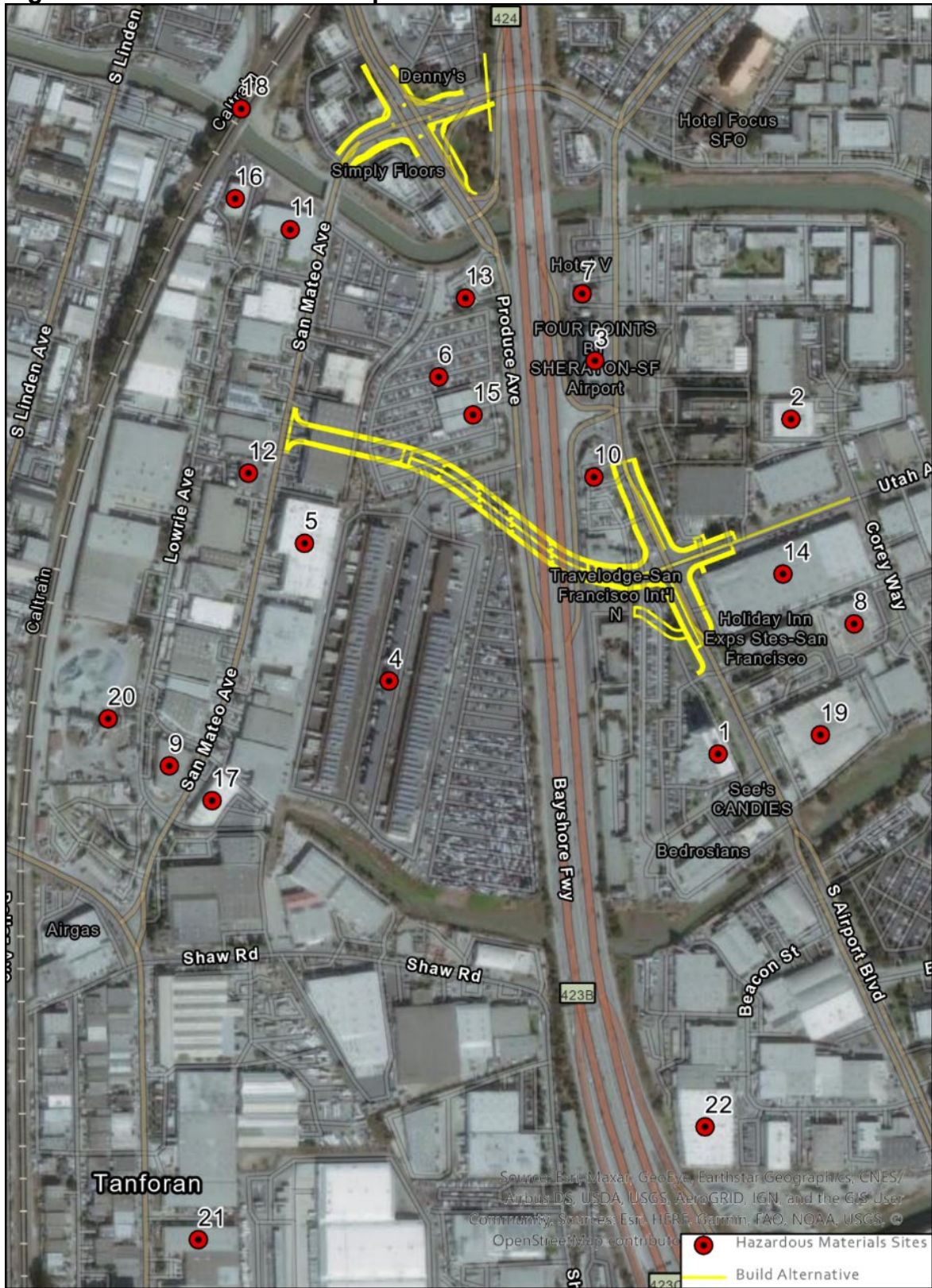
Site Name	Site Code (for Use with Figure 2.3.5-1)	Description	Site Type	Status	Address	City
Lubrivan Truck Services	17	LUST leak discovered on 6/17/1986. Contaminant released: Gasoline. Soil excavation began in 1992 and ended in 1996.	LUST	Completed 03/07/2003	1320 San Mateo Avenue	South San Francisco
UPRR Linden (AKA Union Pacific Railroad Linden)	18	Site was leased by BASAPCO between 1968 and 1991 for recycling and dismantling lead batteries from cars and construction equipment. Contaminant of concern: lead. Between 2012 and 2013, lead-contaminated soils were removed from the site. A Land Use Covenant (LUC) was instated in 1/31/2014; the LUC requires a DTSC-approved Soil Management Plan before any disturbance of soil at or below 1-foot grade. DTSC Remedial Action Certification as of 2/4/2014.	CLEANUP PROGRAM SITE		East of 27 South Linden Avenue	South San Francisco
U Freight America Inc	19	Preliminary Assessment performed at Pacific Plastics Products Inc. on 5/31/89. Potential substances released: organic liquids with metals, aqueous solution with metals lead and chromium VI. Facility was determined not to be an NPL candidate. Site inspection recommended by DHS. Clean up status: Unknown.	CLEANUP PROGRAM SITE		405 South Airport Boulevard	South San Francisco
Granite Rock Co South SF Asphalt	20	Substance release discovered on 11/26/1985. Contaminants of concern: waste oil, motor oil, hydraulic oil and lubricating oil. Post-remedial action monitoring began 6/15/2004.	CLEANUP PROGRAM SITE	Completed 4/1/2008	1321 Lowrie Avenue	South San Francisco

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Site Name	Site Code (for Use with Figure 2.3.5-1)	Description	Site Type	Status	Address	City
San Bruno Glass Center	21	LUST leak reported on 11/30/1989. Substance released: gasoline. Soil excavation was conducted in 1990 as a remedial action.	LUST	Completed – case closed on 10/11/2002	1160 San Mateo Avenue	South San Francisco
Hampton's Service, Inc.	22	LUST. Discharge discovered 4/10/1989. Contaminant of concern: gasoline.	LUST	Completed – case closed as of 3/7/2003	160 Beacon Street	South San Francisco
U Freight America Inc	19	Preliminary Assessment performed at Pacific Plastics Products Inc. on 5/31/89. Potential substances released: organic liquids with metals, aqueous solution with metals lead and chromium VI. Facility was determined not to be an NPL candidate. Site inspection recommended by DHS. Clean up status: Unknown.	CLEANUP PROGRAM SITE		405 South Airport Boulevard	South San Francisco
Granite Rock Co South SF Asphalt	20	Substance release discovered on 11/26/1985. Contaminants of concern: waste oil, motor oil, hydraulic oil and lubricating oil. Post-remedial action monitoring began 6/15/2004.	CLEANUP PROGRAM SITE	Completed 4/1/2008	1321 Lowrie Avenue	South San Francisco

Sources: EDR reports, 2015 and 2018; EnviroStor and GeoTracker web-based databases, 2020.

Figure 2.3.5-1 ISA Site Map



The project will involve right-of-way, either property acquisition or temporary construction easements. Comparing the ISA findings with proposed right-of-way needs, there are two properties at or near the project that have involved contamination issues or the properties handled hazardous materials in the past:

- 131 Terminal Court, Golden Gate Produce Terminal. This is a large produce market property, and is identified in the ISA as “Olympian Produce Mkt Card Lock,” as a leaking underground storage tank involving gasoline. Its status was identified as “completed” in 2014 with respect to cleanup actions.
- 100 Utah Avenue, listed in the ISA as a Greyhound Exposition Services property but is shown on current aerial images as a Goodwill facility. A discharge of gasoline was identified in 1991, and its status is identified as “completed” in 2000.

The above locations, as well as all property acquisitions, should be revisited with respect to contamination concerns during the right-of-way phase. The acquisition of right-of-way is primarily needed for the extension of Utah Avenue and minor acquisitions needed at the intersection modifications, which are on local roads.

2.3.5.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not affect potential hazardous material sites in the project area.

Build Alternative

Building and Structure Acquisition and Demolition

The 2020 ISA update identified potential risks with lead, PCBs and asbestos, but does not address potential contamination issues for specific existing structures as no structures or properties were entered or inspected at this preliminary stage of project development. Existing structures that will be demolished or modified should be investigated for hazardous materials or contamination issues, including the presence of building materials painted with lead-based paint, storage buildings that might contain hazardous materials, asbestos (i.e., transit pipe, insulation, and siding), heating fuel storage tanks, thermoplastic paint, PCBs, and other similar issues. A qualified and licensed inspector should evaluate and sample the existing structures scheduled for demolition for the presence of asbestos-containing materials and PCBs.

Soil and Groundwater Sampling

The results of the ISA indicate the potential for petroleum hydrocarbons, chlorinated hydrocarbons, metals and residual amounts of aeri ally deposited lead to be present in surface soil and/or shallow groundwater. Soil and/or groundwater sampling is recommended prior to or during soil excavation activities. The exact sample locations, sampling depths, sample media (soil/groundwater), and constituents analyzed should

be selected with all potential identified impacts to the project area in mind to prepare a comprehensive sampling plan. The following measures are recommended:

- If the project construction excavations will extend to groundwater, groundwater sampling, analysis, and characterization are recommended before the start of construction to investigate safety precautions for construction personnel. Furthermore, treatment and disposal options for extracted groundwater will need to be evaluated prior to any dewatering of excavations due to construction activities.
- If suspected petroleum hydrocarbon-impacted soils are encountered during soil excavation activities, soil should be sampled, tested, and characterized for petroleum hydrocarbons.
- Additionally, prior to the beginning of, and periodically during any soil excavation work, surface soils should be tested for aerially deposited and subsurface lead to evaluate safety recommendations for construction workers and soil management options.
- Any proposed acquisition of property detailed in Section 2.2.5 requires further investigation of soil and/or groundwater, due to the potential for presence of petroleum hydrocarbons, aerially deposited or subsurface lead, and metals.
- A qualified and licensed inspector should evaluate and sample the existing building and structures scheduled for demolition for the presence of potential asbestos-containing materials, lead-based paint, and PCBs.

Aerially deposited lead (ADL) from the historical use of leaded gasoline, exists along roadways throughout California. There is the likely presence of soils with elevated concentrations of lead as a result of ADL on the state highway system right-of-way within the limits of the project alternatives. Soil determined to contain lead concentrations exceeding stipulated thresholds must be managed under the July 1, 2016, ADL Agreement between Caltrans and the California Department of Toxic Substances Control. This ADL Agreement allows such soils to be safely reused within the project limits as long as all requirements of the ADL Agreement are met.

2.3.5.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation is required. Project features would be implemented as described in PF-HAZ-01 through 04 of Table 1.6-1.

2.3.6 Air Quality

2.3.6.1 Regulatory Setting

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency

(U.S. EPA) and the California Air Resources Board (ARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM)—which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM₁₀) and particles of 2.5 micrometers and smaller (PM_{2.5}), Lead (Pb), and sulfur dioxide (SO₂). In addition, state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H₂S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA). In addition to this environmental analysis, a parallel “Conformity” requirement under the FCAA also applies.

Conformity

The conformity requirement is based on FCAA Section 176(c), which prohibits the U.S. Department of Transportation (USDOT) and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to State Implementation Plan (SIP) for attaining the NAAQS. “Transportation Conformity” applies to highway and transit projects and takes place on two levels: the regional (or planning and programming) level and the project level. The proposed project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and “maintenance” (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. U.S. EPA regulations at 40 Code of Federal Regulations (CFR) 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM₁₀ and PM_{2.5}), and in some areas (although not in California), sulfur dioxide (SO₂). California has nonattainment or maintenance areas for all of these transportation-related “criteria pollutants” except SO₂, and also has a nonattainment area for lead (Pb); however, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years (for the RTP) and 4 years (for the FTIP). RTP and FTIP conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other

tests at various analysis years showing that requirements of the FCAA and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the FCAA. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept and scope and the “open-to-traffic” schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

Project-level conformity is achieved by demonstrating that the project comes from a conforming RTP and TIP; the project has a design concept and scope that has not changed significantly from those in the RTP and TIP; project analyses have used the latest planning assumptions and U.S. EPA-approved emissions models; and in PM areas, the project complies with any control measures in the SIP. Furthermore, additional analyses (known as hot-spot analyses) may be required for projects located in CO and PM nonattainment or maintenance areas to examine localized air quality impacts.

2.3.6.2 Affected Environment

The analysis summarized in this section is from the *Air Quality Report* prepared in March 2022 (Baseline 2022).

The project area is in the Peninsula climatological subregion of the San Francisco Bay Area Air Basin (SFBAAB). Air quality regulation in SFBAAB is administered by the Bay Area Air Quality Management District (BAAQMD). The following discussion provides an overview of the environmental setting with regard to air quality in the SFBAAB.

Climate, Meteorology, and Topography

The Bay Area has a Mediterranean climate characterized by wet winters and dry summers. During the summer, a high-pressure cell centered over the northeastern Pacific Ocean results in stable meteorological conditions and a steady northwesterly wind flow that keep storms from affecting the California coast. During the winter, the Pacific high-pressure cell weakens, resulting in increased precipitation and the occurrence of storms. The highest air pollutant concentrations in the Bay Area generally occur during inversions, when a surface layer of cooler air becomes trapped beneath a layer of warmer air.

The blocking effect of the Santa Cruz Mountains results in variations in summertime maximum temperatures in different parts of the peninsula. During the summer months, average temperatures for South San Francisco range from the mid-50s to low-70s (degrees Fahrenheit). During the winter months, average temperatures range from the mid-40s to low-60s (degrees Fahrenheit). The annual average rainfall near the project ranges from about 6 to 27 inches (DWR 2021) and mainly occurs during the winter months.

Air pollution potential within the Peninsula region is highest in the southeast. In contrast, South San Francisco is subject to cooler temperatures and higher winds and fog of the marine layer. These conditions help moderate the pollution levels resulting from the urban land uses in the project area, compared to areas in the southern portion of the Peninsula.

Regional Air Quality Conformity

The principal health and atmospheric effects, as well as typical sources, of regulated pollutants are listed in Table 2.3.6-1. Additionally, the state and federal attainment status those pollutants in the SFBAAB are summarized in Table 2.3.6-1. The SFBAAB is currently designated a marginal nonattainment area for the 2008 and 2015 federal 8-hour ozone standard, moderate nonattainment for the 2006 federal 24-hour PM_{2.5} standard, and nonattainment for the State ozone, PM₁₀, and PM_{2.5} standards. The SFBAAB is classified as attainment or unclassifiable for the remaining NAAQS and CAAQS. Unclassifiable generally indicates that there is a lack of representative data to classify a basin.

Local Ambient Air Quality

The BAAQMD operates a network of air monitoring stations throughout the SFBAAB to monitor air pollutants such as ozone, PM₁₀, and PM_{2.5}. The nearest air monitoring station where ozone, PM_{2.5} levels, and PM₁₀ levels are consistently measured is the San Francisco-Arkansas Street station at 10 Arkansas Street in San Francisco, approximately 8 miles north of the project. This station is considered representative of conditions in the project vicinity because it experience similar meteorological conditions. Table 2.3.6-2 presents the most recent ambient air quality data recorded at the station from 2015 through 2019 for the criteria air pollutants that are in nonattainment. As Table 2.3.6-2 shows, exceedance of California and national standards of 8-hour ozone occurred in 2019. The California standards for 1-hour ozone was not exceeded in all five years. For PM₁₀, exceedances of the California standards for 24-hour PM₁₀ and annual arithmetic mean PM₁₀ were reported in 2017. The national standards for 24-hour PM₁₀ was not exceeded in all five years. The national standards for 24-hour PM_{2.5} were exceeded in 2017 and 2018. Exceedances of the California and national standards for annual arithmetic mean PM_{2.5} was not reported in all five years.

Sensitive Receptors and Community Health Risks

Under the FCAA, ambient air quality must meet the standards for criteria air pollutants in all locations generally accessible to the public; however, some land uses are considered more sensitive to air pollution than others. Sensitive receptors are defined as facilities that house or attract children, the elderly, people with illnesses, people participating in outdoor sports, or others who are especially sensitive to the effects of air pollutants. Sensitive receptors include schools, parks, hospitals, and convalescent homes. Residential areas are also considered sensitive receptors because residents may include children, the elderly, and the infirm, and residents are often in their homes for extended periods of time.

No schools, hospitals, convalescent homes, or residences are located within 500 feet of the project. The area surrounding the proposed project is mostly for commercial use.

Table 2.3.6-1 Air Pollution Standards Table

Pollutant	Averaging Time	State Standard ⁶	Federal Standard ⁷	State Project Attainment Status	Federal Project Area Attainment Status
O₃ ⁸	1 hour	0.09 ppm ⁹	N/A	N	N/A
O₃	8 hours	0.070 ppm	0.070 ppm (4th highest in 3 years)	N	N (Marginal)
CO ¹⁰	1 hour	20 ppm	35 ppm	A	A
CO	8 hours	9.0 ppm	9 ppm	A	A
CO	8 hours (Lake Tahoe)	6 ppm	N/A	A	N/A
PM₁₀ ¹¹	24 hours	50 µg/m ³ ¹²	150 µg/m ³ (expected number of days above standard < or equal to 1)	N	U
PM₁₀	Annual	20 µg/m ³	N/A	N	N/A
PM_{2.5} ¹³	24 hours	N/A	35 µg/m ³ ¹¹	N/A	N
PM_{2.5}	Annual	12 µg/m ³	12.0 µg/m ³	N	U, A
NO₂	1 hour	0.18 ppm	0.100 ppm ¹⁴	A	U
NO₂	Annual	0.030 ppm	0.053 ppm	N/A	A

⁶ California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

⁷ Federal standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

⁸ On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. Transportation conformity applies in newly designated nonattainment areas for the 2015 national 8-hour ozone primary and secondary standards on and after August 4th, 2019 (see Transportation Conformity Guidance for 2015 Ozone NAAQS Nonattainment Areas).

⁹ ppm = parts per million

¹⁰ Transportation conformity requirements for CO no longer apply after June 1, 2018 for the following California Carbon Monoxide Maintenance Areas (see U.S. EPA CO Maintenance Letter).

¹¹ On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m³ to 12 µg/m³. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

¹² µg/m³ = micrograms per cubic meter

¹³ The 65 µg/m³ PM2.5 (24-hr) NAAQS was not revoked when the 35 µg/m³ NAAQS was promulgated in 2006. The 15 µg/m³ annual PM2.5 standard was not revoked when the 12 µg/m³ standard was promulgated in 2012. Therefore, for areas designated nonattainment or nonattainment/maintenance for the 1997 and or 2006 PM2.5 NAAQS, conformity requirements still apply until the NAAQS are fully revoked.

¹⁴ Final 1-hour NO₂ NAAQS published in the Federal Register on 2/9/2010, effective 3/9/2010. Initial area designation for California (2012) was attainment/unclassifiable throughout. Project-level hot spot analysis requirements do not currently exist. Near-road monitoring starting in 2013 may cause re-designation to nonattainment in some areas after 2016.

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Pollutant	Averaging Time	State Standard ⁶	Federal Standard ⁷	State Project Attainment Status	Federal Project Area Attainment Status
SO ₂ ¹⁵	1 hour	0.25 ppm	0.075 ppm (99 th percentile over 3 years)	A	N/A
SO ₂	3 hours	N/A	0.5 ppm ¹⁶	N/A	N/A
SO ₂	24 hours	0.04 ppm	0.14 ppm (for certain areas)	A	U
SO ₂	Annual	N/A	0.030 ppm (for certain areas)	N/A	U
Pb ¹⁷	Monthly	1.5 µg/m ³	N/A	N/A	A
Pb	Calendar Quarter	N/A	1.5 µg/m ³ (for certain areas)	N/A	A
Pb	Rolling 3-month average	N/A	0.15 µg/m ³ ¹⁸	N/A	N/A
Sulfates	24 hours	25 µg/m ³	N/A	A	N/A
H ₂ S	1 hour	0.03 ppm	N/A	U	N/A
Visibility Reducing Particles (VRP) ¹⁹	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70 %	N/A	U	N/A
Vinyl Chloride ¹⁷	24 hours	0.01 ppm	N/A	N/A	N/A

Source: CARB Air Quality Standards chart accessed April 26, 2022. Greenhouse gases (GHGs) do not have concentration standards; conformity requirements do not apply to GHGs and therefore are not listed.

Notes:

A = Attainment

N = Nonattainment

U = Unclassified

N/A = Not Applicable or No Information

¹⁵ On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

¹⁶ Secondary standard, the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant rather than health. Conformity and environmental analysis address both primary and secondary NAAQS.

¹⁷ The ARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM₁₀ and, in larger proportion, PM_{2.5}. Both the ARB and U.S. EPA have identified lead and various organic compounds that are precursors to ozone and PM_{2.5} as toxic air contaminants. There are no exposure criteria for adverse health effect due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.

¹⁸ Lead NAAQS are not considered in Transportation Conformity analysis.

¹⁹ In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Table 2.3.6-2 Air Quality Measured at the San Francisco-Arkansas Street Air Monitoring Station

Pollutant	Standard	2015	2016	2017	2018	2019
Ozone (O ₃)	Max 1-hour Concentration (ppm)	0.085	0.070	0.087	0.065	0.091
	No. days exceeded CAAQS (0.09 ppm)	0	0	0	0	0
	Max 8-hour Concentration (ppm)	0.067	0.057	0.054	0.049	0.074
	No. days exceeded CAAQS (0.070 ppm)	0	0	0	0	1
	No. days exceeded NAAQS (0.070 ppm)	0	0	0	0	1
Particulate Matter (PM ₁₀)	Max 24-hour Concentration (µg/m ³)	47.0	35.7	77.0	43.0	42.1
	No. days exceeded CAAQS (50 µg/m ³)	NA	NA	24.6	NA	0
	No. days exceeded NAAQS (150 µg/m ³)	0	0	0	0	0
	Annual Arithmetic Mean (µg/m ³)	9.8	8.8	22.1	10	14.8
	Exceeded CAAQS (20 µg/m ³)?	No	No	Yes	No	No
Particulate Matter (PM _{2.5})	Max 24-hour Concentration (µg/m ³)	35.4	19.6	49.9	177.4	25.4
	No. days exceeded NAAQS (35 µg/m ³)	0	0	7.3	14.6	0
	Annual Arithmetic Mean (µg/m ³)	7.6	7.5	9.7	11.7	7.7
	Exceeded CAAQS (12 µg/m ³)?	No	No	No	No	No
	Exceeded NAAQS (12 µg/m ³)?	No	No	No	No	No

Source: CARB 2021

Notes: CAAQS = California ambient air quality standards; µg/m³ = micrograms per cubic meter; NAAQS = National ambient air quality standards; ppm = parts per million

2.3.6.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not change air quality in the project area.

Build Alternative

Regional Conformity

The proposed project is included in the regional air quality conformity analysis for the current RTP, Plan Bay Area 2050 (MTC and ABAG 2021, RTP ID 21-T06-027). MTC found that regionally significant projects in the San Francisco Bay Area will conform to the purpose of the SIP and not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS as provided in Section 176(c) of the FCAA. The project is also included in the MTC's financially constrained 2021 TIP (MTC 2021, TIP ID SM-110003). The TIP gives priority to eligible Transportation Control Measures identified in the SIP and provides sufficient funds to provide for their implementation. The FHWA and FTA approved MTC's conformity determination for Plan Bay Area 2050 and the 2021 TIP on December 3, 2021.

The project's design concept, scope, and open-to-traffic date assumptions are generally consistent with the regional emissions analysis performed for the current RTP and TIP. Therefore, the project will not interfere with the timely implementation of any Transportation Control Measures identified in the SIP.

Project-Level Conformity

The project is located in a federal nonattainment area for ozone and PM_{2.5} and, therefore, a project-level conformity analysis of operational emissions is required to address these pollutants under 40 CFR 93.

Particulate Matter Hot-Spot Analysis

A quantitative particulate matter hot-spot analysis is required for a transportation project that is in a federal nonattainment or maintenance area for PM_{2.5} and is determined to be a Project of Air Quality Concern (POAQC) as defined in Title 40 CFR Part 93. The SFBAAB is currently designated as a federal nonattainment area for PM_{2.5}; therefore, a PM_{2.5} hot-spot analysis is required if the project is determined to be a POAQC. The final rule in 40 CFR 93.123(b)(1) defines POAQCs as follows:

- New or expanded highway projects that have a significant number of or significant increase in diesel vehicles;
- Projects affecting intersections that are at Level-of-Service (LOS) D, E, or F with a significant number of diesel vehicles, or those that will change to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;

- New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;
- Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and
- Projects in or affecting locations, areas, or categories of sites which are identified in the PM_{2.5} and PM₁₀ applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

Rather than using specific PM_{2.5} measurements, the PM_{2.5} hot-spot demonstration process begins with an evaluation of whether a project fits into one or more of the POAQC categories listed above. In the Bay Area, the process has been established by the MTC and requires interagency consultation with the Bay Area Air Quality Conformity Task Force (Task Force). The Task Force includes representatives from federal (U.S. EPA, FHWA, FTA), state (CARB, Caltrans), regional (MTC, BAAQMD, and ABAG), and subregional (Congestion Management Agencies, transit operators, local jurisdictions, etc.) agencies.

In September 2021, the City of South San Francisco, as the project sponsor, initiated consultation with the Bay Area Air Quality Conformity Task Force. On September 23, 2021, the Task Force determined that the project is not a POAQC, and a detailed PM_{2.5} hot-spot analysis is not required. The project is not expected to cause or contribute to, or worsen, any violations of the federal air quality standards for PM_{2.5}. The Project Assessment Form for PM_{2.5} Interagency Consultation and the Air Quality Conformity Task Force determination are included in Appendix D.

After public circulation of this EIR/EA, the project's air quality studies will be submitted to FHWA for a project-level conformity determination.

Ozone Emissions Analysis

The SFBAAB is currently designated as a federal nonattainment area for ozone. Because ozone impacts are regional in nature, projects that are included in an RTP and TIP have already undergone regional conformity analysis and do not require further analysis for a project-level conformity determination. As described above, this project is included in a conforming RTP and TIP, and therefore emissions of ozone precursors from project-related traffic are not anticipated to cause, contribute to, or worsen, any violations of the federal air quality standards for ozone.

In addition, the BAAQMD adopted the 2017 CAP to plan for and achieve compliance with the federal and State ozone standards. This project will not interfere with the control measures described in the 2017 CAP. Furthermore, the project will provide transportation benefits that reduce pollutant emissions, including ozone precursors, by improving traffic operations and efficiency.

Carbon Monoxide Analysis

The project is located in an attainment area for CO and the transportation conformity requirements for CO do not apply (U.S. EPA 2018). According to the Transportation Project-Level Carbon Monoxide Protocol (CO Protocol) (Garza et al. 1997), projects in attainment areas that are likely to worsen air quality may require further analysis. The CO Protocol recommend using the following screening criteria to determine whether a project is likely to worsen air quality for the area substantially affected by the project:

- Significantly increase traffic volumes (more than 5%);
- Significantly increase percentage of vehicles operating in cold start mode (more than 2%); or
- Worsens traffic flow.

Additional Environmental Analysis: Operational Criteria Air Pollutant Emissions

Project operations would generate emissions of criteria air pollutants and precursors that could potentially affect regional air quality. The operational emissions account for long-term changes in emissions due to the project (excluding the construction phase). According to the BAAQMD, the primary criteria air pollutant emissions of concern during project operation would be ROG, NO_x, PM₁₀, and PM_{2.5} from the exhaust of on-road vehicles. Criteria air pollutant emissions from project operations were estimated for the existing conditions (2020) and the No Build and Build Alternatives during the opening year (2025), horizon year (2040), and design year (2045) to support NEPA and CEQA review of the project.

A quantitative analysis of daily emissions was performed for ROG, NO_x, and exhaust PM₁₀ and PM_{2.5} using the Caltrans CT-EMFAC2017 model to compare the potential effects of the Build and No Build Alternatives. The results are shown in Table 2.3.6-3.

Table 2.3.6-3 Operational Criteria Air Pollutant Emissions (Pounds per Day)

Pollutant	2020 Existing	2025 No Build	2025 Build	2040 No Build	2040 Build	2045 No Build	2045 Build
ROG	188	149	147	113	112	111	109
NO _x	395	209	208	151	150	153	152
PM ₁₀ Exhaust	8.1	4.1	4.1	2.3	2.3	2.2	2.1
PM _{2.5} Exhaust	7.6	3.8	3.8	2.1	2.1	2.0	2.0

As shown in Table 2.3.6-3, the estimated daily ROG, NO_x, and exhaust PM₁₀ and PM_{2.5} emissions for the Build Alternative during the opening year (2025), horizon year (2040), and design year (2045) scenarios would be approximately equal to or lower than the emissions for the No Build Alternative, which is primarily attributed to the reduction in

study area VMT under the Build Alternative. Emissions for both the Build and No Build Alternative would also be lower in the opening year (2025), horizon year (2040), and design year (2045) compared to the existing year (2020), because federal and state vehicle emissions standards are predicted to reduce pollutant emissions over time (as new, lower emission vehicle replace older vehicles).

In conclusion, the modeling results show that the Build Alternative would not result in an increase in criteria air pollutant emissions compared to the existing year conditions or the future No Build Alternative. Therefore, emissions of criteria air pollutants from project-related traffic are not anticipated to cause, contribute to, or worsen, any air quality violations.

Mobile Source Air Toxics

Technical shortcomings of emissions and dispersion models and uncertain science with respect to health effects prevent the meaningful or reliable estimates of MSAT emissions and effects for this project. However, even though reliable methods do not exist to accurately estimate the health impacts of MSAT at the project level, it is possible to assess the levels of future MSAT emissions by comparing the project alternatives. The project's potential air quality impacts related to long-term operations emissions of MSAT were evaluated in accordance with the FHWA's (2016) *Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents*.

The proposed project is not located in proximity to populated area with nearby sensitive receptors. In addition, the project would not add substantial new capacity or create a facility that is likely to substantially increase emissions. According to FHWA guidance, the project has a low potential for MSAT effects. Therefore, FHWA guidance recommends a qualitative analysis to forecast and compare local-specific emission trends of the priority MSAT for each alternative.

To be conservative, a quantitative analysis of daily emissions was performed for the nine priority MSATs using the Caltrans CT-EMFAC2017 model to compare the potential effects of the project Build and No Build Alternatives.

As shown in Table 2.3.6-4, the estimated daily MSAT emissions for the Build Alternative during the opening year (2025), horizon year (2040), and design year (2045) scenarios would be approximately equal to or lower than the emissions for the No Build Alternative, which is primarily attributed to the reduction in study area VMT under the Build Alternative. Emissions for both the Build and No Build Alternative would also be lower in the opening year (2025), horizon year (2040), and design year (2045) compared to the existing year (2020), because federal and state vehicle emissions standards are expected to reduce pollutant emissions over time. In conclusion, the modeling results show that the Build Alternative would not result in an increase in MSAT emissions compared to the existing year conditions or the future No Build Alternative.

Table 2.3.6-4 Operational MSAT Emissions (Grams per day)

Pollutant	2020 Existing	2025 No Build	2025 Build	2040 No Build	2040 Build	2045 No Build	2045 Build
1,3-Butadiene	281	232	230	211	209	212	210
Acetaldehyde	572	300	297	282	278	285	281
Acrolein	62	52	52	47	47	47	47
Benzene	1,731	1,380	1,365	1,153	1,142	1,143	1,133
Diesel Particulate Matter	1,840	441	439	375	375	373	373
Ethylbenzene	1,281	1,042	1,026	788	780	766	759
Formaldehyde	1,578	955	947	879	869	886	876
Naphthalene	102	83	82	63	62	61	61
Polycyclic Organic Matter	51	34	33	27	27	27	27

Short-Term Construction Impacts

Construction Emissions for Project-Level Conformity

Project construction activities would generate emissions of criteria air pollutants and precursors that could potentially affect regional air quality. Project construction is anticipated to commence in 2025 and take approximately 18 months to complete. Because construction of the Build Alternative is expected to last less than five years, temporary emissions of CO, PM₁₀, and PM_{2.5} are not expected to cause, contribute to, or worsen any federal air quality violations and an evaluation of these emissions is not required for a project-level conformity determination (40 CFR 93.123(c)(5)).

Construction Criteria Air Pollutant Emissions

The BAAQMD considers construction activities to be typically short-term or temporary in duration; however, criteria air pollutant emissions from project construction were estimated for informational purposes. Construction emissions for the Build Alternative were quantified using the Sacramento Metropolitan Air Quality Management District's Roadway Construction Emissions Model (RCEM Version 9.0).

The BAAQMD's current CEQA Guidelines (BAAQMD 2017b) recommend thresholds of significance for project-level criteria air pollutant emissions to assist lead agencies in CEQA determinations. The BAAQMD's thresholds include levels at which construction emissions of ozone precursors (ROG and NO_x), PM₁₀, and PM_{2.5} could cause significant air quality impacts. Because Caltrans has not established significance thresholds for criteria air pollutant emissions for CEQA purposes, the BAAQMD's recommended thresholds are included in Table 2.3.6-5 for comparison only.

Table 2.3.6-5 Construction Criteria Air Pollutant Emissions (Average Pounds per Day)

Emissions Scenario	ROG	NO _x	Exhaust PM ₁₀	Exhaust PM _{2.5}	Fugitive Dust PM ₁₀	Fugitive Dust PM _{2.5}
Build Alternative	4.8	46	1.9	1.7	147	31
BAAQMD CEQA Thresholds ^A	54	54	82	54	BMP	BMP

Notes: BMP = best management practices; NA= not available

Total emissions averaged over the shortest expected duration of construction (18 months) to conservatively estimate daily emissions.

Fugitive dust emissions include a 50 percent reduction from the use of watering trucks. However, additional reductions from implementation of dust-control measures listed under PF-AIR-01 of Table 1.6-1 cannot be readily quantified.

^A The BAAQMD's thresholds have not been adopted by Caltrans and are only shown for informational purposes.

As shown in Table 2.3.6-5, the project's average daily emissions would be below the BAAQMD's recommended thresholds for ROG, NO_x, and Exhaust PM₁₀ and PM_{2.5}. Because the average daily emissions of criteria pollutants and precursors from equipment and vehicle exhaust would be below the recommended thresholds, construction of the proposed project would not be expected to cause or contribute to, or worsen, any state air quality violations.

Neither Caltrans nor the BAAQMD has a quantitative threshold for fugitive dust emissions; however, the BAAQMD considers implementation of best management practices (BMPs) to control fugitive dust PM₁₀ and PM_{2.5} during construction sufficient to reduce potential impacts from dust to a less-than-significant level. Caltrans' Special Provisions and Standard Specifications will include requirements to minimize or eliminate dust during construction. Required dust control measures, as described in PF-AIR-01 – 02, are to be amended as necessary by the project Special Provisions in the Plans, Specifications, and Estimates (PS&E) phase.

Construction Asbestos and Lead Emissions

Based on review of geologic maps, construction of the project would not be expected to disturb any rock formations that would likely contain naturally occurring asbestos (SFPUC, 2013). However, it should be noted that there is a rock formation located approximately 400 feet north of the Airport Boulevard/Produce Avenue/San Mateo Avenue intersection that likely contains naturally occurring asbestos. If naturally occurring asbestos is encountered during construction, the construction contractor must stop work, notify the BAAQMD, and implement dust control measures to reduce exposure to airborne asbestos in accordance with CARB's Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations.

Structures that would be demolished during project construction could potentially contain ACMs and lead-based paint. The demolition of existing buildings and structures are subject to BAAQMD's Regulation 11, Rule 2 (Asbestos Demolition, Renovation, and Manufacturing), which limits asbestos emissions from demolition or renovation of

structures and the associated disturbance of asbestos-containing waste material generated or handled during these activities. The rule addresses the national emissions standards for asbestos and contains additional requirements. The rule requires the construction contractor(s) to notify the BAAQMD of any regulated renovation or demolition activity. The notification must include a description of the affected structures and the methods used to determine the presence of ACMs. All ACMs found on site must be removed prior to demolition or renovation activity in accordance with BAAQMD Regulation 11, Rule 2, which includes specific requirements for surveying, notification, removal, and disposal of materials that contain asbestos. In addition, state and federal Occupational Safety and Health Administration (OSHA) regulations require a supervisor who is certified with respect to identifying existing and predictable lead hazards to oversee air monitoring and other protective measures during demolition activities in areas where lead-based paint may be present. Special protective measures and notification of Cal/OSHA are required for highly hazardous construction tasks related to lead, such as manual demolition, abrasive blasting, welding, cutting, or torch burning of structures, where lead-based paint is present.

2.3.6.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation is required. Project features would be implemented as described in PF-AIR-01 and 02 of Table 1.6-1.

Climate Change

Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has issued explicit guidance or methods to conduct project-level greenhouse gas analysis. FHWA emphasizes concepts of resilience and sustainability in highway planning, project development, design, operations, and maintenance. Because there have been requirements set forth in California legislation and executive orders on climate change, the issue is addressed in the California Environmental Quality Act (CEQA) chapter of this document. The CEQA analysis may be used to inform the National Environmental Policy Act (NEPA) determination for the project.

2.3.7 Noise and Vibration

2.3.7.1 Regulatory Setting

NEPA and CEQA provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

California Environmental Quality Act

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The rest of this section will focus on the NEPA/Title 23 Part 772 of the Code of Federal Regulations (23

CFR 772) noise analysis; please see Chapter 3 of this document for further information on noise analysis under CEQA.

National Environmental Policy Act and 23 CFR 772

For highway transportation projects with FHWA involvement (and the Department, as assigned), the Federal-Aid Highway Act of 1970 and its implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 A-weighted decibels [dBA]) is lower than the NAC for commercial areas (72 dBA).

Table 2.3.7-1 lists the NAC for use in the NEPA/23 CFR 772 analysis. Figure 2.3.7-1 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

Table 2.3.7-1 Noise Abatement Criteria

Activity Category	NAC, Hourly A- Weighted Noise Level, Hourly Equivalent Sound Level ($L_{eq}[h]$)	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B ¹	67 (Exterior)	Residential
C ¹	67 (Exterior)	Active sport areas, amphitheatres, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No NAC—reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No NAC—reporting only	Undeveloped lands that are not permitted

Notes:

¹ Includes undeveloped lands permitted for this activity group

Figure 2.3.7-1 Noise Levels of Common Activities

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet Fly-over at 300m (1000 ft)	110	Rock Band
Gas Lawn Mower at 1 m (3 ft)	100	
Diesel Truck at 15 m (50 ft), at 80 km (50 mph)	90	Food Blender at 1 m (3 ft)
Noisy Urban Area, Daytime	80	Garbage Disposal at 1 m (3 ft)
Gas Lawn Mower, 30 m (100 ft)	70	Vacuum Cleaner at 3 m (10 ft)
Commercial Area		Normal Speech at 1 m (3 ft)
Heavy Traffic at 90 m (300 ft)	60	Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	30	Library
Quiet Rural Nighttime	20	Bedroom at Night, Concert Hall (Background)
	10	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

According to the Department's *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2011*, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dBA or more) or when the future noise level with the project approaches or exceeds the NAC. A noise level is considered to approach the NAC if it is within 1 dBA of the NAC.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

The Department's *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. Noise abatement must be predicted to reduce

noise by at least 5 dB at an impacted receptor to be considered feasible from an acoustical perspective. It must also be possible to design and construct the noise abatement measure for it to be considered feasible. Factors that affect the design and constructability of noise abatement include, but are not limited to, safety, barrier height, topography, drainage, access requirements for driveways, presence of local cross streets, underground utilities, other noise sources in the area, and maintenance of the abatement measure. The overall reasonableness of noise abatement is determined by the following three factors: 1) the noise reduction design goal of 7 dB at one or more impacted receptors; 2) the cost of noise abatement; and 3) the viewpoints of benefited receptors (including property owners and residents of the benefited receptors).

Caltrans Transportation and Construction Vibration Guidance Manual

Caltrans identifies a vibration limit of 0.5 in/sec Peak Particle Velocity (PPV) as the threshold at which there is a potential risk of damage to new residential and modern commercial/industrial structures, 0.3 in/sec PPV for older residential structures, and a conservative limit of 0.25 in/sec PPV for historic and some old buildings (Caltrans 2013). Vibration velocity levels and their associated effects on humans and buildings are shown in Table 2.3.7-2.

Table 2.3.7-2 Reaction of People and Damage to Buildings from Continuous or Frequent Intermittent Vibration Levels

Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.01	Barely perceptible	No effect
0.04	Distinctly perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible to strongly perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.1	Strongly perceptible	Threshold at which there is a risk of damage to fragile buildings with no risk of damage to most buildings
0.25	Strongly perceptible to severe	Threshold at which there is a risk of damage to historic and some old buildings.
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential structures
0.5	Severe – Vibrations considered unpleasant	Threshold at which there is a risk of damage to new residential and modern commercial/industrial structures

Local Criteria

Typically, work within the Caltrans right-of-way is not subject to local noise ordinances; however, Caltrans will work with the contractor to meet local requirements where feasible.

2.3.7.2 Affected Environment

This section summarizes the *Noise Study Report* and *Noise Abatement Decision Report* for the project (Illingworth & Rodkin Inc. 2022; AECOM 2022b).

