Islais Creek Bridge Project

TRANSPORTATION IMPACT STUDY – DRAFT #2

Prepared for: San Francisco Public Works

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1.0 INTRODUCTION

The purpose of this Transportation Impact Study (TIS) is to evaluate the transportation and circulation effects during the Islais Creek Bridge Project (herein referred to as the "proposed project") in San Francisco. San Francisco Public Works is the lead agency responsible for the proposed project. Construction is expected to start no sooner than spring of 2025 and last up to 24 months.

The proposed project would demolish the existing bridge and construct a new bridge that would maintain transportation conditions, except the new bridge would expand the existing sidewalk to a shared pedestrian/bike path. This TIS focuses on transportation impacts related to temporary detours required by the proposed project during construction. The impact categories include:

- Vehicle miles traveled (VMT)
- Driving hazards
- Public transit
- Bicycling
- Walking/accessibility
- Loading
- Emergency access

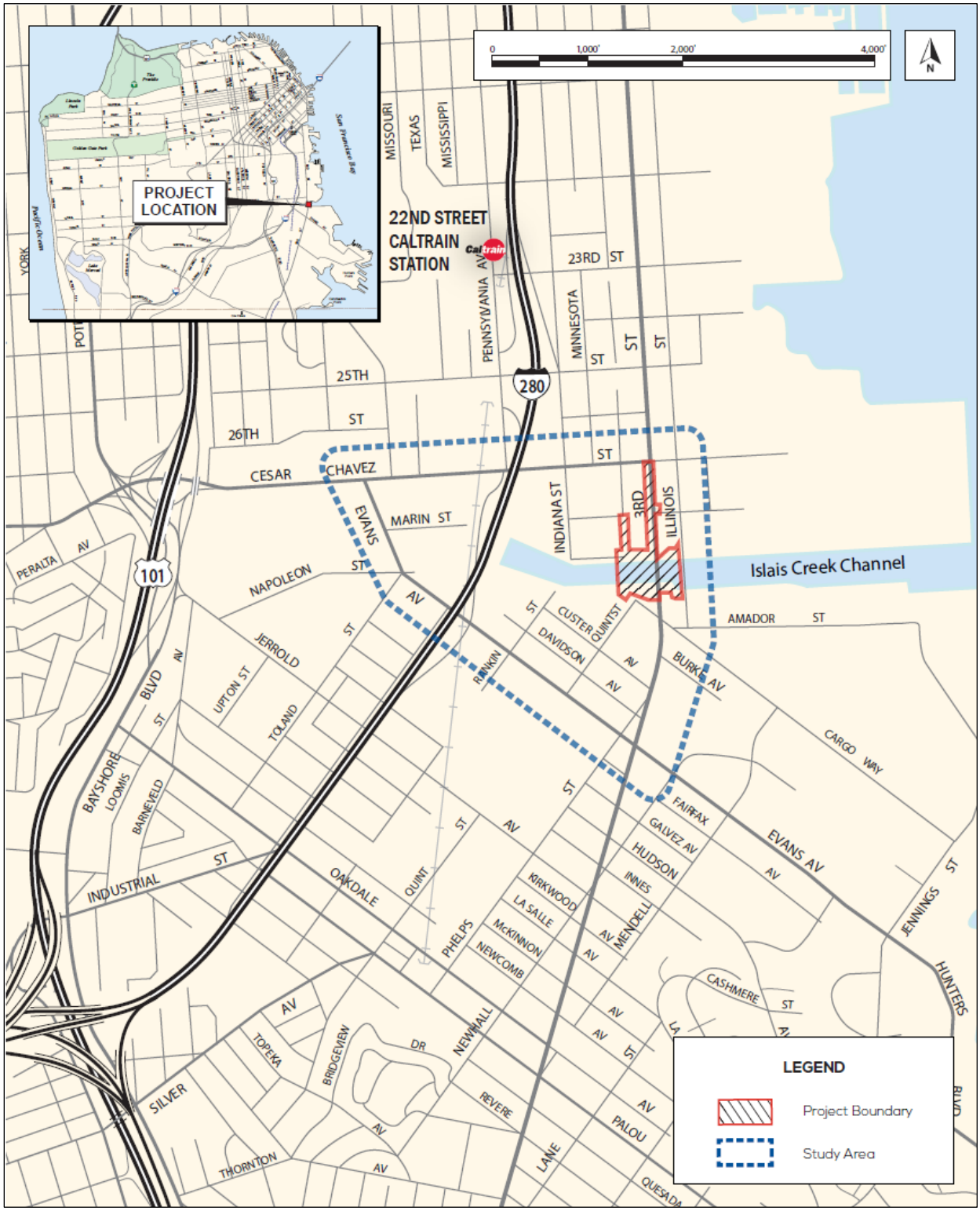
In addition, the TIS describes the operational impacts and cumulative impacts associated with nearby projects that may overlap with the proposed project.

1.1 Project Understanding

San Francisco Public Works (SFPW) is proposing to replace the superstructure of the Islais Creek Bridge (Bridge No. 34C0024) (officially named the Levon Hagop Nishkian Bridge) along Third Street in the City and County of San Francisco (CCSF). The bridge is approximately 1,700 feet east of Interstate 280, and approximately 3,300 feet west of San Francisco Bay (the Bay). The bridge spans the Islais Creek Channel, a dredged, channelized, tidal embayment with predominantly armored shorelines that extends from the Bay to the site of the former outfall of the now culverted and buried Islais Creek. **Figure 1** shows the project boundary and the study area.

The existing bridge is a double-leaf bascule structure (drawbridge) constructed in 1949 with an open steel-grate roadway draining to the bay, and concrete abutments. It is approximately 114 feet long and 100 feet wide. A California Department of Transportation evaluation in 2004 determined that the bridge was significant as an example of Art Moderne style applied to a bridge. The project area is very susceptible to seismic liquefaction and the condition of the bridge's structural system is poor. The bridge originally carried only vehicular traffic, but now additionally carries MUNI light-rail tracks. The deteriorated condition of the bridge makes the bridge deck susceptible to vibration induced by heavy vehicles, trucks, and light-rail vehicles crossing the span. The areas surrounding Islais Creek are at risk of flooding from heavy rainfall events, coastal storm surge, and wave hazards, which will be exacerbated

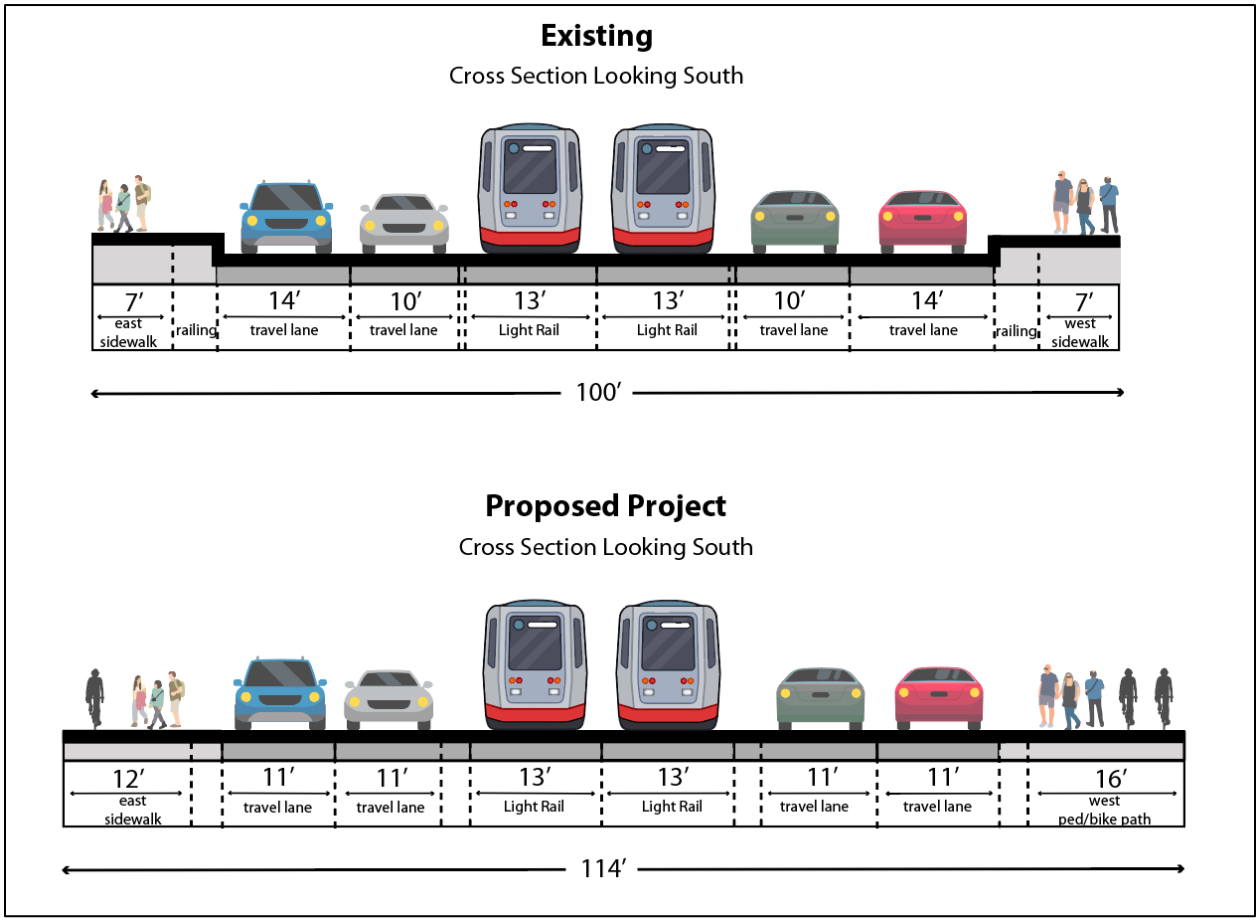
Figure 1 – Islais Creek Bridge Location



by sea-levels rise and rising groundwater. The steel sections of the bridge are increasingly subject to the deleterious effects of corrosion and saltwater intrusion.

The Standard Project Alternative will remove the existing drawbridge leaves, which have not been opened for navigation for over ten years, and all other drawbridge features. These will be replaced by a single-span concrete through-girder bridge with a concrete deck at a higher elevation to improve freeboard for flood flows and to accommodate sea-level rise. In addition to dedicated light-rail-vehicle trackways and two 11-foot travel lanes in each direction, the bridge will support a 12-foot-wide pedestrian path on its eastern side and a 16-foot-wide Class I shared pedestrian/bicycle path on its western side. The reconstructed trackway and roadway will be designed to convey surface runoff to the existing combined sewer/stormwater system. The control tower will be demolished down to the sidewalk level and the remaining portion will be used to create a public observation platform. **Figure 2** illustrates the cross sections of the existing bridge condition in comparison to the proposed project.

