

## EXECUTIVE SUMMARY

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The Santa Clara Valley Transportation Authority (VTA) has prepared this Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA). The EIS addresses the environmental impacts resulting from the three alternatives as discussed in Chapter 2, Alternatives.

The original Draft Environmental Impact Study/Environmental Impact Report (EIS/EIR) was released to the public on March 16, 2004. However, no action was taken to finalize the original Draft EIS. Due to the passage of time, changes in the Project and environmental setting, availability of new information, and funding considerations, a revised EIS has been prepared.

The two proposed San Francisco Bay Area Rapid Transit (BART) Extension alternatives would extend service in the Silicon Valley Rapid Transit Corridor (SVRTC). The Berryessa Extension Project (BEP) Alternative, the Recommended Project and the alternative to be evaluated under the Federal Transit Administration's (FTA) New Starts Program, is included in the document and is a 9.9-mile, two-station extension to Milpitas and San Jose. The SVRTP Alternative would extend BART service for 16.1 miles into Santa Clara. A No Build Alternative has been formulated as a basis for comparison to the two Build Alternatives.

VTA requested re-entry into the New Starts Program as part of a federal funding request in September 2009 to the FTA for the BEP Alternative. In consultation with FTA, adjustments were made to the travel demand model (subsequent to the Draft EIS) to reflect changes to the BEP Alternative's scope and definition, for the purpose of improving the project's "cost effectiveness" rating under New Starts criteria. These adjustments refined the definition of the BEP Alternative. Revised project data include the VTA operating plan, VTA bus and BART fleet size, ridership projections, vehicle miles traveled, capital cost estimates, and related project elements.

These new data have reduced some of the impacts previously discussed in the Draft EIS. However, some benefits of the BEP Alternative are slightly less than stated previously. The analysis in Volume I of the Final EIS has not been updated, except where noted in Chapter 9 Financial Considerations, to reflect capital and operating/maintenance costs, and Chapter 10 Evaluation of Alternatives New Starts Evaluation Criteria. Therefore, the document provides a conservative analysis and disclosure of environmental impacts. Part 2 of Chapter 10 Evaluation of Alternatives provides a summary of New Starts changes to the project and a discussion of related impacts.

The Recommended Project presented in Volume 2 Chapter 1 of the Final EIS represents a fully-updated description of the BEP Alternative, including the project scope and definition assumed for the New Starts Locally Preferred Alternative Silicon Valley Berryessa Extension Project submitted to FTA in September 2009.

This executive summary highlights the information that is presented in detail throughout this EIS. For specific discussion, the reader is directed to the document chapter(s) or section(s) that address that topic.

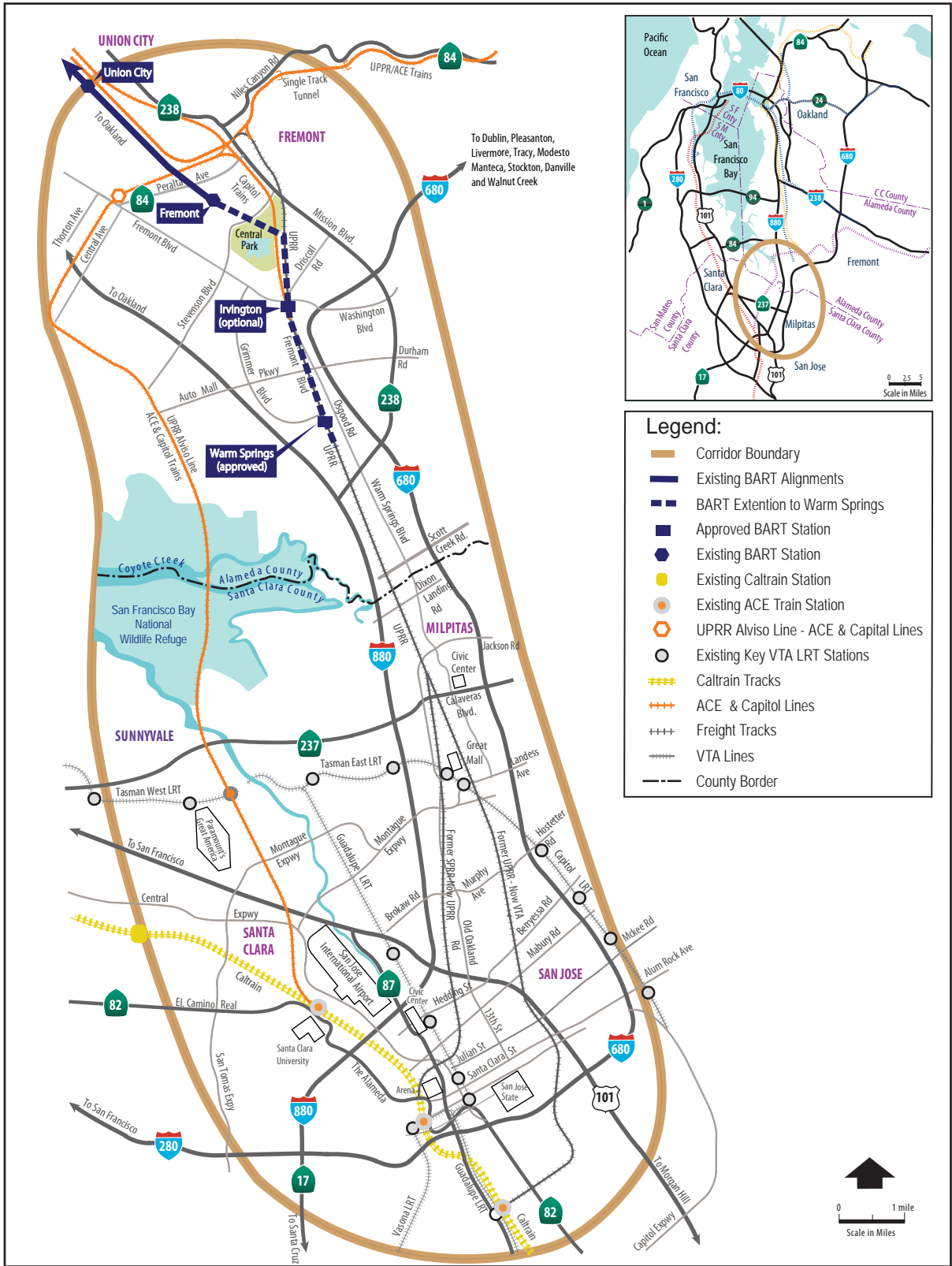
## **STUDY AREA**

The SVRTC extends over 20 miles from the City of Fremont in southwestern Alameda County through the cities of Milpitas, San Jose, and Santa Clara in Santa Clara County, covering approximately 100 square miles (Figure ES-1). Major roadway transportation facilities in the SVRTC include Interstate 880 (I-880), Interstate 680 (I-680), U.S. Highway 101 (US 101) and State Routes 237 and 87 (SR 237 and SR 87). The corridor is also traversed by two freight railroad mainlines and commuter rail, interstate and state routes, expressways, and major arterials. VTA, Caltrain, Altamont Commuter Express (ACE), Capitol Corridor Intercity Rail (Capitols), Amtrak, and a variety of bus operators provide transit services to major activity and employment centers located throughout the corridor.

## **PURPOSE AND NEED FOR TRANSPORTATION IMPROVEMENTS**

The SVRTC project is intended to achieve the following objectives:

- Improve public transit service in this severely congested corridor by providing increased transit capacity and faster, convenient access to and from major Santa Clara County employment and activity centers for corridor residents and residents from throughout the Bay Area and portions of the Central Valley of California.
- Enhance regional connectivity by expanding and interconnecting BART rapid transit service with VTA light rail, Amtrak, ACE, Caltrain, and VTA bus services in Santa Clara County; improve intermodal transit hubs where rail, bus, auto, bicycle and pedestrian links meet.
- Increase transit ridership by expanding modal options in a corridor with ever-increasing travel demand that cannot be accommodated by existing or proposed roadway facilities; in particular, help alleviate severe and worsening congestion on I-880 and I-680 between Alameda County and Santa Clara County



Source: VTA, 2008.

Figure ES-1: Silicon Valley Rapid Transit Corridor

- Support transportation solutions that will be instrumental in maintaining the economic vitality and continuing development of Silicon Valley.
- Improve mobility options to employment, education, medical, and retail centers for corridor residents, in particular low-income, youth, elderly, disabled, and ethnic minority populations.
- Improve regional air quality by reducing auto emissions.
- Support local and regional land use plans and facilitate corridor cities' efforts to direct business and residential investments in transit oriented development. More efficient growth and sustainable development patterns are necessary to reduce impacts to the local and global environment, such as adverse climate change.

Improved transit in the SVRTC is consistent with the goals established in prior studies (See Section 1.5 of Chapter 1, Purpose and Need) and responds to the long-range Valley Transportation Plan 2030 (VTP 2030), adopted by VTA in February 2005. The primary goal of the long-range plan is to provide transportation facilities and services that support and enhance Santa Clara County's high quality of life and vibrant economy.

Transportation improvements in the corridor would address issues identified in the Metropolitan Transportation Commission's (MTC) Regional Transportation Plans (T-2030 and pending T-35), including the need to improve access and thereby preserve economic vitality and the need to link transportation to community development around transit nodes. Improved transit also is consistent with the policy directions of VTA's Short-Range Transit Plan and Santa Clara County 2000 Measure A. That measure, approved by 70.6 percent of Santa Clara County voters, provides a 30-year, ½-cent sales tax beginning in 2006 for a set of transit improvements in Santa Clara County, with the key improvement being the SVRTP Alternative.

More recently, the VTA Board of Directors voted to place on the November 4, 2008, general election ballot a ⅛-sales tax increment, Measure B, dedicated to operation of a BART extension project. Measure B was approved by approximately 67 percent of the voters of Santa Clara County, meeting the stringent two-thirds approval threshold for general tax measures in California. The measure is to go into effect when (1) VTA executes a Full Funding Grant Agreement (FFGA) or its equivalent with the Federal Transit Administration (FTA) for at least \$750 million and (2) the State of California contributes at least \$240 million in remaining Traffic Congestion Relief Program (TCRP) and/or other funds to the project. The state has reconfirmed its commitment to provide the remaining TCRP funds. The request for FTA funding is anticipated to be submitted later this year. If New Starts funding is approved, Measure B tax collections would begin and continue for 30 years.

Funds from Measures A and B supplemented by the \$750 million in FTA New Starts program and the \$240 million in State of California funds, would form the foundation for the capital and operating financial plan for the proposed BEP and SVRTP alternatives.

## **PURPOSE OF THE EIS AND SECTION 4(F) EVALUATION**

This document is an EIS and Section 4(f) Evaluation prepared pursuant to the requirements of the Council on Environmental Quality regulations implementing NEPA. It presents alternatives for improving transit services in the SVRTC and discloses the environmental impacts of those alternatives.

This document will be used by federal, state, regional, and local agencies to assess the environmental impacts of the alternatives on resources under their jurisdiction and/or to make discretionary decisions regarding the project. The FTA, the State of California, and the Metropolitan Transportation Commission (MTC) will use this document in deciding whether and how to fund the project. To the extent that this document analyzes effects of various alternatives that extend beyond the potentially federally-funded New Starts portion of the overall transit project, it does so solely for purposes of meeting FTA's responsibility pursuant to Section 102(2)(G) of NEPA (42 U.S.C. Section 4332(2)(G) to "make available to states, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment.

Once the project is approved, public agencies can use this EIS as the basis for their decisions to issue permits and other approvals necessary to construct the project.

The EIS includes the following chapters, with supporting information found in the appendices:

- Executive Summary
- Chapter 1: Purpose and Need
- Chapter 2: Alternatives
- Chapter 3: Transportation Analysis
- Chapter 4: Affected Environment
- Chapter 5: Environmental Consequences
- Chapter 6: Construction

- Chapter 7: Section 4(f) Evaluation
- Chapter 8: BART Core Parking Analysis
- Chapter 9: Financial Considerations
- Chapter 10: Evaluation of Alternatives
- Chapter 11: Agency and Community Participation
- Chapter 12: Distribution of the Final EIS
- Chapter 13: Definitions
- Chapter 14: References
- Chapter 15: List of Preparers

## **ALTERNATIVES**

The 2004 Draft EIS evaluated three alternatives: the Future No-Build, a Transportation Systems Management (TSM) alternative with enhanced bus service, and the proposed BART extension. On the basis of that Draft EIS, FTA and VTA have decided that the TSM alternative is not a reasonable alternative because it does not meet the Project's purpose and need. The buses, which operate on highways, are subject to the same congestion as automobiles. Therefore, the Revised EIS will evaluate the following alternatives, plus any additional alternatives that emerge from the scoping process.

### **NO BUILD ALTERNATIVE**

The No Build Alternative consists of the existing transit and roadway networks and planned and programmed improvements in the SVRTC that are identified in the Bay Area's Regional Transportation Plan (RTP), Mobility for the Next Generation – Transportation 2030 Plan for the San Francisco Bay Area (Transportation 2030 Plan), adopted by MTC in February 2005, and the Valley Transportation Plan 2030 (VTP 2030), adopted by VTA in February 2005.

## **BEP ALTERNATIVE**

The BEP Alternative would consist of the design, construction, and future operation of a 9.9 mile extension of the BART heavy rail line. The BEP Alternative would begin south of the planned BART Warm Springs Station in Fremont (to be implemented by 2014) and proceed on the former Union Pacific Railroad (UPRR) right-of-way (ROW) through Milpitas to near Las Plumas Avenue in San Jose (Figure ES-2). Two stations are proposed, one in Milpitas and one in San Jose, the Milpitas and the Berryessa Station, respectively. Passenger service for the BEP Alternative would start in 2018, assuming funding is available. Ridership is projected to be approximately 46,450 in 2030.

The alignment features for the BEP Alternative include four alignment options in Milpitas, bus transit center options in Milpitas, and two options for the terminus. These options are described in more detail in Chapter 2, Alternatives of this Final EIS.

### **Other Related Facilities**

Other features associated with this alternative include construction staging areas, a maintenance and storage facility (referred to as “yard and shops”) for BART vehicles, and BART core system improvements<sup>1</sup>.

### **BART Core System Parking Analysis**

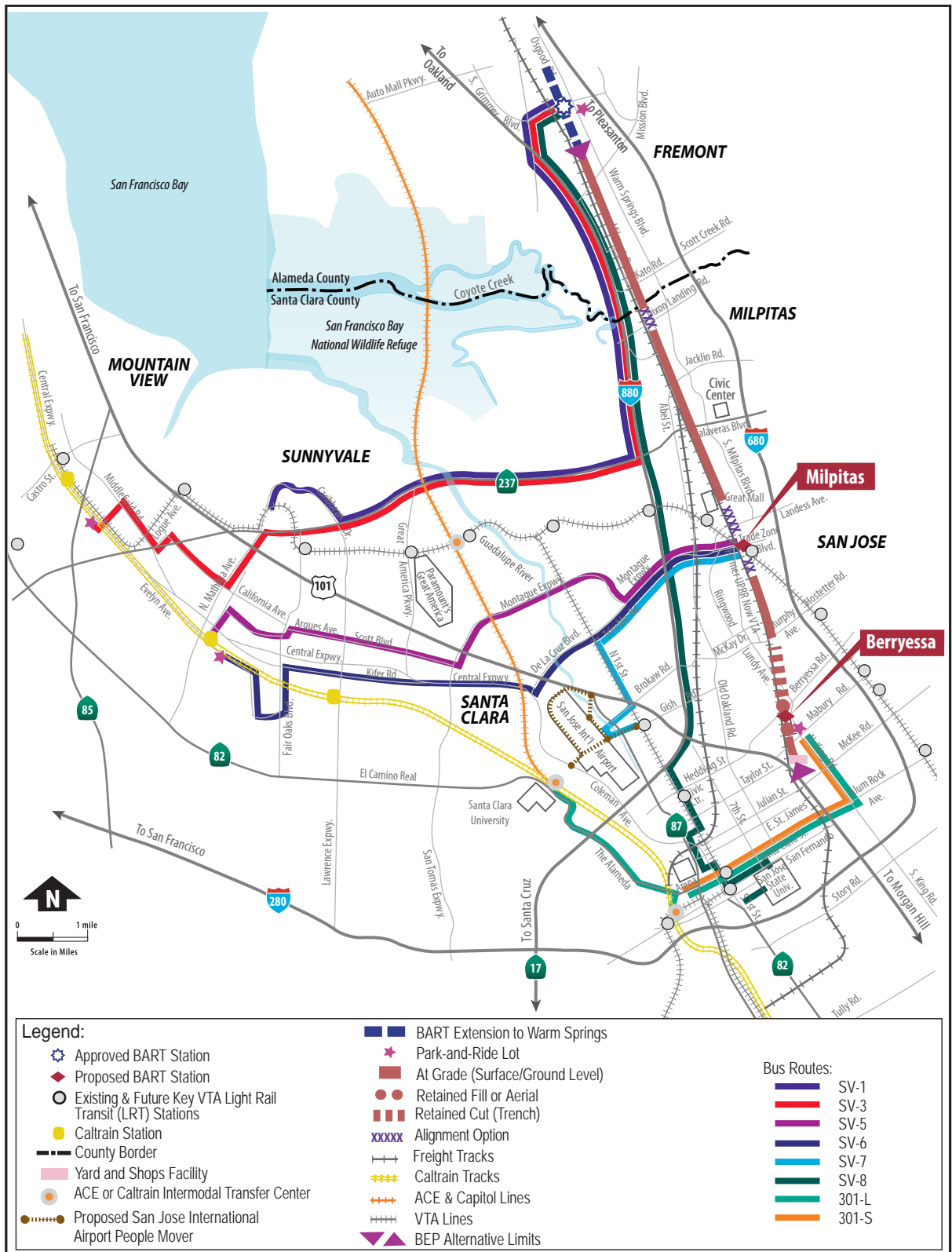
The BEP Alternative represents an expansion of the BART system and would affect the parking demand and supply in the core system. The BEP Alternative would support approximately 15,700 boardings at stations outside of Santa Clara County, for those traveling to Santa Clara County. Increased parking demand at core system stations north of the BEP Alternative would be needed to accommodate these boardings. It is projected that parking for riders of the BEP Alternative who would board at BART stations north of the extension would require approximately 617 spaces in 2030.

### **Financial Considerations**

This section summarizes the capital and operating costs associated with the BEP Alternative. Detailed cost information can be found in Chapter 9, Financial Considerations of this document. Costs are shown in constant 2008 dollars and year of expenditure (YOE) dollars.

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<sup>1</sup> “BART core system improvements” refers to upgrades and improvements to the existing BART system to accommodate the increased passenger loads anticipated within the existing BART facilities as a result of the BEP Alternative



Source: VTA, 2008.

Figure ES-2: BEP Alternative



Capital costs are estimated at \$2.064 billion in 2008 dollars and \$2.533 billion in YOE dollars for the BEP Alternative. These are the costs of improvements proposed for federal funding participation and include vehicles, right-of-way, design, administration, and construction.

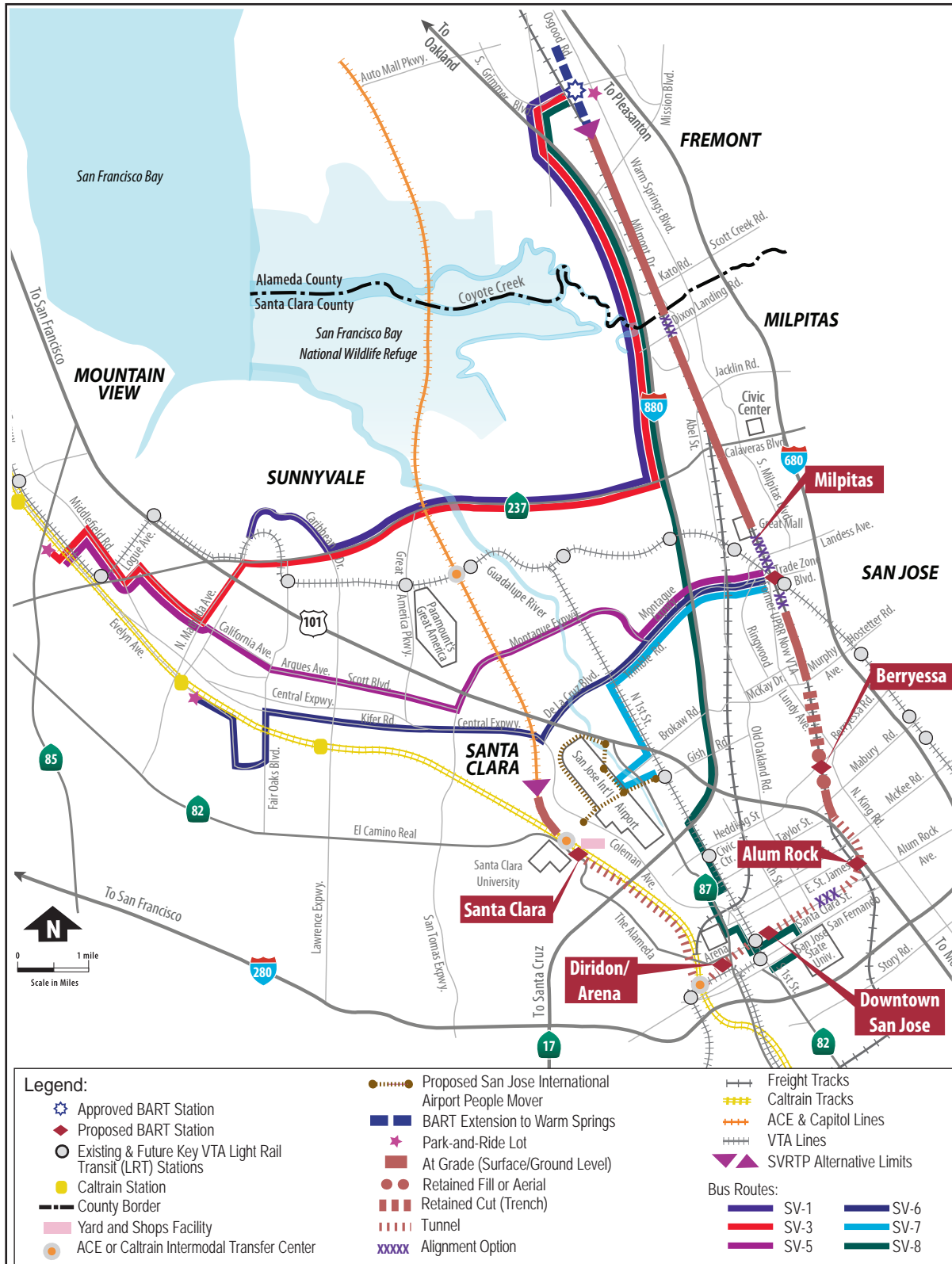
Operating and maintenance costs for the BEP Alternative include both VTA's costs for bus, bus rapid transit (BRT), light rail (LRT) and other assisted services, plus the costs for BART extension service. VTA's non-BART operating costs for the BEP Alternative total \$572.3 million in 2008 dollars and \$1.232 billion in YOE dollars. The net operating costs assume fare and related operating revenues would offset a portion of the operating costs. The net cost of VTA's non-BART service would be \$415.8 million in 2008 dollars and \$941.1 in YOE dollars.