Existing Land Uses

Existing land uses in the Project area were categorized by Activity Category. A field investigation was conducted to identify land uses that could be subject to traffic and construction noise impacts from the proposed Project. The following noise-sensitive land uses were identified in the Project area:

- Activity Category D – Public Meeting Rooms;
- Activity Category E – Restaurants, Offices, Hotels.

Activity Category F land uses are located in the Project area but are not noise-sensitive.

Although all developed land uses are evaluated in this analysis, noise abatement is only considered for areas of frequent human use that would benefit from a lowered noise level. Accordingly, this impact analysis focuses on locations with defined outdoor activity areas, which include hotels, restaurants, offices, and retail.

Future Land Uses

The NSR included a review of future undeveloped land uses within approximately 500 feet of the Project limits, where traffic noise levels from the improved Project roadways could dominate the noise environment. Projects located beyond this distance were excluded from further analysis.

The Marriott Fairfield Inn & Suites Project, which is located at 127 West Harris Avenue and borders Gateway Boulevard, is within 500 feet of the Project. That project, which was approved by the City of South San Francisco City Council in August 2015, consists of an approximately 65,600 square foot, 128 room hotel. Receptor 17 is located within the footprint of the Marriott Fairfield Inn & Suites. The receptor was determined not to be impacted by the Project. The noise study completed determined that it would not contribute to a future cumulative traffic noise increase within the project vicinity. Per City standards, the Marriott Fairfield Inn & Suites has been designed to an exterior noise standard of 65 dBA Ldn, which more restrictive than the 72 dBA Leq[h] NAC for hotels.

A residential project is proposed at 124 Airport Boulevard and 100 Produce Avenue, adjacent to Produce Avenue/Airport Boulevard and San Mateo Avenue, and within 500 feet of the Project. This residential project is under preliminary review and would replace the existing commercial space on the 2.56 acre and 1.56-acre sites with 294 residential units and 186 residential units, respectively. Receptors 20 and 21 are located within the

footprint of the Residential Project. None of these receptors were determined to be impacted by the Project. There is currently no noise study completed for 124 Airport Boulevard and 100 Produce Avenue. Per City standards, the proposed development will be designed to an exterior noise standard of 60 dBA Ldn, which is more restrictive than the 67 dBA Leq[h] NAC for residences.

A second residential project is proposed at 40 Airport Boulevard within 500 feet of the Project. This residential project is also under preliminary review and would replace the existing Hertz Rental on the 1.63 acre site with 292 residential units. Receptors 21 and S5 are located within the footprint of the Residential Project. None of these receptors were determined to be impacted by the Project. There is currently no noise study completed for 40 Airport Boulevard. Per City standards, the proposed development will be designed to an exterior noise standard of 60 dBA Ldn, which is more restrictive than the 67 dBA Leq[h] NAC for residences.

Noise Measurements and Modeling

The existing noise environment throughout the Project area varies by location, depending on site characteristics such as proximity of receptors to US 101, local roadways, or other significant sources of noise in the area, the relative base elevations of roadways and receptors, and the presence of any intervening structures or barriers.

Noise measurements were collected in the project area in February 2021. One long-term noise measurement (L1) was made to quantify the diurnal trend in noise levels and establish the peak traffic noise hour. Eight short-term noise measurements (S1 through S8) were made at land uses in the Project vicinity. All short-term noise measurements were made at heights of 5 feet above ground level. Short-term noise measurement locations were used to validate the FHWA Traffic Noise Model, Version 2.5 (TNM). In addition, traffic counts and speed observations were made along US 101 during the short-term noise measurements in order to calibrate the TNM. Existing traffic and Design Year (2045) peak hour traffic volume data and speed estimates were used as TNM model inputs for local roads and ramps, to calculate the loudest-hour traffic noise levels for Existing, 2045 No Build, and 2045 Build conditions. The loudest hour is not necessarily the hour with peak traffic volumes. Congestion results in slower speeds, which substantially reduces traffic noise levels. The loudest hour is generally characterized by free-flowing traffic at the roadway design speed.

The results of the long- and short-term field measurements are summarized in Tables 2.3.7-3 and 2.3.7-4.

Table 2.3.7-3 Summary of Long-Term Noise Measurements

Receptor ID	Location	Date	Loudest Hour	Loudest Hour L _{eq[h]} , dBA
L1	222 South Airport Boulevard	2/17/2021	7:00 a.m.	88

Table 2.3.7-4 Summary of Short-Term Noise Measurements

Receptor ID	Location	Activity Category	Land Use	Date	Start Time	10-minute Leq, dBA
S1	264 South Airport Boulevard	E	Hotel	2/16/2021	9:00 a.m.	78
					9:10 a.m.	78
S2	326 South Airport Boulevard	E	Hotel, Pool	2/16/2021	9:30 a.m.	68
					9:40 a.m.	67
S3	380 South Airport Boulevard	E	Hotel, Pool	2/16/2021	10:00 a.m.	68
					10:10 a.m.	67
S4	255 South Airport Boulevard	D	Conference Center	2/16/2021	10:40 a.m.	70
					10:50 a.m.	69
S5	20 South Airport Boulevard	E	Hotel, Pool	2/16/2021	11:20 a.m.	63
					11:30 a.m.	62
S6	1461 San Mateo Avenue	E	Mixed-Use Industrial-Offices	2/16/2021	12:00 p.m.	66
					12:20 p.m.	67
S7	1379 San Mateo Avenue	E	Mixed-Use Industrial-Offices	2/16/2021	12:40 p.m.	68
					12:50 p.m.	70
S8	131 Terminal Court	E	Commercial	2/16/2021	1:10 p.m.	69
					1:30 p.m.	67

2.3.7.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not increase noise or vibration in the project area.

Build Alternative

The US 101/Produce Avenue Interchange Project (Project) is a Type I project because it would involve the addition and relocation of ramps and would be eligible to receive federal funding from the Federal Highway Administration (FHWA) administered through Caltrans. Therefore, the Project requires noise abatement to be considered for impacted receptors. Compliance with 23 CFR 772 provides compliance with the noise impact assessment requirements of the National Environmental Policy Act (NEPA).

Future Noise Environment and Impacts

Traffic noise modeling results and predicted traffic noise impacts for existing and design year conditions are shown in Tables 2.3.7-5 and 2.3.7-6. The modeling results are discussed in detail following Table 2.3.7-6. In Table 2.3.7-5, Build/Project condition exterior noise levels are compared to Existing conditions and to No Build conditions. The comparison to Existing conditions is included in the analysis to identify traffic noise impacts as defined under 23 CFR 772. The comparison between Build and No Build conditions indicates the direct effect of the Project. In Table 2.3.7-6, interior noise levels within Activity Category D spaces under Build/Project conditions are calculated to identify impacts resulting from traffic noise exceeding the interior NAC. As stated in the TeNS, modeling results are rounded to the nearest decibel before comparisons are made.

Table 2.3.7-5 Predicted Exterior Noise Levels

Receptor ID	Loudest-Hour Exterior Noise Levels, Leq _[h] dBA – Existing	Loudest-Hour Exterior Noise Levels, Leq _[h] dBA – 2045 No Build	Loudest-Hour Exterior Noise Levels, Leq _[h] dBA – 2045 Build	Increase Over Existing, dBA – 2045 No Build	Increase Over Existing, dBA – 2045 Build	Increase Over No Build, dBA – 2045 Build	Activity Category (NAC)	Land Use	Impact ¹
S1	80	81	81	1	1	0	E(72)	Hotel	None ⁴
S2	72	73	-	1	-	-	E(72)	Hotel	None ⁵
S3	71	71	72	0	1	1	E(72)	Hotel	A/E
S4	72	72	72	0	0	0	D(52) Interior	Public Meeting Room	None ³
S5	64	64	64	0	0	0	E(72)	Hotel	None
S6	68	68	67	0	-1	-1	E(72)	Commercial	None ⁴
S7	68	68	68	0	0	0	E(72)	Commercial	None ⁴
S8	75	75	75	0	0	0	E(72)	Commercial	None ⁴
R1	78	79	79	1	1	0	E(72)	Commercial	None ⁴
R2	67	67	67	0	0	0	E(72)	Commercial	None
R3	80	81	81	1	1	0	E(72)	Hotel	None ⁴
R4	70	71	71	1	1	0	E(72)	Restaurant	None ⁴
R5	72	73	73	1	1	0	E(72)	Commercial	None ⁴
R6	68	69	68	1	0	-1	E(72)	Commercial	None ⁴
R7	68	69	69	1	1	0	F	Industrial	None
R8	69	69	69	0	0	0	F	Industrial	None
R9	66	66	66	0	0	0	F	Industrial	None
R10	81	81	81	0	0	0	E(72)	Commercial	None ⁴
R11	71	71	72	0	1	1	E(72)	Hotel	None ⁴
R12	61	61	61	0	0	0	E(72)	Hotel/Restaurant	None

Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

Receptor ID	Loudest-Hour Exterior Noise Levels, Leq _[h] dBA – Existing	Loudest-Hour Exterior Noise Levels, Leq _[h] dBA – 2045 No Build	Loudest-Hour Exterior Noise Levels, Leq _[h] dBA – 2045 Build	Increase Over Existing, dBA – 2045 No Build	Increase Over Existing, dBA – 2045 Build	Increase Over No Build, dBA – 2045 Build	Activity Category (NAC)	Land Use	Impact ¹
R13	76	76	76	0	0	0	E(72)	Restaurant	None ⁴
R14	60	60	59	0	-1	-1	E(72)	Hotel	None
R15	68	69	69	1	1	0	E(72)	Commercial	None ⁴
R16	73	74	74	1	1	0	E(72)	Commercial	None ⁴
R17	71	70	70	-1	-1	0	E(72)	Commercial	None ⁴
R18	70	69	69	-1	-1	0	E(72)	Commercial/Restaurant	None ⁴
R19	73	74	74	1	1	0	E(72)	Commercial	None ⁴
R20	74	74	74	0	0	0	E(72)	Hotel	None ⁴
R21	71	70	70	-1	-1	0	E(72)	Commercial	None ⁴
R22	71	71	71	0	0	0	E(72)	Commercial	None ⁴
R23	73	73	73	0	0	0	E(72)	Commercial	None ⁴
R24	79	79	79	0	0	0	E(72)	Commercial	None ⁴
R25	68	68	67	0	-1	-1	E(72)	Restaurant	None ⁴
R26	67	68	68	1	1	0	F	Industrial	None ⁴
R27	81	81	81	0	0	0	E(72)	Commercial	None ⁴
R28	67	67	68	0	1	1	F	Industrial	None ⁴
R29	80	81	81	1	1	0	F	Industrial	None ⁴
R30	68	69	69	1	1	0	F	Industrial	None ⁴

¹ Impact Type: S = Substantial Increase (12 dBA or more), A/E = Approach or Exceed NAC, None = Increase is less than 12 decibels and noise levels do not approach or exceed the NAC.

² As stated in the TeNS, modeling results are rounded to the nearest decibel before comparisons are made.

³ S4 is located at the northern façade of the South San Francisco Conference Center. This location does not include any exterior noise sensitive land uses, so would be considered a Category D land use only. Exterior noise levels are presented in the table.

⁴ These locations do not include any exterior noise sensitive land uses. Noise level data provided for informational purposes only.

⁵ As part of the proposed action, the outdoor use area at S2 will be removed.

Table 2.3.7-6 Predicted Interior Noise Levels

Receptor ID	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA –Existing	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA – 2045 No Build	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA – 2045 Build	Increase Over Existing, dBA – 2045 No Build	Increase Over Existing, dBA – 2045 Build	Increase Over No Build, dBA – 2045 Build	Activity Category (NAC)	Land Use	Impact ¹
S4	72	72	72	47	Public Meeting Room	None	S4	72	72

¹ Impact Type: S = Substantial Increase (12 dBA or more), A/E = Approach or Exceed NAC, None = Increase is less than 12 decibels and noise levels do not approach or exceed the NAC.

² As stated in the TeNS, modeling results are rounded to the nearest decibel before comparisons are made.

Impacted receptors were identified by Activity Category and the number of impacted receptors is summarized to calculate reasonableness monetary allowances for feasible noise barriers that also meet the 7 dB noise reduction design goal. Noise levels discussed in this section are based on the model results, using loudest-case traffic conditions (in terms of noise generation) for the Existing, No Build, and Build scenarios.

Eight short-term measurement positions (S1 through S8) were used as modeling receptors in the vicinity of the Project alignment. In addition, there are thirty modeled receptor locations (R1 through R30). Receptors are shown in Figure 2.3.7-2.

Exterior Noise Levels in Category E and F Land Uses

As shown in Table 2.3.7-5, the loudest-hour noise levels at Category E land uses are predicted to range from 60 to 81 dBA Leq[h] under Existing conditions, from 60 to 81 dBA Leq[h] under 2045 No Build conditions, and from 59 to 81 dBA Leq[h] under 2045 Build conditions. The loudest-hour noise levels at Category F land uses are predicted to range from 66 to 80 dBA Leq[h] under Existing conditions, from 66 to 81 dBA Leq[h] under 2045 No Build conditions, and from 66 to 81 dBA Leq[h] under 2045 Build conditions. The 2045 Build traffic noise levels are predicted to approach or exceed the NAC at one Category E receptor along the US 101 and South Airport Boulevard (S3).

Noise levels would increase by up to 1 dBA over Existing conditions under 2045 No Build conditions. When compared to Existing conditions, changes in noise levels under 2045 Build conditions would range from -1 to +1 dBA at all but one receptor (S2). At Receptor S2, the Project would remove the existing building to the north (IHOP), the hotel reception area, the hotel outdoor pool facility, and the hotel's meeting and conference center, the project would extend Utah Avenue to the south of S2. Receptor S2 located at the existing outdoor use area that is planned to be removed under the Build condition.

Thus, none of the noise level increases that would result from the Project are considered substantial as they would be well below the Caltrans 12 dBA threshold.

Interior Noise Levels in Category D Land Uses

A noise impact would occur if, as a result of a proposed freeway project, noise levels approach or exceed 52 dBA Leq[h] in the interior of auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios. Based on FHWA Guidance, a typical Category D use structure would be anticipated to provide about 10 dBA of noise reduction from exterior noise sources with windows open, and 20 to 35 dBA of noise reduction with windows in the closed position, depending on the window and exterior wall construction. Therefore, Category D use structures that do not have forced air mechanical ventilation, to allow occupants to keep windows closed to control noise, could be anticipated to have interior noise levels approaching or exceeding 52 dBA Leq[h] with exterior exposures of 62 dBA Leq[h] or more. For structures with windows in the closed position, exterior noise levels of 72 to 87 dBA Leq[h] or less, depending on the acoustical construction of the structure, would result in acceptable interior noise levels. The noise level at the worst-case exterior façade of Category D land uses identified along the alignment is 72 dBA Leq[h] under 2045 Build conditions. Table 2.3.7-6 lists the loudest-hour interior noise level within the identified Category D land use.

Figure 2.3.7-2 Receptor Locations



One public meeting space is located in the Project area. South San Francisco Conference Center is located approximately 430 feet east of US 101 and is represented by Receptor S4. Interior noise levels at South San Francisco Conference Center would not approach or exceed 52 dBA Leq[h] with windows closed. The conference center is a large building of modern construction and is anticipated to provide about 25 dB of exterior-to-interior noise reduction with windows closed. Based on a desktop review the South San Francisco Conference Center includes mechanical ventilation, allowing occupants the option of closing windows to control noise. As a result, noise levels inside the Conference Center are expected to be 47 dBA Leq[h] and are not anticipated to approach or exceed the NAC for Category D land uses.

Construction Noise

Noise generated by Project-related construction activities would be a function of the noise levels generated by individual pieces of construction equipment, the type and amount of equipment operating at any given time, the timing and duration of construction activities, the proximity of nearby sensitive land uses, and the presence or lack of shielding at these sensitive land uses. Construction noise levels would vary on a day-to-day basis during each phase of construction depending on the specific task being completed.

Construction Phasing and Noise Levels

Project construction is anticipated to occur over a period of two years and would include grubbing/land cleaning, grading/excavation, drainage/utilities, paving, building demolition, and pile driving. Construction noise would primarily result from pile driving, the operation of heavy construction equipment, and arrival and departure of heavy-duty trucks.

Table 2.3.7-7 presents construction noise levels calculated for each major phase of the project at distances of 50 and 100 feet, based on calculations conducted in FHWA's Roadway Construction Noise Model (RCNM) using Project-specific construction information. This construction noise model includes representative sound levels for the most common types of construction equipment and the approximate usage factors of such equipment that were developed based on an extensive database of information gathered during the construction of the Central Artery/Tunnel Project in Boston, Massachusetts (CA/T Project or "Big Dig"). In some instances, maximum instantaneous noise levels are calculated to be slightly lower than hourly average noise levels. This occurs because the model reports the maximum instantaneous noise level generated by the loudest single piece of construction equipment, while reporting the hourly average noise levels resulting from the additive effect of multiple pieces of construction equipment operating simultaneously. Noise generated by construction equipment drops off at a rate of 6 dB per doubling of distance.

Table 2.3.7-7 Noise Levels by Construction Phase at 100 feet

Construction Type	Construction Phase	50-Foot Hourly Average Noise Level (Leq[h], dBA)	50-Foot Hourly Average Noise Level (Leq[h], dBA)	100-Foot Maximum Noise Level (Lmax, dBA)	100-Foot Hourly Average Noise Level (Leq[h], dBA)
Roadway Construction	Grubbing/ Land Clearing	84	83	78	77
Roadway Construction	Grading/ Excavation	85	89	79	83
Roadway Construction	Drainage/ Utilities	85	88	79	82
Roadway Construction	Paving	84	84	78	78
Bridge/Structures Construction	Grubbing/ Land Clearing	84	83	78	77
Bridge/Structures Construction	Demolition	90	84	84	78
Bridge/Structures Construction	Grading/ Excavation	85	90	79	84
Bridge/Structures Construction	Pile Driving	101	94	95	88
Bridge/Structures Construction	Drainage/ Utilities	85	89	79	83
Bridge/Structures Construction	Paving	81	83	75	77

Construction Noise Impacts

Although the overall construction schedule is anticipated to occur over a period of two years, roadway construction activities typically occur for relatively short periods of time in any specific location as construction proceeds along the Project’s alignment. Construction noise would mostly be of concern in areas where heavy construction would be concentrated for extended periods of time in areas adjacent to noise sensitive receptors, where noise levels from individual pieces of equipment are substantially higher than ambient conditions, or when construction activities would occur during noise-sensitive early morning, evening, or nighttime hours.

As indicated through comparison of Table 2.3.7-7, at 100 feet most construction phases would generate average noise levels that would exceed ambient daytime noise levels at adjacent land uses by 10 to 26 dBA Leq[h].

With the exception of short periods of pile driving, heavy demolition, and site preparation, construction noise levels would not be expected to exceed the quantitative noise limits established by Caltrans.

Operational Noise Impact Identification and Consideration of Abatement

Traffic noise impacts are considered to occur at receptor locations where predicted design-year noise levels are 12 dB or greater than existing noise levels, or where predicted design-year noise levels approach or exceed the NAC for the applicable activity category. Caltrans has defined the meaning of approaching the NAC to be 1 dBA below the NAC (e.g., 66 dBA is considered approaching the NAC for Activity Category B activity areas). Where traffic noise impacts are identified, noise abatement must be considered for reasonableness and feasibility as required by 23 CFR 772 and the Protocol.

Noise abatement is only considered where frequent human usage occurs and where a lowered noise level would be of benefit. Areas of frequent human usage are considered to occur at exterior locations where people are exposed to traffic noise for an extended period of time on a regular basis. Therefore, impacts are typically assessed at locations with defined outdoor activity areas, such as residential backyards, common exterior use areas, trails, pools, patios, and parks (e.g., playfields, playgrounds, or picnic tables). Other examples are outdoor seating areas at restaurants or outdoor use areas at hotels.

Caltrans policies and procedures for traffic noise analysis are contained in the Protocol and TeNS. The feasibility of noise abatement is an engineering consideration. According to the Protocol, abatement measures are considered acoustically feasible if a minimum noise reduction of 5 dB at impacted receptor locations is predicted with implementation of the abatement measures. Other factors that affect feasibility include topography, utility conflicts, and safety considerations.

Once all feasible noise abatement is identified, a procedure is conducted to assess the reasonableness of noise abatement. The determination of the reasonableness of noise abatement is more subjective than the determination of its feasibility. As defined in Section 772.5 of the regulation, reasonableness is the combination of social, economic, and environmental factors considered in the evaluation of a noise abatement measure. NSRs calculate the reasonable cost allowance for feasible noise barriers, but do not determine whether a feasible barrier would be reasonable.

The overall reasonableness of noise abatement is determined by the following three factors:

- The noise reduction design goal (a barrier must be predicted to provide at least 7 dB of noise reduction at one or more benefited receptors).
- The cost of noise abatement (2019 allowance of \$107,000 per benefited receptor).
- The viewpoints of benefited receptors (including property owners and residents of the benefited receptors).

Caltrans' acoustical design goal is that a barrier must be predicted to provide at least 7 dB of noise reduction at one benefited receptor. This design goal applies to any receptor and is not limited to impacted receptors.

The Protocol defines the procedure for assessing reasonableness of noise barriers from a cost perspective. Cost considerations for determining noise abatement reasonableness are based on an allowance per benefitted receptor. This reasonable allowance maybe adjusted based on the most recent annual Construction Price Index. The annual price index for the fourth quarter of any year is usually posted by February of the following year. The base cost allowance for any 2019 reasonable/feasible analysis is \$107,000 for each benefitted receptor (i.e., receptors that receive at least 5 dB of noise reduction from a noise barrier). The cost allowance has not yet been updated for 2021. The total allowance for each barrier is calculated by multiplying the number of benefitted receptors by \$107,000.

Noise Abatement Analysis

Noise abatement is considered where noise impacts are predicted in areas of frequent human use that would benefit from a lowered noise level. Noise abatement must be predicted to provide at least a 5 dB minimum reduction at an impacted receptor to be considered feasible by Caltrans (i.e., the barrier would provide a noticeable noise reduction). Additionally, the Protocol's acoustical design goal states that the noise barrier must provide at least 7 dB of noise reduction at one or more benefitted receptors. Noise abatement measures that provide noise reduction of more than 5 dB are encouraged, as long as they meet the reasonableness guidelines. According to 23 CFR 772(13)(c) and 772(15)(c), federal funding may be used for the following abatement measures:

- Construction of noise barriers, including acquisition of property rights, either within or outside the highway right-of-way.
- Traffic management measures including, but not limited to, traffic control devices and signing for prohibition of certain vehicle types, time-use restrictions for certain vehicle types, modified speed limits, and exclusive lane designations.
- Alteration of horizontal and vertical alignments.
- Acquisition of real property or interests therein (predominantly unimproved property) to serve as a buffer zone to preempt development, which would be adversely impacted by traffic noise.
- Noise insulation of Activity Category D land use facilities. Post-installation maintenance and operational costs for noise insulation are not eligible for Federal-aid funding.

Noise barriers were considered as noise abatement for exterior land uses in the Project area. The noise barrier evaluated has been evaluated for feasibility based on achievable noise reduction. The design of the noise barrier presented in this report is preliminary and has been conducted at a level appropriate for environmental review

but not for final design of the Project. A final decision on the construction of noise barriers will be made upon completion of the project design.

The preliminary noise barrier was evaluated at the most acoustically effective location outside of the State right-of-way and located on private property. Barrier analysis was performed in accordance with the Protocol for instances where noise levels at receptors located behind existing noise barriers approached or exceeded the NAC.

One new noise barrier was studied as potential noise abatement barrier as discussed in detail below. Once a noise barrier achieved the minimum of a 5 dB reduction at an impacted receptor and achieved the 7 dB noise reduction design goal for at least one receptor, the reasonable allowance was determined. The evaluated barrier location, as well as measured and modeled receptor locations, is depicted in Figure 2.3.7-3.

Construction Vibration Analysis

Heavy construction located within 22 feet of historic buildings and impact pile driving located within 100 feet would have the potential to exceed the 0.25 in/sec PPV threshold. As stated in section 2.2.10, the Golden Gate Produce Terminal (131 Terminal Court, South San Francisco, APN 015-113-210) was determined to be eligible for the National Register of Historical Places and is also considered a historic resource under CEQA. Consultation with the State Historic Preservation Officer with regard to this building is ongoing. The determination of the project's effects on the produce terminal will be finalized following completion of consultation with SHPO.

Heavy construction located within 18 feet of older residential structures or within 12 feet of new residential and modern commercial/industrial structures and impact pile driving within 85 feet of older residential structures or within 55 feet of new residential and modern commercial/industrial structures would have the potential to exceed the 0.3 and 0.5 in/sec PPV thresholds, respectively. Vibration limits could potentially be exceeded during pile driving located adjacent to structures. Construction vibration limits are not anticipated to be exceeded during periods of construction not involving pile driving.

The construction vibration measures listed under PF-NOI-02 would reduce the potential for vibratory impacts to adjacent structures, such as the Golden Gate Produce Terminal.

2.3.7.4 Avoidance, Minimization, and/or Abatement Measures

The outdoor use area at the Best Western Plus, represented by Receptor S3, has been identified for noise abatement because 2045 Build noise levels would approach or exceed the NAC. This receptor is partially shielded by a fence reaching 5 feet in height.

Figure 2.3.7-3 Receptor Locations and Evaluated Noise Barrier



Evaluated Barrier 1 would begin at the north facade of the Best Western Hotel building, extending around the outdoor use area and concluding back at the north façade of the Best Western Hotel building. This barrier was assessed at heights of 5 and 6 feet, as measured above the pool deck. This barrier was considered for the impacted receptor located along South Airport Boulevard (S3, the Best Western outdoor use area). Receptor S3 is along the outdoor use area at 380 South Airport Boulevard, approximately 380 feet east of US 101. Table 2.3.7-8 shows the predicted 2045 Build noise levels and insertion loss for Evaluated Barrier 1 at various design heights.

Table 2.3.7-8 shows that Barrier 1 met the minimum acoustic requirements of achieving at least 7 dBA noise reduction at receptor S3. As stated above, the reasonable allowance calculated for the barrier is \$107,000.

Preliminary Noise Abatement Decision and Recommendation

Barrier 1 would only protect a single receptor, the Best Western outdoor use area east of US 101. The cost estimate included the necessary staging and effort to add the barrier to the outdoor use area, and the total cost was estimated at approximately \$167,440 as of November 2021, which would exceed the calculated total reasonable allowance of \$107,000. Barrier 1 was therefore not preliminarily recommended because it would exceed the calculated reasonable estimate of \$107,000.

Based on the studies completed to date, the Department does not intend to incorporate noise abatement for the project, because the barriers evaluated either did not meet acoustical feasibility or did not meet the reasonable allowance in accordance with Caltrans guidelines. The final decision on noise abatement will be made following public review and upon completion of the project design.

2.3.8 Energy

2.3.8.1 Regulatory Setting

NEPA (42 USC Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

CEQA Guidelines section 15126.2(b) and CEQA's Appendix F, Energy Conservation, require an analysis of a project's energy use to determine if the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources.

2.3.8.2 Affected Environment

This section summarizes the *Energy Analysis Report* prepared in March 2022 for the project (AECOM 2022c).

Table 2.3.7-8 Summary of Barrier Evaluation from Noise Study Report

Barrier ID	Approximate Stationing/ Location	Noise Level w/o Barrier at Benefited Receptors (L _{eq[h]})	Barrier Height (feet)	Insertion Loss (dBA)	Acoustically Feasible?	Number of Benefited Receptors	Design Goal Achieved?	Total Reasonable Monetary Allowance
Barrier 1	Along the outdoor use area at 380 South Airport Boulevard	72	5	3	No	0	Yes	0
Barrier 1	Along the outdoor use area at 380 South Airport Boulevard	72	6	7	Yes	1	Yes	\$107,000

Notes:

EP = edge of pavement

ROW = right-of-way line

The immediate project area is served only by a single undercrossing of US 101 at South Airport Boulevard, and congestion occurs at the intersections serving this undercrossing. Delays at these intersections result in higher energy use, especially if vehicles are using longer diversion routes.

The transportation sector is the top consumer of energy in California, comprising nearly 40 percent of energy consumption in 2018 (EIA 2018). The State of California relies on both nonrenewable and renewable energy sources. Nonrenewable energy resources used in California include petroleum, natural gas, and nuclear power; renewable energy resources include hydroelectric, biomass, wind, solar, and geothermal heat (heat given off by the Earth). A total of 36 percent of California’s electricity comes from renewable sources, and 42 percent of that renewable energy comes from solar, the state’s top renewable energy source. Fossil fuels have been the leading transportation fuels in the country and state. Gasoline is the most consumed fuel in California, at approximately 55.79 percent of total fossil fuel consumption for the state’s transportation sector. Table 2.3.8-1 shows fossil fuel consumption in California for the transportation sector. The amount of fuel used is expressed by British Thermal Unit (Btu). A Btu is the amount of energy required to raise the temperature of 1 pound of water 1-degree Fahrenheit.

Table 2.3.8-1 Fossil Fuel Consumption in California for the Transportation Sector (2018)

Fuel Type	Trillion Btu	Percent of Total California Consumption
Natural Gas	44.8	1.42
Aviation Gasoline	2.2	0.07
Distillate Fuel Oil	483.8	15.30
HGL	0.7	0.02
Jet Fuel	684.8	21.65
Lubricants	13.2	0.42
Motor Gasoline	1,764.4	55.79
Residual Fuel Oil	168.8	5.34
Total	3,162.7	100.00

Source: EIA 2018

Alternatives to fossil fuels for transportation have helped decrease the dependence on gasoline and other fossil fuels. In addition to traditional petroleum fuels, California currently uses the following “alternative” fuels and energy sources:

- Compressed natural gas (CNG)
- Electric (EVC)
- Ethanol, 85 percent (E85)
- Hydrogen
- Liquefied natural gas (LNG)
- Liquefied petroleum gas (LPG)

2.3.8.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not lead to an increase in energy usage or otherwise affect energy usage in the project area.

Build Alternative

Direct Energy Impacts

Direct energy impacts were evaluated based on vehicle miles traveled (VMT) and construction-related emissions.

Vehicle Miles Traveled

Table 2.3.8-2 lists operational daily VMT in the TOAR study area in 2020 (Base Year), 2025 (Opening Year), and 2045 (Design Year).

Table 2.3.8-2 Study Area Operational Daily VMT

Project Alternatives	Daily VMT	Change from Base Year (Daily VMT)	% Change from Base Year	Change from No Build (Daily VMT)	% Change from No Build
2020 Base Year	1,117,915	—	—	—	—
2025 No Build	1,127,743	9,828	0.88%	—	—
2025 Build	1,126,771	8,856	0.79%	-972	-0.09%
2045 No Build	1,167,053	49,138	4.40%	—	—
2045 Build	1,166,514	48,599	4.35%	-539	-0.05%

Source: C/CAG-VTA Model, AECOM 2021

The TOAR found that daily VMT is anticipated to increase over time relative to the Base Year, regardless of the chosen alternative. Direct energy usage as a result of VMT is expected to increase over time correspondingly for the No Build and Build Alternatives. Comparing the growth in VMT for the No Build study years, the increase between the Base Year of 2020 and 2025 is about 0.88% (9,828 VMT), and the increase between the Base Year and 2045 is about 4.40% (49,138 VMT). These increases are without the project. When comparing the No Build to the Build Alternative, daily VMT would decrease with the project by 0.09 percent in 2025, and 0.05 percent in 2045.

Energy use factors were calculated as a statistical average to estimate fuel consumption in gallons per mile. To calculate and project the vehicle fuel used by the proposed project, the total VMT (in miles per day) for typical on-road vehicles and the total amount of vehicle fuel (in gallons per day) used in the Bay Area region were obtained from the CARB EMFAC2017 model. Aggregated model year and speed were used for the analysis. EMFAC2011 vehicle categories were used, as these are the latest categories available in CARB EMFAC2017.

Results from the model were calculated for the Base Year, 2025 Opening Year and the 2045 Design Year for both gasoline and diesel fuel types. The average gallons per mile was then calculated for each year and each fuel type. Table 2.3.8-3 shows the results of calculating the direct energy factors. Though the projected VMT appears to increase over the years, the total gallons consumed per day decrease, which is associated with better energy efficiency and standards that apply as older vehicles are replaced over time by increasingly more fuel-efficient cars and trucks.

Table 2.3.8-3 Direct Energy Factors for Energy Consumption

Condition	Fuel-Specific VMT (miles/Day)	Fuel Consumption (Gallons/Day)	Average Gal/Mile	% Share VMT
2020 Base Year – <i>Gasoline</i>	160,072,121.51	6,334,019.09	0.0396	93.22%
2025 Opening Year – <i>Gasoline</i>	165,408,573.25	5,653,255.92	0.0342	92.67%
2045 Design Year – <i>Gasoline</i>	187,133,077.19	4,985,132.81	0.0266	91.78%
2020 Base Year – <i>Diesel</i>	11,634,424.06	1,234,967.26	0.1061	6.78%
2025 Opening Year – <i>Diesel</i>	13,085,992.54	1,231,711.07	0.0941	7.33%
2045 Design Year – <i>Diesel</i>	16,752,299.19	1,256,414.43	0.0750	8.22%

Source: EMFAC2017

The average gallons per mile derived in Table 2.3.8-3 were multiplied by operational daily VMT to estimate direct energy consumption in gallons of gasoline and diesel consumed by vehicles for each analysis year. Diesel trucks were assumed to contribute to 6.78 percent of daily operational VMT for 2020, 7.33 percent for 2025, and 8.22 percent for 2045, based on EMFAC2017 projections of gasoline and diesel VMT for the Bay Area in those years (Table 2.3.8-3). Gasoline automobiles were assumed to contribute 93.22, 92.67, and 91.78 percent of daily operational VMT for 2020, 2025, and 2045, respectively. In order to convert to direct energy consumption in BTU, it is assumed that a gallon of gasoline has an energy content of 120,941 BTU, and a gallon of diesel has 137,320 BTU.

Table 2.3.8-4 shows that overall energy consumption is anticipated to decrease over time, relative to the Base Year, regardless of the chosen alternative. This is associated with better energy efficiency and standards, as stated above. Total energy consumption is similar for the Build and No Build Alternatives, with a slightly lower total energy consumption for the Build Alternative. The 0.09 percent (2025) and 0.05 percent (2045) decrease in total energy consumption for the Build Alternative is attributed to lower VMT for the Build Alternative, as reported by the TOAR.

Table 2.3.8-4 Operational Daily Fuel Consumption for the Study Area

Project Alternatives	Automobile Energy Consumption (Gallons of Gasoline)	Truck Energy Consumption (Gallons of Diesel)	Total Energy Consumption (100,000 Btu¹)	Change from Base Year (100,000 BTU)	% Change from Base Year	Change from No Build (100,000 Btu¹)	Percent Change from No Build (%)
2020 Base Year	41,238.35	8,040.39	60,915.15	-	-	-	-
2025 No Build	35,717.72	7,782.05	53,883.68	-7,031.46	-11.54	-	
2025 Build	35,686.94	7,775.34	53,837.24	-7,077.90	-11.62	-46.44	-0.09%
2045 No Build	28,535.22	7,191.80	44,386.56	-16,528.59	-27.13	-	
2045 Build	28,522.04	7,188.48	44,366.06	-16,549.09	-27.17	-20.50	-0.05%

Sources: AECOM 2021, EMFAC2017

Note:

¹ Assumes an energy content of 120,941 BTUs per gallon of gasoline and 137,320 BTUs per gallon of diesel.

Construction

Project construction would be a temporary commitment of energy, necessary for any infrastructure improvement project. Energy consumption during construction would be conserved and minimized to the maximum extent feasible. Energy conservation in construction activities is assumed, as the construction contractor would have a financial incentive and statutory mandate to minimize waste and externalities, respectively. Regulations that stipulate the reduction of energy-related externalities include CARB Title 13, Section 2485 of California Code of Regulations. This regulation limits the idling time of diesel construction equipment to five minutes.

Energy usage for construction was calculated based on the project-specific results of the RCEM, as reported in the project’s Air Quality Report (Baseline 2022). The project would involve standard construction techniques and require large-scale construction equipment and labor-intensive activities. Project construction is anticipated to commence in 2025 and take approximately 18 months to complete. Emission factors for construction equipment for the project were based on OFFROAD2011 and EMFAC2017. Construction emissions were not apportioned by fuel type (i.e., diesel, gasoline). Therefore, this analysis assumes 100 percent diesel equipment would be used for construction (Caltrans 2021), with the exception of worker commute vehicles. The RCEM results were used to determine short-term energy usage for construction, by converting construction-related CO₂ emissions to gallons of diesel consumed, and subsequently converting gallons of diesel to BTUs.

Table 2.3.8-5 Construction CO₂ Emissions/Energy Usage

Emissions Scenario	CO₂ Emissions (Tons)	CO₂ Emissions (Metric Tonnes)	Fuel Consumed² (Gallons)	Energy Usage (100,000 BTU)
Build Alternative (Gasoline)	175.20	158.94	17,885.01	21,630.31
Build Alternative (Diesel)	2,420.68	2,196.00	215,717.17	296,222.82
Total	2,595.88	2,354.94	233,602.18	317,853.12

Notes:

¹ Uses an adjustment factor of 1.0309.

² 10,180 grams of CO₂/gallon of diesel = 10.180 × 10⁻³ metric tons CO₂/gallon of diesel. 8,887 grams of CO₂/gallon of gasoline = 8.887 × 10⁻³ metric tons CO₂/gallon of gasoline.

The analysis of direct energy use for construction accounted for the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule: Part Two,²⁰ as the appropriate adjustment factors were applied to gasoline light duty vehicle emissions (i.e., worker commute vehicles) in the construction greenhouse gas analysis of the Air Quality Report (Baseline 2022). The SAFE-adjusted CO₂ emissions were converted to gallons of gasoline consumed by using the U.S. EPA conversion factor of 8,887 grams of CO₂ per gallon of gasoline consumed (U.S. EPA 2011). Other CO₂ emissions were converted to gallons of diesel

²⁰ U.S. EPA has repealed the SAFE Rule: Part 1 effective on January 28, 2022. CARB’s off-model adjustments are still required for CO₂ emissions from gasoline light duty Vehicles, which are regulated by SAFE Rule Part 2 (Final).

consumed by using the U.S. EPA conversion factor of 10,180 grams of CO₂ emissions per gallon of diesel consumed. Gallons of diesel consumed were then converted to energy usage in BTU, by the assumption that a gallon of gasoline has an energy content of 120,941 BTU, and a gallon of diesel has 137,320 BTU.

Through this analysis, it is anticipated that construction of the Build Alternative would require a one-time energy commitment of over 31 billion BTU.

Indirect Energy Impacts

Indirect energy use is primarily associated with project maintenance, such as fuel use by equipment for periodic maintenance of the system. Energy use from maintenance would be periodic and is expected to be minimal.

2.3.8.4 Avoidance, Minimization, and/or Mitigation Measures

Aside from construction BMPs listed in PF-AIR-02 of Table 1.6-1, no avoidance, minimization, or mitigation is proposed. The proposed project would not lead to impacts stemming from energy use. Therefore, no avoidance, minimization, or mitigation is required.

2.4 Biological Environment

2.4.1 Natural Communities

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on fish passage, wildlife corridors, and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in Section 2.4.5, Threatened and Endangered Species. Wetlands and other waters are also discussed below in Section 2.4.2.

2.4.1.1 Affected Environment

This section is based on the *Natural Environment Study* prepared in November 2020 (AECOM 2020d).

The project area is in the San Francisco Bay Area, a floristic sub-region of the California Floristic Province's Central Western California region. The sub-region occupies the northern one-third of the Central Western California region and contains a diverse assemblage of plant communities and wildlife habitat types.

A biological study area (BSA) was established to evaluate the effects of the proposed project on natural communities and other biological resources. The biological study area (BSA) encompasses the project footprint plus a 50-foot buffer surrounding the project footprint. This area was surveyed in the field and evaluated for potential effects to natural resources from the proposed project. The project area boundary was established to encompass all areas that may be directly or indirectly affected by project construction activities, including construction staging and laydown.

Vegetation Communities

Vegetation within the project area consists primarily of previously disturbed areas; the majority of vegetated areas are landscaped areas within urban development and feature hydro-seeded or planted species. Although ruderal and non-native species have colonized these areas over time, native species were also observed. Aerial imagery indicates that portions of the BSA are periodically mowed, and that other areas on private property are subject to regular landscaping maintenance. The two dominant vegetation types in the BSA are ornamental vegetation and non-native ruderal vegetation.

Ornamental

The majority of the BSA is developed and is dominated by ornamental plantings consisting of introduced plant species used for landscaping purposes. The dominant species within this vegetation/land use type is pink sea fig (*Carpobrotus edulis*). Other dominant species include Bermuda grass (*Cynodon dactylon*), ornamental pines (*Pinus* sp.), eucalyptus (*Eucalyptus* sp.), and oleander (*Nerium oleander*). These vegetated upland areas provide minimal value as wildlife or native plant habitat.

