

Executive Summary

Overview

The San Francisco Bay Area Rapid Transit District (BART) has been in operation since 1972 and currently operates in four Bay Area counties: San Francisco, Alameda, Contra Costa, and San Mateo. The most recent extensions to the BART system are the extensions to Dublin/Pleasanton in eastern Alameda County, to Pittsburg/Bay Point in eastern Contra Costa County, and to the San Francisco International Airport in San Mateo County, with a terminus in Millbrae, California.

In 1991, BART prepared an environmental impact report (EIR) for the Warm Springs Extension (WSX) to fulfill the requirements of the California Environmental Quality Act (CEQA). The EIR analyzed a series of alternatives for extending BART to the Warm Springs area. In 1992, the BART Board of Directors certified the Final EIR and adopted a project consisting of a 5.4-mile, two-station extension of the existing BART system, with stations at Irvington and Warm Springs and an aerial BART alignment over Lake Elizabeth in Fremont Central Park. (See Figure ES-1.) The BART Board also approved a subway alignment under Lake Elizabeth as a design option contingent on local funding.

When the Final EIR was certified in 1992, Fremont did not support the recommended project alternative, which included the aerial alignment in Fremont Central Park. Fremont did support the alternative that included a subway alignment under Lake Elizabeth. Sufficient funds were not available to construct either alternative. However, because of public support for the extension of rail transit service from Fremont, BART continued to consider the possibility of an extension and other transit agencies continued to study the regional corridor.

In 2002, BART initiated the preparation of a Supplemental EIR (SEIR) pursuant to CEQA to address the modifications to the project studied in the 1992 EIR. The principal modification from the 1992 project was the change from an aerial structure to a subway alignment under Fremont Central Park and Lake Elizabeth, reducing environmental impacts to the park. Additionally, the project included only one new station at Warm Springs, with an optional station at Irvington. On June 26, 2003, the BART Board of Directors certified the Final SEIR (San Francisco Bay Area Rapid Transit District 2003) and adopted the modified project as analyzed in the SEIR. The 1992 EIR and 2003 SEIR are available for review upon request at BART headquarters, 300 Lakeshore Drive, 21st Floor, Oakland, CA 94612.

Recent changes in state transportation funding priorities have resulted in BART's seeking federal funding for the project. BART and the Federal Transit Administration (FTA) are preparing this environmental impact statement (EIS) to satisfy the requirements of the National Environmental Policy Act (NEPA) and other

environmental requirements that apply to federal actions, in order to enable BART to apply for federal funding.

For purposes of this EIS, BART is considering two alternatives for the Warm Springs Extension: the BART Warm Springs Extension Alternative (WSX Alternative) and the No-Build Alternative. These alternatives are described in detail in Chapter 3, *Preferred Alternative and Other Alternatives Considered*. The WSX Alternative evaluated in this EIS is identical to the Proposed Project analyzed in the 2003 SEIR. No changes to the project design concept or scope have been made since the adoption of the proposed project by the BART Board of Directors in 2003. This EIS incorporates by reference material from the CEQA EIR and SEIR, and does not consider in detail alternatives that were evaluated during the CEQA process and found not to satisfactorily meet the project's purpose and need. The reasons that those alternatives were dismissed from further evaluation in this EIS are discussed in detail in Chapter 3.

Purpose and Need

The purpose and need for the project are briefly summarized below and discussed in detail in Chapter 2, *Purpose and Need*.

The proposed 5.4-mile BART extension to the Warm Springs district of Fremont, would improve the regional transit network by enhancing the link between the southern Alameda County-northern Santa Clara County area and the rest of the East Bay, and San Francisco. By shortening travel times and improving reliability, the BART extension is expected to generate additional transit ridership and reduce overall traffic congestion. The Warm Springs Extension would help accommodate projected future growth in employment and population, reduce pressure to expand roads, and support the region's efforts to meet state and federal air quality standards.

Transportation has become a critical issue for people living and working in the southern Alameda County and northern Santa Clara County. The surge in population, including nearly a 20 percent population increase over the past decade in the City of Fremont, has increased traffic on regional roadways. Highway improvements have not kept up with the demand for more highway capacity. Congestion on Interstate 680 and Interstate 880, the two major regional roadways linking Santa Clara, Alameda, and Contra Costa Counties, has worsened considerably over the last decade, and escalating traffic volumes have reached levels considered unacceptable by the California Department of Transportation and other regional monitoring agencies. Improved transit service could better meet existing local and regional transportation demand and increase transportation capacity to accommodate future growth in areawide employment and population.

The increased traffic volume and congestion in the region resulting from growth in employment and population has contributed to increased pollutant emissions in the study area. The WSX Alternative corridor is located within the San Francisco Bay Area Air Basin (SFBAAB), which is designated by the State of California as a serious non-attainment area for ozone and a non-attainment area for inhalable particulate matter (PM10). The U.S. Environmental Protection Agency (EPA) has designated the SFBAAB as an unclassified nonattainment area for 1-hour ozone (2006 attainment deadline), and a marginal non-attainment area for 8-hour ozone. The Metropolitan Transportation Commission (MTC) identifies transit as an alternative to the private automobile that can reduce annual average daily traffic (AADT), which would reduce vehicular emissions in the air basin (Metropolitan Transportation Commission 2001). The Warm Springs Extension was named a

Transportation Control Measure in MTC Resolution 2131-the Transportation Contingency Plan of the 1982 Air Quality Plan.

Increased traffic volumes and longer commuting distances for employees have combined to increase the number of vehicle miles traveled annually in the Bay Area. Traffic congestion also has meant that automobiles frequently travel at slower and less efficient speeds, which contributes not just to air pollution, but to less efficient use of energy that could be used for other regional needs.

Transportation improvements should be consistent with smart growth principles by promoting infill development rather than sprawl. Improved access to high-volume transit systems, such as BART, supports smart growth goals by enabling more clustered, compact growth. Transit stations become an important part of the community and can serve as a catalyst for transit-oriented development (TOD). TOD promotes a mixture of land uses, such as restaurants, convenience and other retail stores, and high-density residential use.

The purpose of the WSX project is to address transportation and air quality problems in the project corridor with a transit project that will:

- increase transit access and ridership,
- improve environmental quality,
- provide development catalyst for transit-oriented development,
- ensure compatibility with adjacent land uses and planned development,
- provide transportation services equitably to all segments of the population,
- support community goals and institutional objectives,

Alternatives Analyzed in the Environmental Impact Statement

The alternatives analyzed in this EIS are the No-Build Alternative and the WSX Alternative.

No-Build Alternative

As described in Chapter 3, *Alternatives Considered*, the purpose of evaluating the No-Build Alternative is to allow decision-makers to compare the impacts of the WSX Alternative with the impacts of not approving the action. For the purpose of this EIS, the No-Build Alternative represents the consequences of deciding not to construct a project (i.e., the No-Action Alternative required by NEPA). In this case, the BART Board adopted the WSX Alternative in June 2003 as a state- and locally funded project without federal involvement. If the No-Build Alternative were selected as the outcome of the EIS evaluation, BART could continue with construction of the 2003 Adopted Project provided that sufficient state and local funding were found. However, at this time, it does not appear that such funding is reasonably likely to be available, which is why BART is seeking to satisfy requirements for federal funding eligibility through the NEPA review process. Selection of the No-

Action Alternative at the conclusion of NEPA review would likely result in the WSX Alternative not being constructed until a substantially later date.

Accordingly, for the purposes of this analysis, the No-Build Alternative does not include a BART extension to Warm Springs, and assumes that transit services offered by BART will continue at current levels, except for limited improvements in service frequency. In addition, the No-Build Alternative assumes that commitments to transportation improvements planned by other agencies will be carried out. The No-Build Alternative represents the conditions that would be reasonably expected to occur in the foreseeable future if the WSX Alternative were not approved. These conditions are based on current plans and are consistent with available infrastructure and community services, which, for the purposes of this analysis, include current rail services provided by BART, and bus service provided by Alameda Contra Costa Transit District (AC Transit), and Santa Clara Valley Transportation Authority (VTA). Programmed highway improvements included in MTC's 2001 Regional Transportation Plan, such as the addition of an HOV lane to I-680 over the Sunol Grade, are also included in this alternative. Fremont's grade separations project has also been assumed in this alternative. These transportation improvements would occur even if the WSX Alternative is not implemented. The No-Build Alternative does not include the proposed VTA BART extension to Santa Clara County and San Jose.