Figure 2 – Existing and Proposed Cross Sections of the Islais Creek Bridge



The project's accommodation of a shared bicycle/pedestrian facility (Class I or Class IV) is based on advanced planning between the San Francisco Public Utilities Commission, Port of San Francisco, and the San Francisco Municipal Transportation Agency in response to opportunities presented by the removal

of the bridge's drawbridge function per the City's Islais Creek Southeast Mobility Adaptation Strategy). Although not yet officially designated a bicycle facility, the Islais Creek Bridge and portion of Third Street connecting to Cargo Way will be adopted as part of the updated San Francisco Bicycle Network and citywide active transportation plan that is currently under way and expected to be completed in 2024.

Besides the Standard project alternative described above, there are two other alternatives under consideration. Under the project's No Build Alternative, no modifications will be made to the Islais Creek Bridge; only routine maintenance will be performed. Deterioration will continue to be addressed through short-term remedies but existing bridge structural and seismic deficiencies will remain and worsen. There will be no increase in bridge freeboard, so flood risks to the bridge and light-rail operations will remain and will increase with sea-level rise.

The Partial Preservation Alternative includes the project features described above for the Proposed Project, but will include salvage, rehabilitation, and reinstallation of as many of the historic character-defining features of the original bridge as feasible. If it is determined that for reasons of safety, construction standards, or sound engineering practice any of the character-defining features are not salvageable for reinstallation, these elements will be replicated with substitute materials to recreate the historic appearance. The Control Tower will be retained, its foundation and window system retrofitted, and its damaged concrete repaired.

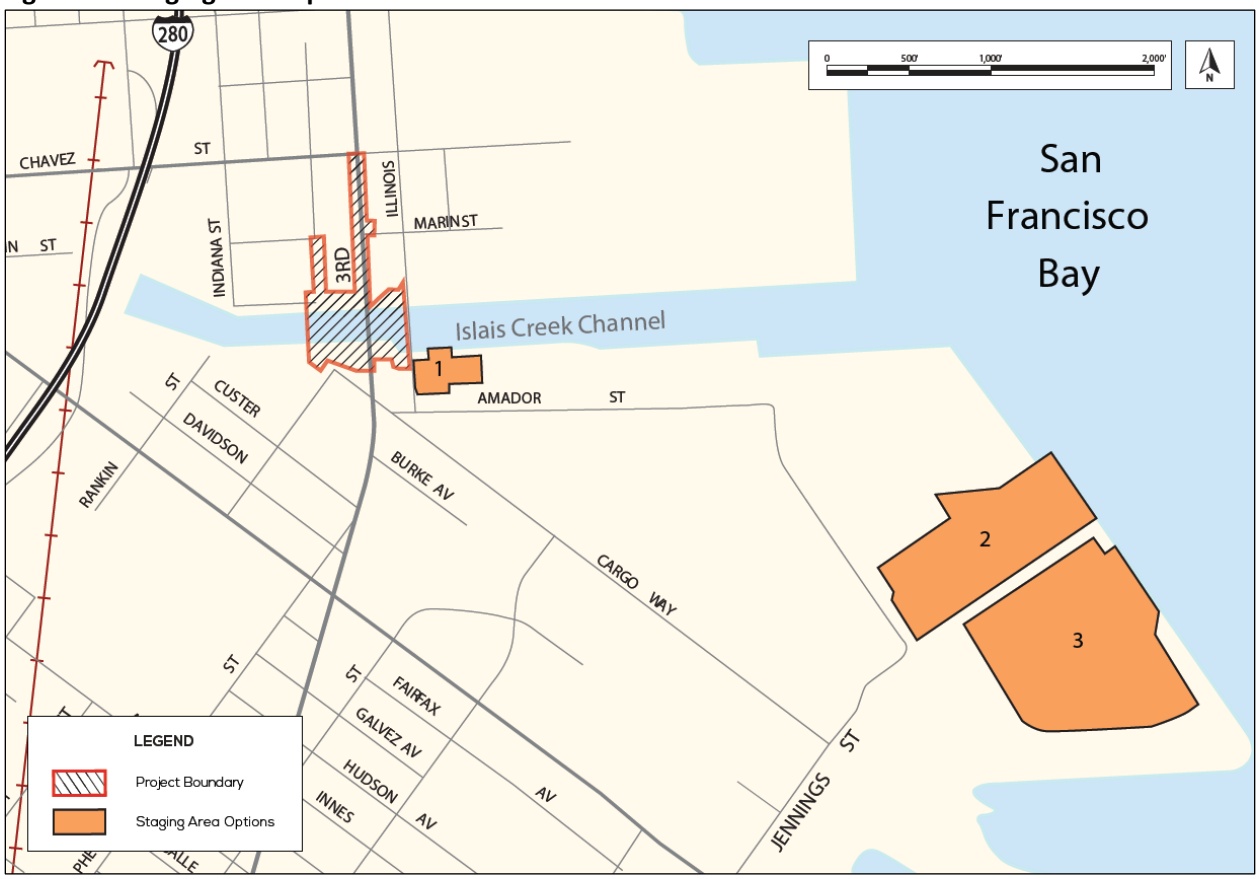
1.1.1 Construction Access and Staging

Construction limits of the proposed project would extend along Third Street between Marin Street and San Francisco Fire Station No. 25 (located at 3305 Third Street), requiring a full closure of Third Street roughly between Cesar Chavez Street to the north and Cargo Way to the south. Existing traffic would be diverted from Third Street to major cross streets such as Cesar Chavez Street and Evans Avenue during project construction. Construction access to the project site would occur via Third Street and the Islais Creek Channel. Areas on the bridge approaches and anchored barges will be used for staging equipment and materials during the demolition of the existing bridge components and the construction of the replacement bridge. In addition, three potential off-site staging areas have been identified (see **Figure 3**):

- Site #1 – An approximately 2.5-acre site is located 500 feet east of the project site along Illinois Street on the south side of the Islais Creek Channel. This site is owned by the Port of San Francisco and is currently used for Port-related storage, transport, and other industrial purposes.
- Sites #2 and #3 - Two sites measuring approximately 22 acres each are located 0.75 miles southeast of the project site along Amador Street near Piers 94 and 96, respectively. These sites are owned by the Port of San Francisco and are currently used for Port-related storage, transport, and other industrial purposes.

One or more of these staging areas could be used to stage and store materials and equipment; staging areas could also serve as a place for construction workers to park their private vehicles. The staging area would be fenced to delineate the boundaries and restrict access to construction workers only.

Figure 3 – Staging Area Options



1.1.2 Bus Bridge and Detour Plan

The San Francisco Public Works would work with the San Francisco Municipal Transportation Agency (SFMTA) to develop a temporary bus bridge plan to replace the existing T-Third light rail service with a bus service between Marin Street Station and Sunnydale Station during the bridge closure. The buses would run along Illinois Street and Cesar Chavez Avenue in both directions, and passengers would transfer between the T-Third rail vehicle and a bus near the 23rd Street Station or Marin Street Station. The bus bridge plan would describe the bus bridge service limits, service routes, stop locations, notifications, and passenger boarding/alighting areas at each stop location along the route. The bus bridge plan would be developed to meet the following:

- Streamline the passenger transfer by shortening walking distance and waiting time;
- Transfer from light rail to bus as far south as possible;
- Minimize disturbance on bus, pedestrians, and traffic when light rail vehicles switch directions;
- Provide safe pedestrian crossings and paths, clear directions, and wayfinding signs for the transfer.

The San Francisco Public Works would also work with the SFMTA to develop a detailed detour plan for the 15-Bayview Hunters Point Express and 91-Third Street/19th Avenue Owl bus routes during project construction.

1.1.3 Construction Activities

The proposed project's construction activities would:

- Demolish the existing bascule leaves, trunnions, counterweights, all electrical equipment, and drive machinery.
- Eliminate the existing reversing curves in the light rail track alignment needed for the existing bascule-drawbridge girder geometry.
- Modify the vertical profile of the roadway and track to improve freeboard for flood flows and to plan for anticipated sea level rise.
- Raise the existing roadway and pedestrian/bicycle paths to match the profile of the reconstructed light rail tracks.
- Reconstruct the light rail trackway in the median of Third Street between the existing light rail station (Marin Street) north of the bridge and the freight rail crossing near Cargo Way south of the bridge. The trackway rails would be affixed to a reinforced concrete slab placed on a layer of aggregate base.
- Remove the existing streetlights on either end of the bridge and reinstall them on new foundations placed within the new sidewalks.
- Construct a closed concrete bridge deck in place of the existing open grid deck.
- Replace the existing clay pipe sewer line with either a new larger-diameter line, or a second supplemental line to carry stormwater to combined sewer system.
- Demolish the upper portion of the control tower to the sidewalk level and rehabilitate the remaining portion to an observation platform with a connection from the reconstructed sidewalk adjacent to the bridge abutment.

1.1.4 Construction Logistics

Specific details of the construction logistics plan would be developed by San Francisco Public Works in coordination with the SFMTA, San Francisco Public Utilities Commission, and other local stakeholders. They may vary depending on construction phases, the characteristics of the existing transportation network, and daily and peak-hour vehicle, pedestrian, and bicycle volumes:

- Create a detour plan that describes temporary detour routes for northbound and southbound vehicles during closure of the Islais Creek Bridge.
- Place detour signs and variable message signs (VMS) at key decision points both north and south of the Islais Creek Bridge to optimize traffic on local and regional roadways.
- Create a temporary detour plan for bicyclists and pedestrians. Advance VMS or static signs shall be placed along Third Street, Cargo Way, and Marin Street to direct bicyclists and pedestrians to Illinois Street, which has bi-directional shared bicycle/pedestrian facilities.
- Deploy flaggers and/or warning signs at the entrance to staging areas and work sites to ensure truck-turning areas are clear of local vehicular traffic, bicyclists, and pedestrians.
- Coordinate construction timelines and related bridge closure conditions with other agencies (e.g., the San Francisco Public Utilities Commission, SFMTA, etc.) to accommodate nearby projects affected by the proposed project.

- Create a public outreach plan to inform affected residents, workers, bicyclists, pedestrians, Muni transit riders, drivers, and business owners about the bridge closure on an ongoing basis.
- Develop a framework for communications with the San Francisco Fire Department (SFFD) during construction and coordinate with the SFFD as needed to ensure that all project construction staging on the south approach to the bridge does not impede fire truck access to/from the adjacent SFFD Station No. 25.[1]

1.2 Transportation Study Scope and Approach

The purpose of the TIS is to provide a comprehensive evaluation of the effects that the proposed project would have on the surrounding transportation network during project construction and operation. The scope of work for this TIS includes a description of the existing conditions and analyses of existing plus project conditions as well as cumulative condition. These are defined as follows:

- Existing Condition - This scenario is assumed to represent the existing conditions "on the ground" at the commencement of this study.
- Existing plus Project Condition – This scenario considers the project-generated trips and detours required by the proposed project.
- Cumulative Condition – This scenario considers concurrent construction traffic or operational trips generated from several planned development and infrastructure projects during the project construction period.