The total incremental operating cost of BART service under the BEP Alternative would be approximately \$83.9 million in 2008 dollars and \$156 million in YOE dollars. BART operating and maintenance costs include the maximum capital reserve contribution, and direct and fixed cost contributions VTA would make annually to BART. The net total annual operating cost for the BEP Alternative would be \$47.2 million in 2008 dollars and \$87.7 in YOE dollars.

## **SVRTP ALTERNATIVE**

The SVRTP Alternative would consist of a 16.1-mile extension of the BART system as shown in Figure ES-3. The alignment would begin at the planned BART Warm Springs Station in Fremont (to be implemented by 2014) and proceed on the former Union Pacific Railroad right-of-way through the City of Milpitas to south of Mabury Road in the City of San Jose. The extension would then descend into a 5.1 mile-long subway tunnel, continue through downtown San Jose, and terminate at grade in the City of Santa Clara near the Caltrain Station. Six stations are proposed: Milpitas, Berryessa, Alum Rock, Downtown San Jose, Diridon/Arena, and Santa Clara. Passenger service for the SVRTP Alternative would start in 2018, assuming funding is available. Ridership is projected to be approximately 98,750 by 2030.

The SVRTP Alternative would consist of the same design features and options as described under the BEP Alternative from the Milpitas/San Jose city lines to Berryessa Road, with two exceptions. First, the parking demand at the Milpitas and Berryessa Stations for the SVRTP Alternative would increase based on additional projected ridership for the alternative. Second, under the SVRTP Alternative, there is no Las Plumas Yard Option.



Source: VTA, 2008.

Figure ES-3: SVRTP Alternative

In addition to those discussed under the BEP Alternative for the first 9.9 miles of the alignment, options under consideration for the SVRTP Alternative include tunnel alignment options near Coyote Creek, station entrance options for the Downtown San Jose station, and optional locations for the ventilation shafts along the tunnel in San Jose.

### **Other Related Facilities**

The SVRTP Alternative in Santa Clara includes a yard and shops facility near the Santa Clara Station along with BART core system improvements. Other ancillary facilities that would be constructed along the SVRTP Alternative include electrical, train control, communications, and subway support equipment.

### **BART Core System Parking Analysis**

The SVRTP Alternative represents an expansion of the BART system and would affect the parking demand and supply balance in the core system. The SVRTP Alternative would support approximately 20,100 boardings at stations outside of Santa Clara County, for those traveling to Santa Clara County. Increased parking demand at core system stations north of the SVRTP Alternative would be needed to accommodate these boardings. It is projected that parking for riders of the SVRTP Alternative who would board at BART stations north of the extension would require approximately 937 spaces in 2030.

### **Financial Considerations**

This section summarizes the capital and operating costs associated with the SVRTP Alternative. Detailed cost information can be found in Chapter 9, Financial Considerations of this document. Costs are shown in constant 2008 dollars and YOE dollars.

Capital costs are estimated at \$5.207 billion in 2008 dollars and \$6.423 billion in YOE dollars for the SVRTP Alternative. These are the costs of improvements proposed for federal funding participation and include vehicles, right-of-way, design, administration, and construction.

Operating and maintenance costs for the SVRTP Alternative include both VTA's costs for bus, bus rapid transit (BRT), light rail (LRT) and other assisted services, plus the costs for BART extension service. VTA's non-BART operating costs for the SVRTP Alternative total \$555.5 million in 2008 dollars and \$1.196 billion in YOE dollars. The net operating costs assume fare and related operating revenues would offset a portion of the operating costs. The net cost of VTA's non-BART service would be \$405.5 million in 2008 dollars and \$916.9 in YOE dollars.

Under the SVRTP Alternative, the total incremental cost of BART service would be approximately \$147.4 million in 2008 dollars and \$273.8 million in YOE dollars. BART operating and maintenance costs include the maximum capital reserve contribution, and direct and fixed cost contributions VTA would make annually to BART. The net operating cost for the SVRTP Alternative would be \$63.2 million in 2008 dollars and \$117.4 million in YOE dollars.

## IMPACTS AND MITIGATIONS FOR THE ALTERNATIVES

Table ES-1 summarizes the substantial, adverse, long-term effects from the alternatives and proposed mitigation. Substantial adverse effects that are short-term, temporary effects which would occur during the construction phase are summarized in Table ES-2. Table ES-2 also lists the mitigation measures for these effects. The criteria for determining adverse effects are provided in each topical section. Tables ES-1 and ES-2 show the substantial effects only. Any environmental effects that would not be substantially adverse are not discussed in the tables.

In addition, the following pre-construction activities will be implemented by VTA before construction of any Build Alternative. The magnitude of this effort would be substantially greater with the SVRTP Alternative than with the BEP Alternative since the SVRTP Alternative includes tunneling and additional stations. One action applies only to the SVRTP Alternative as noted in the list below.

- Undertake detailed geotechnical investigation.
- Prepare Final Design documents and construction contracts.
- Prepare traffic control and detour plans.
- Prepare a Downtown San Jose Construction Impact Mitigation Plan (SVRTP Alternative only).
- Conduct a pre-construction business survey.
- Conduct a community construction information outreach program.
- Acquire necessary property and easements, including temporary construction and long-term underground easements.
- Acquire necessary environmental permits and approvals.
- Procurement of tunnel boring machines.
- Prepare and execute a Programmatic Agreement and a supporting Cultural Resources Treatment Plan for cultural resources.

**Table ES-1: Summary of Impacts and Proposed Mitigation Measures**

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
<p>Transportation and Transit: Transit</p>	<p><u>Impacts:</u> Affects to transit typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine adverse effects and mitigation measures.</p>	<p><u>Impacts:</u> Overall transit ridership in the SVRTC would increase with the BEP Alternative. Some of this growth would be diverted ridership from other transit modes, reducing their growth in 2030.</p> <p><b>Increase in Transit trips in SVRTC.</b> Total transit system ridership, meaning all modes and service providers, would increase by 52,658 riders in the SVRTC on the average weekday in 2030 compared to the No Build Alternative, a 4 percent increase.</p> <p><b>BART System Boardings.</b> The BEP Alternative is expected to serve over 46,000 average daily riders in Santa Clara County in 2030. This number includes new trips on BART as a result of its service to and within Santa Clara County as well as trips diverted to BART from other transit service providers.</p> <p><b>Increase in new Transit Riders.</b> The BEP Alternative would generate 27,135 new linked transit trips, or new transit riders, compared to No Build conditions. New linked trips are diverted from non-transit modes (primarily auto) and represent new riders on BART.</p> <p><b>Non-VTA Transit Ridership.</b> The BEP Alternative would reduce the growth in non-VTA transit (ACE, Caltrain, Capitol Corridor, future Dumbarton Rail)</p>	<p><u>Impacts:</u> Overall transit ridership in the SVRTC would increase with the SVRTP Alternative. Some of this growth would be diverted ridership from other transit modes, reducing their growth in 2030.</p> <p><b>Increase in Transit Trips in SVRTC.</b> Total transit system ridership would increase by 73,027 riders in the SVRTC on the average weekday in 2030 compared to the No Build Alternative, a 6 percent increase.</p> <p><b>BART System Boardings.</b> The SVRTP Alternative is expected to serve over 98,000 average daily riders in Santa Clara County in 2030. This number includes new trips on BART as a result of its service to and within Santa Clara County as well as trips diverted to BART from other transit service providers.</p> <p><b>Increase in new Transit Riders.</b> The SVRTP Alternative would generate 48,597 new linked transit trips, or new transit riders, compared to No Build conditions. New linked trips are diverted from non-transit modes (primarily auto) and represent new riders on BART.</p> <p><b>Non-VTA Transit Ridership.</b> The SVRTP Alternative would reduce the growth in non-VTA transit (ACE, Caltrain, Capitol Corridor, future Dumbarton Rail) ridership in the SVRTC by approximately 18 percent over No Build conditions, with these</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>ridership in the SVRTC by approximately 11 percent over No Build conditions, with these riders diverting to the faster, more convenient BART service. However, non-VTA transit ridership would still grow by approximately 114 percent over 2007 conditions.</p> <p><b>VTA Transit Ridership.</b></p> <p>The BEP Alternative would result in a redistribution of VTA transit ridership. VTA local bus trips would be about 10 percent higher than No Build conditions. SVRTP Alternative express/feeder bus services to BART rail stations would generate over 17,000 average weekday boardings. In contrast, VTA LRT ridership growth would be 3 percent less than forecast under the No-Build Alternative. Overall VTA transit ridership would grow by 6 percent over the 2030 No Build Alternative.</p> <p><b>Conclusion.</b></p> <p>The diversion of riders from other transit services would not be considered adverse because total system boardings increase.</p> <p><u>Mitigation Measures:</u> None required.</p>	<p>riders diverting to the faster, more convenient BART service. However, non-VTA transit ridership would still grow by approximately 95 percent over 2007 conditions.</p> <p><b>VTA Transit Ridership.</b></p> <p>The SVRTP Alternative would result in a redistribution of VTA transit ridership. VTA local bus trips would be about 4 percent higher than No Build conditions. SVRTP Alternative express/feeder bus services to BART rail stations would generate over 19,000 average weekday boardings. In contrast, VTA LRT ridership growth would be 9 percent less than forecast under the No-Build Alternative. Overall VTA transit ridership would grow by 1 percent over the 2030 No Build Alternative.</p> <p><b>Conclusion.</b></p> <p>The diversion of riders from other transit services would not be considered adverse because total system boardings increase.</p> <p><u>Mitigation Measures:</u> None required.</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
<p>Transportation and Transit: Parking</p>	<p><u>Impacts:</u> Effects related to parking typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine adverse effects and mitigation measures.</p>	<p><u>Impacts:</u> No adverse effects anticipated. <u>Mitigation Measures:</u> No mitigation measures are required.</p>	<p><b><u>Diridon/Arena Station</u></b> <u>Impacts:</u> Under unconstrained conditions, the proposed Diridon/Arena Station parking structure would have capacity for 1,300 spaces out of a total 2030 demand of 2,585 spaces. As a result, without mitigation, the lack of sufficient parking capacity to meet 2030 demand would be a substantial adverse effect at this location. However, the following mitigation measure would reduce this effect.  <u>Mitigation Measure TR-1:</u> VTA will make a financial contribution (up to the capital cost allowance) to implement the parking demand management strategies identified in the City of San Jose’s Diridon Station Transit Area Plan to meet opening year and 2030 demand as part of a comprehensive parking management strategy for the specific plan area, or pursue leased parking options at underutilized parking facilities in the area. VTA will monitor parking demand and supply and institute parking demand management strategies as required. With implementation of this mitigation measure, the effect would be reduced to less than adverse.</p>
<p>Transportation and Transit: Pedestrians</p>	<p><u>Impacts:</u> Effects related to pedestrians typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine adverse effects and mitigation measures.</p>	<p><u>Impacts:</u> Pedestrian access would be enhanced. <u>Mitigation Measures:</u> None required.</p>	<p><u>Impacts:</u> Pedestrian access would be enhanced. <u>Mitigation Measures:</u> None required.</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
Transportation and Transit: Bicycles	<p><u>Impacts:</u> Affects to bicyclists typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine adverse effects and mitigation measures.</p>	<p><u>Impacts:</u> Existing bike lanes would not be affected. Bike lanes would be constructed on new streets in station areas. Bike parking would be provided in station campus. Therefore, no adverse effects anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>	<p><u>Impacts:</u> Existing bike lanes would not be affected. Bike lanes would be constructed on new streets in station areas. Bike parking would be provided in station campus. Therefore, no adverse effects anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>
Transportation and Transit: Vehicular Traffic - Freeways	<p><u>Impacts:</u> Affects to freeways typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine adverse effects and mitigation measures.</p>	<p><b><u>Berryessa Station</u></b></p> <p><u>Impacts:</u>                      US 101, Mabury Road to McKee Road, SB/PM peak hour                      US 101, I-280 to Santa Clara Street, NB/AM peak hour                      US 101, Santa Clara Street to I-280, SB/PM peak hour                      US 101, McKee Road to Santa Clara Street, SB/PM peak hour</p> <p><u>Mitigation Measure:</u> The mitigation necessary to reduce adverse affects upon these freeway segments is the widening of the freeway. Due to the substantial cost, this measure is not considered feasible, resulting in a substantial adverse effect to freeways.</p>	<p><b><u>Berryessa Station</u></b></p> <p><u>Impacts:</u>                      US 101, McKee Road to Mabury Road, NB/AM peak hour                      US 101, Mabury Road to McKee Road, SB/PM peak hour</p> <p><u>Mitigation Measure:</u> The mitigation necessary to reduce adverse affects upon these freeway segments is the widening of the freeway. Due to the substantial cost, this measure is not considered feasible, resulting in a substantial adverse effect to freeways.</p> <p><b><u>Alum Rock Station</u></b></p> <p><u>Impacts:</u>                      US 101, Tully Road to Story Road, NB/AM peak hour                      US 101, Story Road to Tully Road, SB/PM peak hour                      US 101, I-280 to Santa Clara Street, NB/AM peak hour                      US 101, Santa Clara Street to I-280, SB/PM peak hour                      US 101, Santa Clara Street to McKee Road,</p>



Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>NB/AM peak hour US 101, McKee Road to Santa Clara Street, SB/PM peak hour US 101, I-280 to Story Road, SB/PM peak hour</p> <p><u>Mitigation Measure:</u> The mitigation necessary to reduce adverse effects upon these freeway segments is the widening of the freeway. Due to the substantial cost, this measure is not considered feasible, resulting in a substantial adverse effect to freeways.</p>
<p>Transportation and Transit: Vehicular Traffic - Intersections</p>	<p><u>Impacts:</u> Affects to vehicular traffic typically associated with transit, facilities, and roadway projects. Intersection level of service can be adversely affected at some locations. Projects would undergo separate environmental review to determine adverse effects and mitigation measures.</p>	<p><b><u>Milpitas Station</u></b> <b>Great Mall Parkway and Montague Expressway* (No Cost Effective Feasible Mitigation)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F during both the AM and PM peak hours under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the AM peak hour under the BEP Alternative conditions. This constitutes an adverse affect by CMP standards.</p> <p><u>Mitigation Measure TR-1:</u> There are no other cost effective feasible improvements that can be made at this intersection beyond those identified under the 2030 No Build Alternative conditions. The necessary improvement to mitigate the BEP Alternative's adverse effect at this intersection would require grade separation</p>	<p><b><u>Milpitas Station</u></b> <b>Great Mall Parkway and Montague Expressway* (No Cost Effective Feasible Mitigation)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F during both the AM and PM peak hours under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and/or an increase in the demand-to-capacity ratio (V/C) of .01 or more during the AM and PM peak hours under the SVRTP Alternative conditions. This constitutes an adverse affect by CMP standards.</p> <p><u>Mitigation Measure TR-2:</u> There are no other cost effective feasible improvements that can be made at this intersection beyond those identified under the 2030 No Build Alternative conditions. The necessary improvement to mitigate the adverse effect</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>of the intersection. It should be noted that the grade separation of this intersection is included in the Valley Transportation Plan 2030 (VTP 2030) project list. However, this improvement was not included as part of the year 2030 roadway network since it was not included in the VTA 2030 (SVRTC) traffic model used for this analysis. Thus, as a conservative approach and in order to analyze the worst case scenario, this improvement was not considered to be implemented by the year 2030. Although the BEP Alternative would adversely affect this intersection, grade separation of this intersection was identified as the needed improvement under 2030 No Build Alternative conditions. Therefore, since the BEP Alternative would contribute to the need for grade separation of the Great Mall/Montague intersection, it will contribute a “fair share” amount toward the implementation of this improvement.</p> <p><b>Milpitas Boulevard and Montague Expressway*</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F during both the AM and PM peak hours under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the PM peak hour under the BEP Alternative conditions. This constitutes an adverse affect by CMP standards.</p>	<p>from the SVRTP Alternative at this intersection would require grade separation of the intersection. It should be noted that the grade separation of this intersection is included in the Valley Transportation Plan 2030 (VTP 2030) project list. However, this improvement was not included as part of the year 2030 roadway network since it was not included in the VTA 2030 (SVRTC) traffic model used for this analysis. Thus, as a conservative approach and in order to analyze the worst case scenario, this improvement was not considered to be implemented by the year 2030. Although the SVRTP Alternative would adversely affect this intersection, grade separation of this intersection was identified as the needed improvement under 2030 No Build Alternative conditions. Therefore, since the SVRTP Alternative would contribute to the need for grade separation of the Great Mall/Montague intersection, it should contribute a “fair share” amount toward the implementation of this improvement.</p> <p><b>I-880 NB ramps and Great Mall Parkway (No Cost Effective Feasible Mitigation)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS E under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the PM peak hour under the SVRTP Alternative conditions. This</p>

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		<p><u>Mitigation Measure TR-2:</u> Possible improvements include a second westbound left-turn lane. Though intersection operations would slightly improve with this improvement, the BEP Alternative's adverse affect to this intersection would not be mitigated. Due to the relatively high projected volumes, there are no feasible at-grade improvements to mitigate adverse effects at this intersection. Because the BEP Alternative would contribute to traffic congestion at this intersection, it will contribute a ‚fair share‘ amount toward the implementation of this traffic improvement. Should a feasible improvement be determined, a ‚fair share‘ contribution will be evaluated at that time.</p> <p><b>Park Victoria Drive and Yosemite Drive</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F during the AM and PM peak hours under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the AM peak hour under the BEP Alternative conditions. This constitutes an adverse affect by City of Milpitas standards.</p> <p><u>Mitigation Measure TR-3:</u> The necessary improvement to mitigate the BEP Alternative's adverse affect to this intersection consists of the addition of a second northbound left-turn lane. The implementation of this improvement would</p>	<p>constitutes an adverse affect by City of Milpitas standards.</p> <p><u>Mitigation Measure TR-3:</u> There are no other cost effective feasible improvements that can be made at this intersection beyond those identified under the 2030 No Build Alternative conditions. The necessary improvement to mitigate the adverse effect from the SVRTP Alternative at this intersection consists of the addition of a third eastbound through lane. However, this improvement would require the widening of the Great Mall Parkway overpass of I-880, which is not feasible. Because the SVRTP Alternative would contribute to traffic congestion at this intersection, it will contribute a ‚fair share‘ amount toward the implementation of this traffic improvement. Should a feasible improvement be determined, a ‚fair share‘ contribution will be evaluated at that time.</p> <p><b>Milpitas Boulevard and Montague Expressway*</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the PM peak hour under the SVRTP Alternative conditions. This constitutes an adverse affect by CMP standards.</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>improve intersection level of service to an acceptable LOS D during the AM peak hour. It should be noted that changes to the signal timing at this location to accommodate future traffic volumes may improve intersection levels of operation without physical improvements.</p> <p><b>Old Oakland/Main Street and Montague Expressway* (No Cost Effective Feasible Mitigation)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F during the AM and PM peak hours under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in the demand-to-capacity ratio (V/C) of .01 or more during the AM peak hour under the BEP Alternative conditions. This constitutes an adverse affect by CMP standards.</p> <p><u>Mitigation Measure TR-4:</u> There are no further feasible improvements beyond the planned Montague widening assumed under No Action conditions that can be implemented to improve intersection levels of service to acceptable levels. The North San Jose Development Plan (NSJDP) identified the impacts to the intersection associated with its development as significant and unavoidable due to the lack of feasible mitigation measures. A traffic impact fee has been implemented as part of the NSJDP, but is only applicable to development within the NSJDP area. Development that impacts intersections within the NSJDP area is required to make a</p>	<p><u>Mitigation Measure TR-4:</u> Possible improvements include a second westbound left-turn lane. Though intersection operations would slightly improve with this improvement, the adverse affects to this intersection would not be mitigated. Due to the relatively high projected volumes, there are no feasible at-grade improvements to mitigate adverse effects at this intersection. Because the SVRTP Alternative would contribute to traffic congestion at this intersection, it will contribute a ‚fair share‘ amount toward the implementation of this traffic improvement. Should a feasible improvement be determined, a ‚fair share‘ contribution will be evaluated at that time.</p> <p><b>Park Victoria Drive and Landess Avenue (No Cost Effective Feasible Mitigation)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS E during the PM peak hour under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the PM peak hour under the SVRTP Alternative conditions. This constitutes an adverse affect by City of Milpitas standards.</p> <p><u>Mitigation Measure TR-5:</u> There are no other cost effective feasible improvements that can be made at this intersection beyond those identified under the 2030 No Build Alternative conditions. The necessary</p>