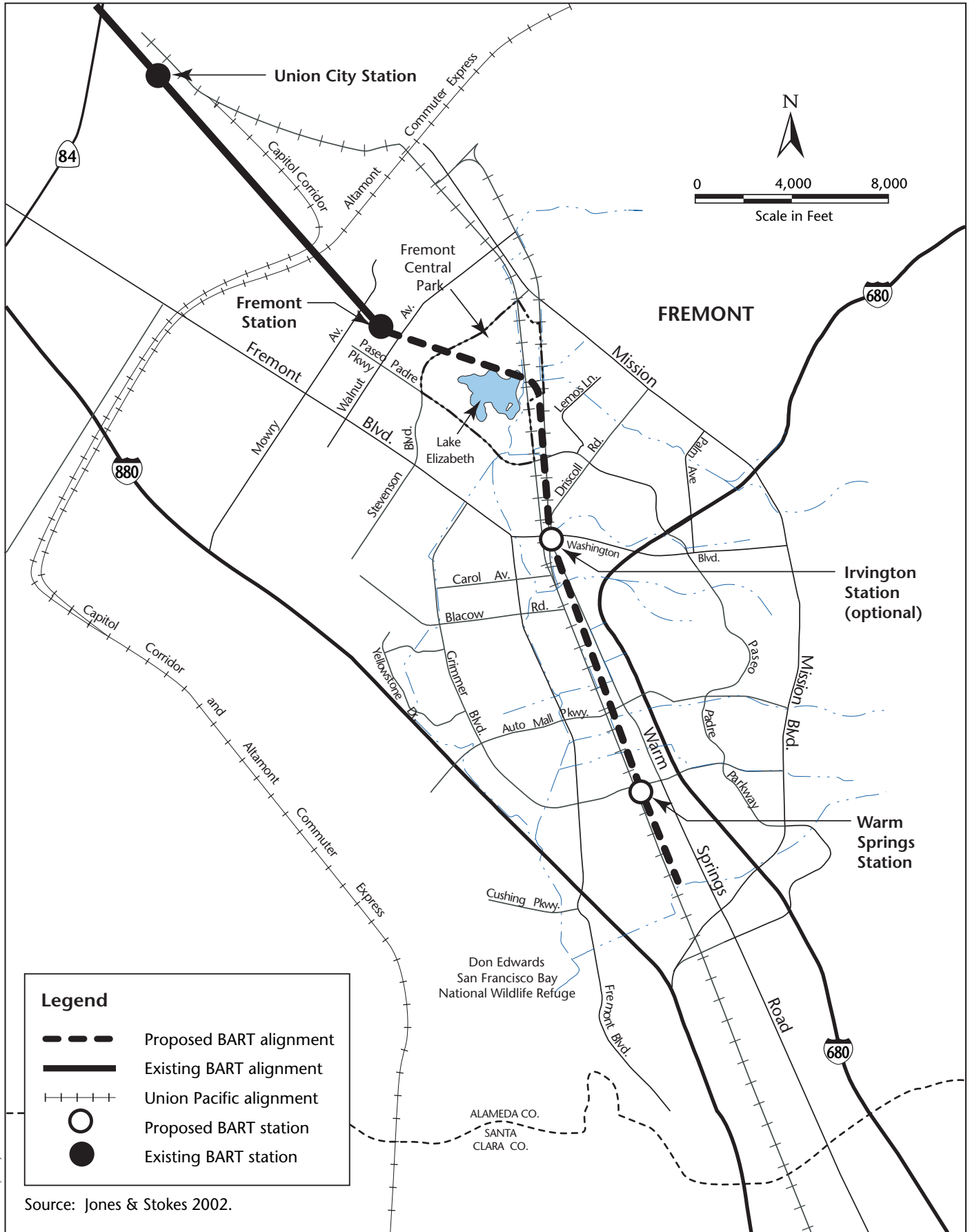
The No-Build Alternative would not have certain impacts that would occur with implementation of the WSX Alternative, such as potential disturbances to hazardous materials, increased stormwater flows, temporary loss of flood storage, potential soil erosion and sedimentation, disturbance to sensitive species or habitat, residential and business displacements, visual impacts, disturbances of sensitive archaeological and historic resources, local intersection impacts, noise, and vibration effects. However, unlike the WSX Alternative, the No-Build Alternative would fail to address continuing long-term traffic congestion, and traffic-related air quality and energy benefits would not be realized. Projected growth in the area also would not be accommodated in a manner consistent with "smart growth" principles.

WSX Alternative

The WSX Alternative alignment would generally parallel portions of the UP railroad corridor, which contains the former Western Pacific (WP) and former Southern Pacific (SP) railroad tracks,¹ and Interstates 680 and 880 in southern Alameda County (see Figure ES-2). The initial segment would begin on an embankment at the southern end of the existing elevated Fremont BART Station. The alignment would pass over Walnut Avenue on an aerial structure and descend into a cut-and-cover subway north of Stevenson Boulevard. The alignment would continue southward in the subway structure under Fremont Central Park and the eastern arm of Lake Elizabeth, and surface to grade between the former WP and SP alignments north of Paseo Padre Parkway. The alignment would pass over grade-separated Paseo Padre Parkway, and then continue southward at grade, passing under a grade-separated Washington Boulevard.² From Washington Boulevard, the WSX Alternative

¹ Until December 2002, WP and SP were both owned by UP. For clarity in this EIS, the tracks on the eastern side of the UP right-of-way will be referred to as the former WP tracks, and the tracks on the western side of the UP right-of-way will be referred to as the former SP tracks.

² *Grade separated* describes an intersection where two modes of transportation (e.g., rail tracks and a highway) cross each other at different levels to permit unconstrained operation. Paseo Padre Parkway will be reconfigured as a vehicular underpass and Washington Boulevard as a vehicular overpass in a grade separations project being undertaken by the City of Fremont.



Legend

- Proposed BART alignment
- Existing BART alignment
- Union Pacific alignment
- Proposed BART station
- Existing BART station

Source: Jones & Stokes 2002.

04071.04 (8-05)

Figure ES-2
WSX Alternative

alignment would continue at grade along the former WP alignment south to a terminus station at Warm Springs and South Grimmer Boulevards in the Warm Springs district. A summary of the WSX Alternative is presented in Table ES-1.

Table ES-1. 2004 WSX Alternative Summary

Item	Description
WSX Alternative	
Estimated Construction Start	2006 ^a
Begin Revenue Service	2010
Length of Alignment	5.4 miles
–Embankment	0.2 mile
–Overpass	0.1 mile
–Subway	1.0 mile
–At grade	3.3 miles
–Retained cut/fill	0.8 mile
Warm Springs Station Intermodal Facilities	34 acres 2,040 parking spaces 7 bus bays
Ancillary Facilities	
–Traction Power (electrical substations, gap breaker stations)	
–Train Control and Communications	
–Subway Ventilation Structure(s)	
–Pumping/Emergency Access	
–Vehicle Maintenance	
Estimated Ridership in 2025	
Total New Transit Trips	7,200
New BART Trips Systemwide	8,200
Cost	
–Capital	\$678 million
–Operating (annual average)	\$8.16 million
WSX Alternative with Optional Irvington Station	
Irvington Intermodal Facilities	18 acres 925 parking spaces 5 bus bays
Estimated Ridership in 2025 with Irvington Station	
Total New Transit Trips	9,100
New BART Trips Systemwide	10,800
Cost	
–Capital	\$757 million
–Operating (annual average)	\$9.49 million
^a Construction is unlikely to begin in 2006. A new project schedule has yet to be determined.	
Source: San Francisco Bay Area Rapid Transit District	

Purpose of the Environmental Impact Statement

The EIS was prepared in compliance with NEPA, the Council on Environmental Quality (CEQ) NEPA Regulations, 40 C.F.R. Parts 1500–1508, and joint Federal Highway Administration/Federal Transit Administration regulations governing the application of NEPA to transportation projects, 23 C.F.R. Part 771. NEPA requires all federal agencies to consider the environmental consequences of major federal actions over which they have discretionary authority. This EIS is an informational document intended to inform public agencies and the public about the potential environmental effects that may result from implementation of the proposed action, the construction and operation of the proposed extension of the BART system to Warm Springs. This analysis will support the development of an effective mitigation program for site-specific mitigation of possible environmental impacts. This EIS is also intended to satisfy the requirements of Section 4(f) of the Department of Transportation of 1966 (now codified at 49 U.S.C. 1653 [f]) relating to use of park lands for transportation projects, Section 6(f) of the Land and Water Conservation Fund Act of 1965 relating to replacement of federally-funded park land converted to other uses, and Section 106 of the National Historic Preservation Act of 1966 relating to preservation of historic resources.