[1] The San Francisco Public Works has been in contact with the SFFD about emergency access and potential project impacts to the SFFD Fire Station 25 during project construction. The SFFD has preliminarily reviewed and will continue to review detour routes as the project gets closer to construction. A framework for communications between the San Francisco Public Works and SFFD during construction is being developed.

2.0 EXISTING CONDITIONS

This section describes the existing transportation conditions including the roadway network, traffic volumes, transit network, and bicycle and pedestrian facilities in the vicinity of the project site.

2.1 Roadway Network

2.1.1 Regional Roadways

The Islais Creek Bridge is located approximately one mile northeast of the interchange of U.S. Highway 101 (U.S. 101) and Interstate 280 (I-280), and both I-280 and U.S. 101 provide freeway access to and from the project site. These freeways are described below.

U.S. 101 is a north-south freeway spanning much of the length of California. It extends north across the Golden Gate Bridge to Marin County and the Pacific Northwest. It extends south to San Jose and Los Angeles. Near the project site, U.S. 101 is an eight-lane freeway with four lanes in each direction. The project site can be directly accessed from the Bayshore Boulevard/Jerrold Avenue off-ramp in the northbound direction and the Cesar Chavez Street off-ramp in the southbound direction. The nearest on-ramps are on Cesar Chavez Street for both the northbound and southbound directions. The average daily traffic volume on U.S. 101 near Faith Street is approximately 247,900 vehicles; the AM and PM peak-hour traffic volumes at this location are approximately 12,460 and 13,160 vehicles, respectively.[2]

I-280 is a north-south freeway that runs between the U.S. 101/I-680 interchange in San Jose and the King Street ramps in San Francisco. Near the project site, I-280 is generally a six-lane freeway with three lanes in each direction. The project area can be accessed from the Cesar Chavez Street off-ramp in the northbound direction or the Pennsylvania Avenue off-ramp in the southbound direction. The nearest on-ramps are on 25th Street in the northbound direction and on Pennsylvania Avenue in the southbound direction. The average daily traffic volume on I-280 near 18th Street is approximately 81,600 vehicles; the AM and PM peak-hour traffic volumes at this location are approximately 4,460 and 5,820 vehicles, respectively.[3]

2.1.2 Local Roadways

The Islais Creek Bridge serves as a major link between the Dogpatch/Central Waterfront neighborhoods and the Bayview/Hunter's Point neighborhoods. Local streets surrounding the proposed Islais Creek Bridge project area are described below.

Third Street runs north and south between Bayshore Boulevard and Market Street. In the vicinity of the project site, Third Street has two travel lanes in each direction, with the T-Third light rail tracks within a center median. A Class 3 bicycle facility runs along Third Street south of Cargo Way. The segment over

[2] Freeway Performance Measurement System, http:pems.dot.ca.gov, 2019.
[3] Freeway Performance Measurement System, http:pems.dot.ca.gov, 2019.

the Islais Creek Channel (i.e., Islais Creek Bridge) has 28-foot-wide light rail tracks in the center, one 10-foot and one-14-foot travel lane in each direction, and 7-foot sidewalks on each side (excluding railings).

The *San Francisco General Plan (General Plan)* designates Third Street as a Major Arterial in the Congestion Management Program (CMP) Network. Third Street is also part of the Metropolitan Transportation System (MTS) Network, a Transit Preferential Street (Transit Important) Street, a Citywide Pedestrian Network Street, a Neighborhood Commercial Pedestrian Street, and a designated Freight Traffic Route.[4] The *Better Streets Plan* identifies Third Street as an Industrial Street north of Jerrold Avenue and a Commercial Throughway south of Jerrold Avenue. Third Street between 23rd Street and Fairfax Avenue is classified as a Vision Zero High Injury Network.[5]

Illinois Street is a two-way, north-south roadway that runs parallel to Third Street, extending between 16th Street and the intersection of Cargo Way and Amador Street. It has one 12-foot travel lane in each direction and Class 2 bike lanes on both sides of the street.[6] On-street parking is provided on both sides of the street north of Marin Street. The segment over the Islais Creek Channel (i.e., the Illinois Street Bridge) has one travel lane in each direction, a freight rail track running in the middle over the vehicle lanes, and a shared bicycle/pedestrian path. The *Better Streets Plan* identifies Illinois Street as an Industrial Street south of 20th Street.[7]

Marin Street is a discontinuous east-west roadway that runs between Michigan and Indiana Streets, with an interruption between Tennessee and Third Streets, and then continues between I-280 and Evans Street. Marin Street has one travel lane in each direction with on-street parking on both sides of the street. There are no bicycle facilities on Marin Street, and it has intermittent sidewalks. The *Better Streets Plan* identifies Marin Street as an Industrial Street.

Amador Street is an approximately half-mile long roadway that runs between Cargo Way and Jennings Street through the Pier 94 and 96 backland areas. It has one travel lane in each direction; on-street parking is intermittently permitted in the off-shoulder areas; and there are no sidewalks. The *Better Streets Plan* identifies Amador Street as an Unaccepted/Paper Street.[8]

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[4] *San Francisco General Plan*, Transportation Element, July 1995.

[5] https://sfgov.maps.arcgis.com/apps/webappviewer/index.html?id=fa37f1274b4446f1bdddd7bdf9e708ff

[6] Bikeways are typically classified as Class 1, Class 2, Class 3, or Class 4 facilities. Class 1 bikeways are bike paths with exclusive rights-of-way for use by bicyclists, with minimal cross flow by motorized vehicles. Class 2 bikeways are bike lanes striped within the paved areas of roadways and established for the exclusive use of bicyclists. Class 3 bikeways are signed bike routes that allow bicycles to share streets with vehicles. Class 4 bikeways are separated bikeways exclusively for bicycles, physically separated from motorized traffic with a vertical feature.

[7] *San Francisco Better Streets Plan*, December 2010. Industrial streets are defined by large-scale production, distribution, and repair facilities that have an assortment of challenging impacts on streetscape character. These streets typically have a less active street frontage punctuated by large driveways, loading docks, and other auto-serving facilities, and front on wide streets that accommodate large trucks. Sidewalks and streetscape amenities are often minimal.

[8] An "unaccepted street" is any public right-of-way not accepted by the city for maintenance. A "paper street" is an unimproved street that is demarcated on maps and legislated as a public right-of-way but that may not actually exist on the ground.

Cargo Way is an approximately 0.75-mile-long east-west roadway that runs between Quint Street and Jennings Street. It has two travel lanes in each direction, and no on-street parking is provided. A Class 4 bicycle facility runs along Cargo Way. Approximately six-foot-wide sidewalks are provided along the south side of the road, with no sidewalks on the north side. The *General Plan* designates Cargo Way as a Freight Traffic Route. The *Better Streets Plan* identifies Cargo Way as an Industrial Street.

Cesar Chavez Street is a two-way east-west street that runs between Guerrero Street and Third Street. In the vicinity of the project site, Cesar Chavez Street has two travel lanes in the eastbound direction and one travel lane in the westbound direction, with no on-street parking on either side. Class 2 bicycle lanes run along Cesar Chavez Street between San Jose Avenue and Illinois Street. There are continuous sidewalks along both sides of the street west of Michigan Street. The *General Plan* identifies Cesar Chavez Street as a Major Arterial between San Jose Avenue and Third Street in the CMP Network, a Freight Traffic Route, and as part of the MTS Network. The *Better Streets Plan* identifies Cesar Chavez Street as an Industrial Street. Cesar Chavez Street is classified as a Vision Zero High Injury Network east of Third Street.

Evans Avenue runs east-west between Cesar Chavez Street and the India Basin waterfront where it becomes Hunters Point Boulevard. In the vicinity of the project site, Evans Avenue has two 10-to 11-foot travel lanes in each direction and on-street parking on both sides of the street. A Class 3 bicycle facility runs along Evans Avenue west of Third Street, and a Class 2 bicycle facility runs along Evans Avenue east of Third Street. There are continuous sidewalks along both sides of the street east of Rankin Street. The *General Plan* identifies Evans Avenue as a Major Arterial between Cesar Chavez Street and Third Street, a designated Freight Traffic Route, and as part of the MTS Network. The *Better Streets Plan* designates Evans Avenue as an Industrial Street between Cesar Chavez Street and Hunters Point Boulevard. Evans Street between Cesar Chavez Street and Mendell Street is classified as a Vision Zero High Injury Network.

2.1 Traffic Volumes

CHS Consulting Group (CHS) collected the existing vehicle turning movement counts at the eight intersections listed below that would likely be affected by detour traffic during the Islais Creek Bridge Project. The volumes were collected on Wednesday, May 11, 2022, during the AM peak (7 a.m. to 9 a.m.) and PM peak (4 p.m. to 6 p.m.) periods, except for the Evans Avenue and Cesar Chavez Street intersection. Volumes at Evans Avenue and Cesar Chavez Street intersection were collected on Tuesday, October 4, 2022.

1. Third Street / Evans Avenue
2. Third Street / Cargo Way
3. Third Street / Cesar Chavez Street
4. Third Street / Marin Street
5. Illinois Street / Cargo Way / Amador Street
6. Illinois Street / Marin Street
7. Illinois Street / Cesar Chavez Street

8. Evans Avenue/ Cesar Chavez Street

Figure 4 presents the intersection lane configurations, and **Figure 5** presents the traffic volumes for the weekday AM and PM peak hours. The AM peak hour occurred between 8 a.m. and 9 a.m., and the PM peak hour occurred between 4:15 p.m. and 5:15 p.m. at most intersections.[9] During the AM peak hour, the Islais Creek Bridge carries approximately 620 northbound vehicles and 460 southbound vehicles. During the PM peak hour, Islais Creek Bridge carries approximately 620 northbound vehicles and 530 southbound vehicles. **Appendix A** includes the traffic volume data.

[9] The AM peak hour occurred from 7:15 a.m. to 8:15 a.m. at the intersection #5, from 7:30 a.m. to 8:30 a.m. at the intersections #1 and #6, from 7:45 a.m. to 8:45 a.m. at the intersections #4 and #7, and from 8:00 a.m. to 9:00 a.m. at the intersections #2, #3, and #8. The PM peak hour occurred from 4:00 p.m. to 5:00 p.m. at the intersections #5, #6, and #7, and from 4:15 p.m. to 5:15 p.m. at the intersections #1, #2, #3, #4, and #8.

