

ES.1 Introduction

The Federal Transit Administration (FTA) and the Santa Clara Valley Transportation Authority (VTA) have prepared this combined Supplemental Environmental Impact Statement (SEIS), Subsequent Environmental Impact Report (SEIR), and Draft 4(f) Evaluation in accordance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). There are two alternatives evaluated in this document in accordance with NEPA: the No Build Alternative and the BART Extension Alternative. FTA is the lead agency for the NEPA analysis in this document and VTA is the implementing agency. BART is a cooperating agency for the NEPA analysis in this document. There are three alternatives evaluated in this document in accordance with CEQA: the No Build Alternative, the BART Extension Alternative, and the BART Extension with Transit-Oriented Joint Development (TOJD) Alternative. VTA is the lead agency for the CEQA analysis in this document. BART is a responsible agency for the CEQA analysis in this document.

In November 2001, the VTA and BART District governing boards approved a Comprehensive Agreement (VTA 2001) regarding the institutional, project implementation, and financial issues related to the BART Extension. BART will operate and maintain the system consistent with the Comprehensive Agreement. VTA has full responsibility for the funding of all capital improvements, operating costs, and maintenance costs of the BART Extension.

Changes and corrections to the text of the Draft SEIS/SEIR in response to public comments and/or design changes are indicated by underline text for additions and ~~strikeout~~ for deletions. New sections, tables, and figures added to this Final SEIS/SEIR since the release of the Draft SEIS/SEIR are identified by letter, rather than by number. For example, newly added tables are represented as Tables 1-A, 1-B., etc. and newly added figures are represented as Figures 1-A, 1-B, etc. See Table 2-B in Volume I, Chapter 2, *Alternatives*, for a summary of changes to tunnel methodologies since the release of the Draft SEIS/SEIR. Comments received on the Draft SEIS/SEIR are provided in Volume II, Chapter 2, *Response to Comments*, of this Final SEIS/SEIR.

All changes since the release of the Draft SEIS/SEIR are analyzed in this Final SEIS/SEIR. These changes do not result in new adverse or significant construction and operational impacts and neither do they substantially change the intensity of impacts previously identified in the Draft SEIS/SEIR.

ES.2 Overview

ES.2.1 Project Alternatives

As described above, there are two alternatives evaluated in this document in accordance with NEPA: the No Build Alternative and the BART Extension Alternative.

1. The NEPA No Build Alternative consists of planned transit improvements, but does not include the 6-mile BART Extension to Santa Clara.
2. The NEPA BART Extension Alternative consists of a 6-mile extension of the BART system from the Berryessa BART Station, currently under construction, through downtown San Jose to the Santa Clara Caltrain Station.

There are three alternatives evaluated in this document in accordance with CEQA: the No Build Alternative, the BART Extension Alternative, and the BART Extension with TOJD Alternative.

1. The CEQA No Build Alternative is the same as the NEPA No Build Alternative.
2. The CEQA BART Extension Alternative is the same as the NEPA BART Extension Alternative described above.
3. The CEQA BART Extension with TOJD Alternative consists of the 6-mile BART Extension as described above (see NEPA BART Extension Alternative) as well as TOJD at the BART Extension's four stations and at two ventilation structure sites.

The proposed TOJD is not included in the NEPA Build Alternative because ~~the TOJD~~ it is a ~~potential future~~ proposed independent action by VTA and no federal action is involved, ~~and~~ the proposed TOJD project serves a separate purpose and need than the BART Extension Alternative and has independent utility. ~~It~~ is included as an alternative under CEQA to support local and regional land use planning. ~~No~~ A specific TOJD development plan or private developer has not been identified at this time, and the proposed any proposed TOJD project by VTA may be subject to refinement once a private developer is identified. Any proposed TOJD by VTA, should the Board decide to implement this alternative, would be separately funded, and would not include federal funding. The proposed TOJD may be constructed at the same time as the BART Extension Alternative or later in time, dependent on the availability of funding and subject to market forces. However, the design of the stations and structures would not preclude TOJD. Because no federal action is involved, VTA's proposed TOJD, which is intended to be consistent with city the general plans and approved area plans of the cities of San Jose and Santa Clara, as applicable, and is would be considered in the cumulative background conditions for NEPA purposes. In early 2018, VTA staff will bring this project to VTA's Board of Directors, seeking the Board's certification of the Final SEIR and approval of one of the three CEQA Alternatives: the No-Build Alternative, BART Extension Alternative, or BART Extension with TOJD Alternative. The

proposed TOJD would be carried forward for implementation if VTA’s Board of Directors approves the BART Extension with TOJD Alternative.

VTA will coordinate TOJD project entitlements from local planning agencies as a separate action from this project. In October, 2016, VTA was awarded a \$1.52 million Fiscal Year 2016 Pilot Program for Transit-Oriented Development (TOD) Planning grant for the Phase II Project. The Pilot Program supports comprehensive planning efforts of local communities. Under the Pilot Program requirements, agencies and local communities who receive funds through this planning program must examine ways to improve economic development and ridership, foster multimodal connectivity and accessibility, improve transit access, identify infrastructure needs, and enable mixed-use development near transit stations. The Pilot Program funds will be used to support a study on concepts and future opportunities for TOD along the alignment. After the VTA Board of Directors defines the scope of work and approves the selection of a consultant, the study will take approximately a year to complete.

The 6-mile BART Extension under the NEPA BART Extension Alternative, CEQA BART Extension Alternative, and CEQA BART Extension with TOJD Alternative would begin at the terminus of the Phase I Project east of U.S. Highway 101 (U.S. 101) and south of Mabury Road in the City of San Jose and extend to the City of Santa Clara. Figure ES-1 shows the regional location of the BART Extension.

The BART Extension would include an approximately 5-mile tunnel, or subway, through downtown San Jose. Four stations are under consideration: Alum Rock/28th Street, Downtown San Jose, Diridon, and Santa Clara. Two options are under consideration for both the Downtown San Jose and Diridon Stations. Figure ES-2 shows a map of the BART Extension. Figures ES-A through ES-F provide concepts for the station plans. The BART Extension would take approximately 8 years for design, construction, testing, and start-up activities. Depending upon funding availability, initial revenue service on the BART Extension is targeted to begin in late 2025/2026. The CEQA BART Extension with TOJD Alternative consists of the 6-mile BART Extension as described above in addition to TOJD at the four BART stations and at the two ventilation structure sites. The locations of the TOJD are shown on Figure ES-3. The alternatives listed above are described in detail in Chapter 2, *Alternatives*.

ES.2.2 Changes Since the Release of the Draft SEIS/SEIR

Since the publication of the Draft SEIS/SEIR, several project changes have been made based on public comments and further refinements to the design of the project. The project changes for the Single-Bore Option tunneling methodology include increasing the size of the construction staging area for the East Tunnel Portal, refining the station configuration and concepts for the three underground stations (Alum Rock/28th Street, Downtown San Jose, and Diridon) and revising the plan and profile of the alignment east and west of the Diridon Station North Option. The project changes for the Twin-Bore Option tunneling methodology

include refinements in the Diridon Station North Option concept and alignment near the station, along with an increase in the size of the construction staging area west of the railroad tracks. These project changes are described in Chapter 2, *Alternatives*, and analyzed in this Final SEIS/SEIR.

ES.3 Why Supplemental EIS and Subsequent EIR Document?

The extension of BART into Santa Clara County is the outcome of various prior studies that have evaluated transportation needs in the BART Silicon Valley corridor and major capital improvements intended to expand transit service.

In 2001, a Major Investment Study (MIS) was conducted, and the VTA Board of Directors approved a locally preferred alternative that would extend BART service from Fremont through Milpitas, San Jose, and into Santa Clara. The alternative came to be designated the Silicon Valley Rapid Transit Corridor Project (SVRTCP). To study the environmental impacts of this alternative, a combined Draft Environmental Impact Statement/ Environmental Impact Report (Draft EIS/EIR) and Draft 4(f) Evaluation was prepared in accordance with the requirements of NEPA and CEQA and released for public review in March 2004. Following the start of the public review period for the Draft EIS/EIR, on April 6, 2004, the NEPA Notice of Intent to prepare an EIS was published for the BART Warm Springs Extension, a 5.4-mile project extending from the downtown Fremont BART Station to south Fremont, terminating at the proposed Warm Springs Station. The Warm Springs Extension is a required precursor project to the SVRTCP.

The project was determined not ripe for NEPA review because it was in the early stages of planning as evidenced by the on-going planning for the Warm Springs Extension Project, which is a predecessor to the SVRTCP. Funding for the operations and construction of the SVRTCP was still being explored at that time. VTA continued with the environmental process under CEQA in order to advance planning. As a result of this action, VTA also withdrew the SVRTCP from FTA's New Starts project qualification and funding program. This included formal withdrawal from the FTA preliminary engineering phase of project development.

VTA did, however, continue the environmental review process under CEQA. A Final EIR was prepared and certified by the VTA Board of Directors in December 2004. A Final Supplemental EIR (updating the 2004 EIR to address project design refinements) was certified by the VTA Board of Directors in June 2007.

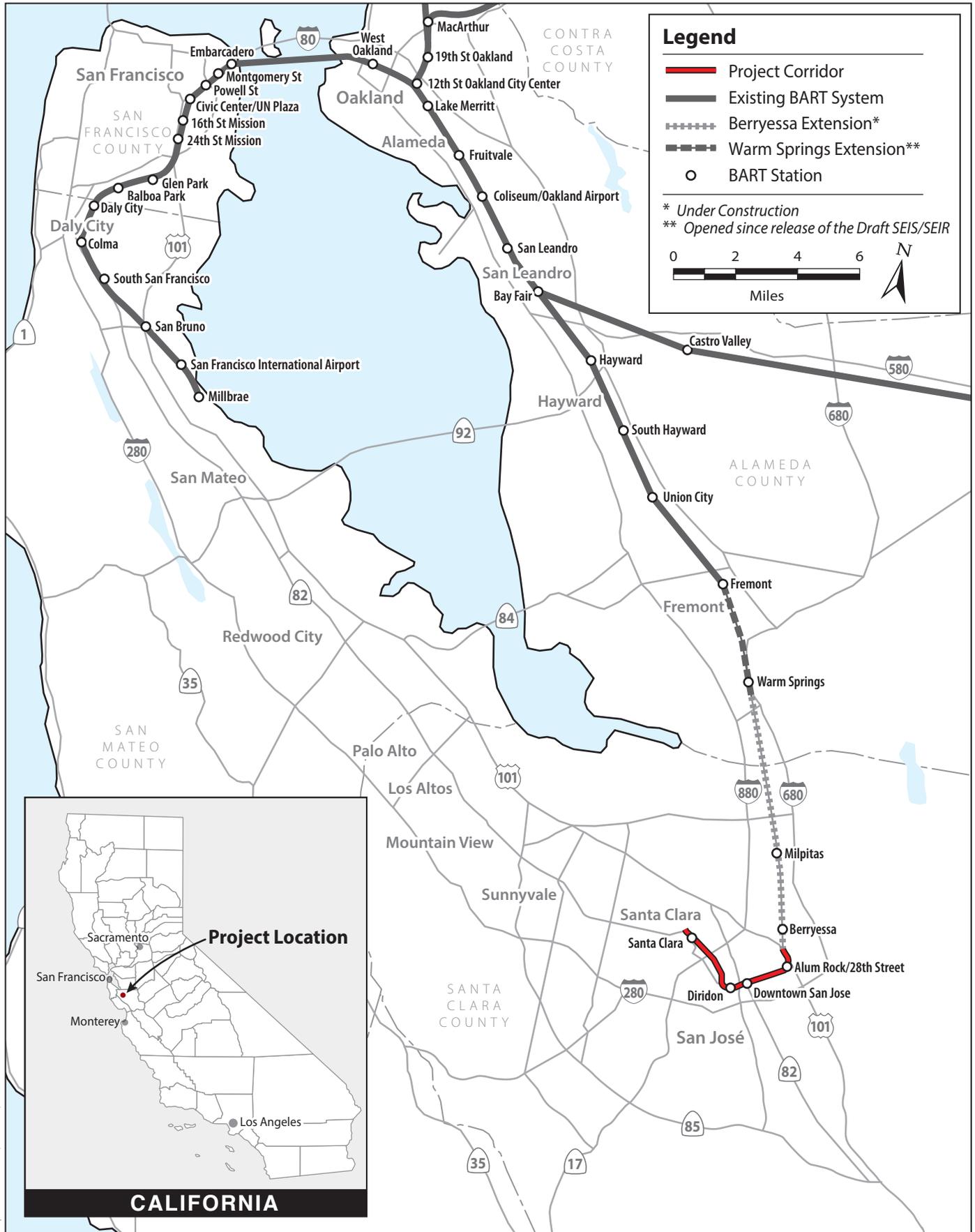
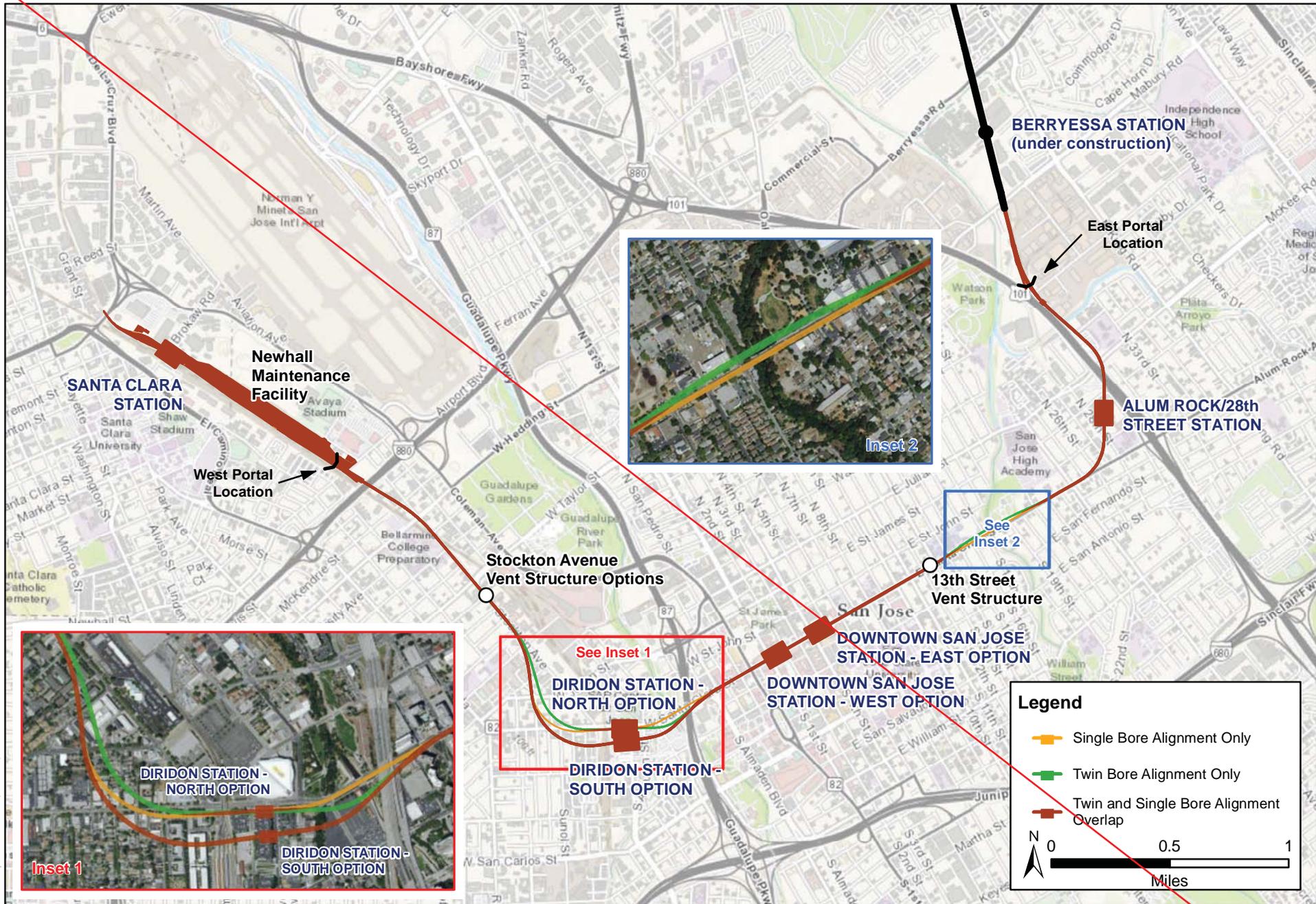


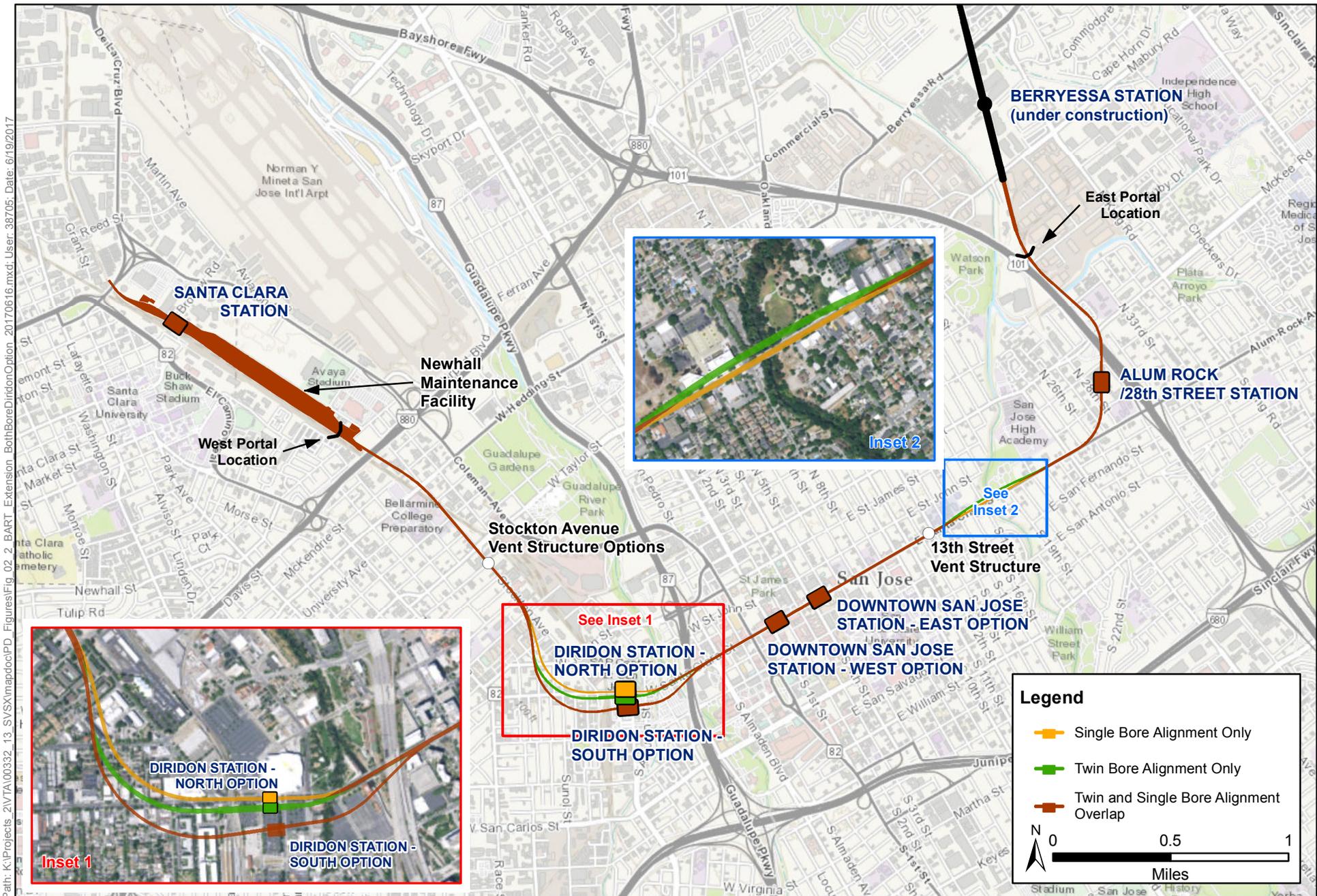
Figure ES-1
Regional Location (Revised)
 VTA's BART Silicon Valley-Phase II Extension Project