As the federal lead agency, FTA is responsible for considering this EIS. Once the Final EIS is published, FTA will consider the Final EIS in reaching its decision and will prepare a Record of Decision (ROD) completing the NEPA process. The National Park Service, as a cooperating agency, considered the EIS in approving the conversion to non-park use of park land acquired or improved with federal funds pursuant to the Land and Water Conservation Fund Act, Section 6(f). Other agencies may also use this EIS as part of the process of issuing approvals or permits prior to construction.

Scope of the Environmental Impact Statement

On April 6, 2004, FTA published a Notice of Intent (NOI) for the Warm Springs Extension Draft EIS in the *Federal Register*, consistent with 40 C.F.R. section 1501.7. A copy of the NOI is included as Appendix A of this document. As a result of a review of the subjects analyzed in the 1992 EIR and 2003 SEIR and based on agency and public comments received in response to the NOI, BART has determined that the environmental resource areas listed below would be analyzed in the EIS. The environmental analysis incorporated herein identifies the environmental impacts of the WSX Alternative on those resource areas, as well as the mitigation measures proposed to avoid or substantially reduce environmental consequences. Operational and construction-related impacts are considered for each resource area.

- Transportation
- Geology, Soils, and Seismicity
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Wetlands
- Biological Resources

- Land Use and Planning
- Parks and Recreation
- Population, Employment, and Housing
- Aesthetics
- Cultural Resources
- Noise and Vibration
- Air Quality
- Energy
- Utilities and Public Services
- Safety and Security
- Environmental Justice

Cumulative and indirect impacts, the relationship between short-term uses of the environment and long-term productivity, and irreversible commitments of resources are discussed in Chapter 5 (Other NEPA Considerations).

Environmental Consequences

The environmental analysis incorporated in the EIS identifies the adverse and beneficial environmental effects of the WSX Alternative and the proposed mitigation measures for adverse effects. Table ES-2 at the end of this chapter describes the adverse impacts and mitigation measures identified to avoid or reduce those impacts where feasible.

In most cases, impacts to the affected resources would be reduced after implementation of mitigation measures. Some impacts, however, cannot be feasibly mitigated and would remain *adverse environmental effects that cannot be avoided*. Those impacts are listed below.

- **Impacts BIO-Cume-2 and BIO-Cume-5**—Potential for loss of ruderal forb-grassland habitat (WSX Alternative, and with optional Irvington Station).
- **Impact BIO-Cume-3**—Potential to contribute to cumulative regional impacts on the Western Burrowing Owl.
- **Impact A-5**—Potential visual impacts due to sound walls.
- **Impact A-6**—Temporary visual disturbances caused by construction.

- **Impacts TRN-4, TRN-8, and TRN-11**—Change in volume-to-capacity ratio (V/C) and level of service (LOS) at the intersection of Osgood Road/Durham Road/Auto Mall Parkway (WSX Alternative, and with optional Irvington Station).
- **Impacts TRN-7, TRN-14, TRN-19, and TRN-Cume-6**—Change in V/C and LOS at the intersection of Mission Boulevard/Warm Springs Boulevard (WSX Alternative, and with optional Irvington Station).
- **Impacts TRN-20 and TRN-21**—Change in LOS on northbound I-880 just south of Mission Boulevard (WSX Alternative, and with optional Irvington Station).
- **Impact N-2**—Exposure of vibration-sensitive land uses to groundborne vibration from BART trains.
- **Impacts E-3, E-7, and E-Cume-2**—Effects of WSX Alternative on peak- and base-period electricity demand (WSX Alternative, and with optional Irvington Station).
- **Impact G-1**—Potential impacts resulting from earthquake-induced ground shaking and ground rupture.

Beneficial Effects

Based on the analysis and conclusions set forth in this EIS, the WSX Alternative would have beneficial effects in the areas of land use, transportation, air quality, and energy. Following is a summary of project-related benefits.

Transportation

As discussed in Section 4.2 (*Transportation*), the WSX Alternative would have beneficial impacts on transportation by enhancing transit opportunities within the action area; overall traffic congestion would be relieved to some degree. The WSX Alternative would result in an increase in new transit trips, particularly for trips destined for, originating in, or passing through southern Alameda County. Transit person trips would increase with the WSX Alternative in comparison to the No Action Alternative in both 2010 and 2025. The WSX Alternative would increase new transit ridership by 4,700 daily trips in 2010 and 7,200 daily trips in 2025. The optional Irvington Station would increase new transit ridership to a total of 5,700 and 9,100 daily trips in 2010 and 2025 respectively. This increase in transit trips indicates a shift in use from automobile to transit.

Land Use

As discussed in Section 4.8 (Land Use), through its Strategic Plan and System Expansion Criteria, BART encourages intensification of land uses surrounding BART facilities to enhance increased transit opportunities and ridership. To the extent that the WSX Alternative encourages transit-oriented development, a beneficial effect would result, maximizing opportunities to foster “smart growth” in the vicinity of the proposed future station sites.

Air Quality

As discussed in Section 4.14 (*Air Quality*), a reduction in the emission of reactive organic gases, oxides of nitrogen, and particulate matter ≤ 10 microns in diameter from mobile sources during operation of the WSX Alternative would result in regional air quality benefits. Such benefits would result from decreases in automobile and bus vehicle miles traveled (VMT) as compared to No-Build conditions. Implementation of the WSX Alternative also would reduce greenhouse gas emissions. In addition, the WSX Alternative would reduce toxic air contaminants because such emissions are directly correlated with VMT.

Energy

As discussed in Section 4.15 (*Energy*), the WSX Alternative would result in an overall decrease in Bay Area transportation energy consumption in 2010 and in 2025 as compared to No-Build conditions. The decrease in energy consumption would result from an action-related decrease in annual automobile and bus VMT. This decrease in VMT would translate into gains in energy efficiency, which would be a net benefit.

Public Review Process

Notice of Intent

The NOI for the BART Warm Springs Extension Project DEIS was published in the Federal Register on April 6, 2004. Copies of the NOI were also sent to state and local agencies.

Public Scoping Meeting

A public scoping meeting for the WSX Alternative was held on April 28, 2004, at the Fremont Main Library. The purpose of the meeting was to solicit comments to help determine the scope of the WSX EIS. Notices were published beforehand in local newspapers announcing the time, date, location, and purpose of the meeting. In addition, invitations to the meeting and copies of the NOI were distributed to an extensive mailing list of stakeholders throughout Fremont, southern Alameda County, and northern Santa Clara County. More than 50 people attended the public scoping meeting. Comments received in response to the NOI and at the public scoping meeting have been considered, where applicable.

Areas of Known Controversy and Issues to Be Resolved

The CEQ NEPA Regulations direct federal agencies to consider areas of controversy known to the lead agency, including issues raised by other agencies and the public. The following areas of concern were raised in comments made on the NOI.