Figure 4 – Study Intersection Lane Configurations

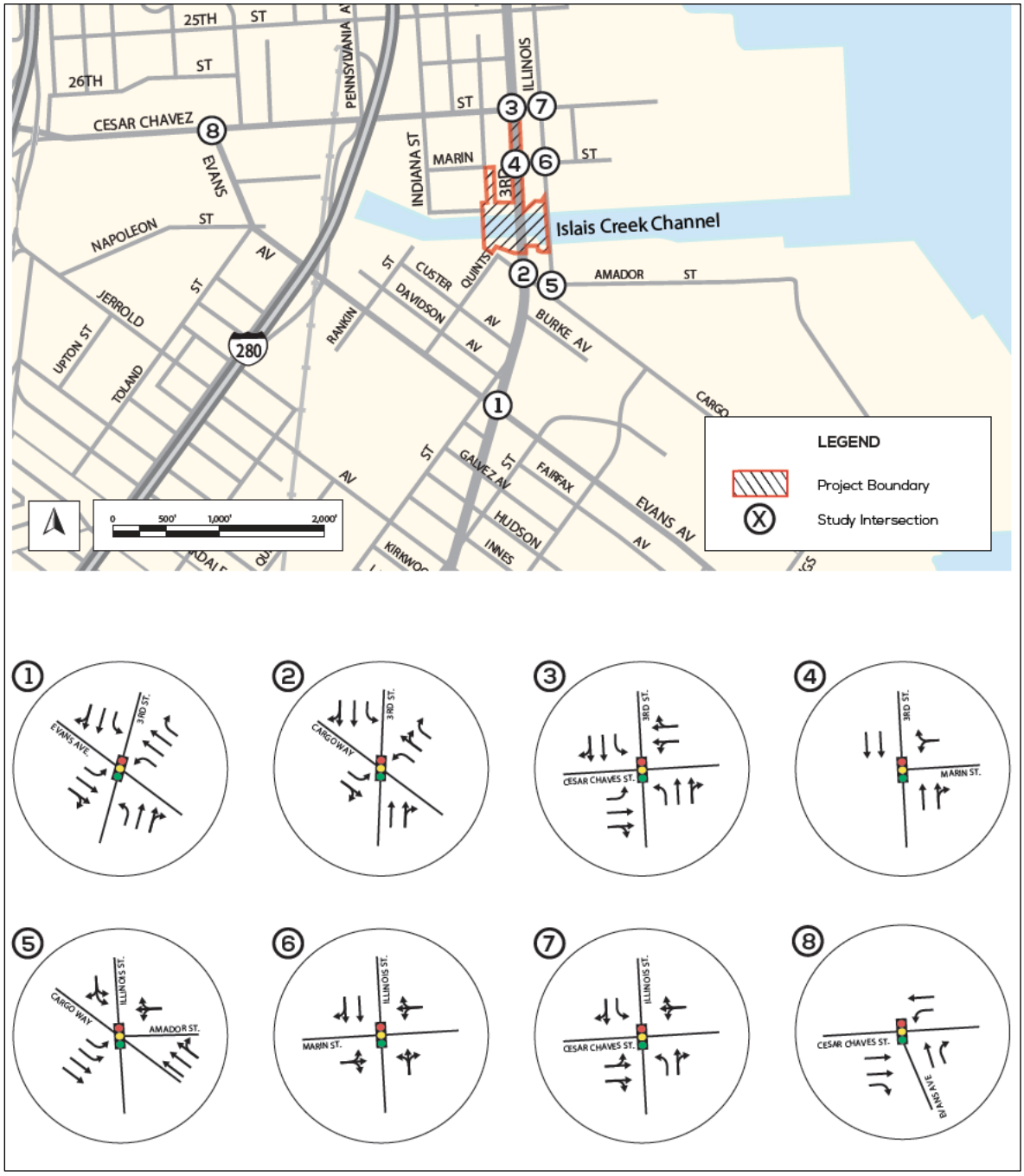
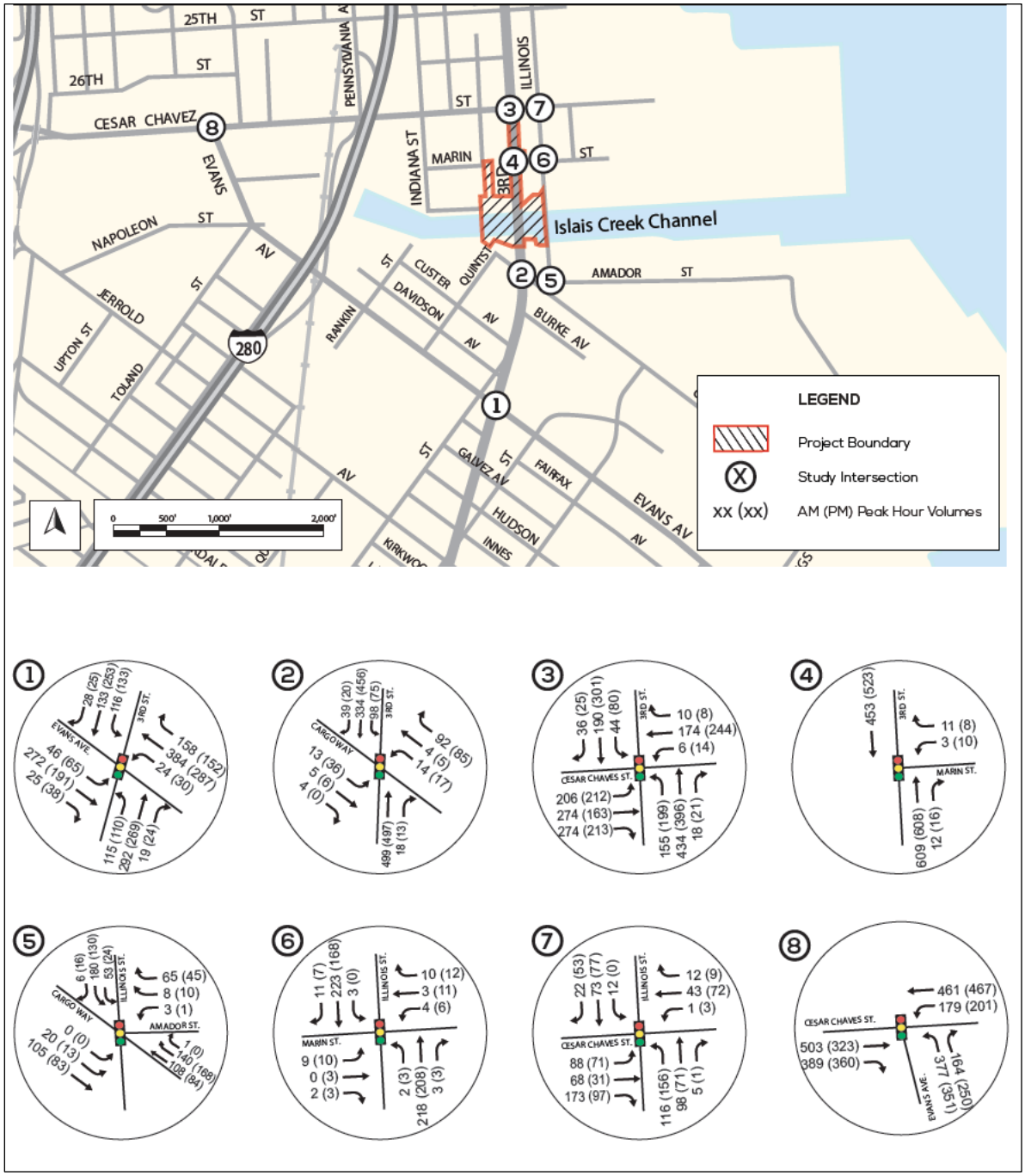
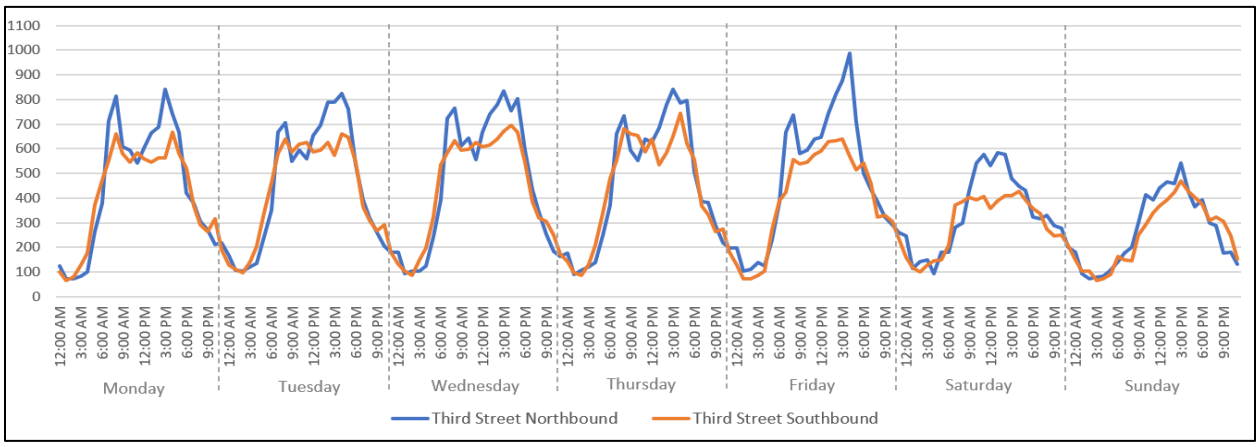


Figure 5 – Existing Traffic Volumes



CHS also collected 24-hour traffic volumes along Third Street on the Islais Creek Bridge from Monday, May 9 to Sunday, May 15, 2022, and from Friday, May 20, 2022, to Saturday, May 21, 2022.[10] **Figure 6** presents the hourly traffic volumes along the Islais Creek Bridge over a seven-day period. It shows that the PM peak hour volumes are higher than AM peak or midday volumes; the highest volume on the Islais Creek Bridge occurred on Friday between 4 p.m. and 5 p.m.[11]; and traffic volumes are generally low between 6 p.m. and 7 a.m. On a typical weekday, the Islais Creek Bridge carries approximately 15,930 daily vehicles, including 7,750 trips in the southbound direction and 8,180 trips in the northbound direction. **Appendix A** includes the traffic volume data.