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Source: Station and Track, VTA 2014; Basemap, ESRI 2015

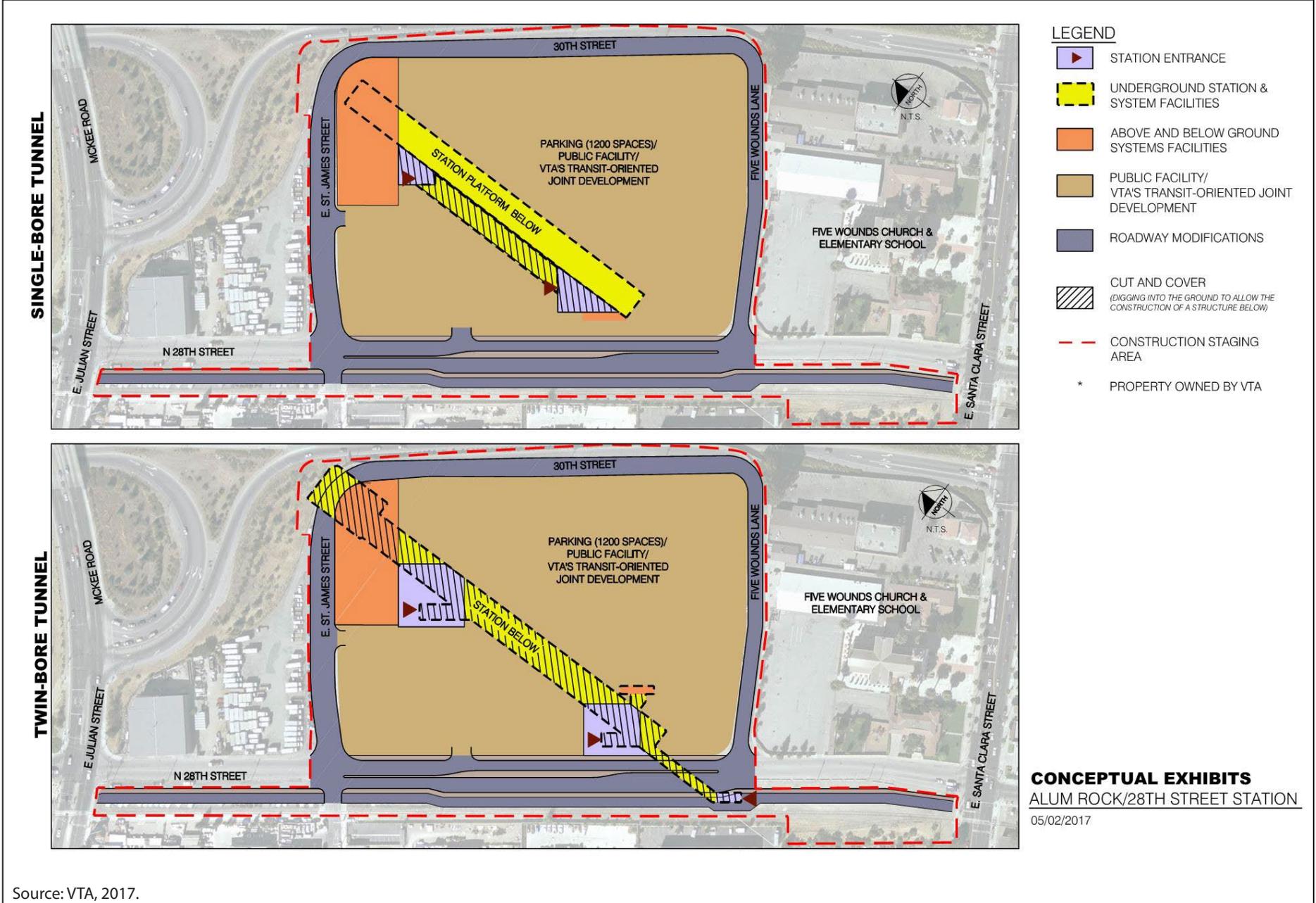
Figure ES-2
BART Extension Alternative
 VTA's BART Silicon Valley – Phase II Extension Project



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Source: Station and Track, VTA 2014; Basemap, ESRI 2015

Figure ES-2
BART Extension Alternative (Revised)
 VTA's BART Silicon Valley – Phase II Extension Project



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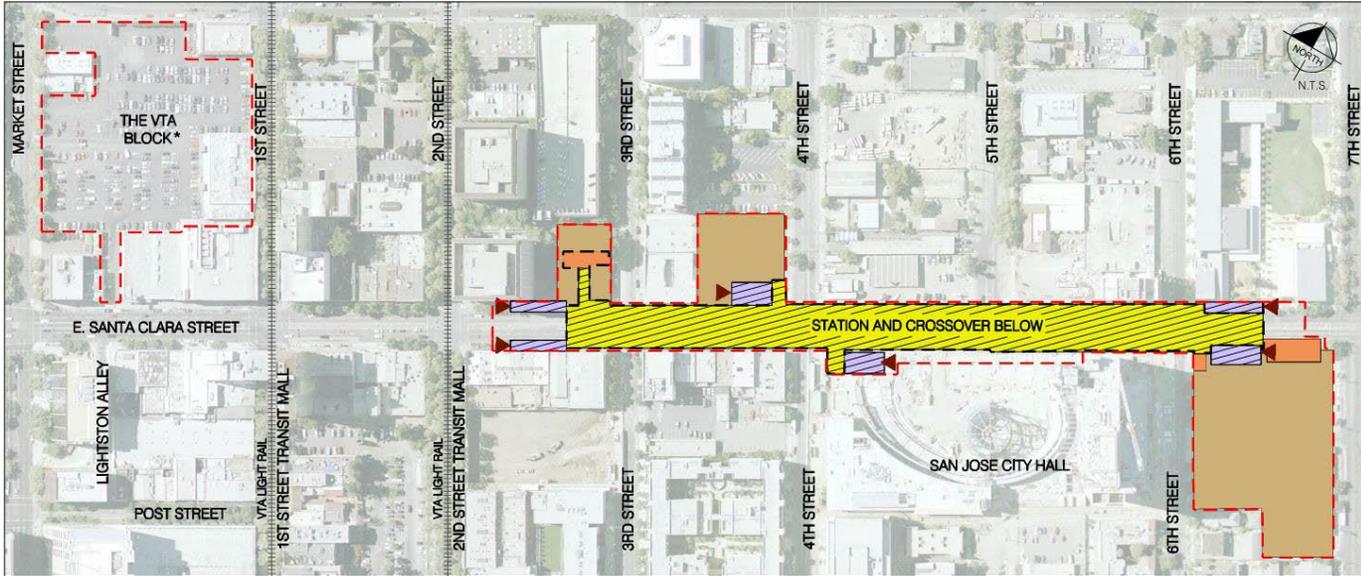
Source: VTA, 2017.

Figure ES-A
Alum Rock/28th Street Station Plan (Twin-Bore and Single-Bore)
 VTA's BART Silicon Valley-Phase II Extension Project

SINGLE-BORE TUNNEL



TWIN-BORE TUNNEL



LEGEND

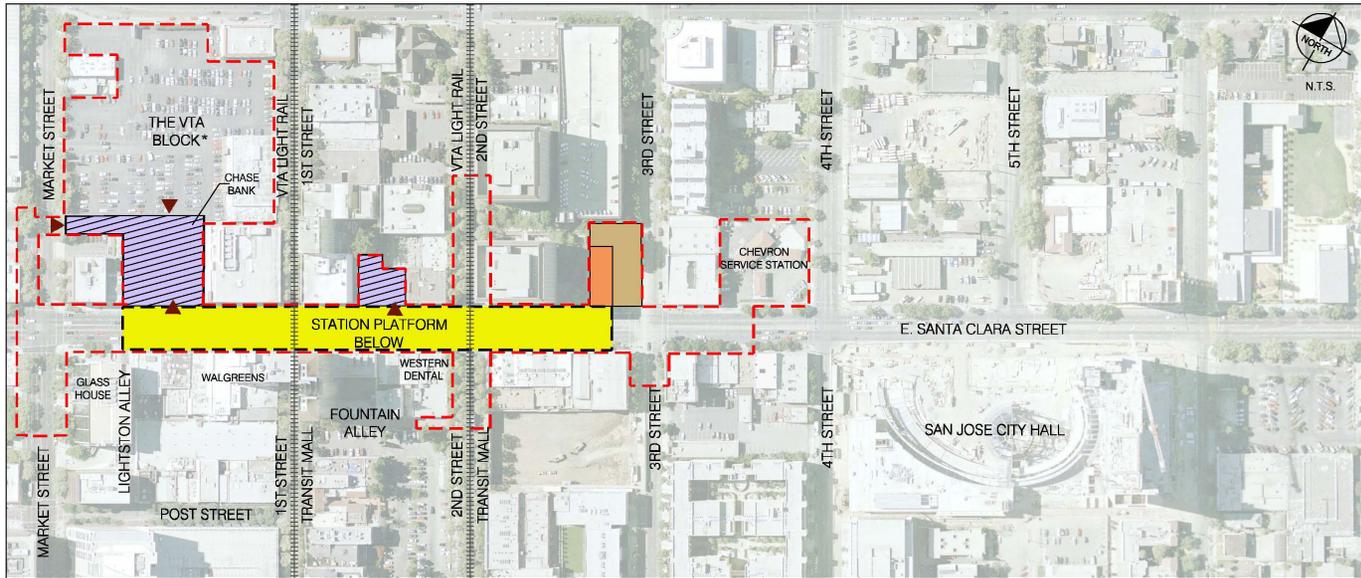
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-  UNDERGROUND STATION & SYSTEM FACILITIES
-  ABOVE AND BELOW GROUND SYSTEMS FACILITIES
-  PUBLIC FACILITY/ VTA'S TRANSIT-ORIENTED JOINT DEVELOPMENT
-  CUT-AND-COVER
(DIGGING INTO THE GROUND TO ALLOW THE CONSTRUCTION OF A STRUCTURE BELOW)
-  EXISTING TRACKS
-  CONSTRUCTION STAGING AREA
- * PROPERTY OWNED BY VTA

CONCEPTUAL EXHIBITS
 DOWNTOWN SAN JOSE STATION
 EAST OPTION
 4/27/2017

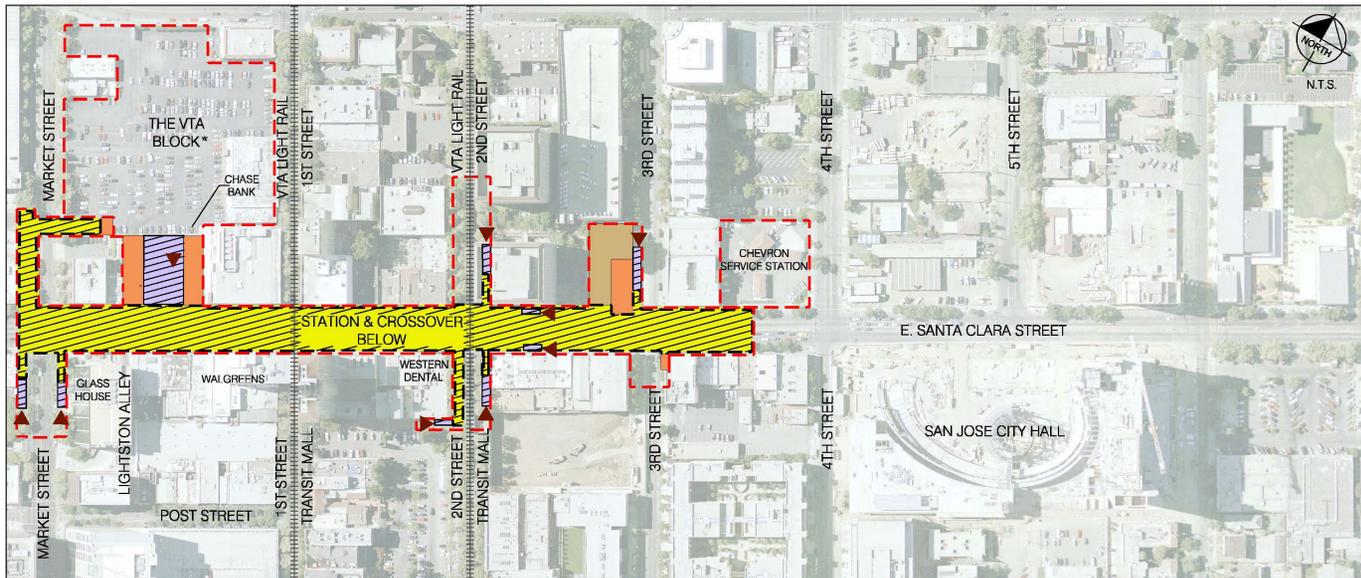
Source: VTA, 2017.

Figure ES-B
Downtown San Jose Station East Option Plan (Twin-Bore and Single-Bore)
 VTA's BART Silicon Valley–Phase II Extension Project

SINGLE-BORE TUNNEL



TWIN-BORE TUNNEL



LEGEND

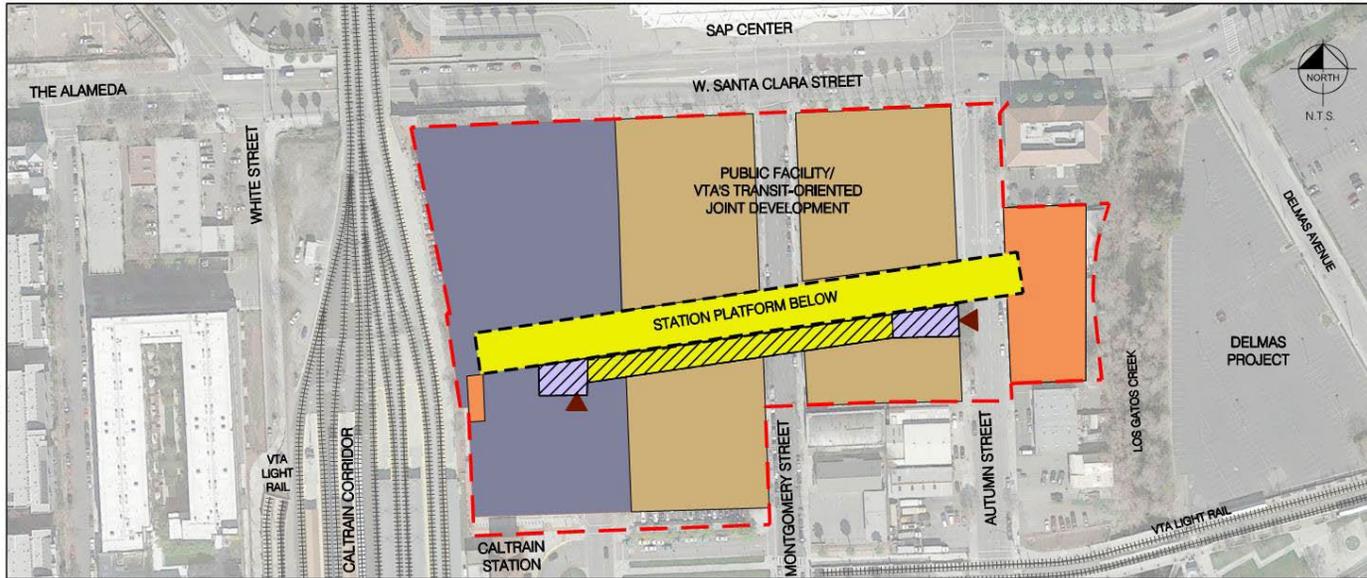
-  STATION ENTRANCE OPTIONS
-  UNDERGROUND STATION & SYSTEM FACILITIES
-  ABOVE AND BELOW GROUND SYSTEMS FACILITIES
-  PUBLIC FACILITY/ VTA'S TRANSIT-ORIENTED JOINT DEVELOPMENT
-  CUT-AND-COVER (DIGGING INTO THE GROUND TO ALLOW THE CONSTRUCTION OF A STRUCTURE BELOW.)
-  EXISTING TRACKS
-  CONSTRUCTION STAGING AREA
- * PROPERTY OWNED BY VTA

CONCEPTUAL EXHIBITS
DOWNTOWN SAN JOSE STATION
WEST OPTION

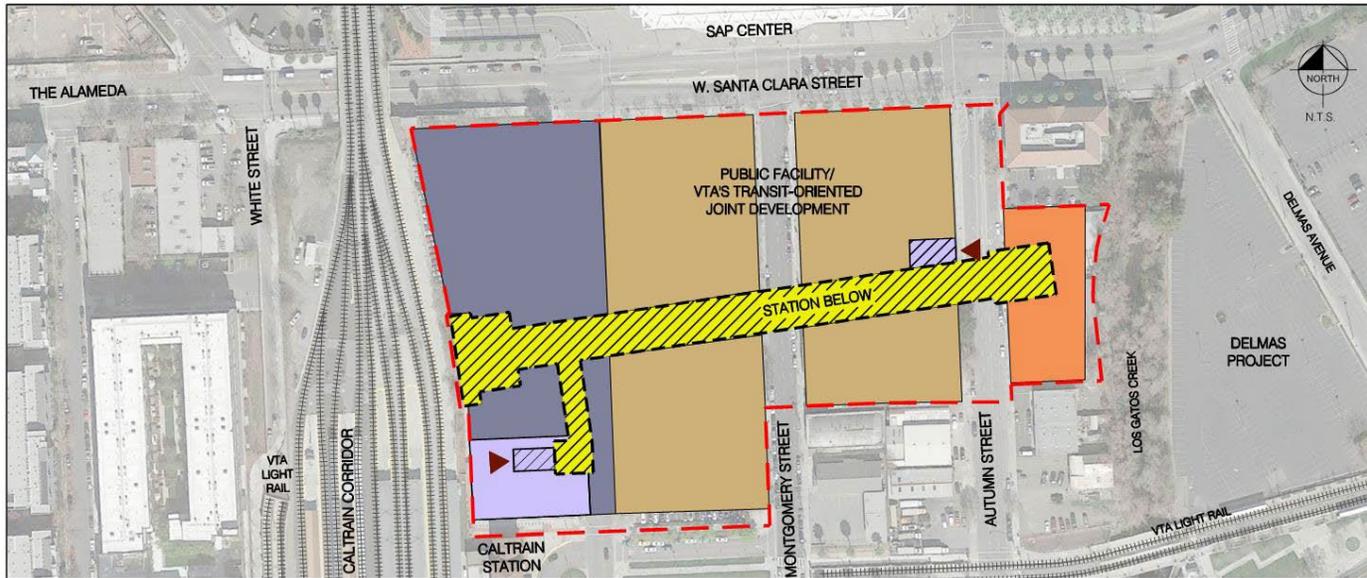
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Figure ES-C
Downtown San Jose Station West Option Plan (Twin-Bore and Single-Bore)
VTA's BART Silicon Valley-Phase II Extension Project