Areas of Controversy

- Whether alternatives previously eliminated under CEQA may be considered reasonable under NEPA.

- Relationship of WSX Alternative to future transit-oriented development.
- Impacts of construction and maintenance dewatering on groundwater and hydrological functions
- Effects on conservation and restoration efforts in the project area.
- Noise and vibration impacts and location of potential sound walls.
- Effects of subway construction on Fremont Central Park.
- Effects on low-income or minority populations.
- Relationship between the WSX Alternative and the Santa Clara Valley Transit Authority's Silicon Valley Rapid Transit Corridor (SVRTC) project.
- Cost effectiveness and funding.
- Need for the optional Irvington Station.

Issues to be Resolved

- Adoption and funding of the optional Irvington Station.
- Scheduling and coordination with Fremont's grade separations project.
- Location of replacement habitat for biological impacts.
- Land use planning efforts in the vicinity of proposed Warm Springs and optional Irvington Stations.
- Site-specific implementation of noise control measures.
- Site-specific implementation of vibration control measures.
- Impacts of construction and maintenance dewatering on groundwater and hydrological functions.

Comments on the Draft Environmental Impact Statement

A 45-day public review period was held to receive comments on the DEIS, which extended from March 11, 2005 to April 25, 2005. BART held a public hearing at 6:30 p.m. on Tuesday, April 12, 2005, to receive public comments on the DEIS. The public hearing was held at the Washington Township Veterans Memorial, which is located at 37154 Second Street, Fremont, CA 94536. In addition to comments received at the Public Hearing, BART accepted written comments on the DEIS that were sent to one of the addresses listed below and received before the end of the comment period. BART also accepted email comments sent to the following address: bartwarmsspringsextension@bart.gov. The public comment period ended at by 5:00 p.m. on April 25, 2005.

During the public review period, written comments were submitted to one of the following addresses:

Lorraine Lerman
Office of Planning and Program Development
U.S. Department of Transportation
Federal Transit Administration, Region IX
201 Mission Street, Suite 2210
San Francisco, CA. 94105

San Francisco Bay Area Rapid Transit District
Attention: Shari Adams
Warm Springs Extension Group Manager
MS-LKS-21
P.O. Box 12688
Oakland, California 94604-2688

The DEIS was available for review at the following locations:

San Francisco Bay Area Rapid Transit District
300 Lakeside Drive
21st Floor
Oakland, CA 94612

Fremont Main Library
2400 Stevenson Boulevard
Fremont, CA 94538

Metropolitan Transportation Commission (MTC) – Association of
Bay Area Governments (ABAG) Library
101 8th Street
Oakland, CA 94607-4700

The Executive Summary of the DEIS was also available online at BART's website, located at www.bart.gov/wsx. Supporting documentation for the DEIS was also available for public review at the 300 Lakeside Drive address listed above. Additional information was available by calling 510/476-3900.

Final Environmental Impact Statement

Following the close of the public comment period on April 25, 2005, BART and FTA considered the comments and prepared responses to substantive written and oral comments on the DEIS. Volume 2 of the Final EIS includes all of the substantive comments and responses to the comments.

Upon completion of the Final EIS, FTA published a notice of its availability. The Final EIS was available for public review at the same locations in which the Draft EIS was available, and copies were distributed to persons who commented on the Draft EIS, interested parties, and agencies that have authority over aspects of the project. FTA will consider the Final EIS in reaching its decision to approve or disapprove of the proposed project. FTA will issue a Record of Decision (ROD) no earlier than 30 days following the notice of availability of the Final EIS.

The Executive Summary of the Final EIS is available online at BART's website: www.bart.gov/wsx. Supporting documentation for the FEIS is also available for public review at the following address and telephone number:

San Francisco Bay Area Rapid Transit District
300 Lakeside Drive
21st Floor
Oakland, CA 94612
Phone: 510/476-3900

Adverse Effect	Mitigation Measure
TRANSPORTATION—WSX Alternative	
Impact TRN-4—2010 change in V/C and LOS at the intersection of Osgood Road/Durham Road/Auto Mall Parkway.	No mitigation is available.
Impact TRN-5—2010 change in V/C and LOS at the intersection of I-680 southbound ramps/Durham Road/Auto Mall Parkway.	Mitigation Measure TRN-5—Improve V/C and LOS at the intersection of I-680 southbound ramps/Durham Road/Auto Mall Parkway.
Impact TRN-6—2010 change in V/C and LOS at the intersection of Osgood Road/Warm Springs Boulevard/South Grimmer Boulevard.	Mitigation Measure TRN-6—Improve V/C and LOS at the intersection of Osgood Road/Warm Springs Boulevard/South Grimmer Boulevard.
Impact TRN-7—2010 change in V/C and LOS at the intersection of Mission Boulevard/Warm Springs Boulevard.	No mitigation is available.
Impact TRN-8—2025 change in V/C and LOS at the intersection of Osgood Road/Durham Road/Auto Mall Parkway.	No mitigation is available.
Impact TRN-9—2025 change in V/C and LOS at the intersection of I-680 southbound ramps/Durham Road/Auto Mall Parkway.	Mitigation Measure TRN-5—Improve V/C and LOS at the intersection of I-680 southbound ramps/Durham Road/Auto Mall Parkway.
Impact TRN-10—2025 change in V/C and LOS at the intersection of Osgood Road/Warm Springs Boulevard/South Grimmer Boulevard.	Mitigation Measure TRN-6—Improve V/C and LOS at the intersection of Osgood Road/Warm Springs Boulevard/South Grimmer Boulevard.
Impact TRN-20—2025 change in V/C and LOS on northbound I-880 just south of Mission Boulevard.	No mitigation is available.
Impact TRN-23—Reduced parking supply at Fremont and Warm Springs Station resulting in spillover into residential or commercial areas.	Mitigation Measure TRN-23—Provide additional parking and implement parking monitoring program.
Impact TRN-25—Construction-period traffic impacts.	Mitigation Measure TRN-25—Develop and implement a construction phasing and traffic management plan. Mitigation Measure POP-7—Maintain access, traffic control, and parking supply during construction.
Impact TRN-Cume2 – Contribution to cumulative change in 2025 in V/C and LOS at the intersection of I-680 southbound ramps/Durham Road/Auto Mall Parkway.	Mitigation Measure TRN5 – Improve V/C and LOS at the intersection of I-680 southbound ramps/Durham Road/Auto Mall Parkway.
Impact TRN-Cume3 – Contribution to cumulative change in 2025 V/C and LOS at the intersection of Osgood Road/Warm Springs Boulevard/South Grimmer Boulevard.	Mitigation Measure TRN6 – Improve V/C and LOS at the intersection of Osgood Road/Warm Springs Boulevard/South Grimmer Boulevard.
Impact TRN-Cume8 – Reduced parking supply at Fremont Station resulting in spillover into residential or commercial areas.	Mitigation Measure TRN-Cume8 – Provide additional parking and implement parking monitoring program.
Impact TRN-Cume10 – Cumulative contribution to construction-related impacts.	Mitigation Measure TRN-Cume10 – Adjust the construction traffic management plan described in Mitigation Measure TRN25.