Figure 6 – Hourly Traffic Volumes on Islais Creek Bridge



Source: CHS Consulting, 2022

2.2 Transit Network

Muni provides transit service within the City and County of San Francisco, including bus, light rail (Muni Metro), cable car, and electric streetcar routes. Muni operates six bus routes and one light rail route in the vicinity of the project site as shown in **Figure 7**. They include the following three routes operating across the Islais Creek Bridge:

- T- Third Street operates six light rail vehicles per hour during the AM and PM peak periods with a capacity of approximately 1,428 passengers per hour in each direction.[12]
- 15- Bayview Hunters Point Express operates six buses per hour during the AM and PM peak periods with a capacity of approximately 378 passengers per hour in each direction.[13]
- 91-Third Street/19th Avenue Owl replaces the T-Third Street light rail and 15-Bayview Hunters Point Express service from 12:00 a.m. to 6:00 a.m. and operate 1 bus per hour during this period.

[10] Southbound traffic volumes were re-counted on May 20 and 21 because the counts on May 13 and 14 failed due to street sweeping activities.
[11] The peak northbound traffic on Friday, May 20, 2022, at 4 p.m. may be caused by the traffic bound to the Warriors vs. Maverick game at the Chase Center starting at 6 p.m.
[12] It's assumed that the capacity of a 2-car light rail is approximately 238 passengers.
[13] It's assumed that the capacity of a 40-foot motor coach is approximately 63 passengers.

Figure 7 – Transit Network near Islais Creek Bridge Study Area

Table 1 summarizes transit routes that operate in the vicinity of the project site.

Table 1 – Local Muni Routes

Route[1]	Weekday Headway (min)		Hours of Operation	Nearest Stop Location (Distance to Project Site in feet)[2]
	AM	PM		
T –Third Street	10	10	5:00 a.m. – 12:50 a.m.	3rd Street/Marin Street (300)
15 – Bayview Hunters Point Express	10	10	5:10 a.m. – 10:20 p.m.	3rd Street/Marin Street (300)
91 – Third Street/19th Avenue Owl	30	30	12:00 a.m. – 6:00 a.m.	3rd Street/Marin Street (300)
19 – Polk	15	15	5:10 a.m. – 10:40 p.m.	Evans Avenue/ Phelps Street (1,500)
44 – O'Shaughnessy	12	12	24 hours	Evans Avenue/ 3rd Street (1,500)
48 – Quintara/24th Street	15	15	24 hours	25th Street/ Pennsylvania (3,000)
54 – Felton	20	20	5:50 a.m. – 11:00 p.m.	Newhall Street/ Hudson Street (2,700)

Source: SFMTA, 2023.

Notes:

1. Does not include a planned demand-response shuttle service for the Bayview community neighborhood scheduled for operation between spring 2023 and spring 2026 (source: https://www.sfmta.com/sites/default/files/reports-and-documents/2022/04/5-5-22_cac_item_9_our_community_our_shuttle_program_slide_presentation.pdf)
2. Distances are approximate and are measured from the center of the project site along local streets to reach the nearest transit stop.

While local transit service to and from the project site is provided by Muni bus and light rail lines, these services can also be used to connect to regional transit operators. Regional service is primarily provided by the Bay Area Rapid Transit (BART) at the 24th Street/Mission station (located about two miles west of the project site) and the 22nd Street Caltrain station (located about one mile north of the project site). Muni route 48- Quintara/24th Street provides a direct connection to the 24th Street/Mission station; and Muni Routes 19-Polk and T-Third provide access to the 22nd Street Caltrain station.

In addition, there are three SFMTA facilities in the vicinity of the project site:

- Islais Creek (1301 Cesar Chavez Street) – Motor coach storage
- Marin (1399 Marin Street) – Motor coach acceptance, track shop, and streetcar storage
- Muni Metro East (601 25th Street) – Light rail and streetcar facility

2.3 Pedestrian Conditions

Pedestrian amenities generally include sidewalks, crosswalks, curb ramps, pedestrian signals, and streetscape and landscape amenities (e.g., benches, tree-lined buffers, planters, bulb-outs, and street lighting). The Islais Creek Bridge includes sidewalks on both sides of the bridge that connect to the existing sidewalks along Third Street both north and south of the bridge. There are continuous sidewalks along Third Street, Illinois Street, and Cesar Chavez Street (west of Michigan Street), but there are limited sidewalks along Cargo Way, Marin Street, and Amador Street. Third Street between 23rd Street and Fairfax Avenue, Cesar Chavez Street east of Third Street, and Evans Street between Cesar Chavez Street and Mendell Street are classified as part of the Vision Zero High Injury Network.

Pedestrian counts were collected on Wednesday, May 11, 2022, during the AM and PM peak hours. Pedestrian volumes are generally low to moderate in the vicinity of the Islais Creek Bridge, with approximately 35 pedestrian crossings just north of the bridge at the Third Street / Marin Street intersection and 21 pedestrian crossings just south of the bridge at the Third Street / Cargo Way intersection during the PM peak hour. It is estimated that approximately 20 pedestrians walked on the Islais Creek Bridge during the PM peak hour and approximately seven pedestrians walked on the Illinois Street bridge during the PM peak hour.[14] **Table 2** includes the existing pedestrian crossing volumes at each intersection. **Appendix A** includes detailed counts.

Table 2 – Pedestrian Crossings during Weekday AM and PM Peak Hours

Intersection	North Crosswalk	South Crosswalk	East Crosswalk	West Crosswalk	Total
Third Street / Evans Avenue	16 / 14	19 / 34	25 / 22	20 / 11	80 / 81
Third Street / Cargo Way	0 / 0	1 / 1	9 / 10	5 / 10	15 / 21
Third Street / Cesar Chavez Street	4 / 4	5 / 4	8 / 8	21 / 15	38 / 31
Third Street / Marin Street	1 / 3	15 / 9	17 / 10	14 / 13	47 / 35
Illinois Street /Cargo Way /Amador Street	1 / 0	0 / 3	4 / 3	0 / 1	5 / 7
Illinois Street / Marin Street	1 / 5	0 / 7	1 / 3	2 / 8	4 / 23
Illinois Street / Cesar Chavez Street	0 / 0	3 / 7	4 / 1	2 / 9	9 / 17
Evans Avenue / Cesar Chavez Street	2 / 1	4 / 3	7 / 7	8 / 4	21 / 15

Source: CHS Consulting, 2022

2.4 Bicycle Conditions

Bikeways are typically classified as Class 1, 2, 3, or 4 facilities. Class 1 bikeways are bike paths with exclusive rights-of-way for use by bicyclists, with minimal cross flow by motorized vehicles. Class 2 bikeways are bike lanes striped within the paved areas of roadways and established for the exclusive use of bicyclists. Class 3 bikeways are signed bike routes that allow bicycles to share streets with vehicles. Class 4 bikeways are separated bikeways exclusively for bicycles, physically separated from motorized traffic with a vertical feature. In the vicinity of the project site, there are existing bicycle facilities along

[14] Pedestrians crossings at the east and west crosswalks at the Third Street/Cargo Way intersections are assumed to cross the Islais Creek Bridge. Pedestrians crossings at the south crosswalks at the Illinois Street/Marin Street intersections are assumed to cross the Illinois Street Bridge.

Third Street, Illinois Street, Cesar Chavez Street, Cargo Way, and Evans Avenue, all of which are part of the San Francisco Bicycle Network or the San Francisco Bay Trail system. **Figure 8** shows these facilities.

Bicycle counts were collected on Wednesday, May 11, 2022, during the AM and PM peak hours. There were approximately five people bicycling on the Islais Creek Bridge during the PM peak hour and approximately 25 people bicycling on the Illinois Street bridge during the PM peak hour.[15] **Table 3** includes the existing bicycle counts at each intersection. **Appendix A** includes detailed counts.

Table 3 – Bicycle Volumes during Weekday AM and PM Peak Hours

Intersection	Northbound	Southbound	Eastbound	Westbound	Total
Third Street / Evans Avenue	3 / 4	6 / 3	6 / 3	1 /1	16 / 11
Third Street / Cargo Way	8 / 5	2 / 1	0 / 1	2 / 1	12 / 8
Third Street / Cesar Chavez Street	0 / 3	2 / 2	0 / 2	0 / 2	2 / 9
Third Street / Marin Street	4 / 4	1 / 1	0 / 0	0 / 0	5 / 5
Illinois Street /Cargo Way /Amador Street	10 / 6	12 / 15	5 / 5	0 / 0	27 / 26
Illinois Street / Marin Street	16 / 8	14 / 17	0 / 1	0 / 1	30 / 27
Illinois Street / Cesar Chavez Street	22 / 10	12 / 16	3 / 2	2 / 1	39 / 29
Evans Avenue / Cesar Chavez Street	6 / 8	-	38 / 7	7 / 15	51 / 30

Source: CHS Consulting, 2022

2.5 Emergency Access

The SFFD Fire Station No. 25 is located at 3305 Third Street immediately south of the Islais Creek Bridge project site. Emergency vehicles from Fire Station No. 25 currently make either left turns or right turns when they exit. There is a KEEP CLEAR zone in the northbound travel lanes in front of Fire Station No. 25 to allow emergency vehicles to turn in and out in the southbound direction on Third Street.

2.6 Loading Conditions

The project site is located in an industrial area, and several industrial buildings in the area have large off-street loading bays for commercial truck deliveries. There are no on-street freight (yellow) loading spaces along Third Street in the vicinity of the project site. Loading activities in the area generally occur at loading bays attached to warehouses or along available curb spaces.

[15] Bicycles travelling in the northbound and southbound directions at the Third Street/Marin Street intersection are assumed to cross the Islais Creek Bridge. Bicycles travelling in the northbound and southbound directions at the Illinois Street/Marin Street intersection are assumed to cross the Illinois Street Bridge.

Figure 8 – Bicycle Network near Islais Creek Bridge Study Area

3.0 CONSTRUCTION-RELATED PROJECT TRAVEL DEMAND AND DIVERSION ANALYSIS

The proposed project would demolish an existing bridge and construct a new bridge that would maintain the existing transportation conditions, except the new bridge would expand the existing sidewalk to a shared pedestrian/bike path. Therefore, this section focuses on the proposed project's construction-related travel demand and diversion analysis. The proposed project would affect traffic circulation during the project's construction in two ways:

1) The project would generate temporary construction-related trips, including construction worker trips, material and equipment deliveries, and hauling truck trips associated with bridge demolition and construction activities.
2) The proposed project would cause a diversion of existing traffic from Third Street to other streets during a temporary closure of the Islais Creek Bridge.

This section describes the assumptions for construction-related trip generation and traffic diversions during the project construction which is expected to last for up to 24 months.

3.1 Construction Trip Generation

The proposed project would generate trips by construction workers traveling to and from the project site, material and equipment deliveries, and hauling truck trips associated with excavation and transport of construction materials and equipment. These construction-related trips would be temporary and the number would vary daily, depending on the construction phase, planned activity, and material delivery needs. The assumptions described below informed the construction-related trips for the transportation analysis.