Ruderal

Ruderal habitat is located along roadsides throughout the BSA and in open lots adjacent to landscaped areas. Ruderal habitats are made up of highly disturbed upland vegetation, characterized by weedy species. Within the BSA, black mustard (*Brassica nigra*), fennel (*Foeniculum vulgare*), bromes (*Bromus* spp.), bull mallow (*Malva nicaeensis*), Jersey cudweed (*Pseudognaphalium luteoalbum*), wild oats (*Avena* spp.), wild lettuce (*Lactuca serriola*), horseweeds (*Erigeron* sp.), and escaped ornamentals were observed within ruderal areas.

Open Water

Colma Creek is located on the north side of the project footprint and runs under US 101. It is a tributary to the San Francisco Bay, and therefore serves as potential habitat to special-status fish species. Colma Creek is predominantly concrete lined within the BSA, where it functions as a flood control channel. Where Colma Creek crosses under San Mateo Avenue, the feature is lined with concrete, and lacks emergent wetland or upland vegetation. Where Colma Creek crosses Produce Avenue, US 101, and South Airport Boulevard, there is soil substrate lining the creek and banks, with glasswort and other wetland vegetation along the banks.

Colma Creek is considered an estuarine intertidal creek within the BSA on the east side of 101, and a nontidal perennial creek to the east (USFWS 2020b).

Wetlands and other waters of the U.S. are discussed further in Section 2.4.2.

Fish Passage and Essential Fish Habitat

Colma Creek contains no fish passage barriers between the BSA and the San Francisco Bay. Colma Creek is designated as Essential Fish Habitat (EFH) in three fishery management plans (FMPs): the Pacific Salmon FMP, the Pacific Groundfish FMP, and the Coastal Pelagic FMP. Additionally, San Francisco Bay is designated as an Estuarine Habitat Area of Particular Concern (HAPC) in those FMPs. HAPC are described in the regulations as subsets of EFH that are rare; particularly susceptible to human-induced degradation, especially ecology important; or located in an environmentally stressed area.

Section 2.4.5 provides additional information about special-status fish.

Wildlife Corridors

The BSA is unlikely to provide habitat for most vertebrate wildlife species because it primarily consists of hardscape or ruderal cover. Species that may use the BSA include disturbance-tolerant species, such as American crow (*Corvus brachyrhynchos*), house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), and Canada goose (*Branta canadensis*). Mammalian species dispersing or moving through the BSA would be primarily limited to raccoon (*Procyon lotor*) and eastern fox squirrel (*Sciurus niger*).

Trees

Trees observed in the project area consist of urban street trees and urban landscaping, including trees on private property and trees within the Caltrans (ROW) and city streets. Trees were surveyed if they met the parameters for the City of South San Francisco Tree Preservation Ordinance or the County of San Mateo Heritage and Significant Tree Ordinance. No trees protected by the County of San Mateo Heritage Tree Ordinance were observed. Trees covered under the City of South San Francisco Tree Preservation Ordinance include select non-native species with a dbh of 24 inches or greater and select native species with a dbh of 9.5 inches or greater and any other tree not included in the list, with a dbh of 15 inches or greater. This survey area corresponds to the maximum areas of construction for the project alternatives (project footprint) but did not include all trees in the BSA.

A total of 17 trees that met the parameters of the City of South San Francisco Tree Preservation Ordinance were mapped. The species and their diameters are provided in Table 2.4.1-1 and shown in Figures 2.4.1-1 and 2.4.1-2.

Table 2.4.1-1 Tree Survey Results

Scientific Name	Common Name	dbh (inches)
<i>Pinus pinea</i>	Italian stone pine	27.5
<i>Pinus radiata</i>	Monterey pine	19.5
<i>Myoporum laetum</i>	myoporum	26
<i>Pinus radiata</i>	Monterey pine	27
<i>Cupressus macrocarpa</i>	Monterey cypress	23
<i>Searsia lancea</i>	African sumac	17
<i>Pinus radiata</i>	Monterey pine	31
<i>Cupressus macrocarpa</i>	Monterey cypress	21.5
<i>Eucalyptus globulus</i>	blue gum eucalyptus	26, 34.5
<i>Melaleuca quinquenervia</i>	Paperbark	17
<i>Cupressus macrocarpa</i>	Monterey cypress	30.5
<i>Acacia melanoxylon</i>	blackwood acacia	22
<i>Pinus radiata</i>	Monterey pine	24
<i>Acacia melanoxylon</i>	blackwood acacia	20
<i>Acacia melanoxylon</i>	blackwood acacia	23
<i>Cupressus macrocarpa</i>	Monterey cypress	29
<i>Cupressus macrocarpa</i>	Monterey cypress	22



Figure 2.4.1-1 Trees in the BSA Protected by the City of South San Francisco Tree Preservation Ordinance (1 of 2)



Figure 2.4.1-2 Trees in the BSA Protected by the City of South San Francisco Tree Preservation Ordinance (2 of 2)

2.4.1.2 Environmental Consequences

No Build Alternative

The No Build Alternative would have no effect on natural communities.

Build Alternative

Vegetation Communities

Ornamental

The removal of ornamental vegetation as part of the Build Alternative is anticipated. The full extent of removal would be determined during the PS&E Phase of the project. PF-BIO-03 and 04, as described in Table 1.6-1, would restore affected sites and provide replacement vegetation, respectively. VIS-01 – 02 would also apply, and would further avoid or minimize adverse effects on ornamental vegetation.

Ruderal

Removal of ruderal vegetation as part of the Build Alternative is anticipated. As stated above, ruderal habitat is made up of highly disturbed upland vegetation, characterized by weedy species. Ruderal habitat within the BSA is likely to only be used by disturbance-tolerant species, as described above.

Open Water

No in-water work is planned for the project, and permanent impacts to Colma Creek are not anticipated. Temporary impacts to Colma Creek could result from staging and work areas adjacent to the creek. Stormwater runoff from the project site has the potential to increase turbidity in Colma which could adversely affect the quality of this resource. Accidental spills or runoff of materials used during construction (e.g., oils, transmission and hydraulic fluids, fuel) could potentially affect Colma Creek and sensitive resources downstream. PF-BIO-01, 11, and 12 would avoid or minimize the potential for temporary impacts to the open waters of Colma Creek, including EFH.

Fish Passage and Essential Fish Habitat

As stated above, no in-water work is planned for the project, and no bridge would be constructed over water. Potential adverse effects described under Open Water above would also apply to fish passage and essential fish habitat. Likewise, PF-BIO-01, 11, and 12 would avoid or minimize the potential for temporary impacts to fish passage and EFH.

Wildlife Corridors

Due to the urbanized nature of the BSA, permanent impacts to wildlife movement are not anticipated, and habitat fragmentation would not occur. Construction-related noise and light could result in temporary avoidance of the project area by common species; however, this impact would be minimal as the species are tolerant of disturbance. PF-BIO-01 – 3, 05, 07, 08, and 11 would avoid or minimize the potential for temporary impacts to wildlife movement.

Trees

The project would have direct and indirect permanent effects on trees through ground disturbance during construction or heavy pruning (over 30 percent of the canopy removed). Temporary effects on trees would include pruning of less than 30 percent of the canopy, removal of less than 25 percent of the roots (within the drip line of the tree), or soil compaction to less than 30 percent of the critical root zone. The majority of the trees fall within the Caltrans ROW. However, any trees that may be affected that fall within City or County ROWs may require a permit for pruning or removal.

As stated above, there are 17 trees within the BSA that meet the parameters of the City's Tree Preservation Ordinance. However, not all of these trees will necessarily be affected by the project; tree pruning and removals will be minimized to the extent feasible. Further, AMM BIO-03 and PF-BIO-04 and 08 would aid in the avoidance, minimization, and mitigation of adverse effects on trees in the project area.

2.4.1.3 Avoidance, Minimization, and/or Mitigation Measures

In addition to the applicable project features described above, Avoidance, Minimization, and Mitigation Measures are proposed to protect biological resources. AMMs BIO-01 – 03 would apply to Natural Communities, as follows:

BIO-01: Best Management Practices (BMPs). A water pollution control program (WPCP) and erosion control BMPs will be developed and implemented to minimize wind or water-related material discharges, in compliance with the requirements of the Regional Water Quality Control Board. The WPCP will provide measures to avoid and minimize stormwater and non-stormwater discharges; temporary construction BMPs will be used to the maximum extent necessary.

BIO-02: Vegetation Removal. Vegetation removal is limited to landscaped plants, and will be minimized to the greatest extent feasible. No clearing or grubbing will be permitted beyond designated construction sites. All cleared vegetation will be removed from the BSA to avoid attracting wildlife. The contractor will be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing such materials.

BIO-03: Tree Removal. To minimize effects on trees that occur within the project footprint, the following minimization measures will be implemented:

- Only those trees requiring removal will be cut down.
- Whenever possible, trees will be trimmed rather than removed.

To avoid potential damage to retained trees, trees will be safeguarded during construction through implementation of the following measures as applicable:

- No construction equipment, vehicles, or materials will be stored, parked or staged within the tree dripline; and

- Work will not be performed within the dripline of remaining trees. If trees are damaged during construction and become unhealthy or die, the damaged tree(s) will be removed and replaced.

During final design, a landscaping plan would be developed by the project sponsor to identify the location and number of trees that would be replanted within the ROW. Trees that are removed will be replaced at a minimum 1:1 ratio if sufficient space and sight distance requirement allow for safe replacement.

2.4.2 Wetlands and Other Waters

2.4.2.1 Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the U.S. Environmental Protection Agency (U.S. EPA).

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the

discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a “least environmentally damaging practicable alternative” (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as FHWA and/or the Department, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm. A Wetlands Only Practicable Alternative Finding must be made.

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCBs) and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see the Water Quality section for more details.

2.4.2.2 Affected Environment

This section is based on the *Natural Environment Study* prepared in November 2020 (AECOM 2020d).

A preliminary wetland delineation was conducted in March 2018 to identify potentially jurisdictional wetlands and other waters of the U.S.

Approximately 0.07 acre of non-wetland but potentially jurisdictional waters of the U.S. (which includes open water) were delineated in Colma Creek. Colma Creek is

predominantly concrete lined within the BSA, where it functions as a flood control channel. Where Colma Creek crosses under San Mateo Avenue, the feature is lined with concrete, and lacks emergent wetland or upland vegetation. Where Colma Creek crosses Produce Avenue, US 101, and South Airport Boulevard, there is soil substrate lining the creek and banks, with glasswort and other wetland vegetation along the banks. Colma Creek is considered an estuarine intertidal creek within the BSA on the east side of US 101, and a nontidal perennial creek to the east (USFWS 2020b). The extent of waters of the U.S. upstream of Produce Avenue (in the concrete channel) is dictated by fluvial processes i.e., the ordinary high water mark (OHWM) caused by winter season runoff and streamflow is above the High Tide Line (HTL). Downstream of US 101, the extent of waters of the U.S. is dictated by the tidal regime; i.e., there is no evidence of an OHWM above the HTL.

Non-Jurisdictional Waters

One culvert was observed that drains a non-jurisdictional stormwater ditch. This drainage feature is an earthen channel lined with upland vegetation and drains a swale in a cloverleaf adjacent to Produce Avenue. This feature appears to drain under the road to the south into Colma Creek. Although the feature exhibited signs of hydrology (flow patterns), it did not meet the USACE wetlands criteria for vegetation or soils, and did not exhibit a defined bed and bank, and therefore does not qualify as a jurisdictional water of the United States. Storm water features that do not qualify as USACE jurisdictional may be regulated by CDFW and the RWQCB as waters of the State.

2.4.2.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not affect wetlands, other waters of the U.S., or potentially non-jurisdictional stormwater features (waters of the State).

Build Alternative

No in-water work is planned for the Build Alternative, and permanent impacts to Colma Creek and are not anticipated. The proposed overcrossing is over US 101, and no work would occur at the existing bridge over Colma Creek. Per PF-BIO-01 and AMM BIO-04, Colma Creek will be identified as an Environmentally Sensitive Area (ESA). Figure 2.4.2-1 below shows the ESA for Colma Creek. Impacts to the drainage at the culvert at the southbound off-ramp could result from staging and work areas adjacent to these features. Stormwater runoff from the project site has the potential to increase turbidity in Colma which could adversely affect the quality of this resource, but this risk will be avoided or minimized by its designation as an ESA. Accidental spills or runoff of materials used during construction (e.g., oils, transmission and hydraulic fluids, fuel) could potentially affect these features and sensitive resources downstream. PF-BIO-01, as shown in Table 1.6-1, would avoid or minimize the potential for temporary impacts to Colma Creek.

Figure 2.4.2-1 Environmentally Sensitive Area



2.4.2.4 Avoidance, Minimization, and/or Mitigation Measures

BIO-4: ESA area at Colma Creek. The bed and banks of Colma Creek shall be identified in project plans as an environmentally sensitive area (ESA), where temporary and permanent work is prohibited. The ESA would be defined as the tops of the banks of Colma Creek, above the concrete-lined canal. No temporary lighting for construction would be implemented at Colma Creek due to the ESA.

AMM BIO-01 would minimize the potential for temporary impacts to the non-jurisdictional culvert identified above.

2.4.3 Animal Species

2.4.3.1 Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries), and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in the Threatened and Endangered Species Section 2.4.4 below. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries candidate species.

Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

2.4.3.2 Affected Environment

This section is based on the Natural Environment Study prepared in November 2020 (AECOM 2020d).

Two special-status animal species – American peregrine falcon (*Falco peregrinus* anatomy) and Alameda song sparrow (*Melospiza melodia pusillula*) – were determined to have limited potential to occur in the BSA. These species, their habitat requirements, and potential impacts of the project are discussed below.

American Peregrine Falcon

American peregrine falcon is a state fully protected species. It prefers nests on vertical structures that are close to aquatic features (CDFG 2008). This species is often found in urban areas, nesting in tall buildings, bridges, and other structures. Peregrine falcons will also forage from tall platforms (CDFG 2008).

Within the BSA, there are suitable tall buildings and other structures near aquatic features that could serve as nesting habitat or forage perches for American peregrine falcon. In 2014, there was an occurrence of an American peregrine falcon nest in the South San Francisco quadrat on the side of a hangar that used to be a common raven nest (CDFW 2020). This nest was no longer active in subsequent surveys. There is moderate potential for this species to nest in the BSA in the tall structures near aquatic features.

Alameda Song Sparrow

The Alameda song sparrow is a state species of special concern that nests in tidal marsh vegetation and adjacent weedy vegetation on levees. It is a permanent resident in salt marshes bordering the south arm of the San Francisco bay (Humple and Geupel 2004). In tidal slough habitats, it is associated with cordgrass, pickleweed, or gumweed (*Grindelia* spp.) (Humple and Geupel 2004). Breeding occurs from early-March to July.

There are two CNDDDB occurrences of Alameda song sparrow from within one mile of the BSA, including an occurrence from 1947 close to the Bay, and an occurrence from 1940, from the vicinity of Colma Creek. These occurrences are likely extirpated due to the change in landscape. The most recent sighting is from 12 miles south of the BSA, from 2004, along the central portion of Corkscrew Slough on Bair Island. This species nests low in gumweed bushes (high enough to escape high tides) and in *Salicornia* spp., but it is unlikely to nest in the BSA because of the noise and human disturbance from close proximity to U.S. 101. Alameda song sparrow has low or no potential to occur in the majority of the BSA because of the highly urbanized setting of the project area. Alameda song sparrow has a limited potential to occur in the wetlands along Colma Creek and overall a low potential to forage in the BSA.

Bat Species

Bat species have been observed to use transportation structures, such as bridges, to roost. There is one such structure adjacent to the project area – the South Airport Boulevard overcrossing bridge.

2.4.3.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not affect animal species. Potential effects from the Build Alternative are discussed below.

Build Alternative

American Peregrine Falcon

Effects on this species from traffic-related or project-generated sound and increased human presence are not anticipated and are considered discountable.

Alameda Song Sparrow

Potential habitat for the Alameda Song Sparrow is likely limited to saline emergent wetlands at San Bruno Canal, south of the project area. AMM BIO-04 would avoid or minimize such effects by establishing an ESA at Colma Creek. Therefore, effects on this species from traffic related project generated sound, increased human presence, and accidental spills are not anticipated and are considered discountable.

Bat Species

The project does not propose any modifications to transportation bridges or other structures, including the South Airport Boulevard overcrossing bridge. Therefore, no adverse effects on bat species are anticipated.

2.4.3.4 Avoidance, Minimization, and/or Mitigation Measures

AMM BIO-05 would avoid or minimize potential impacts to nesting American Peregrine Falcons and Alameda Song Sparrows during construction, as follows:

BIO-05: Preconstruction Nesting Bird Surveys. Tree removal or trimming will be conducted during the non-nesting period, between September 1 and January 31, to the maximum extent feasible. If vegetation trimming or tree removal cannot be completed prior to January 31 and must occur between February 1 and August 31, a qualified biologist(s) will survey for nesting birds, including raptors. The BSA will include the project footprint and a buffer approximately 300 feet beyond its boundaries. If active raptor nests are detected within 300 feet of an active construction site, or if active nests of other migratory birds are detected within 50 feet, the biological monitor will establish an appropriate non-disturbance buffer to avoid direct effects of construction-related disturbance. All nest avoidance requirements of the Migratory Bird Treaty Act and the California Fish and Game Code will be observed.

2.4.4 Threatened and Endangered Species

2.4.4.1 Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA) (and the Department, as assigned), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take Statement or a Letter of Concurrence. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. Section 2080 of the California Fish and Game Code prohibits “take” of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

2.4.4.2 Affected Environment

This section is based on the *Natural Environment Study* prepared in November 2020 (AECOM 2020d).

North America green sturgeon southern Distinct Population Segment (DPS) (*Acipenser medirostris*) is the only threatened or endangered species with limited potential to occur in the BSA.

The North American green sturgeon southern DPS is listed as federally threatened (71 FR 14457-14466) and a state species of species concern. Green sturgeon are nocturnal benthic feeders, and in estuaries may feed on amphipods, shrimp, clams, or anchovies (Moyle et al. 1992). San Francisco Bay serves as an important habitat for all life stages of green sturgeon, as it supports rearing and serves as an important migratory/connectivity corridor between the Sacramento River system and nearshore coastal marine waters (Moyle et al. 1992). San Francisco Bay serves as an important habitat for all life stages of green sturgeon, as it supports rearing and serves as an important migratory/connectivity corridor between the Sacramento River system and nearshore coastal marine waters (Moyle et al. 1992).

Critical habitat for green sturgeon was designated on November 9, 2009 (74 FR 52300), and includes the Bay Estuary, and the drainages of the San Francisco Bay and the San Pablo Bay (including Colma Creek).

Sub-adult green sturgeon (4 to 15 years old) are known to range along the Pacific Coast and move into estuaries like the San Francisco Bay during periods of cold water upwelling off the coast, apparently to avoid the cold water (Moyle et al. 1992). During these periods, sub-adults may move into the Bay in unpredictable ways. Sub-adult green sturgeons may occupy the Bay and potentially the eastern edge of the BSA during summer months and may remain in the area for several months between May and October (Moyle et al. 1992). Juvenile green sturgeons move throughout the Delta and the San Francisco Bay during their first 3 to 4 years of life, before they move into the ocean as sub-adults (Moyle et al. 1992). During this early life stage, they may be found in the Bay throughout the year. Lower reaches of Colma Creek may be suitable for this species. There is no suitable spawning or rearing habitat in the BSA. Because of known life-history patterns, the species is assumed to have low potential to occur within the open-water portion of the BSA as a migrant.

2.4.4.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not affect threatened or endangered species. Potential effects from the Build Alternative are discussed below.

Build Alternative

No in-water work is planned for the project, and no noise or vibration from project activities is anticipated to affect green sturgeon in Colma Creek. Effects on green sturgeon from project activities would be limited to the potential for accidental spills entering aquatic habitat within the project footprint. Accidental spills or runoff of materials used during construction (e.g., oils, transmission and hydraulic fluids, fuel) could potentially affect aquatic habitat in Colma Creek, but this risk would be substantially avoided by the ESA designation at the creek. The adverse effects of pollutants on these aquatic features could include injury or mortality of green sturgeon downstream. The introduction of pollutants also may harm green sturgeon if the pollutants cause contaminated prey or lead to a reduction in prey abundance. No new barriers to dispersal for green sturgeon would occur. The planned activities are not anticipated to affect the long-term mobility of green sturgeon in the area. Therefore, indirect project effects on green sturgeon are not anticipated and are considered discountable. It is not anticipated that the proposed action would adversely affect green sturgeon Southern DPS or its critical habitat.

2.4.4.4 Avoidance, Minimization, and/or Mitigation Measures

AMM BIO-01 would further reduce the potential for adverse impacts to green sturgeon Southern DPS during construction, as follows:

BIO-01: Best Management Practices (BMPs). A water pollution control program (WPCP) and erosion control BMPs will be developed and implemented to minimize wind or water-related material discharges, in compliance with the requirements of the Regional Water Quality Control Board. The WPCP will provide measures to avoid and minimize stormwater and non-stormwater discharges; temporary construction BMPs will be used to the maximum extent necessary.

2.4.5 Invasive Species

2.4.5.1 Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.” Federal Highway Administration (FHWA) guidance issued August 10, 1999, directs the use of the State’s invasive species list, maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

2.4.5.2 Affected Environment

This section is based on the *Natural Environment Study* prepared in November 2020 (AECOM 2020d).

The BSA supports a number of non-native species. Some of these species are invasive (species that are not indigenous to the area where they are found and adversely affect the habitat in that area). Invasive species in the BSA are those designated as high risk by the California Invasive Plant Council (CAL-IPC). These species include pampas grass (*Cortaderia selloana*), English ivy (*Hedera helix*), and sweet fennel (*Foeniculum vulgare*). Small stands of sweet fennel are established along both sides of US 101. Many species in the BSA are non-native (but not invasive) and were planted in the State ROW.

2.4.5.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not affect the environment through the introduction of invasive species.

Build Alternative

The intent of Executive Order 13112, Invasive Species, is “to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause.” As stated above, several invasive species were identified within the BSA. To reduce the likelihood of introduction of invasive species, soil and plant material from areas that support invasive species would not be disposed of in areas that support native vegetation. In addition, all fill material would be sourced from weed-free areas.

2.4.5.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation is required. PD-BIO-09, as described in Table 1.6-1, would provide controls for invasive plant species encountered during construction.

2.5 Cumulative Impacts

2.5.1 Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

CEQA Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under NEPA can be found in 40 CFR Section 1508.7.

2.5.2 Cumulative Impact Analysis

This cumulative impact analysis determines whether the Build Alternative, in combination with other past, present, or reasonably foreseeable projects, would result in a cumulative effect and, if so, whether the Build Alternative's contribution to the cumulative impact would be considerable. Present and reasonably foreseeable future projects include land use developments, infrastructure, and other transportation improvements that are planned and funded and would be near the proposed Build Alternatives' improvements.

Table 2.5.2-1 lists transportation corridor projects adjacent to the project area. These projects are in various stages of project development, from early conceptual planning and feasibility study to projects planned for approval.

Future planned land use developments within approximately 1 mile of the project area are described below in Table 2.5.2-2. The information in Table 2.5.2-2 was obtained from the City of South San Francisco's Development and Construction Map (City of South San Francisco 2021a).

Table 2.5.2-1 Current and Proposed Planned US 101 Transportation Projects in vicinity of the Project Area

Project Name/Description	Expenditure Authorization Number	County/City	Post Miles	Sponsor/Lead Agency	Status
US Highway 101 Managed Lanes North of I-380 Project	0W150	San Mateo/City of South San Francisco	19.2/26.1	SMCTA, Caltrans	Add new lane or convert existing lane in both directions for Managed Lane use (HOV or Express Lanes). Environmental studies and preliminary design ongoing.
US 101 Managed Lanes Project, south of I-380 to Santa Clara	04-1J560	San Mateo and Santa Clara Counties, Cities between Mountain View and South San Francisco	SM 101 0.0/21.8, SCL 101 50.6/52.6	SMCTA, Caltrans	Convert existing HOV lanes south of Whipple Avenue to Express Lanes, and add new express lanes in each direction between Whipple Avenue and I-380. Project is under construction with completion planned in 2022.
High Occupancy Vehicle (HOV) Lanes on US 101 and I-280	04-2Q970	City/County of San Francisco	SM 101 19.2/26.1, SF 101 0.0/2.0, SF 280 R4.2/T7.26	SFCTA, Caltrans	Alternatives are being considered to add or convert a lane to create an HOV lane, through lane or shoulder conversion, widening, and possible new connectors.
US 101 Auxiliary Lanes from Sierra Point to San Francisco County Line	04-3G860	San Mateo/City of Brisbane	22.8/26.1	Caltrans	A preliminary study has considered adding northbound auxiliary lanes between Sierra Point Parkway and Candlestick Point off-ramp, and southbound between Candlestick Point on-ramp to Sierra Point Parkway off-ramp, and Sierra Point Parkway on-ramp to Oyster Point Boulevard off-ramp. This project may not be needed if the US 101 Managed Lanes North of I-380 project is advanced.
US 101/ Candlestick Interchange Reconfiguration	04-4A770	San Mateo, San Francisco/ City of Brisbane, City/County of SF	SM 101 25.1/26.1, SF 101 0.0/0.7	Caltrans	Two alternatives identified to remove existing northbound ramps at Harney Way (near SF County border) and add a compact interchange. The interchange would serve the Candlestick Point area. Project Study Report/Project Development Support document completed in 2014.

Table 2.5.2-2 Current and Proposed Planned Developments within One Mile of the Project Area

Project Name	Project Description	Location
Southline Development	Proposal for six office/R&D buildings ranging in heights up to seven stories and totaling approximately 2.7M square feet, development of a parking garage, below-grade parking, site amenities, open space, and landscaping on a 26-acre site.	30 Tanforan Avenue
410 Noor Avenue	3 to 5-story mixed-use development with 338 residential units and below grade parking on a 4.53-acre site.	410 Noor Avenue
Safeway Shopping Center	1) Exterior modifications to the Safeway Shopping Center 2) New commercial buildings fronting El Camino Real	180 El Camino Real
1477 Huntington Avenue	Seven-story residential project containing 262 multi-family units, residential amenities, and open space uses on a 1.98-acre lot.	1477 Huntington Avenue
246 S. Spruce Avenue	Complete demolition and removal of an existing gas station and vehicle washing facility for a fully automated vehicle wash	246 S. Spruce Avenue
Marriott Fairfield Inn & Suites	5-story Hotel with 128 rooms on a 64,117-SF lot	127 West Harris Avenue
Sing Tao Newspapers	11,585-SF addition and exterior modifications to a newspaper and radio building.	215 Littlefield Avenue
124 Airport Boulevard and 100 Produce Avenue	A 7-story residential building with 294 apartments on a 2.56-acre site at 124 Airport Boulevard and a 7-story residential building with 186 apartments on a 1.56-acre site at 100 Produce Avenue.	124 Airport Boulevard and 100 Produce Avenue
40 Airport Boulevard	8-story residential project consisting of 292 units and two levels of parking on a 1.63-acre lot.	40 Airport Boulevard
7 S. Linden Avenue	A 5-story residential building with 445 apartments on a 4.22-acre site.	7 S. Linden Avenue
150 Airport Boulevard	5-story residential development consisting of 157 units with a 2-level parking garage	150 Airport Boulevard
Eden Housing	Proposed 82 senior BMR units with Ground Floor Commercial	199 Airport Boulevard/201 Baden Avenue
200 Airport Boulevard	7-story mixed-use building with 94 residential units, 3,650-SF of retail, and 2 levels of parking on a 0.55-acre lot.	200 Airport Boulevard

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Project Name	Project Description	Location
201-219 Grand Avenue	5-story mixed-use development consisting of 46 apartments and approximately 6,000-SF of commercial space on a 20,198-SF lot	201-219 Grand Avenue
Caltrain Station Improvement Project	Project will realign the station to allow easier pedestrian access to downtown, as well as improve station safety and disabled access. An underpass and plaza will be constructed to allow pedestrians access from downtown to the newly renovated station and to the east side of US 101.	Southeast Corner of Grand Avenue and Airport Boulevard Intersection
121 East Grand Avenue	17-story Office/R&D building totaling 940,717 SF on a 2.91-acre site.	121 East Grand Avenue
Cadence – Phase 2	Second phase of Cadence development project, which is currently under construction. Phase 2 consists of a 7 to 8-story building with 195 residential units and amenity uses.	405 Cypress Avenue, 204, 208, 214, 216 Miller Avenue
Bertolucci's Redevelopment	Seven story mixed-use building with 1,500-SF restaurant, corner plaza, ground-floor parking, residential amenities, and 99 residential units on a 25,395-SF lot.	421 Cypress Avenue, 209 and 213 Lux Avenue
418 Linden Avenue	5 story residential development consisting of 38 apartments with mechanical parking lifts on a 14,000-SF lot	418 Linden Avenue
701 Airport Boulevard	5-story hotel with 131 rooms on a 20,239-SF lot.	701 Airport Boulevard
818-824 Linden Avenue	3-story mixed-use building with 7 rental units, 1,650 SF of commercial, and on-site parking.	818-824 Linden Avenue
616 Maple	3-story, 5 residential units with a level parking garage on a 10,500-SF lot.	616 Maple Avenue
423 Commercial Avenue	3-story residential project consisting of four rental townhomes on a 6,000-SF lot.	423 Commercial Avenue
428 – 432 Baden Avenue	4-story residential project consisting of 36 rental units on a 14,000-SF lot.	428 – 432 Baden Avenue
455-463 Grand Avenue	5-story mixed-use building with 27 rental units and 2,865-SF of retail on a 14,023-SF lot.	455 – 463 Grand Avenue
580 Dubuque Avenue	6-story Office/R&D building totaling 213,000-SF with four levels of underground parking	580 Dubuque Avenue

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Project Name	Project Description	Location
651 Gateway Boulevard	Recladding and modernizing the exterior of an existing 17-story commercial building originally built in the 1980s that is part of the Gateway campus. Landscape upgrades and improvements are also proposed.	651 Gateway Boulevard
328 Roebling	Current Entitlement: Demo existing building (79,501 SF), and construct two Office/R&D buildings totaling 105,536 SF, and at grade and subterranean parking on a 2.97-acre site. Proposed Entitlement: Construct one Office/R&D building totaling approx. 130,000 SF and a three-level parking structure on a 2.97-acre site.	328 Roebling Road
East Grand Improvements	Installation of traffic signals at the East Grand Avenue/Allerton Avenue and East Grand Avenue/DNA Way intersections, high-visibility crosswalks, ADA curb ramps, median refuge islands and dedicated bike lanes as well as median improvements along East Grand Avenue between Allerton Avenue and Haskins Way.	East Grand Avenue
Auto-Chlor System Building	Construct a new 31,765-SF 2-story office and service center	465 Cabot Road

2.5.3 Resource Areas with no Contribution to Cumulative Effects

The resources considered in the cumulative effects analysis follow Caltrans' Eight Step Guidance for identifying and assessing cumulative impacts (Caltrans 2016). No cumulative effects are anticipated for the following resource areas (there would be no adverse effects from each of these individual resource areas; therefore, no incremental effects would be cumulatively considerable for these topic areas):

- Existing and future land use
- Consistency with state, regional, and local plans and programs
- Growth
- Community character and cohesion
- Environmental justice
- Community facilities and services
- Traffic and transportation/pedestrian and bicycle facilities
- Cultural resources
- Hydrology and floodplain
- Water Quality and storm water runoff
- Geology/Soils/Seismic/Topography
- Paleontology
- Hazardous waste/materials
- Air quality
- Noise and vibration
- Energy
- Natural communities
- Wetlands and other waters
- Plant species
- Animal species
- Threatened and endangered species
- Invasive species

2.5.4 Resources Considered for Contribution to Cumulative Effects

2.5.4.1 Visual/Aesthetics

The proposed project is anticipated to lead to changes to the aesthetics of the project area through the addition of the proposed overcrossing structure and support structures, and geometry modifications to the Utah Avenue/South Airport boulevard, Utah Avenue/San Mateo Avenue, and Airport Boulevard/Produce Avenue/San Mateo Avenue intersections.

As stated in Section 2.2.9.2, the landscape of the project area is characterized by commercial buildings, the adjacent San Francisco International Airport, and distant mountainous features. The land use within the project corridor is primarily urban commercial, with urban residential areas north, west, and south of the project area. In this section, the proposed project is evaluated relative to other projects and

developments in the immediate area, in order to assess the potential for cumulative impacts to the visual/aesthetics resource area.

The US Highway 101 Managed Lanes North of I-380 Project (SCH# 2021070395) proposes to add a managed lane in each direction of US 101 from the US 101/I-380 interchange in South San Francisco to the San Mateo/San Francisco county line. As a transportation project on US 101, the visual changes imparted by this project in the corridor would closely intersect with those of the proposed project. It would likely include new signage, a taller median barrier, and changes to the overall appearance of the roadway.

The projects and developments listed in Table 2.5.2-2 are primarily infill development to the east and west of US 101. Proposed land uses include research and development (R&D), mixed-use, residential, and commercial. In addition to private development, the Caltrain Station Improvement Project and East Grand Improvements are anticipated to construct improvements to city streets and other public infrastructure in the area. Although the proposed projects in the area are numerous, they are not anticipated to deviate from established visual character. As stated above, the area is characterized by commercial buildings, as well as the lines and form of US 101 and adjacent city streets. Views of scenic resources are limited in the project area, and it is not anticipated that the projects listed above would exacerbate any potential cumulative impacts to visual resources.

2.5.4.2 Relocations and Real Property Acquisition

As stated in Section 2.2.5, the proposed project is anticipated to require 2 full property acquisitions; partial property acquisitions from 10 properties; 14 temporary construction easements to accommodate new walkways, new overcrossing, roadway widening, and new driveway; one permanent easement (at an underground pipeline); and three aerial easements (to allow raising of overhead powerlines). The full property acquisitions would be the IHOP at 316 Airport Boulevard and the commercial building at 1404, 1416, and 1422 San Mateo Avenue.

Although the acquisitions that are anticipated as part of the Build Alternative would represent adverse effects, they are not anticipated to contribute to cumulative impacts. The US Highway 101 Managed Lanes North of I-380 Project is not expected to require any full property acquisitions within the project area, and the developments listed in Table 2.5.2-2 are primarily infill. The project area is anticipated to undergo notable changes with the proposed developments, but no adverse cumulative impacts from relocations and real property acquisition are foreseeable.

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Chapter 3 California Environmental Quality Act (CEQA) Evaluation

3.1 Determining Significance under CEQA

The proposed project is a joint project by the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). FHWA's responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 United States Code Section 327 (23 USC 327) and the Memorandum of Understanding dated May 22, 2022, and executed by FHWA and Caltrans. Caltrans is the lead agency under CEQA and NEPA.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an Environmental Impact Statement (EIS), or a lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) as a whole has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require the Department to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report (EIR) must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of "mandatory findings of significance," which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

3.2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. The first column lists pertinent questions applicable to the resource, and the other four columns include the degree of impact for each of those questions. In many cases, technical studies performed in connection with the project indicate that there are no impacts to a particular resource. A "no impact" answer in the last column reflects this determination. The words "significant" and "significance" used throughout the checklist are related to CEQA impacts. The

questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance. Significance determinations (e.g., no impact, less than significant, potentially significant impact) are responded to for each of the CEQA checklist questions; a “yes” or “no” response is given for each significance determination column in each question row. A “yes” response indicates that this is the significance determination that applies for that question. A “no” response indicates that the significance determination in that column does not apply to that question.

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects such as best management practices (BMPs) and measures included in the Standard Plans and Specifications (Caltrans 2018) or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

3.2.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	No	No	Yes	No
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No	No	Yes	No
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 a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	No	No	Yes	No
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No	No	Yes	No

3.2.1.1 CEQA Significance Determinations for Aesthetics

a) Have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. As stated in Section 2.2.9, the landscape surrounding the project area is primarily urban commercial. The San Francisco Bay is east of the project area. However, the bay is not visible from US 101 or its immediately adjacent arterials/intersections. Views of Colma Creek, which runs through the project area, will not be altered by the Build Alternative. Additionally, US 101 within the project area is not designated a part of the California State Scenic Highway System but is a Classified Landscaped Freeway.

Views towards San Bruno Mountain from northbound U.S. 101 may be partially obscured by the proposed overcrossing structure. However, due to the existing visual character and quality of the project area, and the relatively short time that viewers would be expected to view the project features, it is not anticipated that the project would have notable effects on any scenic vistas.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less Than Significant Impact. As aforementioned, U.S. 101 within the project limits is not part of the State Scenic Highway system, but it is a Classified Landscaped Freeway. However, the project is not anticipated to damage any scenic resources. As

stated in section 2.2.10, there is one historic register-eligible property within the project area, but it is not anticipated that the project would affect the criteria for which it is eligible for historic status.

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 a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant Impact. The proposed project is in an urbanized area. As stated in Section 2.2.2, the project is generally compatible with all applicable State, regional, and local plans and programs. No incompatibilities have been identified with applicable regulations governing scenic quality in the project area.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. Nighttime construction activities could temporarily add new sources of light and glare for motorists, bicyclists, and pedestrians, as well as employees and customers of local businesses. Customers of the adjacent hotels and workers at the nearby businesses would be exposed to views of the project construction activities listed above. However, temporary visual impacts from project construction would be typical of any major corridor improvement project.

The proposed overcrossing structure would include new lighting, which would be finalized during the PS&E Phase. However, it is not anticipated that these elements would be a notable change to the existing lighting in the area.

3.2.2 Agriculture and Forest 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 Dept. 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 the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	No	No	No	Yes
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No	No	No	Yes
c) 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	No	No	Yes
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No	No	No	Yes
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?	No	No	No	Yes

3.2.2.1 CEQA Significance Determinations for Agriculture and Forest Resources

a) – e).

No Impact. As stated in Section 2.1, the project area does not contain any farmlands or timberlands. There are no parcels within the area under a Williamson Act contract, and no forest lands.

3.2.3 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:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	No	No	Yes	No
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?	No	No	No	Yes
c) Expose sensitive receptors to substantial pollutant concentrations?	No	No	No	Yes
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	No	No	Yes	No

3.2.3.1 CEQA Significance Determinations for Air Quality

a) Conflict with or obstruct implementation of the applicable air quality plan?

No Impact. The project site is in the San Francisco Bay Area Air Basin and within the jurisdiction of Bay Area Air Quality Management District (BAAQMD) and the California Air Resources Board (CARB). The proposed project does not conflict with the BAAQMD 2017 Clean Air Plan. Furthermore, as stated in Section 4.3.5.1, the project was found not to be a project of air quality concern by MTC’s Air Quality Conformity Task Force at their September 23, 2021 consultation meeting.

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?

No Impact. The Build Alternative would not increase emissions of criteria air pollutants, or for other non-criteria pollutants that were evaluated, including MSATs and GHGs relative to baseline conditions. As shown in Table 2.3.6-4, the operational criteria air pollutant emissions are expected to decrease with the Build Alternative, relative to existing conditions. Emissions of criteria air pollutants, MSATs, and GHGs for both the Build and No Build Alternative would decrease in the opening year (2025), horizon year (2040), and design year (2045) compared to the existing year (2020), because federal and state vehicle emissions and fuel economy standards would reduce pollutant emissions over time.

c) Expose sensitive receptors to substantial pollutant concentrations?

No Impact. As stated in Section 2.3.6.2, no schools, hospitals, convalescent homes, or residences are located within 500 feet of the project. The area surrounding the proposed project is mostly for commercial use.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact. Temporary odors may be noticeable during construction if the Build Alternative is selected. However, the project would not increase long-term odors that are not already present in the project area. Additionally, temporary construction activities could generate fugitive dust from the operation of construction equipment. However, the project would conform to PF-AIR-01 – Construction Best Practices for Dust, which is based on BMPs from Mitigation Measure AQ-2 of the Final Program Environmental Impact Report Plan Bay Area 2050 (ABAG and MTC 2021c).

3.2.4 Biological Resources

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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, U.S. Fish and Wildlife Service, or NOAA Fisheries?	No	No	Yes	No
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	No	No	No	Yes
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?	No	No	No	Yes
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?	No	No	Yes	No
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No	No	Yes	No
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?	No	No	No	Yes

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, U.S. Fish and Wildlife Service, or NOAA Fisheries?

Less than Significant Impact. No impacts on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW, USFWS, or NOAA Fisheries are anticipated. As stated in Section 2.4.3.2, two special-status animal species – American Peregrine Falcon and Alameda Song Sparrow were determined to have limited potential to occur in the BSA. However, due to their limited potential to occur within the area, no impacts are

anticipated. AMM BIO-05 – Preconstruction Nesting Bird Surveys – would further reduce the potential for any impacts to these species.

In addition to those species described above, one threatened or endangered species was found to have limited potential to occur in the BSA – the North America green sturgeon southern Distinct Population Segment (DPS). However, impacts to this species are not anticipated. There would be no work within the creek that this species has limited potential to occur in, and potential spill and runoff events would be controlled by PF-BIO-01 in Table 1.6-1, as well as AMM BIO-01.