SINGLE-BORE TUNNEL



TWIN-BORE TUNNEL



LEGEND

-  STATION ENTRANCE
-  UNDERGROUND STATION & SYSTEM FACILITIES
-  ABOVE AND BELOW GROUND SYSTEMS FACILITIES
-  PUBLIC FACILITY/ VTA'S TRANSIT-ORIENTED JOINT DEVELOPMENT
-  TRANSIT FACILITY
-  CUT-AND-COVER (DIGGING INTO THE GROUND TO ALLOW THE CONSTRUCTION OF A STRUCTURE BELOW)
-  EXISTING TRACKS
-  CONSTRUCTION STAGING AREA

CONCEPTUAL EXHIBITS

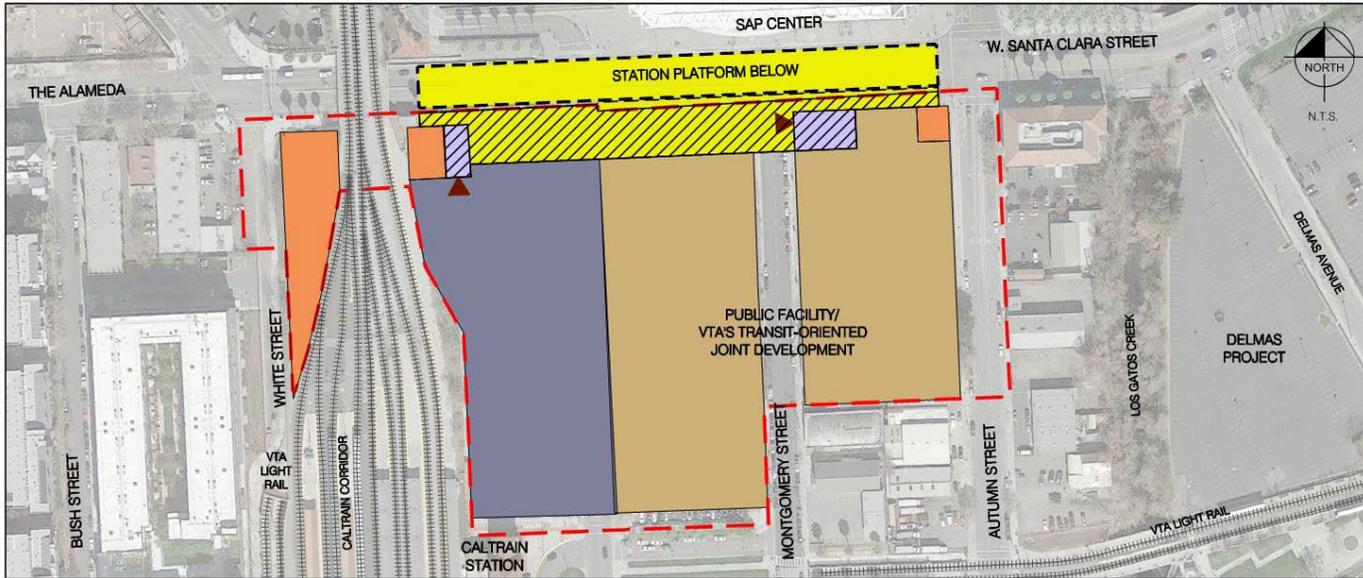
DIRIDON STATION

SOUTH OPTION

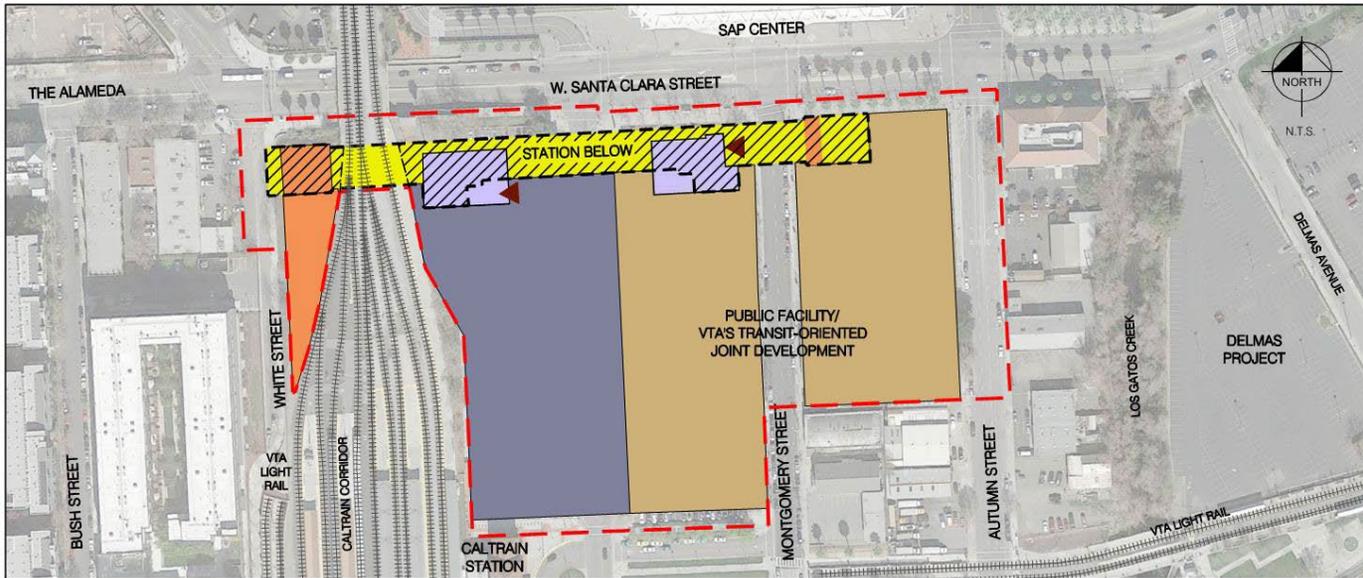
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Figure ES-D
Diridon Station South Option Plan (Twin-Bore and Single-Bore)
VTA's BART Silicon Valley-Phase II Extension Project

SINGLE-BORE TUNNEL



TWIN-BORE TUNNEL



LEGEND

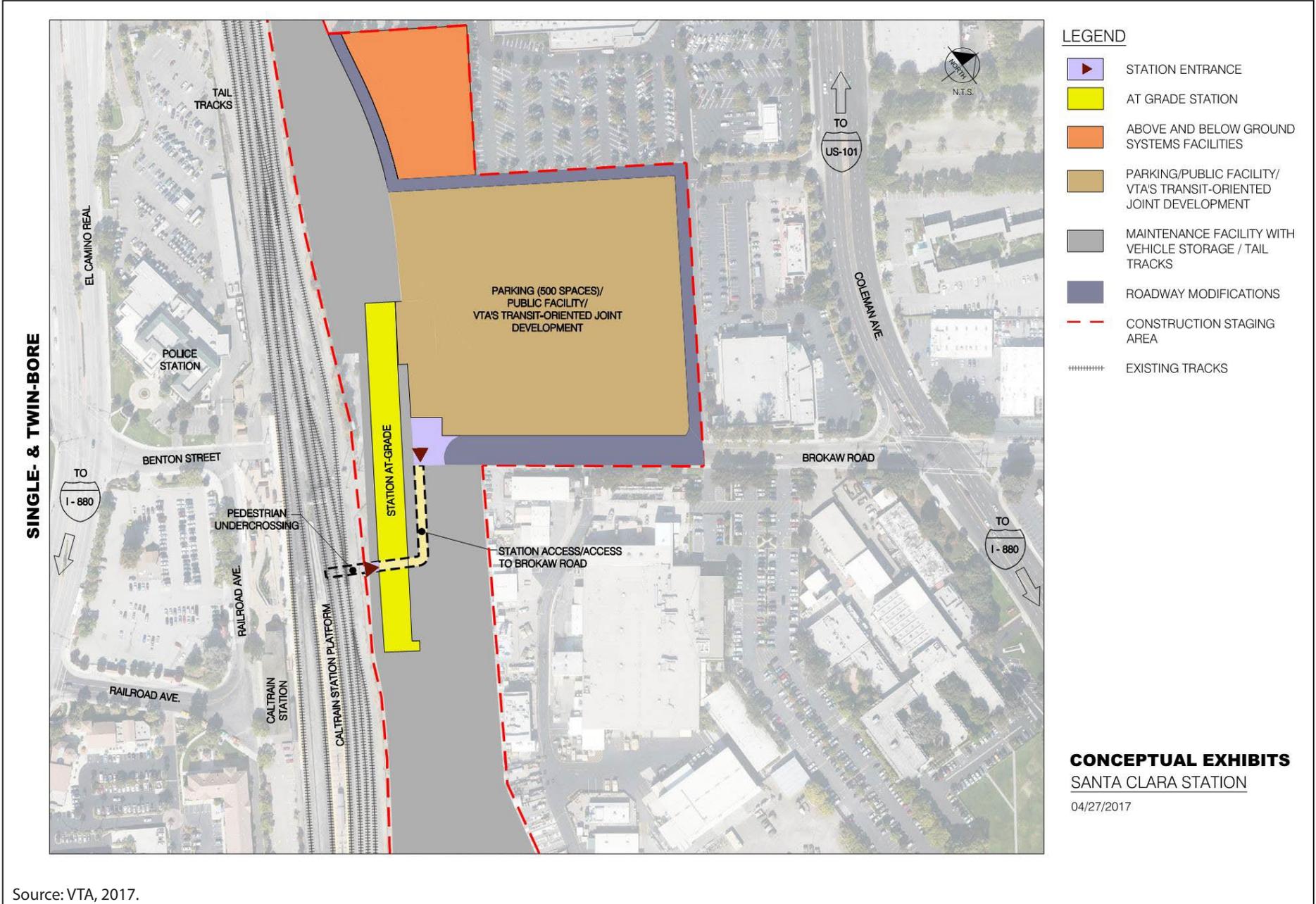
-  STATION ENTRANCE
-  UNDERGROUND STATION & SYSTEM FACILITIES
-  ABOVE AND BELOW GROUND SYSTEMS FACILITIES
-  PUBLIC FACILITY/VTA'S TRANSIT-ORIENTED JOINT DEVELOPMENT
-  TRANSIT FACILITY
-  CUT-AND-COVER
(DIGGING INTO THE GROUND TO ALLOW THE CONSTRUCTION OF A STRUCTURE BELOW)
-  EXISTING TRACKS
-  CONSTRUCTION STAGING AREA

CONCEPTUAL EXHIBITS
 DIRIDON STATION
 NORTH OPTION
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Source: VTA, 2017.

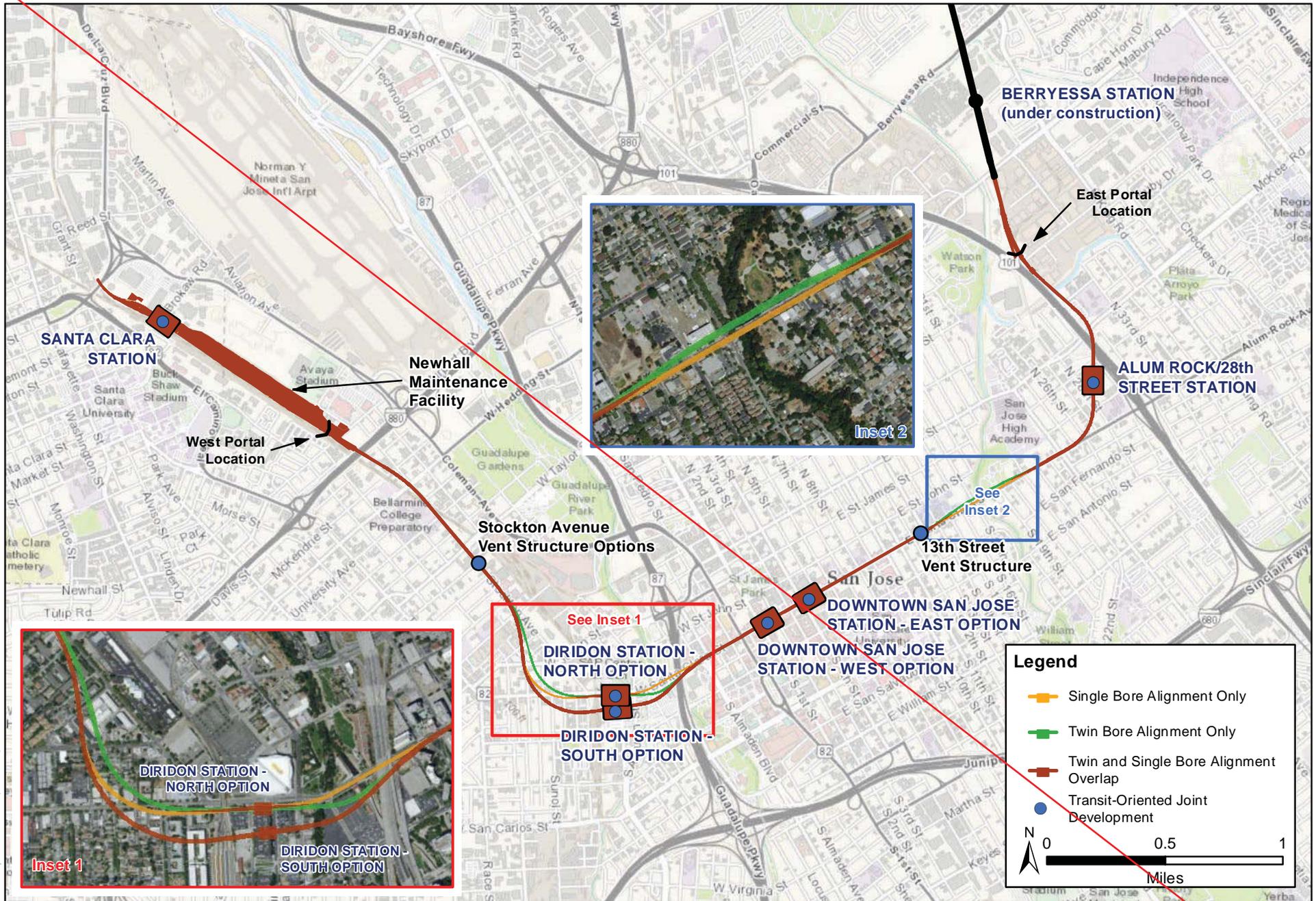
Figure ES-E
Diridon Station North Option Plan (Twin-Bore and Single-Bore)
 VTA's BART Silicon Valley-Phase II Extension Project



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Source: VTA, 2017.

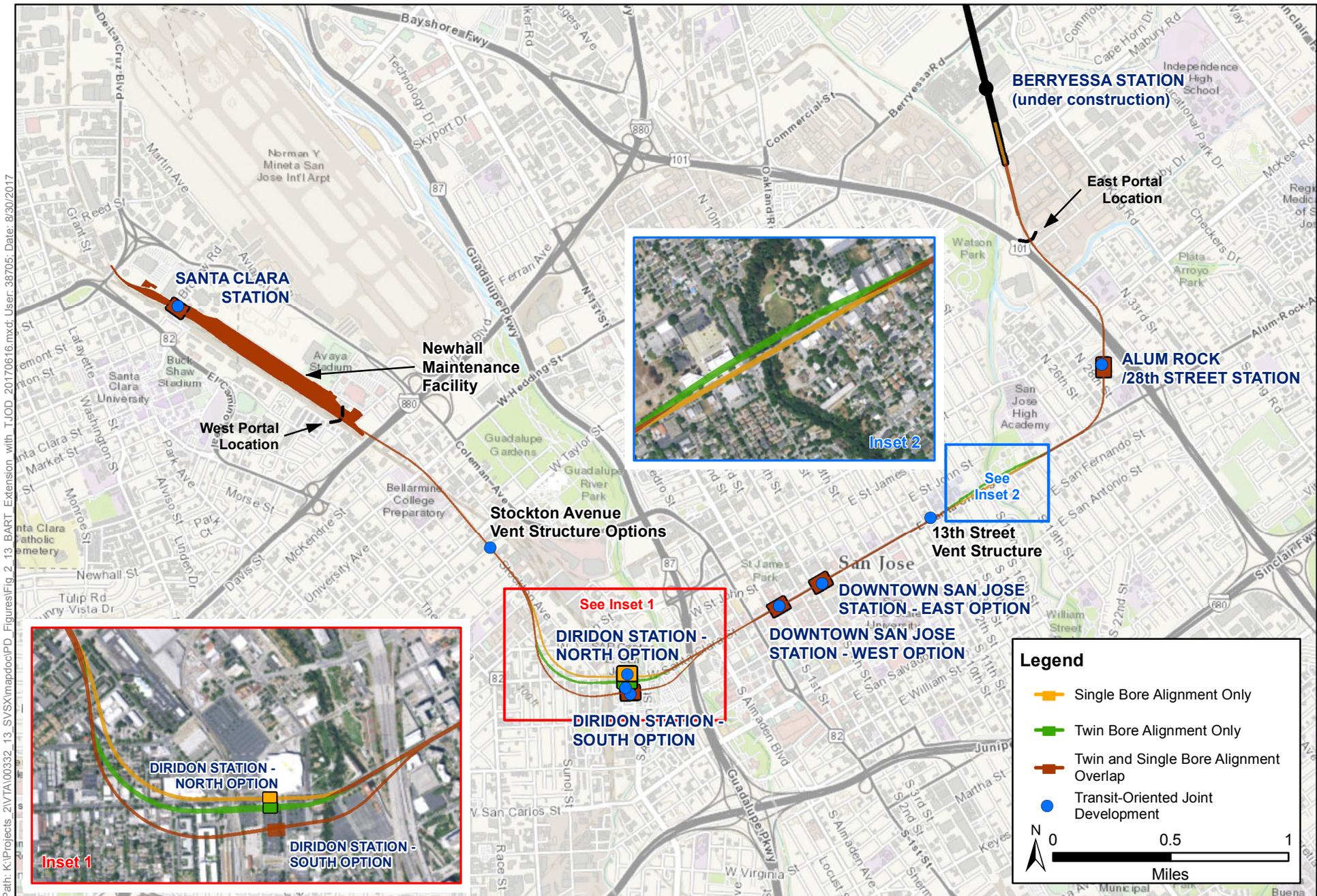
Figure ES-F
Santa Clara Station (Twin-Bore and Single-Bore)
 VTA's BART Silicon Valley-Phase II Extension Project



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Source: Station and Track, VTA 2014; Basemap, ESRI 2015

Figure ES-3
BART Extension (with Station options) and Transit-Oriented Joint Development Alternative
 VTA's BART Silicon Valley-Phase II Extension Project



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Source: Station and Track, VTA 2014; Basemap, ESRI 2015

Figure ES-3
BART Extension (with Station Options) and Transit-Oriented Joint Development (Revised)
 VTA's BART Silicon Valley – Phase II Extension Project

In mid-2007, VTA requested FTA approval to begin the NEPA process again, and FTA concurred. On September 21, 2007, FTA published in the *Federal Register* a Notice of Intent to Prepare an EIS on the project. VTA and FTA held public scoping meetings in October 2007 to solicit comments on the scope of project improvements and issues for evaluation as part of the environmental studies.