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		<p>fair-share contribution towards identified improvements.</p> <p>Because the project would contribute to traffic congestion at this intersection, the project will contribute a „fair share‘ amount toward the implementation of the identified traffic improvement under 2030 No Action conditions. Should a feasible improvement be determined, a „fair share‘ contribution will be evaluated at that time.</p> <p><b>Trade Zone Boulevard and Montague Expressway* (No Cost Effective Feasible Mitigation)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F during the AM and PM peak hours under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in the demand-to-capacity ratio (V/C) of .01 or more during the PM peak hour under the BEP Alternative conditions. This constitutes an adverse affect by CMP standards.</p> <p><u>Mitigation Measure TR-5:</u> There are no further feasible improvements beyond the planned Montague widening assumed under No Action conditions that can be implemented to improve intersection levels of service to acceptable levels. The NSJDP identified the impacts to the intersection associated with its development as significant and unavoidable due to the lack of feasible mitigation measures. A traffic impact fee has been implemented as part of</p>	<p>improvement to mitigate the substantial adverse effect at this intersection consists of the addition of a third southbound through lane on Park Victoria Drive or converting the eastbound right-turn lane on Landess Avenue to a free right-turn lane. However, the widening of Park Victoria Drive is not feasible due to ROW constraints. It should be noted that changes to the signal timing at this location to accommodate future traffic volumes may improve intersection levels of operation without physical improvements. Because the SVRTP Alternative would contribute to traffic congestion at this intersection, it will contribute a „fair share‘ amount toward the implementation of this traffic improvement. Should a feasible improvement be determined, a „fair share‘ contribution will be evaluated at that time.</p> <p><b>Park Victoria Drive and Yosemite Drive</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F during the AM peak hour under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the AM peak hour under the SVRTP Alternative conditions. This constitutes an adverse affect by City of Milpitas standards.</p> <p><u>Mitigation Measure TR-6:</u> The necessary improvement to mitigate the substantial adverse effect at this intersection consists of the addition of a second northbound left-turn</p>

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		<p>the NSJDP, but is only applicable to development within the NSJDP area. Development that impacts intersections within the NSJDP area is required to make a fair-share contribution towards identified improvements.</p> <p>Because the project would contribute to traffic congestion at this intersection, the project will contribute a ‚fair share‘ amount toward the implementation of the identified traffic improvement under 2030 No Action conditions. Should a feasible improvement be determined, a ‚fair share‘ contribution will be evaluated at that time.</p> <p><b><u>Berryessa Station</u></b></p> <p><b>Flickinger Avenue and Berryessa Road</b></p> <p><u>Impacts:</u> The level of service would be LOS D and F during the AM and PM peak hours, respectively, under 2030 No Build Alternative with Improvements conditions and the intersection would degrade to an unacceptable LOS E during the AM peak hour and it would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the both the AM and PM peak hours under the BEP Alternative conditions. This constitutes an adverse affect by City of San Jose standards.</p> <p><u>Mitigation Measure TR-6:</u> There are no other feasible improvements that can be made at this intersection beyond those</p>	<p>lane. The implementation of this improvement would improve intersection level of service to an acceptable LOS D during the AM peak hour. It should be noted that changes to the signal timing at this location to accommodate future traffic volumes may improve intersection levels of operation without physical improvements.</p> <p><b>Old Oakland/Main Street and Montague Expressway* (No Cost Effective Feasible Mitigation)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F during both the AM and PM peak hours under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and/or an increase in the demand-to-capacity ratio (V/C) of .01 or more during the AM and PM peak hours under the SVRTP Alternative conditions. This constitutes an adverse affect by CMP standards.</p> <p><u>Mitigation Measure TR-7:</u> There are no further feasible improvements beyond the planned Montague widening assumed under No Action conditions that can be implemented to improve intersection levels of service to acceptable levels. The NSJDP identified the impacts to the intersection associated with its development as significant and unavoidable due to the lack of feasible mitigation measures. A traffic impact fee has been implemented as part of the NSJDP, but is only applicable to</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>described for 2030 No Action conditions to mitigate project impacts. Because the project would contribute to traffic congestion at this intersection, the project will contribute a „fair share‘ amount toward the implementation of the identified traffic improvement under 2030 No Action conditions. Should a feasible improvement be determined, a „fair share‘ contribution will be evaluated at that time.</p> <p><b>Lundy Avenue and Berryessa Road* (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be an acceptable LOS E under 2030 No Build Alternative with Improvements conditions and the intersection would degrade to an unacceptable LOS F during the AM peak hour under the BEP Alternative conditions. This constitutes adverse affect by CMP standards.</p> <p><u>Mitigation Measure TR-7:</u> There are no cost effective feasible improvements that can be made beyond those described for 2030 No Build Alternative conditions to mitigate BEP Alternative’s adverse effects. The necessary improvement to mitigate the BEP Alternative’s adverse effect at this intersection to an acceptable level consists of the addition of a fourth westbound through lane on Berryessa Road. This improvement is not feasible due to ROW constraints. Because the BEP Alternative would contribute to traffic congestion at this intersection, it will contribute a „fair share‘</p>	<p>development within the NSJDP area. Development that impacts intersections within the NSJDP area is required to make a fair-share contribution towards identified improvements.</p> <p>Because the project would contribute to traffic congestion at this intersection, the project will contribute a „fair share‘ amount toward the implementation of the identified traffic improvement under 2030 No Action conditions. Should a feasible improvement be determined, a „fair share‘ contribution will be evaluated at that time.</p> <p><b>Trade Zone Boulevard and Montague Expressway* (No Cost Effective Feasible Mitigation)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in the demand-to-capacity ratio (V/C) of .01 or more during the PM peak hour under the SVRTP Alternative conditions. This constitutes an adverse affect by CMP standards.</p> <p><u>Mitigation Measure TR-8:</u> There are no further feasible improvements beyond the planned Montague widening assumed under No Action conditions that can be implemented to improve intersection levels of service to acceptable levels. The NSJDP identified the impacts to the intersection associated with its development as significant and unavoidable due to the lack of feasible mitigation measures. A traffic</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>amount toward the implementation of this traffic improvement. Should a feasible improvement be determined, a „fair share‘ contribution will be evaluated at that time.</p> <p><b>King Road and Mabury Road</b></p> <p><u>Impacts:</u> The level of service would be an acceptable LOS D under 2030 No Build Alternative with Improvements conditions and the intersection would degrade to an unacceptable LOS E during the PM peak hour under the BEP Alternative conditions. This constitutes an adverse affect by City of San Jose standards.</p> <p><u>Mitigation Measure TR-8:</u> The necessary improvement to mitigate the BEP Alternative’s adverse effect at this intersection to an acceptable level consists of the addition of a second westbound left-turn lane. The implementation of this improvement would improve intersection level of service to an acceptable LOS D.</p> <p><b>US 101 and Julian Street</b></p> <p><u>Impacts:</u> The level of service would be an acceptable LOS D during the PM peak hour under 2030 No Build Alternative with Improvements conditions and the intersection would degrade to an unacceptable LOS E during the PM peak hour under the BEP Alternative conditions. This constitutes an adverse affect by City of San Jose standards.</p>	<p>impact fee has been implemented as part of the NSJDP, but is only applicable to development within the NSJDP area. Development that impacts intersections within the NSJDP area is required to make a fair-share contribution towards identified improvements.</p> <p>Because the project would contribute to traffic congestion at this intersection, the project will contribute a „fair share‘ amount toward the implementation of the identified traffic improvement under 2030 No Action conditions. Should a feasible improvement be determined, a „fair share‘ contribution will be evaluated at that time.</p> <p><b><u>Berryessa Station</u></b></p> <p><b>Flickinger Avenue and Berryessa Road</b></p> <p><u>Impacts:</u> The level of service would be LOS D and F during the AM and PM peak hours, respectively, under 2030 No Build Alternative with Improvements conditions and the intersection would degrade to an unacceptable LOS E during the AM peak hour and would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the AM and PM peak hours under the SVRTP Alternative conditions. This constitutes an adverse affect by City of San Jose standards.</p>



Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p><u>Mitigation Measure TR-9:</u> There are no other feasible improvements that can be made at this intersection beyond those planned as part of the station development. VTA proposes that the intersection be added to the city's list of Protected Intersections and adhere to the Protected Intersection Policy. The LOS policy specifies that Protected Intersections consist of locations that have been built to their planned maximum capacity and where expansion of the intersection would have an adverse effect upon other transportation facilities (such as pedestrian, bicycle, and transit systems). If a development project has significant traffic impacts at a designated Protected Intersection, the project may be approved if offsetting Transportation System Improvements are provided that enhance pedestrian, bicycle and transit facilities to the community near the Protected Intersection. As part of the development of the station, surrounding pedestrian, bicycle and transit facilities will be enhanced to serve the station and surrounding community.</p> <p><b>King Road and McKee Road (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be LOS E during the PM peak hour under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio</p>	<p><u>Mitigation Measure TR-9:</u> There are no other feasible improvements that can be made at this intersection beyond those described for 2030 No Action conditions to mitigate project impacts. Because the project would contribute to traffic congestion at this intersection, the project will contribute a ‚fair share‘ amount toward the implementation of the identified traffic improvement under 2030 No Action conditions. Should a feasible improvement be determined, a ‚fair share‘ contribution will be evaluated at that time.</p> <p><b>Lundy Avenue and Berryessa Road* (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be an acceptable LOS E under 2030 No Build Alternative with Improvements conditions and the intersection would degrade to an unacceptable LOS F during the AM peak hour under the SVRTP Alternative conditions. This constitutes an adverse affect by CMP standards.</p> <p><u>Mitigation Measure TR-10:</u> There are no cost effective feasible improvements that can be made beyond those described for 2030 No Build Alternative conditions to mitigate adverse effects from the SVRTP Alternative. The necessary improvement to mitigate the substantial adverse effect at this intersection to an acceptable level consists of the addition of a fourth westbound through lane on Berryessa Road. This improvement is</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>(V/C) of .01 or more during the PM peak hour under the BEP Alternative conditions. This constitutes an adverse affect by City of San Jose standards.</p> <p><u>Mitigation Measure TR-10:</u> There are no cost effective feasible improvements that can be made beyond those described for 2030 No Build Alternative conditions to mitigate adverse effects from the BEP Alternative. The necessary improvement to mitigate the BEP Alternative's adverse effect at this intersection to an acceptable level consists of the addition of a third westbound through lane. However, this improvement would require the widening of McKee Road, which is not feasible due to ROW constraints. Because the BEP Alternative would contribute to traffic congestion at this intersection, it will contribute a „fair share‘ amount toward the implementation of this traffic improvement. Should a feasible improvement be determined, a „fair share‘ contribution will be evaluated at that time.</p> <p><b>Capitol Avenue and McKee Road (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F during the PM peak hour under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-</p>	<p>not feasible due to ROW constraints. Because the SVRTP Alternative would contribute to traffic congestion at this intersection, it will contribute a „fair share‘ amount toward the implementation of this traffic improvement. Should a feasible improvement be determined, a „fair share‘ contribution will be evaluated at that time.</p> <p><b>King Road and Mabury Road</b></p> <p><u>Impacts:</u> The level of service would be an acceptable LOS D under 2030 No Build Alternative with Improvements conditions and the intersection would degrade to an unacceptable LOS E during both the AM and PM peak hours under the SVRTP Alternative conditions. This constitutes an adverse affect by City of San Jose standards.</p> <p><u>Mitigation Measure TR-11:</u> The necessary improvement to mitigate the substantial adverse effect from the SVRTP Alternative at this intersection to an acceptable level consists of the addition of second eastbound and westbound left-turn lanes. The implementation of this improvement would improve intersection level of service to an acceptable LOS D.</p> <p><b>Alum Rock Station</b></p> <p><b>28<sup>th</sup> Street and Julian Street</b></p> <p><u>Impacts:</u> The level of service would be LOS D during the PM peak hour under 2030 No Build Alternative with Improvements conditions and the intersection would</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>capacity ratio (V/C) of .01 or more during the PM peak hour under the BEP Alternative conditions. This constitutes an adverse affect by City of San Jose standards.</p> <p><u>Mitigation Measure TR-11:</u> As described in the 2030 No Build Alternative conditions chapter, there are no cost effective feasible improvements that can be made at this intersection to mitigate adverse effects from the BEP Alternative. With the newly constructed Capitol LRT line, Capitol Avenue has been upgraded to its extent to allow for the operation of the LRT in its median. Further improvement of the intersection would not be compatible with LRT operations. VTA will comply with the Protected Intersection Policy as required including providing fair-share funding (amount to be negotiated) towards the construction of identified offsetting improvements.</p> <p><b>McLaughlin Avenue and Story Road</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS E during the PM peak hour under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the PM peak hour under the BEP Alternative conditions. This constitutes an adverse affect by City of San Jose standards.</p> <p><u>Mitigation Measure TR-12:</u> Possible improvements include the addition of a</p>	<p>degrade to an unacceptable LOS E during the PM peak hour under the SVRTP Alternative conditions. This constitutes an adverse affect by City of San Jose standards.</p> <p><u>Mitigation Measure TR-12:</u> As part of the station development, the intersection will be re-constructed to include the addition of a second northbound right-turn lane, a second westbound left-turn lane, converting the shared eastbound left-and-through lane to an exclusive left-turn lane, converting the eastbound right-turn lane to a shared right-and-through lane, and providing protected left-turn phasing on the east/west direction. The implementation of these improvements would improve the intersection level of service to an acceptable LOS C.</p> <p><b>US 101 and Julian Street</b></p> <p><u>Impacts:</u> The level of service would be an acceptable LOS D during the PM peak hour under 2030 No Build Alternative with Improvements conditions and the intersection would degrade to an unacceptable LOS F during the PM peak hour under the SVRTP Alternative conditions. This constitutes an adverse affect by City of San Jose standards.</p> <p><u>Mitigation Measure TR-13:</u> There are no other feasible improvements that can be made at this intersection beyond those planned as part of the station development. VTA proposes that the intersection be added to the City's list of Protected Intersections and adhere to the Protected Intersection</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>second northbound left-turn lane. Though adverse effects would be mitigated and intersection level of service would improve with this improvement, the level of service would remain an unacceptable LOS E during the PM peak hour. The necessary improvement to improve intersection level of service to an acceptable level consists of the addition of a third southbound left-turn lane and widening of Story Road from six to eight through lanes. This improvement would require the widening of both McLaughlin Avenue and Story Road, which is infeasible due to ROW constraints.</p> <p><b>King Road and Story Road (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS E under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the AM peak hour under the BEP Alternative conditions. This constitutes an adverse affect by City of San Jose standards.</p> <p><u>Mitigation Measure TR-13:</u> As described in the 2030 No Build Alternative conditions chapter, there are no cost effective feasible improvements that can be made at this intersection to mitigate adverse effects from the BEP Alternative. The necessary improvement to mitigate the BEP</p>	<p>Policy. The LOS policy specifies that Protected Intersections consist of locations that have been built to their planned maximum capacity and where expansion of the intersection would have an adverse effect upon other transportation facilities (such as pedestrian, bicycle, and transit systems). If a development project has significant traffic impacts at a designated Protected Intersection, the project may be approved if offsetting Transportation System Improvements are provided that enhance pedestrian, bicycle and transit facilities to the community near the Protected Intersection. As part of the development of the station, surrounding pedestrian, bicycle and transit facilities will be enhanced to serve the station and surrounding community.</p> <p><b>King Road and McKee Road (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be LOS D and E during the AM and PM peak hours, respectively, under 2030 No Build Alternative with Improvements conditions and the intersection would degrade to an unacceptable LOS E during the AM peak hour and would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the AM and PM peak hours under the SVRTP Alternative conditions. This constitutes an adverse affect by City of San Jose standards.</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>Alternative's effect at this intersection to an acceptable level consists of the widening of King Road from four to six through lanes. The widening of King Road is not feasible due to ROW constraints. Because the BEP Alternative would contribute to traffic congestion at this intersection, it will contribute a „fair share' amount toward the implementation of this traffic improvement. Should a feasible improvement be determined, a „fair share' contribution will be evaluated at that time.</p> <p><b>Capitol Expressway and Capitol Avenue* (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F during the PM peak hour under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the PM peak hour under the BEP Alternative conditions. This constitutes an adverse affect by CMP standards.</p> <p><u>Mitigation Measure TR-14:</u> As described in the 2030 No Build Alternative conditions chapter, there are no cost effective feasible improvements that can be made at this intersection to mitigate adverse effects from the BEP Alternative. With the newly constructed Capitol LRT line, Capitol Avenue has been upgraded to its extent to</p>	<p><u>Mitigation Measure TR-14:</u> There are no cost effective feasible improvements that can be made beyond those described for 2030 No Build Alternative conditions to mitigate the substantial adverse effect. The necessary improvement to mitigate the adverse effect at this intersection to an acceptable level consists of the widening of McKee Road from four to six through lanes. However, this improvement is not feasible due to ROW constraints. Because the SVRTP Alternative would contribute to traffic congestion at this intersection, it will contribute a „fair share' amount toward the implementation of this traffic improvement. Should a feasible improvement be determined, a „fair share' contribution will be evaluated at that time.</p> <p><b>Capitol Avenue and McKee Road (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F during the PM peak hour under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the PM peak hour under the SVRTP Alternative conditions. This constitutes an adverse affect by City of San Jose standards.</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>allow for the operation of the LRT in its median. Further improvement of the intersection would not be compatible with LRT operations. VTA proposes that the intersection be added to the city's list of Protected Intersections and adhere to the Protected Intersection Policy. The LOS policy specifies that Protected Intersections consist of locations that have been built to their planned maximum capacity and where expansion of the intersection would have an adverse effect upon other transportation facilities (such as pedestrian, bicycle, and transit systems). If a project has significant traffic impacts at a designated Protected Intersection, the project should provide offsetting Transportation System Improvements that enhance pedestrian, bicycle and transit facilities to the community near the Protected Intersection. VTA will comply with the Protected Intersection Policy as required including providing fair-share funding (amount to be negotiated) towards the construction of identified offsetting improvements.</p>	<p><u>Mitigation Measure TR-15:</u> As described in the 2030 No Build Alternative conditions chapter, there are no cost effective feasible improvements that can be made at this intersection to mitigate adverse effects from the BEP Alternative. With the newly constructed Capitol LRT line, Capitol Avenue has been upgraded to its extent to allow for the operation of the LRT in its median. Further improvement of the intersection would not be compatible with LRT operations. VTA will comply with the Protected Intersection Policy as required including providing fair-share funding (amount to be negotiated) towards the construction of identified offsetting improvements.</p> <p><b>24<sup>th</sup> Street and Santa Clara Street (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be an acceptable LOS D under 2030 No Build Alternative with Improvements conditions and the intersection would degrade to an unacceptable LOS E during the PM peak hour under the SVRTP Alternative conditions. This constitutes an adverse affect by City of San Jose standards.</p> <p><u>Mitigation Measure TR-16:</u> There are no cost effective feasible improvements that can be made at this intersection to mitigate the substantial adverse effects at this intersection due to the SVRTP Alternative.</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>VTA will comply with the Protected Intersection Policy as required including providing fair-share funding (amount to be negotiated) towards the construction of identified offsetting improvements.</p> <p><b>Capitol Avenue and Alum Rock Avenue* (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be an acceptable LOS E during the PM peak hour under 2030 No Build Alternative with Improvements conditions and the intersection would degrade to an unacceptable LOS F during the PM peak hour under the SVRTP Alternative conditions. This constitutes an adverse affect by CMP standards.</p> <p><u>Mitigation Measure TR-17:</u> There are no cost effective feasible improvements that can be made beyond those described for 2030 No Build Alternative conditions to mitigate the substantial adverse effect at this intersection for the SVRTP Alternative. With the newly constructed Capitol LRT line, Capitol Avenue has been upgraded to its extent to allow for the operation of the LRT in its median. Further improvement of the intersection would not be compatible with LRT operations. VTA proposes that the intersection be added to the City of San Jose's list of Protected Intersections and adhere to the Protected Intersection Policy. The LOS policy specifies that Protected Intersections consist of locations that have</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>been built to their planned maximum capacity and where expansion of the intersection would have an adverse effect upon other transportation facilities (such as pedestrian, bicycle, and transit systems). If the project has significant traffic impacts at a designated Protected Intersection, the project should provide offsetting Transportation System Improvements that enhance pedestrian, bicycle and transit facilities to the community near the Protected Intersection. VTA will comply with the Protected Intersection Policy as required including providing fair-share funding (amount to be negotiated) towards the construction of identified offsetting improvements.</p> <p><b>McLaughlin Avenue and Story Road</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS E during the PM peak hour under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the PM peak hour under the SVRTP Alternative conditions. This constitutes an adverse affect by City of San Jose standards.</p> <p><u>Mitigation Measure TR-18:</u> Possible improvements include the addition of a second northbound left-turn lane. Though intersection operations would improve with this improvement, the adverse effect would</p>



Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>not be mitigated, and the level of service would remain an unacceptable LOS E during the PM peak hour. The necessary improvement to mitigate the substantial adverse effect at this intersection to an acceptable level consists of the addition of a third southbound left-turn lane and widening of Story Road from six to eight through lanes. The magnitude of this improvement would require the widening of both McLaughlin Avenue and Story Road, which is infeasible due to ROW constraints.</p> <p>Because the SVRTP Alternative would contribute to traffic congestion at this intersection, it will contribute a 'fair share' amount toward the implementation of this traffic improvement. Should a feasible improvement be determined, a 'fair share' contribution will be evaluated at that time.</p> <p><b>King Road and Story Road (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS E under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during both the AM and PM peak hours under the SVRTP Alternative conditions. This constitutes an adverse affect by City of San Jose standards.</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p><u>Mitigation Measure TR-19:</u> As described in the 2030 No Build Alternative conditions chapter, there are no cost effective feasible improvements that can be made at this intersection to mitigate the substantial adverse effect. The necessary improvement to mitigate the adverse effect from the SVRTP Alternative at this intersection to an acceptable level consists of the addition of a third southbound through lane on King Road. The widening of King Road is not feasible due to ROW constraints. Because the SVRTP Alternative would contribute to traffic congestion at this intersection, it will contribute a „fair share‘ amount toward the implementation of this traffic improvement. Should a feasible improvement be determined, a „fair share‘ contribution will be evaluated at that time.</p> <p><b>King Road and Mabury Road</b></p> <p><u>Impacts:</u> The level of service would be an acceptable LOS D under 2030 No Build Alternative with Improvements conditions and the intersection would degrade to an unacceptable LOS E during both the AM and PM peak hours under the SVRTP Alternative conditions. This constitutes an adverse affect by City of San Jose standards.</p> <p><u>Mitigation Measure TR-20.</u> The necessary improvement to mitigate the substantial adverse effect from the SVRTP Alternative at this intersection to an acceptable level consists of the addition of second eastbound</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>and westbound left-turn lanes. The implementation of this improvement would improve intersection level of service to an acceptable LOS D.</p> <p><b>Capitol Expressway and Capitol Avenue* (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F during the PM peak hour under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the PM peak hour under the SVRTP Alternative conditions. This constitutes an adverse affect by CMP standards.</p> <p><u>Mitigation Measure TR-21:</u> As described in the 2030 No Build Alternative conditions chapter, there are no cost effective feasible improvements that can be made at this intersection to mitigate substantial adverse effects for the SVRTP Alternative. With the newly constructed Capitol LRT line, Capitol Avenue has been upgraded to its extent to allow for the operation of the LRT in its median. Further improvement of the intersection would not be compatible with LRT operations. VTA proposes that the intersection be added to the city's list of Protected Intersections and adhere to the Protected Intersection Policy. The LOS policy specifies that Protected Intersections</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>consist of locations that have been built to their planned maximum capacity and where expansion of the intersection would have an adverse effect upon other transportation facilities (such as pedestrian, bicycle, and transit systems). If a project has significant traffic impacts at a designated Protected Intersection, the project should provide offsetting Transportation System Improvements that enhance pedestrian, bicycle and transit facilities to the community near the Protected Intersection. VTA will comply with the Protected Intersection Policy as required including providing fair-share funding (amount to be negotiated) towards the construction of identified offsetting improvements.</p> <p><b><u>Diridon/Arena Station</u></b></p> <p><b>The Alameda and Hedding Street* (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be LOS F under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during both the AM and PM peak hours under the SVRTP Alternative conditions. This constitutes an adverse effect by CMP standards.</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p><u>Mitigation Measure TR-22:</u> As described in the 2030 No Build Alternative conditions chapter, there are no cost effective feasible improvements that can be made at this intersection to mitigate the substantial adverse effect for the SVRTP Alternative. VTA will comply with the Protected Intersections Program as required including providing fair-share funding (amount to be negotiated) towards the construction of identified offsetting improvements.</p> <p><b>The Alameda and Taylor Street/Naglee Avenue* (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be LOS F and E during the AM and PM peak hours, respectively, under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the AM peak hour and it would degrade to an unacceptable LOS F during both the AM and PM peak hours under the SVRTP Alternative conditions. This constitutes an adverse effect by CMP standards.</p> <p><u>Mitigation Measure TR-23:</u> There are no cost effective feasible improvements that can be made beyond those described for 2030 No Build Alternative conditions to mitigate the substantial adverse effect. VTA proposes that the intersection be added to the city's list of Protected Intersections and</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>adhere to the Protected Intersection Policy. The LOS policy specifies that Protected Intersections consist of locations that have been built to their planned maximum capacity and where expansion of the intersection would have an adverse effect upon other transportation facilities (such as pedestrian, bicycle, and transit systems). If a development project has significant traffic impacts at a designated Protected Intersection, the project should provide offsetting Transportation System Improvements that enhance pedestrian, bicycle and transit facilities to the community near the Protected Intersection. VTA will comply with the Protected Intersection Policy as required including providing fair-share funding (amount to be negotiated) towards the construction of identified offsetting improvements.</p> <p><b>Notre Dame Street and Santa Clara Street (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be LOS D under 2030 No Build Alternative with Improvements conditions and the intersection would degrade to an unacceptable LOS E during the PM peak hour under the SVRTP Alternative conditions. This constitutes an adverse effect by City of San Jose standards.</p> <p><u>Mitigation Measure TR-24:</u> The study intersection is located within the Greater</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>Downtown Core, which is exempt from the City of San Jose level of service policy. The policy states that the Downtown Core Area is exempted from traffic mitigation requirements. Intersections within and on the boundary of this area are also exempted from the Level of Service “D” Performance Criteria. Since this is a local intersection subject to the local agency’s thresholds, the project would not impact this intersection based upon the Downtown Core LOS Policy.</p> <p><b>Market Street and Santa Clara Street (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS E during the PM peak hour under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the PM peak hour under the SVRTP Alternative conditions. This constitutes an adverse effect by City of San Jose standards.</p> <p><u>Mitigation Measure TR-25:</u> The study intersection is located within the Greater Downtown Core, which is exempt from the City of San Jose level of service policy. The policy states that the Downtown Core Area is exempted from traffic mitigation requirements. Intersections within and on the boundary of this area are also exempted from the Level of Service “D” Performance</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>Criteria. Since this is a local intersection subject to the local agency's thresholds, the project would not impact this intersection based upon the Downtown Core LOS Policy.</p> <p><b>Meridian Avenue and San Carlos Street (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS E and F during the AM and PM peak hours, respectively, under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during both the AM and PM peak hours under the SVRTP Alternative conditions. This constitutes an adverse effect by City of San Jose standards.</p> <p><u>Mitigation Measure TR-26:</u> As described in the 2030 No Build Alternative conditions chapter, there are no cost effective feasible improvements that can be made at this intersection to mitigate the substantial adverse effect. VTA will comply with the Protected Intersections Program as required including providing fair-share funding (amount to be negotiated) towards the construction of identified offsetting improvements.</p>



Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p><b>Lincoln Avenue and San Carlos Street (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F during both the AM and PM peak hours under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during both the AM and PM peak hours under the SVRTP Alternative conditions. This constitutes an adverse effect by City of San Jose standards.</p> <p><u>Mitigation Measure TR-27:</u> There are no cost effective feasible improvements that can be made beyond those described for 2030 No Build Alternative conditions to mitigate the substantial adverse effect at this intersection for the SVRTP Alternative. VTA proposes that the intersection be added to the city's list of Protected Intersections and adhere to the Protected Intersection Policy. The LOS policy specifies that Protected Intersections consist of locations that have been built to their planned maximum capacity and where expansion of the intersection would have an adverse effect upon other transportation facilities (such as pedestrian, bicycle, and transit systems). If a development project has significant traffic impacts at a designated Protected Intersection, the project should provide</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>offsetting Transportation System Improvements that enhance pedestrian, bicycle and transit facilities to the community near the Protected Intersection. VTA will comply with the Protected Intersection Policy as required including providing fair-share funding (amount to be negotiated) towards the construction of identified offsetting improvements.</p> <p><b>Bird Avenue and San Carlos Street* (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F during both the AM and PM peak hours under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during both the AM and PM peak hours under the SVRTP Alternative conditions. This constitutes an adverse effect by CMP standards.</p> <p><u>Mitigation Measure TR-28:</u> As described in the 2030 No Build Alternative conditions chapter, there are no cost effective feasible improvements that can be made at this intersection to mitigate the substantial adverse effect. The necessary improvements to improve intersection operations to acceptable levels consist of the addition of second left-turn lanes in the northbound, eastbound, and westbound</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>approaches. However, these improvements are not feasible due to ROW constraints. VTA will comply with the Protected Intersections Program as required including constructing provisions of bicycle and pedestrian improvements in and around the station area. Because the SVRTP Alternative would contribute to traffic congestion at this intersection, it will contribute a „fair share‘ amount toward the implementation of this traffic improvement. Should a feasible improvement be determined, a „fair share‘ contribution will be evaluated at that time.</p> <p><b>Bird Avenue and I-280 (S)* (No Cost Effective Feasible Mitigation Measures)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F during the PM peak hour under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the PM peak hour under the SVRTP Alternative conditions. This constitutes an adverse effect by CMP standards.</p> <p><u>Mitigation Measure TR-29:</u> As described in the 2030 No Build Alternative conditions chapter, there are no cost effective feasible improvements that can be made at this intersection to mitigate the substantial adverse effect. The necessary improvement to improve intersection operations to</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>acceptable levels consists of the addition of a second southbound left-turn lane along Bird Avenue. However, this improvement is not feasible due to ROW constraints along the bridge structure (Bird Avenue) over I-280. Because the SVRTP Alternative would contribute to traffic congestion at this intersection, it will contribute a ‚fair share‘ amount toward the implementation of this traffic improvement. Should a feasible improvement be determined, a ‚fair share‘ contribution will be evaluated at that time.</p> <p><b><u>Santa Clara Station</u></b></p> <p><b>San Tomas Expressway and El Camino Real* (No Cost Effective Feasible Mitigation)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during both the AM and PM peak hours under the SVRTP Alternative conditions. This constitutes an adverse effect by CMP standards.</p> <p><u>Mitigation Measure TR-30:</u> There are no other cost effective feasible improvements that can be made at this intersection beyond those identified under the 2030 No Build Alternative conditions. The necessary improvement to mitigate the substantial adverse effect at this intersection would</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>require grade separation of the intersection. Because the SVRTP Alternative would contribute to traffic congestion at this intersection, it will contribute a ‚fair share‘ amount toward the implementation of this traffic improvement. Should a feasible improvement be determined, a ‚fair share‘ contribution will be evaluated at that time.</p> <p><b>Coleman Avenue and Brokaw Road</b></p> <p><u>Impacts:</u> The level of service would be an acceptable LOS C under 2030 No Build Alternative with Improvements conditions and the intersection would degrade to an unacceptable LOS F during the PM peak hour under the SVRTP Alternative conditions. This constitutes an adverse effect by City of Santa Clara standards.</p> <p><u>Mitigation Measure TR-31:</u> The necessary improvement to mitigate the substantial adverse effect at this intersection consists of the addition of a second eastbound left-turn lane. The implementation of this improvement would improve intersection level of service to an acceptable LOS D during the PM peak hour.</p> <p><b>De La Cruz Boulevard and Central Expressway* (No Cost Effective Feasible Mitigation)</b></p> <p><u>Impacts:</u> The level of service would be LOS F under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>the demand-to-capacity ratio (V/C) of .01 or more during the AM peak hour and an increase in critical-movement delay of four or more seconds and V/C of .01 or more during both the AM and PM peak hour under the SVRTP Alternative conditions. This constitutes an adverse effect by CMP standards.</p> <p><u>Mitigation Measure TR-32:</u> There are no cost effective feasible improvements that can be made at this intersection beyond those identified under the 2030 No Build Alternative conditions. The necessary improvement to mitigate the substantial adverse effect at this intersection would require grade separation of the intersection. Because the SVRTP Alternative would contribute to traffic congestion at this intersection, it will contribute a ‚fair share‘ amount toward the implementation of this traffic improvement. Should a feasible improvement be determined, a ‚fair share‘ contribution will be evaluated at that time.</p> <p><b>Lincoln Street and El Camino Real* (No Cost Effective Feasible Mitigation)</b></p> <p><u>Impacts:</u> The level of service would be an unacceptable LOS F during the AM peak hour under 2030 No Build Alternative with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more during the AM peak hour under the SVRTP Alternative</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>conditions. This constitutes an adverse effect by CMP standards.</p> <p><u>Mitigation Measure TR-33:</u> There are no other cost effective feasible improvements that can be made at this intersection beyond those identified under the 2030 No Build Alternative conditions. The necessary improvement to mitigate the substantial adverse effect at this intersection consists of the addition of a second northbound left-turn lane. However, the addition of a second northbound left-turn lane is not feasible due to ROW constraints. Because SVRTP Alternative would contribute to traffic congestion at this intersection, it will contribute a „fair share’ amount toward the implementation of this traffic improvement. Should a feasible improvement be determined, a „fair share’ contribution will be evaluated at that time.</p>
Air Quality	<p><u>Impact:</u> Air pollutant and mobile source air toxic effects typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine air quality and global warming effects and mitigation measures.</p>	<p><u>Impacts:</u> Beneficial air quality operational and global warming effects and no adverse effects anticipated.</p> <p>The BEP Alternative is included in the fiscally constrained T2035 program. The fiscally constrained T2035 program is the part of the Regional Transportation Plan (RTP) for which conformity was determined.</p> <p><u>Mitigation Measures:</u> None required.</p>	<p><u>Impacts:</u> Beneficial air quality operational and global warming effects and no adverse effects anticipated.</p> <p>The SVRTP Alternative is included in the fiscally constrained T2035 program. The fiscally constrained T2035 program is the part of the Regional Transportation Plan (RTP) for which conformity was determined.</p> <p><u>Mitigation Measures:</u> None required.</p>
Biological Resources	<p><u>Impacts:</u> The No Build Alternative consists of the existing transit and roadway networks and planned and programmed improvements in the SVRTC. The No Build Alternative projects would likely result in biological effects typically associated with</p>	<p><u>Impacts:</u> Potential adverse effects of up to 1.4 acres of Central Coast cottonwood-sycamore riparian forest along Upper Penitencia Creek could be affected due to the planned design of the Berryessa Station.</p>	<p><u>Impacts:</u> Effects to up to 1.4 acres of Central Coast cottonwood-sycamore riparian forest along Upper Penitencia Creek could occur due to the planned design of the Berryessa Station.</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
	<p>transit facilities and roadway projects. Mitigation for potential adverse effects could include avoidance or replacement of a vegetation community in accordance with a mitigation and monitoring plan approved by the regulating agencies. Projects planned under the No Build Alternative would undergo separate environmental review to determine any potential adverse effects to vegetation communities</p>	<p>Approximately 0.56 acres of seasonal and freshwater emergent wetlands would be affected by the design of the BEP Alternative due to the improvement of drainage in the ROW that would lead to the elimination of seasonal wetlands within the corridor.</p> <p><u>Mitigation Measure BIO-1</u> – Avoidance of Riparian Habitat. VTA will design all project facilities to avoid temporary and permanent adverse effects to riparian habitat to the maximum extent practicable. Central Coast cottonwood-sycamore riparian forest areas identified along Upper Penitencia will be identified and marked with protective orange fencing to avoid disturbance or accidental intrusion by workers or equipment.</p> <p><u>Mitigation Measure BIO-2</u> – Compensation for Adverse Effects to Riparian Habitat. If avoidance is not feasible, adverse effects to the riparian habitat will be mitigated at ratios based on the quality of habitat to be affected. A 2:1 ratio or another ratio would be determined in consultation with CDFG. A detailed riparian restoration plan will be prepared. This plan will provide for the replacement of lost acreage as well as values and functions of riparian habitat, including shaded riverine aquatic cover vegetation, and locations of restoration opportunities, with a technical approach to create high-quality riparian and shaded riverine aquatic cover habitat.</p> <p>Mitigation for adverse effects to riparian habitat will be in-kind, except that non-native species will be replaced with commercially</p>	<p>Approximately 0.56 acres of seasonal and freshwater emergent wetlands would be affected by the design of the SVRTP Alternative due to the improvement of drainage in the ROW that would lead to the elimination of seasonal wetlands within the corridor.</p> <p><u>Mitigation Measure BIO-1</u>: Avoidance of Riparian Habitat. VTA will design all project facilities to avoid temporary and permanent adverse effects to riparian habitat to the maximum extent practicable. Central Coast cottonwood-sycamore riparian forest areas identified along Upper Penitencia will be identified and marked with protective orange fencing to avoid disturbance or accidental intrusion by workers or equipment.</p> <p><u>Mitigation Measure BIO-2</u>: Compensation for Adverse Effects to Riparian Habitat. If avoidance is not feasible, adverse effects to the riparian habitat will be mitigated at ratios based on the quality of habitat to be affected. A 2:1 ratio or another ratio would be determined in consultation with CDFG. A detailed riparian restoration plan will be prepared. This plan will provide for the replacement of lost acreage as well as values and functions of riparian habitat, including shaded riverine aquatic cover vegetation, and locations of restoration opportunities, with a technical approach to create high-quality riparian and shaded riverine aquatic cover habitat.</p> <p>Mitigation for adverse effects to riparian habitat will be in-kind, except that non-native</p>



Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>available native species common to the planting area, and on-site to the maximum extent practicable. If mitigation cannot be accommodated entirely on-site, VTA will coordinate with CDFG to identify other potential riparian mitigation sites within the affected watershed. A qualified biologist, in coordination with resource agency personnel, will prepare a mitigation and monitoring plan for adverse effects to riparian habitat due to the project.</p> <p><u>Mitigation Measure BIO-3: Avoidance of Wetland Habitat.</u> VTA will design all project facilities to avoid temporary and permanent adverse effects to wetlands and waters of the United States to the maximum extent practicable.</p> <p><u>Mitigation Measure BIO-4: Compensation for Adverse Effects to Wetland Habitat.</u> If avoidance is not feasible, VTA will mitigate the permanent loss of wetlands at a minimum 2:1 ratio (replacement area: loss area) and the temporary loss of wetlands at a minimum 1:1 ratio, or at higher ratios determined in consultation with resource agency personnel. Permanent and temporary adverse effects to waters of the U.S. will be mitigated at minimum 1:1 ratio, or at a higher ratio determined in consultation with resource agency personnel. Mitigation ratios will be agreed upon with appropriate resource agencies prior to certification of the Final EIS. Mitigation will be on-site and in-kind to the maximum extent practicable. If mitigation cannot be accommodated entirely on-site,</p>	<p>species will be replaced with commercially available native species common to the planting area, and on-site to the maximum extent practicable. If mitigation cannot be accommodated entirely on-site, VTA will coordinate with CDFG to identify other potential riparian mitigation sites within the affected watershed. A qualified biologist, in coordination with resource agency personnel, will prepare a mitigation and monitoring plan for adverse effects to riparian habitat due to the project.</p> <p><u>Mitigation Measure BIO-3: Avoidance of Wetland Habitat.</u> VTA will design all project facilities to avoid temporary and permanent adverse effects to wetlands and waters of the United States to the maximum extent practicable.</p> <p><u>Mitigation Measure BIO-4: Compensation for Adverse Effects to Wetland Habitat.</u> If avoidance is not feasible, VTA will mitigate the permanent loss of wetlands at a minimum 2:1 ratio (replacement area: loss area) and the temporary loss of wetlands at a minimum 1:1 ratio, or at higher ratios determined in consultation with resource agency personnel. Permanent and temporary adverse effects to waters of the U.S. will be mitigated at minimum 1:1 ratio, or at a higher ratio determined in consultation with resource agency personnel. Mitigation ratios will be agreed upon with appropriate resource agencies prior to certification of the Final EIS. Mitigation will be on-site and in-kind to the maximum extent practicable. If mitigation</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>VTA will investigate other mitigation opportunities in coordination with resource agency personnel within the affected watershed, if possible. In anticipation of this, VTA is currently in discussions with the RWQCB and the City of Milpitas to develop a mitigation site on Wrigley Creek, which includes redesigning the linear channel to include meanders and more natural features.</p> <p>A qualified biologist, in coordination with resource agency personnel, will prepare a mitigation and monitoring plan for adverse effects to wetlands and waters of the U.S. due to the project. This plan will comply with the March 2008 Compensatory Mitigation Rule published by EPA and the ACOE and will include objectives; site selection criteria; site protection instruments (e.g., conservation easements); baseline information (for impact and compensation sites); credit determination methodology; a mitigation work plan; a maintenance plan; ecological performance standards; monitoring requirements; a long-term management plan; an adaptive management plan; and financial assurances.</p> <p>Effects would not be substantial with mitigation incorporated.</p>	<p>cannot be accommodated entirely on-site, VTA will investigate other mitigation opportunities in coordination with resource agency personnel within the affected watershed, if possible. In anticipation of this, VTA is currently in discussions with the RWQCB and the City of Milpitas to develop a mitigation site on Wrigley Creek, which includes redesigning the linear channel to include meanders and more natural features.</p> <p>A qualified biologist, in coordination with resource agency personnel, will prepare a mitigation and monitoring plan for adverse effects to wetlands and waters of the U.S. due to the project. This plan will comply with the March 2008 Compensatory Mitigation Rule published by EPA and the ACOE and will include objectives; site selection criteria; site protection instruments (e.g., conservation easements); baseline information (for impact and compensation sites); credit determination methodology; a mitigation work plan; a maintenance plan; ecological performance standards; monitoring requirements; a long-term management plan; an adaptive management plan; and financial assurances.</p> <p>Effects would not be substantial with mitigation incorporated.</p>
Community Services and Facilities	<p><u>Impacts:</u> Changes to access of community facilities, effects to community facilities and effects to police and fire service ratios typically associated with transit, facilities and roadway projects. Projects would undergo separate environmental review to determine</p>	<p><u>Impacts:</u> No substantial adverse effects are anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>	<p><u>Impacts:</u> No substantial adverse effects are anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
	community services and facilities effects and mitigation measures.		
Cultural and Historical Resources	<p><u>Impacts:</u> Cultural resources effects typically associated with transit projects in a culturally rich and diverse area.</p> <p>Where historic archaeological and architectural properties are adversely affected, mitigation could include but not be limited to avoidance, protection, data recovery, and public education.</p>	<p><b><u>Archaeological Resources</u></b>  <u>Impacts:</u> Given the findings of the archaeological inventory and sensitivity assessment, it is likely that resources that qualify as historic archaeological properties would be identified during the implementation of the BEP Alternative. Pre-testing at this time is problematic in developed areas and is not feasible at places where facilities now stand that would need to be removed or demolished.</p> <p>Therefore, although the confirmation of the existence of archaeological resources and the evaluation of their significance are not possible at this time, due to the scale of the BEP Alternative and the sensitivity of the corridor for archaeological resources, it is reasonable to conclude that the BEP Alternative would have adverse effects on historic archaeological properties.</p> <p><u>Mitigation Measure CUL-1:</u> A Programmatic Agreement (PA) was developed and executed by VTA, FTA, and SHPO on March 25, 2010. The PA is supported by a Cultural Resources Treatment Plan (CRTP) which was developed and will be implemented by VTA in consultation with the appropriate government and historic preservation bodies, and Native American community.</p> <p>The CRTP specifies the NRHP criteria that will be applicable, the procedures to be used to implement the Section 106 process in the</p>	<p><b><u>Archaeological Resources</u></b>  <u>Impacts:</u> Given the findings of the archaeological inventory and sensitivity assessment, it is likely that resources that qualify as historic archaeological properties would be identified during the implementation of the SVRTP Alternative. Pre-testing at this time is problematic in developed areas and is not feasible at places where facilities now stand that would need to be removed or demolished.</p> <p>Therefore, although the confirmation of the existence of archaeological resources and the evaluation of their significance are not possible at this time, due to the scale of the SVRTP Alternative and the sensitivity of the corridor for archaeological resources, it is reasonable to conclude that the SVRTP Alternative would have adverse effects on historic archaeological properties.</p> <p><u>Mitigation Measure CUL-1:</u> The mitigation measure for the SVRTP Alternative is to prepare a PA and CRTP similar to that which has been prepared for the BEP Alternative. The Final PA and CRTP in Appendix F apply to the BEP Alternative only. The SVRTP Alternative would be subject to a separate PA and CRTP.</p> <p>The CRTP will specify the NRHP criteria that will be applicable, the procedures to be used to implement the Section 106 process in the field, and the standards of evaluation that will</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>field, and the standards of evaluation that will be appropriate given the locations and kinds of cultural properties predicted. The CRTP also presents methods that combine pre-testing where possible (i.e., on open lots or undeveloped lands); testing after demolition of extant structures but before new ground-disturbing construction begins; construction-phase monitoring where appropriate; and standards for data recovery. In any event, areas within the APE where potential resources have been identified, or that are designated as highly or moderately sensitive, will be field investigated, concentrating on, but not confined to, the area of direct effect. The CRTP meets <i>The Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation</i> (U.S. Department of the Interior, National Park Service, 1983, as amended and annotated).</p> <p>Appropriate testing or mitigation measures may include the following:</p> <ul style="list-style-type: none"> <li>▪ Conducting controlled subsurface excavations at prehistoric or historic archaeological resources;</li> <li>▪ Conducting subsurface exploratory trenching in large construction-element areas within highly and moderately sensitive zones to determine the presence of buried deposits;</li> <li>▪ Undertaking detailed and focused archival research of particular historic archaeological resources;</li> </ul>	<p>be appropriate given the locations and kinds of cultural properties predicted. The CRTP will also present methods that combine pre-testing where possible (i.e., on open lots or undeveloped lands); testing after demolition of extant structures but before new ground-disturbing construction begins; construction-phase monitoring where appropriate; and standards for data recovery. In any event, areas within the APE where potential resources have been identified, or that are designated as highly or moderately sensitive, will be field investigated, concentrating on, but not confined to, the area of direct effect. The CRTP will meet <i>The Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation</i> (U.S. Department of the Interior, National Park Service, 1983, as amended and annotated).</p> <p>Appropriate testing or mitigation measures may include the following:</p> <ul style="list-style-type: none"> <li>▪ Conducting controlled subsurface excavations at prehistoric or historic archaeological resources;</li> <li>▪ Conducting subsurface exploratory trenching in large construction-element areas within highly and moderately sensitive zones to determine the presence of buried deposits;</li> <li>▪ Undertaking detailed and focused archival research of particular historic archaeological resources;</li> <li>▪ Protecting sites or portions of sites from</li> </ul>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<ul style="list-style-type: none"> <li>▪ Protecting sites or portions of sites from intrusion where practical and feasible, to minimize adverse effects;</li> <li>▪ Conducting on-site monitoring during surface-disturbing construction activities;</li> <li>▪ Following procedures established in the CRTP when human remains are encountered;</li> <li>▪ Completing detailed analyses of artifacts and organic remains consistent with the parameters detailed in the CRTP;</li> <li>▪ Preparing and distributing reports and results of the technical studies, as detailed in the CRTP;</li> <li>▪ Providing for the curation of archaeological materials recovered from project sites;</li> <li>▪ Adhering to the procedures detailed in the CRTP regarding how interested parties will be invited to participate; and</li> <li>▪ Providing for a public interpretation component in the technical archaeological studies.</li> </ul> <p>The details and requirements for each mitigation measure are set forth in the PA. The Final PA is provided in Appendix F.</p> <p><b><u>Historic Architectural Resources</u></b></p> <p><u>Impacts:</u> There are no historic architectural resources that would be affected by the BEP Alternative.</p>	<p>intrusion where practical and feasible, to minimize adverse effects;</p> <ul style="list-style-type: none"> <li>▪ Conducting on-site monitoring during surface-disturbing construction activities;</li> <li>▪ Following procedures established in the CRTP when human remains are encountered;</li> <li>▪ Completing detailed analyses of artifacts and organic remains consistent with the parameters detailed in the CRTP;</li> <li>▪ Preparing and distributing reports and results of the technical studies, as detailed in the CRTP;</li> <li>▪ Providing for the curation of archaeological materials recovered from project sites;</li> <li>▪ Adhering to the procedures detailed in the CRTP regarding how interested parties will be invited to participate; and</li> <li>▪ Providing for a public interpretation component in the technical archaeological studies.</li> </ul> <p>The details and requirements for each mitigation measure will be set forth in the PA.</p> <p><b><u>Historic Architectural Resources</u></b></p> <p><u>Impacts:</u> Implementation of the SVRTP Alternative would have an adverse effect on two of the 26 historic properties identified within the APE, the San Jose Downtown Commercial Historic District (historic District) and the historic Santa Clara Caltrain Station</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p><u>Mitigation Measures:</u> None required.</p>	<p>(historic Station). The historic District will be affected by the station entrance options for the Downtown San Jose Station. Depending on which station entrance option is selected, up to four contributing buildings within the historic District will be altered. The historic Station will be affected by the pedestrian overcrossing at the Santa Clara Station which would alter the relationship and linkage between the structures at the historic Station.</p> <p><u>Mitigation Measure CUL-2:</u> If adverse effects cannot be avoided, the features of the SVRTP Alternative that affect historical resources will be designed to be compatible with the historic and architectural qualities of the affected historic building(s) and surrounding historic district in terms of scale, massing, color, and materials. Designs and specifications for these project features shall be developed in accordance with <i>The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring &amp; Reconstructing Historic Buildings</i> (U.S. Department of the Interior, National Park Service, 1995), <i>Rehabilitation and Illustrated guidelines for Rehabilitating Historic Buildings</i> (U.S. Department of the Interior, National Park Service, 1992), the California Historical Building Code or to equivalent mitigation measures that will ensure that the alterations do not radically change, obscure, or destroy character-defining spaces, materials, features, or finishes.</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>VTA will execute a Programmatic Agreement (PA) with the appropriate government and historic preservation bodies to ensure the most effective approach to mitigation of effects to historical resources. The measures to be included in the PA are described below.</p> <p><b>Design Standards and Guidelines.</b> The features of the SVRTP Alternative affecting the contributing element(s) of the San Jose Downtown Commercial Historic District will be designed in accordance with <i>The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring &amp; Reconstructing Historic Buildings</i> (Secretary of the Interior's Standards) or to equivalent mitigation measures that will provide an equivalent level or protection for historical resources. The relocation of the Tower and Sheds will also be designed in accordance with the Secretary of the Interior's Standards to maintain the relationship and physical linkage between the Depot, Tower, and Sheds.</p> <p><b>Protective Measures.</b> VTA, in consultation with the owners of historic properties immediately adjoining the construction sites and with the City of Santa Clara Historical and Landmarks Commission and South Bay Historical Railroad Society (SBHRS), will develop and implement measures to protect the contributing elements of the historic District and historic Station from damage by</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>any aspect of the undertaking. Such measures will include, but are not necessarily limited to, a pre-construction structural survey and/or photo-documentation to determine the integrity of existing historic/non-historic buildings within and adjacent to the SVRTP Alternative. This survey would be used to finalize detailed construction techniques along the alignment and as the baseline for monitoring adverse construction effects during and following construction. During construction, VTA would monitor adjacent buildings for movement and, if movement is detected, take immediate action to control the movement.</p> <p><b>Recordation.</b> VTA will ensure that the buildings to be relocated or altered are recorded to Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) standards prior to any construction activities. Recordation of the adversely affected historic buildings is recommended to ensure a permanent record of the properties' present appearance and context. The HABS/HAER documentation will be filed with the SHPO and the HABS/HAER collection in the Library of Congress, the National Park Service, and copies provided to local historical agencies.</p> <p><b>Interpretive Display, Museum Exhibit, and/or Historic Image Reproduction.</b> VTA staff will develop displays of photographs produced in the HABS/HAER documentation, for public exhibition. Given that the affected properties are contributing</p>



Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>to the historic District and historic Station, these displays could be provided by VTA at locations within the historic District and at the historic Station. VTA could also offer the display as permanent exhibits to local historical groups. VTA could provide, if extant, copies of existing historic photographs and/or historic documentary footage that includes information about the construction and operation of the adversely affected historic properties. Copies could be provided to City of San Jose, Preservation Action Council of San Jose, City of Santa Clara, South Bay Historical Railroad Society, and other interested historical groups.</p> <p>These and other potentially feasible measures to mitigate substantial adverse changes in the significance of historic resources will be identified in consultation with the appropriate governmental and historic preservation bodies and will be set forth in the PA. The PA will ensure that any measures to mitigate or avoid adverse effects are fully enforceable.</p>
Electromagnetic Fields (EMF)	<p><u>Impacts:</u> No adverse effect anticipated. However, projects would undergo separate environmental review to determine EMF effects and mitigation measures.</p>	<p><u>Impacts:</u> No adverse effects are anticipated. <u>Mitigation Measures:</u> None required.</p>	<p><u>Impacts:</u> No adverse effects are anticipated. <u>Mitigation Measures:</u> None required.</p>
Energy	<p><u>Impacts:</u> Vehicle miles traveled is the greatest for the No Build Alternative and thus has the greatest energy use of the alternatives.</p> <p>Transportation modes in 2030 under the No Build Alternative would not change substantially compared to existing</p>	<p><u>Impacts:</u> Beneficial effect on overall energy use by reducing vehicle miles traveled and generating a relatively small increase in total electricity demand. The BEP Alternative is estimated to require approximately 240 billion fewer BTUs per year in direct energy and approximately 180 billion fewer BTUs in</p>	<p><u>Impacts:</u> Beneficial effect on overall energy use by reducing vehicle miles traveled and generating a relatively small increase in total electricity demand. The SRVTP Alternative is estimated to require approximately 500 billion fewer BTUs per year in direct energy and approximately 400 billion fewer BTUs in</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
	<p>conditions. However, projects planned under the No Build Alternative would undergo separate environmental review to define energy impacts and to determine appropriate mitigation measures.</p>	<p>total energy to operate than the No Build Alternative.</p> <p>Depending on how much the transmission system is improved prior to operation of the alternative, the increased demand to the electrical transmission grid could have a potential effect during peak periods. Because no mitigation is available to reduce this impact to a negligible level, it is considered adverse.</p> <p><u>Mitigation Measures:</u> None feasible.</p>	<p>total energy to operate than the No Build Alternative. This is the least energy intensive alternative.</p> <p>Depending on how much the transmission system is improved prior to operation of the alternative, the increased demand to the electrical transmission grid could have a potential effect during peak periods.</p> <p>Because no mitigation is available to reduce this effect to a negligible level, it is considered adverse.</p> <p><u>Mitigation Measures:</u> None feasible.</p>
<p>Geology and Seismicity</p>	<p><u>Impacts:</u> Geologic and seismic effects typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine geologic effects and mitigation measures.</p>	<p><u>Impacts:</u> No adverse effects anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>	<p><u>Impacts:</u> No adverse effects anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>
<p>Hazardous Materials</p>	<p><u>Impacts:</u> Hazardous materials exposure during construction and operation typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine the potential for exposure to hazardous materials effects and mitigation measures.</p>	<p><u>Impacts:</u> The potential for human exposure to existing contaminated soil would occur mainly during maintenance procedures, including dewatering of the tracks inside tunnel and retained cut segments. Severity of effects would be small because of the infrequent nature of subsurface maintenance would result in contact with much smaller volumes of contaminated soil.</p> <p>Adverse operational effects related to soil and ballast reuse are not anticipated.</p> <p>During dewatering or in the tunnels and retained cuts despite dewatering, contaminated groundwater could affect the health of maintenance workers.</p>	<p><u>Impacts:</u> The potential for human exposure to existing contaminated soil would occur mainly during maintenance procedures, including dewatering of the tracks inside tunnel and retained cut segments. Severity of effects would be small because of the infrequent nature of subsurface maintenance would result in contact with much smaller volumes of contaminated soil.</p> <p>Adverse operational effects related to soil and ballast reuse are not anticipated.</p> <p>During dewatering or in the tunnels and retained cuts despite dewatering, contaminated groundwater could affect the health of maintenance workers.</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>During operational dewatering, contaminated water could spread to other areas of the environment.</p> <p>Potential to increase human exposure to contaminated groundwater.</p> <p>Net effect to surface water quality is expected to be beneficial.</p> <p>Adverse effects to human health from accidental improper use, storage, or disposal of hazardous materials are not anticipated.</p> <p><u>Mitigation Measure HM-1:</u> Additional site-specific information will be collected and documented regarding hazardous materials use and hazardous waste generation for properties that would be acquired for ROW or support facilities for the BEP and SVRTP alternatives. Collection of information will include visual inspections of properties or portions of properties that were inaccessible during preparation of this environmental document. Regulatory agency files will be reviewed for these properties to confirm whether soil has been affected by any reported releases and/or whether the sites are within an area where excavation will occur during construction.</p> <p><u>Mitigation Measure HM-2:</u> A Phase Two site investigation will be completed for properties that would be acquired for ROW or support facilities for the BEP and SVRTP alternatives in areas where soil contamination is documented, where soil contamination is nearby, or where current information regarding the extent of soil</p>	<p>During operational dewatering, contaminated water could spread to other areas of the environment.</p> <p>Potential to increase human exposure to contaminated groundwater.</p> <p>Net effect to surface water quality is expected to be beneficial.</p> <p>Adverse effects to human health from accidental improper use, storage, or disposal of hazardous materials are not anticipated.</p> <p><u>Mitigation Measure HM-1:</u> Additional site-specific information will be collected and documented regarding hazardous materials use and hazardous waste generation for properties that would be acquired for ROW or support facilities for the BEP and SVRTP alternatives. Collection of information will include visual inspections of properties or portions of properties that were inaccessible during preparation of this environmental document. Regulatory agency files will be reviewed for these properties to confirm whether soil has been affected by any reported releases and/or whether the sites are within an area where excavation will occur during construction.</p> <p><u>Mitigation Measure HM-2:</u> A Phase Two site investigation will be completed for properties that would be acquired for ROW or support facilities for the BEP and SVRTP alternatives in areas where soil contamination is documented, where soil contamination is nearby, or where current information regarding the extent of soil contamination is inconclusive. A Site Sampling Plan will be</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>contamination is inconclusive. A Site Sampling Plan will be developed and implemented prior to any investigation. The plan will include a description of the work to be performed, the laboratory analytical methods to be used, and any specific requirements and quality control information.</p> <p><u>Mitigation Measure HM-3:</u> Additional site-specific information will be collected and documented regarding hazardous materials use and hazardous waste generation for properties that would be acquired for ROW or support facilities for the BEP and SVRTP alternatives. Regulatory agency files will be reviewed for these properties to confirm whether groundwater has been affected by any reported releases and/or whether the sites are within an area where excavation during construction would encounter groundwater.</p> <p><u>Mitigation Measure HM-4:</u> A Phase Two site investigation will be completed for properties that would be acquired for ROW or support facilities for the BEP and SVRTP alternatives in areas where groundwater contamination is documented, where groundwater contamination is nearby, or where current information regarding the extent of groundwater contamination is inconclusive. A Site Sampling Plan will be developed and implemented prior to any investigation. The plan will include a description of the work to be performed, the laboratory analytical methods to be used, and any specific requirements and quality control information.</p>	<p>developed and implemented prior to any investigation. The plan will include a description of the work to be performed, the laboratory analytical methods to be used, and any specific requirements and quality control information.</p> <p><u>Mitigation Measure HM-3:</u> Additional site-specific information will be collected and documented regarding hazardous materials use and hazardous waste generation for properties that would be acquired for ROW or support facilities for the BEP and SVRTP alternatives. Regulatory agency files will be reviewed for these properties to confirm whether groundwater has been affected by any reported releases and/or whether the sites are within an area where excavation during construction would encounter groundwater.</p> <p><u>Mitigation Measure HM-4:</u> A Phase Two site investigation will be completed for properties that would be acquired for ROW or support facilities for the BEP and SVRTP alternatives in areas where groundwater contamination is documented, where groundwater contamination is nearby, or where current information regarding the extent of groundwater contamination is inconclusive. A Site Sampling Plan will be developed and implemented prior to any investigation. The plan will include a description of the work to be performed, the laboratory analytical methods to be used, and any specific requirements and quality control information.</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
Land Use	<p><u>Impacts:</u> Not anticipated to adversely affect residents' connectivity to each other or to current facilities, adversely change the physical environment or affect surrounding land uses.</p> <p>Land use effects typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine effects and mitigation measures.</p>	<p><u>Impacts:</u> No adverse effects anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>	<p><u>Impacts:</u> No adverse effects anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>
Noise and Vibration	<p><u>Impacts:</u> Noise and vibration impacts typically associated with transit, facilities, and roadway projects.</p> <p>Projects would undergo their own environmental review to define noise and vibration impacts and mitigation measures.</p> <p>Where state and federal criteria are exceeded, mitigation measures could include sound barriers, noise insulation, trackway vibration dampening techniques, and construction restriction (including limiting the hours of certain activities like pile driving) among other measures.</p>	<p><u>Impacts:</u></p> <p><b>Noise</b></p> <p>Number of Severe Impacts to sensitive receptors would be 140-152 ground floor residential units before mitigation.</p> <p>A total of approximately 425 residences (including single-family and individual units in multi-family) on or with a second floor or higher in 281 buildings would remain exposed to noise in excess of FTA Criteria for a Severe Impact with sound wall mitigation.</p> <p>The number of Moderate Impacts to sensitive receptors would be 134 residences before mitigation.</p> <p>Several noise sources associated with typical BART stations, electrical facilities, crossover tracks, and Las Plumas Yard Option that have the potential to be intrusive to the adjacent communities would be below FTA noise criteria with noise mitigation measures.</p> <p>The noise impacts and mitigation measures of the BEP Alternative alignment are</p>	<p><u>Impacts:</u></p> <p><b>Noise</b></p> <p>Number of Severe Impacts to sensitive receptors would be 146-168 ground floor residential units before mitigation.</p> <p>A total of approximately 425 residences (including single-family and individual units in multi-family) on or with a second floor or higher in 281 buildings would remain exposed to noise in excess of FTA Criteria for a Severe Impact with sound wall mitigation.</p> <p>The number of Moderate Impacts to sensitive receptors would be 134 residences before mitigation. Several noise sources associated with typical BART stations, electrical facilities, crossover tracks, and Las Plumas Yard Option that have the potential to be intrusive to the adjacent communities would be below FTA noise criteria with noise mitigation measures.</p> <p>The noise impacts and mitigation measures of the first 9.9 miles of the SVRTP Alternative alignment are summarized in</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>summarized in Table 5.10-3 to 5.10-5 (Section 5.10, Noise and Vibration).</p> <p><b>Vibration</b></p> <p>Table 5.10-10 (Section 5.10, Noise and Vibration) summarizes impacts from ground-borne vibration associated with this alternative. A total of 157 to 172 single family residences and 36 to 40 multi family buildings with 150 to 171 residences would be impacted without mitigation along the alignment. Near the Kato Crossover, 29 residences would be impacted without mitigation and along the retained cut alignment options, 32 multifamily residences in 4 buildings would be impacted regardless of the option selected. The Dixon Landing At Grade Option impacts 60 residences as compared to 24 residences impacted with the Dixon Landing Retained Cut Option. After mitigation, no residences would exceed the FTA criteria.</p> <p><u>Mitigation Measures:</u></p> <p><b>Noise</b></p> <p>As shown in Table 5.10-4, (Section 5.10, Noise and Vibration) all severe ground level noise impacts from the BEP Alternative can be mitigated below the applicable FTA thresholds. All moderate ground level noise impacts can be mitigated below the applicable FTA thresholds except for 58 residences, most of which have existing soundwalls that contribute to noise reduction. In addition to those included in</p>	<p>Tables 5.10-4, 5.10-5, and 5.10-9 (Section 5.10, Noise and Vibration).</p> <p>There are no other noise impacts south of the BEP Alternative.</p> <p><b>Vibration</b></p> <p>Tables 5.10-10 and 5.10-12 (Section 5.10, Noise and Vibration) summarizes some of the impacts from ground-borne vibration associated with this alternative. A total of 157 to 172 single family residences and 36 to 40 multi family buildings with 150 to 171 residences would be impacted without mitigation along the alignment. Near the Kato Crossover, 29 residences would be impacted without mitigation and along the retained cut alignment options, 32 multifamily residences in 4 buildings would be impacted regardless of the option selected. The Dixon Landing At Grade Option impacts 60 residences as compared to 24 residences impacted with the Dixon Landing Retained Cut Option. After mitigation, no residences would exceed FTA criteria.</p> <p>In addition, 84 residences and other sensitive uses would be impacted by ground-borne vibration south of the BEP Alternative as shown in Table 5.10-12 (Section 5.10, Noise and Vibration).</p> <p><u>Mitigation Measures:</u></p> <p><b>Noise</b></p> <p>As shown in Table 5.10-4, (Section 5.10, Noise and Vibration) all severe ground level noise impacts from the BEP Alternative can</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>the table, a 12-foot high sound wall will be designed at The Crossings at Montague apartments, electrical facilities South of Trade Zone Boulevard may need a sound barrier of no more than 8 feet depending on Final Design, and a 10 foot sound wall would be constructed at Las Plumas Yard Option.</p> <p><u>Mitigation Measure NV-1:</u> Sound walls shall be installed to mitigate noise levels near residences impacted. Table 5.10-6 (Section 5.10, Noise and Vibration) indicates the location of recommended sound walls. Approximately 12,500 linear feet of soundwalls would be needed, with each sound wall ranging in length from 250 to 1,730 feet. Typically, the location of the sound wall is either 10 feet or 13 feet from the track centerline, depending upon the track profile. Ten feet is for the retained open cut track and the aerial guideway, and 13 feet for the at-grade and embankment tracks. In areas where a sound wall is recommended on both sides of the alignment, absorptive sound walls are the recommended noise mitigation. The locations of the sound walls are depicted in Figures 5.10-3a through 5.10-3o.</p> <p>The BEP Alternative includes an 8-foot high community wall along residential areas to the east. This community wall would reduce Severe Impacts to a Moderate or less Impact for the North Option except for the portion between Berryessa Road and the residential area to the north of Salamani Court. An 8-foot high noise barrier would need to continue northward along the future</p>	<p>be mitigated below the applicable FTA thresholds. All moderate ground level noise impacts can be mitigated below the applicable FTA thresholds except for 58 residences, most of which have existing soundwalls that contribute to noise reduction. In addition to those included in the table, a 12-foot high sound wall will be designed at The Crossings at Montague apartments, electrical facilities South of Trade Zone Boulevard may need a sound barrier of no more than 8 feet depending on Final Design, and a 10 foot sound wall would be constructed at Las Plumas Yard Option.</p> <p><u>Mitigation Measure NV-1:</u> Sound walls shall be installed to mitigate noise levels near residences impacted by the SVRTP Alternative. Table 5.10-6 (Section 5.10, Noise and Vibration) indicates the location of recommended sound walls. Approximately 12,500 linear feet of soundwalls would be needed, with each sound wall ranging in length from 250 to 1,730 feet. Typically, the location of the sound wall is either 10 feet or 13 feet from the track centerline, depending upon the track profile. Ten feet is for the retained open cut track and the aerial guideway, and 13 feet for the at-grade and embankment tracks. In areas where sound wall is recommended on both sides of the alignment, absorptive sound walls are the recommended noise mitigation. The locations of the sound walls are depicted in Figures 5.10-3a through 5.10-3o.</p> <p>The SVRTP Alternative includes an 8-foot high community wall along residential areas</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>transit facility surface parking lot and access road to Berryessa Road to reduce this noise impact to less than severe. With this community wall, the second story residences along Salamoni Court and on the eastern boundary to Mabury Road may still be impacted depending on the noise insulation reduction capability of existing residential construction. The need for additional noise insulation of these residences would need to be determined on a residence by residence basis.</p> <p>To reduce ground floor noise to acceptable levels for the BEP Alternative and Berryessa Station area South Option, the following noise barriers are required; 1) a 12 foot high noise barrier along the eastern boundary between Salamoni Court and Mabury Road, 2) a 10 foot high noise barrier along Salamoni Court, and 3) a 8 foot high noise barrier on the eastern boundary of the surface parking lot north of Salamoni Court and continuing along the access road to Berryessa Road. Even with this mitigation, the second story residences between Salamoni Court and Mabury Road may be impacted depending on the noise insulation reduction capability of existing residential construction. The need for additional noise insulation of these residences would need to be determined on a residence by residence basis.</p> <p><u>Mitigation Measure NV-2:</u> 2,000 alignment feet of slab track acoustical absorption at track level shall be used to reduce noise impacts in the area of the alignment</p>	<p>to the east. This community wall would reduce Severe Impacts to a Moderate or less Impact for the North and South Options except for the portion between Berryessa Road and the residential area to the north of Salamoni Court. An 8-foot high noise barrier would need to continue northward along the future transit facility surface parking lot and access road to Berryessa Road to reduce this noise impact to less than severe. With this community wall, the second story residences along Salamoni Court and on the eastern boundary to Mabury Road may still be impacted depending on the noise insulation reduction capability of existing residential construction. The need for additional noise insulation of these residences would need to be determined on a residence by residence basis.</p> <p><u>Mitigation Measure NV-2:</u> 2,000 alignment feet of slab track acoustical absorption at track level shall be used to reduce noise impacts in the area of the alignment between Hostetter Road and Sierra Road. This mitigation shall occur between civil station 459+50 and 486+50 as indicated in table 5.10-7 (Section 5.10, Noise and Vibration).</p> <p><u>Mitigation Measure NV-3:</u> During the project start-up phase and prior to revenue operations, VTA will carry out noise testing along the civil stations where slab track acoustical absorption is being used as a mitigation measure. The testing is to ensure that the sound absorber is adequately attenuating the increased noise from the slab track. VTA will deliver a technical memo to</p>



Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>between Hostetter Road and Sierra Road. This mitigation shall occur between civil station 459+50 and 486+50 as indicated in table 5.10-7 (Section 5.10, Noise and Vibration).</p> <p><u>Mitigation Measure NV-3:</u> During the project start-up phase and prior to revenue operations, VTA will carry out noise testing along the civil stations where slab track acoustical absorption is being used as a mitigation measure. The testing is to ensure that the sound absorber is adequately attenuating the increased noise from the slab track. VTA will deliver a technical memo to FTA on the results of the testing. The testing will also serve to inform the need for additional wayside residential noise mitigation mentioned in NV-1 and NV-4.</p> <p><u>Mitigation Measure NV-4:</u> Noise insulation and other measures will be provided for residences with second floors or higher that are exposed to noise levels in excess of FTA criteria. The mitigation will be designed to achieve an interior noise level of 45 Ldn where feasible.</p> <p>In addition to the recommended sound walls and retrofitting of multi-story residences with improved exterior sound isolation, sound absorptive material on the trackway structure would be necessary. This mitigation would primarily be needed for areas where the alignment runs in a retained cut. To further reduce noise impacts to multi-story residences a sound wall would be constructed on both sides of the track where the corridor is narrow (50 feet or less).</p>	<p>FTA on the results of the testing. The testing will also serve to inform the need for additional wayside residential noise mitigation mentioned in NV-1 and NV-4.</p> <p><u>Mitigation Measure NV-4:</u> Noise insulation and other measures will be provided for residences with second floors or higher that are exposed to noise levels in excess of FTA criteria. The mitigation will be designed to achieve an interior noise level of 45 Ldn where feasible.</p> <p>In addition to the recommended sound walls and retrofitting of multi-story residences with improved exterior sound isolation, sound absorptive material on the trackway structure would be necessary. This mitigation would primarily be needed for areas where the alignment runs in a retained cut. To further reduce noise impacts to multi-story residences a sound wall would be constructed on both sides of the track where the corridor is narrow (50 feet or less). Installation of sound absorptive material on the inside face of retaining walls and sound walls would further reduce sound levels by as much as 2 dBA. Otherwise, adverse noise effects could result in noise levels in excess of the FTA criteria. Table 5.10-7 (Section 5.10, Noise and Vibration) identifies the location and length of recommended sound wall absorptive material that would be necessary in addition to the absorptive sound wall specified in Table 5.10-6 (Section 5.10, Noise and Vibration). Figures 5.10-3a through 5.10-3m show the locations of sound walls and sound absorptive materials.</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>Installation of sound absorptive material on the inside face of retaining walls and sound walls would further reduce sound levels by as much as 2 dBA. Otherwise, adverse noise effects could result in noise levels in excess of the FTA criteria. Table 5.10-8 (Section 5.10, Noise and Vibration) identifies the location and length of recommended sound wall absorptive material that would be necessary in addition to the absorptive sound wall specified in Table 5.10-6 (Section 5.10, Noise and Vibration). Figures 5.10-3a through 5.10-3m show the locations of sound walls and sound absorptive materials.</p> <p><b>Vibration</b></p> <p><u>Mitigation Measure NV-5:</u> Table 5.10-11 summarizes the vibration mitigation necessary to achieve the FTA criteria. The proposed mitigation is tire derived aggregate (assuming subsequent testing validates vibration reductions) and 8 Hz floating slab. The locations of vibration mitigation are depicted on Figures 5.10-3a through 5.10-3m. FTA considers tire derived aggregate an experimental vibration attenuation measure and is concerned with its product durability. Steel wheel fixed guideways with similar vibration frequencies would typically employ ballast mats or floating slabs as vibration mitigation measures. Transit agency experience has found that ballast mats and floating slabs, however costly, are widely used and generally effective vibration treatments. FTA and VTA request public comments on the potential use of tire derived aggregate underlayment as a</p>	<p><b>Vibration</b></p> <p><u>Mitigation Measure NV-5:</u> Table 5.10-11 summarizes the vibration mitigation necessary to achieve the FTA criteria. The proposed mitigation is tire derived aggregate (assuming subsequent testing validates vibration reductions) and 8 Hz floating slab. The locations of vibration mitigation are depicted on Figures 5.10-3a through 5.10-3m. FTA considers tire derived aggregate an experimental vibration attenuation measure and is concerned with its product durability. Steel wheel fixed guideways with similar vibration frequencies would typically employ ballast mats or floating slabs as vibration mitigation measures. Transit agency experience has found that ballast mats and floating slabs, however costly, are widely used and generally effective vibration treatments. FTA and VTA request public comments on the potential use of tire derived aggregate underlayment as a vibration mitigation measure on the SVRT project.</p> <p>In addition to requesting public comment, VTA will perform further testing on tire derived aggregate underlayment at its Vasona Light Rail Transit Line. After reviewing public comments and further VTA technical vibration documentation, FTA will determine the appropriate vibration mitigation in the SVRT FEIS and include it in the ROD.</p> <p><u>Mitigation Measure NV-6:</u> Upon project start-up, VTA will perform further testing on TDA underlayment at its Vasona LRT Line. The</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>vibration mitigation measure on the SVRT project.</p> <p><u>Mitigation Measure NV-6:</u> Upon project start-up, VTA will perform further testing on TDA underlayment at its Vasona LRT Line. The vibration testing should replicate the testing completed by Wilson, Ihrig &amp; Associates and presented to FTA in 2009: Evaluation of Tire Derived Aggregate as Installed Beneath Ballast and Tie Light Rail Track, May 2009. The technical evaluation will then be presented to FTA for review and comment.</p> <p><b>Summary</b></p> <p>With the implementation of the above mitigation measures, no severe noise impacts would remain and no vibration levels would exceed FTA criteria.</p>	<p>vibration testing should replicate the testing completed by Wilson, Ihrig &amp; Associates and presented to FTA in 2009: Evaluation of Tire Derived Aggregate as Installed Beneath Ballast and Tie Light Rail Track, May 2009. The technical evaluation will then be presented to FTA for review and comment.</p> <p><u>Mitigation Measure NV-7:</u> The mitigation strategies for ground-borne noise include highly resilient direct fixation rail fasteners (HRDF) and rail suspension fasteners (RSF). The locations for these mitigations are shown in Table 5.10-13 and Figures 5.10-3a through 5.10-3z.</p> <p><b>Summary</b></p> <p>With the implementation of the above mitigation measures, no severe noise impacts would remain and no vibration levels would exceed FTA criteria.</p>
<p>Security and System Safety</p>	<p><u>Impacts:</u> Security and system safety incidents typically associated with transit, facilities and roadway projects.</p> <p>Projects would undergo separate environmental review to determine the potential for security and safety incident effects and mitigation measures.</p>	<p><u>Impacts:</u> No adverse effects are anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>	<p><u>Impacts:</u> No adverse effects are anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
Socioeconomics/ Environmental Justice	<p><u>Impacts:</u> This alternative would result in a more gradual build out of the general plans, as more intense land uses (e.g., higher densities and mixed-use development) would not likely occur around BART station areas at the same rate.</p> <p>Socioeconomic effects typically associated with transit, facilities, and roadway projects.</p> <p>Projects would undergo separate environmental review to determine socioeconomic effects and mitigation measures and to determine whether ethnic, minority, or low-income populations in project areas would experience disproportionately high adverse effects.</p>	<p><u>Impacts:</u> Beneficial effect by providing 600 long term operations jobs.</p> <p>This alternative would require property acquisitions and resultant displacements affecting residential and non-residential properties. Table 5.12-2 (Section 5.12, Socioeconomics) quantifies the number and types of displacement that would occur. A total of 49-54 businesses, two residential units, up to three community facilities, 0 to 80 flea market vendor stalls, and 900 rental storage tenants, three advertising signs, and one cell tower would be displaced. The provisions of the Uniform Relocation Assistance and Real Property Acquisition Act of 1970 and VTA's Relocation Program will minimize any adverse effects of the business and residential displacements.</p> <p><u>Mitigation Measures:</u> None required.</p>	<p><u>Impacts:</u> Beneficial effect by providing 750 long term operation jobs.</p> <p>This alternative would require property acquisitions and resultant displacements affecting residential and non-residential properties. Table 5.12-2 (Section 5.12, Socioeconomics) quantifies the number and types of displacement that would occur. A total of 76-103 businesses, 2-22 residential units, one community facility, 0 to 80 flea market vendor stalls, and 900 rental storage tenants, 4-6 advertising signs, and 4 cell towers would be displaced. The provisions of the Uniform Relocation Assistance and Real Property Acquisition Act of 1970 and VTA's Relocation Program will minimize any adverse effects of the business and residential displacements.</p> <p><u>Mitigation Measures:</u> None required.</p>
Utilities	<p><u>Impacts:</u> Utility effects typically associated with transit, facilities, and roadway projects.</p> <p>Projects would undergo separate environmental review to determine utility effects and mitigation measures.</p>	<p><u>Impacts:</u> Utilities would require relocation. Utility providers would be contacted to identify potential conflicts, minimize disruptions, and formulate strategies to address potential problems. Affected properties would be notified of any temporary interruption of service. No adverse impacts are anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>	<p><u>Impacts:</u> Utilities would require relocation. Utility providers would be contacted to identify potential conflicts, minimize disruptions, and formulate strategies to address potential problems. Affected properties would be notified of any temporary interruption of service. No adverse impacts are anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>
Visual Quality and Aesthetics	<p><u>Impacts:</u> Visual impacts typically associated with transit, facilities, and roadway projects. Project would undergo separate environmental review to determine visual quality and aesthetic effects and mitigation measures.</p>	<p><u>Impacts:</u> Trees would be removed, especially near station areas. Removal of trees could degrade the existing visual quality in each applicable visual analysis area.</p>	<p><u>Impacts:</u> Trees would be removed, especially near station areas. Removal of trees could degrade the existing visual quality in each applicable visual analysis area.</p>

Silicon Valley Rapid Transit Corridor Final EIS

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p><u>Mitigation Measures:</u> Mitigation Measure VIS-1: Removed trees will be replaced at a 1:1 ratio within the relevant visual analysis area.</p>	<p><u>Mitigation Measures:</u> Mitigation Measure VIS-1: Removed trees will be replaced at a 1:1 ratio within the relevant visual analysis area.</p>
Water Resources	<p><u>Impacts:</u> Surface waters, floodplains and groundwater typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine water resources effects and mitigation measures.</p>	<p><u>Impacts:</u> No adverse effects anticipated. <u>Mitigation Measures:</u> None required.</p>	<p><u>Impacts:</u> No adverse effects anticipated. <u>Mitigation Measures:</u> None required.</p>

**Table ES-2: Summary of Construction Impacts, and Proposed Mitigation Measures**

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
Construction Education and Outreach	<p>No construction activities would occur with implementation of the No Build Alternative without separate environmental documentation. Each project under the No-Build Alternative would require a project-specific outreach plan based on the construction methodology and effects associated with the project.</p>	<p><u>Impacts:</u> Construction of the BEP Alternative would temporarily affect nearby businesses and residences along the alignment.</p> <p><u>Mitigation Measure CNST-1:</u> A Construction Education and Outreach Plan will be developed by VTA to foster communication between VTA, various municipalities, and the public during the construction phase. The plan will be implemented to coordinate construction activities with existing business operations and other development projects, and establish a process that will adequately address the concerns of businesses and their customers, property owners, residents, and commuters. Critical components of this plan will include but are not limited to the following public outreach strategies:</p> <ul style="list-style-type: none"> <li>■ Frequent updates to stakeholder groups, business organizations, and municipalities;</li> <li>■ Public workshops and meetings with community members;</li> <li>■ Distribution of project information and advanced construction notification via flyers, emails, mailers and face-to-face visits;</li> <li>■ Continuous share of project information and contacts posted to the website;</li> <li>■ Media relations, i.e. news releases, news articles and interviews; and</li> <li>■ Onsite outreach coordinator/personnel.</li> </ul>	<p><u>Impacts:</u> Construction of the SVRTP Alternative would temporarily affect nearby businesses and residences along the alignment, particularly in downtown San Jose.</p> <p><u>Mitigation Measure CNST-1:</u> A Construction Education and Outreach Plan will be developed by VTA to foster communication between VTA, various municipalities, and the public during the construction phase. The plan will be implemented to coordinate construction activities with existing business operations and other development projects, and establish a process that will adequately address the concerns of businesses and their customers, property owners, residents, and commuters. Critical components of this plan will include but are not limited to the following public outreach strategies:</p> <ul style="list-style-type: none"> <li>■ Frequent updates to stakeholder groups, business organizations, and municipalities;</li> <li>■ Public workshops and meetings with community members;</li> <li>■ Distribution of project information and advanced construction notification via flyers, emails, mailers and face-to-face visits;</li> <li>■ Continuous share of project information and contacts posted to the website;</li> <li>■ Media relations, i.e. news releases, news articles and interviews; and</li> <li>■ Onsite outreach coordinator/personnel.</li> </ul>
Transportation and Transit: Transit	<p><u>Impacts:</u> Construction effects on transit would be similar to those typically associated with</p>	<p><u>Impacts:</u> During construction of either Build Alternative, some bus routes would be temporarily re-routed and some bus stops would</p>	<p><u>Impacts:</u> During construction of either Build Alternative, some bus routes would be temporarily re-routed and some bus stops would</p>

Silicon Valley Rapid Transit Corridor Final EIS

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
	<p>transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine adverse effects and the appropriate mitigation measures.</p>	<p>be temporarily relocated. VTA will coordinate with AC Transit, Santa Cruz Metro, Amtrak, Monterey/Salinas Transit, as necessary, to ensure that appropriate measures are taken to re-route bus routes and to relocate bus stops during construction. Notification to the media and general public will be provided in accordance with the Construction Education Outreach Plan.</p> <p><u>Mitigation Measures:</u> None required.</p>	<p>be temporarily relocated. VTA will coordinate with AC Transit, Santa Cruz Metro, Amtrak, Monterey/Salinas Transit, as necessary, to ensure that appropriate measures are taken to re-route bus routes and to relocate bus stops during construction. Notification to the media and general public will be provided in accordance with the Construction Education Outreach Plan.</p> <p><u>Mitigation Measures:</u> None required.</p> <p><b><u>Rail Service</u></b></p> <p><u>Impact:</u> During construction of the Downtown San Jose Station, light rail service would be interrupted at East Santa Clara Street for certain construction activities such as installation of the temporary shoring walls. Light rail service would be interrupted one block or one block and one intersection, or two blocks and one intersection at a time – for periods of up to 3 months at a time. Interruption to light rail service for up to 3 months at a time during construction of the Downtown San Jose Station would cause an unavoidable adverse effect.</p> <p><u>Mitigation Measure CNST-TR-1:</u> VTA will work with the city, and the public would be informed in accordance with the Construction Education Outreach Plan. Bus bridges would be implemented to transfer light rail passengers around the construction area.</p>
<p>Transportation and Transit: Parking</p>	<p><u>Impacts:</u> Affects to parking typically associated with the construction of transit, facilities, and roadway projects. Projects</p>	<p><u>Impacts:</u> Refer to 6.3.13 <i>Socioeconomics &amp; Environmental Justice</i> for a discussion of the adverse effects from the temporary displacement of parking during the construction of the BEP and</p>	<p><u>Impacts:</u> Refer to 6.3.13 <i>Socioeconomics &amp; Environmental Justice</i> for a discussion of the adverse effects from the temporary displacement of parking during the construction of the BEP and</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
	would undergo separate environmental review to determine adverse parking effects and mitigation measures.	SVRTP alternatives. Permanent loss to parking due to the alternatives is discussed in Section 5.12, Socioeconomics and Environmental Justice <u>Mitigation Measures:</u> None required.	SVRTP alternatives. Permanent loss to parking due to the alternatives is discussed in Section 5.12, Socioeconomics and Environmental Justice. <u>Mitigation Measures:</u> None required.
Transportation and Transit: Pedestrians and Bicyclists	<u>Impacts:</u> Affects to pedestrians and bicyclists typically associated with the construction of transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine adverse effects and mitigation measures.	<u>Impacts:</u> No adverse effects anticipated. <u>Mitigation Measures:</u> None required.	<u>Impacts:</u> No adverse effects anticipated. <u>Mitigation Measures:</u> None required.
Transportation and Transit: Vehicular Traffic	<u>Impacts:</u> Construction-period affects to vehicular traffic would be effects typically associated with transit, facilities, and roadway projects. Intersection level of service can be adversely impacted at some locations. Projects would undergo separate environmental review to determine adverse effects and mitigation measures.	<b><u>Dixon Landing Road Crossing</u></b>  <u>Impacts:</u> The full or partial closure of Dixon Landing Road under the At Grade Option would result in an unavoidable adverse impact. Mitigation measures to reduce the effect of the full closure of Dixon Landing Road are not feasible due to ROW constraints.  <u>Mitigation Measure CNST-TR-1:</u> VTA will work with the City of Milpitas to develop a Traffic Management Plan for construction of the Dixon Landing Road Crossing.	<b><u>Dixon Landing Road Crossing</u></b>  <u>Impacts:</u> The full or partial closure of Dixon Landing Road under the At Grade Option would result in an unavoidable adverse effect. Mitigation measures to reduce the impact of the full closure of Dixon Landing Road are not feasible due to ROW constraints.  <u>Mitigation Measure CNST-TR-2:</u> VTA will work with the City of Milpitas to develop a Traffic Management Plan for construction of the Dixon Landing Road Crossing.  <b><u>Downtown San Jose Station</u></b>  <u>Impact:</u> Construction activities overlap and are scheduled to occur over a period of up to 7 years. Long-term lane and/or street closures along four blocks of Santa Clara Street would be required to accommodate the various construction activities for the Downtown San Jose Station. Construction of the Downtown San Jose Station would cause



Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>unavoidable adverse effects due to the long-term street closures and degradation of three Santa Clara Street intersections to below LOS D.</p> <p><u>Mitigation Measure CNST-TR-3:</u> VTA will work with the City of San Jose, the downtown Business Association, business owners and key stake holders to develop a Traffic Management Plan to minimize adverse effects of construction for the Downtown San Jose Station. As part of the Plan, traffic and pedestrian detours, alternate access, signage, and public outreach will be implemented along with special scheduling to offset the effects of street or lane closure.</p> <p><b><u>Diridon/Arena Station</u></b></p> <p><u>Impacts:</u> Construction of the Diridon/Arena Station would require partial and full street closures of Autumn, Montgomery and Cahill streets. Autumn and Montgomery streets are currently within Caltrans Right-of-Way. Full closure of Autumn, Montgomery and Cahill streets south of West Santa Clara Street near the station would be closed for less than 1 month each. No more than one street would be closed at any given time. Construction activities up to and including temporary street decking at Diridon/Arena Station would cause the degradation of the West Santa Clara Street and Autumn Street intersection to below LOS D during construction. To achieve higher LOS, road widening would be required, which would not be feasible since this would require additional ROW that would effect private property and add substantial project cost. Therefore, the street closures and degradation of the intersections to</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>below LOS D during construction of the Diridon/Arena Station would cause an unavoidable adverse impact.</p> <p><u>Mitigation Measure CNST-TR-4:</u> VTA will work with Caltrans, the City of San Jose, the downtown Business Association, business owners and key stake holders to develop a Traffic Management Plan to minimize adverse effects of construction for the Diridon/Arena Station. As part of the Plan, traffic and pedestrian detours, alternate access, signage, and public outreach will be implemented along with special scheduling to offset the effects of street or lane closure.</p>
Air Quality	<p><u>Impacts:</u> Air quality construction impacts typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine construction impacts to air quality and to determine appropriate mitigation measures, if necessary. Construction projects would include the implementation of effective and comprehensive control measures to reduce air pollutant emissions from construction activities to acceptable levels. The control measures typically implemented are those of the Bay Area Air Quality Management District.</p>	<p><u>Impacts:</u> No adverse air quality construction effects are anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>	<p><u>Impacts:</u> No adverse air quality construction effects are anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
<p>Biological Resources and Wetlands</p>	<p><u>Impacts:</u> Biological resources and wetlands construction effects typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine biological resources and wetlands construction effects and mitigation measures.</p>	<p><u>Impacts:</u> Potential impacts to burrowing owls; effects to Congdon’s tarplant; potential effects to nesting raptors and swallows; potential effects to roosting bats; potential effects to fisheries, red-legged frogs, tiger salamanders, and western pond turtles.</p> <p><u>Mitigation Measure CNST-BIO-1:</u> A preconstruction survey of suitable habitat within 250 feet of construction areas (access permitting) will be conducted per California Department of Fish and Game (CDFG) guidelines by a qualified biologist within 30 days prior to construction to determine the presence of burrowing owls. If construction is delayed or suspended for more than 30 days after the preconstruction survey, the site will be resurveyed. If no burrowing owls are found, then no further mitigation is warranted.</p> <p><u>Mitigation Measure CNST-BIO-2:</u> If burrowing owls are determined to be present, avoidance of occupied burrows is the preferred method of addressing potential adverse effects. Avoidance measures include establishment of a "no disturbance" (construction-free) buffer zone within 50 meters (approximately 165 feet) of occupied burrows during the nonbreeding season (September 1 through January 31) or within 75 meters (approximately 250 feet) during the breeding season (February 1 through August 31).</p> <p><u>Mitigation Measure CNST-BIO-3:</u> If avoidance is not feasible, a qualified biologist, in consultation with CDFG, will use passive relocation techniques (e.g., installing one-way doors at burrow entrances) to displace burrowing owls from the construction area to avoid the loss of any individuals due to construction. At least one week is required to accomplish passive relocation and</p>	<p><u>Impacts:</u> Potential effects to burrowing owls; effects to Congdon’s tarplant; potential effects to nesting raptors and swallows; potential effects to roosting bats; potential effects to fisheries, red-legged frogs, tiger salamanders, and western pond turtles.</p> <p><u>Mitigation Measure CNST-BIO-1:</u> A preconstruction survey of suitable habitat within 250 feet of construction areas (access permitting) will be conducted per California Department of Fish and Game (CDFG) guidelines by a qualified biologist within 30 days prior to construction to determine the presence of burrowing owls. If construction is delayed or suspended for more than 30 days after the preconstruction survey, the site will be resurveyed. If no burrowing owls are found, then no further mitigation is warranted.</p> <p><u>Mitigation Measure CNST-BIO-2:</u> If burrowing owls are determined to be present, avoidance of occupied burrows is the preferred method of addressing potential adverse effects. Avoidance measures include establishment of a "no disturbance" (construction-free) buffer zone within 50 meters (approximately 165 feet) of occupied burrows during the nonbreeding season (September 1 through January 31) or within 75 meters (approximately 250 feet) during the breeding season (February 1 through August 31).</p> <p><u>Mitigation Measure CNST-BIO-3:</u> If avoidance is not feasible, a qualified biologist, in consultation with CDFG, will use passive relocation techniques (e.g., installing one-way doors at burrow entrances) to displace burrowing owls from the construction area to avoid the loss of any individuals due to construction. At least one week is required to accomplish passive relocation and</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>allow owls to acclimate to alternate burrows. Passive relocation is only authorized during the nonbreeding season.</p> <p><u>Mitigation Measure CNST-BIO-4:</u> If destruction of occupied burrows is unavoidable, the loss of foraging, nesting, and roosting habitat will be mitigated through habitat preservation at a ratio of 6.5 acres of foraging habitat permanently preserved for each pair or unpaired resident bird displaced due to the BEP Alternative. Such mitigation will be provided via preservation of the appropriate acreage of occupied burrowing owl habitat with a conservation easement or the purchase of credits in a CDFG-approved conservation bank.</p> <p><u>Mitigation Measure CNST-BIO-5:</u> VTA will design all facilities to avoid temporary and permanent affects to Congdon's tarplant to the maximum extent practicable. If avoidance is not feasible, a focused botanical survey will be conducted by a qualified plant biologist to ascertain the presence or absence of the species in the vicinity of selected alternative during the initial blooming period (August) that occurs prior to the construction. VTA will mitigate the permanent loss of Congdon's tarplants at a minimum ratio of 1:1 (replacement plants: lost plants), or at a ratio determined in consultation with resource agency personnel. VTA will also mitigate in accordance with the California Native Plant Society's recommended measures for mitigating adverse affects to Congdon's tarplant, as follows:</p> <ul style="list-style-type: none"> <li>▪ To replace plants, seeds from plants within the affected area will be collected and stored during the month of August or September prior to construction beginning. As the</li> </ul>	<p>allow owls to acclimate to alternate burrows. Passive relocation is only authorized during the nonbreeding season.</p> <p><u>Mitigation Measure CNST-BIO-4:</u> If destruction of occupied burrows is unavoidable, the loss of foraging, nesting, and roosting habitat will be mitigated through habitat preservation at a ratio of 6.5 acres of foraging habitat permanently preserved for each pair or unpaired resident bird displaced due to the BEP Alternative. Such mitigation will be provided via preservation of the appropriate acreage of occupied burrowing owl habitat with a conservation easement or the purchase of credits in a CDFG-approved conservation bank.</p> <p><u>Mitigation Measure CNST-BIO-5:</u> VTA will design all facilities to avoid temporary and permanent affects to Congdon's tarplant to the maximum extent practicable. If avoidance is not feasible, a focused botanical survey will be conducted by a qualified plant biologist to ascertain the presence or absence of the species in the vicinity of selected alternative during the initial blooming period (August) that occurs prior to the construction. VTA will mitigate the permanent loss of Congdon's tarplants at a minimum ratio of 1:1 (replacement plants: lost plants), or at a ratio determined in consultation with resource agency personnel. VTA will also mitigate in accordance with the California Native Plant Society's recommended measures for mitigating adverse affects to Congdon's tarplant, as follows:</p> <ul style="list-style-type: none"> <li>▪ To replace plants, seeds from plants within the affected area will be collected and stored during the month of August or September prior to construction beginning. As the</li> </ul>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>blooming period lasts until November, the affect of pruning flowering heads to obtain seed will allow the plant to repeat flower and seed production before the end of the blooming period and thereby avoid or lessen a temporal loss before project work and reseeding occurs.</p> <ul style="list-style-type: none"> <li>▪ The seed will be applied as a component of the revegetation mix within the affected area for any temporary effects and within a proposed replacement area for permanent effects. The replacement area will be determined in consultation with resource agency personnel. Revegetation should be accomplished by hydro seeding prior to the start of the rainy season in areas.</li> <li>▪ The success of the reseeding will be monitored during the blooming period in the year following revegetation. The criteria for reseeding success will be that the species is found to be occurring throughout the reseeded areas. If unsuccessful, seed will be collected and sown in the unsuccessful areas prior to the rainy season that year.</li> <li>▪ The success of the reseeding will also be monitored during the blooming period in the second year following revegetation. If seeding of previously unoccupied habitat is successful, mitigation will be deemed successful and no additional monitoring will be required. If unsuccessful, the area will be deemed as unsuitable habitat due to an apparent subtle difference in soil characteristics. In this case, revegetation of additional areas, determined in consultation with resource agency personnel, and an</li> </ul>	<p>blooming period lasts until November, the affect of pruning flowering heads to obtain seed will allow the plant to repeat flower and seed production before the end of the blooming period and thereby avoid or lessen a temporal loss before project work and reseeding occurs.</p> <ul style="list-style-type: none"> <li>▪ The seed will be applied as a component of the revegetation mix within the affected area for any temporary effects and within a proposed replacement area for permanent effects. The replacement area will be determined in consultation with resource agency personnel. Revegetation should be accomplished by hydro seeding prior to the start of the rainy season in areas.</li> <li>▪ The success of the reseeding will be monitored during the blooming period in the year following revegetation. The criteria for reseeding success will be that the species is found to be occurring throughout the reseeded areas. If unsuccessful, seed will be collected and sown in the unsuccessful areas prior to the rainy season that year.</li> <li>▪ The success of the reseeding will also be monitored during the blooming period in the second year following revegetation. If seeding of previously unoccupied habitat is successful, mitigation will be deemed successful and no additional monitoring will be required. If unsuccessful, the area will be deemed as unsuitable habitat due to an apparent subtle difference in soil characteristics. In this case, revegetation of additional areas, determined in consultation with resource agency personnel, and an</li> </ul>

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		<p>additional two years of monitoring will be conducted.</p> <ul style="list-style-type: none"> <li>▪ If mowing of any revegetation area is proposed, it should be conducted prior to May 15 in order to allow sufficient time for flowering and seed set. Mowing should not be lower than six inches in order to minimize removal of tarplant foliage prior to flowering.</li> </ul> <p><u>Mitigation Measure CNST-BIO-6:</u> To the extent feasible, construction activities, including tree and shrub removal, will be scheduled between September and December to avoid the nesting season for most raptors, as well as other bird species.</p> <p><u>Mitigation Measure CNST-BIO-7:</u> Preconstruction surveys for nesting raptors will be conducted by a qualified ornithologist during the nesting season (January through August) to ensure that no raptor nests will be disturbed during construction. The surveys will be conducted no more than 14 days prior to the initiation of construction activities during the early part of the breeding season (January through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). During this survey, the ornithologist will inspect all trees and electrical towers in, and immediately adjacent to, the affected area for raptor nests. If no nesting raptors are found, then no further mitigation is warranted.</p> <p><u>Mitigation Measure CNST-BIO-8:</u> If an active raptor nest is found close enough to the construction area to be disturbed by these activities, the ornithologist, in consultation with</p>	<p>additional two years of monitoring will be conducted.</p> <ul style="list-style-type: none"> <li>▪ If mowing of any revegetation area is proposed, it should be conducted prior to May 15 in order to allow sufficient time for flowering and seed set. Mowing should not be lower than six inches in order to minimize removal of tarplant foliage prior to flowering.</li> </ul> <p><u>Mitigation Measure CNST-BIO-6:</u> To the extent feasible, construction activities, including tree and shrub removal, will be scheduled between September and December to avoid the nesting season for most raptors, as well as other bird species.</p> <p><u>Mitigation Measure CNST-BIO-7:</u> Preconstruction surveys for nesting raptors will be conducted by a qualified ornithologist during the nesting season (January through August) to ensure that no raptor nests will be disturbed during construction. The surveys will be conducted no more than 14 days prior to the initiation of construction activities during the early part of the breeding season (January through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). During this survey, the ornithologist will inspect all trees and electrical towers in, and immediately adjacent to, the affected area for raptor nests. If no nesting raptors are found, then no further mitigation is warranted.</p> <p><u>Mitigation Measure CNST-BIO-8:</u> If an active raptor nest is found close enough to the construction area to be disturbed by these activities, the ornithologist, in consultation with</p>

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		<p>CDFG, will determine the extent of a construction-free buffer zone, typically 250 feet, to be established around the nest until the chicks have fledged.</p> <p><u>Mitigation Measure CNST-BIO-9:</u> If construction activities are scheduled to occur during the nesting season of swallows and other migratory birds (generally March through August), a pre-construction survey for nesting activity will be conducted prior to commencement of construction. If no nesting swallows are found, then no further mitigation is warranted.</p> <p><u>Mitigation Measure CNST-BIO-10:</u> If active nests are identified close to construction work, a biological monitor will monitor the nests when work begins. If the biological monitor, in consultation with the CDFG, determines that construction activities are disturbing adults incubating eggs or young in the nest, then a no work zone buffer will be established by the biological monitor around the nest until the young have fledged and the nest is no longer active. If a biological monitor, in consultation with CDFG, determines that construction activities occurring in proximity to active cliff swallow nests are not disturbing adults or chicks in the nest, then construction activities can continue. Nests that have been determined to be inactive (with no eggs or young) can be removed with CDFG approval.</p> <p><u>Mitigation Measure CNST-BIO-11:</u> A qualified biologist will conduct pre-construction surveys in suitable habitat determine the presence of roosting bats. If no nesting swallows are found, then no further mitigation is warranted.</p>	<p>CDFG, will determine the extent of a construction-free buffer zone, typically 250 feet, to be established around the nest until the chicks have fledged.</p> <p><u>Mitigation Measure CNST-BIO-9:</u> f construction activities are scheduled to occur during the nesting season of swallows and other migratory birds (generally March through August), a pre-construction survey for nesting activity will be conducted prior to commencement of construction. If no nesting swallows are found, then no further mitigation is warranted.</p> <p><u>Mitigation Measure CNST-BIO-10:</u> If active nests are identified close to construction work, a biological monitor will monitor the nests when work begins. If the biological monitor, in consultation with the CDFG, determines that construction activities are disturbing adults incubating eggs or young in the nest, then a no work zone buffer will be established by the biological monitor around the nest until the young have fledged and the nest is no longer active. If a biological monitor, in consultation with CDFG, determines that construction activities occurring in proximity to active cliff swallow nests are not disturbing adults or chicks in the nest, then construction activities can continue. Nests that have been determined to be inactive (with no eggs or young) can be removed with CDFG approval.</p> <p><u>Mitigation Measure CNST-BIO-11:</u> A qualified biologist will conduct pre-construction surveys in suitable habitat determine the presence of roosting bats. If no nesting swallows are found, then no further mitigation is warranted.</p>

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		<p><u>Mitigation Measure CNST-BIO-12:</u> If it is determined that bats are roosting beneath a bridge, in a building, or in adjacent riparian habitat, then appropriate modifications to construction time and method will be implemented in accordance with CDFG approval. Modifications may include timing construction activities to avoid breeding periods, establishment of buffers, or biological monitoring. In some cases bats may be actively encouraged to avoid roosting in the area affected prior to the onset of construction activities.</p> <p><u>Mitigation Measure CNST-BIO-13:</u> To the maximum extent practicable throughout the project site, construction activities and facilities, including pilings and bridge footings, will be placed outside of aquatic/riparian habitat to avoid effects to riparian habitat and steelhead and Chinook salmon fisheries.</p> <p><u>Mitigation Measure CNST-BIO-14:</u> Installation of falsework and stream diversions required in the course of bridge construction will be consistent with VTA’s Fish-Friendly Channel Design Guidelines to minimize affects to migrating anadromous fish and other in-stream species. These guidelines address concerns related to a number of issues including high water velocities, jumps to channelized inlets or outlets, water depths, and resting pools.</p> <p><u>Mitigation Measure CNST-BIO-15:</u> The following recommendations by CDFG will be followed to address water quality effects:</p> <ul style="list-style-type: none"> <li>▪ Construction within the channels that cross the alignment of the selected alternative,</li> </ul>	<p><u>Mitigation Measure CNST-BIO-12:</u> If it is determined that bats are roosting beneath a bridge, in a building, or in adjacent riparian habitat, then appropriate modifications to construction time and method will be implemented in accordance with CDFG approval. Modifications may include timing construction activities to avoid breeding periods, establishment of buffers, or biological monitoring. In some cases bats may be actively encouraged to avoid roosting in the area affected prior to the onset of construction activities.</p> <p><u>Mitigation Measure CNST-BIO-13:</u> To the maximum extent practicable throughout the project site, construction activities and facilities, including pilings and bridge footings, will be placed outside of aquatic/riparian habitat to avoid effects to riparian habitat and steelhead and Chinook salmon fisheries.</p> <p><u>Mitigation Measure CNST-BIO-14:</u> Installation of falsework and stream diversions required in the course of bridge construction will be consistent with VTA’s Fish-Friendly Channel Design Guidelines to minimize affects to migrating anadromous fish and other in-stream species. These guidelines address concerns related to a number of issues including high water velocities, jumps to channelized inlets or outlets, water depths, and resting pools.</p> <p><u>Mitigation Measure CNST-BIO-15:</u> The following recommendations by CDFG will be followed to address water quality effects:</p> <ul style="list-style-type: none"> <li>▪ Construction within the channels that cross the alignment of the selected alternative,</li> </ul>



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		<p>including installation of temporary stream diversion structures, will be restricted to the dry season, which generally extends from June 1 to October 15 depending on the species present. In some cases, construction may begin earlier than June 15 or continue past October 15, as specified in regulatory agency permits and agreements or any authorized extensions.</p> <ul style="list-style-type: none"> <li>▪ No equipment will be operated in the live stream channel.</li> <li>▪ When work in a flowing stream is unavoidable, any stream flow will be diverted around the work area by a barrier, temporary culvert, or a new channel capable of permitting upstream and downstream fish movement.</li> <li>▪ Construction of the barrier or the new channel normally will begin in the downstream area and continue upstream, and the flow will be diverted only when construction of the diversion is completed.</li> <li>▪ Appropriate erosion control measures will be installed to prevent debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products, or other organic or earthen material from being washed into waterways by rainfall or runoff.</li> </ul> <p><u>Mitigation Measure CNST-BIO-16:</u> The following mitigation measures will be followed to avoid or minimize take of California red-legged frogs or California tiger salamanders:</p> <ul style="list-style-type: none"> <li>▪ A qualified biologist will conduct pre-construction surveys for California red-legged frog and California tiger salamanders within</li> </ul>	<p>including installation of temporary stream diversion structures, will be restricted to the dry season, which generally extends from June 1 to October 15 depending on the species present. In some cases, construction may begin earlier than June 15 or continue past October 15, as specified in regulatory agency permits and agreements or any authorized extensions.</p> <ul style="list-style-type: none"> <li>▪ No equipment will be operated in the live stream channel.</li> <li>▪ When work in a flowing stream is unavoidable, any stream flow will be diverted around the work area by a barrier, temporary culvert, or a new channel capable of permitting upstream and downstream fish movement.</li> <li>▪ Construction of the barrier or the new channel normally will begin in the downstream area and continue upstream, and the flow will be diverted only when construction of the diversion is completed.</li> <li>▪ Appropriate erosion control measures will be installed to prevent debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products, or other organic or earthen material from being washed into waterways by rainfall or runoff.</li> </ul> <p><u>Mitigation Measure CNST-BIO-16:</u> The following mitigation measures will be followed to avoid or minimize take of California red-legged frogs or California tiger salamanders:</p> <ul style="list-style-type: none"> <li>▪ A qualified biologist will conduct pre-construction surveys for California red-legged frog and California tiger salamanders within</li> </ul>

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		<p>the vicinity of the project site no earlier than 2 days before ground-disturbing activities. The survey area will include 300 feet upstream and downstream from the project site.</p> <ul style="list-style-type: none"> <li>▪ No activities will occur in suitable frog or salamander habitat after October 15 or the onset of the rainy season, whichever occurs first, until May 1 except for during periods greater than 72 hours without precipitation. Activities can only resume after the 72-hour period or after May 1 following a site inspection by a qualified biologist, in consultation with the U.S. Fish and Wildlife Service (USFWS). The rainy season is defined as: a frontal system that results in depositing 0.25 inches or more of precipitation in one event.</li> <li>▪ Vehicles to and from the project site will be confined to existing roadways and defined access routes to minimize disturbance of California red-legged frog and California tiger salamander habitat.</li> <li>▪ If a California red-legged frog or California tiger salamander is encountered during excavations, or any project activities, activities will cease until the frog or salamander is removed and relocated by a USFWS-permitted biologist. Any incidental take will be reported to the USFWS immediately by telephone.</li> <li>▪ If suitable red-legged frog or tiger salamander habitat is disturbed or removed, VTA will restore the suitable habitat back to its original value by covering bare areas with mulch and</li> </ul>	<p>the vicinity of the project site no earlier than 2 days before ground-disturbing activities. The survey area will include 300 feet upstream and downstream from the project site.</p> <ul style="list-style-type: none"> <li>▪ No activities will occur in suitable frog or salamander habitat after October 15 or the onset of the rainy season, whichever occurs first, until May 1 except for during periods greater than 72 hours without precipitation. Activities can only resume after the 72-hour period or after May 1 following a site inspection by a qualified biologist, in consultation with the U.S. Fish and Wildlife Service (USFWS). The rainy season is defined as: a frontal system that results in depositing 0.25 inches or more of precipitation in one event.</li> <li>▪ Vehicles to and from the project site will be confined to existing roadways and defined access routes to minimize disturbance of California red-legged and California tiger salamander frog habitat.</li> <li>▪ If a California red-legged frog or California tiger salamander is encountered during excavations, or any project activities, activities will cease until the frog or salamander is removed and relocated by a USFWS-permitted biologist. Any incidental take will be reported to the USFWS immediately by telephone.</li> <li>▪ If suitable red-legged frog or tiger salamander habitat is disturbed or removed, VTA will restore the suitable habitat back to its original value by covering bare areas with mulch and</li> </ul>