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

No Impact. As stated in Section 2.4.1, no impacts to natural communities within the project area are anticipated. Natural communities in the project area include ornamental and ruderal vegetation communities, open water and essential fish habitat in the form of Colma Creek, and trees. Based on the conclusions of Section 2.4.1.2, no adverse effects to any of these habitats are anticipated, and there would be no impact.

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?

No Impact. Section 2.4.2 addresses wetlands and other waters in the BSA, including Colma Creek and one non-jurisdictional culvert. No in-water work is planned for the Build Alternative, and permanent impacts to Colma Creek and the non-jurisdictional culvert are not anticipated. Colma Creek will be identified as an ESA, with no work allowed. Accidental spills or runoff of materials used during construction (e.g., oils, transmission and hydraulic fluids, fuel) could potentially affect these features and sensitive resources downstream. The ESA designation and PF-BIO-01, as shown in Table 1.6-1, would avoid impacts to Colma Creek. Therefore, there would be no impact.

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?

Less than Significant Impact. As stated in Section 2.4.1.2, due to the urbanized nature of the BSA, permanent impacts to wildlife movement are not anticipated, and habitat fragmentation would not occur. Construction-related noise and light could result in temporary avoidance of the project area by common species; however, this impact would be minimal as the species are tolerant of disturbance. PF-BIO-01 – 3, 05, 07, 08, and 11 would avoid or minimize the potential for temporary impacts to wildlife movement.

The project is not anticipated to substantially impede the movement of any species. Therefore, this impact is anticipated to be less than significant.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less than Significant . As stated in Section 2.4.1, a total of 17 trees that met the parameters of the City of South San Francisco Protected Tree Ordinance were mapped.

The project would have direct and indirect permanent effects on trees through ground disturbance during construction or heavy pruning (over 30 percent of the canopy removed). Temporary effects on trees would include pruning of less than 30 percent of the canopy, removal of less than 25 percent of the roots (within the drip line of the tree), or soil compaction to less than 30 percent of the critical root zone.²¹ The majority of the trees fall within the Caltrans ROW and a local ordinance permit is therefore not required. An encroachment permit typically covers temporary contractor work outside of the ROW and if a local permit is required for pruning or removal, the permit will be the responsibility of the contractor.

Removal or pruning shall be in accordance with ordinance guidelines, and necessary permits obtained prior to the start of construction. For heritage trees directly adjacent to the project site but not directly impacted, a tree protection plan would be implemented.

In accordance with avoidance and minimization measure BIO-03, a landscaping plan would be developed by the project sponsor during final design to identify the location and number of trees that would be replanted within the ROW. Trees that are removed will be replaced at a minimum 1:1 ratio if sufficient space and sight distance requirement allow for safe replacement.

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?

No Impact. The project is not anticipated to conflict with the provisions of any adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other applicable plans. As stated above, impacts to biological resources are unlikely due to the highly developed nature of the project area, and the project controls that are assumed. Additionally, the project area is not within the plan area of the San Bruno Mountain Habitat Conservation Plan, as described in Section 2.2.2. Therefore, no impact is anticipated.

²¹ The standard CRZ of a tree is the area corresponding to the drip line of the tree, or a distance from the tree trunk outwards calculated as 12 times the dbh of the tree [whichever is greater].

3.2.5 Cultural Resources

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	No	No	Yes	No
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	No	No	No	Yes
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	No	No	No	Yes

3.2.5.1 CEQA Significance Determinations for Cultural Resources

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Less than Significant Impact. As described in Section 2.2.10, the Golden Gate Produce Terminal is considered to be a historical resource for CEQA compliance and is eligible for the California Register of Historical Resources (CRHR) on the local level under Criterion 1. Caltrans has determined that the proposed work would have a Finding of No Adverse Effect on the portion of the property that has contributing elements to its status. As stated in Section 2.2.10.3, Caltrans is seeking concurrence from SHPO pursuant to 36 CFR 800.5(c) and Stipulation X.B.2 of the Section 106 PA.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

No Impact. It is unlikely that the project would affect any archaeological resources, as defined in Section 15064.5. Section 2.2.10 describes two shellmounds that are within the area of potential effects of the project. However, these resources have not been relocated and project activities are not anticipated to encounter submerged archaeology. AMM CUL-01 would further reduce the potential for impacts to archaeological resources during construction.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

No Impact. There are no formal cemeteries or known burial sites in the project area. Therefore, project construction is not expected to disturb any human remains. AMM CUL-01 would further reduce the potential for the disturbance of human remains and provides guidance in the event that any human remains are discovered during construction.

3.2.6 Energy

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	No	No	No	Yes
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No	No	No	Yes

3.2.6.1 CEQA Significance Determinations for Energy

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

No Impact. Project construction and maintenance would be a temporary commitment of energy, necessary for any infrastructure improvement project. Energy in the form of gas and diesel would be consumed during construction and ongoing maintenance activities by construction vehicles and equipment operating on site, trucks delivering equipment and supplies, and construction workers driving to and from the project site. Energy consumption during construction would be conserved and minimized to the maximum extent feasible. Energy conservation in construction activities is assumed because the construction contractor would have a financial incentive and statutory mandate to minimize waste and externalities.

As described in Section 2.3.8, the No Build Alternative would slightly reduce operational daily fuel consumption, and thus energy usage, by the Design Year of 2045.

For the reasons listed above, the project would not result in wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Therefore, there would be no impact.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. The State of California Energy Action Plan and the Integrated Energy Policy Report regulate energy conservation throughout the state. The State of California Energy Action Plan was adopted to ensure adequate, reliable, and reasonably-priced electrical power and natural gas quantities through policies that are cost-effective and environmentally conscious for California’s residents (CEC 2003). California policies influenced by the California Global Warming Solutions Act (AB 32), are demonstrated in the 2007 Integrated Energy Policy Report, which is updated

regularly to provide policy recommendations to meeting the State's energy demands while addressing carbon constraints (CEC 2017).

According to SB 100, the State is targeting 100 percent renewable or carbon-free energy usage by 2045. The CEC's Clean Transportation Program leverages public and private investments to support adoption of cleaner transportation powered by alternative and renewable fuels.

Additionally, the project falls under the jurisdiction of San Mateo County Energy and Water Strategy 2025. This adopted county-level plan sets out to ensure a safe, equitable, and coordinated transition towards clean energy and the One Water approach by leveraging new technologies, policy, funding resources, and opportunities for collaboration in San Mateo County (San Mateo 2019).

The Build Alternative would not conflict with any State or regional Energy Conservation Plans described above, because it would not cause wasteful, inefficient, or unnecessary consumption use of energy, or wasteful use of energy resources in the project area or region.

3.2.7 Geology and Soils

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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.	No	No	No	Yes
ii) Strong seismic ground shaking?	No	No	No	Yes
iii) Seismic-related ground failure, including liquefaction?	No	No	No	Yes
iv) Landslides?	No	No	No	Yes
b) Result in substantial soil erosion or the loss of topsoil?	No	No	No	Yes
c) Be located on a geologic unit 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?	No	No	No	Yes
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?	No	No	No	Yes
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?	No	No	No	Yes
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No	No	No	Yes

3.2.7.1 CEQA Significance Determinations for Geology and Soils

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; ii) Strong seismic ground shaking?; iii) Seismic-related ground failure, including liquefaction?; or iv) Landslides?

No Impact. As stated in Section 2.3.3, it is not anticipated that the project would exacerbate existing geological conditions in the area. If the Build Alternative is

selected, geological conditions, as identified in the SPGR, would be considered in the final design of the proposed overcrossing structure and retaining walls.

b) Result in substantial soil erosion or the loss of topsoil?

No Impact. The project is not anticipated to cause substantial soil erosion or the loss of topsoil. As stated in Section 2.3.3, the project area is primarily artificial fill. Nonetheless, erosion control features would be included as part of the project through PF-BIO-10 and PF-WQ-01.

c) Be located on a geologic unit 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?

No Impact. As stated in Section 2.3.3, the project area is primarily artificial fill, and landsliding, lateral spreading, subsistence, liquefaction, and collapse are not anticipated based on site and subsurface conditions.

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?

No Impact. The near surface fill described on the as-built log of test borings in the vicinity of the bridge west abutment are expected to have low expansion potential. The Bay Mud that underlies the fill has high shrink/swell potential with changes of moisture content. Regardless, the Build Alternative would be designed based on the recommendations of the SPGR, avoiding such risks. Therefore, no impact is anticipated.

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?

No Impact. The proposed project would not involve incorporating septic tanks or other wastewater disposal systems. Therefore, there would be no impact.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. As stated in Section 2.3.4.3, the potential for encountering intact, significant fossils is low. Although the sensitivity of the Colma Formation is ranked as Caltrans High or PFYC Class 3, the potential of exposing this formation during project implementation is low because of the type of proposed construction activities. Additionally, project feature PF-PAL-01 would be implemented as described in Table 1.6-1, to provide adequate awareness training to workers.

3.2.8 Greenhouse Gas Emissions

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	No	No	Yes	No
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	No	No	No	Yes

3.2.8.1 CEQA Significance Determinations for Greenhouse Gas Emissions

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant with Mitigation Incorporated. As stated in Section 3.3.3.2, project construction would result in a temporary increase in GHG emissions that would be offset by the long-term improvements in operational GHG emissions compared with existing conditions. Table 3.3.1-1 in Section 3.3.3.1 lists operational greenhouse gas emissions for existing (2020), opening year (2025), horizon year (2040), and design year (2045) scenarios. Furthermore, the project would implement measures to reduce construction emissions, such as maintenance of construction equipment and vehicles, limiting of construction vehicle idling time, and scheduling and routing of construction traffic to reduce engine emissions.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant Impact. The project site is in the San Francisco Bay Area Air Basin and within the jurisdiction of Bay Area Air Quality Management District (BAAQMD) and the California Air Resources Board (CARB). The proposed project does not conflict with the BAAQMD 2017 Clean Air Plan, which addresses the reduction of GHG emissions. As stated above, the Build Alternative would reduce operational GHG emissions relative to both existing conditions and the No Build Alternative.

3.2.9 Hazards and Hazardous Materials

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	No	No	No	Yes
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?	No	No	No	Yes
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No	No	No	Yes
d) Be located on a site which 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?	No	No	Yes	No
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two 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	No	No	Yes
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	No	No	No	Yes
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	No	No	No	Yes

3.2.9.1 CEQA Significance Determinations for Hazards and Hazardous Materials

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

No Impact. The project would involve the transport, use, and disposal of hazardous materials used for construction of the project (e.g., fuels, paints, asphalt, and lubricants). Per Section 2.2.5, all applicable Federal, State, and local regulations would be adhered to, and this practice would reduce the potential for incidents involving hazardous materials. Therefore, the project is not anticipated to 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?

No Impact. As stated in Section 2.3.5, the 2020 ISA update identified potential risks with lead, PCBs and asbestos, but does not address potential contamination issues for specific existing structures as no structures or properties were entered or inspected at this preliminary stage of project development. Existing structures that will be demolished or modified would be investigated to reduce the potential for upset of hazardous materials. Additionally, hazardous materials will be used during construction (e.g., fuels, paints, asphalt, and lubricants).

The implementation of the project features for hazardous materials summarized in Table 1.6-1 would avoid and/or minimize impacts associated with hazardous materials. Therefore, there would be no impact involving the release of hazardous materials.

c) 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 existing or proposed schools within 0.25-mile of the project area. Therefore, there would be no impacts.

d) Be located on a site which 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 project area is not in a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962. However, as stated in Section 2.3.5, 16 sites with leaking underground storage tanks and one cleanup site were identified adjacent to the project area. All 17 sites identified in 2020 have been reported as closed. Additionally, the implementation of project features summarized in Table 1.6-1 would avoid and/or minimize impacts associated with hazardous materials. Therefore, impacts would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two 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 adjacent to San Francisco International Airport. As stated in Section 2.3.7, the project is not anticipated to cause excessive noise. Additionally, the project is not anticipated to cause any safety hazards for those residing or working in the project area.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The project would not impair the implementation or physically interfere with any such plans through long-term operations. During construction, a transportation management plan (TMP) would minimize any construction-related delays and would include coordination with California Highway Patrol and local law enforcement agencies. Access would be maintained for emergency response vehicles during construction. Therefore, there would be no impact.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact. The Build Alternative would not alter the alignment of U.S. 101 or any firebreaks in the project area. Project construction and operation would not expose people or structures to significant risks involving wildland fires. Therefore, no impact is anticipated.

3.2.10 Hydrology and Water Quality

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	No	No	Yes	No
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	No	No	No	Yes
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:	No	No	Yes	No
(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 offsite;	No	No	Yes	No
(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	No	No	Yes	No
(iv) impede or redirect flood flows?	No	No	Yes	No
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No	No	Yes	No
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No	No	No	Yes

3.2.10.1 CEQA Significance Determinations for Hydrology and Water Quality

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact. Temporary impacts to water quality are possible during project construction. As stated in Section 2.3.2.3, potentially sediment-laden flow can result from runoff over DSAs that enter storm drainage facilities or directly discharge into the receiving water bodies, increasing the turbidity, decreasing the clarity, and potentially impacting the beneficial uses of the receiving water bodies. However, BMPs would be employed to reduce the potential for degradation of surface or groundwater quality.

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

No Impact. As stated in Section 2.3.2.3, the project area is highly urbanized, which limits areas of groundwater recharge. Long-term dewatering activities are not needed for the Project. Therefore, permanent impacts to the Westside Groundwater Basin are not anticipated.

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.

Less Than Significant Impact. As stated in Section 2.3.1.3, the added amount of impervious area from the Build Alternative would be insignificant relative to the watershed that the project is located in. Therefore, the project is not anticipated to substantially alter the existing drainage pattern of the project area.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less Than Significant Impact. The proposed overcrossing structure is located in Zone AE, which represents areas that are subject to flooding by the 100-year flood event. As stated in Section 2.3.1.3, the added amount of impervious area from the Build Alternative would be insignificant relative to the watershed that the project is located in.

Abutment excavation and fill will be required for the bridge landing at both Utah Avenue and San Mateo Avenue. This would disturb the existing 100-year floodplain in this area. Bridge abutments will be designed to add similar quantities of cut and fill to the area to prevent permanent disturbances to the 100-year flood plain.

Hydraulic modeling will be done in the latter stages of design to ensure that there are no significant changes to the 100-year floodplain. Changes in the 100-year flood plain caused by added fill can potentially create new entry points for floods during storms to damage pre-existing structures.

Based on the above, the project would not impact the floodplain, and this impact is anticipated to be less than significant.

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

No Impact. The project is required to adhere to the Federal Clean Water Act (CWA), the State Porter-Cologne Water Quality Control Act, the policies of the State and Regional Water Quality Control Boards, and the other laws and regulations described in Section 2.3.2. Therefore, the project is not anticipated to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

3.2.11 Land Use and Planning

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	No	No	No	Yes
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?	No	No	Yes	No

3.2.11.1 CEQA Significance Determinations for Land Use and Planning

a) Physically divide an established community?

No Impact. The project would not change the existing alignment of US 101 and would in fact bridge two sides of a community that is currently divided.

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?

Less Than Significant Impact. As stated in Section 2.2.2.2, the project would be generally consistent with all applicable State, Regional, and Local Plans and Programs. Additionally, the project would not conflict with the existing or planned land uses in the area.

3.2.12 Mineral Resources

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	No	No	No	Yes
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?	No	No	No	Yes

3.2.12.1 CEQA Significance Determinations for Mineral Resources

a) and b) Result in the loss of availability of a mineral resource that would be of value to the region and residents of the state or locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. Project improvements would be limited to constructing a new overcrossing from Utah Avenue to San Mateo Avenue, and improvements to adjacent intersections. The project would not involve any activities that could result in the loss of availability of any known and/or locally important mineral resources.

3.2.13 Noise

Would the project result in:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	No	No	Yes	No
b) Generation of excessive groundborne vibration or groundborne noise levels?	No	No	Yes	No
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 two 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	No	No	Yes

3.2.13.1 CEQA Significance Determinations for Noise

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?

No Impact. As stated in Section 2.3.7.3, one potential barrier location was identified and studied for noise abatement. However, a preliminary decision was made that the studied barrier would not be reasonable to construct. The final decision on this determination is subject to change up until the final design phase, following public review and consideration of comments.

Short-term noise levels would result from construction methods such as pile driving, which would be temporarily higher than existing ambient noise levels. However, these construction noises would be short-term and intermittent.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact. As stated in section 2.3.7, vibration limits could potentially be exceeded during pile driving located adjacent to structures. Construction vibration limits are not anticipated to be exceeded during periods of construction not involving pile driving. PF-NOI-02 would reduce the potential for vibratory impacts to adjacent structures.

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 two 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 near the San Francisco International Airport, but would not create new aviation hazards. As stated in Section 2.3.7, the project is not anticipated to cause excessive noise. Additionally, the project is not anticipated to cause any safety hazards for those residing or working in the project area.

3.2.14 Population and Housing

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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)?	No	No	No	Yes
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No	No	No	Yes

3.2.14.1 CEQA Significance Determinations for Population and Housing

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)?

Less than Significant. As stated in Section 2.3.2.2, the Build Alternative would change access to several business properties but would not provide any access to previously inaccessible parcels or remove access to any properties. The Build Alternative would facilitate the movement of trucks bound for the industrial and warehouse properties west of US 101 and the freeway. It would allow trucks to use the overcrossing and reserve the South Airport Boulevard undercrossing for passenger cars and trucks. It would also provide a direct bicycle and pedestrian connection from the residential core west of US 101 to the businesses, visitor services, and bay recreation east of US 101.

The Build Alternative would require changes to the land use designations at the properties that cannot be avoided and would be acquired to build the proposed overcrossing. These properties are the IHOP restaurant and a commercial warehouse that serves a moving company and two private sports facilities.

However, the Build Alternative does not contain elements that would influence the type or location of growth beyond what is already planned. Additionally, none of the above changes would induce unplanned population growth in the area. Therefore, the impact is anticipated to be less than significant.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. As stated in Section 2.2.4.2, the Build Alternative would not change the distribution of existing or planned housing. There is no existing housing in the proposed project area. The project would not physically divide a residential community or affect residential community cohesion.

3.2.15 Public Services

a) 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:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
i) Fire protection?	No	No	No	Yes
ii) Police protection?	No	No	No	Yes
iii) Schools?	No	No	No	Yes
iv) Parks?	No	No	No	Yes
v) Other public facilities?	No	No	No	Yes

3.2.15.1 CEQA Significance Determinations for Public Services

a) 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:

i) Fire protection?

ii) Police protection?

iii) Schools?

iv) Parks?

v) Other public facilities?

No Impact. The project would not involve the construction of any infrastructure or developments that would increase the local population, thereby necessitating the provision of new or physically altered governmental facilities. As stated in Section 2.2.3.2, the Build Alternative does not contain elements that would influence the type or location of growth beyond what is already planned. During project construction, temporary impacts to traffic are possible due to necessary lane closures and detours. However, as stated in Sections 1.5 and 2.2.7.2, a TMP would be developed during final design, which would reduce or eliminate temporary effects on emergency services.

3.2.16 Recreation

	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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	No	No	Yes
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	No	No	Yes

3.2.16.1 CEQA Significance Determinations for 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?

Less Than Significant Impact. As stated in Section 2.2.1.1, the land bordering Colma Creek is designated as recreation (City of South San Francisco 2015a), and the closest existing recreational trail to the project area is the current San Francisco Bay Trail spur that runs west along the San Bruno Canal before heading south along Airport Boulevard. However, the project is not anticipated to impact the land bordering Colma Creek, the Bay Trail, or any other parks or recreational facilities.

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 project would not include the construction of new recreational facilities or require construction or expansion of recreational facilities that would generate an adverse physical effect on the environment.

3.2.17 Transportation

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	No	No	Yes	No
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	No	No	Yes	No
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No	No	No	Yes
d) Result in inadequate emergency access?	No	No	No	Yes

3.2.17.1 CEQA Significance Determinations for Transportation

Section 2.2.8 describes the existing traffic conditions, and evaluates the No Build and Build Alternatives with respect to traffic operations including level of service, delay, and queuing. Parking, bicycle, and pedestrian facilities are also discussed. This section uses the No Build Alternative as the CEQA baseline.

a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less Than Significant Impact. As stated in Section 2.2.2, the project is generally consistent with all applicable State, regional, and local plans and programs, including transportation plans and programs. The project is included in *Plan Bay Area 2050*, the regional transportation plan (RTP) and sustainable community strategy (SCS) for the nine-county San Francisco Bay Area (Association of Bay Area Governments [ABAG] and Metropolitan Transportation Commission [MTC] 2021; RTP ID 21-T06-027). This plan identifies the Produce Avenue Interchange as a priority highway and arterial improvement. The project is also included in the City of South San Francisco’s *Fiscal Years 2021-2022 Capital Improvement Program* (US-101 Produce Avenue Interchange [TIF#39]). This project includes “constructing a new overcrossing connecting Utah Avenue ...to San Mateo Avenue...” that “will improve access between 101 and Produce Avenue and Airport Boulevard” (City of South San Francisco 2020b).

The South San Francisco General Plan includes a policy to maintain LOS D or better on arterial and collector streets, at intersections, and on principal arterials during peak hours. In future years, both the No Build and Build Alternatives would result in intersections that do not achieve LOS D or better, due to increases in traffic. With the Build Alternative, some intersections are measurably improved but there are intersections along northbound South Airport Boulevard and at the new Utah Avenue

intersections where individual turning movement delays and queuing will increase with the Build Alternative compared to No Build. At the intersection of the US 101 northbound off-/on-ramps/ South Airport Boulevard (intersection #10), a right-turn overlap phase will be provided for the eastbound approach to facilitate the efficient movement of right-turning vehicles from the US 101 northbound off-ramp. This phase would overlap with the northbound left-turn movement, thereby using the northbound left turn's green time as well. The City will evaluate and adjust signal timing/phasing. A No U-Turn sign for the northbound approach will need to be installed by the City with this overlap. This is per project feature PF-TRA-02.

As noted in Section 2.2.8.3, the project will add improvements to bike and pedestrian facilities, improving accessibility and connectivity between both sides of US 101. The project will however prohibit on-street parking (on both sides/both directions of San Mateo Avenue), and off-street parking at some local (private) business parking lots. Off-street parking is available at the private businesses on San Mateo Avenue. The removal of the street parking is needed to accommodate an additional travel lane and bicycle lanes on San Mateo Avenue.

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

Less than Significant. SB 743 (2013) requires the Governor's Office of Planning and Research to identify new metrics for identifying and mitigating transportation impacts under CEQA. Under SB 743, CEQA Guidelines Section 15064.3(b) was revised to identify VMT as the most appropriate measure of assessing transportation impacts.

As stated in Section 2.3.8.3, A VMT analysis consisted of an initial screening of project type against Caltrans Transportation Analysis criteria regarding whether a project is likely to induce travel. An applicable screening criteria includes the added roadway capacity on local or collector streets provided the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit. The proposed overcrossing would connect two minor arterials, and is expected to carry considerably less volume (6,660 vehicles/day in year 2045) indicating the overcrossing would function at a traffic volume characteristic of a collector street. New bike and pedestrian facilities will be provided and/or improved as summarized in the project description. Based on meeting these criteria the project would not conflict or be inconsistent with CEQA Guidelines Section 15065.3, 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)?

No Impact. The project would not alter the alignment of US 101. The project would construct a new overcrossing from Utah Avenue westerly to San Mateo Avenue. However, compliance with all applicable geometric design standards is mandatory and assumed for the Build Alternative. Therefore, no impact is anticipated.

d) Result in inadequate emergency access?

No Impact. Temporary impacts to traffic are possible during construction. However, as stated in Sections 1.5.1 and 2.2.7.2, a TMP would be developed during final design, which would reduce or eliminate temporary effects on emergency services. The TMP would include coordination with CHP, local law enforcement, and other emergency responders.

3.2.18 Tribal Cultural Resources

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:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) 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), or	No	No	No	Yes
b) 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 Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	No	No	No	Yes

3.2.18.1 CEQA Significance Determinations for Tribal Cultural Resources

a) and b) 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), or 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 Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

No Impact. As stated in Section 2.2.10.2, the Native American Heritage Commission (NAHC) was contacted in December 2017, briefly describing the proposed project, attaching a map showing the APE, and asking the Commission to review its Sacred Lands File (SLF) for any Native American cultural resources that potentially could be affected by the proposed project. A request also was made for the CEQA Tribal Consultation List, which includes the names of Native Americans who may have information or concerns about the APE and have requested notice about projects from CEQA lead agencies. Frank Lienert replied in an email dated January 4, 2018, stating that a review of the SLF was completed for the APE with “negative results.” Mr. Lienert also provided a list of Native American contacts. AECOM followed up with these contacts, but no tribal cultural resources were identified through this effort.

Additional background research and literature reviews conducted for the project identified two previously recorded prehistoric archaeological sites in the project area.

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However, as stated in Section 2.2.10.3, project activities are not anticipated to encounter submerged archaeology.

Furthermore, AMM CUL-01 would reduce the potential for impacts to tribal cultural resources during construction. Based on the consultation and research listed above, as well as the AMM, no impact is anticipated.

3.2.19 Utilities and Service Systems

Would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	No	No	Yes	No
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	No	No	No	Yes
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?	No	No	No	Yes
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??	No	No	No	Yes
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No	No	No	Yes

3.2.19.1 CEQA Significance Determinations for Utilities and Service Systems

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less Than Significant Impact. The project would require some utility relocations. There are three pairs of existing 115 kilovolt (KV) overhead electrical lines that are parallel to, and approximately 200 feet east of, the northbound US 101 freeway. Because South Airport Boulevard would be elevated to conform to the proposed new US 101/Produce Avenue overcrossing, the overhead lines would be raised by PG&E to maintain the required clearance above these local roadways. The relocation of utilities would result in localized construction impacts. However, coordination and possible temporary measures to maintain service.

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

No Impact. The project would not include new development or uses that would require water supplies. Therefore, there would be no impact.

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?

No Impact. The project would not generate new wastewater flows or affect public utilities for wastewater treatment. Therefore, there would be no impact.

d) and e) 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 comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. The project would not generate solid waste, other than during construction. Construction BMPs would ensure that waste generation does not exceed State or local standards, the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. The project would also comply with all federal, state, and local statutes and regulations related to solid waste. Therefore, there would be no impact.

3.2.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	No	No	No	Yes
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 a wildfire?	No	No	No	Yes
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?	No	No	No	Yes
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	No	No	Yes

3.2.20.1 CEQA Significance Determinations for Wildfire

SB 1241 required the Office of Planning and Research, the Natural Resources Agency, and the California Department of Forestry and Fire Protection to develop amendments to the “CEQA Checklist” for the inclusion of questions related to fire hazard impacts for projects on lands classified as very high fire hazard severity zones. The 2018 updates to the CEQA Guidelines expanded this to include projects “near” these very high fire hazard severity zones.

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

No Impact. The project would not impair the implementation or physically interfere with any such plans through long-term operations. During construction, a transportation management plan (TMP) would minimize any construction-related delays and would include coordination with California Highway Patrol and local law enforcement agencies. Access would be maintained for emergency response vehicles during construction. Therefore, there would be no impact.

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 a wildfire?

No Impact. The project is not in a fire hazard severity zone, and furthermore would not alter the alignment of US 101. Project features for minimizing fire risks would be incorporated, such as clearing vegetation from the work area; prohibiting the use of highly flammable chemicals; following locally changing meteorological conditions; and maintaining awareness of the possibility of increased fire danger during the time work is in progress (see Table 1.6-1). All project construction would follow state and federal fire regulations. Therefore, the project is not expected to exacerbate wildfire risks or expose project personnel to pollutants from a wildfire or the uncontrolled spread of a 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?

No Impact. The project would require some utility relocations. There are three pairs of existing 115 kilovolt (KV) overhead electrical lines that are parallel to, and approximately 200 feet east of, the northbound US 101 freeway. Because South Airport Boulevard would be elevated to conform to the proposed new US 101/Produce Avenue overcrossing, the overhead lines would be raised by PG&E to maintain the required clearance above these local roadways. As stated above, project features for minimizing fire risks would be incorporated. Therefore, the project is not expected to exacerbate wildfire risks or expose project personnel to pollutants from a wildfire or the uncontrolled spread of a wildfire.

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. No recent fires have occurred in the project vicinity that could result in post-fire slope instability or drainage changes. Furthermore, the project limits are in a relatively flat area with little to no slopes. The implementation of standard Caltrans practices for erosion control and other measures would avoid or minimize the project's potential to result in downslope or downstream flooding or landslides. These measures are incorporated into the project design as a matter of Caltrans practice and are not mitigation. Therefore, the proposed project would not expose the public to a risk of post-fire slope instability or drainage changes.

3.2.21 Mandatory Findings of Significance

	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	No	No	Yes	No
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)?	No	No	No	Yes
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	No	No	No	Yes

3.2.21.1 CEQA Significance Determinations for 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. As stated above in the previous CEQA Checklist items, the proposed project is not anticipated to lead to significant impacts to the environment, including biological resources such as habitat, plant, or wildlife species.

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)?

No Impact. The project has been evaluated for cumulative impacts and is found to not contribute to a cumulatively considerable impact, as detailed in Section 2.5 above. Potential cumulative impacts to visual resources, as well as relocations and real property acquisition, were studied. However, it was determined that the project would not lead to cumulatively considerable impacts when viewed among other nearby projects and developments. Therefore, there would be no impact.

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

No Impact. Project construction could cause temporary effects on human beings, including traffic delays and localized noise. However, these impacts would be temporary, and lessened by the measures described above. Therefore, no impact is anticipated.

3.3 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the Earth's climate system. The Intergovernmental Panel on Climate Change, established by the United Nations and World Meteorological Organization in 1988, is devoted to GHG emissions reduction and climate change research and policy. Climate change in the past has generally occurred gradually over millennia, or more suddenly in response to cataclysmic natural disruptions. The research of the Intergovernmental Panel on Climate Change and other scientists over recent decades, however, has unequivocally attributed an accelerated rate of climatological changes over the past 150 years to GHG emissions generated from the production and use of fossil fuels.

Human activities generate GHGs consisting primarily of CO₂, CH₄, N₂O, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, and various hydrofluorocarbons (HFCs). CO₂ is the most abundant GHG; although it is a naturally occurring and necessary component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO₂ that is the main driver of climate change. In the United States and in California, transportation is the largest source of GHG emissions, mostly CO₂.

The impacts of climate change are already being observed in the form of sea-level rise, drought, extended and severe fire seasons, and historic flooding from changing storm patterns. The most important strategy to address climate change is to reduce GHG emissions. Additional strategies are necessary to mitigate and adapt to these impacts. In the context of climate change, "mitigation" involves actions to reduce GHG emissions to lessen adverse impacts that are likely to occur. "Adaptation" is planning for and responding to impacts to reduce vulnerability to harm, such as by adjusting transportation design standards to withstand more intense storms, heat, and higher sea levels. This analysis will include a discussion of both in the context of this transportation project.

3.3.1 Regulatory Setting

This section outlines federal and state efforts to comprehensively reduce GHG emissions from transportation sources.

3.3.1.1 Federal

To date, no national standards have been established for nationwide mobile-source GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level.

NEPA (42 USC Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

FHWA recognizes the threats that extreme weather, sea level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values— “the triple bottom line of sustainability” (FHWA n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

The federal government has taken steps to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 USC Section 6201), as amended by the Energy Independence and Security Act of 2007; and Corporate Average Fuel Economy (CAFE) Standards. This act established fuel economy standards for on-road motor vehicles sold in the United States. The United States Department of Transportation’s National Highway Traffic and Safety Administration sets and enforces the CAFE standards based on each manufacturer’s average fuel economy for the portion of its vehicles produced for sale in the United States. The United States Environmental Protection Agency (U.S. EPA) calculates average fuel economy levels for manufacturers, and also sets related GHG emissions standards under the Clean Air Act. Raising CAFE standards leads automakers to create a more fuel-efficient fleet, which improves our nation’s energy security, saves consumers money at the pump, and reduces GHG emissions (U.S. DOT 2014).

U.S. EPA published a final rulemaking on December 30, 2021, that raised federal GHG emissions standards for passenger cars and light trucks for model years 2023 through 2026, increasing in stringency each year. This rulemaking revised lower emissions standards that were established in June 2020 for model years 2021 through 2026 in the Safer Affordable Fuel-Efficient Vehicles Rule Part Two. The updated standards will result in avoiding more than 3 billion tons of GHG emissions through 2050 (U.S. EPA 2021a). The CARB’s off-model adjustments are still required for CO₂ emissions from gasoline light duty Vehicles, which are regulated by SAFE Rule: Part Two (Final). The quantitative GHG analysis for the project accounted for the SAFE Rule: Part Two, as described in Section 3.3.3 below.

3.3.1.2 State

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly bills and executive orders (EOs) including, but not limited to, the following:

- EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California’s GHG emissions to (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3)

80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of AB 32 in 2006 and SB 32 in 2016.

- AB 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction goals outlined in EO S-3-05, while further mandating that ARB create a scoping plan and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (H&SC Section 38551(b)). The law requires ARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.
- EO S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California’s transportation fuels is to be reduced by at least 10 percent by the year 2020. ARB readopted the LCFS regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the governor’s 2030 and 2050 GHG reduction goals.
- SB 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires ARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a “Sustainable Communities Strategy” (SCS) that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.
- SB 391, Chapter 585, 2009, California Transportation Plan (CTP): This bill requires the state’s long-range transportation plan to identify strategies to address California’s climate change goals under AB 32.
- EO B-16-12 (March 2012): This order requires state entities under the direction of the Governor, including ARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.
- EO B-30-15 (April 2015): This order establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure that California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons

of carbon dioxide equivalent (MMTCO_{2e}). (GHGs differ in how much heat each traps in the atmosphere, called global warming potential, or GWP. CO₂ is the most important GHG, so amounts of other gases are expressed relative to CO₂, using a metric called “carbon dioxide equivalent,” or CO_{2e}. The GWP of CO₂ is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO₂.) Finally, it requires the Natural Resources Agency to update the state’s climate adaptation strategy, Safeguarding California, every 3 years, and to ensure that its provisions are fully implemented.

- SB 32, Chapter 249, 2016: This bill codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.
- SB 1386, Chapter 545, 2016: This bill declared “it to be the policy of the state that the protection and management of natural and working lands ... is an important strategy in meeting the state’s GHG reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands.”
- SB 743, Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on VMT. This is intended to promote the state’s goals of reducing GHG emissions and traffic-related air pollution, and promoting multimodal transportation while balancing the needs of congestion management and safety.
- SB 150, Chapter 150, 2017, Regional Transportation Plans (RTPs): This bill requires ARB to prepare a report that assesses progress made by each metropolitan planning organization in meeting their established regional GHG emission reduction targets.
- EO B-55-18 (September 2018): This order sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing GHG emissions.
- EO N-19-19 (September 2019): This order advances California’s climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the transportation sector. It orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This EO also directs ARB to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

3.3.2 Environmental Setting

The proposed project is in an urban area of South San Francisco with primarily commercial land uses. Traffic congestion during peak hours is not uncommon in the project area. The project is listed in both the current RTP, Plan Bay Area 2050 (MTC and ABAG 2021), RTP ID 21-T06-027 and the MTC's 2021 TIP under reference number ID SM-110003.

The BAAQMD's 2017 clean air plan addresses GHG emissions in the project region. U.S. EPA is responsible for documenting GHG emissions nationwide; the ARB does so for the state, as required by H&SC Section 39607.4.

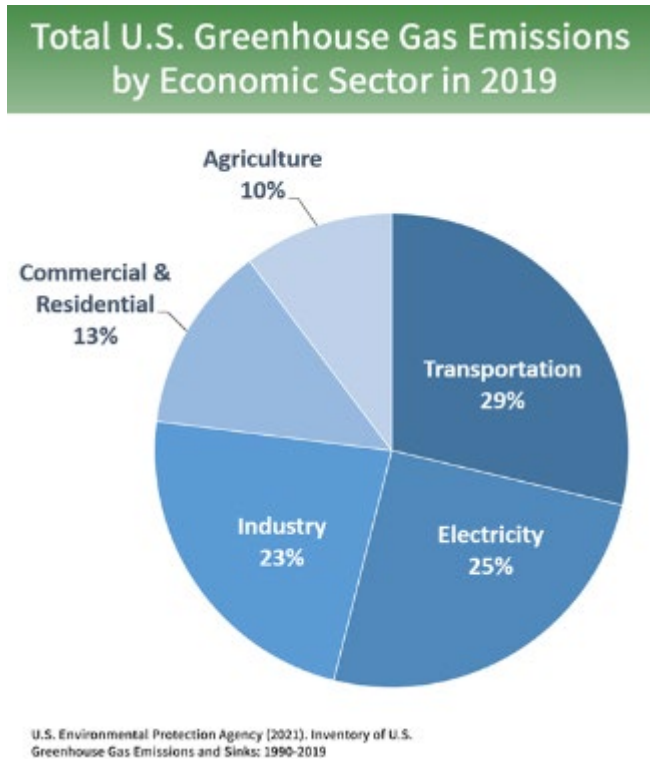
3.3.2.1 Greenhouse Gas Inventories

A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the ARB does so for the state, as required by H&SC Section 39607.4. Cities and other local jurisdictions may also conduct local GHG inventories to inform their GHG reduction or climate action plans.

National GHG Inventory

The annual GHG inventory submitted by the U.S. EPA to the United Nations provides a comprehensive accounting of all human-produced sources of GHGs in the United States. The 1990 2019 inventory found that overall GHG emissions were 6,558 million metric tons (MMT) in 2019, down 1.7 percent from 2018 but up 1.8 percent from 1990 levels. Of these, 80 percent were CO₂, 10 percent were CH₄, and 7 percent were N₂O; the balance consisted of fluorinated gases. CO₂ emissions in 2019 were 2.2 percent less than in 2018, but 2.8 percent more than in 1990. As shown on Figure 3.4-1, the transportation sector accounted for 29 percent of GHG emissions in the United States in 2019 (U.S. EPA 2021c, 2021e).

Figure 3.4-1 U.S. 2019 Greenhouse Gas Emissions

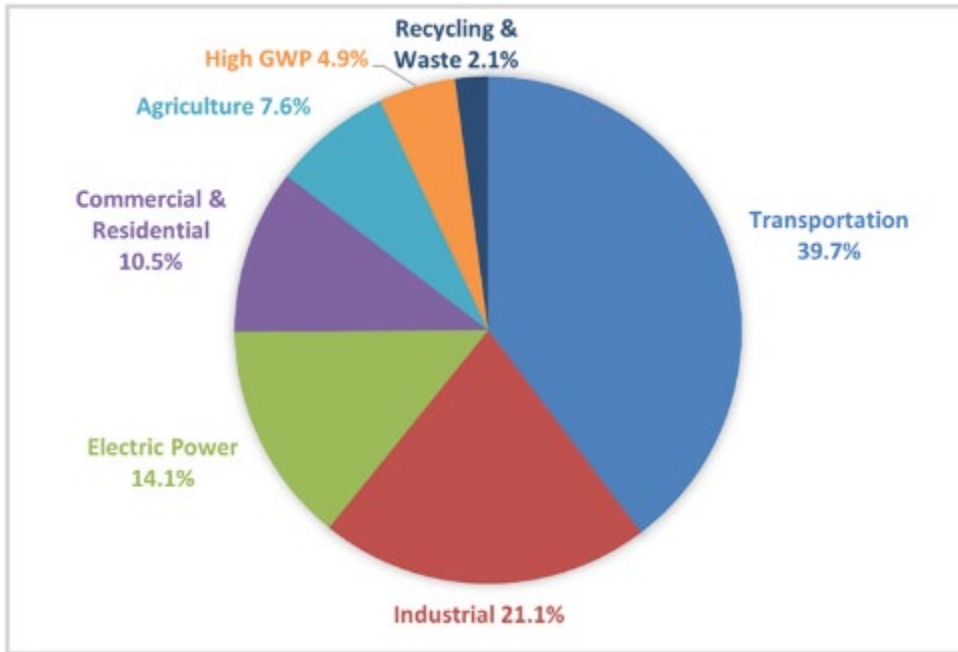


Source: U.S. EPA 2021d

3.3.2.2 State GHG Inventory

ARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. The 2021 edition of the GHG emissions inventory reported emissions trends from 2000 to 2019. It found that total California emissions were 418.2 MMTCO_{2e} in 2019, a reduction of 7.2 MMTCO_{2e} since 2018 and almost 13 MMTCO_{2e} below the statewide 2020 limit of 431 MMTCO_{2e}. The transportation sector (including intrastate aviation and off road sources) was responsible for about 40 percent of direct GHG emissions, a 3.5 MMTCO_{2e} decrease from 2018 (Figure 3.4-2). Overall statewide GHG emissions declined from 2000 to 2019 despite growth in population and state economic output (Figure 3.4-3) (ARB 2021a).