A Draft EIS was released for public comment in March 2009, and a Final EIS was published in March 2010. On June 24, 2010, the FTA issued a Record of Decision (ROD) on the first phase of the project, an approximately 10-mile segment from Warm Springs to Berryessa—designated the Berryessa Extension Project. This formally approved Phase I to move forward into detailed design and construction. The decision reflected the fact that VTA had funding committed or in the pipeline for an initial 10-mile segment of a full 16-mile SVRTCP. Funding for the full 16-mile project was, at the time, not committed or in the immediate pipeline.

VTA proceeded to complete design and initiated construction on this initial segment, which is referred to in this document as the Phase I Project. The remaining approximately 6 miles of the originally contemplated project is referred to in this document as the BART Extension. Because a considerable period of time has elapsed since preparation and publication of the Final EIS on the SVRTCP and because the project is now focused on the remaining approximately 6 miles for completion, a Supplemental Environmental Impact Statement to the 2010 document is being prepared.

To ensure that the previously issued 2007 SEIR was fully consistent with the 2010 Final EIS, a Draft 2nd Supplemental EIR was prepared and issued for public review in November 2010. A Final 2nd Supplemental EIR was published in March 2011. The 2nd SEIR focused on the Phase I Extension as the planned project.

The CEQA EIR and NEPA EIS processes now need to be brought up to date because several years have passed since the prior documents were approved, background conditions have changed, some regulatory settings have changed, and there are new options to be evaluated. In addition, for CEQA purposes, there is a new alternative with TOJD. Therefore, VTA, with FTA concurrence, has elected to prepare a combined Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report (SEIS/SEIR) on the remaining approximately 6-mile BART Extension. A Subsequent EIR has been prepared instead of a Supplemental EIR because substantial changes have been made to the project (primarily the introduction of transit-oriented joint development) which requires major revisions of the previous EIR due to the involvement of new significant environmental impacts and increases in the severity of previously identified significant impacts. In 2015, as preparation of the updated documents was underway, VTA decided to add a land use development component to the CEQA BART Extension with TOJD Alternative in order to maximize transit-oriented development potential; to encourage ridership; to fulfill the local and regional goals to integrate transit-oriented development at transit stations; and to ~~integrate~~ coordinate the planning, design, and construction of both the BART Extension and land use development.

In late 2015, VTA submitted application materials to FTA, requesting entry into New Starts Project Development, the first phase of the New Starts Capital Investment Grant Program. In March 2016, VTA received approval to enter New Starts Project Development for the NEPA Build Alternative. Completion of project development activities allows VTA to request approval to advance the project into New Starts Engineering.

ES.4 Public and Agency Involvement

Refer to Chapter 10, *Agency and Community Participation*, for more information on public and agency involvement. A summary of consultation of public agencies conducted for the BART Extension is provided in Section 10.2, *Summary of Public Agency Coordination*. Section 10.6, *Chronology of Coordination*, outlines the timeline of all public outreach, public meetings, and coordination activities.

ES.4.1 Scoping

On January 30, 2015, VTA issued the Notice of Preparation for the SEIS/SEIR. VTA conducted three formal environmental scoping meetings to gather input and comments prior to the development of the SEIS/SEIR. Meetings were held on February 12, 17, and 19, 2015, in downtown San Jose, east San Jose, and Santa Clara. Each public scoping meeting included a sign-in/open house portion of the meeting, where the public could view informational display boards of the BART Extension alignment and concept exhibits for the proposed stations, and a presentation portion of the meeting during which VTA staff provided an overview of the BART Extension and environmental process.

ES.4.2 Areas of Controversy

Written and oral comments received during the scoping process are available in the technical report titled *Environmental Scoping Report*. The report is available on VTA's website at www.vta.org/bart and on file at VTA's offices (3331 N. First Street, Building. B, San José, CA 95134).

Comments regarding environmental impacts focused on the following areas.

- The alignment (including the 101 alignment) and station locations.
- Disruption to businesses in downtown San Jose and at Diridon during construction.
- Socioeconomic impacts from business displacements.
- Access to stations for automobiles, pedestrians, and bicycles.
- Single- vs. Twin-Bore construction methodologies.
- Construction traffic impacts on surrounding roadways, bicycle and pedestrian facilities, the state highway system, and at the SAP Center.
- Parking impacts at Diridon Station during and after construction.

- Noise and air quality impacts of construction and operations on the surrounding land uses.
- Construction and operations vibration and noise impacts on the ~~Church of Five Wounds~~ Portuguese National Church.
- Transit-Oriented Joint Development.

ES.5 Public Circulation of Draft SEIS/SEIR

Notice of the Draft SEIS/SEIR ~~will be~~ published in the *Federal Register* on January 6, 2017. The public comment period ~~will end~~ ended March 6, February 20, 2017. Public hearings ~~will be~~ held January 25, 26, and 30, 2017, at the locations noted below to take comments from interested parties and the public regarding the alternatives, impacts, and proposed mitigation measures. The times and locations of the public hearings ~~were~~ will be announced in direct mailings, on VTA's website, in display advertisements in local newspapers of general circulation in the area, and in the *Federal Register*. Responses ~~are~~ will be provided in ~~this~~ Final SEIS/SEIR for all substantive comments received in writing prior to the close of the public comment period or entered into the public record at the public hearings. VTA and FTA ~~will~~ has considered all of the public comments in concert with the information presented in this document prior to selection of a preferred alternative.

The dates, times, and locations of the public hearings ~~were~~ are:

- East San Jose Public Hearing
Wednesday, January 25, 2017 (6:00 p.m. to 8:00 p.m.)
Mexican Heritage Plaza, Gallery Room
1700 Alum Rock Avenue, San Jose, CA
- Santa Clara Public Hearing
Thursday, January 26, 2017 (6:00 p.m. to 8:00 p.m.)
Santa Clara Senior Center, Room 222
1303 Fremont Street, Santa Clara, CA
- Downtown San Jose Public Hearing
Monday, January 30, 2017 (6:00 p.m. to 8:00 p.m.)
City of San Jose – City Hall, Rooms 118–120
200 East Santa Clara Street, San Jose, CA

ES.6 Issues to be Resolved

The issues to be resolved include the following:

- Two station options: Downtown San Jose Station East or West Option (VTA staff are recommending the West Option)
- Two station options: Diridon Station South or North Option (VTA staff are recommending the North Option)
- Four location options for the Stockton Avenue Ventilation Structure on the east side of Stockton Avenue between Schiele Avenue and West Taylor Street.
- Selection of underground station entrances for Alum Rock/28th Street, Downtown San Jose, and Diridon Stations
- Two tunnel construction methodology options: the Twin-Bore or Single-Bore Option (see Table ES-3 for a comparison of impacts for these tunnel construction methodology options).
- Tunnel boring machine options: earth-pressure-balanced, slurry, or hybrid of the two.

See Volume I, Chapter 2, Section 2.A, Recommended Project Description/Locally Preferred Alternatives, for a discussion of how these issues have been resolved.

ES.7 Impacts and Mitigation Measures

ES.7.1 NEPA

Short-term adverse effects that would occur during the construction of the NEPA BART Extension Alternative (BART Extension) are summarized in Table ES-1, along with proposed mitigation, and the level of impact after mitigation. Table ES-2 summarizes the adverse, long-term effects from operation of the BART Extension under NEPA, proposed mitigation, and the level of impact after mitigation. The mitigation measures in these tables include avoidance, minimization, and mitigation measures.

Where project features have not changed, construction and operation impacts for the NEPA BART Extension Alternative are generally similar as those identified in the 2010 FEIS. For new facilities, station and tunnel options, or new locations, impacts are generally similar or less than those previously described in the 2010 FEIS except for Transportation (construction), Air Quality (construction), and Noise (construction).

Impacts in Tables ES-1 and ES-2 are described as they relate to all features, or as they relate to specified portions of the alignment. *Tables ES-1 and ES-2 show the adverse effects only.* Any environmental effects that would not be adverse and cumulative impacts are not discussed in the tables. Refer to Chapter 4, *NEPA Alternatives Analysis of Operations*, and Chapter 5, *NEPA Alternatives Analysis of Construction*, for the criteria for determining adverse effects and detailed description of all potential effects from the NEPA No Build Alternative and the NEPA BART Extension Alternative and proposed mitigation measures.

As described in Section 7.5, *Significant Unavoidable Impacts*, which addresses cumulative impacts, the BART Extension Alternative, with related projects, would result in cumulative impacts during construction for vehicular traffic, bicycle, pedestrian, transit-bus, transit-light rail, air quality, biological resources, cultural resources, greenhouse gas emissions, noise, socioeconomics, and environmental justice. After the implementation of mitigation, the cumulative effects during construction would remain adverse for traffic, bicycle, pedestrian, transit-bus, transit-light rail, air quality, noise, socioeconomics, and environmental justice. There are no cumulative impacts during the BART Extension Alternative operations.

For the BART Extension with TOJD Alternative, cumulative significant impacts during construction would remain after mitigation for vehicular traffic, bicycle, pedestrian, transit-bus, transit-light rail, air quality, and noise as described in Section 7.5.2, *BART Extension with TOJD Alternative*. Cumulative significant impacts during operation would remain after mitigation for vehicular traffic, air quality, and greenhouse gas emissions, as also described in Section 7.5.2.

For a description of the impacts and mitigation measures summarized in Tables ES-1 and ES-2, please refer to the respective resource area sections in Chapters 3, 4, and 5 for details.

The level of impacts after mitigation under the NEPA BART Extension Alternative analyzed in this document must be compared to the level of impacts after mitigation in the 2010 FEIS to satisfy the Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report requirements.

Table ES-1: Summary of Adverse Effects and Proposed Mitigation Measures of the NEPA BART Extension Alternative – Construction

NEPA Effect	BART Facility and Tunnel Option	Significance before Mitigation	Mitigation	Significance after Mitigation
5.5.2 Transportation				
<p>Vehicular Traffic, Bicyclists, and Pedestrians: Lane and roadway closures would require vehicular traffic, bicyclists, and pedestrians traveling within and through the construction areas to use alternate routes, increasing their travel distance and time.</p>	<p>Alum Rock/28th Street Station; Downtown San Jose Station (East and West Options); Diridon Station (South and North Options), Santa Clara Station, Newhall Maintenance Facility, and West Tunnel Portal</p> <p><i>Tunnel Option: Both options</i></p>	<p>Adverse (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure TRA-CNST-A: Develop and Implement a Construction Education and Outreach Plan</p> <p>Mitigation Measure TRA-CNST-B: Develop and Implement a Construction Transportation Management Plan</p> <p><u>Mitigation Measure TRA-CNST-C: Prepare and Implement an Emergency Services Coordination Plan</u></p>	<p>Adverse (Twin-Bore and Single-Bore Options-)</p>
<p>Vehicular Traffic, Bicyclists, and Pedestrians: Lane and roadway closures would require vehicular traffic, bicyclists, and pedestrians traveling within and through the construction areas to use alternate routes, increasing their travel distance and time.</p>	<p>13th Street and Stockton Street/Stockton Avenue Ventilation Structures</p> <p><i>Tunnel Option: Both options</i></p> <p><u>Cross passages</u></p> <p><i>Tunnel Option: Twin-Bore Only</i></p>	<p>Adverse (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures TRA-CNST-A and B: Develop and Implement a Construction Education and Outreach Plan</p> <p>Mitigation Measure TRA-CNST-B (see description above) and C: Develop and Implement a Construction Transportation Management Plan</p> <p><u>Mitigation Measure TRA-CNST-C (see description above)</u></p>	<p>Not Adverse (Twin-Bore and Single-Bore Options-)</p>
<p>Transit-Bus: Long-term closure of transit stops and route detours required during construction would decrease performance and affect local bus service.</p>	<p>Downtown San Jose Station (East and West Options), Diridon Station (South and North Options)</p>	<p>Adverse (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures TRA-CNST-A: Develop and Implement a Construction Education and Outreach Plan</p> <p><u>Mitigation Measure and TRA-CNST-B (see description above):</u></p>	<p>Adverse (Twin-Bore and Single-Bore Options)</p>

Table ES-1: Summary of Adverse Effects and Proposed Mitigation Measures of the NEPA BART Extension Alternative – Construction

NEPA Effect	BART Facility and Tunnel Option	Significance before Mitigation	Mitigation	Significance after Mitigation
	<i>Tunnel Option: Both options</i>		Develop and Implement a Construction Transportation Management Plan	
Transit-Light Rail: Construction activities may require closure and interruption of VTA’s light rail service through downtown San Jose, affecting performance.	Downtown San Jose Station West Option <i>Tunnel Option: Twin-Bore only</i>	Adverse (Twin-Bore Option)	Mitigation Measures TRA-CNST-A and Develop and Implement a Construction Education and Outreach Plan Mitigation Measure TRA-CNST-B (see description above); Develop and Implement a Construction Transportation Management Plan	Adverse (Twin-Bore Option)
Transit-Heavy Rail: Construction activities would temporarily affect existing easternmost Caltrain track at Diridon Station and thereby affect Caltrain and other operations.	Diridon Station (North Option) <i>Tunnel Option: Twin-Bore only</i>	Adverse (Twin-Bore Option)	Mitigation Measure TRA-CNST-A: Develop and Implement a Construction Education and Outreach Plan	Adverse (Twin-Bore Option)
Parking: On-street and off-street parking spaces would be removed during construction.	Downtown San Jose Station (East and West Options), Diridon Station (South and North Options) <i>Tunnel Option: Both options</i>	Adverse (Twin-Bore and Single-Bore Options)	Mitigation Measures TRA-CNST-A: Develop and Implement a Construction Education and Outreach Plan and TRA-CNST-B (see description above) Mitigation Measure TRA-CNST-DC: <u>Provide Temporary Replacement Parking at Diridon</u> Develop and Implement a Parking Management Plan (Diridon Station only)	Not Adverse (Twin-Bore and Single-Bore Options)

Table ES-1: Summary of Adverse Effects and Proposed Mitigation Measures of the NEPA BART Extension Alternative – Construction

NEPA Effect	BART Facility and Tunnel Option	Significance before Mitigation	Mitigation	Significance after Mitigation
5.5.3 Air Quality				
<p>Exhaust Emissions: Construction equipment and truck exhaust emissions would exceed the Bay Area Air Quality Management District (BAAQMD) significance threshold for nitrogen oxides (NO_x).</p>	<p>All project features <i>Tunnel Option: Both options</i></p>	<p>Adverse (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure AQ-CNST-A: Implement Dust Control Measures Mitigation Measure AQ-CNST-B: Use U.S. Environmental Protection Agency (EPA) Tier 4 or eCleaner Engines Mitigation Measure AQ-CNST-C: Maintain Construction Equipment Mitigation Measure AQ-CNST-D: Minimize Idling Times Mitigation Measure AQ-CNST-E: Use Equipment Meeting ARB Certification Standards Mitigation Measure AQ-CNST-F: Ensure Heavy-Duty Diesel Trucks Will Comply with EPA Emissions Standards Mitigation Measure AQ-CNST-G: Use Low-Sulfur Fuel Mitigation Measure AQ-CNST-H: Locate Construction Areas Away from Sensitive Receptors Mitigation Measure AQ-CNST-I: Use Low-Volatile Organic Compound (VOC) Coatings</p>	<p>Adverse (Twin-Bore and Single-Bore Options)</p>

Table ES-1: Summary of Adverse Effects and Proposed Mitigation Measures of the NEPA BART Extension Alternative – Construction

NEPA Effect	BART Facility and Tunnel Option	Significance before Mitigation	Mitigation	Significance after Mitigation
5.5.4 Biological Resources and Wetlands				
Tree Removal: Construction activities would require removal of trees, which may result in an adverse effect on nesting birds.	Entire alignment including all stations <i>Tunnel Option: Both options</i>	Adverse (Twin-Bore and Single-Bore Options)	Mitigation Measure AES-CNST-A: Replace Trees	Not Adverse (Twin-Bore and Single-Bore Options)
Nesting Birds: Construction activities along the entire alignment may result in adverse effects on nesting birds.	Entire alignment including all stations <i>Tunnel Option: Both options</i>	Adverse (Twin-Bore and Single-Bore Options)	Mitigation Measure BIO-CNST-A: Avoid Nesting Bird Season Mitigation Measure BIO-CNST-B: Conduct Preconstruction/Predisturbance Surveys for Nesting Birds	Not Adverse (Twin-Bore and Single-Bore Options)
Roosting Bats: Construction staging areas along the alignment may result in adverse effects on roosting bats.	Entire alignment including all stations <i>Tunnel Option: Both options</i>	Adverse (Twin-Bore and Single-Bore Options)	Measure BIO-CNST-C: Conduct Preconstruction Surveys for Roosting Bat and Implement Protective Measures	Not Adverse (Twin-Bore and Single-Bore Options)
Riparian Habitat: Construction near riparian areas may result in temporary and permanent adverse effects on riparian habitat.	SR 87 CSA near Guadalupe River and Diridon Station South and North Options near Los Gatos Creek <i>Tunnel Option: Both options</i>	Adverse (Twin-Bore and Single-Bore Options)	Mitigation Measure BIO-CNST-D: Protect Riparian Habitat	Not Adverse (Twin-Bore and Single-Bore Options)
Tricolored Blackbirds: Construction staging may result in an adverse effect on tricolored blackbirds.	SR 87 CSA along <u>near</u> Guadalupe River and at <u>Diridon Station South and North Options</u> near Los Gatos Creek <i>Tunnel Option: Both options</i>	Adverse (Twin-Bore and Single-Bore Options)	Mitigation Measure BIO-CNST-E: Conduct Preconstruction Tricolored Blackbird Nesting Surveys and Determine Appropriate Action	Not Adverse (Twin-Bore and Single-Bore Options)

Table ES-1: Summary of Adverse Effects and Proposed Mitigation Measures of the NEPA BART Extension Alternative – Construction

NEPA Effect	BART Facility and Tunnel Option	Significance before Mitigation	Mitigation	Significance after Mitigation
<p>Burrowing Owls: The Santa Clara Valley Habitat Plan has designated the area surrounding the Newhall Maintenance Facility as a western burrowing owl survey area, and construction activities may have an adverse effect on burrowing owls.</p>	<p>Newhall Maintenance Facility</p> <p><i>Tunnel Option: Both options</i></p>	<p>Adverse (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure BIO-CNST-F: Conduct Preconstruction Pre-disturbance Western Burrowing Owl Surveys and Determine Appropriate Action</p>	<p>Not Adverse (Twin-Bore and Single-Bore Options)</p>
<p>5.5.5 Community Facilities and Public Services</p>				
<p>Emergency Vehicles: Construction-period lane and street closures may require emergency vehicles to take detours, which would delay response times.</p>	<p>All project features</p> <p><i>Tunnel Option: Both options</i></p>	<p>Adverse (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures TRA-CNST-A: Develop and Implement a Construction Education and Outreach Plan and Mitigation Measure TRA-CNST-B: Develop and Implement a Construction Transportation Management Plan (see description above) Mitigation Measure <u>TRA-CNST-C: Prepare and Implement an Emergency Services Coordination Plan</u> TRA-CNST-C: Develop and Implement a Parking Management Plan Mitigation Measure TRA-CNST-D: Coordinate with Fire and Police Services during Construction</p>	<p>Not Adverse (Twin-Bore and Single-Bore Options)</p>

Table ES-1: Summary of Adverse Effects and Proposed Mitigation Measures of the NEPA BART Extension Alternative – Construction