Adverse Effect	Mitigation Measure
TRANSPORTATION—Optional Irvington Station	
Impact TRN-11—2010 change in V/C and LOS at the intersection of Osgood Road/Durham Road/Auto Mall Parkway	No mitigation is available.
Impact TRN-12—2010 change in V/C and LOS at the intersection of I-680 southbound ramps/Durham Road/Auto Mall Parkway.	Mitigation Measure TRN-5— Improve V/C and LOS at the intersection of I-680 southbound ramps/Durham Road/Auto Mall Parkway.
Impact TRN-13—2010 change in V/C and LOS at the intersection of Osgood Road/Warm Springs Boulevard/South Grimmer Boulevard.	Mitigation Measure TRN-6—Improve V/C and LOS at the intersection of Osgood Road/Warm Springs Boulevard/South Grimmer Boulevard.
Impact TRN-14—2010 change in V/C and LOS at the intersection of Mission Boulevard/Warm Springs Boulevard.	No mitigation is available.
Impact TRN-15—2010 change in V/C and LOS at the intersection of Osgood Road/Driscoll Road/Washington Boulevard.	Mitigation Measure TRN-15—Improve V/C and LOS at the intersection of Osgood Road/Driscoll Road/Washington Boulevard.
Impact TRN-17—2025 change in V/C and LOS at the intersection of I-680 southbound ramps/Durham Road/Auto Mall Parkway.	Mitigation Measure TRN-5—Improve V/C and LOS at the intersection of I-680 southbound ramps/Durham Road/Auto Mall Parkway.
Impact TRN-18—2025 change in V/C and LOS at the intersection of Osgood Road/Warm Springs Boulevard/South Grimmer Boulevard.	Mitigation Measure TRN-6—Improve V/C and LOS at the intersection of Osgood Road/Warm Springs Boulevard/South Grimmer Boulevard.
Impact TRN-19—2025 change in V/C and LOS at the intersection of Mission Boulevard/Warm Springs Boulevard.	No mitigation is available.
Impact TRN-21—2025 change in V/C and LOS on northbound I-880 just south of Mission Boulevard.	No mitigation is available.
Impact TRN-24—Reduced parking supply at Fremont and Irvington Stations resulting in spillover into residential or commercial areas.	Mitigation Measure TRN-24—Implement parking monitoring program.
Impact TRN-26—Construction-period traffic impacts in the vicinity of the optional Irvington Station.	Mitigation Measure TRN-25—Develop and implement a construction phasing and traffic management plan. Mitigation Measure POP-7—Maintain access, traffic control, and parking supply during construction.
Impact TRN-Cume4 – Contribution to cumulative change in 2025 V/C and LOS at the intersection of I-680 southbound ramps/Durham Road/Auto Mall Parkway.	Mitigation Measure TRN5 –Improve V/C and LOS at the intersection of I-680 southbound ramps/Durham Road/Auto Mall Parkway.
Impact TRN-Cume5 – Contribution to cumulative change in 2025 V/C and LOS at the intersection of Osgood Road/Warm Springs Boulevard/South Grimmer Boulevard.	Mitigation Measure TRN6 – Improve V/C and LOS at the intersection of Osgood Road/Warm Springs Boulevard/South Grimmer Boulevard.
Impact TRN-Cume6 – 2025 change in V/C and LOS at the intersection of Mission Boulevard/Warm Springs Boulevard.	No feasible mitigation is available.
Impact TRN-Cume7 – Contribution to cumulative change in 2025 V/C and LOS at the intersection of Osgood Road/Driscoll Road/Washington Boulevard.	Mitigation Measure TRN-Cume7 – Improve V/C and LOS at the intersection of Osgood Road/Driscoll Road/Washington Boulevard.

Adverse Effect	Mitigation Measure
Impact TRN-Cume9 – Cumulative contribution to reduced parking supply at Fremont and Irvington Stations resulting in spillover into residential or commercial areas.	Mitigation Measure TRN-Cume9 – Implement parking monitoring program.
GEOLOGY AND SOILS—WSX Alternative	
Impact G-1—Potential impacts resulting from earthquake-induced ground shaking and ground rupture	<p>Mitigation Measure G-1—Conduct geotechnical surveys to accurately locate the primary and secondary traces of the HFZ.</p> <p>Mitigation Measure G-2—Design and construct BART tracks on engineered embankments.</p> <p>Mitigation Measure G-3—Design and construct proposed alignment excavations to accommodate future track repair and realignment.</p> <p>Mitigation Measure G-4—Implement redundant emergency response measures from the BART Emergency Plan.</p> <p>These mitigation measures will minimize but cannot eliminate this potential impact; therefore, this impact is considered to be unavoidable.</p>
Impact G-2—Potential impacts resulting from fault creep within the Hayward fault zone.	<p>Mitigation Measure G-5—Perform periodic track and structure inspection, track alignment surveys, and reports of adverse track conditions by train operators.</p> <p>Mitigation Measure G-6—Design proposed structures to accommodate fault creep.</p>
Impact G-3 – Potential impacts resulting from expansive soils.	Mitigation Measure G-7—Design proposed structures to account for potential soil expansion.
Impact G-4—Potential impacts resulting from soil compression.	<p>Mitigation Measure G-8—Implement appropriate design criteria to minimize the potential for detrimental soil compression and ground settlement.</p> <p>Mitigation Measure G-9—Monitor ground settlement during operation of the WSX Alternative.</p>
Impact G-5—Potential impacts on paleontological resources as a result of WSX construction.	<p>Mitigation Measure G-10—Identify Pleistocene units before construction.</p> <p>Mitigation Measure G-11— Provide paleontological monitoring for construction activities with potential to disturb Pleistocene units.</p> <p>Mitigation Measure G-12—Stop work if vertebrate fossils are encountered during site preparation or construction.</p>

Adverse Effect	Mitigation Measure
GEOLOGY AND SOILS—Optional Irvington Station	
Impact G-6—Potential impacts of optional Irvington Station resulting from earthquake-induced ground shaking and ground rupture.	<p>Mitigation Measure G-1—Conduct geotechnical surveys to accurately locate the primary and secondary traces of the HFZ.</p> <p>Mitigation Measure G-4—Implement redundant emergency response measures from the BART Emergency Plan.</p> <p>Mitigation Measure G-7—Design proposed structures to account for potential soil expansion</p> <p>Mitigation Measure G-13—Locate Irvington Station structures outside the zone of potential fault rupture.</p> <p>Impact G-14—Design and construct all Irvington Station structures in accordance with applicable building standards.</p>
Impact G-7—Potential impacts on paleontological resources as a result of WSX construction.	<p>Mitigation Measure G-10—Identify Pleistocene units before construction.</p> <p>Mitigation Measure G-11— Provide paleontological monitoring for construction activities with potential to disturb Pleistocene units.</p> <p>Mitigation Measure G-12—Stop work if vertebrate fossils are encountered during site preparation or construction.</p>
Impact G-8—Potential slope instability in excavations and during construction.	Mitigation Measure G-15—Design and construct deep excavations according to applicable building codes.
HAZARDS AND HAZARDOUS MATERIALS—WSX Alternative	
Impact HazMat-1—Creation of a hazard to the public or to the environment from reasonably foreseeable accidents involving the release of hazardous materials.	Mitigation Measure HazMat-1—Implementation of BART Emergency Plan.
Impact HazMat-3—Exposure of workers or the public to hazardous materials in the soil or groundwater resulting in adverse health effects.	Mitigation Measure HazMat-3—Conduct additional site characterization; prepare and implement site-specific health and safety plan; develop and implement a soil/groundwater management plan
Impact HazMat-4—Potential handling of hazardous materials within 0.25 mile of an existing school.	Mitigation Measure HazMat-3—Conduct additional site characterization; prepare and implement site-specific health and safety plan; develop and implement a soil/groundwater management plan
Impact HazMat-5—Potential for demolition or renovation of existing structures to expose workers to lead-based paint and asbestos-containing materials.	Mitigation Measure HazMat-5—Survey and properly handle materials from structures that may contain asbestos and lead-based paint.
Impact HazMat-6—Potential for interruption or delay of ongoing site investigation/remediation activities.	Mitigation Measure HazMat-6—Cooperation and coordination with responsible site investigation/remediation parties and agencies.
HAZARDS AND HAZARDOUS MATERIALS—Optional Irvington Station	
Impact HazMat-1—Creation of a hazard to the public or to the environment from reasonably foreseeable accidents involving the release of hazardous materials.	Mitigation Measure HazMat-1—Implementation of BART Emergency Plan.