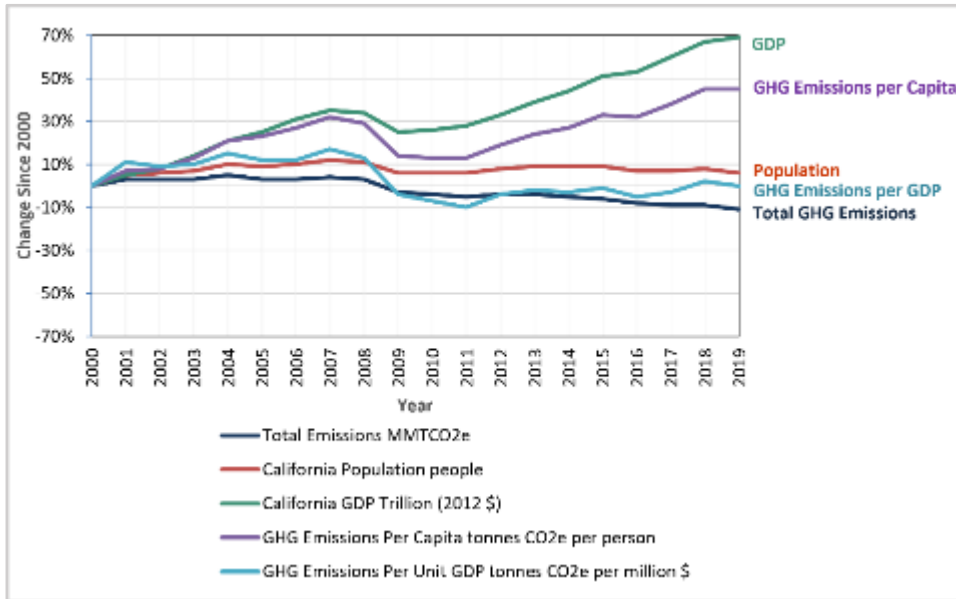
Figure 3.4-2 California 2019 Greenhouse Gas Emissions by Economic Sector



Source: ARB 2021

AB 32 required ARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. ARB adopted the first scoping plan in 2008. The second updated plan, California’s 2017 Climate Change Scoping Plan, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

Figure 3.4-3 Change in California GDP, Population, and GHG Emissions since 2000 (Source: ARB 2019b)



Source: ARB 2021

3.3.2.3 Regional Plans

ARB sets regional GHG reduction targets for California’s 18 metropolitan planning organizations (MPOs) to achieve through planning future projects that will cumulatively achieve those goals, and reporting how they will be met in the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The proposed project is included in the RTP/SCS for the San Francisco Bay Area. The regional reduction target for MTC/ABAG is -10 percent for 2020 and -19 percent for 2035 (ARB 2019c). The proposed project would be included in the MTC RTP, Plan Bay Area 2050.

The 2017 clean air plan, Spare the Air, Cool the Climate (BAAQMD 2017), defines strategies for climate protection in the Bay Area that support goals laid out in Plan Bay Area 2050 (ABAG and MTC 2021). Those goals include transforming the transportation sector to reduce motor vehicle travel, promote zero-emissions vehicles and renewable fuels, adopt fixed- and flexible-route transit services, and support infrastructure and planning that enable a large share of trips by bicycling, walking, and transit. Local climate action plans also offer GHG reduction strategies.

3.3.3 Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the State Highway System (SHS) (operational emissions) and those produced during construction. The primary GHGs produced by the transportation sector are CO₂, CH₄, N₂O, and HFCs. CO₂ emissions are a product of burning

gasoline or diesel fuel in internal combustion engines, along with relatively small amounts of CH₄ and N₂O. A small amount of HFC emissions related to refrigeration is also included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Pub. Resources Code, § 21083(b)(2)). As the California Supreme Court explained, “because of the global scale of climate change, any one project’s contribution is unlikely to be significant by itself.” (Cleveland National Forest Foundation v. San Diego Assn. of Governments (2017) 3 Cal.5th 497, 512.) In assessing cumulative impacts, it must be determined if a project’s incremental effect is “cumulatively considerable” (CEQA Guidelines Sections 15064(h)(1) and 15130).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

3.3.3.1 Operational Emissions

The project is included in the current RTP and TIP, which contain regional strategies for reducing GHG emissions from transportation sources. The project would provide an additional east-west connection across US 101 to accommodate future planned growth, improve traffic operations with pedestrian and bicycle access in the City and vicinity of the project area. The project’s long-term operational emissions of GHGs are evaluated further below.

A quantitative analysis of daily CO₂ emissions was performed using the Caltrans CT-EMFAC2017 model to compare the potential effects of the project Build and No Build Alternatives. Default fleet mixes were adjusted to include the estimated percentage of trucks for each model run. This analysis accounted for the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule: Part Two, by applying the appropriate EMFAC2017 off-model adjustment factor issued by CARB in their June 26, 2020 memorandum (CARB 2020).

As shown in Table 3.3.1-1, the estimated annual CO₂ emissions for the Build Alternative during the opening year (2025), horizon year (2040), and design year (2045) scenarios would be lower than the emissions for the No Build Alternative, which is primarily attributed to the reduction in study area VMT under the Build Alternative. The estimated CO₂ emissions for the Build and No Build Alternative would be lower in the opening year (2025), horizon year (2040) and design year (2045) compared to the existing year (2020). This is because federal and state fuel economy standards are expected to reduce GHG emissions over time.

Table 3.3.3-1 Operational CO₂ Emissions (Metric Tons per Year)

	2020 Existing	2025 No Build	2025 Build	2040 No Build	2040 Build	2045 No Build	2045 Build
Daily VMT	1,117,915	1,127,743	1,126,771	1,157,225	1,156,578	1,167,053	1,166,514
CO ₂	135,925	121,718	121,376	109,098	108,760	109,015	108,666

3.3.3.2 Construction Emissions

Construction GHG emissions would result from material processing and transportation, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

Use of long-life pavement, improved traffic management plans, and changes in materials, can also help offset emissions produced during construction by allowing longer intervals between maintenance and rehabilitation activities.

All construction contracts include Caltrans Standard Specifications related to air quality. Section 7-1.02A and 7 1.02C, Emissions Reduction, requires contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all ARB emission reduction regulations. Section 14-9.02, Air Pollution Control, requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions, also help reduce GHG emissions. Construction GHG emissions for transportation projects are typically produced by material processing equipment and on-site construction equipment. Emissions of CO₂e during project construction were quantified using RCEM Version 9.0 to support CEQA review of the project. The same model input parameters used for estimating criteria air pollutant emissions during construction were used for estimating CO₂e emissions.

The total CO₂e emissions and annual average CO₂e emissions estimated for construction of the Build Alternative are summarized in Table 3.3.1-1. Project construction would result in a temporary increase in GHG emissions that would be offset by the long-term improvements in operational GHG emissions compared with the No Build Alternative. The CARB off-model adjustment factor for CO₂ was applied to emissions outputs to account for required changes under the U.S. EPA's SAFE Vehicle Rule: Part Two. Furthermore, the project would implement measures to reduce construction emissions, such as maintenance of construction equipment and vehicles, limiting of construction vehicle idling time, and scheduling and routing of construction traffic to reduce engine emissions.

Table 3.3.3-2 Construction CO₂e Emissions

Emissions Scenario	CO₂e (Total Metric Tons)	CO₂e (Annual Average Metric Tons)
Build Alternative	2,389	1,593

3.3.3.3 CEQA Conclusion

Although the proposed project will result in GHG emissions during construction, it is anticipated that the project will not result in any increase in operational GHG emissions. The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. With implementation of construction GHG-reduction measures, the impact would be less than significant.

Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

3.3.4 Greenhouse Gas Reduction Strategies

3.3.4.1 Statewide Efforts

In response to AB 32, California is implementing measures to achieve emission reductions of GHGs that cause climate change. Climate change programs in California are effectively reducing GHG emissions from all sectors of the economy. These programs include regulations, market programs, and incentives that will transform transportation, industry, fuels, and other sectors to take California into a sustainable, low-carbon and cleaner future, while maintaining a robust economy (ARB 2022).

Major sectors of the California economy, including transportation, will need to reduce emissions to meet 2030 and 2050 GHG emissions targets. The Governor’s Office of Planning and Research identified five sustainability pillars in a 2015 report: (1) increasing the share of renewable energy in the state’s energy mix to at least 50 percent by 2030; (2) reducing petroleum use by up to 50 percent by 2030; (3) increasing the energy efficiency of existing buildings by 50 percent by 2030; (4) reducing emissions of short-lived climate pollutants; and (5) stewarding natural resources, including forests, working lands, and wetlands, to ensure that they store carbon, are resilient, and enhance other environmental benefits (OPR 2015).

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of VMT. Reducing today’s petroleum use in cars and trucks is a key state goal for reducing GHG emissions by 2030 (California Environmental Protection Agency 2015).

In addition, SB 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms, and wetlands remove CO₂ from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

Subsequently, Governor Gavin Newsom issued EO N-82-20 to combat the crises in climate change and biodiversity. This order instructs state agencies to use existing authorities and resources to identify and implement near- and long-term actions to accelerate natural removal of carbon and build climate resilience in our forests, wetlands, urban greenspaces, agricultural soils, and land conservation activities in ways that serve all communities and in particular low-income, disadvantaged, and vulnerable communities. To support this order, the California Natural Resources Agency released Natural and Working Lands Climate Smart Strategy Draft for public comment in October 2021.

3.3.4.2 Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the ARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set an interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

3.3.4.3 Climate Action Plan for Transportation Investments

The California Action Plan for Transportation Infrastructure (CAPTI) builds on EOs signed by Governor Newsom in 2019 and 2020 and targeted at reducing GHG emissions in transportation, which account for more than 40 percent of all polluting emissions, to reach the state's climate goals. Under CAPTI, where feasible and within existing funding program structures, the state will invest discretionary transportation funds in sustainable infrastructure projects that align with its climate, health, and social equity goals (California State Transportation Agency 2021).

3.3.4.4 California Transportation Plan

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. It serves as an umbrella document for all the other statewide transportation planning documents. The CTP 2050 presents a vision of a safe, resilient, and universally accessible transportation system that supports vibrant communities, advances racial and economic justice, and improves public and environmental health. The plan's climate goal is to achieve statewide GHG emissions reduction targets and increase resilience to climate change. It demonstrates how GHG emissions from the transportation sector can be reduced through advancements in clean fuel technologies; continued shifts toward active travel, transit, and shared mobility; more efficient land use and development practices; and continued shifts to telework (Caltrans 2021a).

3.3.4.5 Caltrans Strategic Plan

The Caltrans 2020–2024 Strategic Plan includes goals of stewardship, climate action, and equity. Climate action strategies include developing and implementing a Caltrans Climate Action Plan; a robust program of climate action education, training, and outreach; partnership and collaboration; a VMT monitoring and reduction program; and engaging with the most vulnerable communities in developing and implementing Caltrans' climate action activities (Caltrans 2021f).

3.3.4.6 Caltrans Policy Directives and Other Initiatives

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) established a policy to ensure coordinated efforts to incorporate climate change into Caltrans' decisions and activities. Caltrans' Greenhouse Gas Emissions and Mitigation Report (Caltrans 2020b) provides a comprehensive overview of Caltrans' emissions. The report documents and evaluates current Caltrans procedures and activities that track and reduce GHG emissions and identifies additional opportunities for further reducing GHG emissions from Caltrans-controlled emission sources, in support of Caltrans and state goals.

3.3.4.7 Project-Level GHG Reduction Strategies

The following measures will also be implemented in the project to reduce GHG emissions and potential climate change impacts from the project.

- A TMP will be prepared during the design phase of the project to minimize traffic disruptions from project construction. Minimizing traffic delays during construction will help reduce GHG emissions from idling vehicles.
- Caltrans Standard Specifications such as Section 14-9.02, Air Pollution Control, require contractors to comply with all federal, state, and local air pollution control rules, regulations, and ordinances. This includes requirements such as idling restrictions and keeping engines properly tuned reduce emissions, including GHG emissions.
- Caltrans will implement all Project Features described in Table 1.6-1, which include strategies to reduce temporary GHG emissions during project construction.

3.3.5 Adaptation

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges combined with a rising sea level can inundate highways. Wildfire can directly

burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

3.3.5.1 Federal Efforts

Under NEPA Assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance.

The Fourth National Climate Assessment, published in 2018, presents the foundational science and the “human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways.”

The United States Department of Transportation (U.S. DOT) Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to “integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of U.S. DOT to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions” (U.S. DOT 2011).

FHWA order 5520 (Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events, December 15, 2014) established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. FHWA has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2019).

3.3.5.2 State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. A number of state policies and tools have been developed to guide adaptation efforts.

California’s Fourth Climate Change Assessment (Fourth Assessment) (2018) is the state’s effort to “translate the state of climate science into useful information for action.” It provides information that will help decision makers across sectors and at state, regional, and local scales protect and build the resilience of the state’s people, infrastructure, natural systems, working lands, and waters. The state’s approach recognizes that the consequences of climate change occur at the intersections of people, nature, and infrastructure. The Fourth Assessment reports that if no measures are taken to reduce GHG emissions by 2021 or sooner, the state is projected to experience an increase of 2.7 to 8.8 degrees Fahrenheit in average annual maximum daily temperatures, with impacts on agriculture, energy demand, natural systems, and public health; a two-thirds decline in water supply from snowpack and water shortages

that will impact agricultural production; a 77 percent increase in average area burned by wildfire, with consequences for forest health and communities; and large-scale erosion of up to 67 percent of Southern California beaches and inundation of billions of dollars' worth of residential and commercial buildings due to sea-level rise (State of California 2018).

Sea-level rise is a particular concern for transportation infrastructure in the coastal zone. Major urban airports will be at risk of flooding from sea-level rise combined with storm surge as early as 2040; San Francisco airport is already at risk. Miles of coastal highways vulnerable to flooding in a 100 year storm event will triple to 370 by 2100, and 3,750 miles will be exposed to temporary flooding. The Fourth Assessment's findings highlight the need for proactive action to address these current and future impacts of climate change.

In 2008, then-governor Arnold Schwarzenegger recognized the need when he issued EO S-13-08, focused on sea-level rise. Technical reports on the latest sea-level rise science were first published in 2010 and updated in 2013 and 2017. The 2017 projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the State of California Sea-Level Rise Guidance Update in 2018. This EO also gave rise to the California Climate Adaptation Strategy (2009), updated in 2014 as Safeguarding California: Reducing Climate Risk (Safeguarding California Plan), which addressed the full range of climate change impacts and recommended adaptation strategies. The Safeguarding California Plan was updated in 2018 and again in 2021 as the California Climate Adaptation Strategy, incorporating key elements of the latest sector-specific plans such as the Natural and Working Lands Climate Smart Strategy, Wildfire and Forest Resilience Action Plan, Water Resilience Portfolio, and the CAPTI (described above). Priorities in the 2021 California Climate Adaptation Strategy include acting in partnership with California Native American Tribes, strengthening protections for climate-vulnerable communities that lack capacity and resources, nature-based climate solutions, use of best available climate science, and partnering and collaboration to best leverage resources (California Natural Resources Agency 2021).

EO B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change in addition to sea-level rise also threaten California's infrastructure. At the direction of EO B-30-15, the Office of Planning and Research published Planning and Investing for a Resilient California: A Guidebook for State Agencies in 2017, to encourage a uniform and systematic approach.

AB 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group to help actors throughout the state address the findings of California's Fourth Climate Change Assessment. It released its report, Paying it Forward: The Path Toward Climate-Safe Infrastructure in California, in 2018. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and

implementation processes to address the observed and anticipated climate change impacts (Climate Change Infrastructure Working Group 2018).

3.3.5.3 Caltrans Adaptation Efforts – Caltrans Vulnerability Assessments

Caltrans completed climate change vulnerability assessments to identify segments of the state highway system that are vulnerable to climate change effects of precipitation, temperature, wildfire, storm surge, and sea-level rise.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments guide analysis of at-risk assets and development of Adaptation Priority Reports as a method to make capital programming decisions to address identified risks.

3.3.5.4 Project Adaptation Analysis

Sea-Level Rise

The proposed project is outside the California Coastal Zone, and is not within the Shoreline Band regulated by the BCDC (see Section 2.2.2.1). However, according to the Cal-Adapt sea level rise model, the project area is vulnerable to future sea level rise scenarios (Cal-Adapt 2021) (Figure 3.4-5). The elevated bridge will be above the inundation area, and the increased elevation at of the South Airport Boulevard/Utah Avenue intersection will also decrease these locations to SLR. However, connecting roads to these facilities, and the proposed improvements at San Mateo Avenue/South Airport Boulevard/Produce Avenue would remain vulnerable to inundation, including high tide and water surface level increases associated with storm surge events.

According to the Caltrans District 4 Climate change Vulnerability Assessment, there are uncertainties in SLR projections that come from variances from several factors, including GHG projections, rates of ice melt, rates of thermal expansion, and accuracy of climate models. Although there is relative certainty in rising sea levels, it is unknown precisely how the oceans will rise in response to atmospheric GHG emissions. The appropriate use of these projections is to understand the range of scenarios and plan with uncertainty in mind, by understanding the implications of any adaptation strategies recommended (Caltrans 2018b).

The changes to historical conditions brought on by sea level rise could make the proposed transportation facility more vulnerable to damage. A rising groundwater table could inundate supports on land that were not built to accommodate saturated soil conditions, leading to erosion of soils and loss of stability (Caltrans 2018b). Additionally, higher sea levels could increase the risk of adverse scour effects on structural elements.

Based on the considerations discussed above, the project should be designed with the potential effects of climate change in mind. Although the project is not within the defined Coastal Zone, it is likely at risk for exacerbated effects due to sea level rise, given its proximity to Colma and San Bruno Creek and their associated flood plains.

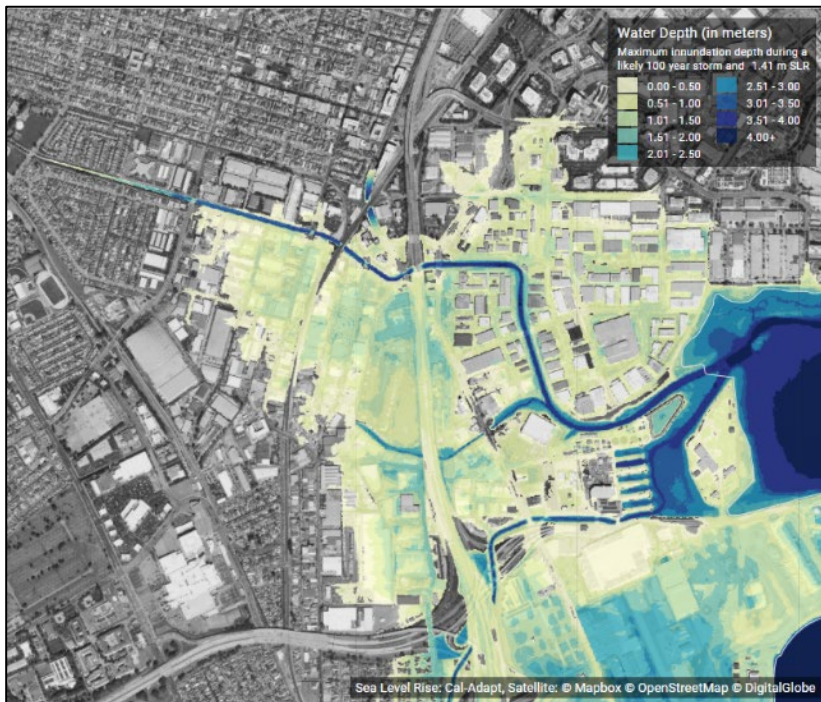
Precipitation and Flooding

As stated in Section 2.3.1, the Project site is located within the Colma Creek floodplain (FIRM Panel Number 06081C00F, effective April 2, 2019).

Part of the project area is within Zone AE EL 10, which represents areas that are subject to flooding by the aforementioned 100-year flood. The remainder of the project area, including the existing Utah Avenue/South Airport Boulevard intersection, is within Zone X. Zone X in this context represents an area with a 0.2% annual chance flood hazard or 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile.

US 101 in and adjacent to the project area may be vulnerable to future storm surge, exacerbated by climate change. With 5.74 feet of sea level rise, the 100-year storm could affect approximately 30 miles of the state highway system in San Mateo County (Caltrans 2018b). Figure 3.4-5 depicts maximum inundation depth during a likely 100-year storm, coupled with 1.41 meters of sea level rise.

Figure 3.4-5 Maximum Inundation Depth During a Likely 100 Year Storm and 1.41 M SLR



The potential for severe 100-year storm events, given future sea level rise, poses risks for the project area. Bridge scour, flooding, and erosion could pose a greater risk to the project area. Therefore, consideration should be given to the potential effects of climate change on the project area floodplains.

Wildfire

As stated in Section 3.3.20.1, the project is not in a fire hazard severity zone, and furthermore would not alter the alignment of US 101. According to the Caltrans District 4 Climate Vulnerability Assessment, the project area is also not of concern for wildfire in future years, nor is US 101 in the project area mapped as an exposed roadway in future wildfire scenarios (Caltrans 2017).

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Chapter 4 Comments and Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements. Agency and tribal consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including interagency coordination meetings, public meetings, public notices, Project Development Team (PDT) meetings, and stakeholder meetings. This chapter summarizes the results of the California Department of Transportation's (Caltrans') efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

4.1 Early Public Outreach

Early public outreach was conducted for property owners and tenants in and adjacent to the project area. A community meeting was held to discuss the project and provide community members with the opportunity to comment and ask questions to the project team. The meeting was noticed through newspaper advertisements that ran on October 9 and 10, 2018. The City of South San Francisco hosted the meeting on Tuesday, October 9, 2018 from 6:30 – 8:00 PM at the South San Francisco Public Works Department office. Fourteen community members attended and had the opportunity to view and ask questions of the project staff from the City of South San Francisco, the consultant (AECOM), Caltrans, and the San Mateo County Transportation Authority (SMCTA). A PowerPoint presentation was presented to orient the attendees to the purpose of the project, existing conditions, constraints and/or benefits of the project alternatives, and proposed design elements.

The meeting included a question-and-answer period, the comments and questions from which are listed below. Attendees were given the opportunity to personally meet with project staff, and learn more about the project. Questions and topics included the various alternatives that were under study at that time, the elevation of the proposed bridge over US 101, funding for the project and its estimated cost, the roles of the agencies involved, and the property acquisition process.

Subsequent meetings were held with property owners throughout 2018 and 2019 to discuss the project, their concerns and receive their comments. These meetings included the Golden Gate Produce Terminal, Park 'N Fly, owners of a gas station, other individual affected property owners, and utilities (PG&E and California Water Service).

4.2 Public Scoping Process

A Notice of Preparation (NOP) was filed with the State Clearinghouse on 8/10/2021. The City of South San Francisco and Caltrans hosted a virtual scoping meeting on

Tuesday August 24, 2021 from 6:00 – 7:30 PM. The meeting was attended by staff from the City of South San Francisco, the Consultant (AECOM), Caltrans and the San Mateo County Transportation Authority (SMCTA), as well as six additional attendees.

The Scoping Meeting was noticed through the following communications channels:

- An email blast to 75 stakeholder agency staff members.
- Print and online newspaper advertisements in the San Mateo Daily Journal.
- Caltrans and City of South San Francisco social media.
- Bilingual (English and Spanish) postcards distributed to over four thousand addresses through the United States Postal Service (USPS) Every Day Direct Mailer service, along select routes adjacent to the project area.
- Additional postcards distributed to 80 property owners.

Comment letters received were the following:

- California Department of Fish and Wildlife. CDFW provided recommendations for species that should be studied, recommended a bridge design incorporate fish passage and natural stream flow, and outlined potential light impacts at Colma Creek. CDFW's recommendations were incorporated into section 2.4, as applicable.
- California Native American Heritage Commission. The NAHC provided recommendations for consultation.
- Holiday Inn Express SFO North (373 South Airport Boulevard). The owners had questions regarding construction schedule, effects on local streets and continued access to their property, noise during construction, and design of the South Airport Boulevard roadway.
- Public Storage at 100 and 124 Produce Avenue. The owners asked about any property takes at these properties, and availability of design plans.

4.3 Consultation and Coordination with Public Agencies

4.3.1 Federal Agencies

4.3.1.1 Federal Highway Administration

After public circulation of this EIR/EA, the project's air quality studies will be submitted to FHWA for a project-level conformity determination. The final determination on project-level conformity will be made by FHWA, and included as part of the Final EIR/EA.

4.3.1.2 United States Fish and Wildlife Service and National Marine Fisheries Service

A USFWS species list was created for the project and was most recently updated December 8, 2021 (Appendix H). Caltrans initiates consultation with USFWS when a project has the potential to affect a federally listed species and/or adversely modify designated critical habitat. No take of any listed species is expected as a result of the proposed project. The project avoids the biological habitat at Colma Creek by establishing an ESA at that location. Therefore, consultation with USFWS is not anticipated as part of the project.

4.3.1.3 NOAA Fisheries

A NOAA Fisheries species list was created for the project and was mostly recently updated on December 8, 2021 (Appendix H). Consultation with NOAA Fisheries under Section 7 of FESA is not anticipated, as the project would not affect any listed species under NOAA jurisdiction, as described in Section 2.4.4.

4.3.2 Tribal Entities

The California Native American Heritage Commission (NAHC) was contacted on December 22, 2017 via e-mail, briefly describing the proposed project and attaching a map showing the APE and asking the Commission to review its Sacred Lands File (SLF) for any Native American cultural resources that potentially could be affected by the proposed project. A request also was made for the CEQA Tribal Consultation List, which includes the names of Native Americans who may have information or concerns about the APE and have requested notice about projects from CEQA lead agencies. Frank Lienert replied in an email dated January 4, 2018, stating that a review of the SLF was completed for the APE with “negative results.” Mr. Lienert also provided a list of Native American contacts. Native American consultation is described in further detail in Section 2.2.10.

4.3.3 State Agencies

4.3.3.1 State Historic Preservation Officer

The project’s cultural resource studies were submitted to the State Historic Preservation Officer (SHPO) on December 9, 2021, documenting five properties in the project area that were determined to be ineligible for the National Register of Historic Places, and one that was determined eligible (Golden Gate Produce Terminal, 131 Terminal Court, South San Francisco, APN 015-113-210). No comments were received from SHPO, and Caltrans made the determination to move forward on the eligibility determinations consistent with the provisions of the Section 106 Programmatic Agreement. As stated in the Historic Properties Survey Report, effects are still undetermined, so in accordance with Section 106 PA Stipulation X, Caltrans will continue consultation with SHPO in the future on the assessment of effects. This documentation is included in Appendix D.

4.3.3.2 California Department of Fish and Wildlife

Construction activities would not result in take of a state listed species as defined by the California Endangered Species Act (CESA). As a result, it does not appear that an incidental take permit (ITP) would be needed, nor would Caltrans need to consult with CDFW under CESA.

4.3.4 Regional Agencies

4.3.4.1 Metropolitan Transportation Commission (Air Quality Conformity)

The project team initiated consultation with the Bay Area Air Quality Conformity Task Force by submitting a Project Assessment Form for PM_{2.5} Interagency Consultation. The project was found not to be a project of air quality concern by MTC's Air Quality Conformity Task Force at their September 23, 2021 consultation meeting.

Public comment is requested regarding the information in the Project Assessment Summary for PM_{2.5} Interagency Consultation and the Task Force's determination. Following the close of the public review and comment period for this EIR/EA, all comments received on the air quality conformity determination will be included in an air quality conformity report to be submitted to FHWA. The final determination on project-level conformity will be made by FHWA.

4.3.4.2 San Francisco Bay RWQCB

No work or discharge is planned or anticipated within Waters of the U.S. or Waters of the State. The project will likely require a stormwater discharge permit related to stormwater flow from the proposed new and expanded roadway surfaces, and compliance with a Construction General Permit related to disturbed soil area greater than 1 acre.

4.3.4.3 Bay Conservation Development Commission

Caltrans contacted the San Francisco Bay Conservation and Development Commission (BCDC) staff in May, 2018, who indicated the Commission's jurisdiction along Colma Creek ends at the confluence of Colma Creek and the San Bruno Canal close to the Bay, west of the intersection between Littlefield Avenue and Harbor Way.²² The project is west/inland of that point, and therefore a permit from BCDC is not anticipated.

4.4 Circulation, Review, and Comment on the Draft Environmental Document

Public input on the project will be solicited during the review period for this Draft EIR/EA, which will last a minimum of 45 days. The review period, information about public meetings, and instructions for submitting comments are included on the first page of this document.

²² Email correspondence between Jhon Arbelaez-Novak (Caltrans environmental planning) and Eric Buehmann (BCDC), May 30, 2018.

Chapter 4 Comments and Coordination

All formal comments will be addressed and responses published in the Final EIR/EA. After receiving comments from the public and reviewing agencies, a Final EIR/EA will be prepared. Caltrans may prepare additional environmental and/or engineering studies to address comments. The Final EIR/EA will include responses to comments received on the Draft EIR/EA and will identify the preferred alternative. If the decision is made to approve the project, a Notice of Determination will be published for compliance with CEQA, and Caltrans will decide whether to issue a Finding of No Significant Impact (FONSI) or require an Environmental Impact Statement for compliance with NEPA. A Notice of Availability of the FONSI will be sent to the affected units of federal, state, and local government, and to the State Clearinghouse, in compliance with Executive Order 12372.

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The preparation of this environmental document and project design involved a team of Caltrans personnel and consultants.

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Appendices

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Appendix A. Section 4(f) Evaluation

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code (USC) 303, declares that “it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

Section 4(f) specifies that the Secretary of Transportation may approve a transportation program or project . . . “requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- There is no prudent and feasible alternative to using that land; and
- The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.”

This section of the document discusses de minimis impact determinations under Section 4(f). Section 6009(a) of SAFETEA-LU amended Section 4(f) legislation at 23 United States Code (USC) 138 and 49 USC 303 to simplify the processing and approval of projects that have only de minimis impacts on lands protected by Section 4(f). This amendment provides that once the U.S. Department of Transportation (USDOT) determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a de minimis impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete. The Federal Highway Administration’s (FHWA) final rule on Section 4(f) de minimis findings is codified in 23 Code of Federal Regulations (CFR) 774.3 and CFR 774.17.

Responsibility for compliance with Section 4(f) has been assigned to the Department pursuant to 23 USC 326 and 327, including de minimis impact determinations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

Description of the Proposed Project

The California Department of Transportation (Caltrans) in cooperation with the City of South San Francisco and the San Mateo County Transportation Authority (SMCTA) propose to construct a new overcrossing of United States Highway 101 (US 101) in the City of South San Francisco, San Mateo County. The new overcrossing, referred to as the Utah Avenue extension, would connect the Utah Avenue/South Airport Boulevard intersection on the east side of US 101 to San Mateo Avenue on the west side of US 101. The intersections of Utah Avenue/South Airport Boulevard and San Mateo Avenue

would also be reconstructed to include turning lanes, and to connect to the new overcrossing by through lane. The Airport Boulevard/Produce Avenue/San Mateo Avenue intersection on the west side of US 101 would also be modified or reconstructed.

The project area is between the US 101/East Grand Avenue interchange (0.7 mile to the north) and the US 101/Interstate 380 (I-380) interchange (0.5 mile to the south). San Francisco International Airport is located approximately 2.5 miles to the south. US 101 at the project location has four general purpose lanes in each direction. In the southbound direction, an auxiliary lane exits at the connector ramp to I-380. In the northbound direction, there are auxiliary lanes that connect to the on- and off-ramps at South Airport Boulevard.

Section 4(f) Properties in the Project Area

There are no public park, recreation lands, wildlife or waterfowl refuges that have the potential to be affected by the project. However, six historic-period properties within the area of potential effects (APE) were evaluated by professionally qualified consultant staff to determine eligibility for listing in the National Register of Historic Places (NRHP) or California Register of Historic Resources (CRHR). Five of the six properties were found to be ineligible for listing in the NRHP or CRHR, pursuant to Stipulation VIII.C of the Section 106 PA. One property in the APE, the Golden Gate Produce Terminal at 131 Terminal Court (produce terminal), was found to be eligible for listing in the NRHP and CRHR at the local level of significance under Criterion A/1.

The produce terminal is considered a Section 4(f) resource, due to its eligibility for listing in the NRHP. It is associated with the development of the South San Francisco Industrial Park and the Golden Gate Produce Terminal, which has occupied the property since 1962. The Golden Gate Produce Terminal was constructed to house produce wholesalers who were forced to abandon the original produce market in downtown San Francisco, which was demolished to accommodate the 1960s Golden Gateway redevelopment project. Although other produce terminals were constructed to house the displaced produce operators, most of the larger produce wholesalers relocated to the Golden Gate Produce Terminal, which continues to be the largest and busiest produce terminal in Northern California. In addition, the terminal is unique in that it was historically, and continues to be cooperatively, owned by the produce dealers.

The period of significance for the produce terminal is its 1962 date of construction. The boundary for the historic resource is its legal parcel (APN: 015-113-210). The east and west terminal buildings, with their loading docks, individual produce stalls, and central parking area, are contributing features. The building's character-defining features include pre-cast concrete slab construction with pre-cut window and door openings; concrete loading docks with overhanging metal canopies; and original steel sash, multi-light windows. Although the historic integrity of materials has been compromised by past alterations, including the replacement of original doors and windows and the installation of solar panels on the rooftop of the terminal buildings, the property overall retains

sufficient integrity of location, design, setting, materials, workmanship, feeling, and association to meet NRHP/CRHR Criteria A/1.

Non-contributing features to the produce terminal's historical significance include the property entrance and guard shack, an administration building, and a freestanding loading dock. Although the guard shack and the administration building were part of the original produce terminal construction, these buildings have been modified since construction and have diminished integrity, and also are unremarkable examples of building types commonly constructed as ancillary buildings on commercial/industrial properties throughout California. The freestanding loading dock was constructed between 2002 and 2005 and is less than 45 years old.

Project Use of Section 4(f) Property

The project would construct a new overcrossing that would span US 101 from Utah Avenue to San Mateo Avenue, and cross over Terminal Court, above the produce terminal. Additionally, three parking spaces in front of the produce terminal would be removed for the proposed overcrossing support columns, and 21 parking spaces would be temporarily impacted during construction. A partial property acquisition, temporary construction easement, and aerial easement of this property would be required for the project.

A Finding of No Adverse Effect (FNAE) was prepared for the project in June 2022, which found that the project would not directly affect the produce terminal because there are no improvements planned that would alter, physically destroy, cause neglect and deterioration, or lead to the transfer, sale, or lease of the historic property and any of its character-defining features.

The FNAE found that the produce terminal's contributing features, including the east and west terminal buildings with their loading docks, individual produce stalls, and the central parking area, would not be changed. Additionally, character-defining features, like the pre-cast concrete slab construction with pre-cut window and door openings, concrete loading docks with overhanging metal canopies, and original steel sash, multi-light windows, would not be removed or blocked by the addition of the new overcrossing. The overcrossing would be located closest to the noncontributing features described above (e.g., property entrance and guard shack, administration building). It was also found that no visual, atmospheric, or audible elements would diminish the integrity of the property's significant historic features, based on the findings of the project's Visual Impact Assessment and Noise Study Report (AECOM 2021b; AECOM 2022c).

Determination of a De Minimis Impact

According to 23 CFR 774.17, a de minimis impact to a historic site is appropriate when either:

1. no historic property is affected by the project; or

2. the project will have “no adverse effect” on the historic property in question.

Therefore, based on the FNAE, the project would result in a de minimis impact on the Golden Gate Produce Terminal located at 131 Terminal Court. The FNAE will be submitted to the California State Historic Preservation Officer (SHPO), with a request for concurrence on both the FNAE and the de minimis impact determination. In accordance with the January 1, 2014 First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California, the SHPO was informed in writing that a non-response for the purposes of a “no adverse effect” or a “no historic properties affected” determination will be treated as the written concurrence for the de minimis determination.

Caltrans, as assigned by the FHWA, will make the final determination on the de minimis finding.

Appendix B. Title VI Policy Statement

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DEPARTMENT OF TRANSPORTATION

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Making Conservation
a California Way of Life.

September 2021

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *“No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.”*

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a nondiscriminatory manner.

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page:
<https://dot.ca.gov/programs/civil-rights/title-vi>.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at 1823 14th Street, MS-79, Sacramento, CA 95811; PO Box 942874, MS-79, Sacramento, CA 94274-0001; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

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Toks Omishakin
Director

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Appendix C. Summary of Relocation Benefits

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Your Rights and Benefits
as a Displaced
Business, Farm, or
Nonprofit Organization
Under the California
Department of
Transportation Relocation
Assistance Program



California Department of
Transportation

Introduction

In building a modern transportation system, the displacement of a small percentage of the population is often necessary. However, it is the policy of Caltrans that displaced persons shall not suffer unnecessarily as a result of programs designed to benefit the public as a whole.



Displaced businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments.

This brochure provides information about available relocation services and payments. If you are required to move as the result of a Caltrans transportation project, a Relocation Agent will contact you. The Relocation Agent will be able to answer your specific questions and provide additional information.

Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as Amended "The Uniform Act"



The purpose of this Act is to provide for uniform and equitable treatment of persons displaced from their business, farm or non-profit organization, by federal and federally assisted programs and to establish uniform and equitable land acquisition policies for federal and federally assisted programs.

49 Code of Federal Regulations Part 24 implements the "Uniform Act" in accordance with the following relocation assistance objective:

To ensure that persons displaced as a direct result of federal or federally-assisted projects are treated fairly, consistently and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole.

While every effort has been made to assure the accuracy of this booklet, it should be understood that it does not have the force and effect of law, rule, or regulation governing the payment of benefits. Should any difference or error occur, the law will take precedence.

Relocation Services

The California Department of Transportation has two programs to aid businesses, farms and nonprofit organizations which must relocate.

These are:

1. The Relocation Advisory Assistance Program, which is to aid you in locating a suitable replacement property, and
2. The Relocation Payments Program, which is to reimburse you for certain costs involved in relocating. These payments are classified as:
 - Moving and Related Expenses (costs to move personal property not acquired).
 - Reestablishment Expenses (expenses related to the replacement property).
 - In-Lieu Payment (a fixed payment in lieu of moving and related expenses, and reestablishment expenses).

Note: Payment for loss of goodwill is considered an acquisition cost. California law and the federal regulations mandate that relocation payments cannot duplicate other payments such as goodwill.

You will **not** be eligible to receive any relocation payments until the State has actually made the first written offer to purchase the property. You will also receive at least 90 days' written notice before you must move.

Some Important Definitions...

Your relocation benefits can be better understood if you become familiar with the following terms:

Business: Any lawful activity, with the exception of a farm operation, conducted primarily for the purchase, sale, lease and rental of personal or real property, or for the manufacture, processing, and/or marketing of products, commodities, or any other personal property, or for the sale of services to the public, or solely for the purpose of this Act, and outdoor advertising display or displays, when the display(s) must be moved as a result of the project.

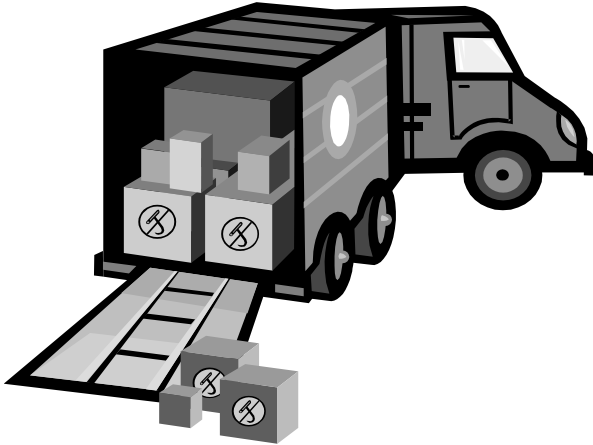
Small Business: A business having not more than 500 employees working at the site being acquired or displaced by a program or project.

Contributes Materially: A business or farm operation must have had average annual gross receipts of at least \$5,000 or average annual net earnings of at least \$1,000, in order to qualify as a bona-fide operation.

Farm Operation: Any activity conducted solely or primarily for the production of one or more agricultural products or commodities, including timber, for sale and home use, and customarily producing such products or commodities in sufficient quantity to be capable of contributing materially to the operator's support.

Nonprofit Organization: A public or private entity that has established its nonprofit status under applicable law.

MOVING EXPENSES



If you qualify as a displaced business, farm or nonprofit organization, you are entitled to reimbursement of your moving costs and certain related expenses incurred in moving. To qualify you must legally occupy the property as the owner or lessee/tenant when Caltrans initiates negotiations for the acquisition of the property **OR** at the time Caltrans acquires title or takes possession of the property. However, to assure your eligibility and prompt payment of moving expenses, you should contact your Relocation Agent before you move.

You Can Choose Either:

Actual Reasonable Moving Costs - You may be paid for your actual reasonable moving costs and related expenses when a commercial mover performs the move. Reimbursement will be limited to a move of 50 miles or less. Related expenses, with limitations, may include:

- Transportation.
- Packing and unpacking personal property.
- Disconnecting and reconnecting personal property related to the operation.
- Temporary storage of personal property.
- Insurance while property is in storage or transit, or the loss and damage of personal property if insurance is not reasonably available.
- Expenses in finding a replacement location (\$2,500 limit).
- Professional services to plan and monitor the move of the personal property to the new location.
- Licenses, permits and fees required at the replacement location.