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		<p>re-vegetating all cleared areas with plant species that are currently found in the project site or as negotiated with USFWS.</p> <ul style="list-style-type: none"> <li>▪ Any permanent loss of aquatic habitat in Upper Penitencia Creek or Lower Silver Creek will be compensated through protection or enhancement of degraded aquatic and riparian habitat at either an onsite or an offsite location. The location and total amount of the compensation habitat will be determined in consultation with USFWS.</li> </ul> <p><u>Mitigation Measure CNST-BIO-17:</u> A qualified biologist will conduct a pre-construction survey for western pond turtles in all suitable aquatic habitats. The survey area will include 300 feet upstream and downstream from the project site. This survey will be conducted no more than 24 hours prior to the onset of in-water construction activities. If individual pond turtles are located, they will be captured by a qualified biologist and relocated to the nearest suitable habitat upstream or downstream of the project site. If individuals are relocated, then the contractor will install barrier fencing along each side of the work area to prevent individual turtles from re-entering the work area. In the event barrier fencing is installed, the qualified biologist will conduct relocation surveys for three consecutive days to ensure that all animals are removed from the disturbance area.</p> <p>Effects would not be substantial with the above mitigation incorporated.</p>	<p>re-vegetating all cleared areas with plant species that are currently found in the project site or as negotiated with USFWS.</p> <ul style="list-style-type: none"> <li>▪ Any permanent loss of aquatic habitat in Upper Penitencia Creek or Lower Silver Creek will be compensated through protection or enhancement of degraded aquatic and riparian habitat at either an onsite or an offsite location. The location and total amount of the compensation habitat will be determined in consultation with USFWS.</li> </ul> <p><u>Mitigation Measure CNST-BIO-17:</u> A qualified biologist will conduct a pre-construction survey for western pond turtles in all suitable aquatic habitats. The survey area will include 300 feet upstream and downstream from the project site. This survey will be conducted no more than 24 hours prior to the onset of in-water construction activities. If individual pond turtles are located, they will be captured by a qualified biologist and relocated to the nearest suitable habitat upstream or downstream of the project site. If individuals are relocated, then the contractor will install barrier fencing along each side of the work area to prevent individual turtles from re-entering the work area. In the event barrier fencing is installed, the qualified biologist will conduct relocation surveys for three consecutive days to ensure that all animals are removed from the disturbance area.</p> <p>Effects would not be substantial with the above mitigation incorporated.</p>
Community Services and Facilities	<u>Impacts</u> Community services and facilities construction effects typically associated with	<u>Impacts:</u> No adverse effects are anticipated. <u>Mitigation Measures:</u> None required.	<u>Impacts:</u> No adverse effects are anticipated. <u>Mitigation Measures:</u> None required.

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
	transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine community services and facilities construction effects and mitigation measures.		
Cultural and Historical Resources	<u>Impacts:</u> Cultural and historic resources construction effects typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine cultural and historical resources construction effects and mitigation measures.	<p><b><u>Archaeological Resources</u></b></p> <p><u>Impacts:</u> May disturb archaeological resources as described above under the specific topic area for Cultural and Historical Resources.</p> <p><u>Mitigation Measures:</u> None required beyond those already included in Mitigation Measure CUL-1 described above under the specific topic area for Cultural and Historical Resources.</p> <p><b><u>Historic Architectural Resources</u></b></p> <p><u>Impacts:</u> There are no historic architectural resources that would be affected by the BEP Alternative.</p> <p><u>Mitigation Measures:</u> None required.</p>	<p><b><u>Archaeological Resources</u></b></p> <p><u>Impacts:</u> May disturb archaeological resources as described above under the specific topic area for Cultural and Historical Resources.</p> <p><u>Mitigation Measures:</u> None required beyond those already included in Mitigation Measure CUL-1 described above under the specific topic area for Cultural and Historical Resources</p> <p><b><u>Historic Architectural Resources</u></b></p> <p><u>Impacts:</u> No construction phase adverse effects to historic resources identified within the project APE are anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>
Electromagnetic Fields (EMF)	<u>Impacts:</u> No effects anticipated. Projects would undergo separate environmental review to determine EMF construction effects and mitigation measures.	<u>Impacts:</u> No adverse effects are anticipated. <u>Mitigation Measures:</u> None required.	<u>Impacts:</u> No adverse effects are anticipated. <u>Mitigation Measures:</u> None required.
Energy	<u>Impacts:</u> Projects planned under this alternative would undergo separate environmental review to determine energy effects related to construction and to	<u>Impacts:</u> No adverse effects are anticipated. <u>Mitigation Measures:</u> None required.	<u>Impacts:</u> No adverse effects are anticipated. <u>Mitigation Measures:</u> None required.

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
	determine appropriate mitigation measures.		
Geology and Seismicity	<p><u>Impacts:</u> Geology and seismicity construction impacts typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine geology, soils, and seismicity impacts and mitigation during construction.</p>	<p><u>Impacts:</u> No adverse effects are anticipated.  <u>Mitigation Measures:</u> None required.</p>	<p><u>Impacts:</u> Potential surface settlement and ground movements during construction of the tunnel and cut-and-cover stations may cause effects to structures, facilities, and utilities.</p> <p><u>Mitigation Measure CNST-GEO-1:</u> Pre-construction condition surveys of the interiors and exteriors of select structures within the settlement trough along the tunnel alignment and within the limit of influence around the cut and cover excavations will be conducted by independent surveyors to assess the condition of each property. These surveys will include written and photographic (video and still) records. The results of these surveys will be compared with post-construction condition surveys so that any effects of tunneling and cut and cover construction on structures can be assessed. For the tunnel activity, surveys will occur as close to the planned dates of tunneling as possible so that the results are as current as possible. Therefore, surveys will be performed prior to passage of the tunnel boring machines with some surveys conducted once tunneling has commenced.</p> <p><u>Mitigation Measure CNST-GEO-2:</u> For the tunneling activity, ground surface monitoring will be performed prior to and during construction. Instrumentation will be installed to monitor ground movements and effects of tunnel boring on structures and utilities. Monitoring can be used to direct real-time modifications, as appropriate, to tunneling practices and procedures to assist in minimizing effects along the tunnel alignment.</p> <p><u>Mitigation Measure CNST-GEO-3:</u> Monitoring</p>

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
			<p>points will be mounted on select structures within the settlement trough along the tunnel alignment and within the limit of influence around the cut and cover excavations to monitor any effects of settlement.</p> <p><u>Mitigation Measure CNST-GEO-4:</u> A pre-construction condition survey will be conducted of utilities deemed to be potentially at risk due to surface settlement or ground movement. Major utilities deemed to be at risk will be monitored during construction. Coordination with utility providers will be conducted prior to installation of utility monitoring points.</p> <p><u>Mitigation Measure CNST-GEO-5:</u> The option of post construction repair is based on the probability of damage, predicted degree of damage, sensitivity of the structure or facility, and cost and ease of repair. If repair is not feasible, compensation may be necessary.</p> <p>Effects would not be substantial with the above mitigation incorporated.</p>
Hazardous Waste	<p><u>Impacts</u> Depending on the transit, facilities, and roadway project location and past and present land uses, hazardous materials may be encountered during construction.</p> <p>Projects would undergo separate environmental review to determine hazardous materials construction effects and mitigation measures.</p>	<p><u>Impacts:</u> Potential for exposure of construction workers and the public to hazardous materials including soil and ballast, groundwater as part of dewatering, and building materials due to excavation, demotion, stockpiling, transport, and other construction activities.</p> <p><u>Mitigation Measure CNST-HAZ-1:</u> The project-wide Contaminant Management Plan dated and approved by the RWQCB on October 21, 2008 and mitigation measures included in the Plan will be implemented during construction of the Build Alternatives. The mitigation measures detail requirements for the management for soil and railroad ballast, groundwater as part of</p>	<p><u>Impacts:</u> Potential for exposure of construction workers and the public to hazardous materials including soil and ballast, groundwater as part of dewatering, and building materials due to excavation, demotion, stockpiling, transport, and other construction activities.</p> <p><u>Mitigation Measure CNST-HAZ-1:</u> The project-wide Contaminant Management Plan dated and approved by the RWQCB on October 21, 2008 and mitigation measures included in the Plan will be implemented during construction of the Build Alternatives. The mitigation measures detail requirements for the management for soil and railroad ballast, groundwater as part of</p>

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		<p>dewatering activities, and building materials. The Plan is included in Appendix I in the EIS.</p> <p><u>Mitigation Measure CNST-HAZ-2:</u> In addition to implementation of the project-wide Contaminant Management Plan, the measures included in the “Site Management Plan – Former Ford Automobile Assembly Plant Formerly 1100 South Main Street, Milpitas, California” (March 1997) and the RWQCB’s letter dated April 16, 2001 for this property will be implemented during construction of the selected Build Alternative at the Great Mall. These documents include measures for: review of historic environmental data and further investigation, if necessary; performance of a human health risk assessment; development of a project-specific site management plan and health and safety plan; and requirements for notification and disclosure, construction safety, soil management, and use of shallow groundwater. These documents are included in Appendix I in the EIS.</p> <p><u>Mitigation Measure CNST-HAZ-3:</u> To protect the health and safety of construction workers, the public, and the environment, and to ensure the proper management of hazardous materials, a Health and Safety Plan for the selected Build Alternative that meets Occupational Safety and Health Administration requirements will be prepared, CERCLA certified, and implemented during construction.</p> <p>Effects would not be substantial with mitigation incorporated.</p>	<p>dewatering activities, and building materials. The Plan is included in Appendix I in the EIS.</p> <p><u>Mitigation Measure CNST-HAZ-2:</u> In addition to implementation of the project-wide Contaminant Management Plan, the measures included in the “Site Management Plan – Former Ford Automobile Assembly Plant Formerly 1100 South Main Street, Milpitas, California” (March 1997) and the RWQCB’s letter dated April 16, 2001 for this property will be implemented during construction of the selected Build Alternative at the Great Mall. These documents include measures for: review of historic environmental data and further investigation, if necessary; performance of a human health risk assessment; development of a project-specific site management plan and health and safety plan; and requirements for notification and disclosure, construction safety, soil management, and use of shallow groundwater. These documents are included in Appendix I in the EIS.</p> <p><u>Mitigation Measure CNST-HAZ-3:</u> To protect the health and safety of construction workers, the public, and the environment, and to ensure the proper management of hazardous materials, a Health and Safety Plan for the selected Build Alternative that meets Occupational Safety and Health Administration requirements will be prepared, CERCLA certified, and implemented during construction.</p> <p>Effects would not be substantial with mitigation incorporated.</p>
Land Use	<u>Impacts:</u> Land use construction effects typically associated with transit, facilities, and roadway	<u>Impacts:</u> No adverse effects are anticipated. <u>Mitigation Measures:</u> None required.	<u>Impacts:</u> No adverse effects are anticipated. <u>Mitigation Measures:</u> None required.

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
	<p>projects. Projects would undergo separate environmental review to determine land use construction effects and mitigation measures.</p>		
<p>Noise and Vibration</p>	<p><u>Impacts:</u> Noise and vibration construction impacts typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine noise and vibration construction impacts and mitigation measures.</p>	<p><u>Impacts:</u></p> <p><b>Construction Noise</b></p> <p>The BEP Alternative would result in substantial adverse effects due to construction noise which would occur during site clearing, preparation of subgrade, retaining wall and aerial construction, layout of sub-ballast, and track installation for the line portion and during tunnel portal, station vent shaft and auxiliary facility construction.</p> <p>Affected areas where construction activities are expected to exceed the FTA noise criteria along the above ground segment for the BEP alternative are provided in Table 6-7 (Section 6.3, of the Construction Chapter).</p> <p><b>Construction Vibration</b></p> <p>Vibration effects would occur from the use of pile driving, large tracked dozers, compactors and other heavy equipment.</p> <p><u>Mitigation Measures:</u></p> <p><b>Construction Noise</b></p> <p>Mitigation measures CNST-NV-1 through CNST-NV-17, CNST-NV-19 through CNST-NV-21, and CNST-NV-24 through CNST-NV-27, such as temporary sound walls, noise control curtains, restrictions on work hours, or temporary relocation of impacted residents are found in</p>	<p><u>Impacts:</u></p> <p><b>Construction Noise</b></p> <p>The SVRTP Alternative would result in substantial adverse effects due to construction noise which would occur during site clearing, preparation of subgrade, retaining wall and aerial construction, layout of sub-ballast, and track installation for the line portion and during tunnel portal, station vent shaft and auxiliary facility construction.</p> <p>Affected areas where construction activities are expected to exceed the FTA noise criteria along the above ground segment for the SVRTP alternative are provided in Table 6-7 (Section 6.3, of the Construction Chapter).</p> <p>Adverse noise effects related to tunnel below ground construction activities.</p> <p><b>Construction Vibration</b></p> <p>Vibration effects would occur from the use of pile driving, large tracked dozers, compactors and other heavy equipment.</p> <p><u>Mitigation Measures:</u></p> <p><b>Construction Noise</b></p> <p>Mitigation measures CNST-NV-1 through CNST-NV-27, such as temporary sound walls, noise control curtains, restrictions on work hours, or</p>



Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
		<p>Section 6.3.11 Noise and Vibration. These mitigation measures have been identified to minimize impacts but do not reduce noise levels to acceptable levels. Therefore, substantial adverse effects from noise are anticipated during construction.</p> <p><b>Construction Vibration</b></p> <p>The use of “resonant-free pile drivers” (Mitigation Measure CNST-NV-5) would be required if vibration levels exceed the criteria. Vibration monitoring during construction is proposed to ensure compliance. With mitigation, construction vibration effects would not be adverse.</p>	<p>temporary relocation of impacted residents are found in Section 6.3.11 Noise and Vibration. These mitigation measures have been identified to minimize impacts but do not reduce noise levels to acceptable levels. Therefore, substantial adverse effects from noise are anticipated during construction.</p> <p><b>Construction Vibration</b></p> <p>The use of “resonant-free pile drivers” (Mitigation Measure CNST-NV-5) would be required if vibration levels exceed the criteria. Vibration monitoring during construction is proposed to ensure compliance. With mitigation, construction vibration effects would not be adverse.</p>
Security and System Safety	<p><u>Impacts:</u> Security and system safety construction effects typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine security and system safety construction effects and mitigation measures.</p>	<p><u>Impacts:</u> No adverse effects are anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>	<p><u>Impacts:</u> No adverse effects are anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>
Socioeconomics	<p><u>Impacts:</u> Socioeconomic construction effects typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine socioeconomic construction effects and mitigation measures.</p>	<p><u>Impacts:</u> No adverse effects are anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>	<p><u>Impacts:</u> No adverse effects are anticipated.</p> <p><u>Mitigation Measures:</u> None required.</p>
Utilities	<p><u>Impacts:</u> Utility construction effects typically associated with</p>	<p><u>Impacts:</u> No adverse effects are anticipated.</p>	<p><u>Impacts:</u> No adverse effects are anticipated.</p>

Silicon Valley Rapid Transit Corridor Final EIS

Impact Category	No Build Alternative	BEP Alternative	SVRTP Alternative
	transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine utility construction effects and mitigation measures.	<u>Mitigation Measures:</u> None required.	<u>Mitigation Measures:</u> None required.
Visual Quality and Aesthetics	<u>Impacts:</u> Visual quality and aesthetic construction effects typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine visual quality and aesthetic construction impacts and mitigation measure.	<u>Impacts:</u> No adverse effects are anticipated. <u>Mitigation Measures:</u> None required.	<u>Impacts:</u> No adverse effects are anticipated. <u>Mitigation Measures:</u> None required.
Water Resources, Water Quality, and Floodplains	<u>Impacts:</u> Water resources, water quality, and floodplain construction effects typically associated with transit, facilities, and roadway projects. Projects would undergo separate environmental review to determine water resources, water quality, and floodplain construction effects and mitigation measures.	<u>Impacts:</u> No adverse effects anticipated. <u>Mitigation Measures:</u> None required.	<u>Impacts:</u> No adverse effects anticipated. <u>Mitigation Measures:</u> None required.

## **PUBLIC AND AGENCY INVOLVEMENT**

The original Draft EIS/EIR was released for public comment on March 16, 2004. However, no action was taken to finalize the federal document. Meanwhile, state environmental documentation and clearances have been concluded through both the 2004 Final EIR and 2007 Supplemental EIR. 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 a Revised EIS for the Silicon Valley Rapid Transit Project in Milpitas, San Jose, and Santa Clara, California. VTA and FTA held three public scoping meetings in October 2007 to solicit comment on the scope of project improvements and issues for evaluation as part of the environmental studies.

This Revised EIS was prepared on the basis of consultation and coordination with federal, state, and local agencies and with elected officials, community leaders, organizations, and other individuals from the neighborhoods and communities within Milpitas, San Jose, Santa Clara, and the SVRTC.

In addition, in accordance with the Federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU 6002), Section 6002, a Coordination Plan has been prepared. The Coordination Plan is designed to promote an efficient and streamlined environmental review process and good management through coordination, scheduling, and early identification and resolution of issues. The draft Coordination Plan was circulated to federal, state, regional, and local public agencies for a 30-day review beginning September 28, 2007. Several agencies expressed an interest in continuing to be participating agencies. There were no comments submitted on the Plan itself.

## **NEXT STEPS**

### **PUBLIC CIRCULATION OF DRAFT EIS**

Notice of the Draft EIS was published in the Federal Register on March 13, 2009. The public comment period ended May 8, 2009. However, the request by City of San Jose Councilmember Chu for an extension until May 15 was granted to accommodate a Berryessa Community Meeting on May 6, 2009. Public hearings were held on April 6, 13, and 20 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 announced in direct mailings, in display advertisements in local newspapers of general circulation in the SVRTC, and in the Federal Register. 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 resulted in written responses in the Final EIS. VTA and FTA considered all of the public

comments in concert with the information presented in this document prior to approval of a Preferred Investment Strategy/Recommended Project for the SVRTC.

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

San Jose City Hall  
Committee Rooms W118-120  
200 E. Santa Clara Street  
San Jose, CA 95113  
Monday, April 6, 2009  
6:00-8:00 pm

Milpitas Unified School District Board Room  
1331 E. Calaveras Boulevard  
Milpitas, CA 95035  
Monday, April 13, 2009  
6:00-8:00 pm

Santa Clara Senior Center, Auditorium  
1303 Fremont Street  
Santa Clara, CA 95050  
Monday, April 20, 2009  
6:00-8:00 pm

## **PREFERRED INVESTMENT STRATEGY/RECOMMENDED PROJECT**

Information reported in this document will enable decision makers, interested parties, and the public to evaluate and identify a preferred alternative for addressing the project purpose and needs in Chapter 1. This document will be used by federal, state, regional, and local agencies to assess the environmental impacts of the Build Alternatives on resources under their jurisdiction or to make discretionary decisions regarding the project. FTA, the State of California, and the San Francisco Bay Area's metropolitan planning organization, the Metropolitan Transportation Commission, will use this document in deciding whether and how to fund the project. This Final EIS will close the identification of a Recommended Project. When the FTA Regional Administrator signs this document, NEPA scoping will be concluded. At that time, VTA will apply to FTA to advance the Recommended Project into the New Starts phase of preliminary engineering. Advancing into preliminary engineering will further inform NEPA evaluation.

Once the Preferred Investment Strategy/Recommended Project is identified by VTA and FTA and FTA approves the Final EIS, the agencies listed in Chapter 11, Agency and Community Participation, can use the EIS as the basis for their decisions to issue permits and other approvals necessary to construct the project. The FTA will use this document when preparing the Record of Decision (ROD). The ROD formalizes the final selection of the preferred alternative. It is a written public record explaining why an agency has taken a particular course of action, and it must include the following:

- Statement explaining the decision;
- Explanation of alternatives that were considered and those that are environmentally preferable;
- Factors considered by the agency in making the decision;
- Explanation of which mitigation measures, if any, were adopted, and if mitigation measures were not adopted, an explanation of why not; and
- Monitoring and enforcement program for any adopted mitigation measures.

When the ROD is issued, VTA would be able to proceed with final design, right-of-way acquisition, and construction of the federally funded portion of the Build Alternative, subject to federal funding requirements. VTA intends to complete the NEPA process through issuance, certification of the Final EIS, and issuance of the ROD by FTA before proceeding with any portion of the Build Alternatives.

## **PROJECT IMPLEMENTATION**

Upon FTA's ROD on the EIS, VTA would continue with the Preliminary Engineering phase, during which the facilities for the preferred alternative would be engineered with more precision. VTA could also begin to acquire ROW for the preferred alternative. Following Preliminary Engineering, VTA would initiate the Final Design phase. Once the project is fully designed, FTA and VTA would negotiate and execute a Full Funding Grant Agreement for the preferred alternative.

VTA would continue to coordinate with local cities, other jurisdictional entities, and the public in developing the preferred alternative throughout the EIS, Preliminary Engineering, Final Design, and construction phases of the project.

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