Adverse Effect	Mitigation Measure
Impact HazMat-3—Exposure of workers or the public to hazardous materials in the soil or groundwater resulting in adverse health effects.	Mitigation Measure HazMat-3—Conduct additional site characterization; prepare and implement site-specific health and safety plan; develop and implement a soil/groundwater management plan
Impact HazMat-5—Potential for demolition or renovation of existing structures to expose workers to lead-based paint and asbestos-containing materials.	Mitigation Measure HazMat-5—Survey and properly handle materials from structures that may contain asbestos and lead-based paint.
Impact HazMat-6—Potential for interruption or delay of ongoing site investigation/remediation activities.	Mitigation Measure HazMat-6—Cooperation and coordination with responsible site investigation/remediation parties and agencies.
HYDROLOGY—WSX Alternative	
Impact H-1—Alteration of flooding conditions due to changes in infiltration rates, drainage patterns, or the rate and amount of surface runoff.	Mitigation Measure H-1—Design and implement a stormwater management system to safely convey stormwater.
Impact H-3—Loss of flood storage capacity at Tule Pond South.	Mitigation Measure H-3—Mitigate the loss of flood storage capacity by providing an equal or greater amount of storage capacity at the same location.
Impact H-4—Delivery of increased pollutant loads to urban drainages from expanded impervious areas.	Mitigation Measure H-4—Incorporate design features and implement best management practices (BMPs) for post-construction water quality protection.
Impact H-8—Water quality degradation from operational dewatering.	Mitigation Measure H-8—Obtain NPDES permit and implement permit conditions for all operational dewatering activities that discharge to surface waters.
Impact H-9—Potential for accelerated erosion and discharge of sediment into water bodies as a result of ground-disturbing activities.	Mitigation Measure H-9—Ensure implementation of stormwater general NPDES permit conditions.
Impact H-10—Water quality degradation at Lake Elizabeth, Mission Creek, Tule Pond, and Cañada de Aliso during construction.	Mitigation Measure H-10(a)—Implement water quality control measures to prevent release of sediment. Mitigation Measure H-10(b)— Obtain NPDES permit and implement permit conditions for all construction dewatering activities that discharge to surface waters.
Impact H-11—Release of hazardous substances that violate water quality standards.	Mitigation Measure H-11—Implement hazardous materials spills prevention and control plan.
Impact H-12—Potential depletion of local groundwater supplies during construction.	Mitigation Measure H-12—Develop and implement a construction dewatering plan.
Impact H-13—Temporary reduction in flood storage capacity at Lake Elizabeth.	Mitigation Measure H-13(a)—Limit construction of cut-and-cover subway to the dry season. Mitigation Measure H-13(b)—Create additional flood storage capacity equal to or greater than the temporary reduction in flood storage during construction.
Impact H-Cume1 – Potential for increased hardscape area to reduce groundwater infiltration and increase peak flows in area drainages.	Mitigation Measure H-1—Design and implement a stormwater management system to safely convey stormwater. Mitigation Measure H-4—Incorporate design features and implement best management practices (BMPs) for post-construction water quality protection.

Adverse Effect	Mitigation Measure
HYDROLOGY—Optional Irvington Station	
Impact H-14—Alteration of flooding conditions due to changes in infiltration rates, drainage patterns, or the rate and amount of surface runoff as a result of the presence of optional Irvington Station.	Mitigation Measure H-1—Design and implement a stormwater management system to safely convey stormwater.
Impact H-Cume3 – Potential for optional Irvington Station to increase the Action-related contribution to any cumulative regional impacts on groundwater recharge and peak flood flows.	Mitigation Measure H-1—Design and implement a stormwater management system to safely convey stormwater.
WETLANDS—WSX Alternative	
Impact WL-1—Permanent loss of wetlands habitat.	Mitigation Measure WL-1—Restore, create, and protect wetland habitat to mitigate loss of wetland habitat.
Impact WL-2—Loss of riparian forest habitat.	Mitigation Measure WL-2—Enhance, recreate, or restore riparian forest to compensate for the loss of riparian forest habitat.
Impact WL-4—Temporary disturbance of open water habitat.	Mitigation Measure WL-4—Install erosion barriers.
Impact WL-5—Temporary disturbance of wetlands and creek habitat.	Mitigation Measure WL-5(a)—Avoid or minimize disturbance of wetlands and creeks. Mitigation Measure WL-5(b)—Restore disturbed wetlands and creek habitat. Mitigation Measure WL-5(c)—Compensate for temporary loss of wetlands and creek habitat.
Impact WL-6—Temporary disturbance of riparian forest habitat.	Mitigation Measure WL-6(a)—Minimize disturbance of riparian habitats. Mitigation Measure WL-6(b)—If it is not possible to avoid work in riparian areas, restore disturbed riparian forest areas.
Impact WL-Cume1 – Potential for loss of wetlands and riparian habitat.	Mitigation Measure WL-1—Restore, create, and protect wetland habitat to mitigate loss of wetland habitat. Mitigation Measure WL-2—Enhance, recreate, or restore riparian forest to compensate for the loss of riparian forest habitat.
BIOLOGICAL RESOURCES—WSX Alternative	
Impact BIO-1—Effects of increased noise and groundborne vibration on wildlife.	Mitigation Measure N-1—Implement noise-reducing measures at noise-sensitive land uses in the WSX Alternative corridor. Mitigation Measure N-2—Implement vibration-reducing measures at vibration-sensitive land uses in the WSX Alternative corridor.
Impact BIO-3—Loss of occupied Western Burrowing Owl habitat and direct impacts on Western Burrowing Owls.	Mitigation Measure BIO-3—Implement on- and offsite replacement of Western Burrowing Owl habitat.

Adverse Effect	Mitigation Measure
Impact BIO-4—Removal of trees.	<p>Mitigation Measure BIO-4(a)—Conduct a tree survey to assess tree resources affected by the WSX Alternative.</p> <p>Mitigation Measure BIO-4(b)—Provide replacement trees for the removal of protected trees.</p>
Impact BIO-6—Temporary disturbance of ruderal forb-grassland.	<p>Mitigation Measure BIO-6(a)— Minimize and avoid forb-grassland habitat.</p> <p>Mitigation Measure BIO-6(b)—Minimize erosion of stockpiled soil.</p> <p>Mitigation Measure H-9—Ensure implementation of NPDES permit conditions.</p> <p>Mitigation Measure H-10(a)—Implement water quality control measures to prevent release of sediment.</p>
Impact BIO-8—Temporary disturbance of habitat for Western Burrowing Owl.	Mitigation Measure BIO-8—Conduct preconstruction surveys for nesting and wintering Burrowing Owls, and implement measures to avoid or minimize impacts if owls are present.
Impact BIO-9—Temporary noise disturbance of nesting common and special-status raptors.	Mitigation Measure BIO-9—Conduct a preconstruction survey for nesting raptors, and implement measures to avoid or minimize impacts if nesting special-status raptors are present.
Impact BIO-11—Temporary disturbance of nesting swallows.	<p>Mitigation Measure BIO-11—Avoid construction during swallow nesting season or remove empty nests and prevent new nesting.</p> <p>Mitigation Measure WL-6(a)—Minimize disturbance of riparian habitats.</p>
Impact BIO-12—Disturbance or loss of wetlands and upland habitat identified as potential habitat for California red-legged frog.	<p>Mitigation Measure BIO-12(a)—Implement measures to avoid and minimize disturbance of California red-legged frog and California tiger salamander habitat at South Tule Pond (New Marsh).</p> <p>Mitigation Measure BIO-12(b)—Compensate for permanent and temporary impacts to California red-legged frog and California tiger salamander habitat at South Tule Pond (New Marsh).</p> <p>Mitigation Measure BIO-12(c)—Biological Monitoring.</p>
Impact BIO-13—Permanent and temporary disturbance of potential California tiger salamander upland estivation habitat.	<p>Mitigation Measure Bio-12(a)—Implement measures to avoid and minimize disturbance of California red-legged frog and California tiger salamander habitat at South Tule Pond (New Marsh).</p> <p>Mitigation Measure BIO-12(b)—Compensate for permanent and temporary impacts to California red-legged frog and California tiger salamander habitat at South Tule Pond (New Marsh).</p> <p>Mitigation Measure BIO-12(c)—Biological Monitoring.</p>