OR

Self-Move Agreement - You may be paid to

move your own personal property based on the lower of two acceptable bids obtained by Caltrans.

Under this option, you will still be eligible for reimbursement of related expenses listed above that were not included in the bids.

OR

In-Lieu Payment – A small business may be eligible to accept a fixed payment between \$1,000 and \$40,000, based on your annual earnings IN LIEU OF the moving cost and related expenses. Consult your Relocation Agent for more information about this option.

Actual Reasonable Moving Costs

You may be paid the actual reasonable and necessary costs of your move when a professional mover performs the move. All of your moving costs must be supported by paid receipts or other evidence of expenses incurred. In addition to the transportation costs of your personal property, certain other expenses may also be reimbursable, such as packing, crating, unpacking and uncrating, and the disconnecting, dismantling, removing, reassembling, and

reinstalling relocated machinery, equipment, and other personal property.

Other expenses such as professional services necessary for planning and carrying out the move, temporary storage costs, and the cost of licenses, permits and certifications may also be reimbursable. This is not intended to be an all-inclusive list of moving related expenses. Your Relocation Agent can provide you with a complete explanation of reimbursable expenses.

Self-Move Agreement

If you agree to take full responsibility for all or part of the move of your business, farm, or nonprofit organization, the Department may approve a payment not to exceed the lower of two acceptable bids obtained by the Department from qualified moving firms or a qualified Department staff employee. A low-cost or uncomplicated move may be based on a single bid or estimate at the Department's discretion. The advantage of this moving option is the fact that it relieves the displaced business, farm, or nonprofit organization operator from documenting all moving expenses. The Department may make the payment without additional documentation as long as the payment is limited to the amount of

the lowest acceptable bid or estimate. Other expenses, such as professional services for planning, storage costs, and the cost of licenses, permits, and certifications may also be reimbursable if determined to be necessary. These latter expenses must be pre approved by the Relocation Agent.

Requirements:

Before you move, you must provide Caltrans with the:

- Certified inventory of all personal property to be moved.
- Date you intend to vacate the property.
- Address of the replacement property.
- Opportunity to monitor and inspect the move from the acquired property to the replacement property.

Related Expenses

1. Searching Expenses for Replacement

Property: Displaced businesses, farms, and nonprofit organizations are entitled to reimbursement for actual reasonable expenses incurred in searching for a replacement property, not to exceed \$2,500. Expenses may include transportation, meals, and lodging when away from home; the reasonable value of the time spent during the search; fees paid to the real estate agents, brokers or consultants; and other expenses determined to be reasonable and necessary by the Department.



2. Direct Loss of Tangible Personal Property:

Displaced businesses, farms, and nonprofit organizations may be eligible for a payment for the actual direct loss of tangible personal property which is incurred as a result of the move or discontinuance of the operation. This payment will be based upon the lesser of:

- a) The fair market value of the item for continued use at the displacement site minus the proceeds from its sale.

OR

- b) The estimated cost of moving and reinstalling the replaced item, based on the lowest acceptable bid or estimate obtained by the Department for eligible moving and related expenses, including dismantling and reassembly, but with no allowance for storage, cost of code requirement betterments or upgrades at the replacement site.

EXAMPLE:

You determine that the "document shredder" cannot be moved to the new location because of its condition, and you will not replace it at the new location.

Fair Market Value of the Document Shredder based on its use at the current location		\$ 1,500
Proceeds: Price received from selling the Document Shredder	-	<u>\$ 500</u>
Net Value		\$ 1,000

OR

Estimated cost to move	\$ 1,050
------------------------	----------

Based on the "lessor of", the amount of the "Loss of Tangible Personal Property" =	\$ 1,000
--	-----------------

Note: You are also entitled to all reasonable costs incurred in attempting to sell the document shredder (e.g. advertisement).

3. Purchase of Substitute Personal Property:

If an item of personal property, which is used as part of the business, farm, or nonprofit organization, is not moved but is promptly replaced with a substitute item that performs a

comparable function at the replacement site, the displacee is entitled to payment of the lesser of:

- a) The cost of the substitute item, including installation costs at the replacement site, minus any proceeds from the sale or trade-in of the replaced item;

OR

- b) The estimated cost of moving and reinstalling the replaced item, based on the lowest acceptable bid or estimate obtained by the Department for eligible moving and related expenses, including dismantling and reassembly, but with no allowance for storage, cost of code requirement betterments or upgrades at the replacement site.

EXAMPLE A:

You determine that the copying machine cannot be moved to the new location because it is now obsolete and you will replace it.

Cost of a substitute <i>Copying Machine</i> including installation costs at the replacement site.		\$ 3,000
Trade-in Allowance	-	<u>\$ 2,500</u>
Net Value		\$ 500

OR

Estimated cost to move		\$ 550
------------------------	--	--------

Based on the "lesser of", the amount of the "Substitute Personal Property" =		\$ 500
--	--	---------------

EXAMPLE B:

You determine that the chairs will not be used at the new location because they no longer match the décor and you will replace them.

Cost of substitute chairs		\$ 1,000
Proceeds: From selling the Chairs	-	<u>\$ 100</u>
Net Value		\$ 900

OR

Estimated cost to move \$ 200

Based on the "lesser of", the amount of
the "Substitute Personal Property" = \$ 200

Note: You are also entitled to all reasonable costs incurred in attempting to sell the document shredder (e.g. advertisement).

4. Disconnecting and Reinstallation: You will be reimbursed for your actual and reasonable costs to disconnect, dismantle, remove, reassemble and reinstall any machinery, equipment or other personal property in relation to its move to the new location. This includes connection to utilities available nearby and any modifications to the personalty that is necessary to adapt it to utilities at the replacement site.

5. Physical changes at the new location: You may be reimbursed for certain physical changes to the replacement property if the changes are necessary to permit the reinstallation of machinery or equipment necessary for the continued operation of the business. **Note:** *The changes cannot increase the value of the building*

for general purposes, nor can they increase the mechanical capability of the buildings beyond its normal requirements.

6. The cost of installing utilities from the right of way line to the structure(s) or improvements on the replacement site.

7. Marketing studies, feasibility surveys and soil testing.

8. One-time assessments or impact fees for anticipated heavy utility usage.

Reestablishment Expenses

A small business, farm or nonprofit organization may be eligible for a payment, not to exceed \$25,000, for expenses actually incurred in relocating and reestablishing the enterprise at a replacement site.

Reestablishment expenses may include, but are not limited to, the following:

1. Repairs or improvements to the replacement real property required by Federal, State or local laws, codes or ordinances.
2. Modifications to the replacement of real property to make the structure(s) suitable for the business operation.
3. Construction and installation of exterior signing to advertise the business.
4. Redecoration or replacement such as painting, wallpapering, paneling or carpeting when required by the condition of the replacement site or for aesthetic purposes.
5. Advertising the new business location.
6. The estimated increased costs of operation at the replacement site during the first two years, for items such as:
 - a) Lease or rental charges
 - b) Personal or real property taxes
 - c) Insurance premiums, and
 - d) Utility charges (excluding impact fees).

7. Other items that the Department considers essential for the reestablishment of the business or farm.

In-Lieu Payment (Fixed)

Displaced businesses, farms, and nonprofit organizations may be eligible for a fixed payment in lieu of (in place of) actual moving expenses, personal property losses, searching expense, and reestablishment expenses. The fixed payment may not be less than \$1,000 or more than \$40,000.

For a business to be eligible for a fixed payment, the Department must determine the following:

1. The business owns or rents personal property that must be moved due to the displacement.
2. The business cannot be relocated without a substantial loss of existing patronage.
3. The business is not part of a commercial enterprise having more than three other businesses engaged in the same or similar activity, which are under the same ownership and are not being displaced by the department.

4. The business contributed materially to the income of the displaced business operator during the two taxable years prior to displacement.

Any business operation that is engaged solely in the rental of space to others is not eligible for a fixed payment. This includes the rental of space for residential or business purposes.

Eligibility requirements for farms and nonprofit organizations are slightly different than business requirements. If you are being displaced from a farm or you represent a nonprofit organization and are interested in a fixed payment, please consult your relocation counselor for additional information.

Note: A nonprofit organization must substantiate that it cannot be relocated without a substantial loss of existing patronage (membership or clientele). The payment is based on the average of two years annual gross revenues less administrative expenses.

The Computation of Your In-Lieu Payment:

The fixed payment for a displaced business or farm is based upon the average annual net earnings of the operation for the two taxable

years immediately preceding the taxable year in which it was displaced. Caltrans can use a different two year period if it is determined that the last two taxable years do not accurately reflect the earnings of the operation.

EXAMPLE: Caltrans acquires your property and you move in 2013:

2011 Annual Net Earnings	\$ 10,500
2012 Annual Net Earnings	<u>\$ 12,500</u>
TOTAL	\$ 23,000
Average over two years	\$ 11,500

This would be the amount of your in-lieu payment. Remember - this is in-lieu of all other moving benefits. You must provide the Department with proof of net earnings to support your claim.

Proof of net earnings can be documented by income tax returns, certified financial statements, or other reasonable evidence of net earnings acceptable to the Department.

Note: The computation for nonprofit organizations differs in that the payment is computed on the basis of average annual gross revenues less administrative expenses for the two-year period specified above.

Before You Move:

- A. Complete a "Request for Determination of Entitlement" form available from your Relocation Agent, and return it promptly.
- B. Include a written statement of the reasons the business cannot be relocated without a substantial loss in net earnings.
- C. Provide certified copies of tax returns for the two tax years immediately preceding the tax year in which you move. (If you move anytime in the year 2013, regardless of when negotiations began or the State took title to the property, the taxable years would be 2011 and 2012).
- D. You will be notified of the amount you are entitled to after the application is received and approved.
- E. You cannot receive the payment until after you vacate the property, AND submit a claim for the payment within 18 months of the date of your move.

Relocation Advisory Assistance



Any business, farm or non-profit organization, displaced by Caltrans shall be offered relocation advisory assistance for the purpose of locating a replacement property. Relocation services are provided by qualified personnel employed by Caltrans. It is their goal and desire to be of service to you and assist in any way possible to help you successfully relocate.

A Relocation Agent from Caltrans will contact you personally. Relocation services and payments will be explained to you in accordance with your eligibility. During the initial interview with you, your needs and desires will be determined as well as your need for assistance.

You can expect to receive the following services, advice and assistance from your Relocation Agent who will:

- Determine your needs and preferences.
- Explain the relocation benefits and eligibility.
- Provide information on replacement properties for your consideration.
- Provide information on counseling you can obtain to help minimize hardships in adjusting to your new location.
- Assist you in completing loan documents, rental applications or Relocation Claims Forms.

AND provide information on:

- Security deposits.
- Interest rates and terms.
- Typical down payments.
- Permits, fees and local planning ordinances.
- SBA loan requirements.
- Real property taxes.
- Consumer education literature.

If you desire, your Relocation Agent will give you current listings of other available replacement property. Transportation will be provided to inspect available property, especially if you are elderly or handicapped. Though you may use the services of a real estate broker, Caltrans cannot provide a referral.

Your Relocation Agent is familiar with the services provided by others in your community and will provide information on other federal, state, and local programs offering assistance to displaced persons. If you have special needs, your Relocation Agent will make every effort to secure the services of those agencies with trained personnel who have the expertise to help you.

If the highway project will require a considerable number of people to be relocated, Caltrans will establish a temporary Relocation Field Office on or near the project. Project relocation offices will be open during convenient hours and evening hours if necessary.

In addition to these services, Caltrans is required to coordinate its relocation activities with other agencies causing displacements to ensure that all persons displaced receive fair and consistent relocation benefits.

Remember - YOUR RELOCATION AGENT is there to offer advice and assistance. Do not hesitate to ask questions. And be sure you fully understand all of your rights and available benefits.

YOUR RIGHTS AS A DISPLACEE

It is important to remember that your relocation benefits will not have an adverse effect on your:

- Social Security Eligibility
- Welfare Eligibility
- Income Taxes

In addition, the Title VIII of the Civil Rights Act of 1968 and later acts and amendments make discriminatory practices in the purchase and rental of most residential units illegal if based on race, color, religion, sex, or national origin.

Caltrans' Non-Discrimination Policy ensures that all services and/or benefits will be administered to the general public without regard to race, color, national origin, or sex in compliance with Title VI of the 1964 Civil Rights Act (42 USC 2000d. et seq.).

And you always have the Right to Appeal any decision by Caltrans regarding your relocation benefits and eligibility.

Your Right of Appeal is guaranteed in the "Uniform Act" which states that any person may file an appeal with the head of the responsible

agency if that person believes that the agency has failed to properly determine the person's eligibility or the amount of a payment authorized by the Act.

If you indicate your dissatisfaction, either verbally or in writing, Caltrans will assist you in filing an appeal and explain the procedures to be followed. You will be given a prompt and full opportunity to be heard. You have the right to be represented by legal counsel or other representative in connection with the appeal (but solely at your own expense).

Caltrans will consider all pertinent justifications and materials submitted by you and other available information needed to ensure a fair review. Caltrans will provide you with a written determination resulting from the appeal with an explanation of the basis for the decision. If you are still dissatisfied with the relief granted, Caltrans will advise you that you may seek judicial review.

Americans with Disabilities Act (ADA) Notice:

This document is available in alternative formats for people with physical disabilities. Please call (916) 654-5413, or write to 'Department of Transportation - Right of Way, MS-37, 1120 N Street, Sacramento, CA 95814,' for information.

NOTES:



Non-Residential (2nd Printing)
Effective October 1, 2014

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Appendix D. Consultation and Coordination

The following consultation and coordination actions that are included in this appendix were completed during the preparation of the environmental studies.

- Bay Area Air Quality Conformity Task Force
- Plan Bay Area 2050, List of 2021 Transportation Improvement Plan (TIP) Projects, Transportation Air Quality Conformity Analysis Report Appendix B (US 101/Produce Avenue Interchange project listing, from page 5 of 50)
- Caltrans correspondence submitted to the State Historic Preservation Officer

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From: [Fund Management System](#)
To: sundune.kim@ssi.fdot
Cc: [Fund Management System](#); [Harold Brazil](#)
Subject: FMS POAQC Project TIP ID SM-110003 (US 101/Produce Avenue New Interchange) update: Project is a not a POAQC
Date: Thursday, September 23, 2021 12:44:43 PM

Dear Project Sponsor

Based on the recent interagency consultation with the Air Quality Conformity Task force, Project TIP ID SM-110003 (FMS ID:4697.00) does not fit the definition of a project of air quality concern as defined by 40 CFR 93.123(b)(1) or 40 CFR 93.128 and therefore is not subject to PM2.5 project level conformity requirement. Please save this email as documentation confirming the project has undergone and completed the interagency consultation requirement for PM2.5 project level conformity. Note project sponsors are required to undergo a proactive public involvement process which provides opportunity for public review as outlined by 40 CFR 93.105(e). For projects that are not of air quality concern, a comment period is only required for project level conformity determinations if such a comment period would have been required under NEPA. For more information, please see FHWA PM2.5 Project Level Conformity Frequently Asked Questions (FAQ): https://urldefense.com/v3/___http://www.fhwa.dot.gov/environment/air_quality/conformity/reference/faqs/pm25faqs.cfm___!!ETWISUBM!jh7gxSVISUitiyC7c1gdqbooCjSAfExsh1zeUizgHumbspmmVHunra0JhMJzv3HTb6S

If you have any questions, please direct them to Harold Brazil at hbrazil@bayarecmetro.gov or by phone at 415-778-6747

List of 2021 TIP Projects

County	Sponsor	Project Title	Project Description	TIP ID	Air Quality Description	RTP ID	Conformity Analysis Year
San Mateo	SSF	US 101/Produce Avenue New Interchange	South San Francisco: On US Highway 101 from Utah Avenue on the east side to the vicinity of Produce Avenue on the west side: Construct a local interchange	SM-110003	NON-EXEMPT	21-T06-027	2025
Santa Clara	Caltrans	SCL-SM I-280 Pavement Preserv. and HOV Extension	Santa Clara and San Mateo Counties: On I-280 from Foothill Blvd(Santa Clara County PM 11.5) to 0.5 mile north of Sand Hill Rd(San Mateo County PM 2.1): Pavement rehab; On SB I-280 from near	SCL190034	NON-EXEMPT	21-T06-017	2025
Santa Clara	San Jose	San Jose - Autumn Street Extension	In San Jose: Autumn St between Julian Street and San Carlos Street: Widen, partially realign, and extend Autumn Street to adequately accommodate projected traffic demand.	SCL110006	NON-EXEMPT	21-T07-056	2050
Santa Clara	San Jose	US 101/Blossom Hill Interchange Improvements	San Jose: At US101/Blossom Hill I/C: Reconstruct I/C including the widening of Blossom Hill Rd, signal upgrades and other modifications to eliminate congestion caused by merge and weave problems and	SCL030006	NON-EXEMPT	21-T06-028	2025
Santa Clara	Santa Clara Co	Montague Expwy Widening - Trade Zone-Great Mall	Santa Clara County: Montague Expressway between Trade Zone and Great Mall Blvd: Widen roadway to 8 lanes	SCL090017	NON-EXEMPT	21-T07-056	2025
Santa Clara	VTA	BART - Berryessa to San Jose Extension	San Jose: From Berryessa Station to San Jose and Santa Clara: Extend BART line	BRT030001	NON-EXEMPT	21-T11-109	2030
Santa Clara	VTA	Calaveras Boulevard Widening	Milpitas: Calaveras Blvd. overpass at UPRR tracks from Abel St to Town Center Blvd: Widen from 4 to 6 lanes and modify signing, striping and signals	SCL190009	NON-EXEMPT	21-T07-056	2040
Santa Clara	VTA	Eastridge to BART Regional Connector	San Jose: At the Eastridge Transit Center: Ph I (completed) - Improve and expand transit center; Capitol Expwy Light Rail from Alum Rock Transit Center to Eastridge Transit Center: Ph II - Extend light rail,	SCL050009	NON-EXEMPT	21-T10-087	2025
Santa Clara	VTA	I-280 HOV - San Mateo County line to Magdalena Ave	Santa Clara County: On I-280 NB from the existing HOV lane near Magdalena Ave to the San Mateo County Line and SB from approximately 3200 ft north of the existing HOV lane near Magdalena Ave to the	SCL190004	NON-EXEMPT	21-T06-017	2040
Santa Clara	VTA	LRT Extension to Vasona Junction and Double Track	Campbell and San Jose: From the existing Winchester Station to a new Vasona Junction Station, near Route 85: Extend the light-rail line and double-track single-track sections of the Vasona line	SCL090040	NON-EXEMPT	21-T10-089	2040
Santa Clara	VTA	Santa Clara County - US 101 Express Lanes	In Santa Clara County: From Cochrane Rd. in Morgan Hill to San Mateo County line in Palo Alto: Implement roadway pricing on US 101 carpool lane	SCL110002	NON-EXEMPT	21-T12-116	2025
Santa Clara	VTA	SR 152 New Alignment	Santa Clara/ San Benito counties: SR152 between US101 and SR156: Complete PA&ED for new alignment the highway.	SCL090016	NON-EXEMPT	21-T06-042	Not Modelled
Santa Clara	VTA	SR 17 Congestion Relief in Los Gatos	Los Gatos: On both directions of SR 17 from Lark Ave to south of SR 9 IC: Construct aux lanes including modifications to on-ramps and off-ramps to improve operations and relieve congestion; Along SR-	SCL190014	NON-EXEMPT	21-T06-032	2030
Santa Clara	VTA	SR 237 WB Auxiliary Lane fr McCarthy to North 1st	Santa Clara County: SR 237 between McCarthy Boulevard and North First Street: Add westbound auxiliary lane	SCL190005	NON-EXEMPT	21-T06-043	2025
Santa Clara	VTA	SR 85 Express Lanes	Santa Clara County: On SR 85 carpool lane from US 101 in San Jose to US 101 in Mountain View including the US 101/SR 85 HOV direct connectors and approaches: Install ETS and implement roadway	SCL090030	NON-EXEMPT	21-T12-116	2025
Santa Clara	VTA	US 101/Buena Vista Avenue Interchange Improvement	Gilroy: At Buena Vista Ave. overcrossing at US 101: Construct a complete interchange by widening the overcrossing structure and adding new northbound and southbound on and off ramps.	SCL190010	NON-EXEMPT	21-T06-028	2030
Santa Clara	VTA	US 101/De L Cruz Blvd - Trimble Road I/C Imp	Santa Clara: At the US101/De La Cruz Blvd/Trimble Rd IC: Modify interchange into a partial cloverleaf.	SCL190008	NON-EXEMPT	21-T06-028	2025
Santa Clara	VTA	US 101/Zanker Road-Skyport Drive-N. Fourth St. Imp	San Jose: US101 at Zanker Rd/Skyport Dr./N. 4th St: Construct a new overcrossing over US 101 connecting Zanker Rd to Skyport Dr-N. Fourth St to create a new north-south corridor parallel to N. First St	SCL190007	NON-EXEMPT	21-T06-028	2030
Solano	Fairfield	Fairfield/Vacaville Intermodal Rail Station	Fairfield: Capitol Corridor: Construct train station with passenger platforms, pedestrian undercrossing, highway overcrossing, park and ride lot,bike and other station facilities. Project is phased.	SOL030002	NON-EXEMPT	21-T11-115	2025

Kubal, Kathleen

From: Palmer, Charles@DOT <Charles.Palmer@dot.ca.gov>
Sent: Friday, January 28, 2022 2:28 PM
To: OHP, CALSHPO@Parks
Cc: Lindquist, Natalie@Parks; Woodward, Lucinda@Parks; Perez, Alicia@Parks; Price, David@DOT; Busse, Lindsay@DOT; Rose, Kathryn@DOT; Blackmore, Helen@DOT; Kubal, Kathleen; Zimmerman, Jeff
Subject: [EXTERNAL] 106 U.S. 101/Produce Avenue Overcrossing Project, South San Francisco, San Mateo County

Dear Ms. Polanco,

Caltrans District 4 submitted, on December 9, 2021, the HPSR, ASR and HRER for the U.S. 101/Produce Avenue Overcrossing Project, South San Francisco, San Mateo County, containing the evaluations of five built resources that were determined not eligible for the National Register of Historic Places, and one built resource that was determined eligible (Golden Gate Produce Terminal, 131 Terminal Court, South San Francisco, APN 015-113-210).

Because more than 30 days have passed without objection, comment, or a request for an extension, Caltrans is notifying your office that we will move forward with the undertaking according to Stipulation VIII.C.6.a of the Section 106 PA. Please let me know if you have any questions.

Thank you,

Charles C. Palmer
Associate Environmental Planner/Principal Architectural Historian
Office of Cultural Resource Studies
Caltrans District 4 - Environmental Planning
(510) 847-2654

From: Palmer, Charles@DOT
Sent: Thursday, December 9, 2021 3:44 PM
To: OHP, CALSHPO@Parks <CALSHPO.OHP@parks.ca.gov>
Cc: Lindquist, Natalie@Parks <Natalie.Lindquist@parks.ca.gov>; Woodward, Lucinda@Parks <Lucinda.Woodward@parks.ca.gov>; Perez, Alicia@Parks <Alicia.Perez@parks.ca.gov>; Price, David@DOT <David.Price@dot.ca.gov>; Busse, Lindsay@DOT <lindsay.busse@dot.ca.gov>; Rose, Kathryn@DOT <kathryn.rose@dot.ca.gov>; Blackmore, Helen@DOT <Helen.Blackmore@dot.ca.gov>
Subject: 106 U.S. 101/Produce Avenue Overcrossing Project, South San Francisco, San Mateo County

Ms. Polanco,

The California Department of Transportation (Caltrans) is initiating consultation with you regarding the proposed project on United States Highway 101 in the City of South San Francisco, in San Mateo County (Undertaking).

A separate email is being sent with a link to the Historic Property Survey Report (HPSR), Archaeological Survey Report (ASR), and HRER for the proposed Undertaking. In accordance with Stipulation VIII.C.6 of the PA, Caltrans is requesting SHPO's concurrence with the National Register of Historic Places (NRHP) eligibility determinations for six properties within the Undertaking's Area of Potential Effect. Five properties have been determined ineligible for the NRHP, and one has been determined eligible.

Thank you,

Charles C. Palmer
Associate Environmental Planner/Principal Architectural Historian
Office of Cultural Resource Studies
Caltrans District 4 - Environmental Planning
(510) 847-2654

Appendix E. Environmental Commitment Record

To be sure that all of the environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated on the proposed Environmental Commitments Record [ECR] which follows) would be implemented. During project design, avoidance, minimization, and/or 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 commitments contained in this ECR are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring will take place, as applicable. As the following ECR is a draft, some fields have not been completed, and will be filled out as each of the measures is implemented. Note: Some measures may apply to more than one resource area. Duplicative or redundant measures have not been included in this ECR.

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Appendix E. Environmental Commitment Record

Resource Category	Task Number	Task Description	Applicable Alternatives	Responsible Branch	Measure Type (avoidance and minimization measure [AMM]; or compensation)	Mitigation for significant impacts under CEQA?	Project Phase
Aesthetics	VIS-01	Aesthetic Treatments. New structures, including the overcrossing structure and retaining walls, will match or enhance the aesthetics of the corridor through context-sensitive designs. The visual simulations in Section 2.2.9.3 show one potential design for the overcrossing structure, but specific aesthetic treatments will ultimately be determined during the detailed design phase.	Build Alternative	Design	AMM	No	Construction
Aesthetics	VIS-02	Construction Impact Measures. <ul style="list-style-type: none"> Contractor staging areas shall use unvegetated, preferably paved areas. The project requires acquisition of two parcels, at the IHOP Restaurant on South Airport Boulevard and the commercial building on San Mateo Avenue, and these properties would be available for contractor staging use. Place unsightly materials, equipment storage and staging so that they are not visible within the foreground of the highway corridor to the maximum extent feasible. Where such siting is unavoidable, material and equipment shall be visually screened to minimize visibility from the roadway and nearby sensitive off-road receptors. 	Build Alternative	Construction	AMM	No	Construction
Biological	BIO-01	Best Management Practices (BMPs). A water pollution control program (WPCP) and erosion control BMPs will be developed and implemented to minimize wind or water-related material discharges, in compliance with the requirements of the Regional Water Quality Control Board. The WPCP will provide measures to avoid and minimize stormwater and non-stormwater discharges; temporary construction BMPs will be used to the maximum extent necessary.	Build Alternative	Construction	AMM	No	Construction
Biological	BIO-02	Vegetation Removal. Vegetation removal is limited to landscaped plants, and will be minimized to the greatest extent feasible. No clearing or grubbing will be permitted beyond designated construction sites. All cleared vegetation will be removed from the BSA to avoid attracting wildlife. The contractor will be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing such materials.	Build Alternative	Construction	AMM	No	Construction

Appendix E. Environmental Commitment Record

Resource Category	Task Number	Task Description	Applicable Alternatives	Responsible Branch	Measure Type (avoidance and minimization measure [AMM]; or compensation)	Mitigation for significant impacts under CEQA?	Project Phase
Biological	BIO-03	<p>Tree Removal. To minimize effects on trees that occur within the project footprint, the following minimization measures will be implemented:</p> <ul style="list-style-type: none"> • Only those trees requiring removal will be cut down. • Whenever possible, trees will be trimmed rather than removed. <p>To avoid potential damage to retained trees, trees will be safeguarded during construction through implementation of the following measures as applicable:</p> <ul style="list-style-type: none"> • No construction equipment, vehicles, or materials will be stored, parked or staged within the tree dripline; and • Work will not be performed within the dripline of remaining trees. If trees are damaged during construction and become unhealthy or die, the damaged tree(s) will be removed and replaced. <p>During final design, Caltrans will develop a landscaping plan that will identify the location and number of trees that will be replanted within the ROW. Trees that are removed will be replaced at a 1:1 ratio if sufficient space and sight distance requirement allow for safe replacement.</p>	Build Alternative	Construction, Design	AMM	No	Construction
Biological	BIO-04	<p>ESA area at Colma Creek. The bed and banks of Colma Creek shall be identified in project plans as an ESA, where temporary and permanent work is prohibited. No temporary lighting for construction would be implemented at Colma Creek due to the ESA.</p>	Build Alternative	Construction, Biology	AMM	No	Preconstruction, Construction
Biological	BIO-05	<p>Preconstruction Nesting Bird Surveys. Tree removal or trimming will be conducted during the non-nesting period, between September 1 and January 31, to the maximum extent feasible. If vegetation trimming or tree removal cannot be completed prior to January 31 and must occur between February 1 and August 31, a qualified biologist(s) will survey for nesting birds, including raptors. The BSA will include the project footprint and a buffer approximately 300 feet beyond its boundaries. If active raptor nests are detected within 300 feet of an active construction site, or if active nests of other migratory birds are detected within 50 feet, the biological monitor will establish an appropriate non-disturbance buffer to avoid direct effects of construction-related disturbance. All nest avoidance requirements of the Migratory Bird Treaty Act and the California Fish and Game Code will be observed.</p>	Build Alternative	Biology	AMM	No	Preconstruction
Biological	BIO-06	<p>To eliminate attraction to predators of protected species, all food-related trash items (e.g., wrappers, cans, bottles, and food scraps) will be disposed in solid, closed containers (trash cans) and will be removed from the BSA at the end of each day.</p>	Build Alternative	Construction	AMM	No	Construction
Biological	BIO-07	<p>To prevent listed species from becoming entangled or trapped in erosion-control materials, plastic mono-filament netting (i.e., erosion-control matting or wattles) or similar material will not be used in the BSA. Straw wattles will be made of natural fiber, and no plastic or synthetic material will be used.</p>	Build Alternative	Construction	AMM	No	Construction

Appendix E. Environmental Commitment Record

Resource Category	Task Number	Task Description	Applicable Alternatives	Responsible Branch	Measure Type (avoidance and minimization measure [AMM]; or compensation)	Mitigation for significant impacts under CEQA?	Project Phase
Cultural	CUL-01	<p>During project construction, if previously unidentified cultural resources are unearthed, all earth-moving activity within and around the immediate discovery area will be halted until a qualified archaeologist can assess the nature and significance of the find.</p> <p>If remains are discovered during excavation, all work within 60 feet of the discovery will halt and Caltrans' Office of Cultural Resource Studies (OCRS) will be called. Caltrans OCRS staff will assess the remains and, if determined human, will contact the County Coroner as per Public Resources Code (PRC) Sections 5097.98, 5097.99, and 7050.5 of the California Health and Safety Code. If the Coroner determines the remains to be Native American, the Coroner will contact the Native American Heritage Commission who will assign a Most Likely Descendant. Caltrans will consult with the Most Likely Descendant on treatment and reburial of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.</p>	Build Alternative	Construction, Archaeology	AMM	No	Construction

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Appendix F. List of Acronyms and Abbreviations

AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
ADA	Americans with Disabilities Act
ADL	aerially deposited lead
ADT	Average Daily Traffic
AMM	avoidance, minimization, and mitigation measure
APE	Area of Potential Effect
APN	Assessor's Parcel Number
AQCTF	Air Quality Conformity Task Force
ARB	California Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BATA	Bay Area Toll Authority
Bay Plan	Bay Conservation and Development Commission San Francisco Bay Plan
BCDC	Bay Conservation and Development Commission
BMP	best management practices
Btu	British Thermal Unit
CAAQS	California Ambient Air Quality Standards
CAFÉ	Corporate Average Fuel Economy
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CCAA	California Clean Air Act
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDOC	California Department of Conservation
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CESA	California Endangered Species Act

Appendix F. List of Acronyms and Abbreviations

CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CHP	California Highway Patrol
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
CO _{2e}	carbon dioxide equivalent
CREC	Controlled Recognized Environmental Condition
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
creel	cumulative sound exposure level
CTP	California Transportation Plan
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibel
dBA	A-weighted decibel
DDT	dichlorodiphenyltrichloroethane
DPS	distinct population segment
DSA	disturbed soil area
DTSC	Department of Toxic Substances Control
EA	Environmental Assessment
EFH	essential fish habitat
EIA	United States Energy Information Administration
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMFAC	Emission Factors Model
ESA	Environmentally Sensitive Area
EO	Executive Order
ESU	evolutionarily significant unit
FCAA	Federal Clean Air Act
FE	federally listed as endangered
FEMA	Federal Emergency Management Act
FESA	Federal Endangered Species Act

Appendix F. List of Acronyms and Abbreviations

FHWA	Federal Highway Administration
FHWG	Fisheries Hydroacoustic Working Group
FIGR	Federated Indians Graton Rancheria
FIRM	Flood Insurance Rate Map
FMP	Fisheries Management Plan
FONSI	Finding of No Significant Impact
FP	Fully Protected species
FPPA	Farmland Protection Policy Act
FR	Federal Register
FT	federally listed as threatened
FTIP	Federal Transportation Improvement Program
GHG	greenhouse gas
GP	general purpose
GWP	global warming potential
HAS	hydrologic subarea
HCP	Habitat Conservation Plan
HFC	hydrofluorocarbons
HOV	high-occupancy vehicle
HREC	Historical Recognized Environmental Condition
H&SC	Health and Safety Code
I-80	Interstate 80
I-580	Interstate 580
in/sec	inch per second
ISA	Initial Site Assessment
KV	key view
lbs/day	pounds per day
LCFS	low carbon fuel standard
LEDPA	least environmentally damaging practicable alternative
Leq[h]	Hourly Equivalent Sound Level
LOS	Level of Service
Management Program	Management Program for the San Francisco Bay Segment of the California Coastal Zone
MBTA	Migratory Bird Treaty Act
µg/m ³	micrograms per cubic meter

Appendix F. List of Acronyms and Abbreviations

MGS	Midwest Guard Rail System
MHHW	mean higher high water
MMB	movable median barrier
MMT	million metric tons
MMTCO _{2e}	million metric tons of carbon dioxide equivalent
MOU	Memorandum of Understanding
mph	miles per hour
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MS4	municipal separate storm sewer system
MSA	Magnuson-Stevens Fishery Conservation and Management Act of 1976
MSAT	mobile source air toxics
MT	metric ton
MTC	Metropolitan Transportation Commission
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NAC	noise abatement criteria
NAVD88	North American Vertical Datum of 1988
NCST	National Center for Sustainable Transportation
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NNIP	nonnative invasive plant
NOAA	National Oceanic and Atmospheric Administration
NO ₂	nitrogen dioxide
NO _x	oxides of nitrogen
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NSGA	Naval Security Group Activity
O ₃	ozone
OHWM	ordinary high water mark

Appendix F. List of Acronyms and Abbreviations

OPC	Ocean Protection Council
ORT	Open Road Tolling
OSHA	Occupational Safety and Health Act
PA	Programmatic Agreement
PAD	Passage Assessment Database
PCB	polychlorinated biphenyl
PDA	priority development area
PDT	Project Development Team
PEL	Planning and Environmental Linkages Study
PG&E	Pacific Gas and Electric Company
PIR/PER	Paleontological Identification Report/Paleontological Evaluation Report
PM	post mile
PM	particulate matter
PM ₁₀	particulate matter 10 micrometers or smaller
PM _{2.5}	particulate matter 2.5 micrometers and smaller
POAQC	project of Air Quality Concern
POM	polycyclic organic matter
ppm	parts per million
ppt	parts per thousand
PPV	peak particle velocity
PRC	Public Resources Code
PS and E	Plans, Specifications, and Estimates
PSI	preliminary site investigation
PSR-PDS	Project Study Report-Project Development Support
RAP	Relocation Assistance Program
RCEM	Sacramento Metropolitan Air Quality Management District's Road Construction Model
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
Refuge	San Pablo Bay National Wildlife Refuge
ROG	reactive organic gas
RTP	regional transportation plan
RWQCB	Regional Water Quality Control Board

Appendix F. List of Acronyms and Abbreviations

SAFE	Safer Affordable Fuel-Efficient
SB	Senate Bill
SCS	Sustainable Communities Strategy
SDC	Seismic Design Criteria
SE	state-listed as endangered
SEL	sound exposure level
SF6	sulfur hexafluoride
SFBAAB	San Francisco Bay Area Air Basin
SFEI	San Francisco Estuary Institute
SFHA	Special Flood Hazard Area
SFRWQCB	San Francisco Bay Regional Water Quality Control Board
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLC	State Land Commission
SLR	sea-level rise
SO ₂	sulfur dioxide
SOV	single-occupancy vehicle
SR	State Route
SSC	Species of Special Concern
ST	state-listed as threatened
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCE	temporary construction easement
TDM	Transportation Demand Management
TIP	Transportation Improvement Program
TM1	Travel Model One
TMDL	total maximum daily load
TMP	transportation management plan
TSM	Traffic Systems Management
U.S. EPA	United States Environmental Protection Agency
UAIC	United Auburn Indian Community
UCMP	University of California Museum of Paleontology
US 101	United States Highway 101

Appendix F. List of Acronyms and Abbreviations

USACE	United States Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGCRP	United States Global Change Research Program
USGS	United States Geological Survey
UST	Underground Storage Tank
UXO	unexploded ordnance
VDECS	Verified Diesel Emissions Control Strategy
VHD	vehicle hours of delay
VHT	vehicle hours traveled
VMT	vehicle miles traveled
vph	vehicles per hour
WDR	Waste Discharge Requirements
WEF	wildlife exclusion fencing
WPCP	water pollution control program

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Appendix G. Notice of Preparation

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Notice of Preparation

Notice of Preparation

To: State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

From: California Dept. of Transportation
111 Grand Ave, MS 8-B
Oakland, CA 94612

Subject: Notice of Preparation of a Draft Environmental Impact Report

California Dept. of Transportation (Caltrans) District 4 will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study (is is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Tanvi.Gupta@dot.ca.gov at the address shown above. We will need the name for a contact person in your agency.

Project Title: _____

Project Applicant, if any: _____

Date 8/4/2021

Signature 

Title Zach Gifford

Telephone 510-506-1264

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

Notice of Preparation of an Environmental Impact Report

U.S. 101/Produce Avenue Interchange Project

The California Department of Transportation (Caltrans) District 4 is preparing an Environmental Impact Report (EIR) consistent with the requirements of the California Environmental Quality Act (CEQA), and a joint Environmental Assessment (EA) to meet the requirements of the National Environmental Policy Act (NEPA). The purpose of this Notice of Preparation (NOP) is to notify agencies, organizations, and individuals of this intent, and request input on the scope and content of the proposed EIR/EA.

Scoping Period for Receipt of Comments

Comments must be received by September 9, 2021. Send written comments to:

Caltrans District 4
Attn: Tanvi Gupta
P.O. Box 23660, MS 8B
Oakland, CA 94623-0660

Or by email to: Tanvi.Gupta@dot.ca.gov

Virtual Scoping Meeting

A virtual scoping meeting will be held on Tuesday, August 24, 2021, from 6:00 to 7:30 PM. At the meeting, attendees can ask questions about the project. However, questions and discussion at the meeting are not considered scoping comments and all scoping comments must be submitted by mail, e-mail, or at the project website to be shared with the entire project development team. Attendance at the virtual scoping meeting is not required to submit comments. Please visit <http://www.ssf.net/101Produce> for more information about the project and to join the virtual scoping meeting.

Project Description

The City of South San Francisco, and the San Mateo County Transportation Authority (SMCTA), are the sponsors of the US 101/Produce Avenue Interchange Project (the project), located in the City of South San Francisco, San Mateo County. The project area is shown in Figure 1. The California Department of Transportation is the lead agency responsible for the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) review and approval.

The project is considering one Build Alternative and a No Build alternative. The Build Alternative would include a new US 101 overcrossing extending from the Utah Avenue/South Airport Boulevard intersection to San Mateo Avenue (referred to as the Utah Avenue extension). The overcrossing would provide two lanes in each direction as well as sidewalks and Class II bike lanes.

The intersections at S. Airport Boulevard/Utah Avenue and San Mateo Avenue/Utah Avenue would also be reconstructed to include turning lanes and connect to the new overcrossing. The Airport Boulevard/Produce Avenue/San Mateo Avenue intersection would be modified, or reconstructed, to include new through lanes and turning lanes.

Bicycle and Pedestrian Improvements

The Build Alternative would include the following new bicycle and pedestrian facilities:

- Class II bike lanes would be constructed in each direction on Utah Avenue between San Mateo Avenue and South Airport Boulevard. Bike lanes would also extend for several hundred feet north and south on South Airport Boulevard and Utah Avenue east of South Airport Boulevard.
- Sidewalks would be constructed on the overcrossing and would extend along Utah Avenue on both sides of US 101 connecting to pedestrian facilities at the Utah Avenue/San Mateo Avenue intersection west of US 101 and the Utah Avenue/South Airport Boulevard intersection east of US 101.
- Signalized crosswalks would be constructed at the intersections of Utah Avenue/South Airport Boulevard and Utah Avenue/San Mateo Avenue.
- The signals at the intersections of Airport Boulevard and Produce Avenue and Produce and San Mateo Avenue would be modified. Class II bike lanes would be added to San Mateo Avenue and South Airport Boulevard at these intersections to separate bikes from vehicles making right turns. Sidewalks and pedestrian crossings would be provided in all directions (with the exception of the southbound freeway off and on ramps connecting to S. Airport Boulevard).

All project improvements would be designed following the applicable provisions of the Americans with Disabilities Act (ADA).