NEPA Effect	BART Facility and Tunnel Option	Significance before Mitigation	Mitigation	Significance after Mitigation
5.5.6 Cultural Resources				
<p>Archaeological Resources: Construction may adversely affect encounter unknown archaeological resources and human remains.</p>	<p>Area of potential effect of all project features <i>Tunnel Option: Both options</i></p>	<p>Adverse (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure CUL-CNST-A: Implement Programmatic Agreement and Archaeological Resources Treatment Plan</p>	<p>Not Adverse (Twin-Bore and Single-Bore Options)</p>
<p>Architectural Resources - Vibration: Historic buildings in the vicinity of cut-and-cover station excavation activities may be exposed to excessive vibration, which may damage the building.</p>	<p>Alum Rock/28th Street Station, Downtown San Jose Station (East and West Options) and Diridon Station (South and North Options) <i>Tunnel Option: Both options</i></p>	<p>Potential Adverse (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure NV-CNST-P: <u>Implement Construction Vibration Control and Monitoring Plan</u> Mitigation Measure NV-CNST-Q: Perform Vertical Direction Vibration Monitoring Mitigation Measure NV-CNST-R: <u>Implement Preconstruction and Post-Construction Building Condition Surveys for Vibration</u> Require Monitoring of Vibration for Peak Particle Velocity</p>	<p>Not Adverse (Twin-Bore and Single-Bore Options)</p>
<p>Architectural Resources - Noise: Construction noise has the potential to affect an historic property.</p>	<p>Alum Rock/28th Street Station <i>Tunnel Option: Both options</i></p>	<p>Potential Adverse (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure NV-CNST-C: Construct Temporary Noise Barriers</p>	<p>Not Adverse (Twin-Bore and Single-Bore Options)</p>

Table ES-1: Summary of Adverse Effects and Proposed Mitigation Measures of the NEPA BART Extension Alternative – Construction

NEPA Effect	BART Facility and Tunnel Option	Significance before Mitigation	Mitigation	Significance after Mitigation
<p>Architectural Resources – Surface Settlement: Surface settlement during tunnel boring activities may adversely affect historic buildings.</p>	<p>Tunnel alignment</p> <p><i>Tunnel Option: Both options</i></p>	<p><u>Potential</u> Adverse (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure GEO-CNST-B: Implement Preconstruction and Post-Construction Building Condition Surveys for Settlement along the Tunnel Alignment</p> <p>Mitigation Measure GEO-CNST-C: Monitor Ground Surface during Tunneling Activities</p> <p>Mitigation Measure GEO-CNST-D: Monitor Settlement Effects around Cut-and-Cover Excavations</p>	<p>Not Adverse (Twin-Bore and Single-Bore Options)</p>
<p>5.5.9 Geology, Soils, and Seismicity</p>				
<p>Liquefaction: Liquefaction potential is moderate to high and may damage project facilities along the alignment and in station areas.</p>	<p>All <u>project</u> features</p> <p><i>Tunnel Option: Both options</i></p>	<p>Adverse (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure GEO-CNST-A: Incorporate Design Specifications to Minimize Effects from Liquefaction Hazards</p>	<p>Not Adverse (Twin-Bore and Single-Bore Options)</p>

Table ES-1: Summary of Adverse Effects and Proposed Mitigation Measures of the NEPA BART Extension Alternative – Construction

NEPA Effect	BART Facility and Tunnel Option	Significance before Mitigation	Mitigation	Significance after Mitigation
<p>Surface Settlement: Surface settlement has the potential to damage structures and utilities along the alignment.</p>	<p>All project features <i>Tunnel Option: Both options</i></p>	<p>Adverse (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures GEO-CNST-B through -Implement Preconstruction Condition Surveys along the Tunnel Alignment Mitigation Measure GEO-CNST-C: Monitor Ground Surface during Tunneling Activities Mitigation Measure GEO-CNST-D (see description above): Monitor Settlement Effects around Cut and Cover Excavations Mitigation Measure GEO-CNST-E: Implement Preconstruction Condition Surveys for Utilities Mitigation Measure GEO-CNST-F: Minimize Excavation Bottom Failure Impacts</p>	<p>Not Adverse (Twin-Bore and Single-Bore Options)</p>
<p>Stability: Excavation bottom stability or disturbance may result from bottom heave, piping, or blow-out.</p>	<p>All project features <i>Tunnel Option: Both options</i></p>	<p>Adverse (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure GEO-CNST-F (see description above): Minimize Excavation Bottom Failure Impacts Mitigation Measure GEO-CNST-G: Minimize Disturbance of Sensitive Deposits at the Excavation Subgrade</p>	<p>Not Adverse (Twin-Bore and Single-Bore Options)</p>

Table ES-1: Summary of Adverse Effects and Proposed Mitigation Measures of the NEPA BART Extension Alternative – Construction

NEPA Effect	BART Facility and Tunnel Option	Significance before Mitigation	Mitigation	Significance after Mitigation
Expansive Soils: Expansive soils are a concern for the proposed system facilities, parking, and vehicular and pedestrian access at the stations and other sites.	All project features <i>Tunnel Option: Both options</i>	Adverse (Twin-Bore and Single-Bore Options)	Mitigation Measure GEO-CNST-H: Incorporate Design Specifications to Minimize Effects from Expansive Soils	Not Adverse (Twin-Bore and Single-Bore Options)
Paleontological Resources: <u>There is</u> potential for discovery and destruction of previously unknown paleontological resources or unique geologic features during construction.	All project features <i>Tunnel Option: Both options</i>	Adverse (Twin-Bore and Single-Bore Options)	Mitigation Measure GEO-CNST-I: Stop Construction if Paleontological Resources are Discovered and Determine Appropriate Action	Not Adverse (Twin-Bore and Single-Bore Options)
5.5.11 Hazards and Hazardous Materials				
Contamination: Disturbance of contaminated materials during construction of all features may pose a potential threat to human health and the environment.	All <u>project</u> features <i>Tunnel Option: Both options</i>	Adverse (Twin-Bore and Single-Bore Options)	Mitigation Measure HAZ-CNST-A: Prepare and Implement Remedial Action Plans	Not Adverse (Twin-Bore and Single-Bore Options)
5.5.132 Noise and Vibration				
Noise. Construction noise would exceed noise criteria for sensitive receptors.	Alum Rock/28th Street Station, 13th Street Ventilation Structure, Downtown San Jose Station (East and West Options); Diridon Station (South and North Options), Stockton Street Ventilation Structure, and Newhall Maintenance Facility <i>Tunnel Option: Both options</i>	Adverse (Twin-Bore and Single-Bore Options)	Mitigation Measure NV-CNST-A: Incorporate FTA Criteria Compliant Construction Noise and Vibration Specifications Mitigation Measure NV-CNST-B: Locate Equipment as Far as Feasible from Sensitive Sites Mitigation Measure NV-CNST-C: Construct Temporary Noise Barriers Mitigation Measure NV-CNST-D: Operate Equipment to Minimize Annoying Noise and Vibrations Mitigation Measure NV-CNST-E:	Adverse for Downtown San Jose (East and West Options) and Diridon Station (South and North Options) (Twin-Bore and Single-Bore Options) Not Adverse for Alum Rock/28th Street Station, 13th Street Ventilation Structure, Stockton Street

Table ES-1: Summary of Adverse Effects and Proposed Mitigation Measures of the NEPA BART Extension Alternative – Construction

NEPA Effect	BART Facility and Tunnel Option	Significance before Mitigation	Mitigation	Significance after Mitigation
			Route Construction Trucks along Truck Routes Least Disturbing to Residents Mitigation Measure NV-CNST-F: Secure Steel and Concrete Plates over Excavated Holes and Trenches Mitigation Measure NV-CNST-G: Use Best Available Practices to Reduce Excess Noise and Vibration Mitigation Measure NV-CNST-H: Adhere to Local Jurisdiction Construction Time Periods, to the Extent Feasible Mitigation Measure NV-CNST-I: Perform Preconstruction Ambient Noise Measurements at All East and West Portal CSAs Mitigation Measure NV-CNST-J: Implement <u>Submit a Construction Noise Control Plan and a Noise Monitoring Plan</u> Mitigation Measure NV-CNST-K: Require Minimum Qualifications for the Acoustical Engineer Mitigation Measure NV-CNST-L: Prohibit Operation of Noise-Generating Equipment Prior to Acceptance of <u>Noise Control and Monitoring Plan and Noise Control Plan</u> Mitigation Measure NV-CNST-M:	Ventilation Structure, and Newhall Maintenance Facility (Twin Bore and Single Bore Options)

Table ES-1: Summary of Adverse Effects and Proposed Mitigation Measures of the NEPA BART Extension Alternative – Construction

NEPA Effect	BART Facility and Tunnel Option	Significance before Mitigation	Mitigation	Significance after Mitigation
			Install permanent <u>Long-Term</u> Noise Monitors at the Downtown San Jose and Diridon Station <u>CSAs</u> during all Construction Phases Mitigation Measure NV-CNST-N: Ensure Equipment is Pre-certified to Meet Noise Limits Mitigation Measure NV-CNST-O: Implement a Complaint Resolution Procedure	
<u>Noise. Construction noise would exceed noise criteria for sensitive receptors.</u>	<u>Alum Rock/28th Street Station, 13th Street Ventilation Structure, Stockton Avenue Ventilation Structure, West Portal Tunnel Structure Tunnel Portal, and Newhall Maintenance Facility, and Santa Clara Station (Twin-Bore and Single-Bore Options)</u>	<u>Adverse (Twin-Bore and Single-Bore Options)</u>	<u>Mitigation Measures NV-CNST-A thru O (see descriptions above)</u>	<u>Not Adverse (Twin-Bore and Single-Bore Options)</u>

Table ES-1: Summary of Adverse Effects and Proposed Mitigation Measures of the NEPA BART Extension Alternative – Construction

NEPA Effect	BART Facility and Tunnel Option	Significance before Mitigation	Mitigation	Significance after Mitigation
<p>Groundborne Noise: Soils excavated by the tunnel boring machines would be removed by a muck train or conveyor system that may cause groundborne noise impacts.</p>	<p>Tunnel construction</p> <p><i>Tunnel Option: Both options</i></p>	<p>Adverse (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures NV-CNST-P: Conduct Construction Vibration Monitoring</p> <p>Mitigation Measure NV-CNST-Q: Perform Vertical Direction Vibration Monitoring</p> <p>Mitigation Measure through NV-CNST-R (see description above): Require Monitoring of Vibration for Peak Particle Velocity</p> <p>Mitigation Measure NV-CNST-S: Implement Measures to Reduce Vibration from Muck Extraction and Supply Trains</p>	<p>Not Adverse (Twin-Bore and Single-Bore Options)</p>
<p>Vibration: Residences in the vicinity of Tunnel Boring Machine (TBM) activities could be affected by TBM vibration for a period of up to 4 days per tunnel.</p>	<p><u>Tunnel construction</u></p> <p><i>Tunnel Option: Both options</i></p>	<p><u>Adverse (Twin-Bore and Single-Bore Options)</u></p>	<p><u>Mitigation Measures NV-CNST-P through NV-CNST-S (see description above)</u></p>	<p><u>Not Adverse (Twin-Bore and Single-Bore Options)</u></p>

Table ES-1: Summary of Adverse Effects and Proposed Mitigation Measures of the NEPA BART Extension Alternative – Construction

NEPA Effect	BART Facility and Tunnel Option	Significance before Mitigation	Mitigation	Significance after Mitigation
<p>Vibration: Historic buildings in the vicinity of cut-and-cover station excavation activities may be exposed to excessive vibration.</p>	<p>Alum Rock/28th Street Station, Downtown San Jose <u>Station</u> (East and West Options) and Diridon <u>Station</u> (South and North Options)</p> <p><i>Tunnel Option: Both options</i></p>	<p>Adverse (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures NV-CNST-P: Conduct Construction Vibration Monitoring Mitigation Measure NV-CNST-Q: Perform Vertical Direction Vibration Monitoring Mitigation Measure NV-CNST-R: <u>Require Monitoring of Vibration for Peak Particle Velocity through NV-CNST-S (see description above)</u></p>	<p>Not Adverse (Twin-Bore and Single-Bore Options)</p>
<p>5.5.15 Socioeconomics</p>				
<p>Business Access: Construction activities would restrict vehicles, bicyclists, and pedestrians access to nearby businesses.</p>	<p>All project features</p> <p><i>Tunnel Option: Both options</i></p>	<p>Adverse (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures TRA-CNST-A and -D: Develop and Implement a Construction Education and Outreach Plan Mitigation Measure TRA-CNST-D (see description above) TRA-CNST-C: Develop and Implement a Parking Management Plan Mitigation Measures AQ-CNST-A through AQ-CNST-I (see description above) Mitigation Measures NV-CNST-A through NV-CNST-S (see description above)</p>	<p>Adverse for Downtown San Jose (East and West Options) and <u>Diridon Station (South and North Options)</u> (Twin-Bore and Single-Bore Options)</p> <p>Not Adverse for all other <u>project</u> features (Twin-Bore and Single-Bore Options)</p>
<p>5.5.16 Utilities</p>				
<p>Utility relocation; <u>Construction activities may result in utility impacts.</u></p>	<p><u>Entire alignment including all stations</u></p> <p><i>Tunnel Option: Both options</i></p>	<p>Adverse (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures <u>TRA-CNST-A thru C, GEO-CNST-C thru E, NV-CNST-P (see description above)</u></p>	<p>Not Adverse (Twin-Bore and Single-Bore Options)</p>

Table ES-1: Summary of Adverse Effects and Proposed Mitigation Measures of the NEPA BART Extension Alternative – Construction

NEPA Effect	BART Facility and Tunnel Option	Significance before Mitigation	Mitigation	Significance after Mitigation
5.5.17 Visual Quality and Aesthetics				
Tree Removal: Construction activities would require removal of trees.	Entire alignment <u>including all stations</u> <i>Tunnel Option: Both options</i>	Adverse (Twin-Bore and Single-Bore Options)	Mitigation Measure AES-CNST-A (see description above): Replace Trees	Not Adverse (Twin-Bore and Single-Bore Options)
5.5.18 Water Resources, Water Quality, and Floodplains				
Surface Water: Construction activities may result in surface water impacts.	All project features <i>Tunnel Option: Both options</i>	Adverse (Twin-Bore and Single-Bore Options)	Mitigation Measure BIO-CNST-D (see description above): Protect Riparian Habitat	Not Adverse (Twin-Bore and Single-Bore Options)
5.5.19 Environmental Justice				
Minority and Low-Income Populations: Construction would have direct and indirect adverse effects on low-income and minority populations in the vicinity of the alignment.	All project features <i>Tunnel Option: Both options</i>	Adverse (Twin-Bore and Single-Bore Options)	Mitigation Measures AQ-CNST-A through AQ-CNST-I (see description above) Mitigation Measure HAZ-CNST-A (see description above) Mitigation Measures NV-CNST-A through NV-CNST-O (see description above) Mitigation Measures TRA-CNST-A through TRA-CNST-D (see description above) <u>Mitigation Measure BIO-CNST-D (see description above)</u> Mitigation Measure AES-CNST-A (see description above)	Not Adverse/Not disproportionately high and adverse (Twin-Bore and Single-Bore Options)

Table ES-2: Summary of Adverse Effects and Proposed Mitigation Measures of the NEPA BART Extension Alternative – Operation

NEPA Effect	BART Facility	Significance before Mitigation	Mitigation	Significance after Mitigation
4.12 Noise and Vibration				
Ancillary Facilities: Noise from ancillary facilities may exceed the City of San Jose’s residential noise limit.	Ventilation Structures, Traction Power Substations, Emergency Backup Generators <i>Tunnel Option: Both options</i>	Adverse (Twin-Bore and Single-Bore Options)	Mitigation Measure NV-A: Implement Noise Reduction Treatments at Ancillary Facilities	Not Adverse (Twin-Bore and Single-Bore Options)
Train Operations: Groundborne noise from train operations may exceed FTA noise criteria.	All <u>project</u> features <i>Tunnel Option: Both options</i>	Adverse (Twin-Bore and Single-Bore Options)	Mitigation Measure NV-B: Reduce Groundborne Noise Levels	Not Adverse (Twin-Bore and Single-Bore Options)
4.15 Utilities				
Water Supply: BART stations and facilities may contribute to a water supply capacity deficiency in the Cities of San Jose and Santa Clara.	All <u>project</u> features <i>Tunnel Option: Both options</i>	Adverse (Twin-Bore and Single-Bore Options)	Mitigation Measure UTIL-A: Prepare a San Jose Water Supply Infrastructure Capacity Assessment and Participate in the Improvements Mitigation Measure UTIL-B: Prepare a Santa Clara Water Supply Infrastructure Capacity Assessment and Participate in the Improvements	Not Adverse (Twin-Bore and Single-Bore Options)
Sewer Systems: BART stations and facilities may contribute to a sewer system deficiency in the Cities of San Jose and Santa Clara.	All <u>project</u> features <i>Tunnel Option: Both options</i>	Adverse (Twin-Bore and Single-Bore Options)	Mitigation Measure UTIL-C: Prepare a San Jose Sewer Capacity Assessment and Participate in the Improvements Mitigation Measure UTIL-D: Prepare a Santa Clara Sewer Capacity Assessment and Participate in the Improvements	Not Adverse (Twin-Bore and Single-Bore Options)

NEPA Effect	BART Facility	Significance before Mitigation	Mitigation	Significance after Mitigation
<u>4.18 Environmental Justice</u>				
<p><u>Minority and Low-Income Populations:</u> <u>Noise from ancillary facilities and groundborne noise from train operations may disproportionately affect low-income and minority populations in the vicinity of the alignment.</u></p>	<p><u>All project features</u> <u>Tunnel Option: Both options</u></p>	<p><u>Adverse (Twin-Bore and Single-Bore Options)</u></p>	<p><u>Mitigation Measures NV-A and NV-B (see description above)</u></p>	<p><u>Not Adverse/Not disproportionately high and adverse (Twin-Bore and Single-Bore Options)</u></p>

Table ES-3 compares the adverse effects after mitigation between the Twin-Bore and Single-Bore Options. Only resource areas that are adverse after mitigation are listed here. Please see Chapters 4 and 5 for a detailed discussion of the impacts of the Twin-Bore and Single-Bore Options.