Adverse Effect	Mitigation Measure
Impact BIO-14—Water quality degradation effects on fish in Mission Creek and Lake Elizabeth during construction.	<p>Mitigation Measure H-9—Ensure implementation of NPDES permit conditions.</p> <p>Mitigation Measure H-10(a)—Implement water quality control measures to prevent release of sediment.</p> <p>Mitigation Measure H-10(b)—Obtain NPDES permit for all construction dewatering activities that discharge to surface waters.</p>
Impact BIO-16—Potential for fish stranding leading to mortality during dewatering activities.	Mitigation Measure BIO-16—Capture and relocate any stranded fish during dewatering activities.
Impact BIO-Cume2 – Potential for loss of ruderal forb-grassland habitat.	Mitigation Measure BIO-3—Implement on- and offsite replacement of Western Burrowing Owl habitat. This cumulative impact is considered to be unavoidable.
Impact BIO-Cume3 – Potential to contribute to cumulative regional impacts on the Western Burrowing Owl.	<p>Mitigation Measure BIO-3—Implement on- and offsite replacement of Western Burrowing Owl habitat.</p> <p>Mitigation Measure BIO-8—Conduct preconstruction surveys for nesting and wintering Burrowing Owls, and implement measures to avoid or minimize impacts if owls are present. However, cumulative loss of suitable habitat for the Western Burrowing Owl in the region is considered unavoidable.</p>
Impact BIO-Cume4 – Potential for construction-related cumulative impacts.	<p>Mitigation Measure WL-5(a)—Avoid or minimize disturbance of wetlands and creeks.</p> <p>Mitigation Measure WL-5(b)—Restore disturbed wetlands and creek habitat.</p> <p>Mitigation Measure WL-5(c)—Compensate for temporary loss of wetlands and creek habitat.</p> <p>Mitigation Measure WL-6(a)—Minimize disturbance of riparian habitats.</p> <p>Mitigation Measure WL-6(b)—If it is not possible to avoid work in riparian areas, restore disturbed riparian forest areas.</p> <p>Mitigation Measure BIO-8—Conduct preconstruction surveys for nesting and wintering Burrowing Owls, and implement measures to avoid or minimize impacts if owls are present.</p> <p>Mitigation Measure BIO-9—Conduct a preconstruction survey for nesting raptors, and implement measures to avoid or minimize impacts if nesting special-status raptors are present.</p> <p>Mitigation Measure BIO-11—Avoid construction during swallow nesting season or remove empty nests and prevent new nesting.</p>
Impact BIO-Cume5 – Potential for loss of ruderal forb-grassland habitat.	No mitigation is available.

Adverse Effect	Mitigation Measure
BIOLOGICAL RESOURCES—Optional Irvington Station	
Impact BIO-18—Removal of protected trees from Irvington Station site.	Mitigation Measure BIO-4(a)— Conduct a tree survey to assess tree resources affected by the WSX Alternative. Mitigation Measure BIO-4(b)—Provide replacement trees for the removal of protected trees.
Impact BIO-19—Temporary noise disturbance of common and special-status nesting raptors at optional Irvington Station site.	Mitigation Measure BIO-9—Conduct a preconstruction survey for nesting raptors, and implement measures to avoid or minimize impacts if nesting special-status raptors are present.
LAND USE—WSX Alternative	
Impact LU-3—Creation of construction impacts, such as traffic and circulation obstructions, noise, dust, and other pollutants, and safety issues.	Mitigation Measure LU-3—Limit construction-related effects on land uses adjacent to the project alignment in Fremont Central Park.
PARKS AND RECREATION—WSX Alternative	
Impact PR-1—Occurrence or acceleration of substantial deterioration of park and recreational facilities or programs.	Mitigation Measure A-3—Implement measures to conceal the ventilation structures. Mitigation Measure N-1—Implement noise-reducing measures at noise-sensitive land uses in the WSX Alternative corridor. Mitigation Measure N-3—Design and construct electrical substations, vent shafts, and other ancillary facilities to reduce noise.
Impact PR-3—Construction-related disruptions to park and recreation facilities or programs.	Mitigation Measure PR-3—Limit construction-related disruptions to Fremont Central Park.
POPULATION, ECONOMICS, AND HOUSING—WSX Alternative	
Impact POP-3—Displacement of existing businesses or housing, especially affordable housing.	Mitigation Measure POP-3—Acquire property and relocate residences and businesses.
Impact POP-7—Substantial diminishment in access to and parking at businesses and residences.	Mitigation Measure POP-7—Maintain access, traffic control, and parking supply during construction.
Impact POP-Cume2 – Potential to restrict access and egress to existing businesses, residences, and community facilities or to reduce parking supply.	Mitigation Measure POP-Cume2 – Coordinate access and traffic control during construction of cumulative projects.
POPULATION, ECONOMICS, AND HOUSING—Optional Irvington Station	
Impact POP-10—Displacement of existing businesses or housing as a result of the optional Irvington Station, especially affordable housing.	Mitigation Measure POP-3—Acquire property and relocate residences and businesses.
Impact POP-12—Disruption or division of the physical arrangement of an existing community in the vicinity of the Irvington Station site such that social interaction within the community is severely hampered.	Mitigation Measure POP-7—Maintain access, traffic control, and parking supply during construction.
Impact POP-14—Substantial diminishment in access to and parking at businesses and residences near Irvington Station site.	Mitigation Measure POP-7—Maintain access, traffic control, and parking supply during construction.

Adverse Effect	Mitigation Measure
Impact POP-Cume4 – Potential for construction of the Irvington Station to restrict access and egress to existing businesses, residences, and community facilities or to reduce parking supply.	Mitigation Measure POP-Cume2 – Coordinate access and traffic control during construction of cumulative projects.
AESTHETICS—WSX Alternative	
Impact A-1—Reconfiguration of Tule Pond, resulting in change of a well-defined landscape feature.	Mitigation Measure A-1—Protect and replace vegetation near Tule Pond.
Impact A-3—Potential Adverse effects on visual quality and character of Fremont Central Park from proposed ventilation structures.	Mitigation Measure A-3—Implement measures to conceal the ventilation structures.
Impact A-4—Introduction of new elements associated with the proposed Warm Springs Station.	Mitigation Measure A-4—Ensure design of proposed Warm Springs Station is consistent with existing environment.
Impact A-5—Potential visual impacts due to sound walls.	Preferred Mitigation Measure A-5(i)—Screen views of sound walls with landscaping. Alternative Mitigation Measure A-5(ii)—Provide surface treatments. Because exact heights of sound walls cannot be determined at this time, this impact may be unavoidable.
Impact A-6—Temporary visual impacts caused by construction.	Mitigation Measure A-6—Take measures to conceal temporary construction activities. Even with this mitigation measure in place, impacts may be unavoidable.
AESTHETICS—Optional Irvington Station	
Impact A-7—Introduction of new elements or demolition of existing structures in area of optional Irvington Station.	Mitigation Measure A-7(a)—Ensure design of an optional Irvington Station is consistent with existing environment. Mitigation Measure A-7(b)—Incorporate Gallegos Winery site into design of optional Irvington Station.
CULTURAL RESOURCES—WSX Alternative	
Impact CR-1b—Potential for vibration damage to William Y. Horner House.	Mitigation Measure N-2—Implement vibration-reducing measures at vibration-sensitive land uses in the WSX Alternative corridor. Mitigation Measure N-5—Employ vibration-reducing construction practices.
Impact CR-2—Potential for ground-disturbing activities to result in substantial change in the significance of archaeological resources: site CA-ALA-343 and previously unknown or buried cultural deposits or human remains.	Mitigation Measure CR-2(a)—Prepare and implement MOA and historical properties treatment plan for APE. Mitigation Measure CR-2(b)—Conduct geomorphological research and subsurface investigations, including backhoe trenching. Mitigation Measure CR-2(c)—Conduct subsurface testing, data recovery, and reporting for CA-ALA-343. Mitigation Measure CR-2(d)—Stop work if buried cultural deposits are encountered during construction activities.