Property Acquisitions and Changes

No residential property acquisitions or residential temporary construction easements are currently anticipated as part of the project. However, the Build Alternative may require full or partial property acquisitions, as well as permanent easements to accommodate the proposed overcrossing structure and intersection improvements. Non-residential temporary construction easements may also be required as part of the Build Alternative.

No Build (No Action) Alternative

The No Build Alternative assumes no modifications would be made to the current Utah Avenue or improvements made to local roadway intersections, other than routine maintenance and rehabilitation of the facility and any currently planned and programmed projects within the City of South San Francisco.

The No Build Alternative would not alleviate current and future traffic or improve traffic on local streets. It would not enhance vehicular, pedestrian or bicycle safety and would not provide a local east-west connection across US 101 to help serve commercial and pedestrian traffic.

Anticipated Permits and Approvals

The following environmental permits and approvals have been identified as potentially be required for project construction:

- **Bay Area Air Quality Task Force:** Demonstration of the project's conformity to Clean Air Act and other requirements.
- **State Historic Preservation Officer (SHPO):** Concurrence on findings with respect to historic resources and requirements of Section 106 of the National Historic Preservation Act.
- **San Francisco Bay Regional Water Quality Control Board (RWQCB Region 2):** Section 401 Water Quality Certification; National Pollutant Discharge Elimination System (NPDES) approval for work greater than one acre.

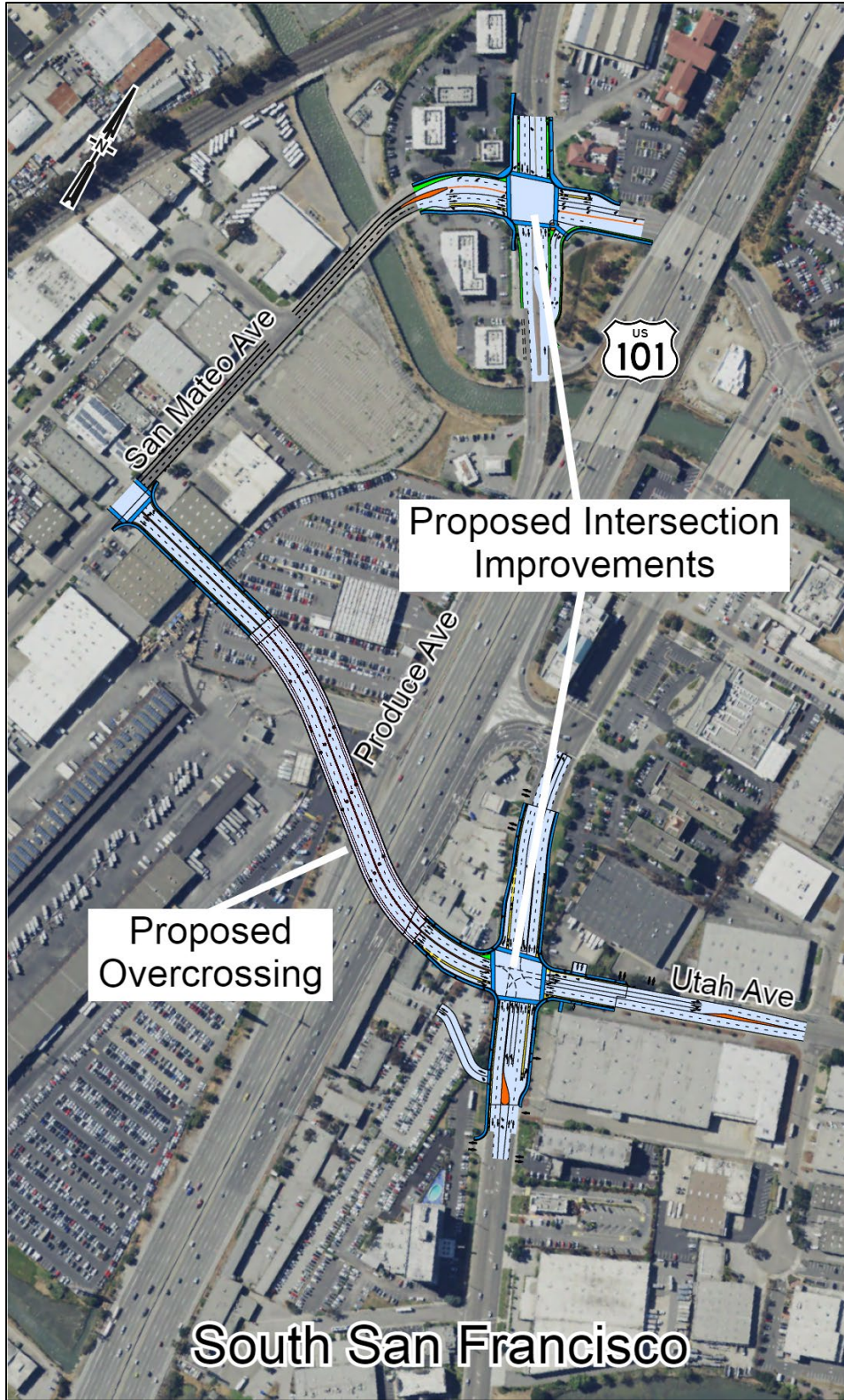


Figure 1: Project Location Map

Potential Environmental Effects/Topics to be Studied

Based on preliminary surveys and information, Caltrans identified the following main subject areas for analysis in the EIR/EA. The scope of environmental analysis could be modified based on input from this Notice of Preparation and project scoping.

- Aesthetics
- Air Quality
- Biological Resources
- Climate Change
- Community
- Cultural Resources
- Energy
- Greenhouse Gas Emissions
- Hazards & Hazardous Materials
- Hydrology/Water Quality
- Land Use/Planning
- Noise
- Tribal Cultural Resources
- Paleontology
- Public Services
- Recreation
- Transportation, Bicycle, and Pedestrian Travel
- Utilities/Service Systems
- Mandatory Findings of Significance Construction-Related Impacts

Appendix H. USFWS and NOAA Fisheries Service Species Lists

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Project Code: 2022-0051169
Project Name: US 101/Produce Avenue project

June 07, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2))

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Project Code: 2022-0051169

Event Code: None

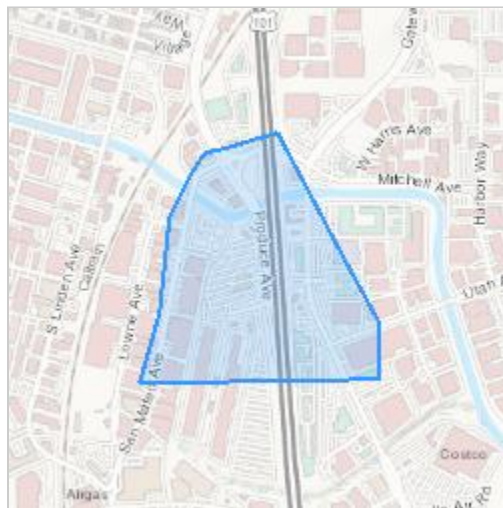
Project Name: US 101/Produce Avenue project

Project Type: Road/Hwy - New Construction

Project Description: This project would include a new US 101 overcrossing extending from the Utah Avenue/South Airport Boulevard intersection to San Mateo Avenue (referred to as the Utah Avenue extension). The intersections at South Airport Boulevard/Utah Avenue and San Mateo Avenue/Utah Avenue would also be reconstructed to include turning lanes and connect to the new overcrossing. The Airport Boulevard/Produce Avenue/San Mateo Avenue intersection would be modified, or reconstructed.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@37.64732031673966,-122.40718612363415,14z>



Counties: San Mateo County, California

Endangered Species Act Species

There is a total of 18 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Salt Marsh Harvest Mouse <i>Reithrodontomys raviventris</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/613	Endangered

Birds

NAME	STATUS
California Clapper Rail <i>Rallus longirostris obsoletus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Marbled Murrelet <i>Brachyramphus marmoratus</i> Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
San Francisco Garter Snake <i>Thamnophis sirtalis tetrataenia</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5956	Endangered

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Tidewater Goby <i>Eucyclogobius newberryi</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
California Seablite <i>Suaeda californica</i> Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6310	Endangered
Franciscan Manzanita <i>Arctostaphylos franciscana</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5350	Endangered
Presidio Manzanita <i>Arctostaphylos hookeri</i> var. <i>ravenii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7216	Endangered
Robust Spineflower <i>Chorizanthe robusta</i> var. <i>robusta</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/9287	Endangered
San Francisco Lessingia <i>Lessingia germanorum</i> (= <i>L.g.</i> var. <i>germanorum</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8174	Endangered
Showy Indian Clover <i>Trifolium amoenum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6459	Endangered
White-rayed Pentachaeta <i>Pentachaeta bellidiflora</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7782	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: California Department of Transportation District 4
Name: David Pecora
Address: 300 Lakeside Drive
Address Line 2: Suite 400
City: Oakland
State: CA
Zip: 94612
Email: david.pecora@aecom.com
Phone: 5107546453

Pecora, David

From: Pecora, David
Sent: Tuesday, June 07, 2022 9:11 AM
To: nmfs.wcrca.specieslist@noaa.gov
Subject: US 101/Produce Ave Project

Federal Agency: Federal Highway Administration – California Division
Federal Agency Address: 650 Capitol Mall, Suite 4-100, Sacramento, CA 95814-4708
Non-Federal Agency Representative: California Department of Transportation
Non-Federal Agency Address: Caltrans District 04, 111 Grand Ave, Oakland, CA 94612
Non-federal agency conducting biological studies: AECOM, 300 Lakeside Drive, Suite 400, Oakland, CA 94612, USA
Point of contact: Tierra Groff, Biologist at AECOM, 510-768-9067, tierra.groff@aecom.com
Project Name: US 101/Produce Ave Project

Quad Name **San Francisco South**
Quad Number **37122-F4**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) - **X**
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) - **X**
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat - **X**
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

ESA Marine Invertebrates

Range Black Abalone (E) - **X**
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat - **X**

ESA Sea Turtles

East Pacific Green Sea Turtle (T) - **X**
Olive Ridley Sea Turtle (T/E) - **X**
Leatherback Sea Turtle (E) - **X**
North Pacific Loggerhead Sea Turtle (E) - **X**

ESA Whales

Blue Whale (E) - **X**
Fin Whale (E) - **X**
Humpback Whale (E) - **X**
Southern Resident Killer Whale (E) - **X**
North Pacific Right Whale (E) - **X**
Sei Whale (E) - **X**
Sperm Whale (E) - **X**

ESA Pinnipeds

Guadalupe Fur Seal (T) - **X**
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - **X**
Chinook Salmon EFH - **X**
Groundfish EFH - **X**
Coastal Pelagics EFH - **X**

Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

**See list at left and consult the NMFS Long Beach office
562-980-4000**

MMPA Cetaceans - **X**

MMPA Pinnipeds - **X**

NOTE NEW PHONE # BELOW

David Pecora

he, him, his

Senior Biologist

973-525-9976

david.pecora@aecom.com

AECOM

300 Lakeside Drive, Suite 400

Oakland, CA 94612, U.S.

aecom.com

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Appendix I. List of Technical Studies

The following technical studies were prepared in support of this document and project.

Air Quality Report, Baseline Environmental Consulting, April 2022

Archaeological Survey Report, AECOM, November 2021

Community Impact Assessment, AECOM, December 2020

Energy Analysis Report, AECOM, March 2022

Historic Property Survey Report, AECOM, November 2021

Historic Resource Evaluation Report, AECOM, November 2021

Initial Site Assessment (Hazardous Materials), AECOM, November 2021

Location Hydraulic Study, WRECO, March 2021

Natural Environment Study, AECOM, November 2020

Noise Study Report, Illingworth & Rodkin, February 2022

Noise Abatement Determination Report, AECOM, March 2022

Paleontological Evaluation Report, AECOM, November 2020

Preliminary Geotechnical Design Report, AECOM, 2021

Visual Impact Assessment, AECOM, November 2021

Water Quality Assessment Report, WRECO, October 2021

Traffic Operations Analysis Report, AECOM, July 2022

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Appendix J. 2025 and 2045 Traffic Conditions

Note: Study intersections below Caltrans acceptable standard level of service (LOS C/D or better) are shown in bold.

Table J-1 Year 2025 No Build and Build Intersection Movement LOS²³

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Eastbound Right Turn	36.9	D	38.0	D	25.8	C	22.1	C
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Westbound Left Turn	19.2	B	20.6	C	21.2	C	17.3	B
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Westbound Through	21.0	C	22.4	C	26.6	C	21.1	C
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Westbound Right Turn	22.9	C	15.1	B	NA	NA	NA	NA
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Northbound Left Turn	45.2	D	45.8	D	41.4	D	34.0	C
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Northbound Through	45.2	D	46.6	D	39.6	D	35.5	D
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Southbound Through	32.8	C	32.6	C	19.6	B	18.5	B
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Southbound Right Turn	4.4	A	5.2	A	5.7	A	5.4	A
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Total	28.2	C	29.5	C	28.1	C	24.6	C
2	Airport Blvd. and E. Grand Ave.	Eastbound Left Turn	31.2	C	31.7	C	44.1	D	49.8	D
2	Airport Blvd. and E. Grand Ave.	Eastbound Through	29.5	C	31.7	C	40.7	D	37.0	D

²³ NA = Not Applicable

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
2	Airport Blvd. and E. Grand Ave.	Eastbound Right	16.1	B	20.7	C	9.6	A	9.1	A
2	Airport Blvd. and E. Grand Ave.	Westbound Left Turn	38.9	D	41.0	D	54.7	D	53.3	D
2	Airport Blvd. and E. Grand Ave.	Westbound Through	42.7	D	39.5	D	48.2	D	46.6	D
2	Airport Blvd. and E. Grand Ave.	Westbound Right Turn	8.9	A	8.2	A	29.2	C	29.0	C
2	Airport Blvd. and E. Grand Ave.	Northbound Left Turn	31.7	C	36.9	D	44.4	D	51.6	D
2	Airport Blvd. and E. Grand Ave.	Northbound Through	44.7	D	47.6	D	57.2	E	65.2	E
2	Airport Blvd. and E. Grand Ave.	Northbound Right Turn	3.6	A	3.5	A	3.6	A	4.3	A
2	Airport Blvd. and E. Grand Ave.	Southbound Left Turn	35.7	D	34.6	C	55.0	E	48.0	D
2	Airport Blvd. and E. Grand Ave.	Southbound Through	36.7	D	35.4	D	61.3	E	54.0	D
2	Airport Blvd. and E. Grand Ave.	Southbound Right Turn	15.3	B	15.9	B	27.5	C	22.0	C
2	Airport Blvd. and E. Grand Ave.	Total	30.0	C	30.8	C	47.6	D	47.5	D
3	Dubuque Ave. and E. Grand Ave.	Eastbound Left Turn	46.6	D	50.6	D	54.3	D	55.6	E
3	Dubuque Ave. and E. Grand Ave.	Eastbound Through	3.5	A	3.5	A	29.1	C	28.2	C
3	Dubuque Ave. and E. Grand Ave.	Westbound Through	9.8	A	9.8	A	50.7	D	37.9	D
3	Dubuque Ave. and E. Grand Ave.	Westbound Right Turn	10.2	B	9.3	A	86.4	F	61.5	E

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
3	Dubuque Ave. and E. Grand Ave.	Southbound Left Turn	43.5	D	44.6	D	62.6	E	52.0	D
3	Dubuque Ave. and E. Grand Ave.	Southbound Right Turn	43.6	D	44.4	D	53.0	D	50.1	D
3	Dubuque Ave. and E. Grand Ave.	Total	11.5	B	11.7	B	51.2	D	39.8	D
4	Grand Ave. and E. Grand Ave.	Eastbound Through	17.0	B	16.5	B	39.5	D	31.3	C
4	Grand Ave. and E. Grand Ave.	Eastbound Right Turn	13.5	B	14.6	B	38.2	D	25.4	C
4	Grand Ave. and E. Grand Ave.	Westbound Left Turn	42.0	D	43.9	D	62.7	E	66.4	E
4	Grand Ave. and E. Grand Ave.	Westbound Through	13.7	B	14.3	B	25.3	C	15.6	B
4	Grand Ave. and E. Grand Ave.	Northbound Left Turn	15.2	B	14.3	B	81.4	F	42.2	D
4	Grand Ave. and E. Grand Ave.	Northbound Right Turn	3.5	A	3.6	A	9.4	A	2.8	A
4	Grand Ave. and E. Grand Ave.	Total	13.5	B	13.4	B	35.8	D	21.0	C
5	Gateway Blvd. and E. Grand Ave.	Eastbound Left Turn	36.6	D	35.4	D	59.8	E	51.4	D
5	Gateway Blvd. and E. Grand Ave.	Eastbound Through	32.4	C	33.6	C	30.8	C	29.9	C
5	Gateway Blvd. and E. Grand Ave.	Eastbound Right Turn	28.1	C	28.9	C	22.4	C	21.0	C
5	Gateway Blvd. and E. Grand Ave.	Westbound Left Turn	46.7	D	46.9	D	42.5	D	36.5	D
5	Gateway Blvd. and E. Grand Ave.	Westbound Through	32.7	C	34.3	C	20.2	C	18.4	B

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
5	Gateway Blvd. and E. Grand Ave.	Westbound Right Turn	6.1	A	7.0	A	6.3	A	5.9	A
5	Gateway Blvd. and E. Grand Ave.	Northbound Left Turn	46.1	D	46.1	D	60.2	E	49.3	D
5	Gateway Blvd. and E. Grand Ave.	Northbound Through	43.4	D	43.9	D	34.4	C	36.4	D
5	Gateway Blvd. and E. Grand Ave.	Northbound Right Turn	21.0	C	22.3	C	6.8	A	6.8	A
5	Gateway Blvd. and E. Grand Ave.	Southbound Left Turn	46.9	D	50.3	D	49.8	D	44.5	D
5	Gateway Blvd. and E. Grand Ave.	Southbound Through	34.9	C	37.9	D	44.4	D	34.4	C
5	Gateway Blvd. and E. Grand Ave.	Southbound Right Turn	3.2	A	3.2	A	27.9	C	8.9	A
5	Gateway Blvd. and E. Grand Ave.	Total	33.0	C	34.3	C	29.6	C	24.7	C
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Eastbound Left Turn	48.3	D	48.2	D	45.9	D	43.6	D
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Eastbound Through	45.7	D	46.6	D	42.7	D	36.5	D
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Eastbound Right Turn	9.5	A	17.2	B	8.3	A	28.7	C
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Westbound Left Turn	37.3	D	40.9	D	35.6	D	37.2	D
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Westbound Through	37.8	D	70.9	E	30.0	C	30.1	C
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Westbound Right Turn	4.9	A	7.9	A	5.9	A	10.6	B

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Northbound Left Turn	52.3	D	58.5	E	49.1	D	52.9	D
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Northbound Through	57.1	E	57.9	E	30.9	C	28.6	C
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Northbound Right Turn	14.5	B	10.4	B	5.9	A	6.5	A
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Southbound U-Turn	12.2	B	12.0	B	33.4	C	46.2	D
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Southbound Left Turn	16.3	B	14.5	B	31.3	C	41.1	D
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Southbound Through	21.3	C	20.8	C	42.0	D	34.8	C
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Southbound Right Turn	4.8	A	5.0	A	3.7	A	6.1	A
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Total	25.6	C	24.9	C	30.5	C	30.3	C
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Eastbound U-Tun	97.9	F	88.0	F	72.9	E	35.5	D
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Eastbound Left Turn	98.4	F	85.6	F	57.4	E	45.0	D
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Eastbound Through	78.4	E	62.8	E	40.3	D	31.4	C
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Eastbound Right Turn	33.2	C	19.6	B	16.9	B	11.5	B
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Westbound Left Turn	48.4	D	46.9	D	78.1	E	55.4	E
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Westbound Through	32.6	C	35.5	D	55.2	E	37.3	D

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Westbound Right Turn	22.6	C	24.5	C	45.3	D	30.1	C
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Northbound U-Turn	NA	NA	33.7	C	NA	NA	37.3	D
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Northbound Left Turn	32.1	C	33.7	C	42.7	D	34.5	C
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Northbound Through	44.0	D	44.0	D	35.0	D	29.7	C
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Northbound Right Turn	32.4	C	33.2	C	5.2	A	6.9	A
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Southbound Left Turn	43.9	D	41.2	D	43.5	D	56.4	E
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Southbound Through	45.5	D	50.2	D	42.3	D	53.6	D
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Southbound Right Turn	10.0	B	12.1	B	27.0	C	24.6	C
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Total	43.4	D	40.3	D	38.6	D	34.7	C
8	Produce Ave. and 101 SB Off Ramp	Westbound Left Turn	10.5	B	9.6	A	16.2	C	15.8	C
8	Produce Ave. and 101 SB Off Ramp	Westbound Right Turn	5.8	A	6.5	A	2.2	A	2.0	A
8	Produce Ave. and 101 SB Off Ramp	Northbound Through	8.1	A	7.9	A	9.0	A	9.4	A
8	Produce Ave. and 101 SB Off Ramp	Southbound Through	3.3	A	2.0	A	4.5	A	2.6	A
8	Produce Ave. and 101 SB Off Ramp	Total	4.4	A	3.8	A	4.4	A	2.8	A

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
9	Produce Ave./ 101 SB On Ramp and Terminal Ct.	Eastbound Left Turn	19.7	C	24.7	C	81.8	F	88.9	F
9	Produce Ave./ 101 SB On Ramp and Terminal Ct.	Eastbound Right Turn	8.2	A	9.5	A	43.6	E	40.5	E
9	Produce Ave./ 101 SB On Ramp and Terminal Ct.	Southbound Through	3.0	A	2.9	A	4.3	A	4.7	A
9	Produce Ave./ 101 SB On Ramp and Terminal Ct.	Southbound Right Turn	2.4	A	2.4	A	3.3	A	4.2	A
9	Produce Ave./ 101 SB On Ramp and Terminal Ct.	Total	4.1	A	4.5	A	5.5	A	5.8	A
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Eastbound Left Turn	43.3	D	33.4	C	38.7	D	55.0	E
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Eastbound Through	42.2	D	37.7	D	32.3	C	45.1	D
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Eastbound Right Turn	45.3	D	24.9	C	36.4	D	17.1	B
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Westbound Left Turn	58.8	E	56.7	E	39.8	D	54.5	D
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Westbound Through	48.9	D	58.4	E	38.4	D	57.9	E
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Westbound Right Turn	14.3	B	12.7	B	6.2	A	4.9	A
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Northbound U-Turn	71.7	E	NA	NA	116.3	F	NA	NA
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Northbound Left Turn	65.8	E	52.6	D	118.0	F	102.7	F
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Northbound Through	27.4	C	22.1	C	48.2	D	58.6	E

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Northbound Right Turn	24.0	C	14.2	B	12.7	B	30.6	C
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Southbound U-Turn	90.1	F	68.6	E	52.9	D	49.6	D
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Southbound Left Turn	95.0	F	71.1	E	44.2	D	55.3	E
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Southbound Through	59.8	E	44.1	D	30.3	C	48.1	D
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Southbound Right Turn	30.1	C	20.2	C	19.6	B	30.6	C
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Total	46.2	D	33.4	C	48.8	D	58.0	E
11	San Mateo Ave. / Utah Ave.	Eastbound	NA	NA	NA	NA	NA	NA	NA	NA
11	San Mateo Ave. / Utah Ave.	Westbound Left Turn	NA	NA	18.1	B	NA	NA	13.2	B
11	San Mateo Ave. / Utah Ave.	Westbound Through	NA	NA	0.2	A	NA	NA	NA	NA
11	San Mateo Ave. / Utah Ave.	Westbound Right Turn	NA	NA	7.3	A	NA	NA	6.6	A
11	San Mateo Ave. / Utah Ave.	Northbound Through	NA	NA	11	B	NA	NA	9.6	A
11	San Mateo Ave. / Utah Ave.	Northbound Right Turn	NA	NA	8	A	NA	NA	6.8	A
11	San Mateo Ave. / Utah Ave.	Southbound Left Turn	NA	NA	19.6	B	NA	NA	5.9	A
11	San Mateo Ave. / Utah Ave.	Southbound through	NA	NA	8.4	A	NA	NA	5.7	A
11	San Mateo Ave. / Utah Ave.	Total	NA	NA	10.9	B	NA	NA	8.3	A

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
14	South Airport Blvd. and Utah Ave.	Eastbound Left Turn	44.8	D	46.9	D	46.6	D	44.6	D
14	South Airport Blvd. and Utah Ave.	Eastbound Through	39.0	D	61.2	E	49.7	D	46.1	D
14	South Airport Blvd. and Utah Ave.	Eastbound Right Turn	6.1	A	34.5	C	16.8	B	25.2	C
14	South Airport Blvd. and Utah Ave.	Westbound Left Turn	17.0	B	31.6	C	28.3	C	22.8	C
14	South Airport Blvd. and Utah Ave.	Westbound Through	6.6	A	31.6	C	17.2	B	62.2	E
14	South Airport Blvd. and Utah Ave.	Westbound Right Turn	7.4	A	12.9	B	32.7	C	62.9	E
14	South Airport Blvd. and Utah Ave.	Northbound U-Turn	45.6	D	74.2	E	253.3	F	446.6	F
14	South Airport Blvd. and Utah Ave.	Northbound Left Turn	67.6	E	58.9	E	251.6	F	457.4	F
14	South Airport Blvd. and Utah Ave.	Northbound Through	46.3	D	29.4	C	208.1	F	475.7	F
14	South Airport Blvd. and Utah Ave.	Northbound Right-Turn	25.4	C	23.0	C	100.8	F	341.6	F
14	South Airport Blvd. and Utah Ave.	Southbound Left Turn	40.8	D	46.4	D	34.6	C	52.0	D
14	South Airport Blvd. and Utah Ave.	Southbound Through	22.5	C	14.2	B	19.1	B	35.9	D
14	South Airport Blvd. and Utah Ave.	Southbound Right Turn	17.9	B	4.5	A	17.5	B	14.7	B
14	South Airport Blvd. and Utah Ave.	Total	29.3	C	25.8	C	63.6	E	116.0	F

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
15	Harbor Way and Utah Ave.	Eastbound Left Turn	17.8	C	19.3	C	9.4	A	10.5	B
15	Harbor Way and Utah Ave.	Eastbound Through	18.3	C	20.5	C	9.5	A	10.4	B
15	Harbor Way and Utah Ave.	Eastbound Right Turn	16.5	C	19.3	C	6.8	A	7.4	A
15	Harbor Way and Utah Ave.	Westbound Left Turn	NA	NA	NA	NA	12.7	B	11.2	B
15	Harbor Way and Utah Ave.	Westbound Through	7.7	A	8.1	A	12.1	B	11.4	B
15	Harbor Way and Utah Ave.	Westbound Right Turn	5.1	A	5.4	A	10.0	B	8.6	A
15	Harbor Way and Utah Ave.	Northbound Left Turn	6.8	A	7.5	A	7.7	A	8.5	A
15	Harbor Way and Utah Ave.	Northbound Through	8.8	A	9.3	A	9.1	A	10.2	B
15	Harbor Way and Utah Ave.	Northbound Right Turn	4.1	A	4.9	A	3.6	A	5.0	A
15	Harbor Way and Utah Ave.	Southbound Left Turn	8.1	A	8.6	A	8.7	A	9.0	A
15	Harbor Way and Utah Ave.	Southbound Through	9.6	A	10.2	B	10.1	B	10.3	B
15	Harbor Way and Utah Ave.	Southbound Right Turn	5.3	A	6.2	A	7.3	A	6.7	A
15	Harbor Way and Utah Ave.	Total	14.6	B	16.3	C	10.5	B	10.1	B
16	San Mateo Ave. and Linden Ave.	Westbound Left Turn	21.1	C	17.6	B	19.6	B	14.7	B
16	San Mateo Ave. and Linden Ave.	Westbound Through	9.4	A	NA	NA	NA	NA	NA	NA

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
16	San Mateo Ave. and Linden Ave.	Westbound Right Turn	11.1	B	6.9	A	8.8	A	4.0	A
16	San Mateo Ave. and Linden Ave.	Northbound Through	6.8	A	7.3	A	8.3	A	8.6	A
16	San Mateo Ave. and Linden Ave.	Northbound Right Turn	1.4	A	1.5	A	1.0	A	1.0	A
16	San Mateo Ave. and Linden Ave.	Southbound Left Turn	10.2	B	10.7	B	13.8	B	13.2	B
16	San Mateo Ave. and Linden Ave.	Southbound Through	3.6	A	3.4	A	5.4	A	4.7	A
16	San Mateo Ave. and Linden Ave.	Total	7.5	A	6.5	A	9.8	A	7.6	A
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Eastbound Left Turn	10.8	B	13.0	B	13.4	B	9.8	A
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Eastbound Through	NA	NA	NA	NA	12.3	B	14.0	B
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Eastbound Right Turn	3.1	A	5.4	A	4.8	A	5.0	A
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Westbound Left Turn	17.9	C	15.6	C	13.2	B	14.3	B
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Westbound Through	19.6	C	21.8	C	22.4	C	11.9	B
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Westbound Right Turn	10.1	B	8.8	A	6.7	A	7.6	A
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Northbound Left Turn	4.0	A	4.6	A	4.7	A	5.2	A
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Northbound Through	2.4	A	3.0	A	2.0	A	2.0	A
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Northbound Right Turn	1.0	A	1.6	A	0.9	A	0.7	A

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Southbound Left Turn	4.0	A	4.1	A	2.8	A	3.0	A
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Southbound Through	1.0	A	0.9	A	1.0	A	0.9	A
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Southbound Right Turn	0.6	A	0.6	A	0.4	A	0.6	A
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Total	3.4	A	3.5	A	2.7	A	2.8	A
18	South Airport Blvd. and Belle Aire Rd.	Westbound Left Turn	26.2	C	26.0	C	19.5	B	40.7	D
18	South Airport Blvd. and Belle Aire Rd.	Westbound Right Turn	10.8	B	11.8	B	4.9	A	42.2	D
18	South Airport Blvd. and Belle Aire Rd.	Northbound U-Turn	41.4	D	38.2	D	30.1	C	177.9	F
18	South Airport Blvd. and Belle Aire Rd.	Northbound Through	18.8	B	16.4	B	17.4	B	145.1	F
18	South Airport Blvd. and Belle Aire Rd.	Northbound Right Turn	19.4	B	16.8	B	14.1	B	136.1	F
18	South Airport Blvd. and Belle Aire Rd.	Southbound U-Turn	52.6	D	47.4	D	30.0	C	87.8	F
18	South Airport Blvd. and Belle Aire Rd.	Southbound Left Turn	52.2	D	50.2	D	29.5	C	91.4	F
18	South Airport Blvd. and Belle Aire Rd.	Southbound Through	8.6	A	6.8	A	12.4	B	16.2	B
18	South Airport Blvd. and Belle Aire Rd.	Total	18.0	B	15.8	B	15.7	B	61.5	E

Table J-2 Year 2045 No Build and Build Intersection Movement LOS²⁴

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Eastbound Right Turn	38.9	D	46.8	D	29.0	C	43.2	D
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Westbound Left Turn	44.4	D	54.2	D	22.3	C	30.0	C
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Westbound Through	45.4	D	57.9	E	26.2	C	40.1	D
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Westbound Right Turn	43.0	D	42.2	D	NA	NA	NA	NA
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Northbound Left Turn	54.8	D	52.4	D	31.0	C	35.7	D
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Northbound Through	53.2	D	46.1	D	28.9	C	30.8	C
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Southbound Through	93.6	F	37.9	D	30.2	C	37.9	D
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Southbound Right Turn	54.6	D	9.9	A	9.6	A	8.2	A
1	Airport Boulevard and 101 SB off-ramp/Miller Avenue	Total	59.1	E	47.3	D	26.7	C	33.7	C
2	Airport Blvd. and E. Grand Ave.	Eastbound Left Turn	35.5	D	37.7	D	68.9	E	81.6	F
2	Airport Blvd. and E. Grand Ave.	Eastbound Through	34.0	C	37.6	D	61.8	E	65.0	E
2	Airport Blvd. and E. Grand Ave.	Eastbound Right	25.9	C	30.8	C	13.1	B	16.0	B

²⁴ NA = Not Applicable

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
2	Airport Blvd. and E. Grand Ave.	Westbound Left Turn	42.4	D	41.5	D	49.6	D	51.4	D
2	Airport Blvd. and E. Grand Ave.	Westbound Through	45.7	D	63.6	E	47.0	D	50.1	D
2	Airport Blvd. and E. Grand Ave.	Westbound Right Turn	9.0	A	8.4	A	28.2	C	27.8	C
2	Airport Blvd. and E. Grand Ave.	Northbound Left Turn	36.7	D	36.5	D	60.8	E	74.9	E
2	Airport Blvd. and E. Grand Ave.	Northbound Through	51.6	D	56.4	E	69.9	E	91.1	F
2	Airport Blvd. and E. Grand Ave.	Northbound Right Turn	3.5	A	3.5	A	4.9	A	5.3	A
2	Airport Blvd. and E. Grand Ave.	Southbound Left Turn	42.6	D	36.2	D	61.7	E	70.8	E
2	Airport Blvd. and E. Grand Ave.	Southbound Through	46.1	D	36.5	D	57.1	E	69.5	E
2	Airport Blvd. and E. Grand Ave.	Southbound Right Turn	24.8	C	18.9	B	27.9	C	37.0	D
2	Airport Blvd. and E. Grand Ave.	Total	36.1	D	34.7	C	49.7	D	58.8	E
3	Dubuque Ave. and E. Grand Ave.	Eastbound Left Turn	52.0	D	44.6	D	81.9	F	65.9	E
3	Dubuque Ave. and E. Grand Ave.	Eastbound Through	3.5	A	4.1	A	26.0	C	28.2	C
3	Dubuque Ave. and E. Grand Ave.	Westbound Through	11.4	B	7.2	A	63.5	E	53.2	D
3	Dubuque Ave. and E. Grand Ave.	Westbound Right Turn	12.0	B	6.1	A	76.0	E	93.0	F

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
3	Dubuque Ave. and E. Grand Ave.	Southbound Left Turn	41.9	D	42.3	D	88.2	F	80.0	F
3	Dubuque Ave. and E. Grand Ave.	Southbound Right Turn	45.6	D	43.5	D	83.4	F	74.4	E
3	Dubuque Ave. and E. Grand Ave.	Total	12.3	B	11.0	B	62.9	E	55.6	E
4	Grand Ave. and E. Grand Ave.	Eastbound Through	20.5	C	19.3	B	40.1	D	32.7	C
4	Grand Ave. and E. Grand Ave.	Eastbound Right Turn	16.5	B	17.4	B	32.6	C	21.8	C
4	Grand Ave. and E. Grand Ave.	Westbound Left Turn	47.1	D	43.9	D	86.4	F	102.2	F
4	Grand Ave. and E. Grand Ave.	Westbound Through	14.0	B	14.0	B	33.1	C	36.9	D
4	Grand Ave. and E. Grand Ave.	Northbound Left Turn	17.9	B	14.8	B	61.9	E	62.9	E
4	Grand Ave. and E. Grand Ave.	Northbound Right Turn	5.3	A	8.6	A	7.1	A	6.5	A
4	Grand Ave. and E. Grand Ave.	Total	15.6	B	15.4	B	38.8	D	39.0	D
5	Gateway Blvd. and E. Grand Ave.	Eastbound Left Turn	40.0	D	77.3	E	107.6	F	99.3	F
5	Gateway Blvd. and E. Grand Ave.	Eastbound Through	38.3	D	41.0	D	70.1	E	56.2	E
5	Gateway Blvd. and E. Grand Ave.	Eastbound Right Turn	32.3	C	39.7	D	111.6	F	76.9	E
5	Gateway Blvd. and E. Grand Ave.	Westbound Left Turn	64.4	E	65.9	E	685.7	F	163.4	F

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
5	Gateway Blvd. and E. Grand Ave.	Westbound Through	35.1	D	28.4	C	78.2	E	42.6	D
5	Gateway Blvd. and E. Grand Ave.	Westbound Right Turn	8.0	A	8.8	A	125.0	F	21.7	C
5	Gateway Blvd. and E. Grand Ave.	Northbound Left Turn	47.6	D	46.9	D	117.4	F	102.1	F
5	Gateway Blvd. and E. Grand Ave.	Northbound Through	44.3	D	48.9	D	44.6	D	54.7	D
5	Gateway Blvd. and E. Grand Ave.	Northbound Right Turn	23.4	C	22.1	C	7.9	A	7.2	A
5	Gateway Blvd. and E. Grand Ave.	Southbound Left Turn	61.3	E	86.7	F	780.2	F	359.7	F
5	Gateway Blvd. and E. Grand Ave.	Southbound Through	39.0	D	38.8	D	829.5	F	329.3	F
5	Gateway Blvd. and E. Grand Ave.	Southbound Right Turn	5.2	A	4.1	A	868.8	F	413.3	F
5	Gateway Blvd. and E. Grand Ave.	Total	38.9	D	45.2	D	367.4	F	143.3	F
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Eastbound Left Turn	211.0	F	54.9	D	168.7	F	63.4	E
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Eastbound Through	219.8	F	88.8	F	165.8	F	50.6	D
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Eastbound Right Turn	146.6	F	23.3	C	85.3	F	34.4	C
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Westbound Left Turn	41.1	D	42.6	D	48.1	D	50.4	D
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Westbound Through	39.2	D	42.0	D	46.3	D	47.6	D

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Westbound Right Turn	5.5	A	8.4	A	8.9	A	11.2	B
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Northbound Left Turn	97.0	F	54.3	D	102.8	F	71.3	E
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Northbound Through	109.7	F	38.3	D	70.7	E	37.1	D
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Northbound Right Turn	114.2	F	19.1	B	54.2	D	8.2	A
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Southbound U-Turn	54.8	D	307.2	F	67.1	E	34.7	C
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Southbound Left Turn	51.8	D	269.6	F	72.6	E	41.0	D
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Southbound Through	37.3	D	32.2	C	56.3	E	47.9	D
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Southbound Right Turn	4.9	A	5.8	A	5.7	A	8.0	A
6	Produce Ave./ Airport Blvd. and San Mateo Ave.	Total	86.2	F	65.8	E	66.5	E	40.4	D
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Eastbound U-Tun	186.2	F	187.0	F	252.1	F	85.9	F
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Eastbound Left Turn	195.1	F	181.8	F	204.2	F	88.4	F
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Eastbound Through	154.4	F	184.5	F	209.0	F	65.3	E
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Eastbound Right Turn	81.1	F	91.8	F	191.3	F	35.5	D
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Westbound Left Turn	168.1	F	580.5	F	977.6	F	984.1	F

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Westbound Through	76.4	E	494.8	F	912.9	F	924.8	F
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Westbound Right Turn	78.7	E	437.5	F	961.6	F	918.5	F
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Northbound U-Turn	NA	NA	83.9	F	NA	NA	73.1	E
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Northbound Left Turn	41.9	D	46.8	D	62.6	E	62.8	E
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Northbound Through	51.6	D	44.0	D	53.3	D	54.0	D
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Northbound Right Turn	37.2	D	34.1	C	30.6	C	23.4	C
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Southbound Left Turn	187.5	F	274.4	F	1024.3	F	359.0	F
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Southbound Through	196.0	F	299.2	F	689.9	F	350.5	F
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Southbound Right Turn	43.2	D	102.7	F	573.2	F	307.1	F
7	Gateway Blvd. and South Airport Blvd./Mitchell Ave.	Total	86.2	F	158.5	F	460.5	F	363.1	F
8	Produce Ave. and 101 SB Off Ramp	Westbound Left Turn	1007.6	F	23.7	C	117.9	F	19.3	C
8	Produce Ave. and 101 SB Off Ramp	Westbound Right Turn	995.7	F	19.0	C	99.8	F	4.6	A
8	Produce Ave. and 101 SB Off Ramp	Northbound Through	13.0	B	8.2	A	11.2	B	9.1	A
8	Produce Ave. and 101 SB Off Ramp	Southbound Through	4.0	A	1.8	A	4.6	A	2.7	A

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
8	Produce Ave. and 101 SB Off Ramp	Total	289.3	F	7.7	A	22.8	C	3.3	A
9	Produce Ave./ 101 SB On Ramp and Terminal Ct.	Eastbound Left Turn	25.9	D	24.0	C	41.7	E	59.9	F
9	Produce Ave./ 101 SB On Ramp and Terminal Ct.	Eastbound Right Turn	12.4	B	14.8	B	29.6	D	38.1	E
9	Produce Ave./ 101 SB On Ramp and Terminal Ct.	Southbound Through	3.4	A	3.1	A	4.3	A	4.8	A
9	Produce Ave./ 101 SB On Ramp and Terminal Ct.	Southbound Right Turn	3.1	A	2.5	A	3.8	A	4.0	A
9	Produce Ave./ 101 SB On Ramp and Terminal Ct.	Total	5.0	A	4.8	A	5.1	A	5.6	A
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Eastbound Left Turn	589.5	F	523.3	F	248.7	F	139.7	F
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Eastbound Through	587.6	F	511.8	F	233.6	F	123.7	F
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Eastbound Right Turn	590.1	F	505.9	F	243.8	F	86.5	F
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Westbound Left Turn	57.3	E	63.6	E	66.4	E	64.0	E
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Westbound Through	57.2	E	67.6	E	65.9	E	57.0	E
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Westbound Right Turn	14.6	B	15.0	B	6.6	A	6.9	A
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Northbound U-Turn	40.1	D	NA	NA	141.6	F	NA	NA
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Northbound Left Turn	45.8	D	126.4	F	179.9	F	134.3	F