Table ES-3: Comparison of Adverse Effects After Mitigation for Tunnel Construction Methodology Options (Twin-Bore and Single-Bore) for NEPA BART Extension Alternative

Resource Issue	Twin-Bore Option	Single-Bore Option
Construction Transportation – Vehicular Traffic, Bicyclists, and Pedestrians (Alum Rock/28 th Street, Downtown San Jose, and Diridon Stations)	<i>Adverse Effect After Mitigation:</i> Construction of the Twin-Bore Option would require more extensive cut-and-cover activities over a greater area within public roadways at the Alum Rock/28 th Street Station, Downtown San Jose Station (East and West Options), downtown crossover, and Diridon Station (South and North Options) resulting in <i>greater</i> disruption to vehicular traffic, bicyclists, and pedestrians compared to the Single-Bore Option. The effect would remain adverse after mitigation.	<i>Adverse Effect After Mitigation:</i> Construction of the Single-Bore Option would require less extensive cut-and-cover activities over a smaller area within public roadways at the Alum Rock/28 th Street Station, Downtown San Jose Station (East and West Options), downtown crossover, and Diridon Station (South and North Options) resulting in less disruption to vehicular traffic, bicyclists, and pedestrians compared to the Twin-Bore Option. However, the effect would still remain adverse after mitigation.
Construction Transportation – Vehicular Traffic, Bicyclists, and Pedestrians (Newhall Maintenance Facility, West Tunnel Portal, and Santa Clara Station)	<i>Adverse Effect After Mitigation:</i> Construction of the Twin-Bore Option would increase traffic from construction vehicles resulting in disruptions to vehicular traffic, bicyclists, and pedestrians at the Newhall Maintenance Facility, West Tunnel Portal, and Santa Clara Station. This effect would be similar for construction under both options. The effect would remain adverse after mitigation.	<i>Adverse Effect After Mitigation:</i> Construction of the Single-Bore Option would increase traffic from construction vehicle, resulting in disruptions to vehicular traffic, bicyclists, and pedestrians at the Newhall Maintenance Facility, West Tunnel Portal, and Santa Clara Station. This effect would be similar under both options. The effect would remain adverse after mitigation.
Construction Transit – Local Bus (Downtown San Jose Station)	<i>Adverse Effect After Mitigation:</i> Construction of the Downtown San Jose Station (East and West Options) and downtown crossover under the Twin-Bore Option would cause extensive disturbance to major roadways in the downtown area, including road closures, which would adversely affect local bus service in the Downtown San Jose Station area. This effect would be greater for construction of the Twin-Bore Option as compared to the Single-Bore Option. The effect would remain adverse after mitigation.	<i>Adverse Effect After Mitigation:</i> Construction of the Downtown San Jose Station (East and West Options) and downtown crossover under the Single-Bore Option would cause traffic disruption. Although, the disruption to roadways and to local bus service would be less than under the Twin-Bore Option, the effect would -remain adverse after mitigation.

Table ES-3: Comparison of Adverse Effects After Mitigation for Tunnel Construction Methodology Options (Twin-Bore and Single-Bore) for NEPA BART Extension Alternative

Resource Issue	Twin-Bore Option	Single-Bore Option
Construction Transit – Local Bus (Diridon Station)	<i>Adverse Effect After Mitigation:</i> Construction of the Diridon Station (South and North Options) would cause relocation of the existing transit center and extensive disturbance to major roadways in the downtown area, which would adversely affect local bus service in the Diridon Station area. This effect would remain adverse after mitigation.	<i>Adverse Effect After Mitigation:</i> Construction of the Diridon Station (South and North Options) would cause relocation of the existing transit center and extensive disturbance to major roadways in the downtown area, which would adversely affect local bus service in the Diridon Station area. This effect would remain adverse after mitigation.
Construction Transit – Light Rail (Downtown San Jose Station West)	<i>Adverse Effect After Mitigation:</i> Construction of the Downtown San Jose Station West Option and downtown crossover under the Twin-Bore Option would cause extensive disturbance to VTA’s light rail service under the Twin-Bore Option. The effect would remain adverse after mitigation.	<i>No Effect:</i> Construction of the Downtown San Jose Station West Option and crossover for the Single-Bore Option would have no effect on VTA’s light rail service.
Construction Transit – Heavy Rail (Diridon Station North)	<i>Adverse Effect After Mitigation:</i> For construction of the Diridon Station North Option, an existing Caltrain track (easternmost track) would be temporarily affected during construction. This would result in a temporary shift of Caltrain service onto other tracks and disruption to Caltrain and other service. The effect would remain adverse after mitigation.	<i>No Effect:</i> Construction of the Diridon Station North Option under the Single Bore Option would have no effect on the easternmost Caltrain track and, therefore, would not cause a change in or disruption to Caltrain or other service.
Construction – Air Quality and GHG	<i>Adverse Effect After Mitigation:</i> Cut-and-cover excavation activities for the three underground stations under the Twin-Bore Option would be greater than under the Single-Bore Option. NO _x is anticipated to exceed acceptable thresholds during construction of the Twin-Bore Option, and NO _x exceedances are greater for the Twin-Bore Option than for the Single-Bore Option. The effect would remain adverse after mitigation.	<i>Adverse Effect After Mitigation:</i> Although cut-and-cover excavation activities for the three underground stations under the Single-Bore Option would be less than under the Twin-Bore Option, NO _x would still exceed acceptable thresholds and would be considered adverse. However, the exceedances would not be as severe under the Single-Bore Option. The effect would remain adverse after mitigation.

Table ES-3: Comparison of Adverse Effects After Mitigation for Tunnel Construction Methodology Options (Twin-Bore and Single-Bore) for NEPA BART Extension Alternative

Resource Issue	Twin-Bore Option	Single-Bore Option
Construction Noise (Downtown and Diridon Stations)	<i>Adverse Effect After Mitigation:</i> Construction noise would exceed acceptable noise criteria for sensitive receptors after mitigation at the Downtown San Jose Station (East and West Options) and Diridon Station (South and North Options) for the Twin-Bore Option. The effect would remain adverse after mitigation.	<i>Adverse Effect After Mitigation:</i> Construction noise would exceed acceptable noise criteria for sensitive receptors after mitigation at the Downtown San Jose Station (East and West Options) and Diridon Station (South and North Options) for the Single-Bore Option. The effect would remain adverse after mitigation.
Construction Socioeconomics (Downtown San Jose Station)	<i>Adverse Effect After Mitigation:</i> Construction would cause disruption to vehicular traffic and pedestrians around the Downtown San Jose Station (East and West Options), which would cause adverse effects on businesses. The severity of the impacts would be greater under the Twin-Bore Option due to the more extensive cut-and-cover station and crossover construction, which would require extensive street and lane closures. The effect would remain adverse after mitigation.	<i>Adverse Effect After Mitigation:</i> Construction would cause disruption to vehicular traffic and pedestrians around the Downtown San Jose Station (East and West Options), which would cause adverse effects on businesses. The impacts would be less severe for the Single-Bore Option due to the less-extensive cut-and-cover station and crossover construction required for the Single-Bore Option as compared to the Twin-Bore Option. The effect would remain adverse after mitigation.

ES.7.2 CEQA

Tables ES-4 through ES-7 summarize the significant construction and operational impacts and proposed mitigation of the CEQA BART Extension Alternative and the CEQA BART Extension with TOJD Alternative and level of impact of these alternatives after mitigation. *Tables ES-4 and ES-7 show the significant impacts only.* The criteria for determining significant impacts are provided in each topical section. Refer to Chapter 6, *CEQA Alternatives Analysis of Construction and Operation*, for a detailed description of all potential impacts from the CEQA BART Extension Alternative and the CEQA BART Extension with TOJD Alternative and proposed mitigation measures. The comparison of level of significance after mitigation for all significant impacts between the CEQA BART Extension Alternative and the 2004 FEIR and Supplemental EIRs is included in the last column of Tables ES-4 through ES-7. For a detailed description of the impacts and mitigation measures summarized in Tables ES-4 through ES-7, please refer to the respective resource area sections in Chapters 3, 5, and 6.

CEQA BART Extension Alternative compared to the 2004 FEIR and Supplemental EIRs (after mitigation)

Where project features have not changed, impacts are generally at a similar level of impact after mitigation when compared to those previously described in the 2004 FEIR and Supplemental EIRs.

For new facilities, station and tunnel options, or new locations, impacts are generally at a similar or lesser level of impact after mitigation when compared to those previously described in the 2004 FEIR and Supplemental EIRs except for Transportation (construction), Air Quality (construction), and Noise (construction). Operational impacts would be similar to those previously described in the 2004 FEIR and 2007 Supplemental EIR.

CEQA BART Extension with TOJD Alternative compared to the 2004 FEIR and Supplemental EIRs (after mitigation)

With the addition of the TOJD, there would be greater impacts compared to those previously described in the 2004 FEIR and 2007 Supplemental EIR. Construction impacts of the BART Extension with TOJD Alternative would be similar to the BART Extension Alternative but greater (significant and unavoidable) for reactive organic gas (ROG). Operational impacts of the BART Extension with TOJD Alternative would be similar to the BART Extension Alternative but greater for ROG (significant and unavoidable), Traffic (significant and unavoidable), and Greenhouse Gases (significant and unavoidable).

Table ES-4: Summary of Significant Impacts and Proposed Mitigation Measures of the CEQA BART Extension Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
6.2 Transportation -			
<p><i>Vehicular Traffic, Bicyclists, and Pedestrians: Conflict with a transportation plan, ordinance, or policy; Conflict with the Congestion Management Program; and Conflict with transit, bicycle, or pedestrian policies, plans, or programs.</i> Construction has the potential to affect vehicular traffic, bicyclists, and pedestrians due to lane and street closures, and detours at Alum Rock/28th Street, 13th Street Ventilation Structure, Downtown San Jose (East and West Options), Diridon Stations (South and North Options), Stockton Street Stockton Avenue Ventilation Structure, West Tunnel Portal, Newhall Maintenance Facility, and Santa Clara Station and cross passages (Twin-Bore Option only).</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure TRA-CNST-A: Develop and Implement a Construction Education and Outreach Plan Mitigation Measure TRA-CNST-B: Develop and Implement a Construction Transportation Management Plan Mitigation Measure TRA-CNST-C: Develop and Implement a Parking Management Plan Mitigation Measure TRA-CNST-C: <u>Prepare and Implement an Emergency Services Coordination Plan</u></p>	<p>Significant and Unavoidable for Alum Rock/28th Street, Downtown San Jose (East and West Options), Diridon Stations (South and North Options), West Tunnel Portal, Newhall Maintenance Facility, and Santa Clara Station (Twin-Bore and Single-Bore Options)</p> <p>Less than Significant for 13th Street Ventilation Structure and Stockton Street Stockton Avenue Ventilation Structure (Twin-Bore and Single-Bore Options)</p> <p><u>Less than Significant for cross passages</u> (Twin-Bore Option only)</p>
<p><i>Transit-Bus: Conflict with a transportation plan, ordinance, or policy; Conflict with the Congestion Management Program; and Conflict with transit, bicycle, or pedestrian policies, plans, or programs.</i> For Downtown San Jose Station (East and West Options) and Diridon Station (North and South Options) long-term closure of transit stops and route detours required during construction</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures TRA-CNST-A: Develop and Implement a Construction Education and Outreach Plan and Mitigation Measure TRA-CNST-B: Develop and Implement a Construction Transportation Management Plan (see description above)</p>	<p>Significant and Unavoidable (Twin-Bore and Single-Bore Options)</p>

Table ES-4: Summary of Significant Impacts and Proposed Mitigation Measures of the CEQA BART Extension Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
would decrease performance and affect local bus service.			
<p>Transit-Light Rail: Conflict with a transportation plan, ordinance, or policy; Conflict with the Congestion Management Program; and Conflict with transit, bicycle, or pedestrian policies, plans, or programs. Construction activities for the Downtown San Jose Station West Option require closure and interruption of VTA’s light rail service through downtown San Jose, affecting performance.</p>	Significant (Twin-Bore Option only)	<p>Mitigation Measures TRA-CNST-A: Develop and Implement a Construction Education and Outreach Plan Mitigation Measure and TRA-CNST-B (see description above): Develop and Implement a Construction Transportation Management Plan</p>	Significant and Unavoidable (Twin-Bore Option only)
<p>Transit-Heavy Rail: Conflict with a transportation plan, ordinance, or policy; Conflict with the Congestion Management Program; and Conflict with transit, bicycle, or pedestrian policies, plans, or programs. Construction activities for the Diridon Station North Option would temporarily affect existing Caltrain easternmost track at Diridon Station and thereby affect Caltrain and other operations.</p>	Significant (Twin-Bore Option only)	Mitigation Measure TRA-CNST-A: Develop and Implement a Construction Education and Outreach Plan	Significant and Unavoidable (Twin-Bore Option only)
<p>Result in inadequate emergency access. Construction activities throughout the alignment may have a temporary impact on emergency vehicle access when construction causes temporary access or egress limitations.</p>	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure TRA-CNST-C (see description above) Coordinate with Fire and Police Services during Construction	Less than Significant (Twin-Bore and Single-Bore Options)

Table ES-4: Summary of Significant Impacts and Proposed Mitigation Measures of the CEQA BART Extension Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
6.3. Air Quality			
<p>Violate an air quality standard or contribute to an air quality violation. During construction, NO_x emissions would exceed BAAQMD thresholds and may contribute to air quality degradation and impede the region’s ability to attain air quality standards for all features.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure AQ-CNST-A: Implement Dust Control Measures Mitigation Measure AQ-CNST-B: Use EPA Tier 4 or Cleaner Engines Mitigation Measure AQ-CNST-C: Maintain Construction Equipment Mitigation Measure AQ-CNST-D: Minimize Idling Times Mitigation Measure AQ-CNST-E: Use Equipment Meeting ARB Certification Standards Mitigation Measure AQ-CNST-F: Ensure Heavy-Duty Diesel Trucks Will Comply with EPA Emissions Standards Mitigation Measure AQ-CNST-G: Use Low-Sulfur Fuel Mitigation Measure AQ-CNST-H: Locate Construction Areas Away from Sensitive Receptors</p>	<p>Significant and Unavoidable for NO_x emissions (Twin-Bore and Single-Bore Options)</p>
<p>Cause a cumulatively considerable net increase in a criteria pollutant. Cumulative NO_x emissions would exceed BAAQMD thresholds and may contribute to air quality degradation and impede the region’s ability to attain air quality standards for all project features</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures AQ-CNST-A through AQ-CNST-H (described above)</p>	<p>Significant and Unavoidable for NO_x emissions (Twin-Bore and Single-Bore Options)</p>

Table ES-4: Summary of Significant Impacts and Proposed Mitigation Measures of the CEQA BART Extension Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
6.4 Biological Resources and Wetlands			
<p><i>Nesting Birds:</i> Adversely affect a special-status species or habitat. Construction activities along the entire alignment and at all stations may result in a significant impact on nesting birds.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure BIO-CNST-A: Avoid Nesting Bird Season Mitigation Measure BIO-CNST-B: Conduct Preconstruction/Predisturbance Surveys for Nesting Birds</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p><i>Roosting Bats:</i> Adversely affect a special-status species or habitat. Construction staging areas along the entire alignment and at all stations may result in a significant impact on roosting bats.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Measure BIO-CNST-C: Conduct Preconstruction Surveys for Roosting Bat and Implement Protective Measures</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p><i>Tri-colored Blackbirds:</i> Adversely affect a special-status species or habitat. Construction activities at the SR 87 CSA near the Guadalupe River and at Diridon Station near the Los Gatos Creek may result in a significant impact on tricolored blackbirds.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure BIO-CNST-E: Conduct Preconstruction Tricolored Blackbird Nesting Surveys and <u>Determine Appropriate Action</u></p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p><i>Burrowing Owls:</i> Adversely affect a special-status species or habitat. Construction activities for Newhall Maintenance Facility may result in a significant impact on burrowing owls.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure BIO-CNST-F: Conduct Preconstruction Burrowing Owl Surveys and Determine Appropriate Action</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p>Adversely affect a sensitive natural community. Construction activities at the CSA near Lower Silver Creek, the SR 87 CSA near the Guadalupe River, and construction of the systems facilities at Diridon Station near Los Gatos Creek may result in a significant</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure BIO-CNST-D: Protect Riparian Habitat</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>

Table ES-4: Summary of Significant Impacts and Proposed Mitigation Measures of the CEQA BART Extension Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
impact on riparian habitat adjacent to the facilities.			
Interfere with wildlife movement or impede use of wildlife nursery sites. Construction noise and disturbance along the alignment and at all stations may interfere with nesting birds.	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measures BIO-CNST-A: Avoid Nesting Bird Season Mitigation Measure and BIO-CNST-B: Conduct Preconstruction/Predisturbance Surveys for Nesting Birds (see description above)	Less than Significant (Twin-Bore and Single-Bore Options)
Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Landscaping trees would be removed during construction along the alignment including all stations.	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure AES-CNST-A: Replace Trees Removed during Construction	Less than Significant (Twin-Bore and Single-Bore Options)
Conflict with an adopted habitat conservation plan, or local policies or ordinances protecting biological resources. Construction activities in the vicinity of Guadalupe Creek (construction staging areas near SR 87) and Los Gatos Creek (system facilities at Diridon Station South Option) may result in a significant impact on tricolored blackbirds. Construction activities for Newhall Maintenance Facility may result in a significant impact on burrowing owls.	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measures BIO-CNST-E: Conduct Preconstruction Tricolored Blackbird Nesting Surveys Mitigation Measure and BIO-CNST-F: Conduct Preconstruction Burrowing Owl Surveys and Determine Appropriate Action(see description above)	Less than Significant (Twin-Bore and Single-Bore Options)
6.6 Cultural Resources			
<i>Architectural Resources - Noise:</i> Cause an adverse change in the	Significant	Mitigation Measure NV-CNST-C: Construct Temporary Noise Barriers	Less than Significant (Twin-Bore and Single-Bore Options)

Table ES-4: Summary of Significant Impacts and Proposed Mitigation Measures of the CEQA BART Extension Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
<p>significance of a historic resource as defined in § 15064.5. Construction noise has the potential to affect the historic property near Alum Rock/28th Street Station.</p>	<p>(Twin-Bore and Single-Bore Options)</p>		
<p><u>Architectural Resources - Vibration:</u> Cause an adverse change in the significance of a historic resource as defined in § 15064.5. Historic buildings in the vicinity of cut-and-cover station excavation activities may be exposed to excessive vibration near Alum Rock/28th Street Station, Downtown San Jose (East and West Options) and Diridon (South and North Options).</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure NV-CNST-P: <u>Implement Conduct Construction Vibration Control and Monitoring Plan</u> Mitigation Measure NV-CNST-Q: Perform Vertical Direction Vibration Monitoring Mitigation Measure NV-CNST-R: <u>Implement Preconstruction and Post-Construction Building Condition Surveys for Vibration</u> <u>Require Monitoring of Vibration for Peak Particle Velocity</u></p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p><u>Architectural Resources - Surface Settlement:</u> Cause an adverse change in the significance of a historic resource as defined in § 15064.5. Historic buildings could be affected due to surface settlement during tunneling and cut-and-cover activities in the vicinity.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure GEO-CNST-B: <u>Implement Preconstruction and Post-Construction Building Condition Surveys for Settlement along the Tunnel Alignment</u> Mitigation Measure GEO-CNST-C: Monitor Ground Surface during Tunneling Activities Mitigation Measure GEO-CNST-D: Monitor Settlement Effects around Cut-and-Cover Excavations.</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p><u>Archaeological Resources.</u> Cause an adverse change in the significance of an archaeological resource as defined in § 21803.2. Disturb human remains,</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure CUL-CNST-A: Implement Programmatic Agreement and Archaeological Resources Treatment Plan</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>

Table ES-4: Summary of Significant Impacts and Proposed Mitigation Measures of the CEQA BART Extension Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
<p>including those interred outside of formal cemeteries. Construction has the potential to cause significant impact on unknown archaeological resources and human remains.</p>			
<p>6.8 Geology, Soils, and Seismicity</p>			
<p>Liquefaction: Expose people or structures to potential seismic hazards. Liquefaction potential is moderate to high and may damage project facilities along the alignment and in station areas.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure GEO-CNST-A: Incorporate Design Specifications to Minimize Effects from Liquefaction Hazards</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p>Surface Settlement: Be located on a geologic unit that is unstable or that would become unstable. Surface settlement has the potential to damage structures and utilities along the alignment.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures GEO-CNST-B through - Implement Preconstruction Condition Surveys along the Tunnel Alignment Mitigation Measure GEO-CNST-C: Monitor Ground Surface during Tunneling Activities Mitigation Measure GEO-CNST-D (see description above): Monitor Settlement Effects around Cut and Cover Excavations Mitigation Measure GEO-CNST-E: Implement Preconstruction Condition Surveys for Utilities Mitigation Measure GEO-CNST-F: Minimize Excavation Bottom Failure Impacts</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p>Stability: Be located on a geologic unit that is unstable or that would become unstable. Excavation bottom stability</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures GEO-CNST-F (see description above): Minimize Excavation Bottom Failure Impacts</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>