- Construction Worker Trips – The total number of workers would vary from 10 to 40 individuals, with an average of 20 workers a day. Workers would be on site for typical 8-hour daytime shifts from 9 a.m. to 5 p.m.; nighttime and weekend construction is not anticipated. This analysis is conservative and relies on the maximum number (40 individuals) to estimate the project's travel demand. Using this number, the proposed project would generate up to 80 daily worker trips, including 40 inbound trips during the AM peak hour and 40 outbound trips during the PM peak hour. All construction workers are assumed to drive alone and approach the project site either from the north or the south side of the bridge.
- Truck Trips – The proposed project would generate truck trips to deliver equipment and materials and to transport debris off site. The proposed project would generate up to 16 daily truck trips, spread over a 6-hour period between 9 a.m. and 3 p.m. and avoiding typical weekday AM and PM commute peak periods.[16]

[16] Phone conversation with San Francisco Public Works staff Oscar Gee in April 2016.

Based on the assumptions for construction worker trips and truck trips above, the proposed project would generate up to 96 daily trips (80 worker trips and 16 truck trips) during project construction. During the PM peak hour, the proposed project would generate a maximum of 40 worker trips and no truck trips.

3.2 Construction-Related Diversion Analysis

The proposed project would require a full closure of the Islais Creek Bridge for up to 24 months, and a detour of traffic would be required during the construction period. While all modes of travel including private vehicles, transit, bicycles, and pedestrians would be affected during the full closure, this section focuses on vehicular traffic diversion. Construction-related diversion analysis for transit, bicycles, and pedestrians are discussed in *Section 5.1*.

The San Francisco County Transportation Authority (SFCTA) ran its SF-CHAMP travel demand model for the Islais Creek Bridge closure scenario to understand the routes and the distribution of diverted trips during the bridge closure.[17] The outputs from the SFCTA's model run showed the changes in traffic volumes along different roadways in the study area before and during the closure of the Islais Creek Bridge for the AM and PM peak periods. CHS used this information to determine the detour routes and the distribution of diverted trips. CHS applied the distribution percentages for the AM and PM peak periods to the actual volumes collected on the Islais Creek Bridge during the AM and PM peak hours. **Appendix B** includes the model outputs and the estimation of diverted volumes during the AM and PM peak hours.

Table 4 presents the summary of diversion percentages for each detour route during the AM and PM peak periods based on the SFCTA's model run. Most of the traffic (up to 78 percent) would be diverted to local streets including Evans Avenue and Illinois Street Bridge, and the remainder would use freeways including U.S. 101 and I-280.

Table 4 – Distribution of Diverted Trips during the Project's Construction Period

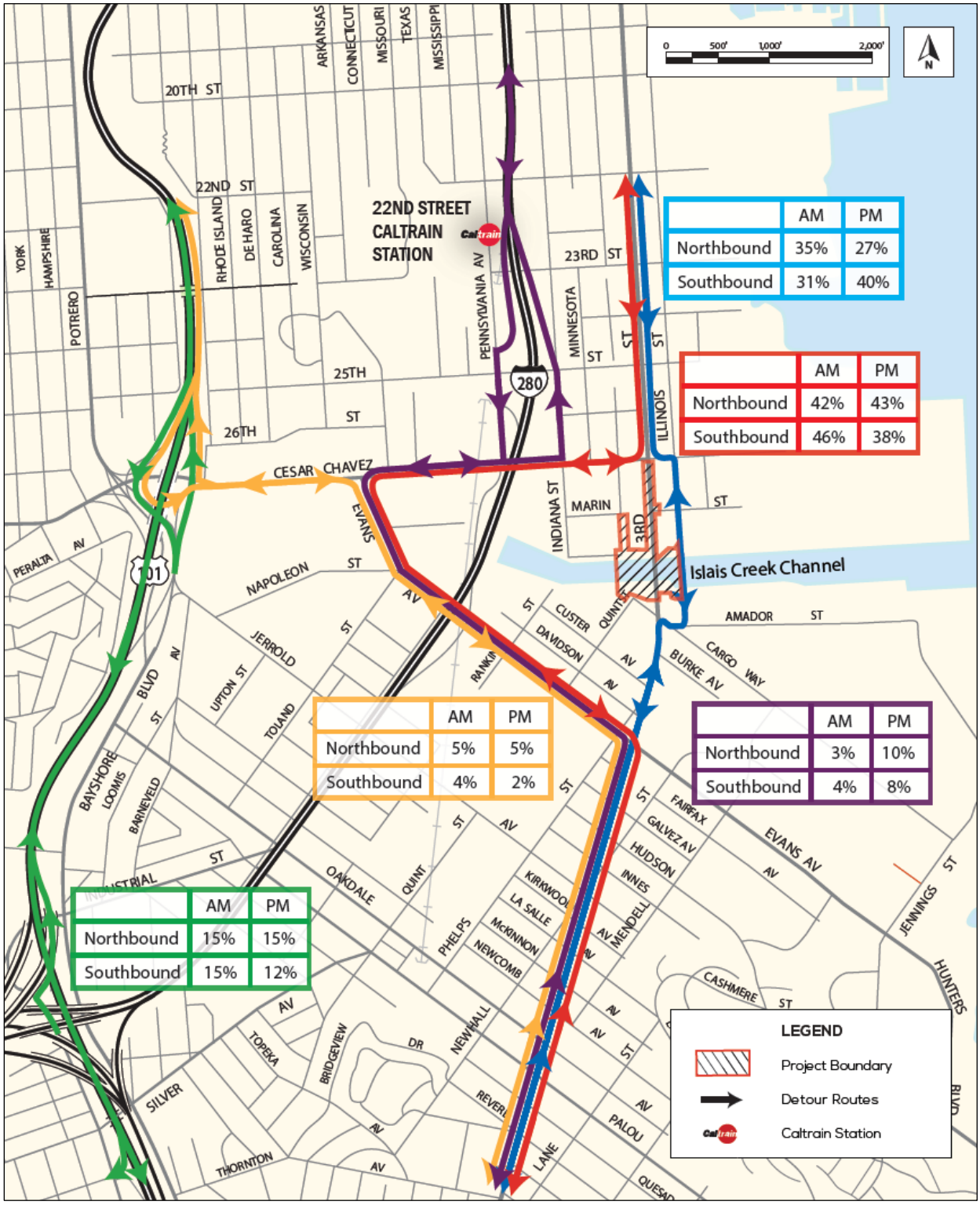
Detour Route	AM Peak Period		PM Peak Period	
	Northbound	Southbound	Northbound	Southbound
Evans Avenue – Cesar Chaves	42%	46%	43%	38%
Illinois Street Bridge	35%	31%	27%	40%
U.S. 101 via ramps south of Islais Creek	15%	15%	15%	12%
U.S. 101 via Cesar Chaves ramps	5%	4%	5%	2%
I-280	3%	4%	10%	8%
Total	100%	100%	100%	100%

Source: SFCTA and CHS Consulting, 2023

Figure 9 shows the expected distribution of diverted vehicles along detour routes during AM and PM peak periods.

[17] Model outputs were provided by Drew Cooper in SFCTA on March 1, 2023.

Figure 9 – Distribution of Diverted Trips during the Project's Construction Period



Local roadways and freeways near the project site would experience increased traffic volumes due to the construction-related trip generation and diverted trips from the Islais Creek Bridge during the project construction. **Table 5** shows the traffic volume changes along detour routes during the project construction for the PM peak hour. **Appendix B** includes a detailed volume table.

Table 5 – Changes in PM Peak Hour Traffic Volumes due to Diversion during Project's Construction Period

Location	Existing Volumes		Diverted Trips[1,2]		Existing plus Diverted Trips[3]	
	NB/WB	SB/EB	NB/WB	SB/EB	NB/WB	SB/EB
Illinois Street Bridge	214	177	208	212	422	389
Evans Avenue west of Third Street	418	294	361	255	779	549
Cesar Chavez Street east of Evans Avenue	668	573	244	330	903	912
U.S. 101 south of Islais Creek	7,936	5,320	94	64	8,030	5,384

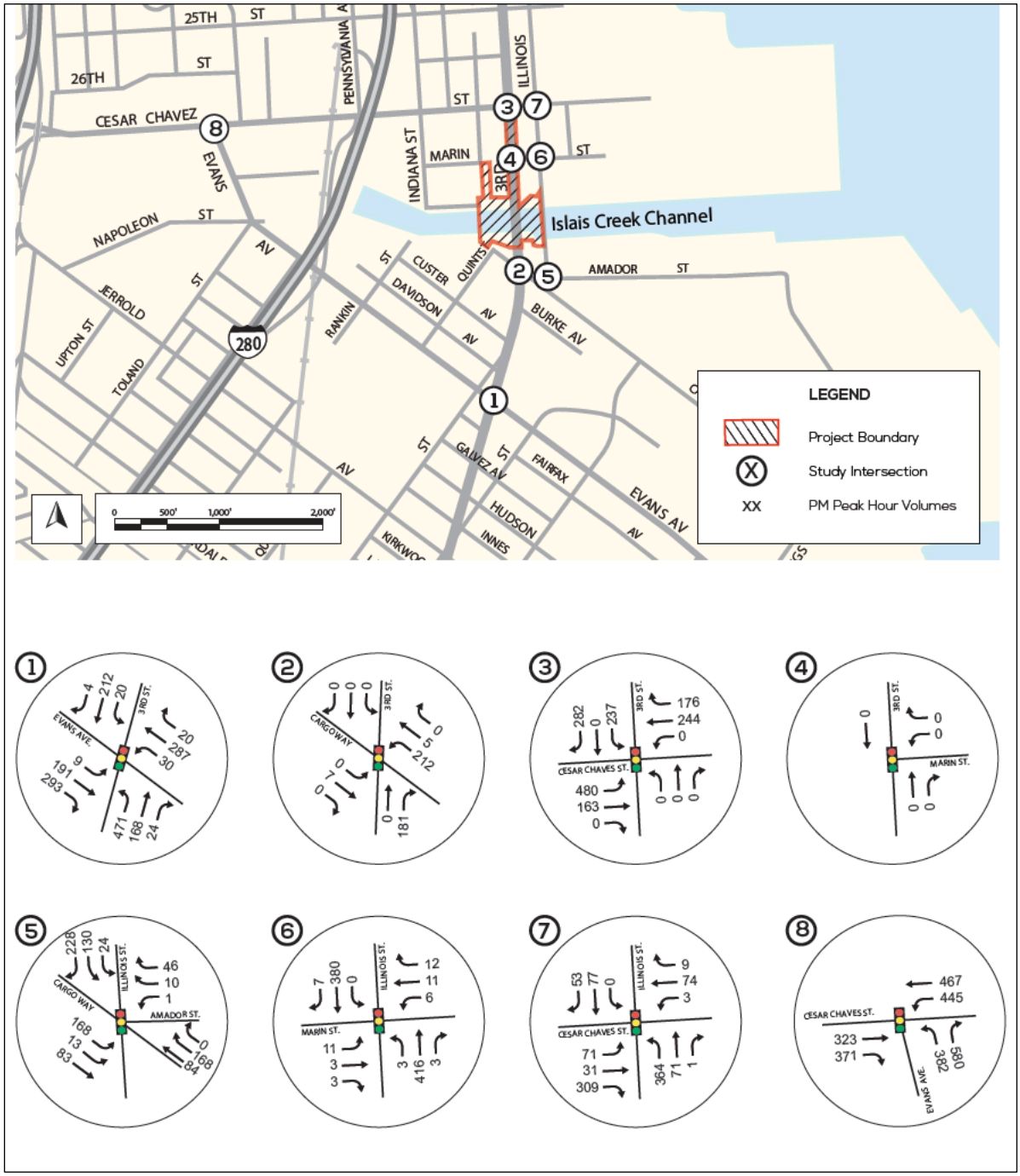
Source: SFCTA and CHS Consulting, 2023

Notes: NB=Northbound; EB=Eastbound; SB=Southbound; WB=Westbound.