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Northbound Through	20.6	C	41.3	D	85.9	F	66.7	E
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Northbound Right Turn	20.4	C	13.5	B	39.9	D	15.0	B
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Southbound U-Turn	229.2	F	301.9	F	168.0	F	206.8	F
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Southbound Left Turn	229.4	F	287.0	F	167.9	F	212.9	F
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Southbound Through	200.9	F	261.3	F	156.7	F	188.9	F
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Southbound Right Turn	336.3	F	349.3	F	280.3	F	221.0	F
10	South Airport Blvd. and 101 NB Ramps/Wondercolor Ln.	Total	331.2	F	319.4	F	199.1	F	147.8	F
11	San Mateo Ave. / Utah Ave.	Eastbound	NA	NA	NA	NA	NA	NA	NA	NA
11	San Mateo Ave. / Utah Ave.	Westbound Left Turn	NA	NA	23.2	C	NA	NA	13.5	B
11	San Mateo Ave. / Utah Ave.	Westbound Through	NA	NA	NA	NA	NA	NA	NA	NA
11	San Mateo Ave. / Utah Ave.	Westbound Right Turn	NA	NA	7.6	A	NA	NA	6.4	A
11	San Mateo Ave. / Utah Ave.	Northbound Through	NA	NA	62	E	NA	NA	10.3	B
11	San Mateo Ave. / Utah Ave.	Northbound Right Turn	NA	NA	57.6	E	NA	NA	7.5	A
11	San Mateo Ave. / Utah Ave.	Southbound Left Turn	NA	NA	54.0	D	NA	NA	14.3	B

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
11	San Mateo Ave. / Utah Ave.	Southbound through	NA	NA	25.4	C	NA	NA	9.9	A
11	San Mateo Ave. / Utah Ave.	Total	NA	NA	46.9	D	NA	NA	9.5	A
14	South Airport Blvd. and Utah Ave.	Eastbound Left Turn	56.1	E	606.8	F	61.5	E	449.2	F
14	South Airport Blvd. and Utah Ave.	Eastbound Through	52.3	D	185.3	F	43.2	D	57.3	E
14	South Airport Blvd. and Utah Ave.	Eastbound Right Turn	9.4	A	170.6	F	19.0	B	41.7	D
14	South Airport Blvd. and Utah Ave.	Westbound Left Turn	24.5	C	23.4	C	42.0	D	134.4	F
14	South Airport Blvd. and Utah Ave.	Westbound Through	15.0	B	39.2	D	35.1	D	308.2	F
14	South Airport Blvd. and Utah Ave.	Westbound Right Turn	10.2	B	35.8	D	66.0	E	311.5	F
14	South Airport Blvd. and Utah Ave.	Northbound U-Turn	126.4	F	310.6	F	988.9	F	1038.3	F
14	South Airport Blvd. and Utah Ave.	Northbound Left Turn	112.3	F	258.8	F	958.6	F	1026.2	F
14	South Airport Blvd. and Utah Ave.	Northbound Through	67.7	E	263.9	F	842.6	F	1003.6	F
14	South Airport Blvd. and Utah Ave.	Northbound Right-Turn	45.4	D	130.4	F	611.5	F	746.7	F
14	South Airport Blvd. and Utah Ave.	Southbound Left Turn	43.3	D	48.1	D	37.0	D	130.1	F
14	South Airport Blvd. and Utah Ave.	Southbound Through	23.4	C	18.2	B	18.1	B	43.4	D

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
14	South Airport Blvd. and Utah Ave.	Southbound Right Turn	12.1	B	6.7	A	10.7	B	18.4	B
14	South Airport Blvd. and Utah Ave.	Total	41.7	D	142.4	F	176.0	F	256.0	F
15	Harbor Way and Utah Ave.	Eastbound Left Turn	25.3	D	18.7	C	10.9	B	10.7	B
15	Harbor Way and Utah Ave.	Eastbound Through	26.3	D	20.1	C	9.7	A	10.0	B
15	Harbor Way and Utah Ave.	Eastbound Right Turn	25.8	D	18.9	C	6.8	A	7.1	A
15	Harbor Way and Utah Ave.	Westbound Left Turn	NA	NA	NA	NA	12.6	B	89.8	F
15	Harbor Way and Utah Ave.	Westbound Through	8.6	A	8.4	A	15.3	C	66.8	F
15	Harbor Way and Utah Ave.	Westbound Right Turn	5.6	A	5.3	A	14.2	B	61.8	F
15	Harbor Way and Utah Ave.	Northbound Left Turn	8.0	A	7.7	A	9.0	A	26.2	D
15	Harbor Way and Utah Ave.	Northbound Through	9.0	A	9.6	A	10.3	B	25.1	D
15	Harbor Way and Utah Ave.	Northbound Right Turn	5.9	A	5.3	A	7.2	A	13.9	B
15	Harbor Way and Utah Ave.	Southbound Left Turn	9.6	A	8.3	A	9.2	A	17.1	C
15	Harbor Way and Utah Ave.	Southbound Through	11.6	B	10.6	B	11.0	B	19.0	C
15	Harbor Way and Utah Ave.	Southbound Right Turn	6.6	A	NA	NA	8.2	A	16.5	C

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
15	Harbor Way and Utah Ave.	Total	20.5	C	16.1	C	12.8	B	47.1	E
16	San Mateo Ave. and Linden Ave.	Westbound Left Turn	28.9	C	21.1	C	36.0	D	16.0	B
16	San Mateo Ave. and Linden Ave.	Westbound Through	NA	NA	NA	NA	NA	NA	NA	NA
16	San Mateo Ave. and Linden Ave.	Westbound Right Turn	14.9	B	6.3	A	24.0	C	4.4	A
16	San Mateo Ave. and Linden Ave.	Northbound Through	9.4	A	11.7	B	8.0	A	9.6	A
16	San Mateo Ave. and Linden Ave.	Northbound Right Turn	2.2	A	3.0	A	1.0	A	1.1	A
16	San Mateo Ave. and Linden Ave.	Southbound Left Turn	15.8	B	23.1	C	16.9	B	17.3	B
16	San Mateo Ave. and Linden Ave.	Southbound Through	6.1	A	7.0	A	7.1	A	7.4	A
16	San Mateo Ave. and Linden Ave.	Total	9.5	A	10.0	A	13.4	B	8.8	A
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Eastbound Left Turn	20.7	C	24.0	C	14.2	B	16.2	C
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Eastbound Through	NA	NA	NA	NA	13.1	B	17.6	C
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Eastbound Right Turn	5.2	A	6.9	A	6.5	A	6.9	A
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Westbound Left Turn	34.1	D	38.2	E	16.0	C	17.7	C
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Westbound Through	41.4	E	43.6	E	16.3	C	25.2	D
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Westbound Right Turn	29.5	D	31.3	D	8.3	A	9.6	A

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Northbound Left Turn	14.0	B	37.7	E	7.6	A	5.8	A
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Northbound Through	14.0	B	39.6	E	4.1	A	4.6	A
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Northbound Right Turn	12.1	B	35.6	E	2.6	A	2.7	A
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Southbound Left Turn	6.2	A	5.5	A	3.2	A	3.5	A
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Southbound Through	1.0	A	1.1	A	1.0	A	1.0	A
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Southbound Right Turn	0.7	A	0.5	A	0.5	A	0.5	A
17	San Mateo Ave. and Tanforan Ave./ Shaw Rd.	Total	12.2	B	27.3	D	3.4	A	3.8	A
18	South Airport Blvd. and Belle Aire Rd.	Westbound Left Turn	25.6	C	31.7	C	39.3	D	79.6	E
18	South Airport Blvd. and Belle Aire Rd.	Westbound Right Turn	12.2	B	29.2	C	103.3	F	187.3	F
18	South Airport Blvd. and Belle Aire Rd.	Northbound U-Turn	59.1	E	197.7	F	1083.5	F	1503.7	F
18	South Airport Blvd. and Belle Aire Rd.	Northbound Through	28.8	C	200.3	F	1316.6	F	1497.3	F
18	South Airport Blvd. and Belle Aire Rd.	Northbound Right Turn	30.5	C	221.9	F	1308.5	F	1455.5	F
18	South Airport Blvd. and Belle Aire Rd.	Southbound U-Turn	46.9	D	129.5	F	129.1	F	306.1	F
18	South Airport Blvd. and Belle Aire Rd.	Southbound Left Turn	48.5	D	132.3	F	133.3	F	302.1	F

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Movement	No Build AM Peak Hour Delay (Sec/Veh)	No Build AM Peak Hour LOS	Build AM Peak Hour Delay (Sec/Veh)	Build AM Peak Hour LOS	No Build PM Peak Hour Delay (Sec/Veh)	No Build PM Peak Hour LOS	Build PM Peak Hour Delay (Sec/Veh)	Build PM Peak Hour LOS
18	South Airport Blvd. and Belle Aire Rd.	Southbound Through	7.6	A	9.2	A	16.7	B	44.3	D
18	South Airport Blvd. and Belle Aire Rd.	Total	24.3	C	145.1	F	484.6	F	587.0	F

Table J-3 Year 2025 No Build and Build Intersection 95th Percentile Queues Summary²⁵

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
1	Airport Blvd and E. Grand Ave	Eastbound Right Turn Lane	240	180	150	120	110
1	Airport Blvd and E. Grand Ave	Westbound Left Turn Lane	450	220	220	200	140
1	Airport Blvd and E. Grand Ave	Westbound Left Turn/Through/Right Turn Lane	610	250	260	300	240
1	Airport Blvd and E. Grand Ave	Northbound Left Turn/Through Lane	320	130	120	320	290
1	Airport Blvd and E. Grand Ave	Northbound Through Lane	320	120	130	290	280
1	Airport Blvd and E. Grand Ave	Southbound Through Lane 1	290	260	260	130	120
1	Airport Blvd and E. Grand Ave	Southbound Through Lane 2	290	200	200	120	110
1	Airport Blvd and E. Grand Ave	Southbound Right Turn Lane	100	70	80	70	60
2	Airport Blvd and Grand Ave	Eastbound Left Turn/Through Lane	220	250	230	280	370
2	Airport Blvd and Grand Ave	Eastbound Through/Right Turn Lane	220	190	180	80	90
2	Airport Blvd and Grand Ave	Westbound Left Turn Lane 1	480	100	100	450	410
2	Airport Blvd and Grand Ave	Westbound Left Turn Lane 2	480	100	90	460	420

²⁵ NA = Not Applicable

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
2	Airport Blvd and Grand Ave	Westbound Through Lane	480	160	150	360	350
2	Airport Blvd and Grand Ave	Westbound Right Turn Lane	60	60	60	180	190
2	Airport Blvd and Grand Ave	Northbound Left Turn Lane	130	70	80	150	160
2	Airport Blvd and Grand Ave	Northbound Through Lane 1	290	130	150	260	310
2	Airport Blvd and Grand Ave	Northbound Through Lane 2	290	270	290	310	340
2	Airport Blvd and Grand Ave	Southbound Left Turn Lane	320	300	310	160	150
2	Airport Blvd and Grand Ave	Southbound Left Turn/Through Lane	320	320	310	150	150
2	Airport Blvd and Grand Ave	Southbound Through Lane	320	350	330	150	140
2	Airport Blvd and Grand Ave	Southbound Right Turn Lane	70	120	130	120	130
3	Grand Ave/E. Grand Ave and Dubuque Ave	Eastbound Left Turn Lane	130	130	140	90	90
3	Grand Ave/E. Grand Ave and Dubuque Ave	Eastbound Through Lane 1	480	140	150	100	100
3	Grand Ave/E. Grand Ave and Dubuque Ave	Eastbound Through Lane 2	480	130	140	110	100
3	Grand Ave/E. Grand Ave and Dubuque Ave	Eastbound Through Lane 3	480	110	120	120	110
3	Grand Ave/E. Grand Ave and Dubuque Ave	Westbound Through Lane 1	850	50	50	1010	780

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
3	Grand Ave/E. Grand Ave and Dubuque Ave	Westbound Through Lane 2	850	50	60	1100	950
3	Grand Ave/E. Grand Ave and Dubuque Ave	Westbound Through/Right Turn Lane	850	220	220	1080	980
3	Grand Ave/E. Grand Ave and Dubuque Ave	Southbound Left Turn Lane	610	170	180	270	210
3	Grand Ave/E. Grand Ave and Dubuque Ave	Southbound Right Turn Lane	60	80	80	100	110
4	Grand Ave and E. Grand Ave	Eastbound Through Lane 1	850	220	220	180	160
4	Grand Ave and E. Grand Ave	Eastbound Through Lane 2	850	230	240	200	160
4	Grand Ave and E. Grand Ave	Eastbound Through/Right Turn Lane	850	250	260	230	200
4	Grand Ave and E. Grand Ave	Westbound Left Turn Lane	50	70	70	60	60
4	Grand Ave and E. Grand Ave	Westbound Through Lane 1	300	80	90	300	230
4	Grand Ave and E. Grand Ave	Westbound Through Lane 2	300	130	140	350	280
4	Grand Ave and E. Grand Ave	Westbound Through Lane 3	300	180	190	460	380
4	Grand Ave and E. Grand Ave	Northbound Left Turn Lane	250	90	90	330	280
4	Grand Ave and E. Grand Ave	Northbound Right Turn Lane 1	670	110	110	1190	410

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
4	Grand Ave and E. Grand Ave	Northbound Right Turn Lane 2	670	70	70	830	260
5	Gateway Blvd. and E. Grand Ave	Eastbound Left Turn Lane	150	210	200	150	140
5	Gateway Blvd. and E. Grand Ave	Eastbound Through Lane 1	300	320	300	160	130
5	Gateway Blvd. and E. Grand Ave	Eastbound Through Lane 2	300	410	400	180	160
5	Gateway Blvd. and E. Grand Ave	Eastbound Through/Right Turn Lane	300	400	380	220	200
5	Gateway Blvd. and E. Grand Ave	Westbound Left Turn Lane	190	160	150	280	280
5	Gateway Blvd. and E. Grand Ave	Westbound Through Lane 1	510	90	100	470	390
5	Gateway Blvd. and E. Grand Ave	Westbound Through Lane 2	510	120	120	340	280
5	Gateway Blvd. and E. Grand Ave	Westbound Through Lane 3	510	140	140	240	270
5	Gateway Blvd. and E. Grand Ave	Westbound Right Turn Lane	200	60	60	130	160
5	Gateway Blvd. and E. Grand Ave	Northbound Left Turn Lane	190	150	170	150	120
5	Gateway Blvd. and E. Grand Ave	Northbound Through Lane	510	250	250	120	90
5	Gateway Blvd. and E. Grand Ave	Northbound Through/Right Turn Lane	510	380	380	110	110

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
5	Gateway Blvd. and E. Grand Ave	Southbound Left Turn Lane	190	220	230	130	130
5	Gateway Blvd. and E. Grand Ave	Southbound Through Lane	790	200	240	450	230
5	Gateway Blvd. and E. Grand Ave	Southbound Through/Right Turn Lane	790	150	200	500	310
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Eastbound Left Turn Lane	150	110	140	120	170
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Eastbound Left Turn/Through Lane	230	330	-	150	-
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Eastbound Through Lane 1	650	160	190	100	100
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Eastbound Through Lane 2	650	-	190	-	60
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Eastbound Right Turn Lane	150	60	80	80	130
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Westbound Left Turn Lane 1	230	160	160	280	280
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Westbound Left Turn Lane 2	710	-	180	-	390
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Westbound Left Turn/Through Lane	710	180	-	330	-

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Westbound Through Lane	710	160	60	240	160
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Westbound Right Turn Lane	125	80	100	160	150
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Northbound Left Turn Lane	130	160	160	130	140
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Northbound Through Lane 1	200	190	120	50	60
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Northbound Through Lane 2	200	60	100	40	30
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Northbound Right Turn Lane 1	200	260	110	0	50
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Northbound Right Turn Lane 2	200	NA	90	NA	40
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Southbound U-Turn/Left Turn Lane	180	160	160	250	230
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Southbound Through Lane 1	1470	230	240	420	390
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Southbound Through Lane 2	1470	240	250	430	400

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Southbound Right Turn Lane	1470	0	80	60	60
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Eastbound U-Tun/Left Turn Lane	130	200	200	110	90
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Eastbound Through/Right Turn Lane	710	620	540	180	130
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Eastbound Right Turn Lane	710	660	380	130	90
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Westbound Left Turn Lane	110	100	100	170	170
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Westbound Through/Right Turn Lane	320	170	190	780	480
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Northbound U-Tun/Left Turn Lane	290	140	140	220	200
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Northbound Left Turn Lane	290	290	260	230	190
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Northbound Through Lane	370	530	570	150	130
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Northbound Through/Right Turn Lane	370	580	630	140	140
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Southbound Left Turn Lane	100	90	100	50	40
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Southbound Through Lane	480	280	310	440	490
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Southbound Right Turn Lane	480	100	110	670	480

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
8	Produce Ave and US 101 SB Off Ramp	Westbound Left Turn Lane	560	170	230	70	50
8	Produce Ave and US 101 SB Off Ramp	Westbound Right Turn Lane	150	170	170	20	0
8	Produce Ave and US 101 SB Off Ramp	Northbound Through Lane	900	60	50	40	40
8	Produce Ave and US 101 SB Off Ramp	Southbound Through Lane 1	130	20	20	10	10
8	Produce Ave and US 101 SB Off Ramp	Southbound Through Lane 2	130	10	10	10	0
9	US 101 SB On Ramp/Produce Ave and Terminal Ct	Eastbound Left Turn Lane	260	80	90	60	60
9	US 101 SB On Ramp/Produce Ave and Terminal Ct	Eastbound Right Turn Lane	150	60	60	60	70
9	US 101 SB On Ramp/Produce Ave and Terminal Ct	Southbound Through Lane	900	0	0	10	10
9	US 101 SB On Ramp/Produce Ave and Terminal Ct	Southbound Through/Right Turn Lane	900	30	30	30	20
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Eastbound Left Turn Lane	750	870	670	320	340
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Eastbound Left Turn/Through Lane	750	920	790	210	220
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Eastbound Right Turn Lane 1	120	280	280	220	190
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Eastbound Right Turn Lane 2	65	50	80	40	40
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Westbound Left Turn/Through Lane	410	60	60	50	70

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Westbound Right Turn Lane	410	50	60	30	30
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Northbound Left Turn Lane	190	250	240	230	300
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Northbound Through Lane	510	380	300	690	680
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Northbound Through/Right Turn Lane	510	260	230	720	720
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Southbound U-Turn/Left Turn Lane	90	110	110	80	70
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Southbound Through Lane 1	510	520	400	280	360
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Southbound Through Lane 2	510	540	420	300	380
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Southbound Right Turn Lane	130	200	190	180	190
11	San Mateo Ave. and Utah Ave.	Westbound Left Turn/Right Turn Lane	1500	NA	140	NA	100
11	San Mateo Ave. and Utah Ave.	Westbound Right Turn Lane	1500	NA	50	NA	40
11	San Mateo Ave. and Utah Ave.	Northbound Through/Right Turn Lane	1460	NA	190	NA	140
11	San Mateo Ave. and Utah Ave.	Southbound Left Turn/Through Lane	610	NA	170	NA	110
14	South Airport Blvd. and Utah Ave	Eastbound Left Turn/Through Lane	75	60	NA	50	NA

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
14	South Airport Blvd. and Utah Ave	Eastbound Left Turn Lane 1	120	NA	20	NA	150
14	South Airport Blvd. and Utah Ave	Eastbound Left Turn Lane 2	1500	NA	20	NA	120
14	South Airport Blvd. and Utah Ave	Eastbound Through/Right Turn Lane	1500	NA	90	NA	70
14	South Airport Blvd. and Utah Ave	Eastbound Right Turn Lane	50	40	NA	40	NA
14	South Airport Blvd. and Utah Ave	Westbound Left Turn Lane 1	670 NB /400 B	90	110	400	260
14	South Airport Blvd. and Utah Ave	Westbound Left Turn Lane 2	670	NA	120	NA	270
14	South Airport Blvd. and Utah Ave	Westbound Left Turn/Through Lane	670	90	NA	430	NA
14	South Airport Blvd. and Utah Ave	Westbound Through/Right Turn Lane	670	NA	240	NA	910
14	South Airport Blvd. and Utah Ave	Westbound Right Turn Lane	175	80	-	200	NA
14	South Airport Blvd. and Utah Ave	Northbound U-Turn/Left Turn Lane	150	80	30	250	50
14	South Airport Blvd. and Utah Ave	Northbound Left Turn Lane	150	NA	60	NA	390
14	South Airport Blvd. and Utah Ave	Northbound Through Lane 1	740	520	600	1300	2120
14	South Airport Blvd. and Utah Ave	Northbound Through Lane 2	740	690	720	1310	2170

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
14	South Airport Blvd. and Utah Ave	Northbound Right Turn Lane	180	290	290	270	290
14	South Airport Blvd. and Utah Ave	Southbound Left Turn Lane 1	215	220	200	70	100
14	South Airport Blvd. and Utah Ave	Southbound Left Turn Lane 2	510	240	210	100	160
14	South Airport Blvd. and Utah Ave	Southbound Through Lane 1	510	230	180	230	360
14	South Airport Blvd. and Utah Ave	Southbound through Lane 2	510	NA	190	NA	370
14	South Airport Blvd. and Utah Ave	Southbound Through/Right Turn Lane	510	240	NA	230	NA
14	South Airport Blvd. and Utah Ave	Southbound Right Turn Lane	100	NA	100	NA	180
15	Harbor Wy and Utah Ave	Eastbound Left Turn/Through Lane	790	260	280	70	90
15	Harbor Wy and Utah Ave	Eastbound Through/Right Turn Lane	790	220	240	90	110
15	Harbor Wy and Utah Ave	Westbound Left Turn/Through Lane	480	60	60	140	140
15	Harbor Wy and Utah Ave	Westbound Through/Right Turn Lane	480	80	80	160	140
15	Harbor Wy and Utah Ave	Northbound Left Turn/Through/Right Turn Lane	930	70	60	80	90

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
15	Harbor Wy and Utah Ave	Southbound Left Turn/Through/Right Turn Lane	410	90	90	100	110
16	San Mateo Ave and Linden Ave	Westbound Left Turn Lane	380	120	120	190	150
16	San Mateo Ave and Linden Ave	Westbound Right Turn Lane	380	NA	NA	NA	NA
16	San Mateo Ave and Linden Ave	Northbound Through Lane	60	80	80	100	100
16	San Mateo Ave and Linden Ave	Northbound Right Turn Lane	60	90	90	50	60
16	San Mateo Ave and Linden Ave	Southbound Left Turn Lane	200	90	90	80	90
16	San Mateo Ave and Linden Ave	Southbound Through Lane	650	80	70	100	90
17	San Mateo Ave and Tanforan Ave/Shaw Rd	Eastbound Left Turn/Through/Right Turn Lane	380	40	40	50	50
17	San Mateo Ave and Tanforan Ave/Shaw Rd	Westbound Left Turn/Through/Right Turn Lane	470	100	90	90	100
17	San Mateo Ave and Tanforan Ave/Shaw Rd	Northbound Left Turn/Through/Right Turn Lane	440	60	90	60	60
17	San Mateo Ave and Tanforan Ave/Shaw Rd	Southbound Left Turn Lane	50	60	60	50	50
17	San Mateo Ave and Tanforan Ave/Shaw Rd	Southbound Through/Right Turn Lane	60	40	50	30	30

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
18	South Airport Blvd/South Airport Blvd and Belle Aire Rd	Westbound Left Turn Lane 1	90	40	50	120	150
18	South Airport Blvd/South Airport Blvd and Belle Aire Rd	Westbound Left Turn Lane 2	600	90	90	180	410
18	South Airport Blvd/South Airport Blvd and Belle Aire Rd	Westbound Right Turn Lane	200	60	80	50	190
18	South Airport Blvd/South Airport Blvd and Belle Aire Rd	Northbound U-Turn Lane	130	70	50	40	70
18	South Airport Blvd/South Airport Blvd and Belle Aire Rd	Northbound Through Lane	900	440	400	180	1840
18	South Airport Blvd/South Airport Blvd and Belle Aire Rd	Northbound Through/Right Turn Lane	900	460	430	220	1850
18	South Airport Blvd/South Airport Blvd and Belle Aire Rd	Southbound U-Turn/Left Turn Lane	280	160	160	220	440
18	South Airport Blvd/South Airport Blvd and Belle Aire Rd	Southbound Through Lane 1	800	140	100	240	630
18	South Airport Blvd/South Airport Blvd and Belle Aire Rd	Southbound Through Lane 2	800	150	120	250	610

Table J-4 Year 2045 No Build and Build Intersection 95th Percentile Queues Summary²⁶

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
1	Airport Blvd and E. Grand Ave	Eastbound Right Turn Lane	240	180	180	110	160
1	Airport Blvd and E. Grand Ave	Westbound Left Turn Lane	450	320	370	200	290
1	Airport Blvd and E. Grand Ave	Westbound Left Turn/Through/Right Turn Lane	610	320	800	300	430
1	Airport Blvd and E. Grand Ave	Northbound Left Turn/Through Lane	320	130	120	270	280
1	Airport Blvd and E. Grand Ave	Northbound Through Lane	320	130	120	290	290
1	Airport Blvd and E. Grand Ave	Southbound Through Lane 1	290	580	260	150	190
1	Airport Blvd and E. Grand Ave	Southbound Through Lane 2	290	560	250	150	170
1	Airport Blvd and E. Grand Ave	Southbound Right Turn Lane	100	150	120	80	90
2	Airport Blvd and Grand Ave	Eastbound Left Turn/Through Lane	220	290	320	350	410
2	Airport Blvd and Grand Ave	Eastbound Through/Right Turn Lane	220	230	260	130	210
2	Airport Blvd and Grand Ave	Westbound Left Turn Lane 1	480	90	110	500	520

²⁶ NA = Not Applicable

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
2	Airport Blvd and Grand Ave	Westbound Left Turn Lane 2	480	90	110	590	510
2	Airport Blvd and Grand Ave	Westbound Through Lane	480	160	220	360	340
2	Airport Blvd and Grand Ave	Westbound Right Turn Lane	60	60	60	170	170
2	Airport Blvd and Grand Ave	Northbound Left Turn Lane	130	80	80	160	190
2	Airport Blvd and Grand Ave	Northbound Through Lane 1	290	150	170	280	370
2	Airport Blvd and Grand Ave	Northbound Through Lane 2	290	310	300	320	360
2	Airport Blvd and Grand Ave	Southbound Left Turn Lane	320	360	340	160	200
2	Airport Blvd and Grand Ave	Southbound Left Turn/Through Lane	320	390	360	140	150
2	Airport Blvd and Grand Ave	Southbound Through Lane	320	410	400	140	140
2	Airport Blvd and Grand Ave	Southbound Right Turn Lane	70	130	130	130	130
3	Grand Ave/E. Grand Ave and Dubuque Ave	Eastbound Left Turn Lane	130	140	150	100	110
3	Grand Ave/E. Grand Ave and Dubuque Ave	Eastbound Through Lane 1	480	140	200	100	110
3	Grand Ave/E. Grand Ave and Dubuque Ave	Eastbound Through Lane 2	480	140	180	110	110
3	Grand Ave/E. Grand Ave and Dubuque Ave	Eastbound Through Lane 3	480	110	140	120	120

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
3	Grand Ave/E. Grand Ave and Dubuque Ave	Westbound Through Lane 1	850	40	50	1060	1060
3	Grand Ave/E. Grand Ave and Dubuque Ave	Westbound Through Lane 2	850	70	40	1120	1130
3	Grand Ave/E. Grand Ave and Dubuque Ave	Westbound Through/Right Turn Lane	850	240	150	1110	1060
3	Grand Ave/E. Grand Ave and Dubuque Ave	Southbound Left Turn Lane	610	170	170	400	360
3	Grand Ave/E. Grand Ave and Dubuque Ave	Southbound Right Turn Lane	60	90	80	110	110
4	Grand Ave and E. Grand Ave	Eastbound Through Lane 1	850	240	230	200	160
4	Grand Ave and E. Grand Ave	Eastbound Through Lane 2	850	260	230	220	170
4	Grand Ave and E. Grand Ave	Eastbound Through/Right Turn Lane	850	260	250	230	210
4	Grand Ave and E. Grand Ave	Westbound Left Turn Lane	50	60	60	50	60
4	Grand Ave and E. Grand Ave	Westbound Through Lane 1	300	90	70	330	360
4	Grand Ave and E. Grand Ave	Westbound Through Lane 2	300	140	120	370	390
4	Grand Ave and E. Grand Ave	Westbound Through Lane 3	300	190	160	450	490
4	Grand Ave and E. Grand Ave	Northbound Left Turn Lane	250	120	130	320	320

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
4	Grand Ave and E. Grand Ave	Northbound Right Turn Lane 1	670	190	230	1260	890
4	Grand Ave and E. Grand Ave	Northbound Right Turn Lane 2	670	140	200	890	560
5	Gateway Blvd. and E. Grand Ave	Eastbound Left Turn Lane	150	220	220	200	180
5	Gateway Blvd. and E. Grand Ave	Eastbound Through Lane 1	300	320	330	250	210
5	Gateway Blvd. and E. Grand Ave	Eastbound Through Lane 2	300	440	450	300	260
5	Gateway Blvd. and E. Grand Ave	Eastbound Through/Right Turn Lane	300	410	420	350	320
5	Gateway Blvd. and E. Grand Ave	Westbound Left Turn Lane	190	190	180	250	280
5	Gateway Blvd. and E. Grand Ave	Westbound Through Lane 1	510	90	110	7170	2260
5	Gateway Blvd. and E. Grand Ave	Westbound Through Lane 2	510	110	100	6950	1800
5	Gateway Blvd. and E. Grand Ave	Westbound Through Lane 3	510	140	140	5180	1230
5	Gateway Blvd. and E. Grand Ave	Westbound Right Turn Lane	200	60	60	290	290
5	Gateway Blvd. and E. Grand Ave	Northbound Left Turn Lane	190	170	160	190	130
5	Gateway Blvd. and E. Grand Ave	Northbound Through Lane	510	280	260	120	110

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
5	Gateway Blvd. and E. Grand Ave	Northbound Through/Right Turn Lane	510	400	350	140	130
5	Gateway Blvd. and E. Grand Ave	Southbound Left Turn Lane	190	250	250	260	240
5	Gateway Blvd. and E. Grand Ave	Southbound Through Lane	790	340	570	5500	2890
5	Gateway Blvd. and E. Grand Ave	Southbound Through/Right Turn Lane	790	190	350	5500	2920
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Eastbound Left Turn Lane	150	220	170	200	200
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Eastbound Left Turn/Through Lane	230	2620	NA	1620	NA
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Eastbound Through Lane 1	650	330	440	220	220
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Eastbound Through Lane 2	650	-	360	-	160
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Eastbound Right Turn Lane	150	220	160	140	170
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Westbound Left Turn Lane 1	230	170	150	280	290
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Westbound Left Turn Lane 2	710	NA	170	NA	460

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Westbound Left Turn/Through Lane	710	200	NA	400	NA
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Westbound Through Lane	710	170	50	320	200
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Westbound Right Turn Lane	125	110	110	190	150
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Northbound Left Turn Lane	130	130	160	160	160
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Northbound Through Lane 1	200	70	140	130	100
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Northbound Through Lane 2	200	60	60	200	50
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Northbound Right Turn Lane 1	200	290	170	330	80
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Northbound Right Turn Lane 2	200	NA	160	NA	70
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Southbound U-Turn/Left Turn Lane	180	240	240	260	270
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Southbound Through Lane 1	1470	450	1600	600	570

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Southbound Through Lane 2	1470	380	1390	590	560
6	Produce Ave/Airport Blvd and San Mateo Ave/South Airport Blvd	Southbound Right Turn Lane	1470	0	720	50	80
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Eastbound U-Tun/Left Turn Lane	130	190	210	210	170
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Eastbound Through/Right Turn Lane	710	780	900	880	250
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Eastbound Right Turn Lane	710	880	870	980	210
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Westbound Left Turn Lane	110	170	160	160	160
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Westbound Through/Right Turn Lane	320	690	3060	7660	8430
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Northbound U-Tun/Left Turn Lane	290	150	160	240	210
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Northbound Left Turn Lane	290	290	300	240	220
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Northbound Through Lane	370	480	520	230	160
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Northbound Through/Right Turn Lane	370	560	630	180	200
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Southbound Left Turn Lane	100	120	120	40	40

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Southbound Through Lane	480	990	1440	2290	2710
7	Gateway Blvd and South Airport Blvd/Mitchell Ave	Southbound Right Turn Lane	480	620	1130	2320	2750
8	Produce Ave and US 101 SB Off Ramp	Westbound Left Turn Lane	560	6740	170	1160	50
8	Produce Ave and US 101 SB Off Ramp	Westbound Right Turn Lane	150	180	180	190	0
8	Produce Ave and US 101 SB Off Ramp	Northbound Through Lane	900	80	60	40	40
8	Produce Ave and US 101 SB Off Ramp	Southbound Through Lane 1	130	10	10	10	20
8	Produce Ave and US 101 SB Off Ramp	Southbound Through Lane 2	130	20	0	20	10
9	US 101 SB On Ramp/Produce Ave and Terminal Ct	Eastbound Left Turn Lane	260	90	90	50	50
9	US 101 SB On Ramp/Produce Ave and Terminal Ct	Eastbound Right Turn Lane	150	60	60	60	60
9	US 101 SB On Ramp/Produce Ave and Terminal Ct	Southbound Through Lane	900	10	10	10	20
9	US 101 SB On Ramp/Produce Ave and Terminal Ct	Southbound Through/Right Turn Lane	900	40	40	20	30
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Eastbound Left Turn Lane	750	7770	6990	1120	920
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Eastbound Left Turn/Through Lane	750	7740	7000	1130	930

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Eastbound Right Turn Lane 1	120	280	280	290	180
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Eastbound Right Turn Lane 2	65	70	70	50	60
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Westbound Left Turn/Through Lane	410	50	60	60	60
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Westbound Right Turn Lane	410	60	60	30	30
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Northbound Left Turn Lane	190	260	220	220	220
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Northbound Through Lane	510	430	580	570	580
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Northbound Through/Right Turn Lane	510	250	380	720	730
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Southbound U-Turn/Left Turn Lane	90	100	110	80	90
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Southbound Through Lane 1	510	1090	1040	1100	1090
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Southbound Through Lane 2	510	1110	1080	1050	1110
10	South Airport Blvd. and 101 NB Off Ramp/Wondercolor Ln	Southbound Right Turn Lane	130	170	190	150	160
11	San Mateo Ave. and Utah Ave.	Westbound Left Turn/Right Turn Lane	1500	NA	140	NA	280
11	San Mateo Ave. and Utah Ave.	Westbound Right Turn Lane	1500	NA	40	NA	250

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
11	San Mateo Ave. and Utah Ave.	Northbound Through/Right Turn Lane	1460	NA	1350	NA	150
11	San Mateo Ave. and Utah Ave.	Southbound Left Turn/Through Lane	610	NA	360	NA	160
14	South Airport Blvd. and Utah Ave	Eastbound Left Turn/Through Lane	75	60	NA	60	NA
14	South Airport Blvd. and Utah Ave	Eastbound Left Turn Lane 1	120	NA	220	NA	220
14	South Airport Blvd. and Utah Ave	Eastbound Left Turn Lane 2	1500	NA	1690	NA	1540
14	South Airport Blvd. and Utah Ave	Eastbound Through/Right Turn Lane	1500	NA	1570	NA	900
14	South Airport Blvd. and Utah Ave	Eastbound Right Turn Lane	50	40	NA	40	NA
14	South Airport Blvd. and Utah Ave	Westbound Left Turn Lane 1	670 NB /400 B	100	70	700	1510
14	South Airport Blvd. and Utah Ave	Westbound Left Turn Lane 2	670	NA	90	NA	1800
14	South Airport Blvd. and Utah Ave	Westbound Left Turn/Through Lane	670	120	0	750	920
14	South Airport Blvd. and Utah Ave	Westbound Through/Right Turn Lane	670	NA	240	NA	910
14	South Airport Blvd. and Utah Ave	Westbound Right Turn Lane	175	100	NA	190	NA

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
14	South Airport Blvd. and Utah Ave	Northbound U-Turn/Left Turn Lane	150	110	30	230	40
14	South Airport Blvd. and Utah Ave	Northbound Left Turn Lane	150	NA	310	NA	370
14	South Airport Blvd. and Utah Ave	Northbound Through Lane 1	740	1050	2050	1630	1610
14	South Airport Blvd. and Utah Ave	Northbound Through Lane 2	740	1100	2050	1650	1620
14	South Airport Blvd. and Utah Ave	Northbound Right Turn Lane	180	250	300	250	220
14	South Airport Blvd. and Utah Ave	Southbound Left Turn Lane 1	215	250	210	70	170
14	South Airport Blvd. and Utah Ave	Southbound Left Turn Lane 2	510	290	240	90	260
14	South Airport Blvd. and Utah Ave	Southbound Through Lane 1	510	220	220	190	450
14	South Airport Blvd. and Utah Ave	Southbound through Lane 2	510	NA	240	NA	460
14	South Airport Blvd. and Utah Ave	Southbound Through/Right Turn Lane	510	240	NA	210	NA
14	South Airport Blvd. and Utah Ave	Southbound Right Turn Lane	100	NA	180	NA	230
15	Harbor Wy and Utah Ave	Eastbound Left Turn/Through Lane	790	370	280	70	80
15	Harbor Wy and Utah Ave	Eastbound Through/Right Turn Lane	790	360	260	90	100

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
15	Harbor Wy and Utah Ave	Westbound Left Turn/Through Lane	480	60	60	150	840
15	Harbor Wy and Utah Ave	Westbound Through/Right Turn Lane	480	80	80	180	850
15	Harbor Wy and Utah Ave	Northbound Left Turn/Through/Right Turn Lane	930	70	70	90	200
15	Harbor Wy and Utah Ave	Southbound Left Turn/Through/Right Turn Lane	410	100	90	100	160
16	San Mateo Ave and Linden Ave	Westbound Left Turn Lane	380	130	140	180	160
16	San Mateo Ave and Linden Ave	Westbound Right Turn Lane	380	0	20	20	0
16	San Mateo Ave and Linden Ave	Northbound Through Lane	60	90	90	110	110
16	San Mateo Ave and Linden Ave	Northbound Right Turn Lane	60	110	130	50	70
16	San Mateo Ave and Linden Ave	Southbound Left Turn Lane	200	120	150	90	110
16	San Mateo Ave and Linden Ave	Southbound Through Lane	650	100	120	140	140
17	San Mateo Ave and Tanforan Ave/Shaw Rd	Eastbound Left Turn/Through/Right Turn Lane	380	50	50	50	50
17	San Mateo Ave and Tanforan Ave/Shaw Rd	Westbound Left Turn/Through/Right Turn Lane	470	140	130	100	110

Appendix J. 2025 and 2045 Traffic Conditions

No.	Intersection	Lane	Storage	No Build AM Peak Hour Queue Length (feet)	Build AM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)	No Build PM Peak Hour Queue Length (feet)
17	San Mateo Ave and Tanforan Ave/Shaw Rd	Northbound Left Turn/Through/Right Turn Lane	440	240	840	70	90
17	San Mateo Ave and Tanforan Ave/Shaw Rd	Southbound Left Turn Lane	50	60	60	40	50
17	San Mateo Ave and Tanforan Ave/Shaw Rd	Southbound Through/Right Turn Lane	60	60	60	40	30
18	South Airport Blvd/South Airport Blvd and Belle Aire Rd	Westbound Left Turn Lane 1	90	50	60	140	150
18	South Airport Blvd/South Airport Blvd and Belle Aire Rd	Westbound Left Turn Lane 2	600	80	90	430	960
18	South Airport Blvd/South Airport Blvd and Belle Aire Rd	Westbound Right Turn Lane	200	60	110	230	310
18	South Airport Blvd/South Airport Blvd and Belle Aire Rd	Northbound U-Turn Lane	130	70	70	80	70
18	South Airport Blvd/South Airport Blvd and Belle Aire Rd	Northbound Through Lane	900	450	4,340	9,780	11,740
18	South Airport Blvd/South Airport Blvd and Belle Aire Rd	Northbound Through/Right Turn Lane	900	490	4,380	9,790	11,750
18	South Airport Blvd/South Airport Blvd and Belle Aire Rd	Southbound U-Turn/Left Turn Lane	280	150	240	520	650
18	South Airport Blvd/South Airport Blvd and Belle Aire Rd	Southbound Through Lane 1	800	130	340	630	1,540
18	South Airport Blvd/South Airport Blvd and Belle Aire Rd	Southbound Through Lane 2	800	140	320	590	1,580

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