Table ES-4: Summary of Significant Impacts and Proposed Mitigation Measures of the CEQA BART Extension Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
or disturbance may result from bottom heave, piping, or blow-out.		Mitigation Measure GEO-CNST-G: Minimize Disturbance of Sensitive Deposits at the Excavation Subgrade	
Expansive Soils: Be located on expansive soil, creating risks to life or property. System facilities, parking, and vehicular and pedestrian access at the stations and other sites are in areas of potential expansive soils.	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure GEO-CNST-H: Incorporate Design Specifications to Minimize Effects from Expansive Soils	Less than Significant (Twin-Bore and Single-Bore Options)
Paleontological Resources: Destroy a unique paleontological resource or unique geologic feature. Excavation depths involved during construction throughout the alignment may result in the discovery and destruction of previously unknown paleontological resources.	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure GEO-CNST-I: Stop Construction if Paleontological Resources Are Discovered and Determine Appropriate Action	Less than Significant (Twin-Bore and Single-Bore Options)
6.9 Greenhouse Gas Emission and Climate Change			
Generate GHG emissions, either directly or indirectly. Construction activities will generate GHG emission from mobile and stationary sources.	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measures AQ-CNST-B thru G (see descriptions above)	Less than Significant (Twin-Bore and Single-Bore Options)
6.10 Hazards and Hazardous Materials			
Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Disturbance of contaminated materials during construction of all features may pose a	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure HAZ-CNST-A: Prepare and Implement Remedial Action Plans	Less than Significant (Twin-Bore and Single-Bore Options)

Table ES-4: Summary of Significant Impacts and Proposed Mitigation Measures of the CEQA BART Extension Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
potential threat to human health and the environment.			
<p>Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment. Disturbance of hazardous materials that may be present in the soil and ballast beneath the alignment during construction activities, such as excavation and dewatering, may pose a potential threat to human health and the environment.</p>	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure HAZ-CNST-A: Prepare and Implement Remedial Action Plans <u>(see description above)</u>	Less than Significant (Twin-Bore and Single-Bore Options)
6.11 Land Use			
<p>Conflict with any applicable habitat conservation plan or natural community conservation plan. Construction near the Newhall Maintenance Facility would conflict with the western burrowing owl survey area covered by the SCVHP.</p>	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measures BIO-CNST-E and BIO-CNST-F (described under 6.4, Biological Resources and Wetlands <u>see description above</u>)	Less than Significant (Twin-Bore and Single-Bore Options)
6.12 Noise and Vibration			
<p>Expose persons to or generate noise in excess of local or agency standards; and temporarily or periodically increase ambient noise levels. Construction at the Alum Rock/28th Street and Downtown San Jose Station Options may exceed nighttime noise criterion for residences. Construction</p>	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measures NV-CNST-A: <u>Incorporate FTA Criteria Compliant Construction Noise and Vibration Specifications</u> Mitigation Measure NV-CNST-B: <u>Locate Equipment as Far as Feasible from Sensitive Sites</u>	Less than Significant (Twin-Bore and Single-Bore Options)

Table ES-4: Summary of Significant Impacts and Proposed Mitigation Measures of the CEQA BART Extension Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
<p>activities for 13th Street and Stockton Avenue Ventilation Facilities would exceed daytime noise criterion for residences. <u>Noise from the slurry batch plant would exceed the daytime noise criterion and nighttime noise criterion at the West Portal.</u></p>		<p><u>Mitigation Measure NV-CNST-C (see description above)</u> <u>Mitigation Measure NV-CNST-D: Operate Equipment to Minimize Annoying Noise and Vibration</u> <u>Mitigation Measure NV-CNST-E: Route Construction Trucks along Truck Routes Least Disturbing to Residents</u> <u>Mitigation Measure NV-CNST-F: Secure Steel and Concrete Plates over Excavated Holes and Trenches</u> <u>Mitigation Measure NV-CNST-G: Use Best Available Practices to Reduce Excess Noise and Vibration</u> <u>Mitigation Measure NV-CNST-H: Adhere to Local Jurisdiction Construction Time Periods, to the Extent Feasible</u> <u>Mitigation Measure NV-CNST-I: Perform Preconstruction Ambient Noise Measurements at All CSAs</u> <u>Mitigation Measure NV-CNST-J: Implement a Construction Noise Control and Monitoring Plan</u> <u>Mitigation Measure NV-CNST-K: Require Minimum Qualifications for the Acoustical Engineer</u> <u>Mitigation Measure NV-CNST-L: Prohibit Operation of Noise-Generating Equipment Prior to Acceptance of Noise Control and Monitoring Plan</u> <u>Mitigation Measure NV-CNST-M:</u></p>	

Table ES-4: Summary of Significant Impacts and Proposed Mitigation Measures of the CEQA BART Extension Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
		<p><u>Install Long-Term Noise Monitors at CSAs during all Construction Phases</u></p> <p><u>Mitigation Measure NV-CNST-N: Ensure Equipment is Pre-certified to Meet Noise Limits</u></p> <p><u>Mitigation Measure NV-CNST-O: Implement a Complaint Resolution Procedure</u></p> <p>through NV-CNST-O</p>	
<p>Expose persons to or generate noise in excess of local or agency standards. Construction at Downtown San Jose Station (East and West Options) and Diridon Station (South and North Options) would exceed noise criterion for residences.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures <u>NV-CNST-A through NV-CNST-O (see description above)</u></p>	<p>Significant and Unavoidable (Twin-Bore and Single-Bore Options)</p>
<p>Expose persons to or generate excessive groundborne vibration or groundborne noise. Residences may be exposed to temporary vibration impacts from TBM. Soils excavated by the TBM would be removed by a muck train or conveyor system and may cause groundborne noise impacts.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures <u>NV-CNST-P through NV-CNST-R (see description above)</u> Conduct Construction Vibration Monitoring</p> <p>Mitigation Measure NV-CNST-Q: Perform Vertical Direction Vibration Monitoring</p> <p>Mitigation Measure NV-CNST-R: (see description above) Require Monitoring of Vibration for Peak Particle Velocity</p> <p>Mitigation Measure NV-CNST-S: Implement Measures to Reduce Vibration from Muck Extraction and Supply Trains</p> <p><u>Procedure</u></p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>

Table ES-4: Summary of Significant Impacts and Proposed Mitigation Measures of the CEQA BART Extension Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
6.14 Visual Quality and Aesthetics			
Tree Removal: Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway. Construction activities would require removal of trees along the entire alignment.	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure AES-CNST-A: Replace Trees (see description above)	Less than Significant (Twin-Bore and Single-Bore Options)
6.15 Water Resources, Water Quality, and Floodplains			
Degrade water quality or violate water quality standards. Construction activities may result in temporary increases in sediment loads and potential stormwater contamination, accidental spills of hazardous materials, and surface and groundwater impacts.	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure BIO-CNST-D: Protect Riparian Habitat (see description above)	Less than Significant (Twin-Bore and Single-Bore Options)
Deplete groundwater supplies or interfere with groundwater recharge. Construction for underground stations and tunnels would require temporary dewatering, which may reduce the volume of water in the local aquifer table.	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure HAZ-CNST-A (see description above): Prepare and Implement Remedial Action Plans	Less than Significant (Twin-Bore and Single-Bore Options)

Table ES-5: Summary of Significant Impacts and Proposed Mitigation Measures of the CEQA BART Extension Alternative – Operation

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
6.8 Geology, Soils, and Seismicity			
Liquefaction: Expose people or structures to potential seismic hazards. Liquefaction potential is moderate to high and may damage project facilities along the alignment and in station areas.	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure GEO-CNST-A: Incorporate Design Specifications to Minimize Effects from Liquefaction Hazards	Less than Significant (Twin-Bore and Single-Bore Options)
6.10 Hazards and Hazardous Materials			
Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment. Disturbance of contaminated soil and/or ballast during maintenance activities, direct contact, or inhalation of dust and potential vapor intrusion of groundwater contaminants may impact maintenance workers, passengers, and offsite residents.	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure HAZ-CNST-A: Prepare and Implement Remedial Action Plans	Less than Significant (Twin-Bore and Single-Bore Options)
6.12 Noise and Vibration			
Ancillary Facilities: Expose persons to or generate noise in excess of local or agency standards. Noise from ancillary facilities including ventilation structures, traction power substations, and emergency backup generators may exceed the noise criterion.	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure NV-A: Implement Noise Reduction Treatments at Ancillary Facilities	Less than Significant (Twin-Bore and Single-Bore Options)

Table ES-5: Summary of Significant Impacts and Proposed Mitigation Measures of the CEQA BART Extension Alternative – Operation

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
<p>Train Operations: Expose persons to or generate excessive groundborne vibration or groundborne noise. Operation of the train within the tunnel may exceed FTA groundborne noise criteria throughout the alignment.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure NV-B: Reduce <u>Groundborne Noise Levels</u></p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p>6.13 Utilities and Service Systems</p>			
<p>Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which may cause significant environmental effects. Wastewater generated at the stations and Newhall Maintenance Facility may contribute to capacity deficiencies within offsite sewer systems. <u>BART Stations and facilities may contribute to a water supply capacity deficiency and sewer system deficiencies in the Cities of San Jose and Santa Clara.</u></p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure UTIL A: Prepare a San Jose Water Supply Infrastructure Capacity Assessment. Mitigation Measure UTIL B: Prepare a Santa Clara Water Supply Infrastructure Capacity Assessment Mitigation Measure UTIL C: Prepare a San Jose Sewer Capacity Assessment Mitigation Measure UTIL D: Prepare a Santa Clara Sewer Capacity Assessment <u>Mitigation Measure UTIL-A: Prepare a San Jose Water Supply Infrastructure Capacity Assessment and Participate in the Improvements</u> <u>Mitigation Measure UTIL-B: Prepare a Santa Clara Water Supply Infrastructure Capacity Assessment and Participate in the Improvements</u> <u>Mitigation Measure UTIL-C: Prepare a San Jose Sewer Capacity Assessment and Participate in the Improvements</u> <u>Mitigation Measure UTIL-D: Prepare a Santa Clara Sewer Capacity Assessment and Participate in the Improvements</u></p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>

Table ES-5: Summary of Significant Impacts and Proposed Mitigation Measures of the CEQA BART Extension Alternative – Operation

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
6.15 Water Resources, Water Quality, and Floodplains			
<p>Degrade water quality or violate water quality standards. Operation of new facilities may increase existing pollutants in storm drains and introduce new pollutants.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure WQ-A: Design and Implement Stormwater Control Measures</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>

Table ES-6: Summary of Significant Impacts and Proposed Mitigation Measures of CEQA BART Extension with TOJD Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
6.2 Transportation--			
<p><i>Vehicular Traffic, Bicyclists, and Pedestrians: Conflict with a transportation plan, ordinance, or policy; Conflict with the Congestion Management Program; and Conflict with transit, bicycle, or pedestrian policies, plans, or programs.</i> Construction has the potential to affect vehicular traffic, bicyclists, and pedestrians due to lane and street closures, and detours at Alum Rock/28th Street Station, 13th Street Ventilation Structure, Downtown San Jose Station (East and West Options), Diridon Station (South and North Options), Stockton Street <u>Stockton Avenue</u> Ventilation Structure, West Tunnel Portal, Newhall Maintenance Facility and Santa Clara Station and cross passages (Twin-Bore Option only).</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure TRA-CNST-A: Develop and Implement a Construction Education and Outreach Plan Mitigation Measure TRA-CNST-B: Develop and Implement a Construction Transportation Management Plan Mitigation Measure TRA-CNST-C: Develop and Implement a Parking Management Plan <u>Mitigation Measure TRA-CNST-C: Prepare and Implement an Emergency Services Coordination Plan</u></p>	<p>Significant and Unavoidable for Alum Rock/28th Street, Downtown San Jose (East and West Options), Diridon Stations (South and North Options), West Tunnel Portal, Newhall Maintenance Facility, and Santa Clara Station. (Twin-Bore and Single-Bore Options)</p> <p>Less than Significant for 13th Street Ventilation Structure and Stockton Street <u>Stockton Avenue</u> Ventilation Structure; (Twin-Bore and Single-Bore Options)</p> <p><u>Less than Significant for cross passages</u> (Twin-Bore Option only)</p>
<p><i>Transit-Bus: Conflict with a transportation plan, ordinance, or policy; Conflict with the Congestion Management Program; and Conflict with transit, bicycle, or pedestrian policies, plans, or programs.</i> For Downtown San Jose Station (East and West Options) and Diridon</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures TRA-CNST-A and B: Develop and Implement a Construction Education and Outreach Plan Mitigation Measure TRA-CNST-B: Develop and Implement a Construction Transportation Management Plan (see description above)</p>	<p>Significant and Unavoidable (Twin-Bore and Single-Bore Options)</p>

Table ES-6: Summary of Significant Impacts and Proposed Mitigation Measures of CEQA BART Extension with TOJD Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
Station (North and South Options) long-term closure of transit stops and route detours required during construction would decrease performance and affect local bus service.			
<p><i>Transit-Light Rail: Conflict with a transportation plan, ordinance, or policy; Conflict with the Congestion Management Program; and Conflict with transit, bicycle, or pedestrian policies, plans, or programs.</i> Construction activities for the Downtown San Jose Station West Option would require closure and interruption of VTA’s light rail service through downtown San Jose, affecting performance.</p>	Significant (Twin-Bore Option only)	<p>Mitigation Measures TRA-CNST-A and TRA-CNST-B (see description above) Mitigation Measure TRA-CNST-A: Develop and Implement a Construction Education and Outreach Plan Mitigation Measure TRA-CNST-B: Develop and Implement a Construction Transportation Management Plan</p>	Significant and Unavoidable (Twin-Bore Option only)
<p><i>Transit-Heavy Rail: Conflict with a transportation plan, ordinance, or policy; Conflict with the Congestion Management Program; and Conflict with transit, bicycle, or pedestrian policies, plans, or programs.</i> Construction at the Diridon Station North Option would temporarily impact existing easternmost Caltrain track at Diridon Station and thereby affect Caltrain and other operations.</p>	<p>Significant (Twin-Bore Option only)</p>	<p>Mitigation Measure TRA-CNST-A: Develop and Implement a Construction Education and Outreach Plan</p>	<p>Significant and Unavoidable (Twin-Bore Option only)</p>

Table ES-6: Summary of Significant Impacts and Proposed Mitigation Measures of CEQA BART Extension with TOJD Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
<p>Result in inadequate emergency access. Construction activities may have a temporary impact on emergency vehicle access when construction requires temporary access or egress limitations.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure TRA-CNST-C (see description above) D. Prepare and Implement an Emergency Services Coordination Plane with Fire and Police Services during Construction</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p>6.3 Air Quality</p>			
<p>Violate an air quality standard or contribute to an air quality violation. During construction, NO_x and reactive organic gas (ROG) emissions would exceed BAAQMD thresholds for all project features.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p><u>Mitigation Measure AQ-CNST-A: Implement Dust Control Measures</u> <u>Mitigation Measure AQ-CNST-B: Use U.S. Environmental Protection Agency (EPA) Tier 4 or Cleaner Engines</u> <u>Mitigation Measure AQ-CNST-C: Maintain Construction Equipment</u> <u>Mitigation Measure AQ-CNST-D: Minimize Idling Times</u> <u>Mitigation Measure AQ-CNST-E: Use Equipment Meeting ARB Certification Standards</u> <u>Mitigation Measure AQ-CNST-F: Ensure Heavy-Duty Diesel Trucks Will Comply with EPA Emissions Standards</u> <u>Mitigation Measure AQ-CNST-G: Use Low-Sulfur Fuel</u> <u>Mitigation Measure AQ-CNST-H: Locate Construction Areas Away from Sensitive Receptors</u> <u>Mitigation Measure AQ-CNST-I: Use Low-Volatile Organic Compound (VOC) Coatings</u> Mitigation Measures AQ-CNST-A through AQ-CNST-H (described above)</p>	<p>Significant and Unavoidable (Twin-Bore and Single-Bore Options)</p>

Table ES-6: Summary of Significant Impacts and Proposed Mitigation Measures of CEQA BART Extension with TOJD Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
		Mitigation Measure AQ-I: Use Low-VOC coatings	
Cause a cumulatively considerable net increase in a criteria pollutant. Cumulative construction NO _x and ROG emissions would exceed BAAQMD thresholds for all project features.	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measures AQ-CNST-A through AQ-CNST-I (described see description above)	Significant and Unavoidable (Twin-Bore and Single-Bore Options)
Expose sensitive receptors to substantial pollutant concentrations. Annual increase in PM _{2.5} concentrations and cancer risk would exceed the BAAQMD significance thresholds during construction of the Alum Rock/28 th Street Station and TOJD.	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure AQ-CNST-B (described see description above)	Less than Significant (Twin-Bore and Single-Bore Options)
6.4 Biological Resources and Wetlands			
Nesting Birds: Adversely affect a special-status species or habitat. - Construction activities along the entire alignment and at all stations may result in a significant impact on nesting birds.	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure BIO-CNST-A: Avoid Nesting Bird Season Mitigation Measure BIO-CNST-B: Conduct Preconstruction/Predisturbance Surveys for Nesting Birds	Less than Significant (Twin-Bore and Single-Bore Options)
Roosting Bats: Adversely affect a special-status species or habitat. Construction staging areas along the entire alignment and at all stations may result in a significant impact on roosting bats.	Significant (Twin-Bore and Single-Bore Options)	Measure BIO-CNST-C: Conduct Preconstruction Surveys for Roosting Bat and Implement Protective Measures	Less than Significant (Twin-Bore and Single-Bore Options)

Table ES-6: Summary of Significant Impacts and Proposed Mitigation Measures of CEQA BART Extension with TOJD Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
<p>Tri-colored Blackbirds: Adversely affect a special-status species or habitat. Construction activities at the SR 87 CSA near the Guadalupe River and at Diridon Station near the Los Gatos Creek may result in a significant impact on tricolored blackbirds.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure BIO-CNST-E: Conduct Preconstruction Tricolored Blackbird Nesting Surveys <u>and Determine Appropriate Action</u></p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p>Burrowing Owls. Adversely affect a special-status species or habitat. Construction activities for Newhall Maintenance Facility may result in a significant impact on burrowing owls.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure BIO-CNST-F: Conduct Preconstruction Burrowing Owl Surveys and Determine Appropriate Action</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p>Adversely affect a sensitive natural community. Construction activities at the CSA near Lower Silver Creek, the SR 87 CSA near the Guadalupe River, and construction of the systems facilities at Diridon Station near Los Gatos Creek may result in a significant impact on riparian habitat adjacent to the facilities.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure BIO-CNST-D: Protect Riparian Habitat</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p>Interfere with wildlife movement or impede use of wildlife nursery sites. Construction noise and disturbance along the alignment and at all stations may interfere with nesting birds.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures BIO-CNST-A and: Avoid Nesting Bird Season <u>Mitigation Measure BIO-CNST-B: (see description above) Conduct Preconstruction/Predisturbance Surveys for Nesting Birds</u></p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>