1. Diverted volumes do not add up to the total volumes on Islais Creek Bridge because most of the traffic diverted to Evans Avenue also end up on Cesar Chavez Street.
2. Include 40 construction worker trips on the northbound Illinois Street Bridge.
3. "Existing plus Diverted Trips" conservatively represent the diverted trips from Third Street added onto the 2022 existing volumes along detour routes although the detour routes would have a reduction in background traffic volume due to the diversion.

Figure 10 shows the traffic volumes after diversion at local intersections during the project construction.

Figure 10 – PM Peak Hour Traffic Volumes after Diversion during Project's Construction Period



4.0 REGULATORY SETTING

The State of California Department of Transportation (Caltrans), 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.

There is no specific significance criteria or thresholds for evaluating transportation-related environmental effects under National Environmental Policy Act (NEPA), and the standard practice in NEPA impact analysis is to apply relevant State and local significance criteria and thresholds. Caltrans does not have any guidance on assessing traffic impacts under NEPA. Therefore, this report generally follows the City of San Francisco's updated significance criteria. The San Francisco Planning Department uses the significance criteria presented below to facilitate the transportation analysis and separates the significance criteria into construction and operation.

4.1 Construction

Construction of a project would have a significant effect on the environment if it would require a substantially extended duration or intense activity; and the effects would create potentially hazardous conditions for people walking, bicycling, or driving, or public transit operations; or interfere with accessibility for people walking or bicycling or substantially delay public transit.

4.2 Operation

The operational impact analysis addresses the following six significance criteria. A project would have a significant effect if it would:

- Create potentially hazardous conditions for people walking, bicycling, or driving or public transit operations
- Interfere with accessibility of people walking or bicycling to and from the project site, and adjoining areas, or result in inadequate emergency access
- Substantially delay public transit

- Cause substantial additional VMT or substantially induce additional automobile travel by increasing physical roadway capacity in congested areas (i.e., by adding new mixed-flow travel lanes) or by adding new roadways to the network
- Result in a loading deficit and the secondary effects would create potentially hazardous conditions for people walking, bicycling, or driving or substantially delay public transit
- Result in a parking deficit and the secondary effects would create potentially hazardous conditions for people walking, bicycling, or driving, or interfere with accessibility for people walking or bicycling or inadequate access for emergency vehicles, or substantially delay public transit

5.0 IMPACT ANALYSIS

This chapter assesses temporary transportation impacts during project construction and permanent operational impacts.

5.1 Construction Impacts

5.1.1 Vehicle Miles Traveled (VMT)

The proposed project would require a full closure of the Islais Creek Bridge for up to 24 months, and a temporary detour of traffic would be required during this period. As presented in *Section 3.2*, the majority of existing traffic on Islais Creek Bridge are expected to be diverted to nearby local streets including Illinois Street Bridge and Evans Avenue to Third Street increasing a minimal travel distance for diverted trips (up to approximately 0.5 miles per trip). The rest would be diverted to the U.S. 101 via ramps south of Cesar Chavez Avenue and I-280 via ramps at Cesar Chavez Avenue and increase a minimal travel distance for diverted trips (up to approximately 0.8 miles per trip). In addition, construction-related worker commute trips and truck trips (up to 96 daily trips) would also generate VMT. However, the VMT increases due to construction-related trips and diverted trips would be temporary in nature, lasting for a maximum of 24 months. In addition, construction-related worker commute trips and truck trips (up to 96 daily trips) would also generate VMT. However, the VMT increases due to construction-related trips and diverted trips would be temporary in nature, lasting for a maximum of 24 months.

5.1.2 Driving Hazards

The proposed project would temporarily close Third Street and require diverting approximately 620 northbound vehicles and 530 southbound vehicles from the Islais Creek Bridge during the PM peak hour. These vehicle trips would be spread to multiple roadways including Illinois Street, Evans Avenue, Cesar Chavez Street, and freeways (i.e., U.S 101 and I-280). As presented in *Section 3.2*, local roadways would experience increased traffic volumes with the diverted trips; however, these trips are not expected to cause substantial delays or queues as the volume-to-capacity ratio along the detour routes would remain under 0.85 with the diverted traffic during the PM peak hour.[18] **Appendix B** includes a detailed diversion and capacity analysis.

The proposed project would also generate approximately 16 daily truck trips and up to 40 construction worker vehicle trips during the PM peak hour. These construction-related trips would occur along Illinois Street and Evans Avenue. Illinois Street has a 12-foot travel lane in each direction, and Evans Avenue has two 10-to 11-foot travel lanes in each direction. These local roadways are wide enough to accommodate truck turning movements. As part of the proposed project, construction logistics will be developed in coordination with SFMTA and in compliance with city regulations in the *Regulations for Working in San Francisco Streets* (Blue Book), transportation code, and public works code. The construction logistics

[18] Assumes the roadway capacity is 500 vehicles per hour per lane on Local streets (e.g., Illinois Street) and 900 vehicles per hour per lane on Major Arterials (e.g., Evans Avenue and Cesar Chavez Street) based on the SFCTA's San Francisco Travel Demand Forecasting Model Development Data Development Final Report, SFCTA 2002.

may include, but would not be limited to, posting advance warning signs, detour signs, and variable message signs along detour routes to avoid vehicles making turns at uncontrolled or stop sign-controlled intersections. Moreover, the proposed project would deploy flaggers or temporary traffic signals at the entrance to staging areas to facilitate safe truck turning movements.

5.1.3 Public Transit

An approximately two-year closure of the Islais Creek Bridge would affect the operation of Muni's T-Third light rail, 15– Bayview Hunters Point Express, and 91-Third Street/19th Avenue Owl bus routes which currently operate across the bridge. As part of the proposed project, the San Francisco Public Works would work with the SFMTA to provide a temporary bus bridge service in place of the existing T-Third light rail between Marin Street Station and Sunnydale Station during the project construction. The buses would run along Illinois Street and Cesar Chavez Avenue instead of Third Street, and passengers would transfer between the T-Third rail vehicle and a bus near the 23rd Street station or Marin Street station. Full details of the temporary bus service including the last light rail station, passenger pick-up/drop-off locations, bus frequency, and passenger transfer route would be developed by the San Francisco Public Works and SFMTA as the project's design progresses.

The San Francisco Public Works would also work with the SFMTA to develop a detailed detour plan for the 15-Bayview Hunters Point Express and 91-Third Street/19th Avenue Owl bus routes to minimize transit delays during construction. It is anticipated that these routes would be rerouted along Cesar Chavez Street, Illinois Street, and Cargo Way. Rerouting along Illinois Street would increase a travel distance for these routes by approximately 0.5 miles per trip and increase a travel time by up to two minutes per trip.[19] As described in *Section 5.1.2*, the diverted trips and construction-related trips are not expected to cause extensive vehicle queues or delays along these roadways because the increased traffic volumes would be within their carrying capacity. Muni routes 19-Polk and 44-O'Shaughnessy operate along Evans Avenue and a section of Cesar Chavez Street, which are part of detour routes. Minimal delays are expected for the 44-O'Shaughnessy and 19-Polk Muni bus routes since there would be no extensive vehicle queues or delays along these roadways.

5.1.4 Walking/Accessibility

During the project construction, people walking would not be able to cross the Islais Creek Bridge due to the closure. Based on the counts of people crossing at the Third Street/Marin Street and Third Street/Cargo Way intersections, approximately 20 pedestrians walked on the Islais Creek Bridge during the PM peak hour. During the bridge closure, people approaching from either side of the bridge would be directed to use the Illinois Street Bridge via continuous sidewalks along Cargo Way, Rosa Parks Plaza, and Illinois Street as shown in **Figure 11**. On the Illinois Street Bridge, people walking would use the west sidewalk which is shared with people bicycling.

This detour would temporarily increase the walking distance for people by approximately 500 feet. The project construction would not interfere with accessibility or create potentially hazardous conditions for people walking since detour routes include clearly defined sidewalks and crosswalks with pedestrian