Adverse Effect	Mitigation Measure
Impact CR-Cume-1—Potential for damage to archaeological resources.	<p>Mitigation Measure CR-2(a)—Prepare and implement MOA and treatment plan for APE.</p> <p>Mitigation Measure CR-2(b)—Conduct geomorphological research and subsurface investigations, including backhoe trenching.</p> <p>Mitigation Measure CR-2(c)—Conduct subsurface testing, data recovery, and reporting for CA-ALA-343.</p> <p>Mitigation Measure CR-2(d)—Stop work if buried cultural deposits are encountered during construction activities.</p> <p>Mitigation Measure CR-5—Preserve and interpret structural remains of Gallegos Winery and associated features.</p>
Impact CR-Cume-2—Potential for damage to William Y. Horner House.	Mitigation Measure N-2—Implement vibration-reducing measures at vibration-sensitive land uses in the WSX Alternative corridor.
CULTURAL RESOURCES—Optional Irvington Station	
Impact CR-5—Potential impact on structural remains of Gallegos Winery and associated features.	Mitigation Measure CR-5—Preserve and interpret structural remains of Gallegos Winery and associated features.
Impact CR-6—Potential impact on a significant architectural resource: Ford House.	<p>Mitigation Measure CR-6(a)—Document the Ford House.</p> <p>Mitigation Measure CR-6(b)—Adapt Ford House for reuse.</p>
NOISE AND VIBRATION—WSX Alternative	
Impact N-1—Exposure of noise-sensitive land uses to noise from BART trains in the WSX Alternative corridor.	Mitigation Measure N-1—Implement noise-reducing measures at noise-sensitive land uses in the WSX Alternative corridor.
Impact N-2—Exposure of vibration-sensitive land uses to groundborne vibration from BART trains.	<p>Mitigation Measure N-2—Implement vibration-reducing measures at vibration-sensitive land uses in the WSX Alternative corridor.</p> <p>There may be some situations where implementation of all feasible, available mitigation measures may not avoid or minimize impacts.</p>
Impact N-3—Exposure of noise-sensitive land uses to noise from ancillary equipment.	Mitigation Measure N-3—Design and construct electrical substations, vent shafts, and other ancillary facilities to minimize noise.
Impact N-4—Exposure of noise-sensitive land uses to construction noise.	<p>Mitigation Measure N-4(a)—Employ noise-reducing construction practices.</p> <p>Mitigation Measure N-4(b)—Disseminate essential information to residences and implement a complaint response/tracking program.</p>
Impact N-5—Exposure of vibration-sensitive land uses to construction vibration.	Mitigation Measure N-5—Employ vibration-reducing construction practices.

Adverse Effect	Mitigation Measure
Impact N-Cume-2—Cumulative contribution to cumulative construction-related noise and vibration impacts.	<p>Mitigation Measure N-4(a)—Employ noise-reducing construction practices.</p> <p>Mitigation Measure N-4(b)—Disseminate essential information to residences and implement a complaint response/tracking program.</p> <p>Mitigation Measure N-5—Employ vibration-reducing construction practices.</p>
NOISE AND VIBRATION—Optional Irvington Station	
Impact N-1—Exposure of noise-sensitive land uses to noise from BART trains in the WSX Alternative corridor.	Mitigation Measure N-1—Implement noise-reducing measures at noise-sensitive land uses in the WSX Alternative corridor.
Impact N-2—Exposure of vibration-sensitive land uses to groundborne vibration from BART trains.	Mitigation Measure N-2—Implement vibration-reducing measures at vibration-sensitive land uses in the WSX Alternative corridor.
Impact N-3—Exposure of noise-sensitive land uses to noise from ancillary equipment.	Mitigation Measure N-3—Design and construct electrical substations, vent shafts, and other ancillary facilities to reduce noise.
Impact N-4—Exposure of noise-sensitive land uses to construction noise.	<p>Mitigation Measure N-4(a)—Employ noise-reducing construction practices.</p> <p>Mitigation Measure N-4(b)—Disseminate essential information to residences and implement a complaint response/tracking program.</p>
Impact N-5—Exposure of vibration-sensitive land uses to construction vibration.	Mitigation Measure N-5—Employ vibration-reducing construction practices.
Impact N-Cume-2—Cumulative contribution to cumulative construction-related noise and vibration impacts.	Impact N-Cume-2—Cumulative contribution to cumulative construction-related noise and vibration impacts.
Air Quality—WSX Alternative	
Impact AQ-6—Generation of emissions during project construction.	<p>Mitigation Measure AQ-1—Comply with BAAQMD feasible control measures for construction emissions of PM10.</p> <p>Mitigation Measure AQ-2—Provide a construction emissions plan for diesel particulate matter.</p>
ENERGY—WSX Alternative	
Impact E-3—Effects on peak- and base-period electricity demand.	No mitigation is available.
Impact E-4—Effects of construction on the consumption of nonrenewable energy resources.	Mitigation Measure E-4—Develop and implement a construction energy conservation plan.
Impact E-Cume-2—Contributions of the WSX Alternative (without and with the optional Irvington Station) to peak- and base-period electricity demand.	No mitigation is available.
Impact E-Cume3 – Effects of Proposed Project construction on the consumption of nonrenewable energy resources.	Mitigation Measure E-4—Develop and implement a construction energy conservation plan.

Adverse Effect	Mitigation Measure
ENERGY—Optional Irvington Station	
Impact E-7—Effects of the optional Irvington Station on peak- and base-period electricity demand.	No mitigation is available.
Impact E-8—Effects of construction of optional Irvington Station on the consumption of nonrenewable energy resources.	Mitigation Measure E-4—Develop and implement a construction energy conservation plan.
UTILITIES AND PUBLIC SERVICE—WSX Alternative	
Impact UPS-1—Potential conflicts with Hetch Hetchy water pipelines and electrical transmission lines and ACWD water lines.	Mitigation Measure UPS-1—Coordinate with the San Francisco Public Utilities Commission and ACWD staff. Mitigation Measure UPS-2—Provide protection from stray electrical currents. Mitigation Measure UPS-3—Proper clearance from Hetch Hetchy electrical transmission lines will be maintained.
Impact UPS-2—Potential disruptions of utilities, electrical transmission lines, pipelines, and fiber optic cables related to the operation of the WSX Alternative.	Mitigation Measure UPS-1—Coordinate with the San Francisco Public Utilities Commission and ACWD staff. Mitigation Measure UPS-2—Provide protection from stray electrical currents. Mitigation Measure UPS-4—Maintain clearance beneath electrical transmission lines.
Impact UPS-4—Construction-related service interruptions	Mitigation Measure UPS-1—Coordinate with the San Francisco Public Utilities Commission and ACWD staff. Mitigation Measure UPS-5—Coordinate with affected utilities, companies, and agencies that own pipelines and underground conduits to arrange necessary relocation and protection of existing lines.
SAFETY AND SECURITY—WSX Alternative	
Impact SS-1—Impacts on local community safety services.	Mitigation Measure SS-1—Coordination with the Fremont Fire Department.
Impact SS-2—Inadequate lighting or visual obstructions at park-and-ride lots.	Mitigation Measure SS-2(a)—Implement safety and security criteria to deter crime. Mitigation Measure SS-2(b)—Use cameras and security patrols to enhance safety.
Impact SS-3—Safety of workers and work sites during construction.	Mitigation Measure SS-3—Implement safety rules, procedures and policies to protect workers and work sites during construction.
SAFETY AND SECURITY—Optional Irvington Station	
Impact SS-1—Impacts on local community safety services.	Mitigation Measure SS-1—Coordination with the Fremont Fire Department.
Impact SS-2—Inadequate lighting or visual obstructions at park-and-ride lots.	Mitigation Measure SS-2(a)—Implement safety and security criteria to deter crime. Mitigation Measure SS-2(b)—Use cameras and security patrols to enhance safety.

Adverse Effect	Mitigation Measure
Impact SS-3—Safety of workers and work sites during construction.	Mitigation Measure SS-3—Implement safety rules, procedures and policies to protect workers and work sites during construction.