Table ES-6: Summary of Significant Impacts and Proposed Mitigation Measures of CEQA BART Extension with TOJD Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
<p>Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Landscaping trees would be removed during construction along the alignment including all stations.</p>	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure AES-CNST-A: Replace Trees Removed during Construction	Less than Significant (Twin-Bore and Single-Bore Options)
<p>Conflict with an adopted habitat conservation plan, or local policies or ordinances protecting biological resources. Construction activities in the vicinity of Guadalupe Creek (construction staging areas near SR 87) and Los Gatos Creek (system facilities at Diridon Station South Option) may result in a significant impact on tricolored blackbirds. Construction activities for Newhall Maintenance Facility may result in a significant impact on burrowing owls.</p>	Significant (Twin-Bore and Single-Bore Options)	<p>Mitigation Measures <u>BIO-CNST-E and F: Conduct Preconstruction Tricolored Blackbird Nesting Surveys</u> Mitigation Measure BIO-CNST-F: Conduct Preconstruction Burrowing Owl Surveys and Determine Appropriate Action (see description above)</p>	Less than Significant (Twin-Bore and Single-Bore Options)
6.6 Cultural Resources			
<p><u>Architectural Resources - Noise.</u> Cause an adverse change in the significance of a historic resource as defined in § 15064.5. Construction noise has the potential to affect the historic property near Alum Rock/28th Street Station.</p>	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure NV-CNST-C: Construct Temporary Noise Barriers	Less than Significant (Twin-Bore and Single-Bore Options)
<p><u>Architectural Resources - Vibration.</u> Cause an adverse change in the significance of a</p>	Significant	Mitigation Measure NV-CNST-P: Implement a <u>Construct Construction Vibration Control and Monitoring Plan</u>	Less than Significant (Twin-Bore and Single-Bore Options)

Table ES-6: Summary of Significant Impacts and Proposed Mitigation Measures of CEQA BART Extension with TOJD Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
<p>historic resource as defined in § 15064.5. Historic buildings in the vicinity of cut-and-cover station excavation activities may be exposed to excessive vibration near Alum Rock/28th Street Station, Downtown San Jose (East and West Options) and Diridon (South and North Options).</p>	<p>(Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure NV-CNST-Q: Perform Vertical Direction Vibration Monitoring Mitigation Measure NV-CNST-R: <u>Implement Preconstruction and Post-Construction Building Condition Surveys for Vibration</u> Require Monitoring of Vibration for Peak Particle Velocity</p>	
<p><i>Architectural Resources - Surface Settlement. Cause an adverse change in the significance of a historic resource as defined in § 15064.5.</i> Historic buildings could be affected due to surface settlement during tunneling and cut-and-cover activities in the vicinity.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure GEO-CNST-B: <u>Implement Preconstruction and Post-construction Building Condition Surveys for Settlement</u> Mitigation Measure GEO-CNST-C: <u>Monitor Ground Surface during Tunneling Activities</u> Mitigation Measure GEO-CNST-D: <u>Monitor Settlement Effects around Cut-and-Cover Excavations</u> Mitigation Measures GEO-CNST-B through GEO-CNST-D</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p><i>Archaeological Resources. Cause an adverse change in the significance of an archaeological resource as defined in § 21803.2. Disturb human remains, including those interred outside of formal cemeteries.</i> Construction has the potential to cause significant impact on unknown archaeological resources and human remains.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure CUL-CNST-A: Implement Programmatic Agreement and Archaeological Resources Treatment Plan</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>

Table ES-6: Summary of Significant Impacts and Proposed Mitigation Measures of CEQA BART Extension with TOJD Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
6.8 Geology, Soils, and Seismicity			
<p>Liquefaction. Expose people or structures to potential seismic hazards. Liquefaction potential is moderate to high and may damage project facilities along the alignment and in station areas.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure GEO-CNST-A: Incorporate Design Specifications to Minimize Effects from Liquefaction Hazards</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p>Surface Settlement. Be located on a geologic unit that is unstable or that would become unstable. Surface settlement has the potential to damage structures and utilities along the alignment.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures GEO-CNST-B through : Implement Preconstruction Condition Surveys along the Tunnel Alignment Mitigation Measure GEO-CNST-C: Monitor Ground Surface during Tunneling Activities Mitigation Measure GEO-CNST-D (see descriptions above): Monitor Settlement Effects around Cut and Cover Excavations Mitigation Measure GEO-CNST-E: Implement Preconstruction Condition Surveys for Utilities Mitigation Measure GEO-CNST-F: Minimize Excavation Bottom Failure Impacts</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p>Stability. Be located on a geologic unit that is unstable or that would become unstable. Excavation bottom stability or disturbance may result from bottom heave, piping, or blow-out.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure GEO-CNST-F (see description above): Minimize Excavation Bottom Failure Impacts Mitigation Measure GEO-CNST-G: Minimize Disturbance of Sensitive Deposits at the Excavation Subgrade</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p>Expansive Soils. Be located on expansive soil, creating risks to life or property. System facilities, parking, and vehicular and pedestrian access at the stations and</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure GEO-CNST-H: Incorporate Design Specifications to Minimize Effects from Expansive Soils</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>

Table ES-6: Summary of Significant Impacts and Proposed Mitigation Measures of CEQA BART Extension with TOJD Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
other sites are in areas of potential expansive soils.			
<p>Paleontological Resources. Destroy a unique paleontological resource or unique geologic feature. Excavation depths involved during construction throughout the alignment may result in the discovery of previously unknown paleontological resources.</p>	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure GEO-CNST-I: Stop Construction if Paleontological Resources Are Discovered and Determine Appropriate Action	Less than Significant (Twin-Bore and Single-Bore Options)
6.9 Greenhouse Gas Emissions and Climate Change			
<p>Generate GHG emissions, either directly or indirectly. <u>Construction activities will generate GHG emission from mobile and stationary sources.</u></p>	<u>Significant (Twin-Bore and Single-Bore Options)</u>	<u>Mitigation Measures AQ-CNST-B thru G (see descriptions above)</u>	<u>Less than Significant (Twin-Bore and Single-Bore Options)</u>
6.10 Hazards and Hazardous Materials			
<p>Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Disturbance of contaminated materials during construction may pose a potential threat to human health and the environment.</p>	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure HAZ-CNST-A: Prepare and Implement Remedial Action Plans	Less than Significant (Twin-Bore and Single-Bore Options)
<p>Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section</p>	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure HAZ-CNST-A: Prepare and Implement Remedial Action Plans (see description above)	Less than Significant (Twin-Bore and Single-Bore Options)

Table ES-6: Summary of Significant Impacts and Proposed Mitigation Measures of CEQA BART Extension with TOJD Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
<p>65962.5 and, as a result, create a significant hazard to the public or the environment. The disturbance of hazardous materials that may be present in the soil and ballast beneath the alignment during construction activities, such as excavation and dewatering, may pose a potential threat to human health and the environment.</p>			
<p>6.11 Land Use</p>			
<p>Conflict with any applicable habitat conservation plan or natural community conservation plan. Construction at the Newhall Maintenance Facility would conflict with the western burrowing owl survey area, and the Diridon Station and SR 87 CSA is within the tricolored blackbird survey area near Guadalupe River and Los Gatos Creek, both covered by the SCVHP.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures BIO-CNST-E and BIO-CNST-F (described under 6.4, Biological Resources see description above)</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p>6.12 Noise and Vibration</p>			
<p>Expose persons to or generate noise in excess of local or agency standards; and Temporarily or periodically increase ambient noise levels. Construction at the Alum Rock/28th Street and Downtown San Jose Station Options may exceed nighttime noise criterion</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures NV-CNST-A: <u>Incorporate FTA Criteria Compliant Construction Noise and Vibration Specifications</u> Mitigation Measure NV-CNST-B: <u>Locate Equipment as Far as Feasible from Sensitive Sites</u></p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>

Table ES-6: Summary of Significant Impacts and Proposed Mitigation Measures of CEQA BART Extension with TOJD Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
<p>for residences. Construction activities for 13th Street and Stockton Avenue Ventilation Facilities would exceed daytime noise criterion for residences.</p>		<p><u>Mitigation Measure NV-CNST-C (see description above)</u> <u>Mitigation Measure NV-CNST-D: Operate Equipment to Minimize Annoying Noise and Vibration</u> <u>Mitigation Measure NV-CNST-E: Route Construction Trucks along Truck Routes Least Disturbing to Residents</u> <u>Mitigation Measure NV-CNST-F: Secure Steel and Concrete Plates over Excavated Holes and Trenches</u> <u>Mitigation Measure NV-CNST-G: Use Best Available Practices to Reduce Excess Noise and Vibration</u> <u>Mitigation Measure NV-CNST-H: Adhere to Local Jurisdiction Construction Time Periods, to the Extent Feasible</u> <u>Mitigation Measure NV-CNST-I: Perform Preconstruction Ambient Noise Measurements at All CSAs</u> <u>Mitigation Measure NV-CNST-J: Implement a Construction Noise Control and Monitoring Plan</u> <u>Mitigation Measure NV-CNST-K: Require Minimum Qualifications for the Acoustical Engineer</u> <u>Mitigation Measure NV-CNST-L: Prohibit Operation of Noise-Generating Equipment Prior to Acceptance of Noise Control and Monitoring Plan</u> <u>Mitigation Measure NV-CNST-M: Install Long-Term Noise Monitors at CSAs during all</u></p>	

Table ES-6: Summary of Significant Impacts and Proposed Mitigation Measures of CEQA BART Extension with TOJD Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
		<p><u>Construction Phases</u> <u>Mitigation Measure NV-CNST-N: Ensure Equipment is Pre-certified to Meet Noise Limits</u> <u>Mitigation Measure NV-CNST-O: Implement a Complaint Resolution Procedure</u> Mitigation Measures NV-CNST-A through NV-CNST-Q</p>	
<p>Expose persons to or generate noise in excess of local or agency standards. Construction at Downtown San Jose Station (East and West Options) and Diridon Station (South and North Options) would exceed noise criterion for residences.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures NV-CNST-A through NV-CNST-O (<u>see description above</u>)</p>	<p>Significant and Unavoidable (Twin-Bore and Single-Bore Options)</p>
<p>Expose persons to or generate excessive groundborne vibration or groundborne noise. Residences may be exposed to temporary vibration impacts from TBM operations. Soils excavated by the TBM would be removed by a muck train or conveyor system and may cause groundborne noise impacts.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures NV-CNST-P: Conduct Construction Vibration Monitoring Mitigation Measure NV-CNST-Q: Perform Vertical Direction Vibration Monitoring Mitigation Measure through NV-CNST-R (see description above): Require Monitoring of Vibration for Peak Particle Velocity Mitigation Measure NV-CNST-S: Implement Measures to Reduce Vibration from Muck Extraction and Supply Trains Procedure</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p>6.14 Visual Quality and Aesthetics</p>			
<p>Tree Removal: Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure AES-CNST-A: Replace Trees (<u>see description above</u>)</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>

Table ES-6: Summary of Significant Impacts and Proposed Mitigation Measures of CEQA BART Extension with TOJD Alternative – Construction

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
<p>buildings within a state scenic highway. Construction activities would require removal of trees along the entire alignment.</p>			
<p>6.15 Water Resources, Water Quality, and Floodplains</p>			
<p>Degrade water quality or violate water quality standards. Construction activities may result in temporary increases in sediment loads and potential stormwater contamination, accidental spills of hazardous materials, and surface and groundwater impacts.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure <u>BIO-CNST-D (see description above)</u>: Protect Riparian Habitat</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
<p><u>Deplete groundwater supplies or interfere with groundwater recharge.</u> Construction for <u>underground stations and tunnels would require temporary dewatering, which may reduce the volume of water in the local aquifer table.</u></p>	<p><u>Significant (Twin-Bore and Single-Bore Options)</u></p>	<p><u>Mitigation Measure HAZ-CNST-A (see description above)</u></p>	<p><u>Less than Significant (Twin-Bore and Single-Bore Options)</u></p>

Table ES-7: Summary of Significant Impacts and Proposed Mitigation Measures of CEQA BART Extension with TOJD Alternative – Operation

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
6.2 Transportation			
<p>Conflict with a transportation plan, ordinance, or policy; and Conflict with a congestion management program. Traffic impacts at four intersections near the Santa Clara Station in 2035: De La Cruz Boulevard and Central Expressway (City of Santa Clara and CMP intersection), Coleman Avenue and Brokaw Road (City of Santa Clara intersection), Lafayette Street and Lewis Street (City of Santa Clara intersection), Coleman Avenue and I-880 Southbound Ramps (City of San Jose and CMP intersection intersection).</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure TRA-A: Implement Intersection Improvements at De La Cruz Boulevard and Central Expressway Mitigation Measure TRA-BA: Implement Intersection Improvements at Coleman Avenue and Brokaw Road Mitigation Measure TRA-CB: Implement Intersection Improvements at Lafayette Street and Lewis Street Mitigation Measure TRA-DC: Implement Intersection Improvements to Coleman Avenue and I-880 Southbound Ramps</p>	<p>Significant and Unavoidable only for De La Cruz Boulevard and Central Expressway in 2035. Less than significant for other intersections. (Twin-Bore and Single-Bore Options)</p>
6.3 Air Quality			
<p>Violate an air quality standard or contribute to an air quality violation; and cause a cumulatively considerable net increase in a criteria pollutant. ROG emissions from the use of consumer products would exceed the BAAQMD significance thresholds. Significant emissions of ROG would be related to residential consumer product use (e.g., aerosol sprays) at the TOJDs.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure AQ-CNST-I: Use Low-VOC Coatings</p>	<p>Significant and Unavoidable (Twin-Bore and Single-Bore Options)</p>

Table ES-7: Summary of Significant Impacts and Proposed Mitigation Measures of CEQA BART Extension with TOJD Alternative – Operation

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
6.8 Geology, Soils, and Seismicity			
<p>Liquefaction. Expose people or structures to potential seismic hazards. Liquefaction potential is moderate to high and may damage project facilities along the alignment and in station areas.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure GEO-CNST-A: Incorporate Design Specifications to Minimize Effects from Liquefaction Hazards</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
6.9 Greenhouse Gas Emissions			
<p>Generate GHG emissions, either directly or indirectly. TOJD at four stations would result in a net increase in long-term (2035) GHG emissions.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure GHG-A: Implement Energy Efficiency Measures Mitigation Measure GHG-B: Participate in Food Waste Programs Mitigation Measure GHG-C: Utilize Electrical Landscaping Equipment Mitigation Measure GHG-D: Provide Preferential Parking for Electric Vehicles Mitigation Measure AQ-CNST-I: Use Low-VOC Coatings</p>	<p>Significant and Unavoidable (Twin-Bore and Single-Bore Options)</p>
<p>Conflict with a plan, policy or regulation intended to reduce greenhouse gas emissions. TOJD at four stations emissions would be inconsistent with the goals in EO S-3-05 and EO B-30-15.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measures GHG-A: Implement Energy Efficiency Measures Mitigation Measure GHG-B: Participate in Food Waste Programs Mitigation Measure GHG-C: Utilize Electrical Landscaping Equipment Mitigation Measure through GHG-D: Provide Preferential Parking for Electric Vehicles (see description above) Mitigation Measure AQ-CNST-I: Use Low VOC Coatings (see description above)</p>	<p>Significant and Unavoidable (Twin-Bore and Single-Bore Options)</p>

Table ES-7: Summary of Significant Impacts and Proposed Mitigation Measures of CEQA BART Extension with TOJD Alternative – Operation

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
6.10 Hazards and Hazardous Materials			
<p>Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment. Disturbance of contaminated soil and/or ballast during maintenance activities, direct contact, or inhalation of dust and potential vapor intrusion of groundwater contaminants may impact maintenance workers, passengers, and offsite residents</p>	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure HAZ-CNST-A: Prepare and Implement Remedial Action Plans	Less than Significant (Twin-Bore and Single-Bore Options)
6.12 Noise and Vibration			
<p>Ancillary Facilities. Expose persons to or generate noise in excess of local or agency standards. Noise from ancillary facilities including ventilation structures, traction power substations, and emergency backup generators may exceed the noise criterion.</p>	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure NV-A: Implement Noise Reduction Treatments at Ancillary Facilities	Less than Significant (Twin-Bore and Single-Bore Options)
<p>Train Operations. Expose persons to or generate excessive groundborne vibration or groundborne noise. Operation of the train within the tunnel may exceed FTA groundborne noise criteria throughout the alignment.</p>	Significant (Twin-Bore and Single-Bore Options)	Mitigation Measure NV-B: Reduce Groundborne Noise Levels	Less than Significant (Twin-Bore and Single-Bore Options)

Table ES-7: Summary of Significant Impacts and Proposed Mitigation Measures of CEQA BART Extension with TOJD Alternative – Operation

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
<p>Expose people in the area to excessive airport noise. Residential uses proposed as part of TOJD may be exposed to noise from San Jose Mineta International Airport in excess of 65 CNEL.</p>	<p>Significant (Twin Bore and Single Bore Options)</p>	<p>Mitigation Measure NV C: Implement Acoustical Design of Residential Uses</p>	<p>Less than Significant (Twin Bore and Single Bore Options)</p>
<p>6.13 Utilities and Service Systems</p>			
<p>Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which may cause significant environmental effects. <u>BART Stations and facilities, and TOJD may contribute to a water supply capacity deficiency and sewer system deficiencies in the Cities of San Jose and Santa Clara.</u> Wastewater generated may contribute to capacity deficiencies within offsite sewer systems.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure UTIL-A: Prepare a San Jose Water Supply Infrastructure Capacity Assessment and Participate in the Improvements Mitigation Measure UTIL-B: Prepare a Santa Clara Water Supply Infrastructure Capacity Assessment and Participate in the Improvements Mitigation Measure UTIL-C: Prepare a San Jose Sewer Capacity Assessment and Participate in the Improvements Mitigation Measure UTIL-D: Prepare a Santa Clara Sewer Capacity Assessment and Participate in the Improvements Mitigation Measure UTIL A: Prepare a San Jose Water Supply Infrastructure Capacity Assessment. Mitigation Measure UTIL B: Prepare a Santa Clara Water Supply Infrastructure Capacity Assessment Mitigation Measure UTIL C: Prepare a San Jose Sewer Capacity Assessment Mitigation Measure UTIL D: Prepare a Santa Clara Sewer Capacity Assessment</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>

Table ES-7: Summary of Significant Impacts and Proposed Mitigation Measures of CEQA BART Extension with TOJD Alternative – Operation

CEQA Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
6.14 Visual Quality and Aesthetics			
<p>Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area. Several of the TOJD buildings would be taller than the surrounding built environment, particularly at the Alum Rock/28th Street, Diridon, and Santa Clara Station areas where TOJD would range between 4 and 11 stories high and include reflective surfaces, such as windows, that may create glare.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure AES-A: Minimize Light and Glare</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>
6.15 Water Resources, Water Quality, and Floodplains			
<p>Degrade water quality or violate water quality standards. Operation of new facilities may increase existing pollutants in storm drains and introduce new pollutants.</p>	<p>Significant (Twin-Bore and Single-Bore Options)</p>	<p>Mitigation Measure WQ-A: Design and Implement Stormwater Control Measures</p>	<p>Less than Significant (Twin-Bore and Single-Bore Options)</p>