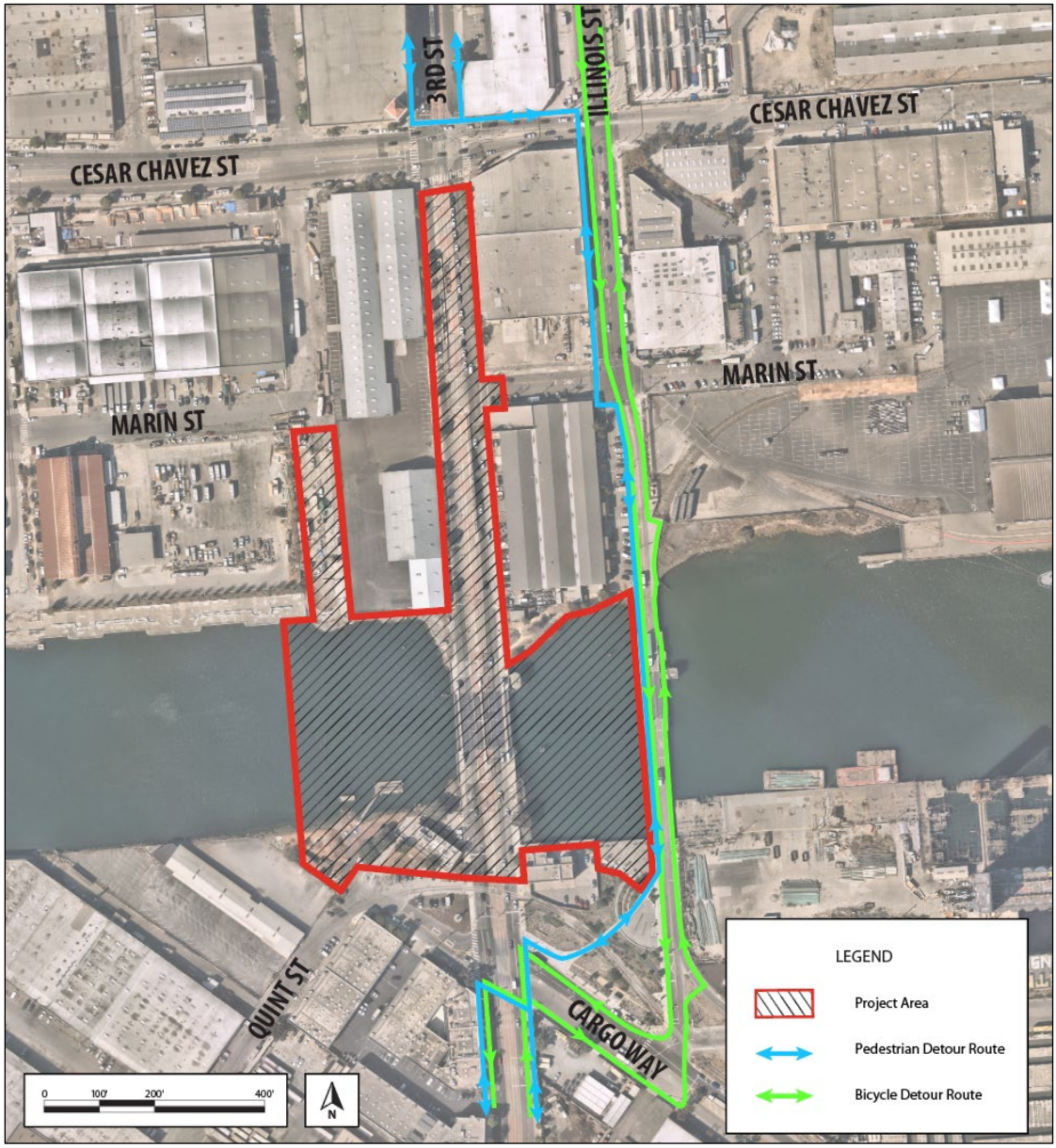
[19] Assumes a bus travel speed of 15 miles per hour.

signals and continuous walking path with comparable width and pedestrian environment. Moreover, the construction logistics would include posting advance warning signs, pedestrian detour signs, and VMS along Third Street and other detour routes to provide a clear path of travel for people walking.

5.1.5 Bicycling

During project construction, people bicycling would not be able to cross the Islais Creek Bridge in either direction. Based on the counts of people bicycling along Third Street at the intersection with Marin Street, there are approximately five people bicycling across the Islais Creek Bridge during the PM peak hour. Alternatively, people bicycling would be directed to detour to the Illinois Street Bridge via Cargo Way (Class 2 bike facility) or Cesar Chavez Street (with a Class 3 bike facility) as shown in **Figure 11**.

Figure 11 – Pedestrian and Bicycle Detour Routes during Project's Construction Period



This temporary detour would temporarily increase the travel distance for those bicycling between the Third Street / Cargo Way and Third Street / Marin Sreet intersections by approximately 1,100 feet. The project construction would not interfere with accessibility or create potentially hazardous conditions for bicyclists as detour routes would direct people bicycling to existing bike facilities with safety features (e.g., bi-directional shared bicycle / pedestrian facilities along the Illinois Street Bridge). Moreover, the construction logistics would include advance warning signs, bicycle detour signs, and VMS along Third Street and other detour routes.

5.1.6 Emergency Access

The project construction would involve minor trenching activities to access a manhole in front of the driveway of Fire Station No. 25. The San Francisco Public Works would coordinate with the SFFD to develop a communications framework and ensure the access for emergency response vehicles at all times.[20]

During the project construction, emergency vehicles would access the Mission Bay and Bayview/Hunters Point neighborhoods using the adjacent Illinois Street Bridge in lieu of the Islais Creek Bridge. Although the proposed project would divert more traffic to the Illinois Street Bridge and nearby streets, such an increase in vehicles would not be substantial enough to impede or hinder the movement of emergency vehicles in the project area because the vehicle-to-capacity ratio along detour routes would remain under 0.85 with the diverted traffic during the PM peak hour. The construction logistics would include providing advance notices to SFFD Administration, Station No. 25, and SFFD Fireboat concerning the schedule of bridge closures and accessibility to Islais Creek, by construction phase.

5.1.7 Loading

The proposed project would temporarily close Third Street between Cesar Chavez Street and the driveway of San Francisco Fire Station No. 25. This area does not have any on-street loading zones. Access to private driveway(s) on Third Street south of Cesar Chavez Street would be maintained for local vehicle access. Other nearby loading docks would be accessible from Marin Street or Illinois Street. Loading activities for the Islais Creek Park would continue to be accommodated via Arthur Avenue and Quint Street.

In conclusion, the project construction would generate construction-related trips and result in the temporary closure of the Islais Creek Bridge requiring the existing traffic, transit vehicles, emergency vehicles, and people bicycling or walking to use alternate routes. The construction-related trips and diverted traffic would not create potentially hazardous conditions for the traveling public because the local roadways are wide enough to accommodate truck turning movements and the diverted traffic would be distributed across multiple roadways within their carrying capacity. The project construction

[20] The San Francisco Public Works has been in contact with the SFFD about emergency access and potential project impacts to the SFFD Fire Station 25 during project construction. The SFFD has preliminarily reviewed and will continue to review detour routes as the project gets closer to construction. A framework for communications between the San Francisco Public Works and SFFD during construction is being developed.

would not interfere with the accessibility for people walking or bicycling because the detour routes would include clearly defined sidewalks and crosswalks and existing bike facilities with safety features.

Muni routes 15-Bayview Hunters Point Express and 91-Third Street/19th Avenue Owl would be rerouted along Cesar Chavez Street, Illinois Street, and Cargo Way with a minimal increase in their travel time during project construction. A temporary bus service would be provided to replace the existing T-Third light rail service between the Marin Street station and Sunnydale station during the closure of the Islais Creek Bridge; however, the exact headways and transfer locations for this bus bridge service will not be known until closer to the construction. Without full details of the bus bridge operation, there is a potential that the project construction could substantially delay the T-Third light rail operation. The following measure is proposed to minimize delays for T-Third light rail:

Mitigation Measure TRA-1: Provide a Comparable Level of Service for T-Third Light Rail
The San Francisco Public Works shall work with the SFMTA to provide a comparable level of service for the proposed bus bridge which would replace the T-Third light rail service during the project construction. The bus bridge shall not increase the T-Third's travel time by more than one half of the existing headways. Implementing **Mitigation Measure TRA-1** would minimize transit delays because it would require the San Francisco Public Works and the SFMTA to provide a comparable level of bus service for the T-Third light rail without substantial delays.

5.2 Operational Impacts

After the construction is completed, the Islais Creek Bridge would be replaced with a fixed-span bridge from the existing drawbridge, and its transportation condition would be restored similar to the existing conditions.

- *VMT* – The new bridge would have the same number of travel lanes as the Existing Condition, and vehicles would continue to use the same travel routes as the Existing Condition. Since the proposed project would not increase roadway capacity, it is not expected to induce any new vehicle trips or increase VMT after the construction is completed.
- *Driving Hazards* –The width of outer travel lanes on the new bridge would be reduced from 14 feet to 11 feet, and this change would reduce the chance of vehicles speeding in outer lanes. The width of inner travel lanes on the new bridge would increase from 10 feet to 11 feet with wider barriers between the light rail tracks and travel lanes. This would reduce potential conflicts between vehicles and transit and improve safety.
- *Public Transit* – Light rail tracks would remain the same as the Existing Condition with slightly wider barriers between the tracks and adjacent travel lanes. These improvements would reduce potential conflicts between vehicles and transit. The current speed limit for light rail vehicles along the bridge is 10 mph due to the nature of a drawbridge. After the construction is completed, the new fixed-span bridge would support an increased speed limit for light rail vehicles up to 25 mph. This would increase travel speed and reduce T-Third running time.
- *Walking/Accessibility and Bicycling* – The new bridge would include wider pedestrian and bicycle paths (16-foot shared pedestrian/bicycle path on the west side and 12-foot sidewalks on the east side) compared to the 7-foot sidewalks on each side. The widened shared paths for

pedestrians and bicyclists would improve pedestrian and bicycle accessibility and reduce potential conflict between bicycles and vehicles.

- *Emergency Access* – After the construction is completed, the Islais Creek Bridge would be restored to similar to the Existing Condition, and emergency vehicles from and to the SFFD Fire Station No. 25 would use the Islais Creek Bridge to travel to and from the north. The new lane width on the Islais Creek Bridge would be 11 feet in both directions and would be adequate for emergency vehicles.
- *Loading* - After the construction is completed, the Islais Creek Bridge would be restored, and there would be no change to loading conditions in the project vicinity.

5.3 Cumulative Conditions

As previously stated, the proposed project would result in the same travel lane configuration as the existing condition with the exception of the wider sidewalks on the east side and the wider pedestrian/bicycle shared path on the west side when fully constructed. The proposed project would not generate any new permanent trips by any mode of transportation but would require a temporary closure of the Islais Creek Bridge for up to 24 months during project construction. This section analyzes potential cumulative impacts due to concurrent construction or future development projects that may generate additional trips during the project construction period from spring 2025 to spring 2027.

5.3.1 Cumulative Construction Impacts

The following project may potentially overlap with the project construction:

- *The Muni Metro East Expansion Project (2019-014784PRJ)* – The Muni Metro East is a 17-acre bus yard located at the southeast corner of Illinois Street and 25th Street, approximately 2,000 feet northeast of the Islais Creek Bridge. The Muni Metro East Expansion project would convert approximately four acres on the east side of the site to a temporary transit vehicle surface storage area with associated maintenance facilities. Construction activities for this project are scheduled from April 2024 to August 2025.

This cumulative project would partially overlap with the project construction from the start of the project construction (spring 2025) to August 2025, may generate additional construction-related trips and require access near the project site during this period. The City of San Francisco requires contractors to coordinate construction project sponsors to minimize any potential construction transportation impacts caused by overlapping projects. They will be required to develop a construction traffic management plan that includes measures to reduce potential construction traffic conflicts, such as staggering start and end times or adjusting the overall construction schedule.

5.3.2 Cumulative Operational Impacts

The proposed project would result in the same travel lane configuration as the existing condition and would not generate any new permanent trips.

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